



CONTRACT TO CHARTER A PUBLIC SCHOOL ACADEMY
AND RELATED DOCUMENTS

ISSUED TO

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
(A PUBLIC SCHOOL ACADEMY)

BY THE

CENTRAL MICHIGAN UNIVERSITY
BOARD OF TRUSTEES
(AUTHORIZING BODY)

JULY 1, 2014

TABLE OF CONTENTS

<u>Contract Documents</u>	<u>Tab</u>
Resolutions Establishing the Method of Selection, Length of Term, and Number of Members of Board of Directors	A
Terms and Conditions of Contract.....	B
Contract Schedules	C
Schedule 1: Restated Articles of Incorporation.....	1
Schedule 2: Amended Bylaws.....	2
Schedule 3: Fiscal Agent Agreement	3
Schedule 4: Oversight, Compliance and Reporting Agreement.....	4
Schedule 5: Description of Staff Responsibilities	5
Schedule 6: Physical Plant Description	6
Schedule 7: Required Information for a Public School Academy	7
• Section a: Governance Structure	a
• Section b: Educational Goal and Related Measures	b
• Section c: Educational Programs.....	c
• Section d: Curriculum.....	d
• Section e: Methods of Pupil Assessment	e

TABLE OF CONTENTS (cont.)

Schedule 7: Required Information for a Public School Academy 7

- Section f:
Application and Enrollment
of Students f
- Section g:
School Calendar and
School Day Schedule..... g
- Section h:
Age or Grade Range
of Pupils..... h

Schedule 8: Information Available to the Public and The Center 8

REAUTHORIZING RESOLUTION

REAUTHORIZATION OF PUBLIC SCHOOL ACADEMY**West Michigan Academy of Environmental Science**

Recitals:

1. At its February 19, 2009, meeting this board reauthorized the issuance of a contract to charter as a public school academy to West Michigan Academy of Environmental Science. On July 1, 2009, the contract was effective.
2. The contract of this academy expires June 30, 2013.
3. The Governor John Engler Center for Charter Schools has completed its evaluation and assessment of the operation and performance of West Michigan Academy of Environmental Science.
4. The university president or designee has recommended the reissuance of a contract to charter as a public school academy to West Michigan Academy of Environmental Science. The term of the contract is recommended for a term not to exceed seven (7) years.

BE IT RESOLVED, That this board approves and authorizes the execution of a contract to charter as a public school academy to West Michigan Academy of Environmental Science for a term not to exceed seven (7) years and authorizes the chair of the board to execute a contract to charter as a public school academy and related documents between West Michigan Academy of Environmental Science and the Central Michigan University Board of Trustees, provided that, before execution of the contract, the university president or designee affirms that all terms of the contract have been agreed upon and West Michigan Academy of Environmental Science is able to comply with all terms and conditions of the contract.

CMU BDT APPROVED

Date 2/20/14Signature MJ Hanagan

PROPOSED RESOLUTION: CONSENT AGENDA

Public School Academy Board of Directors: Method of Selection, Appointment, and Removal

BE IT RESOLVED, That the policy titled Public School Academy Board of Directors: Method of Selection, Appointment, and Removal as amended and dated December 7, 2006, is adopted; and Be it further

RESOLVED, That these provisions shall be implemented with new charter contracts and shall be phased in as existing charter contracts are reissued. The charter schools office is authorized to negotiate changes in the terms and conditions of charter contracts to fully implement these provisions.

CMU BDT APPROVED

Date 06-12-07

Signature [Handwritten Signature]

Public School Academy Board of Directors: Method of Selection, Appointment, and Removal

The Central Michigan University Board of Trustees declares that the method of selection, length of term, and number of board members shall be as follows.

Method of Selection and Appointment

The Central Michigan University Board of Trustees ("University Board") shall prescribe the method of appointment for members of an academy's board of directors. The director of the charter schools office is authorized to develop and administer an academy board selection and appointment process that includes an *Application for Public School Academy Board Appointment* and is in accord with these policies:

- a. The University Board shall appoint the initial and subsequent academy board of directors by resolution, except as prescribed by subparagraph d. The director of the charter schools office shall recommend qualified individuals to the University Board.
- b. The academy board of directors, by resolution and majority vote, shall nominate its subsequent members, except as provided otherwise. The academy board of directors shall recommend to the director of the charter schools office at least one nominee for each vacancy. Nominees shall submit the *Application for Public School Academy Board Appointment* for review by the charter schools office. The director of the charter schools office may or may not recommend the appointment of a nominee submitted by the academy board. If the director of the charter schools office does not recommend the appointment of a nominee submitted by the academy board, he/she may select and recommend another nominee or may request the academy board submit a new nominee for consideration.
- c. An individual appointed to fill a vacancy created other than by the expiration of a term shall be appointed for the unexpired term of that vacant position.
- d. Under exigent conditions, and with the approval of the University Board's chair and the president, the director of the charter schools office may appoint a qualified individual to an academy's board of directors. All appointments made under this provision must be presented to the University Board for final determination at its next regularly scheduled meeting. The University Board reserves the right to review, rescind, modify, ratify, or approve any appointments made under this provision.

Length of Term

The director of an academy board shall serve at the pleasure of the University Board. Terms of the initial positions of the academy board of directors which shall be staggered in accordance with *The Academy Board of Directors Table of Staggered Terms and Appointments* established and administered by the director of the charter schools office. Subsequent appointments shall be for a term of office not to exceed of four (4) years, except as prescribed by *The Academy Board of Directors Table of Staggered Terms and Appointments*.

Removal and Suspension

If the University Board determines that an academy board member's service in office is no longer necessary, then the University Board may remove an academy board member with or without cause and shall specify the date when the academy board member's service ends. An academy board member may also be removed from office by a two-thirds (2/3) vote of the academy's board for cause.

With the approval of the University Board's chair and the president, the director of the charter schools office may suspend an academy board member's service, if in his/her judgment the person's continued presence would constitute a risk to persons or property, or would seriously impair the operation of the academy. Any suspension made under this provision must be presented to the University Board for final determination at its next regularly scheduled meeting. The University Board reserves the right to review, rescind, modify, ratify, or approve any suspensions made under this provision.

Number of Directors

The number of members of the academy board of directors shall not be less than five (5) nor more than nine (9). If the academy board of directors fails to maintain its full membership by making appropriate and timely nominations, the University Board or its designee may deem that failure an exigent condition.

Qualifications of Academy Board Members

To be qualified to serve on an academy's board of directors, a person shall, among other things: (a) be a citizen of the United States; (b) be a resident of the state of Michigan; (c) submit all materials requested by the charter schools office including, but not limited to, the *Application for Public School Academy Board Appointment* which must include authorization to process a criminal background check; and (d) annually submit a conflict of interest disclosure as prescribed by the charter schools office.

The members of an academy board of directors shall not include: (a) employees of the academy; (b) any director, officer, or employee of a service provider or management company that contracts with the academy; (c) a Central Michigan University official or employee, as a representative of Central Michigan University.

Oath of Public Office

All members of the academy board of directors must take the constitutional oath of office and sign the *Oath of Public Office* before beginning their service. No appointment shall be effective prior to the filing of The *Oath of Public Office* shall be filed with the charter schools office.

Note: These provisions shall be implemented with new charter contracts and shall be phased in as existing charter contracts are reissued or amended. The charter schools office is authorized to negotiate changes in the terms and conditions of charter contracts to fully implement these provisions.

Amended by CMU Board of Trustees: 06-1207.
Adopted by CMU Board of Trustees: 98-0918.

TERMS AND CONDITIONS

**TERMS AND CONDITIONS
OF CONTRACT**

DATED: JULY 1, 2014

ISSUED BY

CENTRAL MICHIGAN UNIVERSITY BOARD OF TRUSTEES

CONFIRMING THE STATUS OF

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

AS A

PUBLIC SCHOOL ACADEMY

TABLE OF CONTENTS

ARTICLE I	DEFINITIONS	4
Section 1.2.	Captions.	6
Section 1.3.	Gender and Number.	6
Section 1.4.	Statutory Definitions.	6
Section 1.5.	Schedules.	6
Section 1.6.	Application.	6
Section 1.7.	Conflicting Contract Provisions.	6
ARTICLE II	RELATIONSHIP BETWEEN THE ACADEMY AND THE UNIVERSITY BOARD	6
Section 2.1.	Constitutional Status of Central Michigan University.	6
Section 2.2.	Independent Status of the Academy..	7
Section 2.3.	Financial Obligations of the Academy Are Separate From the State of Michigan, University Board and the University.	7
Section 2.4.	Academy Has No Power To Obligate or Bind the State of Michigan, the University Board or the University.	7
ARTICLE III	ROLE OF THE UNIVERSITY BOARD AS AUTHORIZING BODY	7
Section 3.1.	University Board Resolutions.	7
Section 3.2.	University Board as Fiscal Agent for the Academy.	7
Section 3.3.	Oversight Responsibilities of the University Board.	8
Section 3.4.	University Board Administrative Fee.	8
Section 3.5.	University Board Approval of Condemnation.	8
Section 3.6.	Authorization to Employ or Contract.	8
Section 3.7.	Teacher Certification and Teaching Methods.	8
Section 3.8.	Administrator and Teacher Evaluation Systems.	9
Section 3.9.	Teacher and Administrator Job Performance Criteria.	9
ARTICLE IV	REQUIREMENT THAT THE ACADEMY ACT SOLELY AS GOVERNMENTAL ENTITY	9
Section 4.1.	Limitation on Actions in Performance of Governmental Functions.	9
Section 4.2.	Other Permitted Activities.	9
Section 4.3.	Academy Board Members Serve In Their Individual Capacity.	10
Section 4.4.	Incompatible Public Offices and Conflicts of Interest Statutes.	10
Section 4.5.	Prohibition of Identified Family Relationships.	10
ARTICLE V	CORPORATE STRUCTURE OF THE ACADEMY	11
Section 5.1.	Nonprofit Corporation.	11
Section 5.2.	Articles of Incorporation.	11
Section 5.3.	Bylaws.	11
ARTICLE VI	OPERATING REQUIREMENTS	11
Section 6.1.	Governance Structure.	11

Section 6.2.	Educational Goal and Related Measures.	11
Section 6.3.	Educational Programs.	11
Section 6.4.	Curriculum.	11
Section 6.5.	Methods of Pupil Assessment.	11
Section 6.6.	Application and Enrollment of Students.	12
Section 6.7.	School Calendar and School Day Schedule.	12
Section 6.8.	Age or Grade Range of Pupils.	12
Section 6.9.	Collective Bargaining Agreements.	
Section 6.10.	Accounting Standards.	12
Section 6.11.	Annual Financial Statement Audit.	12
Section 6.12.	Address and Description of Physical Plant.	12
Section 6.13.	Contributions and Fund Raising.	12
Section 6.14.	Disqualified Organizational or Contractual Affiliations.	12
Section 6.15.	Method for Monitoring Academy's Compliance with Applicable Law and its Targeted Educational Outcomes.	12
Section 6.16.	Matriculation Agreements.	13
ARTICLE VII	TUITION PROHIBITED	13
Section 7.1.	Tuition Prohibited; Fees and Expenses.	13
ARTICLE VIII	COMPLIANCE WITH STATE AND FEDERAL LAWS	13
Section 8.1.	State Laws.	13
Section 8.2.	Federal Laws.	13
ARTICLE IX	AMENDMENT	13
Section 9.1.	Amendments.	13
Section 9.2.	Process for Amendment Initiated by the Academy.	13
Section 9.3.	Process for Amendment Initiated by the University Board.	13
Section 9.4.	Final Approval of Amendments.	14
ARTICLE X	CONTRACT REVOCATION, TERMINATION, AND SUSPENSION . 14	
Section 10.1.	Statutory Grounds for Revocation.	14
Section 10.2.	Other Grounds for Revocation.	14
Section 10.3.	Automatic Amendment or Revocation and Procedures Initiated by State of Michigan.	15
Section 10.4.	Material Breach of Contract and Automatic Termination Caused by Placement of Academy in State School Reform/Redesign School District.	15
Section 10.5.	Grounds and Procedures for Academy Termination of Contract.	16
Section 10.6.	Grounds and Procedures for University Termination of Contract.	16
Section 10.7.	University Board Procedures for Revoking Contract.	16
Section 10.8.	Contract Suspension.	19

ARTICLE XI	PROVISIONS RELATING TO PUBLIC SCHOOL ACADEMIES	19
Section 11.1.	The Academy Budget.	19
Section 11.2.	Insurance.	20
Section 11.3.	Legal Liabilities and Covenant Against Suit.	21
Section 11.4.	Lease or Deed for Proposed Site.	21
Section 11.5.	Certificate(s) of Use and Occupancy.	21
Section 11.6.	Criminal Background and History Checks; Disclosure of Unprofessional Conduct.	21
Section 11.7.	Special Education.	21
Section 11.8.	Information Available to the Public and the Center.	21
ARTICLE XII	GENERAL TERMS	22
Section 12.1.	Notices.	22
Section 12.2.	Severability.	22
Section 12.3.	Successors and Assigns.	22
Section 12.4.	Entire Contract.	22
Section 12.5.	Assignment.	22
Section 12.6.	Non-Waiver.	22
Section 12.7.	Governing Law.	23
Section 12.8.	Counterparts.	23
Section 12.9.	Term of Contract.	23
Section 12.10.	Indemnification of University.	23
Section 12.11.	Construction.	23
Section 12.12.	Force Majeure.	24
Section 12.13.	No Third Party Rights.	24
Section 12.14.	Non-agency.	24
Section 12.15.	University Board or the Center’s General Policies on Public School Academies Shall Apply.	24
Section 12.16.	Survival of Provisions.	24
Section 12.17.	Termination of Responsibilities.	24

WHEREAS, the People of Michigan through their Constitution have provided that schools and the means of education shall forever be encouraged and have authorized the Legislature to maintain and support a system of free public elementary and secondary schools; and

WHEREAS, all public schools are subject to the leadership and general supervision of the State Board of Education; and

WHEREAS, the Legislature has authorized an alternative form of public school designated a "public school academy" to be created to serve the educational needs of pupils and has provided that pupils attending these schools shall be eligible for support from the State School Aid Fund; and

WHEREAS, the Legislature has delegated to the governing boards of state public universities, community college boards, intermediate school district boards and local school district boards, the responsibility for authorizing the establishment of public school academies; and

WHEREAS, pursuant to Part 6a of the Revised School Code ("Code"), the Central Michigan University Board of Trustees ("University Board") has considered and has approved the issuance of a contract to West Michigan Academy of Environmental Science ("the Academy");

NOW, THEREFORE, pursuant to the Code, the University Board issues a contract conferring certain rights, franchises, privileges, and obligations and confirms the Academy's status as a public school academy. In addition, the parties agree that the issuance of this Contract is subject to the following terms and conditions:

ARTICLE I DEFINITIONS

Section 1.1. Certain Definitions. For purposes of this Contract, and in addition to the terms defined throughout this Contract, each of the following words or expressions, whenever initially capitalized, shall have the meaning set forth in this section:

- (a) "Academy" means the Michigan nonprofit corporation named West Michigan Academy of Environmental Science which is established as a public school academy pursuant to this Contract.
- (b) "Academy Board" means the Board of Directors of the Academy.
- (c) "Applicable Law" means all state and federal law applicable to public school academies.
- (d) "Application" means the public school academy application and supporting documentation submitted to the University for the establishment of the Academy.
- (e) "Code" means the Revised School Code, Act No. 451 of the Public Acts of 1976, as amended, being Sections 380.1 to 380.1852 of the Michigan Compiled Laws.
- (f) "Contract" means, in addition to the definition set forth in the Code, these Terms and Conditions, the Reauthorizing Resolution, the Method of Selection, Appointment, and

Removal Resolution, the Schedules, the Educational Service Provider Policies, the Master Calendar and the Application.

- (g) "Director" means a person who is a member of the Academy Board of Directors.
- (h) "Educational Service Provider" or "ESP" means an educational management organization, or employee leasing company, as defined under section 503c of the Code, MCL 380.503c.
- (i) "Educational Service Provider Policies" means the Educational Service Provider Policies, as may be amended, issued by The Governor John Engler Center for Charter Schools at Central Michigan University.
- (j) "Management Agreement or ESP Agreement" means an agreement as defined under section 503c of the Code, MCL 380.503c.
- (k) "Master Calendar" means the Master Calendar of Reporting Requirements as annually issued by The Governor John Engler Center for Charter Schools at Central Michigan University setting forth reporting and document submission requirements for the Academy.
- (l) "Method of Selection, Appointment, and Removal Resolution" means the policy adopted by resolution of the University Board on September 18, 1998, and amended on December 7, 2006, establishing the standard method of selection and appointment, length of term, removal and suspension, number of directors and qualifications of academy board members for public school academies issued a Contract by the University Board.
- (m) "Reauthorizing Resolution" means the resolution adopted by the University Board on February 20, 2014, approving the issuance of a Contract to the Academy.
- (n) "Schedules" means the following Contract documents of the Academy: Schedule 1: Restated Articles of Incorporation, Schedule 2: Amended Bylaws, Schedule 3: Fiscal Agent Agreement, Schedule 4: Oversight, Compliance and Reporting Agreement, Schedule 5: Description of Staff Responsibilities, Schedule 6: Physical Plant Description, Schedule 7: Required Information for Public School Academy, and Schedule 8: Information Available to the Public and the Center.
- (o) "State Board" means the State Board of Education, established pursuant to Article 8, Section 3 of the 1963 Michigan Constitution and MCL 388.1001 et seq.
- (p) "State School Aid Fund" means the State School Aid Fund established pursuant to Article IX, Section 11 of the Michigan Constitution of 1963, as amended.
- (q) "Terms and Conditions" means this document entitled "Terms and Conditions of Contract, Dated July 1, 2014, Issued by the Central Michigan University Board of Trustees Confirming the Status of West Michigan Academy of Environmental Science as a Public School Academy."
- (r) "The Governor John Engler Center for Charter Schools" or "The Center" means the office designated by the University Board as the initial point of contact for public school academy applicants and public school academies authorized by the University Board. The Center is

also responsible for administering the University Board's responsibilities with respect to the Contract.

- (s) "The Governor John Engler Center for Charter Schools Director" or "The Center Director" means the person designated at the University to administer the operations of the Center.
- (t) "University" means Central Michigan University, established pursuant to Article 8, sections 4 and 6 of the 1963 Michigan Constitution and MCL 390.551 et seq.
- (u) "University Board" means the Central Michigan University Board of Trustees.
- (v) "University Charter Schools Hearing Panel" or "Hearing Panel" means such persons as designated by the University President.
- (w) "University President" means the President of Central Michigan University or his or her designee. In section 1.1(v) above, "University President" means the President of Central Michigan University.

Section 1.2. Captions. The captions and headings used in this Contract are for convenience only and shall not be used in construing the provisions of this Contract.

Section 1.3. Gender and Number. The use of any gender in this Contract shall be deemed to be or include the other genders, including neuter, and the use of the singular shall be deemed to include the plural (and vice versa) wherever applicable.

Section 1.4. Statutory Definitions. Statutory terms defined in the Code shall have the same meaning in this Contract.

Section 1.5. Schedules. All Schedules to this Contract are incorporated into, and made part of, this Contract.

Section 1.6. Application. The Application submitted to the University Board for the establishment of the Academy is incorporated into, and made part of, this Contract. To the extent there is a difference between the Contract and the Application, the Contract shall control.

Section 1.7. Conflicting Contract Provisions. In the event that there is a conflict between language contained in the provisions of this Contract, the Contract shall be interpreted as follows: (i) The Method of Selection, Appointment, and Removal Resolution shall control over any other conflicting language in the Contract; (ii) the Reauthorizing Resolution shall control over any other conflicting language in the Contract with the exception of language in The Method of Selection, Appointment, and Removal Resolution; (iii) the Terms and Conditions shall control over any other conflicting language in the Contract with the exception of language in The Method of Selection, Appointment, and Removal Resolution and the Reauthorizing Resolution; and (iv) the Restated Articles of Incorporation shall control over any other conflicting language in the Contract with the exception of language in the Method of Selection, Appointment, and Removal Resolution, Reauthorizing Resolution and these Terms and Conditions.

ARTICLE II
RELATIONSHIP BETWEEN THE ACADEMY AND THE UNIVERSITY BOARD

Section 2.1. Constitutional Status of Central Michigan University. Central Michigan University is a constitutionally established body corporate operating as a state public university. In approving this Contract, the University Board voluntarily exercises additional powers given to the University Board to authorize public school academies. Nothing in this Contract shall be deemed to be any waiver of Central Michigan University's autonomy or powers and the Academy shall not be deemed to be a part of Central Michigan University.

Section 2.2. Independent Status of the Academy. The Academy is a body corporate and governmental entity authorized by the Code. It is organized and shall operate as a public school academy and a nonprofit corporation. It is not a division or part of Central Michigan University. The relationship between the Academy and the University Board is based solely on the applicable provisions of the Code and the terms of this Contract or other agreements between the University Board and the Academy.

Section 2.3. Financial Obligations of the Academy Are Separate From the State of Michigan, University Board and the University. Any contract, mortgage, loan or other instrument of indebtedness entered into by the Academy and a third party shall not in any way constitute an obligation, either general, special, or moral, of the State of Michigan, the University Board, or the University. Neither the full faith and credit nor the taxing power of the State of Michigan or any agency of the State, nor the full faith and credit of the University Board or the University shall ever be pledged for the payment of any Academy contract, mortgage, loan or other instrument of indebtedness.

Section 2.4. Academy Has No Power To Obligate or Bind the State of Michigan, the University Board or the University. The Academy has no authority whatsoever to enter into any contract or other agreement that would financially obligate the State of Michigan, the University Board or the University, nor does the Academy have any authority whatsoever to make any representations to lenders or third parties, that the State of Michigan, the University Board or the University in any way guarantee, are financially obligated, or are in any way responsible for any contract, mortgage, loan or other instrument of indebtedness entered into by the Academy.

ARTICLE III
ROLE OF THE UNIVERSITY BOARD AS AUTHORIZING BODY

Section 3.1. University Board Resolutions. The University Board has adopted a resolution, hereinafter The Method of Selection, Appointment, and Removal Resolution, providing for the method of selection and appointment, length of term, removal and suspension, number of Directors and the qualifications of Directors. The University Board has adopted a Reauthorization Resolution which approves the issuance of this Contract. The Reauthorization Resolution and the Method of Selection, Appointment, and Removal Resolution are hereby incorporated into this Contract. The University Board may, from time to time, amend the Method of Selection, Appointment, and Removal Resolution changing the method of selection, length of term, number of Directors and the qualifications of Directors. Any subsequent resolution of the University Board changing the Method of Selection, Appointment, and Removal Resolution shall automatically be incorporated into this Contract without the need for an amendment under Article IX of the Terms and Conditions.

Section 3.2. University Board as Fiscal Agent for the Academy. The University Board is the fiscal agent for the Academy. As fiscal agent, the University Board assumes no responsibility for the

financial condition of the Academy. The University Board is not liable for any debt or liability incurred by or on behalf of the Academy Board, or for any expenditure approved by or on behalf of the Academy Board. Except as provided in the Oversight, Compliance and Reporting Agreement and Article X of these Terms and Conditions, the University Board shall promptly, within ten (10) business days of receipt, forward to the Academy all state school aid funds or other public or private funds received by the University Board for the benefit of the Academy. The responsibilities of the University Board, the State of Michigan, and the Academy are set forth in the Fiscal Agent Agreement incorporated herein as Schedule 3.

Section 3.3. Oversight Responsibilities of the University Board. The University Board has the responsibility to oversee the Academy's compliance with the Contract and all Applicable Law. The responsibilities of the Academy and the University Board are set forth in the Oversight, Compliance and Reporting Agreement and incorporated herein as Schedule 4.

Section 3.4. University Board Administrative Fee. The Academy shall pay the University Board an administrative fee to compensate the University Board for overseeing the Academy's compliance with the Contract and all Applicable Law.

Section 3.5. University Board Approval of Condemnation. In the event that the Academy desires to acquire property pursuant to the Uniform Condemnation Procedures Act or other applicable statutes, it shall obtain express written permission for such acquisition from the University Board. The Academy shall submit a written request to the Center describing the proposed acquisition and the purpose for which the Academy desires to acquire the property. Provided the Academy Board submits the written request to the Center at least sixty (60) days before the University Board's next regular meeting, the University Board may vote on whether to give express written permission for the acquisition at its next regular meeting.

Section 3.6. Authorization to Employ or Contract. The University Board authorizes the Academy Board to employ or contract for personnel according to the position information outlined in Schedule 5. The Academy Board shall prohibit any individual from being employed by the Academy or an Educational Service Provider, in more than one (1) full-time position and simultaneously being compensated at a full-time rate for each of these positions. An employee hired by the Academy shall be an employee of the Academy for all purposes and not an employee of the University for any purpose. With respect to Academy employees, the Academy shall have the power and responsibility to (i) select and engage employees; (ii) pay their wages, benefits, and applicable taxes; (iii) dismiss employees; and (iv) control the employees' conduct, including the method by which the employee carries out his or her work. The Academy Board shall be responsible for carrying workers' compensation insurance and unemployment insurance for its employees.

The Academy Board may contract with an Educational Service Provider to provide comprehensive educational, administrative, management, or instructional services or staff to the Academy. Before entering into a Management Agreement with an Educational Service Provider, the Academy Board shall first comply with the Educational Service Provider Policies issued by the Center. Any Management Agreement entered into by the Academy shall also comply with Section 11.2 and 12.10 of these Terms and Conditions. A copy of the Management Agreement between the Academy Board and the Educational Service Provider shall be incorporated into this Contract under Schedule 5 and in accordance with Article IX, as applicable.

Section 3.7. Teacher Certification and Teaching Methods. Except as otherwise provided by law, the Academy shall use certificated teachers according to state board rule. The Academy may use

noncertificated individuals to teach as follows:

- a. The Academy may use, as a classroom teacher in any grade, a faculty member who is employed full-time by the University and who has been granted institutional tenure, or has been designated as being on tenure track by the University.
- b. In any other situation in which a school district is permitted under the Code to use noncertificated teachers.

The Academy may develop and implement new teaching techniques or methods or significant revisions to known teaching techniques or methods, and shall report those to the Center and state board to be made available to the public. The Academy may use any instructional technique or delivery method that may be used by a school district.

Section 3.8. Administrator and Teacher Evaluation Systems. If the Academy Board adopts and implements for all teachers and school administrators a performance evaluation system that complies with section 1249(7) of the Code, then the Academy Board is not required to implement a performance evaluation system that complies with section 1249(2) and (3). If the Academy enters into an agreement with an Educational Service Provider, then the Academy Board shall ensure that the Educational Service Provider adopts a performance evaluation system that complies with this section.

Section 3.9. Teacher and Administrator Job Performance Criteria. The Academy Board shall implement and maintain a method of compensation for its teachers and school administrators in accordance with Applicable Law. If the Academy enters into an agreement with an Educational Service Provider, then the Academy Board shall ensure that the Educational Service Provider complies with this section.

ARTICLE IV

REQUIREMENT THAT THE ACADEMY ACT SOLELY AS GOVERNMENTAL ENTITY

Section 4.1. Limitation on Actions in Performance of Governmental Functions. The Academy shall act exclusively as a governmental entity and shall not undertake any action inconsistent with its status as a body corporate authorized to receive state school aid funds pursuant to Section 11 of Article IX of the State Constitution of 1963.

Section 4.2. Other Permitted Activities.

- (a) Nothing in this Contract shall prohibit the Academy from engaging in other lawful activities that are not in derogation of the Academy's status as a public school or that would not jeopardize the eligibility of the Academy for state school aid funds. Except as provided for the agreements identified below in paragraph (b) of this Section 4.2, the Academy may enter into agreements with other public schools, governmental units, businesses, community and nonprofit organizations where such agreements contribute to the effectiveness of the Academy or advance education in this state.
- (b) The Academy shall submit to the Center for prior review the following agreements:
 - (i) In accordance with the Center's Educational Service Provider Policies, as may be amended, a draft copy of any Educational Service Provider Management Agreement and any amendments to such Management Agreements;

- (ii) In accordance with the Master Calendar, a draft copy of any Academy deed or lease, amendments to existing leases or any new leasing agreements for any Academy facility; and
- (iii) In accordance with the Master Calendar, draft long-term or short-term financing closing documents and intercept requests.

Section 4.3. Academy Board Members Serve In Their Individual Capacity. All Directors of the Academy Board shall serve in their individual capacity, and not as a representative or designee of any other person or entity. A person who does not serve in their individual capacity, or who serves as a representative or designee of another person or entity, shall be deemed ineligible to continue to serve as a Director of the Academy Board. A Director who violates this section shall be removed from office, in accordance with the removal provisions found in the Method of Selection, Appointment and Removal Resolution and Contract Schedule 2: Amended Bylaws.

Section 4.4. Incompatible Public Offices and Conflicts of Interest Statutes. The Academy shall comply with the Incompatible Public Offices statute, being MCL 15.181 et seq. of the Michigan Compiled Laws, and the Contracts of Public Servants with Public Entities statute, being MCL 15.321 et seq. of the Michigan Compiled Laws. The Academy Board shall ensure compliance with Applicable Law relating to conflicts of interest. Notwithstanding any other provision of this Contract, the following shall be deemed prohibited conflicts of interest for purposes of this Contract:

- (a) An individual simultaneously serving as an Academy Board member and an owner, officer, director, employee or consultant of an Educational Service Provider or an employee leasing company that has an agreement with the Academy;
- (b) An individual simultaneously serving as an Academy Board member and an Academy employee;
- (c) An individual simultaneously serving as an Academy Board member and an independent contractor to the Academy;
- (d) An individual simultaneously serving as an Academy Board member and a member of the governing board of another public school; and
- (e) An individual simultaneously serving as an Academy Board member and a University official, employee, or paid consultant, as a representative of the University.

Section 4.5. Prohibition of Identified Family Relationships. The Academy Board shall prohibit specifically identified family relationships pursuant to applicable law and the Terms and Conditions of this Contract. Language in this Section controls over section 1203 of the Code. Notwithstanding any other provision of this Contract, the following shall be deemed prohibited familial relationships for the purposes of this Contract:

- (a) No person shall be appointed or reappointed to serve as an Academy Board member if the person's mother, mother-in-law, father, father-in-law, son, son-in-law, daughter, daughter-in-law, sister, sister-in-law, brother, brother-in-law, spouse or same-sex domestic partner:
 - (i) Is employed by the Academy;
 - (ii) Works at or is assigned to the Academy; or

- (iii) Has an ownership, officer, policymaking, managerial, administrative non-clerical, or other significant role with the Academy's Educational Service Provider or employee leasing company.

Section 4.6. Oath of Public Office. Before entering upon the duties of a public school board member, each Academy Board member shall take the constitutional oath of office as required by the Code and as set forth in the Method of Selection, Appointment and Removal Resolution.

ARTICLE V CORPORATE STRUCTURE OF THE ACADEMY

Section 5.1. Nonprofit Corporation. The Academy shall be organized and operate as a public school academy corporation organized under the Michigan Nonprofit Corporation Act, as amended, Act No. 162 of the Public Acts of 1982, being Sections 450.2101 to 450.3192 of the Michigan Compiled Laws. Notwithstanding any provision of the Michigan Nonprofit Corporation Act, as amended, the Academy shall not take any action inconsistent with the provisions of Part 6A of the Code or other Applicable Law.

Section 5.2. Articles of Incorporation. The Restated Articles of Incorporation of the Academy, as set forth in Schedule 1, shall be the Articles of Incorporation of the Academy.

Section 5.3. Bylaws. The Amended Bylaws of the Academy, as set forth in Schedule 2, shall be the Bylaws of the Academy.

ARTICLE VI OPERATING REQUIREMENTS

Section 6.1. Governance Structure. The Academy shall be organized and administered under the direction of the Academy Board and pursuant to the Governance Structure as set forth in Schedule 7a. The Academy shall have four officers: President, Vice-President, Secretary and Treasurer. The officer positions shall be filled by persons who are members of the Academy Board. A description of their duties is included in Schedule 2.

Section 6.2. Educational Goal and Related Measures. The Academy shall achieve or demonstrate measurable progress for all groups of pupils toward the achievement of the educational goal and related measures identified in Schedule 7b and the results of the academic assessments identified in Schedule 7e. Upon request, the Academy shall provide the Center with a written report, along with supporting data, assessing the Academy's progress toward achieving this goal.

Section 6.3. Educational Programs. The Academy shall implement, deliver and support the educational programs identified in Schedule 7c.

Section 6.4. Curriculum. The Academy shall implement, deliver and support the curriculum identified in Schedule 7d.

Section 6.5. Methods of Pupil Assessment. The Academy shall properly administer the academic assessments identified in Schedule 7e and in accordance with the requirements detailed in the Master Calendar annually issued by the Center. The Academy shall provide the Center direct access to the results of these assessments, along with any other measures of academic achievement reasonably

requested by the Center.

Section 6.6. Application and Enrollment of Students. The Academy shall comply with the application and enrollment requirements identified in Schedule 7f.

Section 6.7. School Calendar and School Day Schedule. The Academy shall comply with the school calendar and school day schedule requirements as set forth in Schedule 7g.

Section 6.8. Age or Grade Range of Pupils. The Academy shall comply with the age or grade ranges as stated in Schedule 7h.

Section 6.9. Collective Bargaining Agreements. Collective bargaining agreements, if any, with employees of the Academy shall be the responsibility of the Academy.

Section 6.10. Accounting Standards. The Academy shall at all times comply with generally accepted public sector accounting principles, and accounting system requirements that comply with the State School Aid Act of 1979, as amended, the Uniform Budgeting and Accounting Act, MCL 141.421, *et seq.*, and applicable State Board and Michigan Department of Education rules.

Section 6.11. Annual Financial Statement Audit. The Academy shall conduct an annual financial statement audit prepared and reviewed by an independent certified public accountant. The Academy shall submit the annual financial statement audit and auditor's management letter to the Center in accordance with the Master Calendar. The Academy Board shall provide to the Center a copy of any responses to the auditor's management letter in accordance with the Master Calendar.

Section 6.12. Address and Description of Physical Plant. The address and description of the physical plant for the Academy is set forth in Schedule 6. With the approval of the University Board, the Academy Board may operate the same configuration of age or grade levels at more than one (1) site if each configuration of age or grade levels and each site identified in Schedule 6 are under the direction and control of the Academy Board. University Board consideration regarding requests to add additional site(s) shall include, but not be limited to, the Academy Board's demonstration that it meets all statutory requirements under the Code.

Section 6.13. Contributions and Fund Raising. The Academy may solicit and receive contributions and donations as permitted by law. No solicitation shall indicate that a contribution to the Academy is for the benefit of Central Michigan University.

Section 6.14. Disqualified Organizational or Contractual Affiliations. The Academy shall comply with all state and federal law applicable to public schools concerning church-state issues. To the extent disqualified under the state or federal constitutions, the Academy shall not be organized by a church or other religious organization and shall not have any organizational or contractual affiliation with or constitute a church or other religious organization. Nothing in this Section shall be deemed to diminish or enlarge the civil and political rights, privileges and capacities of any person on account of his or her religious belief.

Section 6.15. Method for Monitoring Academy's Compliance with Applicable Law and its Targeted Educational Outcomes. The Academy shall perform the compliance certification duties required by the University Board as outlined in the Oversight, Compliance and Reporting Agreement set forth as Schedule 4. In addition to the University Board's oversight responsibilities and other Academy compliance and reporting requirements set forth in this Contract, the Academy's compliance with the annual Master

Calendar shall serve as one means by which the University will monitor the Academy's compliance with Applicable Law.

Section 6.16. Matriculation Agreements. Before the Academy Board approves a matriculation agreement with another public school, the Academy shall provide a draft copy of the agreement to the Center for review. Any matriculation agreement entered into by the Academy shall be added to the Schedules through a contract amendment approved in accordance with the Contract. Until the matriculation agreement is incorporated into the Contract, the Academy is prohibited from granting an enrollment priority to any student pursuant to that matriculation agreement.

ARTICLE VII TUITION PROHIBITED

Section 7.1. Tuition Prohibited; Fees and Expenses. The Academy shall not charge tuition. The Academy may impose fees and require payment of expenses for activities of the Academy where such fees and payments are not prohibited by law.

ARTICLE VIII COMPLIANCE WITH STATE AND FEDERAL LAWS

Section 8.1. State Laws. The Academy shall comply with applicable state laws. Nothing in this Contract shall be deemed to apply any other state law to the Academy.

Section 8.2. Federal Laws. The Academy shall comply with applicable federal laws. Nothing in this Contract shall be deemed to apply any other federal law to the Academy.

ARTICLE IX AMENDMENT

Section 9.1. Amendments. The University Board and the Academy acknowledge that the operation and administration of a public school academy and the improvement of educational outcomes over time will require appropriate amendment of this Contract. In order to assure a proper balance between the need for independent development of the Academy and the statutory responsibilities of the University Board as an authorizing body, the parties have established a flexible process for amending this Contract.

Section 9.2. Process for Amendment Initiated by the Academy. The Academy, by a majority vote of its Board of Directors, may, at any time, propose specific changes in this Contract or may propose a meeting to discuss potential revision of this Contract. The proposal will be made to the University Board through its designee. The University Board delegates to the Center Director the review and approval of changes or amendments to this Contract. In the event that a proposed change is not accepted by the Center Director, the University Board may consider and vote upon a change proposed by the Academy following an opportunity for a presentation to the University Board by the Academy.

Section 9.3. Process for Amendment Initiated by the University Board. The University Board, or an authorized designee, may, at any time, propose specific changes in this Contract or may propose a meeting to discuss potential revision of this Contract. The University Board delegates to the Center Director the review and approval of changes or amendments to this Contract. The Academy Board may delegate to a Director of the Academy the review and negotiation of changes or amendments to this Contract. The Contract shall be amended as requested by the University Board upon a majority vote of

the Academy Board.

Section 9.4. Final Approval of Amendments. Amendments to this Contract take effect only after they have been approved by the Academy Board and by the University Board or the Center Director. If the proposed amendment conflicts with any of the University Board's general policies on public school academies, the proposed amendment shall take effect only after approval by the Academy Board and the University Board.

Section 9.5. Change in Existing Law. If, after the effective date of this Contract, there is a change in Applicable Law which alters or amends the responsibilities and obligations of either the Academy or the University Board, this Contract shall be altered or amended to reflect the change in existing law as of the effective date of such change. To the extent possible, the responsibilities and obligations of the Academy and the University Board shall conform to and be carried out in accordance with the change in Applicable Law.

ARTICLE X CONTRACT REVOCATION, TERMINATION, AND SUSPENSION

Section 10.1. Statutory Grounds for Revocation. In addition to the other grounds for revocation in Section 10.2 and the automatic revocation in Section 10.3 of these Terms and Conditions, the University Board may revoke this Contract, pursuant to the procedures set forth in Section 10.7, upon a determination that one or more of the following has occurred:

- (a) Failure of the Academy to demonstrate improved pupil academic achievement for all groups of pupils or abide by and meet the educational goal and related measures set forth in this Contract;
- (b) Failure of the Academy to comply with all Applicable Law;
- (c) Failure of the Academy to meet generally accepted public sector accounting principles and to demonstrate sound fiscal stewardship; or
- (d) The existence of one or more other grounds for revocation as specified in this Contract.

Section 10.2. Other Grounds for Revocation. In addition to the statutory grounds for revocation set forth in Section 10.1 and the grounds for an automatic revocation set forth in Section 10.3, the University Board may revoke this Contract, pursuant to the procedures set forth in Section 10.7, upon a determination that one or more of the following has occurred:

- (a) The Academy fails to achieve or demonstrate measurable progress toward achieving the educational goal and related measures identified in this Contract;
- (b) The Academy fails to properly implement, consistently deliver, and support the educational programs or curriculum identified in this Contract;
- (c) The Academy is insolvent, has been adjudged bankrupt, or has operated for two or more school fiscal years with a fund balance deficit;
- (d) The Academy has insufficient enrollment to successfully operate a public school academy, or the Academy has lost more than fifty percent (50%) of its student enrollment from the previous school year;

- (e) The Academy fails to fulfill the compliance and reporting requirements or defaults in any of the terms, conditions, promises or representations contained in or incorporated into this Contract or, during the term of this Contract, it is discovered by the Center that the Academy failed to fulfill the compliance and reporting requirements or there was a violation of a prior Contract issued by the University Board;
- (f) The Academy files amendments to its Articles of Incorporation with the Michigan Department of Licensing and Regulatory Affairs, Bureau of Commercial Services without first obtaining the Center's approval;
- (g) The Center Director discovers grossly negligent, fraudulent or criminal conduct by the Academy's applicant(s), directors, officers, employees or agents in relation to their performance under this Contract; or
- (h) The Academy's applicant(s), directors, officers, employees or agents have provided false or misleading information or documentation to the Center in connection with the University Board's approval of the Application, the issuance of this Contract, or the Academy's reporting requirements under this Contract or Applicable Law.

Section 10.3. Automatic Amendment or Revocation and Procedures Initiated by State of Michigan. If the University is notified by the Superintendent of Public Instruction that the Academy is subject to closure under the Code ("State's Automatic Closure Notice"), and the Academy is currently not undergoing a reconstitution as part of a Plan of Correction developed under Section 10.7(c), then this Contract shall automatically be amended to eliminate the Academy's authority to operate certain age and grade levels at the site or sites identified in the State's Automatic Closure Notice at the end of the current fiscal year. If the State's Automatic Closure Notice includes all of the Academy's existing sites, then this Contract shall automatically be revoked at the end of the current fiscal year in which the notice is received without any further action of the University Board or the Academy. The University Board's revocation procedures set forth in Section 10.7(c) do not apply to an automatic revocation initiated by the State.

Following the receipt of the State's Automatic Closure Notice, the Center Director shall forward a copy of the State's Automatic Closure Notice to the Academy Board and may request a meeting with the Academy to discuss plans and procedures for the elimination of certain age or grade levels at the identified site or sites, or if all of the Academy's existing sites are included in the State's Automatic Closure Notice, then wind-up and dissolution of the Academy corporation at the end of the fiscal year in which the notice was received. All Academy inquiries and requests for reconsideration of the State's Automatic Revocation Notice shall be directed to the Superintendent of Public Instruction, in a form and manner determined by that office or the Michigan Department of Education.

Section 10.4. Material Breach of Contract and Automatic Termination Caused by Placement of Academy in State School Reform/Redesign School District. The issuance of an order by the Superintendent of Public Instruction, pursuant to the Code, placing the Academy under the supervision of the State School Reform/Redesign Officer, shall constitute a material breach of this Contract. Following the issuance of the order, the Center Director shall send notice to the Academy Board of the material breach of this Contract. The Academy shall develop a corrective action plan that is acceptable to the Center Director, which may remedy the material breach. In addition to other matters, the corrective action plan shall include the Academy's redesign plan pursuant to the Code. The development of a corrective action plan under this Section 10.4 shall not in any way limit the rights of the University Board to revoke, suspend, or terminate this Contract. Placement in the State School Reform/Redesign School District

pursuant to the Code may result in the University Board terminating this Contract at the end of the current fiscal year in which the Academy was placed in the State School Reform/Redesign School District. If this Contract is terminated pursuant to this Section 10.4, the revocation procedures in Section 10.7 shall not apply.

Section 10.5. Grounds and Procedures for Academy Termination of Contract. The Academy Board, by majority vote of its Directors, may, at any time and for any reason, request termination of this Contract. The Academy Board's request for termination shall be made to the Center Director not less than ten (10) calendar months in advance of the Academy's proposed effective date of termination. Upon receipt of an Academy request for termination, the Center Director shall present the Academy Board's request for termination to the University Board. A copy of the Academy Board's resolution approving of the Contract termination, including a summary of the reasons for terminating the Contract, shall be included with the Academy Board's request for termination. Upon receipt of the Academy Board's request for termination, the University Board shall consider and vote on the proposed termination request. The University Board may, in its sole discretion, waive the ten (10) month advance notice requirement for terminating this Contract.

Section 10.6. Grounds and Procedures for University Termination of Contract. The University Board, in its sole discretion, reserves the right to terminate the Contract for any reason or for no reason provided that such termination shall not take place less than ten (10) months from the date of the University Board's action. The Center Director shall provide notice of the termination to the Academy. If during the period between the University Board action to terminate and the effective date of termination, the Academy has violated the Contract or Applicable Law, the Contract may be revoked or suspended sooner pursuant to this Article X. Following issuance of this Contract, if there is a change in Applicable Law that the University Board, in its sole discretion, determines impairs its rights and obligations under the Contract or requires the University Board to make changes in the Contract that are not in the best interest of the University Board or the University, then the University Board may terminate the Contract at the end of the Academy's fiscal year in which the University Board's decision to terminate is adopted. If this Contract is terminated pursuant to this Section 10.6, the revocation procedures in Section 10.7 shall not apply.

Section 10.7. University Board Procedures for Revoking Contract. Except for the automatic revocation and procedures initiated by the State of Michigan set forth in Section 10.3, the University Board's process for revoking the Contract is as follows:

- (a) Notice of Intent to Revoke. The Center Director, upon reasonable belief that grounds for revocation of the Contract exist, shall notify the Academy Board of such grounds by issuing the Academy Board a Notice of Intent to Revoke for non-compliance with the Contract or Applicable Law. The Notice of Intent to Revoke shall be in writing and shall set forth in sufficient detail the alleged grounds for revocation.
- (b) Academy Board's Response. Within thirty (30) days of receipt of the Notice of Intent to Revoke, the Academy Board shall respond in writing to the alleged grounds for revocation. The Academy Board's response shall be addressed to the Center Director, and shall either admit or deny the allegations of non-compliance. If the Academy's response includes admissions of non-compliance with the Contract or Applicable Law, the Academy Board's response must also contain a description of the Academy Board's plan and time line for correcting the non-compliance with the Contract or Applicable Law. If the Academy's response includes a denial of non-compliance with the Contract or Applicable Law, the Academy's response shall include sufficient documentation or other evidence to support a denial of non-compliance with the Contract or Applicable Law. A response not in compliance

with this Section shall be deemed to be non-responsive. As part of its response, the Academy Board may request that a meeting be scheduled with the Center Director prior to a review of the Academy Board's response.

- (c) Plan of Correction. Within fifteen (15) days of receipt of the Academy Board's response or after a meeting with Academy Board representatives, the Center Director shall review the Academy Board's response and determine whether a reasonable plan for correcting the deficiencies can be formulated. If the Center Director determines that a reasonable plan for correcting the deficiencies set forth in the Notice of Intent to Revoke can be formulated, the Center Director shall develop a plan for correcting the non-compliance ("Plan of Correction") which may include Reconstitution per 10.7(d) of these Terms and Conditions. In developing a Plan of Correction, the Center Director is permitted to adopt, modify or reject some or all of the Academy Board's response for correcting the deficiencies outlined in the Notice of Intent to Revoke. The Notice of Intent to Revoke shall be closed if the Center Director determines any of the following: (i) the Academy Board's denial of non-compliance is persuasive; (ii) the non-compliance set forth in the Notice of Intent to Revoke has been corrected by the Academy Board; or (iii) the Academy Board has successfully completed the Plan of Correction.

- (d) University Board's Contract Reconstitution Provision. The Center Director may reconstitute the Academy in an effort to improve student educational performance or to avoid interruption of the educational process. Reconstitution may include, but is not limited to, one of the following actions: (i) removal of 1 or more members of the Academy Board; (ii) termination of at-will board appointments of 1 or more Academy Board members in accordance with The Method of Selection, Appointment and Removal Resolution; (iii) withdrawing approval of a contract under Section 506 of the Code; or (iv) the appointment of a new Academy Board of Directors or a trustee to take over operations of the Academy. If the Academy is at risk for closure under Part 6a of the Code, then the Center shall notify the Superintendent of Public Instruction of any Plan of Correction that includes a reconstitution of the Academy to ensure that the Academy is not included on the list of school buildings subject to automatic closure under the Code.

- (e) Request for Revocation Hearing. The Center Director may initiate a revocation hearing before the University Charter Schools Hearing Panel if the Center Director determines that any of the following has occurred:
 - (i) the Academy Board has failed to respond to the Notice of Intent to Revoke as set forth in Section 10.7(b);
 - (ii) the Academy Board's response to the Notice of Intent to Revoke is non-responsive;
 - (iii) the Academy Board's response admits violations of the Contract or Applicable Law which the Center Director deems cannot be remedied or cannot be remedied in an appropriate period of time, or for which the Center Director determines that a Plan of Correction cannot be formulated;
 - (iv) the Academy Board's response contains denials that are not supported by sufficient documentation or other evidence showing compliance with the Contract or Applicable Law;

- (v) the Academy Board has not complied with part or all of a Plan of Correction established in Section 10.7(c);
- (vi) the Academy Board has engaged in actions that jeopardize the financial or educational integrity of the Academy; or
- (vii) the Academy Board has been issued multiple or repeated Notices of Intent to Revoke.

The Center Director shall send a copy of the request for revocation hearing to the Academy Board at the same time the request is sent to the Hearing Panel. The request for revocation shall identify the reasons for revoking the Contract.

- (f) Hearing before the University Charter Schools Hearing Panel. Within thirty (30) days of receipt of a request for revocation hearing, the Hearing Panel shall convene a revocation hearing. The Hearing Panel shall provide a copy of the notice of hearing to the Center and the Academy Board at least ten (10) days before the hearing. The purpose of the Hearing Panel is to gather facts surrounding the Center Director's request for Contract revocation, and to make a recommendation to the University Board on whether the Contract should be revoked. The revocation hearing shall be held at a location, date and time as determined by the Center Director and shall not last more than three hours. The hearing shall be transcribed and the cost shall be divided equally between the University and the Academy. The Center Director or his or her designee, and the Academy Board or its designee, shall each have equal time to make their presentation to the Hearing Panel. Although each party is permitted to submit affidavits and exhibits in support of their positions, the Hearing Panel will not hear testimony from any witnesses for either side. The Hearing Panel may, however, question the Center Director and the Academy Board. Within thirty (30) days of the revocation hearing, the Hearing Panel shall make a recommendation to the University Board concerning the revocation of the Contract. For good cause, the Hearing Panel may extend any time deadline set forth in this subsection. A copy of the Hearing Panel's recommendation shall be provided to the Center and the Academy Board at the same time that the recommendation is sent to the University Board.
- (g) University Board Decision. If the Hearing Panel's recommendation is submitted to the University Board at least fourteen (14) days before the University Board's next regular meeting, the University Board shall consider the Hearing Panel's recommendation at its next regular meeting and vote on whether to revoke the Contract. The University Board reserves the right to modify, reject or approve all or any part of the Hearing Panel's recommendation. The University Board shall have available to it copies of the Hearing Panel's recommendation and the transcript from the hearing. The University Board may waive the fourteen (14) day submission requirement or hold a special board meeting to consider the Hearing Panel's recommendation. A copy of the University Board's decision shall be provided to the Center, the Academy Board and the Michigan Department of Education.
- (h) Effective Date of Revocation. If the University Board votes to revoke the Contract, the revocation shall be effective on the date of the University Board's act of revocation, or at a later date as determined by the University Board.
- (i) Disposition of State School Aid Funds. Notwithstanding any other provision of the Contract, any state school aid funds received by the University Board after a recommendation is made by the Hearing Panel to revoke the Contract, or a decision by the University Board to revoke the Contract,

may be withheld by the University Board or returned to the Michigan Department of Treasury upon request.

Section 10.8. Contract Suspension. The University Board's process for suspending the Contract is as follows:

- (a) The Center Director Action. If the Center Director determines, in his or her sole discretion, that certain conditions or circumstances exist such that the Academy Board:
 - (i) has placed staff or students at risk;
 - (ii) is not properly exercising its fiduciary obligations to protect and preserve the Academy's public funds and property;
 - (iii) has lost its right to occupancy of the physical facilities described in Schedule 6, and cannot find another suitable physical facility for the Academy prior to the expiration or termination of its right to occupy its existing physical facilities;
 - (iv) has failed to secure or has lost the necessary fire, health, and safety approvals as required by Schedule 6;
 - (v) has willfully or intentionally violated this Contract or Applicable Law; or
 - (vi) has violated Section 10.2(g) or (h), then the Center Director may immediately suspend the Contract, pending completion of the procedures set forth in Section 10.7. A copy of the suspension notice, setting forth the grounds for suspension, shall be sent to the Academy Board and to the Hearing Panel. If this subsection is implemented, the notice and hearing procedures set forth in Section 10.7 shall be expedited as much as possible.
- (b) Disposition of State School Aid Funds. Notwithstanding any other provision of the Contract, any state school aid funds received by the University Board after a decision by the Center Director to suspend the Contract, shall be retained by the University Board for the Academy until the Contract is reinstated, or shall be returned to the Michigan Department of Treasury upon the State's request.
- (c) Immediate Revocation Proceeding. If the Academy Board, after receiving a notice of Contract suspension from the Center Director, continues to engage in conduct or activities that are covered by the suspension notice, the Hearing Panel may immediately convene a revocation hearing in accordance with the procedures set forth in section 10.7(e) of this Contract. The Hearing Panel has the authority to accelerate the time line for revoking the Contract, provided that notice of the revocation hearing shall be provided to the Center and the Academy Board at least five (5) days before the hearing. If the Hearing Panel determines that the Academy Board has continued to engage in conduct or activities that are covered by the suspension notice, the Hearing Panel may recommend revocation of the Contract. The University Board shall proceed to consider the Hearing Panel's recommendation in accordance with sections 10.7(f) through (h).

ARTICLE XI PROVISIONS RELATING TO PUBLIC SCHOOL ACADEMIES

Section 11.1. The Academy Budget. The Academy Board is responsible for establishing, approving, and amending an annual budget in accordance with the Uniform Budgeting and Accounting

Act, MCL 141.421, *et seq.* The Academy Board shall submit to the Center a copy of its annual budget for the upcoming fiscal year in accordance with the Master Calendar. The budget must detail budgeted expenditures at the object level as described in the Michigan Department of Education's Michigan School Accounting Manual. In addition, the Academy Board is responsible for approving all revisions and amendments to the annual budget. In accordance with the Master Calendar, revisions or amendments to the Academy's budget shall be submitted to the Center following Academy Board approval.

Section 11.2. Insurance. The Academy Board shall secure and maintain in its own name, as the "first named insured," insurance coverage as required by the University's insurance carrier.

The insurance must be obtained from a licensed mutual, stock, or other responsible company licensed to do business in the State of Michigan. The Academy may join with other public school academies to obtain insurance if the Academy Board finds that such an association provides economic advantages to the Academy, provided that each Academy maintains its identity as first named insured. The Academy shall list the University on the insurance policies as an additional insured as required by the University's insurance carrier. The coverage provided to the University as an additional covered person or organization will be primary and non-contributory with the University's insurance carrier. The Academy shall have a provision included in all policies requiring notice to the University, at least thirty (30) days in advance, upon termination or non-renewal of the policy for any reason other than nonpayment which would require a ten (10) day advance notice to the University. In addition, the Academy shall provide the Center copies of all insurance policies required by this Contract.

When changing insurance programs or carriers, the Academy must provide copies of the proposed policies to the Center at least thirty (30) days prior to the proposed change. The Academy shall not cancel or change its existing carrier without the prior review of the Center.

The University's insurance carrier periodically reviews the types and amounts of insurance coverage that the Academy must secure in order for the University to maintain insurance coverage for the authorization and oversight of the Academy. In the event that the University's insurance carrier requests additional changes in coverage identified in this Section 11.2, the Academy agrees to comply with any additional changes in the types and amounts of coverage requested by the University's insurance carrier within thirty (30) days after notice of the insurance coverage change.

The Academy may expend funds for payment of the cost of participation in an accident or medical insurance program to insure protection for pupils while attending school or participating in a school program or activity. Other insurance policies and higher minimums may be required depending upon academic offerings and program requirements.

Pursuant to Section 3.6 of these Terms and Conditions, the University requires that any Educational Service Provider or employee leasing company that enters into a contract with the Academy must obtain insurance coverage similar to the insurance coverage that is currently required for the Academy. Accordingly, any agreement between the Academy and an Educational Service Provider or employee leasing company shall contain a provision requiring the Educational Service Provider or employee leasing company to comply with the coverage requirements recommended by the University's insurance carrier. Furthermore, the agreement between the Educational Service Provider or employee leasing company and the Academy shall contain a provision stating that "in the event that the University's insurance carrier recommends any change in coverage by the Educational Service Provider or employee leasing company, the Educational Service Provider or employee leasing company agrees to comply with any changes in the type and amount of coverage as requested by the University or the University's insurance carrier within thirty (30) days after notice of the insurance coverage change."

Section 11.3. Legal Liabilities and Covenant Against Suit. The Academy acknowledges and agrees that it has no authority to extend the faith and credit of the University or to enter into a contract that would bind the University. The Academy also is limited in its authority to contract by the amount of funds obtained from the state school aid fund, as provided hereunder, or from other independent sources. The Academy hereby covenants not to sue the University Board, the University or any of its Trustees, officers, employees, agents or representatives for any matters that arise under this Contract. The University does not assume any obligation with respect to any director, employee, agent, parent, guardian, student, or independent contractor of the Academy, and no such person shall have the right or standing to bring suit against the University Board, the University or any of its Trustees, employees, agents, or independent contractors as a result of the issuance, non-issuance, oversight, revocation, termination or suspension of this Contract.

Section 11.4. Lease or Deed for Proposed Site. The Academy shall provide to the Center copies of its proposed lease or deed for the premises in which the Academy shall operate. Following the Center's review, a copy of the Academy's lease or deed shall be incorporated into this Contract under Schedule 6 and in accordance with Article IX, as applicable.

Section 11.5. Certificate(s) of Use and Occupancy. The Academy Board shall: (i) ensure that the Academy's physical facilities comply with all fire, health and safety standards applicable to schools; and (ii) possess the necessary occupancy certificates for the Academy's physical facilities. The Academy Board shall not occupy or use any facility until approved for occupancy by the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes. Copies of these Certificate(s) of Use and Occupancy shall be incorporated into this Contract under Schedule 6 and in accordance with Article IX, as applicable.

Section 11.6. Criminal Background and History Checks; Disclosure of Unprofessional Conduct. The Academy shall comply with section 1230 and 1230a of the Code concerning criminal background and criminal history checks for its teachers, school administrator(s), and for any other position requiring State Board approval. In addition, the Academy shall comply with section 1230b of the Code concerning the disclosure of unprofessional conduct by persons applying for Academy employment. This Section 11.6 shall apply to such persons irrespective of whether they are employed by the Academy or employed by another entity contracting with the Academy.

Section 11.7. Special Education. Pursuant to Section 1701a of the Code, the Academy shall comply with Article III, Part 29 of the Code, MCL 380.1701 et seq., concerning the provision of special education programs and services at the Academy as referenced in Contract Schedule 7c.

Section 11.8. Information Available to the Public and the Center.

- (a) Information to be provided by the Academy. In accordance with Applicable Law, the Academy shall make information concerning its operation and management, including without limitation information in Schedule 8, available to the public and the Center.
- (b) Information to be provided by Educational Service Provider. The agreement between the Academy and the Educational Service Provider shall contain a provision requiring the Educational Service Provider to make information concerning the operation and management of the Academy, including the information in Schedule 8, available to the Academy as deemed necessary by the Academy Board in order to enable the Academy to fully satisfy its obligations under paragraph 11.8 (a) above.

**ARTICLE XII
GENERAL TERMS**

Section 12.1. Notices. Any and all notices permitted or required to be given hereunder shall be deemed duly given: (i) upon actual delivery, if delivery is by hand; or (ii) upon receipt by the transmitting party of confirmation or answer back if delivery is by facsimile or electronic mail; or (iii) upon delivery into United States mail if delivery is by postage paid first class mail. Each such notice shall be sent to the respective party at the address indicated below or to any other address or person as the respective party may designate by notice delivered pursuant hereto:

If to the University Board: The Governor John Engler Center for Charter Schools
Attn: Executive Director
Central Michigan University
EHS 200
Mt. Pleasant, MI 48859

General Counsel: General Counsel
Central Michigan University
1303 West Campus Drive
Mt. Pleasant, MI 48859

Chief Financial Officer: Vice President Finance & Admin. Services
Central Michigan University
104 Warriner Hall
Mt. Pleasant, MI 48859

If to the Academy: Academy Board President
West Michigan Academy of Environmental Science
4463 Leonard Avenue NW
Walker, MI 49534

Section 12.2. Severability. If any provision in this Contract is held to be invalid or unenforceable, it shall be ineffective only to the extent of the invalidity, without affecting or impairing the validity and enforceability of the remainder of the provision or the remaining provisions of this Contract. If any provision of this Contract shall be or become in violation of any local, state or federal law, such provision shall be considered null and void, and all other provisions shall remain in full force and effect.

Section 12.3. Successors and Assigns. The terms and provisions of this Contract are binding on and shall inure to the benefit of the parties and their respective successors and permitted assigns.

Section 12.4. Entire Contract. Except as specifically provided in this Contract, this Contract sets forth the entire agreement between the University Board and the Academy with respect to the subject matter of this Contract. All prior contracts, representations, statements, negotiations, understandings, and undertakings are superseded by this Contract.

Section 12.5. Assignment. This Contract is not assignable by the Academy.

Section 12.6. Non-Waiver. Except as provided herein, no term or provision of this Contract shall be deemed waived and no breach or default shall be deemed excused, unless such waiver or consent

shall be in writing and signed by the party claimed to have waived or consented. No consent by any party to, or waiver of, a breach or default by the other, whether expressed or implied, shall constitute consent to, waiver of, or excuse for any different or subsequent breach or default.

Section 12.7. Governing Law. This Contract shall be governed and controlled by the laws of the State of Michigan as to interpretation, enforcement, validity, construction, and effect, and in all other respects.

Section 12.8. Counterparts. This Contract may be executed in any number of counterparts. Each counterpart so executed shall be deemed an original, but all such counterparts shall together constitute one and the same instrument.

Section 12.9. Term of Contract. This Contract is for a fixed term and shall terminate at the end of the Contract term without any further action of either the University Board or the Academy. This Contract shall commence on the date first set forth above and shall remain in full force and effect for a period of seven (7) academic years and shall terminate on June 30, 2021, unless sooner revoked, terminated, or suspended pursuant to Article X of these Terms and Conditions. Pursuant to University Board policy, the standards by which the Academy may be considered for the issuance of a new contract will be guided by the following core questions:

Is the Academy's academic program successful?

Is the Academy's organization viable?

Is the Academy demonstrating good faith in following the terms of its charter and applicable law?

The Center shall establish the process and timeline for the issuance of a new contract. The standards for the issuance of a new Contract shall include increases in academic achievement for all groups of pupils as measured by assessments and other objective criteria established by the University Board as the most important factor of whether to issue or not issue a new Contract. Consistent with the Code, the University Board in its sole discretion may elect to issue or not issue a new contract to the Academy.

Section 12.10. Indemnification of University. As a condition to receiving a grant of authority from the University Board to operate a public school pursuant to the Terms and Conditions of this Contract, the Academy agrees to indemnify, defend and hold harmless the University Board, the University and its officers, employees, agents or representatives from and against all demands, claims, actions, suits, causes of action, losses, judgments, liabilities, damages, fines, penalties, forfeitures, or any other liabilities or losses of any kind whatsoever, including costs and expenses (not limited to reasonable attorney fees, expert and other professional fees) settlement and prosecution imposed upon or incurred by the University, and not caused by the sole negligence of the University, which arise out of or are in any manner connected with the University Board's approval of the public school academy application, the University Board's consideration of or issuance of a Contract, the Academy's preparation for or operation of a public school, or which are incurred as a result of the reliance by the University Board, the University and its officers, employees, agents or representatives upon information supplied by the Academy, or which arise out of the Academy's failure to comply with this Contract or Applicable Law. The foregoing provision shall not be deemed a relinquishment or waiver of any kind of Section 7 of the Governmental Liability for Negligence Act, being Act No. 170, Public Acts of Michigan, 1964.

Section 12.11. Construction. This Contract shall be construed fairly as to both parties and not in

favor of or against either party, regardless of which party prepared the Contract.

Section 12.12. Force Majeure. If any circumstances occur which are beyond the control of the parties, which delay or render impossible the obligations of one or both of the parties, the parties' obligations to perform such services shall be postponed for an equivalent period of time or shall be canceled, if such performance has been rendered impossible by such circumstances.

Section 12.13. No Third Party Rights. This Contract is made for the sole benefit of the Academy and the University Board. Except as otherwise expressly provided, nothing in this Contract shall create or be deemed to create a relationship between the parties hereto, or either of them, and any third person, including a relationship in the nature of a third party beneficiary or fiduciary.

Section 12.14. Non-agency. It is understood that the Academy is not the agent of the University.

Section 12.15. University Board or the Center's General Policies on Public School Academies Shall Apply. Notwithstanding any provision of this Contract to the contrary, and with the exception of existing University Board or the Center policies regarding public school academies which shall apply immediately, University Board or the Center general policies clarifying procedure and requirements applicable to public school academies under this Contract, as from time to time adopted or amended, will automatically apply to the Academy, provided they are not inconsistent with provisions of this Contract. Before issuing general policies under this section, the University Board or the Center shall provide a draft of the proposed policies to the Academy Board. The Academy Board shall have at least thirty (30) days to provide comment to the Center on the proposed policies before such policies shall become effective.

Section 12.16. Survival of Provisions. The terms, provisions, and representations contained in Section 11.2, Section 11.3, Section 11.8, Section 12.10, Section 12.13 and any other provisions of this Contract that by their sense and context are intended to survive termination of this Contract shall survive.

Section 12.17. Termination of Responsibilities. Upon termination or revocation of the Contract, the University Board or its designee shall have no further obligations or responsibilities under this Contract to the Academy or any other person or persons in connection with this Contract.

As the designated representative of the Central Michigan University Board of Trustees, I hereby issue this Contract to the Academy on the date set forth above.

CENTRAL MICHIGAN UNIVERSITY BOARD OF TRUSTEES

By: William R. Kanine
William R. Kanine, Chair

Date: 5/28/2014

As the authorized representative of the Academy, I hereby certify that the Academy is able to comply with the Contract and all Applicable Law, and that the Academy, through its governing board, has approved and agreed to comply with and be bound by the terms and conditions of this Contract and All Applicable Law.

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

By: Arthur P. Scott
Board President

Date: 5-13-2014

CONTRACT SCHEDULES

	<u>Schedules</u>
Restated Articles of Incorporation	1
Amended Bylaws	2
Fiscal Agent Agreement	3
Oversight, Compliance and Reporting Agreement	4
Description of Staff Responsibilities	5
Physical Plant Description	6
Required Information for a Public School Academy.....	7
Information Available to the Public and The Center.....	8

CONTRACT SCHEDULE 1

RESTATED ARTICLES OF INCORPORATION

**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
CORPORATIONS, SECURITIES & COMMERCIAL LICENSING BUREAU
NONPROFIT CORPORATION INFORMATION UPDATE**

2013

Identification Number 726989	Corporation Name WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
--	---

Resident agent name and mailing address of the registered office

**PETER VANDERSLUIS
4463 LEONARD NW**

WALKER MI 49544

The address of the registered office

4463 LEONARD NW

WALKER MI 49544

Describe the purpose and activities of the corporation during the year covered by this report:

PUBLIC SCHOOL

Officer/Director Information

NAME	TITLE	BUSINESS OR RESIDENCE ADDRESS
PETER VANDERSLUIS	PRESIDENT	4463 LEONARD NW WALKER MI 49544
JULIA KOZMINSKI	SECRETARY	4463 LEONARD NW WALKER MI 49544
PHIL WHEELER	TREASURER	4463 LEONARD NW WALKER MI 49544
MATT SMITH	VICE PRESIDENT	4463 LEONARD NW WALKER MI 49544
PETER VANDERSLUIS	DIRECTOR	4463 LEONARD NW WALKER MI 49544
JULIA KOZMINSKI	DIRECTOR	4463 LEONARD NW WALKER MI 49544
MATH SMITH	DIRECTOR	4463 LEONARD NW WALKER MI 49544

Electronic Signature

Filed By PETER VANDERSLUIS	Title President	Phone 616-791-7454
--------------------------------------	---------------------------	------------------------------

I certify that this filing is submitted without fraudulent intent and that I am authorized by the business entity to make any changes reported herein.

Payment Information

Payment Amount \$ 20	Payment Date/Time 09/16/2013 11:15:41	Reference Nbr 71315 6800 726989 2013
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DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
NONPROFIT CORPORATION INFORMATION UPDATE



2012

Due October 1, 2012 This report can be filed online at www.michigan.gov/fileonline

Identification Number 726989	Corporation name WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
Resident agent name and mailing address of the registered office NANCY HARRIS 4463 LEONARD NW WALKER MI 49544	
FILED OCT 01 2012 by Department Bureau of Commercial Services	
RECEIVED SEP 14 2012 DELEG \$20.00	
The address of the registered office 4463 LEONARD NW WALKER MI 49544	

I certify that the board consists of 3 or more directors, and further certify that all directors' names and addresses are previously filed with the Department, and that no changes have occurred in required information since the last filed report.
If you checked the box, proceed to item 6.

1. Mailing address of registered office in Michigan (may be a P.O. Box)	2. Resident Agent <i>Philip wheeler</i>
3. The address of the registered office in Michigan (a P.O. Box may not be designated as the address of the registered office)	

4. Describe the purpose and activities of the corporation during the year covered by this report:

Public School

5. NAME and BUSINESS OR RESIDENCE ADDRESS	
If different than President	President (Required) <i>Philip wheeler - 4463 Leonard NW, Walker, MI 49544</i>
	Secretary (Required) <i>Wallace Hook - 4463 - Leonard NW, Walker, MI 49544</i>
	Treasurer (Required) <i>Wallace Hook</i>
	Vice President
Required 3 or more directors	Director (Required) <i>Philip wheeler</i>
	Director (Required) <i>Wallace Hook</i>
	Director (Required) <i>Peter Vandersloot - 4463 Leonard NW, Walker, MI 49544</i>

6. Report due October 1, 2012.
Filing fee \$20.00.

If no changes have occurred, this must be signed by the chairperson, vice-chairperson, president or vice-president.

Please make your check or money order payable to the State of Michigan. Include payment with completed report in the same envelope.
Return to: Department of Licensing and Regulatory Affairs
Bureau of Commercial Services, Corporation Division
P.O. Box 30767
Lansing, MI 48909
(517) 241-6470
OR File online at www.michigan.gov/fileonline

Signature of authorized officer or agent <i>Philip Wheeler</i>	Title <i>President</i>	Date <i>9/11/12</i>	Phone (Optional)
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**MICHIGAN DEPARTMENT OF ENERGY, LABOR & ECONOMIC GROWTH
BUREAU OF COMMERCIAL SERVICES, CORPORATION DIVISION
NONPROFIT CORPORATION INFORMATION UPDATE**

2009

On behalf of the Corporation, I certify that no changes have occurred in required information since the last filed annual report.

Identification Number 726989	Corporation Name WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
--	---

Resident agent name and mailing address of the registered office
NANCY HARRIS

MI

The address of the registered office
4463 LEONARD NW
WALKER MI 49544

Describe the purpose and activities of the corporation during the year covered by this report:

Electronic Signature

Filed By STAN RATHBUN	Title CHAIRPERSON	Phone 616-785-8440
---------------------------------	-----------------------------	------------------------------

I certify that this filing is submitted without fraudulent intent and that I am authorized by the business entity to make any changes reported herein.

Payment Information

Payment Amount \$ 20.00	Payment Date/Time 09/29/2009 23:20:22	Reference Nbr 71315 6800 726989 2009
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Michigan Department Of Energy, Labor & Economic Growth

Filing Endorsement

This is to Certify that the CERT. OF CHANGE OF REG. OFF./RES. AGENT

for

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

ID NUMBER: 726989

received by facsimile transmission on May 14, 2009 is hereby endorsed

Filed on May 14, 2009 by the Administrator.

The document is effective on the date filed, unless a subsequent effective date within 90 days after received date is stated in the document.



In testimony whereof, I have hereunto set my hand and affixed the Seal of the Department, in the City of Lansing, this 14TH day of May, 2009.

A handwritten signature in black ink, appearing to read "Andrew G. Heston".

, Director

Bureau of Commercial Services

05/13/2009 06:39 6167858456

CHOICESCHOOLSSASDOC

PAGE 02/02

BCHCD-286 (Rev. 12/05)

MICHIGAN DEPARTMENT OF LABOR & ECONOMIC GROWTH BUREAU OF COMMERCIAL SERVICES			
Date Received	(FOR BUREAU USE ONLY)		
This document is effective on the date filed, unless a subsequent effective date within 90 days after received date is stated in the document.			
Name	Marshall W. Grate		
Address	200 Ottawa NW, Suite 500		
City	State	Zip Code	
Grand Rapids,	MI	49503	
EFFECTIVE DATE:			

Document will be returned to the name and address you enter above.
If left blank document will be mailed to the registered office.

CERTIFICATE OF CHANGE OF REGISTERED OFFICE AND/OR CHANGE OF RESIDENT AGENT For use by Domestic and Foreign Corporations and Limited Liability Companies

(Please read information and instructions on reverse side)

Pursuant to the provisions of Act 284, Public Acts of 1972 (profit corporations), Act 162, Public Acts of 1982 (nonprofit corporations), or Act 23, Public Acts of 1993 (limited liability companies), the undersigned corporation or limited liability company executes the following Certificate:

1. The name of the corporation or limited liability company is:	West Michigan Academy of Environmental Science		
2. The identification number assigned by the Bureau is:	726989		
3. a. The name of the resident agent on file with the Bureau is:	Nancy Sochanek		
b. The location of the registered office on file with the Bureau is:	4463 Leonard NW Walker, Michigan 49544		
<small>(Street Address) (City) (ZIP Code)</small>			
c. The mailing address of the above registered office on file with the Bureau is:	Michigan		
<small>(Street Address or P.O. Box) (City) (ZIP Code)</small>			

ENTER IN ITEM 4 THE INFORMATION AS IT SHOULD NOW APPEAR ON THE PUBLIC RECORD

4. a. The name of the resident agent is:	Nancy Harris		
b. The address of the registered office is:	4463 Leonard NW Walker, Michigan 49544		
<small>(Street Address) (City) (ZIP Code)</small>			
c. The mailing address of the registered office IF DIFFERENT THAN 4B is:	Michigan		
<small>(Street Address or P.O. Box) (City) (ZIP Code)</small>			

5. The above changes were authorized by resolution duly adopted by: 1. ALL CORPORATIONS: its Board of Directors; 2. PROFIT CORPORATIONS ONLY: the resident agent if only the address of the registered office is changed, in which case a copy of this statement has been mailed to the corporation; 3. LIMITED LIABILITY COMPANIES: an operating agreement, affirmative vote of a majority of the members pursuant to section 502(1), managers pursuant to section 405, or the resident agent if only the address of the registered office is changed.

6. The corporation or limited liability company further states that the address of its registered office and the address of its resident agent, as changed, are identical.

Signature 	Type or Print Name and Title or Capacity Nancy A Harris - Board Pres	Date Signed 5-12-9
--	---	-----------------------

05/14/2009 8:44AM

511 *\$10/cepd*

**MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC GROWTH
BUREAU OF COMMERCIAL SERVICES**

Date Received MAR 08 2004		(FOR BUREAU USE ONLY)
Name Nancy Sochanek		<p>FILED</p> <p>APR 28 2004</p> <p><small>Sub-Registrar BUREAU OF COMMERCIAL SERVICES</small></p> <p>EFFECTIVE DATE:</p>
Address 4463 Leonard NW		
City Walker	State MI	

Document will be returned to the name and address you enter above

7	2	6	-	9	8	9
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**RESTATED ARTICLES OF INCORPORATION
For Use by Domestic Nonprofit Corporations**

OF

West Michigan Academy of Environmental Science

Pursuant to the provisions of the Michigan Nonprofit Corporation Act of 1982, as amended (the "Act"), being MCL 450.2101 *et seq.* and Part 6A of the Revised School Code (the "Code") as amended, being Sections 380.501 to 380.507 of the Michigan Compiled Laws, the undersigned corporation executes the following Restated Articles:

1. The name of the corporation is: West Michigan Academy of Environmental Science.
2. The corporation identification number (CID) assigned by the Bureau is: 726-989.
3. The corporation has used no other names.
4. The date of filing the original Articles of Incorporation was: August 18, 1994.

The following Restated Articles of Incorporation supersede the Articles of Incorporation and shall be the Articles of Incorporation for the corporation:

jr

ARTICLE I

The name of the corporation is: West Michigan Academy of Environmental Science.

The authorizing body for the corporation is: Central Michigan University Board of Trustees.

ARTICLE II

The purpose or purposes for which the corporation is organized are:

1. The corporation is organized for the purpose of operating as a public school academy in the state of Michigan pursuant to Part 6A of the Code, being Sections 380.501 to 380.507 of the Michigan Compiled Laws.

2. The corporation, including all activities incident to its purposes, shall at all times be conducted so as to be a governmental entity pursuant to Section 115 of the United States Internal Revenue Code ("IRC") or any successor law. Notwithstanding any other provision of these Restated Articles, the corporation shall not carry on any other activity not permitted to be carried on by a governmental instrumentality exempt from federal income tax under Section 115 of the IRC or by a nonprofit corporation organized under the laws of the State of Michigan and subject to a Contract authorized under the Code.

ARTICLE III

The corporation is organized on a non-stock, directorship basis.

The value of assets which the corporation possesses is:

Real Property: \$1,482,000

Personal Property: \$194,800 (furniture and equipment)
(The date of valuation of the above assets is as of June 30, 2003.)

The corporation is to be financed under the following general plan:

- a. State school aid payments received pursuant to the State School Aid Act of 1979 or any successor law.
- b. Federal funds.
- c. Donations.
- d. Fees and charges permitted to be charged by public school academies.
- e. Other funds lawfully received.

ARTICLE IV

The address of the registered office is 4463 Leonard NW, Walker, MI 49544.

The mailing address of the registered office is the same.

The name of the resident agent at the registered office is Nancy Sochanek.

ARTICLE V

The corporation is a governmental entity.

ARTICLE VI

The corporation and its incorporators, board members, officers, employees, and volunteers have governmental immunity as provided in section 7 of Act No. 170 of the Public Acts of 1964, being section 691.1407 of the Michigan Compiled Laws.

ARTICLE VII

Before execution of a contract to charter a public school academy between the corporation and Central Michigan University Board of Trustees (the "University Board"), the method of selection, length of term, and the number of members of the Board of Directors of the corporation shall be approved by a resolution of the University Board as required by the Code.

ARTICLE VIII

The Board of Directors shall have all the powers and duties permitted by law to manage the business, property and affairs of the corporation.

ARTICLE IX

The officers of the corporation shall be a President, Vice-President, Secretary and a Treasurer, each of whom shall be a member of the Board of Directors and shall be selected by the Board of Directors. The Board of Directors may select one or more assistants to the Secretary or Treasurer, and may also appoint such other agents as it may deem necessary for the transaction of the business of the corporation.

ARTICLE X

No part of the net earnings of the corporation shall inure to the benefit of or be distributable to its board, directors, officers or other private persons, or organization organized and operated for a profit (except that the corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in the furtherance of the purposes set forth in Article II hereof). Notwithstanding any other provision of these Restated

Articles, the corporation shall not carry on any other activities not permitted to be carried on by a governmental entity exempt from federal income tax under section 115 of the IRC, or comparable provisions of any successor law.

To the extent permitted by law, upon the dissolution of the corporation, the board shall after paying or making provision for the payment of all of the liabilities of the corporation, dispose of all of the assets of the corporation to the University Board for forwarding to the state school aid fund established under article IX, section 11 of the Constitution of the State of Michigan of 1963, as amended.

ARTICLE XI

These Restated Articles of Incorporation shall not be amended except by the process provided in Article IX of the Terms and Conditions incorporated as part of the Contract. This process is as follows:

The corporation, by a majority vote of its Board of Directors, may, at any time, propose specific changes to these Restated Articles of Incorporation or may propose a meeting to discuss potential revision to these Restated Articles of Incorporation. The proposal will be made to the University Board through its designee. The University Board delegates to the University Charter Schools Office Director the review and approval of changes or amendments to these Restated Articles of Incorporation. In the event that a proposed change is not accepted by the University Charter Schools Office Director, the University Board shall consider and vote upon a change proposed by the corporation following an opportunity for a written and oral presentation to the University Board by the corporation.

At any time and for any reason, the University Board or an authorized designee may propose specific changes to these Restated Articles of Incorporation or may propose a meeting to discuss potential revision. The corporation's Board of Directors may delegate to an officer of the corporation the review and negotiation of changes or amendments to these Restated Articles of Incorporation. The Restated Articles of Incorporation shall be amended as requested by the University Board or an authorized designee upon a majority vote of the corporation's Board of Directors.

Amendments to these Restated Articles of Incorporation take effect only after they have been approved by the corporation's Board of Directors and by the University Board or the University Charter Schools Office Director, and the amendments are filed with the Michigan Department of Labor and Economic Growth, Bureau of Commercial Services. In addition, the corporation shall file with the amendment a copy of the University Board's or University Charter Schools Office Director's approval of the amendment.

ARTICLE XII

The definitions set forth in the Terms and Conditions incorporated as part of the Contract shall have the same meaning in these Restated Articles of Incorporation.

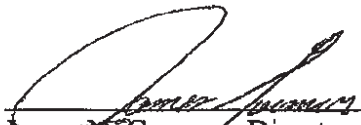
ADOPTION OF ARTICLES

These Restated Articles of Incorporation were duly adopted on the 10th day of February, 2004, in accordance with the provisions of Section 642 of the Act. These Restated Articles of Incorporation restate, integrate and do further amend the provisions of the Articles of Incorporation and were duly adopted by the directors. The necessary number of votes were cast in favor of these Restated Articles of Incorporation.

Signed this 10th day of February, 2004. These Restated Articles of Incorporation will be effective upon filing.

By: 
Nancy Sochatek, President

APPROVED BY:


James N. Goenner, Director
Central Michigan University
Charter Schools Office
Dated: 2/10/2004

CONTRACT SCHEDULE 2

AMENDED BYLAWS

TABLE OF CONTENTS

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

AMENDED BYLAWS

ARTICLE I – Name 3

ARTICLE II – Form of Academy 3

ARTICLE III – Offices 3

 1. Principal Office 3

 2. Registered Office 3

ARTICLE IV – Board of Directors 3

 1. General Powers 3

 2. Method of Selection and Appointment 3

 3. Length of Term 4

 4. Number of Director Positions 4

 5. Qualifications of Academy Board Members 4

 6. Oath of Public Office 5

 7. Tenure 5

 8. Removal and Suspension 5

 9. Resignation 5

 10. Board Vacancies 5

 11. Compensation 5

ARTICLE V – Meetings 5

 1. Annual and Regular Meetings 5

 2. Special Meetings 5

 3. Notice; Waiver 5

 4. Quorum 6

 5. Manner of Acting 6

 6. Open Meetings Act 6

 7. Presumption of Assent 6

ARTICLE VI - Committees 6

 1. Committees 6

ARTICLE VII – Officers of the Board 7

1. Number	7
2. Election and Term of Office	7
3. Removal	7
4. Vacancies	7
5. President	7
6. Vice-President	7
7. Secretary	7
8. Treasurer	7
9. Assistants and Acting Officers	8
10. Salaries	8
11. Filling More Than One Office	8
 ARTICLE VIII – Contracts, Loans, Checks and Deposits; Special Corporate Acts	 8
1. Contracts	8
2. Loans	8
3. Checks, Drafts, etc.	8
4. Deposits	9
5. Voting of Gifted, Bequested or Transferred Securities Owned by this Corporation	9
6. Contracts Between Corporation and Related Persons	9
 ARTICLE IX - Indemnification	 10
 ARTICLE X – Fiscal Year	 10
 ARTICLE XI – Amendments	 11
 ARTICLE XII – Terms and Conditions Definitions	 11
 CERTIFICATION	 12

AMENDED BYLAWS
OF
WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

ARTICLE I

NAME

This organization shall be called West Michigan Academy of Environmental Science (the "Academy" or the "corporation").

ARTICLE II

FORM OF ACADEMY

The Academy is organized as a non-profit, non-stock, directorship corporation.

ARTICLE III

OFFICES

Section 1. Principal Office. The principal office of the Academy shall be located in the State of Michigan.

Section 2. Registered Office. The registered office of the Academy may be the same as the principal office of the Academy, but in any event must be located in the State of Michigan, and be the business office of the resident agent, as required by the Michigan Non-Profit Corporation Act. Changes in the resident agent and registered address of the Academy must be reported to the Michigan Department of Licensing and Regulatory Affairs and to The Governor John Engler Center for Charter Schools ("the Center.")

ARTICLE IV

BOARD OF DIRECTORS

Section 1. General Powers. The business, property and affairs of the Academy shall be managed by the Academy Board of Directors ("Academy Board"). The Academy Board may exercise any and all of the powers granted to it under the Michigan Non-Profit Corporation Act or pursuant to Part 6A of the Revised School Code ("Code"). The Academy Board may delegate such powers to the officers and committees of the Academy Board as it deems necessary, so long as such delegation is consistent with the Articles, these Bylaws, the Contract and Applicable Law.

Section 2. Method of Selection and Appointment. The Central Michigan University Board of Trustees ("University Board") shall prescribe the method of appointment for members of an academy's

board of directors. The Center Director is authorized to develop and administer an academy board selection and appointment process that includes an *Application for Public School Academy Board Appointment* and is in accord with these policies:

- a. The University Board shall appoint the initial and subsequent academy board of directors by resolution, except as prescribed by subparagraph d. The Center Director shall recommend qualified individuals to the University Board.
- b. The academy board of directors, by resolution and majority vote, shall nominate its subsequent members, except as provided otherwise. The academy board of directors shall recommend to the Center Director at least one nominee for each vacancy. Nominees shall submit the *Application for Public School Academy Board Appointment* for review by the Center. The Center Director may or may not recommend the appointment of a nominee submitted by the academy board. If the Center Director does not recommend the appointment of a nominee submitted by the Academy Board, he/she may select and recommend another nominee or may request the Academy Board submit a new nominee for consideration.
- c. An individual appointed to fill a vacancy created other than by the expiration of a term shall be appointed for the unexpired term of that vacant position.
- d. Under exigent conditions, and with the approval of the University Board's chair and the president, the Center Director may appoint a qualified individual to an academy's board of directors. All appointments made under this provision must be presented to the University Board for final determination at its next regularly scheduled meeting. The University Board reserves the right to review, rescind, modify, ratify, or approve any appointments made under this provision.

Section 3. Length of Term. The Director of an Academy Board shall serve at the pleasure of the University Board. Terms of the initial positions of the Academy Board of Directors shall be staggered in accordance with *The Academy Board of Directors Table of Staggered Terms and Appointments* established and administered by the Center Director. Subsequent appointments shall be for a term of office not to exceed four (4) years, except as prescribed by *The Academy Board of Directors Table of Staggered Terms and Appointments*.

Section 4. Number of Director Positions. The number of director positions on the Academy Board shall not be less than five (5) nor more than nine (9) as determined by the University Board. If the Academy Board fails to maintain its full membership by making appropriate and timely nominations, the Center Director may deem that failure an exigent condition.

Section 5. Qualifications of Academy Board Members. To be qualified to serve on an academy's board of directors, a person shall, among other things: (a) be a citizen of the United States; (b) be a resident of the State of Michigan; (c) submit all materials requested by the Center including, but not limited to, the *Application for Public School Academy Board Appointment* which must include authorization to process a criminal background check; and (d) annually submit a conflict of interest disclosure as prescribed by the Center.

The members of the Academy Board shall not include (a) employees of the Academy; (b) any director, officer, or employee of a service provider that contracts with the Academy; (c) a Central Michigan University official or employee, as a representative of Central Michigan University.

Section 6. Oath of Public Office. All members of the Academy Board must take the constitutional oath of office and sign the *Oath of Public Office* before beginning their service. The *Oath of Public Office* shall be filed with the Center.

Section 7. Tenure. Each Director shall hold office until the Director's replacement, death, resignation, removal or until the expiration of the term, whichever occurs first.

Section 8. Removal and Suspension. If the University Board determines that an Academy Board member's service in office is no longer necessary, then the University Board may remove an Academy Board member with or without cause and shall specify the date when the Academy Board member's service ends. An Academy Board member may also be removed from office for cause by a two-thirds (2/3) vote of the Academy's Board.

With the approval of the University Board's chair and the University President, the Center Director may suspend an Academy Board member's service, if in his/her judgment the person's continued presence would constitute a risk to persons or property, or would seriously impair the operation of the Academy. Any suspension made under this provision must be presented to the University Board for final determination at its next regularly scheduled meeting. The University Board reserves the right to review, rescind, modify, ratify, or approve any suspensions made under this provision.

Section 9. Resignation. Any Director may resign at any time by providing written notice to the corporation or by communicating such intention (orally or in writing) to the Center. Notice of resignation will be effective upon receipt or at a subsequent time if designated in a written notice. A successor shall be appointed as provided in Section 2 of this Article.

Section 10. Board Vacancies. A Board of Director vacancy shall occur because of death, resignation, removal, failure to maintain residency in the State of Michigan, disqualification or as otherwise specified in the Code. Any vacancy shall be filled as provided in Section 2 of this Article.

Section 11. Compensation. A Director of the Academy shall serve as a volunteer Director. By resolution of the Board, the Directors may be reimbursed for their reasonable expenses incident to their duties.

ARTICLE V

MEETINGS

Section 1. Annual and Regular Meetings. The Academy Board shall hold an annual meeting each year. The Academy Board must provide, by resolution, the time and place, within the State of Michigan, for the holding of regular monthly meetings. The Academy Board shall provide notice of the annual and all regular meetings as required by the Open Meetings Act.

Section 2. Special Meetings. Special meetings of the Academy Board may be called by or at the request of any Director. The person or persons authorized to call special meetings of the Academy Board may fix the place within the State of Michigan for holding any special meeting of the Academy Board called by them, and, if no other place is fixed, the place of meeting shall be the principal business office of the corporation in the state of Michigan. The corporation shall provide notice of all special meetings as required by the Open Meetings Act.

Section 3. Notice; Waiver. The Academy Board must comply with the notice provisions of the Open Meetings Act. In addition, notice of any meeting shall be given to each Director stating the time

and place of the meeting, delivered personally, mailed, sent by facsimile or electronic mail to the Director's business address. Any Director may waive notice of any meeting by written statement, facsimile or electronic mail sent by the Director, signed before or after the holding of the meeting. The attendance of a Director at a meeting constitutes a waiver of notice of such meeting, except where a Director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened.

Section 4. Quorum. In order to legally transact business, the Academy Board shall have a quorum physically present at a duly called meeting of the Academy Board. A “quorum” shall be defined as follows:

<u># of Academy Board Positions</u>	<u># Required for Quorum</u>
Five (5)	Three (3)
Seven (7)	Four (4)
Nine (9)	Five (5)

Section 5. Manner of Acting. The act of the majority of the Directors present at a meeting at which a quorum is present shall be the act of the Academy Board. No member of the Board of Directors may vote by proxy, by way of a telephone conference or any other electronic means of communication.

Section 6. Open Meetings Act. All meetings of the Academy Board, shall at all times be in compliance with the Open Meetings Act.

Section 7. Presumption of Assent. A Director of the Academy Board who is present at a meeting of the Academy Board at which action on any corporate matter is taken shall be presumed to have assented to the action taken unless that Director's dissent shall be entered in the minutes of the meeting or unless that Director shall file a written dissent to such action with the person acting as the Secretary of the meeting before the adjournment thereof or shall forward such dissent by registered mail to the Secretary of the corporation immediately after the adjournment of the meeting. This right to dissent shall not apply to a Director who voted in favor of such action.

ARTICLE VI

COMMITTEES

Section 1. Committees. The Academy Board, by resolution, may designate one or more committees. Each committee is to consist of one or more Directors selected by the Academy Board. As provided in the resolution as initially adopted, and as thereafter supplemented or amended by further resolution, the committees shall have such powers as delegated by the Academy Board, except (i) filling of vacancies in the officers of the Academy Board or committees created pursuant to this Section; (ii) amending the Articles of Incorporation or Bylaws; or (iii) any action the Academy Board cannot lawfully delegate under the Articles, Bylaws or Applicable Law. All committee meetings shall at all times be in compliance with the Open Meetings Act. Each committee shall fix its own rules governing the conduct of its activities and shall make such reports to the Academy Board of its activities as the Academy Board may request.

ARTICLE VII

OFFICERS OF THE BOARD

Section 1. Number. The officers of the Academy shall be a President, Vice-President, Secretary, Treasurer, and such assistant Treasurers and assistant Secretaries as may be selected by the Academy Board.

Section 2. Election and Term of Office. The Academy Board shall elect the initial officers at its first duly noticed meeting. Thereafter, the officers of the Academy shall be elected annually by the Academy Board. If the election of officers is not held at the annual meeting, the election shall be held as soon thereafter as may be convenient. Each officer shall hold office while qualified or until the officer resigns or is removed in the manner provided in Section 3.

Section 3. Removal. Any officer or agent elected or appointed by the Academy Board may be removed by the Academy Board whenever in its judgment the best interests of the corporation would be served thereby.

Section 4. Vacancies. A vacancy in any office shall be filled by appointment by the Academy Board for the unexpired portion of the term.

Section 5. President. The President of the Academy shall be a member of the Academy Board. The President of the corporation shall preside at all meetings of the Academy Board. If there is not a President, or if the President is absent, then the Vice-President shall preside. If the Vice-President is absent, then a temporary chair, chosen by the members of the Academy Board attending the meeting shall preside. The President shall, in general, perform all duties incident to the office of President of the Board as may be prescribed by the Academy Board from time to time.

Section 6. Vice-President. The Vice-President of the Academy shall be a member of the Academy Board. In the absence of the President or in the event of the President's death, inability or refusal to act, the Vice-President shall perform the duties of President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. The Vice-President shall perform such other duties as from time to time may be assigned to the Vice-President by the President or by the Academy Board.

Section 7. Secretary. The Secretary of the Academy shall be a member of the Academy Board. The Secretary shall: (a) keep the minutes of the Academy Board meetings in one or more books provided for that purpose; (b) see that all notices, including those notices required under the Open Meetings Act, are duly given in accordance with the provisions of these Bylaws or as required by law; (c) be custodian of the corporate records and of the seal of the corporation and see that the seal of the corporation is affixed to all authorized documents; (d) keep a register of the post office address of each Director; and (e) perform all duties incident to the office of Secretary and other duties assigned by the President or the Academy Board.

Section 8. Treasurer. The Treasurer of the Academy shall be a member of the Academy Board. The Treasurer shall: (a) have charge and custody of and be responsible for all funds and securities of the corporation; (b) keep accurate books and records of corporate receipts and disbursements; (c) deposit all moneys and securities received by the corporation in such banks, trust companies or other depositories as shall be selected by the Board; (d) complete all required corporate filings; (e) assure that the responsibilities of the fiscal agent to the corporation are properly carried out; and (f) in general perform all

of the duties incident to the office of Treasurer and such other duties as from time to time may be assigned by the President or by the Academy Board.

Section 9. Assistants and Acting Officers. The Assistants to the officers, if any, selected by the Academy Board, shall perform such duties and have such authority as shall from time to time be delegated or assigned to them by the Secretary or Treasurer or by the Academy Board. The Academy Board shall have the power to appoint any member of the Academy Board to perform the duties of an officer whenever, for any reason, it is impractical for such officer to act personally. Such acting officer so appointed shall have the powers of and be subject to all the restrictions upon the officer to whose office the acting officer is so appointed except as the Academy Board may by resolution otherwise determine.

Section 10. Salaries. Officers of the Board, as Directors of the corporation, may not be compensated for their services. By resolution of the Academy Board, officers may be reimbursed for reasonable expenses incident to their duties.

Section 11. Filling More Than One Office. Subject to the statute concerning the Incompatible Public Offices, Act No. 566 of the Public Acts of 1978, being Sections 15.181 to 15.185 of the Michigan Compiled Laws, any two offices of the corporation except those of President and Vice-President may be held by the same person, but no officer shall execute, acknowledge or verify any instrument in more than one capacity.

ARTICLE VIII

CONTRACTS, LOANS, CHECKS AND DEPOSITS; SPECIAL CORPORATE ACTS

Section 1. Contracts. The Academy Board may authorize any officer or officers, agent or agents, to enter into any contract, to execute and deliver any instrument, or to acknowledge any instrument required by law to be acknowledged in the name of and on behalf of the corporation. Such authority may be general or confined to specific instances, but the appointment of any person other than an officer to acknowledge an instrument required by law to be acknowledged should be made by instrument in writing. When the Academy Board authorizes the execution of a contract or of any other instrument in the name of and on behalf of the corporation, without specifying the executing officers, the President or Vice-President, and the Secretary or Treasurer may execute the same and may affix the corporate seal thereto. No contract entered into, by or on behalf of the Academy Board, shall in any way bind Central Michigan University or impose any liability on Central Michigan University, its trustees, officers, employees or agents.

Section 2. Loans. No loans shall be contracted on behalf of the Academy and no evidences of indebtedness shall be issued in its name unless authorized by a prior resolution of the Academy Board. Such authority shall be confined to specific instances. No loan, advance, overdraft or withdrawal by an officer or Director of the corporation, shall be made or permitted unless approved by the Academy Board. No loan entered into, by or on behalf of the Academy Board, shall in any way be considered a debt or obligation of Central Michigan University or impose any liability on Central Michigan University, its trustees, officers, employees or agents.

Section 3. Checks, Drafts, etc. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Academy, shall be signed by Academy Board members or Academy Board employees, which shall not include employees of the Academy Board's Educational Service Provider, and in such manner as shall from time to time be determined by resolution of the Academy Board.

Section 4. Deposits. All funds of the Academy shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositories as the Academy Board may select, provided that such financial institution is eligible to be a depository of surplus funds under Section 1221 of the Revised School Code, being Section 380.1221 of the Michigan Compiled Laws.

Section 5. Voting of Gifted, Bequested or Transferred Securities Owned by this Corporation. Subject always to the specific directions of the Academy Board, any shares or other securities issued by any other corporation and owned or controlled by this corporation may be voted at any meeting of security holders of such other corporation by the President of this corporation or by proxy appointed by the President, or in the absence of the President and the President's proxy, by the Secretary or Treasurer of this corporation or by proxy appointed by the Secretary or Treasurer. Such proxy or consent in respect to any shares or other securities issued by any other corporation and owned by this corporation shall be executed in the name of this corporation by the President, the Secretary or the Treasurer of this corporation without necessity of any authorization by the Academy Board, affixation of corporate seal or countersignature or attestation by another officer. Any person or persons designated in the manner above stated as the proxy or proxies of this corporation shall have full right, power and authority to vote the shares or other securities issued by such other corporation and owned by this corporation the same as such shares or other securities might be voted by this corporation. This section shall in no way be interpreted to permit the corporation to invest any of its surplus funds in any shares or other securities issued by any other corporation. This section is intended to apply, however, to all gifts, bequests or other transfers of shares or other securities issued by any other corporation which are received by the corporation.

Section 6. Contracts Between Corporation and Related Persons. As required by Applicable Law, any Director, officer or employee of the Academy, who enters into a contract with the Academy, that meets the definition of contract under the statute on Contracts of Public Servants with Public Entities, Act No. 317 of the Public Acts of 1968, being sections 15.321 to 15.330 of the Michigan Compiled Laws, shall comply with the public disclosure requirements set forth in Section 3 of the statute.

The University Board authorizes the Academy Board to employ or contract for personnel according to the position information outlined in Schedule 5. However, the Academy Board shall prohibit any individual from being employed by the Academy, an educational service provider or an employee leasing company involved in the operation of the Academy, in more than one (1) full-time position and simultaneously being compensated at a full-time rate for each of these positions. An employee hired by the Academy shall be an employee of the Academy for all purposes and not an employee of the University for any purpose. With respect to Academy employees, the Academy shall have the power and responsibility to (i) select and engage employees; (ii) pay their wages, benefits, and applicable taxes; (iii) dismiss employees; and (iv) control the employees' conduct, including the method by which the employee carries out his or her work. The Academy Board shall be responsible for carrying workers' compensation insurance and unemployment insurance for its employees. The Academy Board may contract with an educational service provider or an employee leasing company to provide services or to provide personnel to perform services or work at the Academy. Before entering into an agreement with an educational service provider or an employee leasing company to perform services or to provide personnel to perform services or work at the Academy, the Academy Board must first comply with the Educational Service Provider Policies issued by the Center. A copy of the agreement between the Academy Board and the educational service provider or employee leasing company shall be included as part of Schedule 5.

The Academy shall comply with the Incompatible Public Offices statute, Act No. 566 of the Public Acts of 1978, of the Michigan Compiled Laws, and the Contracts of Public Servants With Public Entities statute, Act No. 371 of the Public Acts of 1968, of the Michigan Compiled Laws. The Academy Board shall ensure compliance with Applicable Law relating to conflicts of interest. Language in this Section controls over section 1203 of the Code. The following shall be deemed prohibited conflicts of interest:

- (a) An individual simultaneously serving as an Academy Board member and an owner, officer, director, employee or consultant of an educational service provider or an employee leasing company that has an agreement with the Academy;
- (b) An individual simultaneously serving as an Academy Board member and an Academy employee;
- (c) An individual simultaneously serving as an Academy Board member and an independent contractor to the Academy;
- (d) An individual simultaneously serving as an Academy Board member and a member of the governing board of another public school; and
- (e) An individual simultaneously serving as an Academy Board member and a University official, employee, or paid consultant, as a representative of the University.

No person shall be appointed or reappointed to serve as an Academy Board member if the person's mother, mother-in-law, father, father-in-law, son, son-in-law, daughter, daughter-in-law, sister, sister-in-law, brother, brother-in-law, spouse or same-sex domestic partner:

- (a) Is employed by the Academy;
- (b) Works at or is assigned to the Academy;
- (c) Has an ownership, officer, policymaking, managerial, administrative non-clerical or other significant role with the Academy's educational service provider or employee leasing company.

ARTICLE IX

INDEMNIFICATION

To the extent permitted by Applicable Law, each person who is or was a Director, officer or member of a committee of the Academy and each person who serves or has served at the request of the Academy as a trustee, director, officer, partner, employee or agent of any other corporation, partnership, joint venture, trust or other enterprise, may be indemnified by the Academy. The corporation may purchase and maintain insurance on behalf of any such person against any liability asserted against and incurred by such person in any such capacity or arising out of his status as such, whether or not the corporation would have power to indemnify such person against such liability under the preceding sentence. The corporation may, to the extent authorized from time to time by the Academy Board, grant rights to indemnification to any employee or agent of the corporation.

ARTICLE X

FISCAL YEAR

The fiscal year of the corporation shall begin on the first day of July in each year.

ARTICLE XI

AMENDMENTS

These Amended Bylaws may be altered, amended or repealed and new Amended Bylaws may be adopted by obtaining (a) the affirmative vote of a majority of the Academy Board at any regular or special meeting of the Academy Board, if a notice setting forth the terms of the proposal has been given in accordance with the notice requirements of these Amended Bylaws and applicable law, and (b) the written approval of the changes or amendments by the Center Director. In the event that a proposed change is not accepted by the Center Director, the University Board may consider and vote upon a change proposed by the corporation following an opportunity for a written presentation to the University Board by the Academy Board. These Amended Bylaws and any amendments to them take effect only after they have been approved by both the Academy Board and by the Center Director.

ARTICLE XII

TERMS AND CONDITIONS DEFINITIONS

The definitions set forth in the Terms and Conditions incorporated as part of the Contract shall have the same meaning in these Amended Bylaws.

CERTIFICATION

The Board certifies that these Amended Bylaws were adopted as and for the Bylaws of a Michigan corporation in an open and public meeting, by the Academy Board on the ___ day of _____, 2014.

Secretary

CONTRACT SCHEDULE 3
FISCAL AGENT AGREEMENT

SCHEDULE 3

FISCAL AGENT AGREEMENT

This Agreement is part of the Contract issued by the Central Michigan University Board of Trustees ("University Board"), an authorizing body as defined by the Revised School Code, as amended (the "Code"), to **West Michigan Academy of Environmental Science** ("Academy"), a public school academy.

Preliminary Recitals

WHEREAS, pursuant to the Code and the Contract, the University Board, as authorizing body, is the fiscal agent for the Academy, and

WHEREAS, the University Board is required by law to forward any State School Aid Payments received from the State of Michigan ("State") on behalf of the Academy to the Academy,

NOW, THEREFORE, in consideration of the premises set forth below, the parties agree to the following:

ARTICLE I

DEFINITIONS AND INTERPRETATIONS

Section 1.01. Definitions. Unless otherwise provided, or unless the context requires otherwise, the following terms shall have the following definitions:

"Academy Account" means an account established by the Academy Board for the receipt of State School Aid Payments at a bank, savings and loan association, or credit union which has not been deemed ineligible to be a depository of surplus funds under Section 6 Act No. 105 of the Public Acts of 1855, being Section 21.146 of the Michigan Compiled Laws.

"Agreement" means this Fiscal Agent Agreement.

"Fiscal Agent" means the University Board or an officer or employee of Central Michigan University as designated by the University Board.

"Other Funds" means any other public or private funds which the Academy receives and for which the University Board voluntarily agrees to receive and transfer to the Academy.

"State School Aid Payment" means any payment of money the Academy receives from the State School Aid Fund established pursuant to Article IX, Section 11 of the Michigan Constitution of 1963 or under the State School Aid Act of 1979, as amended.

"State" means the State of Michigan.

"State Treasurer" means the office responsible for issuing funds to public school academies for State School Aid Payments pursuant to the State School Aid Act of 1979, as amended.

ARTICLE II

FISCAL AGENT DUTIES

Section 2.01. Receipt of State School Aid Payments and Other Funds. The University Board is the Fiscal Agent for the Academy for the limited purpose of receiving State School Aid Payments. By separate agreement, the University Board and the Academy may also agree that the University will receive Other Funds for transfer to the Academy. The Fiscal Agent will receive State School Aid Payments from the State, as provided in Section 3.02.

Section 2.02. Transfer to Academy. Except as provided in Article X of the Terms and Conditions and in the Oversight Agreement, the Fiscal Agent shall transfer all State School Aid Payments and all Other Funds received on behalf of the Academy to the Academy within ten (10) business days of receipt or as otherwise required by the provisions of the State School Aid Act of 1979 or applicable State Board rules. The State School Aid Payments and all Other Funds shall be transferred into the Account designated by a resolution of the Board of Directors of the Academy and by a method of transfer acceptable to the Fiscal Agent.

Section 2.03. Limitation of Duties. The Fiscal Agent has no responsibilities or duties to verify the Academy's pupil membership count, as defined in the State School Aid Act of 1979, as amended, or to authorize, to approve or to determine the accuracy of the State Aid School Payments received on behalf of the Academy from the State Treasurer. The duties of the Fiscal Agent are limited to the receipt and transfer to the Academy of State School Aid Payments and Other Funds received by the Academy. The Fiscal Agent shall have no duty to monitor, account for or approve expenditures made by the Academy Board.

Section 2.04. Academy Board Requests for Direct Intercept of State School Aid Payments. If the Academy Board (i) authorizes a direct intercept of a portion of its State School Aid Payments from the State to a third party account for the payment of Academy debts and liabilities; or (ii) assigns or directs that a portion of its State School Aid Payments be forwarded by the Fiscal Agent to a third party account for the payment of Academy debts and liabilities, then Academy shall submit to The Governor John Engler Center for Charter Schools at Central Michigan University for review and consideration: (i) a copy of the Academy Board's resolution authorizing the direct intercept or the assignment or direction of State School Aid Payments; (ii) a State School Aid Payment Agreement and Direction document that is in a form and content acceptable to the Fiscal

Agent; and (iii) other documents as required. The Center reserves the right to not acknowledge in writing any State School Aid Payment Agreement and Direction that is not in a form and content acceptable to the Fiscal Agent.

ARTICLE III

STATE DUTIES

Section 3.01 Eligibility for State School Aid Payments. The State, through its Department of Education, has sole responsibility for determining the eligibility of the Academy to receive State School Aid Payments. The State, through its Department of Education, has sole responsibility for determining the amount of State School Aid Payments, if any, the Academy shall be entitled to receive.

Section 3.02. Method of Payment. Each State School Aid Payment for the Academy will be made to the Fiscal Agent by the State Treasurer by issuing a warrant and delivering the warrant to the Fiscal Agent by electronic funds transfer into an account specified by the Fiscal Agent, or by such other means deemed acceptable to the Fiscal Agent. The State shall make State School Aid Payments at the times specified in the State School Aid Act of 1979, as amended.

ARTICLE IV

ACADEMY DUTIES

Section 4.01. Compliance with State School Aid Act. In order to assure that funds are available for the education of pupils, an Academy shall comply with all applicable provisions of the State School Aid Act of 1979, as amended.

Section 4.02. Academy Account. The Academy is authorized to establish an Account in the name of the Academy. Signatories to the Account shall be current Academy Board members and/or Academy Board employees, which shall not include employees of the Academy Board's Educational Service Provider, as shall from time to time be determined by resolution of the Academy Board. The Academy Board is authorized to approve withdrawals and transfers from any Account established in the name of the Academy. Any authorization approved by the Academy Board for automatic withdrawals or transfers from an Academy Account may only be terminated or amended by the Academy Board.

Section 4.03. Expenditure of Funds. The Academy may expend funds that it receives from the State School Aid Fund for any purpose permitted by the State School Aid Act of 1979 and may enter into contracts and agreements determined by the Academy as consistent with the purposes for which the funds were appropriated.

Section 4.04. Mid-Year Transfers. Funding for students transferring into or out of the Academy during the school year shall be in accordance with the State School Aid Act of 1979 or applicable State Board rules.

Section 4.05. Repayment of Overpayment. The Academy shall be directly responsible for reimbursing the State for any overpayments of State School Aid Payments. At its option, the State may reduce subsequent State School Aid Payments by the amount of the overpayment or may seek collection of the overpayment from the Academy.

ARTICLE V

RECORDS AND REPORTS

Section 5.01. Records. The Fiscal Agent shall keep books of record and account of all transactions relating to the receipts, disbursements, allocations and application of the State School Aid Payments and Other Funds received, deposited or transferred for the benefit of the Academy, and these books shall be available for inspection at reasonable hours and under reasonable conditions by the Academy and the State.

Section 5.02. Reports. Annually, the Fiscal Agent shall prepare and send to the Academy within thirty (30) days of September 1, a written report dated as of August 31. This report shall summarize all receipts, deposits and transfers made on behalf or for the benefit of the Academy during the period beginning on the latter of the date hereof or the date of the last such written report and ending on the date of the report, including without limitation, State School Aid Payments received on behalf of the Academy from the State Treasurer and any Other Funds which the University Board receives under this Agreement.

ARTICLE VI

CONCERNING THE FISCAL AGENT

Section 6.01. Representations. The Fiscal Agent represents that it has all necessary power and authority to enter into this Agreement and undertake the obligations and responsibilities imposed upon it in this Agreement and that it will carry out all of its obligations under this Agreement.

Section 6.02. Limitation on Liability. The liability of the Fiscal Agent to transfer funds to the Academy shall be limited to the amount of State School Aid Payments as are from time to time delivered by the State and the amount of Other Funds as delivered by the source of those funds.

The Fiscal Agent shall not be liable for any action taken or neglected to be taken by it in good faith in any exercise of reasonable care and believed by it to be within the discretion or power conferred upon it by this Agreement, nor shall the Fiscal Agent be responsible for the consequences of any error of judgment; and the Fiscal Agent shall not be answerable except for its own action,

neglect or default, nor for any loss unless the same shall have been through its gross negligence or willful default.

The Fiscal Agent shall not be liable for any deficiency in the State School Aid Payments received from the State Treasurer to which the Academy was properly entitled. The Fiscal Agent shall not be liable for any State School Aid overpayments made by the State Treasurer to the Academy for which the State subsequently seeks reimbursement.

Acknowledgment of Receipt

The undersigned, on behalf of the State of Michigan, Department of Treasury, acknowledges receipt of the foregoing Fiscal Agent Agreement that is part of the Contract issued by the Central Michigan University Board of Trustees to **West Michigan Academy of Environmental Science**.

BY: Mary G. Martin
Mary G. Martin, Acting Director
Bureau of State and Authority Finance
Michigan Department of Treasury

Date: Mar. 25, 2014

CONTRACT SCHEDULE 4

**OVERSIGHT, COMPLIANCE
AND REPORTING AGREEMENT**

SCHEDULE 4

OVERSIGHT, COMPLIANCE AND REPORTING AGREEMENT

This Agreement is part of the Contract issued by the Central Michigan University Board of Trustees ("University Board"), an authorizing body as defined by the Revised School Code, as amended (the "Code"), to West Michigan Academy of Environmental Science ("Academy"), a public school academy.

Preliminary Recitals

WHEREAS, the University Board, subject to the leadership and general supervision of the State Board of Education over all public education, is responsible for overseeing the Academy's compliance with the Contract and all Applicable Law.

NOW, THEREFORE, in consideration of the premises set forth below, the parties agree to the following:

ARTICLE I

DEFINITIONS AND INTERPRETATIONS

Section 1.1. Definitions. Unless otherwise provided, or unless the context requires otherwise, the following terms shall have the following definitions:

"Agreement" means this Oversight, Compliance and Reporting Agreement.

"Oversight Responsibilities" means the University Board's oversight responsibilities set forth in Section 2.1 of this Agreement.

"Compliance and Reporting Duties" means the Academy's duties set forth in Section 2.2 of this Agreement.

"State School Aid Payment" means any payment of money the Academy receives from the state school aid fund established pursuant to Article IX, Section 11 of the Michigan Constitution of 1963 or under the State School Aid Act of 1979, as amended.

ARTICLE II

OVERSIGHT, COMPLIANCE AND REPORTING RESPONSIBILITIES

Section 2.1. Oversight Responsibilities. The Governor John Engler Center for Charter Schools ("The Center") at Central Michigan University, as it deems necessary to fulfill the University Board's Oversight Responsibilities, may undertake the following:

- a. Monitor and evaluate if the Academy Board is properly governing the Academy and following the Amended Bylaws set forth in the Contract.
- b. Monitor and evaluate the Academy's academic performance and progress toward achieving the educational goal and related measures set forth in Contract Schedule 7b.
- c. Monitor and evaluate the Academy's implementation, delivery, and support of the educational program and curriculum as set forth in Contract Schedules 7c and 7d, respectively.
- d. Monitor and evaluate the Academy's application and enrollment procedures as set forth in Contract Schedule 7f.
- e. Monitor and evaluate the Academy's organizational and financial viability.
- f. Monitor and evaluate the Academy's fiscal stewardship and use of public resources.
- g. Monitor and evaluate the records, internal controls or operations of the Academy.
- h. Monitor and evaluate if the Academy is staffed with qualified personnel and that appropriate background checks have been conducted.
- i. Monitor and evaluate if the Academy is providing a safe learning environment.
- j. Request evidence that the Academy has obtained the necessary permits and certificates to operate as a public school from the applicable governmental agencies, including, without limitation, the Michigan Department of Licensing and Regulatory Affairs' Bureau of Construction Codes and local health departments.
- k. Conduct comprehensive on-site reviews to assess and/or evaluate the Academy's performance.
- l. Monitor and evaluate if the Academy is demonstrating good faith in complying with the Contract, the Revised School Code, and all other Applicable Law.
- m. Request periodic reports from the Academy regarding any aspect of its operation, including, but not limited to, information identified in Schedule 8 of the Contract.
- n. Initiate action to amend, revoke, terminate or suspend the Contract.
- o. Provide information and support to the Academy.

Section 2.2. Compliance and Reporting Duties. The Academy agrees to fulfill the following Compliance and Reporting Duties:

- a. Adopt and properly maintain governing board policies in accordance with Applicable Law.
- b. Comply with the reporting and document submission requirements set forth in the Master Calendar of Reporting Requirements issued annually by the Center.
- c. Comply with any Academy specific reporting and document submission requirements established by the Center.
- d. Comply with the insurance requirements set forth in Article XI, Section 11.2 of the Terms and Conditions of the Contract.
- e. Comply with the Center's Educational Service Provider Policies, as may be amended.
- f. Report any litigation or formal proceedings to the Center, including, but not limited to, litigation initiated by or against the Academy alleging violation of any Applicable Law. If the University is a named party, notify the general counsel for the University Board as set forth in Article XII, Section 12.1 of the Terms and Conditions.
- g. The Academy shall not occupy or use any school facility set forth in Schedule 6 of the Contract until such facility has received all fire, health and safety approvals required by Applicable Law and has been approved for occupancy by the Michigan Department of Licensing and Regulatory Affairs' Bureau of Construction Codes.
- h. Permit the Center to inspect the records, internal controls, operations or premises of the Academy at any reasonable time.
- i. Authorize the Center to perform audit and evaluation studies using Academy data including, but not limited to, personally identifiable information about the Academy's students and staff submitted by the Academy to agencies including, but not limited to, Center for Educational Performance and Information ("CEPI"), Office of Educational Assessment and Accountability ("OEAA") and the Michigan Department of Education ("MDE"). Pursuant to this authorization, the Center shall abide by the regulations that govern the use of student data within the Family Educational Rights and Privacy Act (FERPA - 34 CFR Part 99), the Michigan Identity Theft Protection Act of 2004, and the Privacy Act of 1974.
- j. Upon request, the Academy Board shall provide the Center with a written report, along with supporting data, assessing the Academy's progress toward achieving the educational goal and related measures outlined in Contract Schedule 7b.

- k. Upon request, provide the Center with copies or view access to data, documents or information submitted to MDE, the Superintendent of Public Instruction, the State Board of Education, CEPI or any other state or federal agency.

Section 2.3. Waiver of Compliance and Reporting Duties. The University Board, or the Center Director as its authorized designee, may modify or waive any of the Academy's Compliance and Reporting Duties.

ARTICLE III

RECORDS AND REPORTS

Section 3.1. Records. The Academy will keep complete and accurate records and reports of its governance and operations. These records and reports shall be available for inspection by the Center at reasonable hours and under reasonable conditions.

ARTICLE IV

MISCELLANEOUS

Section 4.1. Administrative Fee. The Academy agrees to pay to the University Board an administrative fee of 3% of the Academy's State School Aid Payments. This fee shall be retained by the University Board from each State School Aid Payment received for forwarding to the Academy. This fee shall compensate the University Board for overseeing the Academy's compliance with the Contract and all Applicable Law and other related activities for which compensation is permissible. By agreement between the Center and the Academy, the University may charge additional fees beyond the administrative fees for services rendered.

Section 4.2. Time of the Essence. Time shall be of the essence in the performance of obligations from time to time imposed upon the Academy and the University Board by this Agreement.

CONTRACT SCHEDULE 5

DESCRIPTION OF STAFF RESPONSIBILITIES

DESCRIPTION OF STAFF RESPONSIBILITIES

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article III, Section 3.6., the Academy is authorized to employ or contract for personnel according to the position information outlined in this schedule. Before entering into an agreement with an Educational Service Provider, as defined in the Terms and Conditions of this Contract, to provide comprehensive educational, administrative, management, or instructional services or staff to the Academy, the Academy Board must first comply with the Educational Service Provider Policies adopted by the Center.

Principal	5-1
Guidance Counselor.....	5-5
Director of Environmental Entrepreneurship.....	5-8
Athletic Director	5-11
Environmental Science Specialist.....	5-13
Teacher.....	5-16
Special Education Teacher.....	5-19
Math Specialist.....	5-22
Reading Specialist.....	5-25
Great Start Readiness Program (“GSRP”) Teacher	5-28
Technology Resource Coordinator	5-31
Bookkeeper/Office Manager.....	5-34
Administrative Assistant.....	5-37
Instructional Aide.....	5-39
Child Care Supervisor.....	5-41
Great Start Readiness Program (“GSRP”) Associate Teacher/Instructional Aide	5-44
Food Service Coordinator	5-47
Food Service Worker	5-49
Custodian	5-51
Bus Driver.....	5-53
Child Care Worker.....	5-55
Athletic Coach	5-57
Educational Service Provider Agreement(s).....	5-59

PRINCIPAL

REPORTS TO: Board Liaison of Choice Schools Associates, L.L.C.

EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- To the extent this position is deemed to be an administrator of instructional programs (including the supervisor of certified teachers) and/or a chief business official, this position is required to meet one of the following: (1) if the individual held a school administrator position before January 4, 2010, then evidence of maintaining continuing education is required; or (2) if the individual was hired as school administrator after January 4, 2010, then either: (a) an Administrator Certificate is required; OR (b) enrollment in an MDE-approved Principal Preparation Program within 6 months of employment (and completion within 3 years) is required. [Public Act 205 section 380.1246].
- Knowledge and skills working with At-Risk students.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid an effective communications.
- Excellent verbal and written communication using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Successful experience as a teacher and/or school leader.
- Strong interpersonal skills.

SUPERVISES:

Staff members designated by Choice Schools Associates, L.L.C.

JOB GOAL:

To provide leadership to ensure the achievement of education, business management, school development, parent involvement, customer services and accountability goals. To create excellent conditions for working and learning and to improve student achievement, parent satisfaction and community support.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

SCHOOL DEVELOPMENT

- Leads the implementation of activities to meet and exceed the measurable goals for the Academy.
- Prepares or oversees the preparation of reports, lists and all other paperwork for which the Principal is responsible.
- Assumes responsibility for observance of Academy Board policies and regulations.
- Budgets school time to provide for efficient use of time for instruction and business.
- Establishes a master schedule to ensure compliance with instructional time requirements and Academy requirements.
- Leads the ongoing development of the instructional program and student activities program.
- Keeps the Board Liaison of Choice Schools Associates, L.L.C. informed of routine matters related to administration and instruction and events and activities of an unusual nature.

- Serves as an ex officio member of all committees and councils within the Academy and attends meetings as required by Choice Schools Associates, L.L.C.
- Assists with annual school development plans consistent with the school's charter contract.

STUDENT ACHIEVEMENT

- Supervises the maintenance of accurate records of student progress and attendance of students.
- Systematically uses formative assessment data to guide learning support and drive instruction, curriculum and professional development.
- Provides curriculum that is structured in a manner designed to help the school and students achieve the required objectives of the Common Core Curriculum, state standardized testing requirements, authorizer requirements and the federal "No Child Left Behind Program."

SCHOOL CULTURE AND BEHAVIOR

- Establishes and maintains an effective learning climate in the school.
- Maintains active relationships with students and guardians.
- Maintains high standards of student conduct and enforces the Code of Student Conduct firmly, fairly and consistently in total compliance with due process procedures.
- Designs and carries out a comprehensive student activities program to recognize student achievement and to create opportunities for student participation in school sponsored organizations.
- Makes arrangements for conferences and facilitates meetings between parents and teachers when needed.
- Creates a school culture in which collaboration and collegiality guide relationships and decision making.
- Provides adequate inventories of real and personal property under his or her jurisdiction for the security and accountability for that property.
- Supervises and evaluates the Academy's extracurricular programs.

MANAGEMENT AND DEVELOPMENT OF PEOPLE, SYSTEMS AND RESOURCES

- Assumes responsibility for professional growth and development through membership and participation in the affairs of professional organizations, through attendance at regional, state and national meetings, enrollment in advanced courses, by reading professional journals and other leadership or management publications and by discussing problems of mutual interest with others in the field.
- Supervises professional staff, instructional aides, administrative and nonprofessional personnel of the Academy.
- Assists in the recruiting, screening, hiring, training, assigning and evaluating the Academy's staff according to state and Choice Schools Associates, L.L.C. guidelines.
- Follows Criminal History Record Information policies and requirements and serves as the authorized representative.
- Provides comprehensive onboarding plans for new staff and assists in their development.
- Evaluates and counsels all staff members regarding their individual and group performance.
- Conducts staff meetings to keep members informed of policy changes, new programs, etc.

- Recommends the discipline and or removal of an employee whose work performance is unsatisfactory to the Board Liaison of Choice Schools Associates, L.L.C.
- Delegates responsible personnel to assume responsibility for the Academy in the absence of the Principal.

FINANCIAL MANAGEMENT

- Assists in the management and preparation of the Academy's budget.

OPERATIONS

- Supervises the maintenance of all required building records and reports.
- Coordinates all services of the Academy, including transportation, food service, playground supervision and safety, special services, etc.
- Assumes responsibility for the use, safety and administration of the school buildings and grounds.
- Plans and supervises fire drills, tornado drills, the emergency preparedness program and other safety and security regulations.

STUDENT RECRUITMENT AND ADMISSION

- Develops and implements a yearly marketing and recruiting plan to attract students to the school.
- Works collaboratively with Choice Schools Associates, L.L.C. marketing department to develop and implement marketing and recruiting plan.

COMMUNITY RELATIONS

- Cooperates with college and university officials regarding teacher training and preparation.
- Assumes responsibility for all official Academy correspondence and news release approved by the Board Liaison of Choice Schools Associates, L.L.C.
- Establishes and maintains relationships with local community groups and individuals to foster understanding and solicit support for overall Academy objectives and programs, interpret Academy Board policies and administrative directives and discuss and resolve individual student problems.

OTHER

- Assumes other responsibilities as assigned by the Board Liaison of Choice Schools Associates, L.L.C.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Board Liaison of Choice Schools Associates, L.L.C. and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

GUIDANCE COUNSELOR

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Valid School Counselor state license.
- Demonstrated competence in all areas of focus.
- Ability to counsel students, parents and staff, individually and in groups.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills of college application and related processes.
- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students.

JOB GOAL:

To aid in the preparation of students for post-secondary life options, as well as promote understanding of the emotional and social development of children and the influences of family, community and cultural differences on student success, along with working with students and staff on the implementation effective intervention strategies and appropriate referrals.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

ASSESSMENT OF STUDENT, FAMILY AND SCHOOL NEEDS

- Consistently and genuinely communicates strong beliefs in the worth and value of all children.
- Conducts assessments and evaluations in accordance with family and student rights.
- Uses student, family and school assessment results to identify needs that affect student learning.
- Evaluates transcripts; participates, as requested, in planning, implementation and follow-up phases of proficiency testing.

ADVOCACY

- Makes referral to public or private agencies with appropriate follow-up.
- Serves as a liaison between school, family and community resources.
- Serves as a source of information regarding community resources.
- Works to prevent students from dropping out of the Academy and from transferring to other schools.

CONSULTATION AND COLLABORATION

- Participates in case conferences involving cooperation with other pupil personnel workers, school personnel and community agencies.
- Acts as a consultant to resolve problems concerning issuance of credits.
- Works with students on an individual basis in seeking solution to personal problems related to such areas as home and family relations, health and emotional adjustment.
- Confers with parents whenever appropriate.
- Is readily available to students for counseling that leads to increased personal growth, self-understanding and maturity.
- Advises the Principal on matters of student discipline.

PROGRAM PLANNING, IMPLEMENTATION AND EVALUATION

- Participates in the development of policies and regulations that affect instruction and conditions of success.
- Oversees standardized testing, including MEAP, MME, EXPLORE, PLAN, WIDA and AP exams.
- Organizes and implements annual testing-out opportunity for secondary students.
- Demonstrates cooperative and collaborative practices in working with faculty, staff, parents and students.
- Provides in-service training for staff in guidance programs and in student conflict resolution and self-awareness programs.
- Organizes and conducts student orientation, graduation, career days and other student events.
- Supervises the preparation and processing of college, scholarship and employment applications.
- Plans guidance field trips to schools, colleges and industries for interested students.
- Schedules new students to the Academy and presents the school procedures and opportunities for learning.
- Assists students in evaluating their aptitude and abilities through interpretation of individual standardized test scores and through teacher and parent data.
- Works with students in developing, carrying out, assessing and revising education and occupation plans.
- Oversees dual enrollment of select juniors and seniors into college courses.
- Performs audits to assess progress toward graduation.
- Creates trimester master schedules and student school schedules.
- Assumes other responsibilities assigned by the Principal.

ACCOUNTABILITY

- Conforms to the National Association of School Counselor Association (“ASCA”) Code of Ethics and Standards for School Counseling practice.
- Maintains and administers the student records system according to the Academy, state and federal regulations and protects the system’s confidentiality.
- Organizes time, resources, energy and workload in order to meet responsibilities.
- Participates in appropriate professional development activities to improve knowledge and skills.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

DIRECTOR OF ENVIRONMENTAL ENTREPRENEURSHIP

REPORTS TO: Principal and Board Liaison of Choice Schools Associates, L.L.C.

EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Demonstrated leadership qualities.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.
- Works well with high school students.

Desired Requirements:

- Knowledge and skills working with At-Risk students.
- Business degree in business administration, entrepreneurialism or leadership desired.

JOB GOAL:

To provide leadership that will ensure the achievement of experiential learning through business development outcomes that advance the environmental mission of the Academy.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Demonstrates effective planning and organization for instruction.
- Makes recommendations for additions to the curriculum and presents to Principal.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to the learning styles and abilities of students.
- Uses creative instructional methods and procedures and adapts effectively to unusual situations.
- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.

- Demonstrates exceptional techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.
- Involves eleventh and twelfth grade students through all core subject levels in all aspects of the business development planning and implementation. (I.e. financial budgeting and projections, grant writing, market plan writing, proposal presentation, accounting, environmental science.)

CLASSROOM MANAGEMENT

- Works cooperatively with parents and guardians and generates guardians' confidence.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through one's actions as a role model; provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and the development of responsible citizenship.

FINANCIAL AND BUSINESS

- Develops revenue by generating business options and makes recommendations for administration and the Academy Board to consider and approve.
- Cultivates relationships or partnerships to achieve business development results.
- Operates the business on a day-to-day basis, overseeing and facilitating meaningful skill development for students.
- Manage business ROI (Return on Investment), evaluate annually and produce annual report.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Provides leadership and support to staff and students engaged in the business activities.
- Participates in the development of policies and regulations that affect instruction and the conditions of success.
- Uses technology effectively for instruction, record keeping, communication and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities which reflect favorably upon the individual, the group and the Academy.
- Displays pride in being a teacher and a member of the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

ATHLETIC DIRECTOR

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Bachelor's degree or equivalent.
- Must be at least 18 years of age.
- Works well with individuals and groups; maintains effective working relationships.
- Reputation for self-control and sound interpersonal skills.
- Exemplary work habits verified by previous employer.
- Solid record of punctuality.
- Valid CPR and First Aid Certification.

Desired Requirements:

- Previous experience as a coach.
- Knowledge and skills working with At-Risk students.

SUPERVISES:

School staff, students, volunteers and assigned support staff.

JOB GOAL:

To provide overall leadership and coordination among the various sports and student activities that provide students a learning experience.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Responsible for scheduling athletic games with approval of the Principal.
- Responsible for setting up the facilities for all activities and sporting events.
- Attends the athletic events of the school whenever possible.
- Monitors equipment maintenance and makes recommendations for future needs of equipment purchases to the Principal.
- Monitors and inventories athletic uniforms and makes recommendations for future purchases.
- Responsible for assessing the school's athletic and student activities program.
- Responsible for the coordination, planning, and management of athletic budgets.
- Responsible for meeting with Athletic Coaches to ensure all sports have equal opportunity to present their budget and needs for their program.
- Responsible for administering all MHSAA, school district and company regulations.
- Communicates and assists the Principal in regards to the coaching staff's performance and evaluation.
- Responsible for conducting annual coaching staff performance evaluations.
- Responsible to ensure the students are eligible to participate in the sports or student activities.
- Works with Athletic Coaches and the Principal in regard to discipline involving the sports or student activities.

- Maintains a file of all athletic suspensions and expulsions from teams in order to ensure “due process” for each athlete.
- Works with the Principal and Athletic Coach in planning athletic award programs.
- Responsible for obtaining the advertising information for the printing and selling of programs.
- Distributes and reviews the Academy Athletic Handbook with the Athletic Coaches.
- Requires all Athletic Coaches to follow the Academy hiring process.
- Maintains records and informs Athletic Coaches of the first aid and CPR status.
- Responsible for keeping a current physical on file for each student athlete involved in athletics.
- Responsible for arranging transportation with the Athletic Coaches for all athletic teams.
- Responsible for keeping the release and participation information form on file for two years after the student graduates.
- Responsible for contracting all game officials for home games with approval of the Principal.
- Responsible for managing the tournaments for all leagues and playoff activities that are assigned to the Academy.
- Maintains an active program that promotes sportsmanship and welcomes the competing teams and guests.
- Acts as a liaison between Athletic Coaches and the athletic boosters club.
- Assists with or monitors the monthly calendar of school activities in conjunction with the Principal, faculty and student body.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions and road hazards prevalent at the time. The noise level in the work environment is usually moderate.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates LLC and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify, and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

ENVIRONMENTAL SCIENCE SPECIALIST

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Bachelor's degree in environmental science or related field.
- Demonstrated exemplary competence in areas of content responsibility as scholar and specialist, including ability to integrate environmental science skills into lesson plans.
- Respected in the community, at school and among peers.
- Excellent verbal and written expression.
- Strong interpersonal skills.
- Recognized as a valued team member.
- Computer literate.

Desired Requirements:

- Knowledge and skills working with At-Risk students.

JOB GOAL:

To develop in each student an appreciation of, and a commitment to, the preservation of the quality of the environment.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Shares a leadership commitment to the success of the mission, goals and objectives of the Academy.
- Supervises the ongoing evaluation, development and implementation of a carefully articulated K-12 curriculum scope and sequence in the environmental science curriculum.
- Creates and coordinates summer and winter outdoor and recreation programs.
- Works with classroom teachers to weave environmental science themes into instruction across all areas of the curriculum and to develop interdisciplinary units of study.
- Works with the Technology Resource Coordinator to establish and enlarge the Academy's collection of material and software pertinent to the environmental science.
- Conducts in-service workshops for teachers to enlarge and reinforce their understanding and appreciation of conservation and environmental issues.
- Creates and promotes non-classroom learning experiences for students, including field trips and outdoor education classes, in support of environmental science.
- Plans and conducts conferences, workshops and field experiences to assist teachers in the use of outdoor resources.
- Coordinates environmental science programs and co-curricular activities, including student clubs and activity groups.
- Compiles and maintains a directory of community resource persons to add value to the environmental science program.

- Presents a fully rounded approach to environmental science through helping students and classroom teachers to develop awareness and concern for social responsibility and technical competence.
- Encourages students and staff to recognize and respect the complex social, economic and political constraints on the dynamics of change.
- Serves as the advisor and counselor to student teachers assigned to the Academy.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy and recruiting students within the community.
- Creates new marketing opportunities for the Academy in collaboration with the Principal and marketing specialists.
- Participates in marketing and student recruiting events throughout the year.
- Maintains relationships with potential students through winter and summer programs.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Creates and maintains initiatives to ensure the Academy is up-to-date on the latest developments, best environmental practices and environmental preservation education.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.
- Assumes responsibility for the orderliness of the outdoor environment used for teaching purposes.
- Communicates required repairs, equipment needs and programming supplies needed to the Principal.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

TEACHER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Demonstrated competence as a teacher in all areas of focus.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students, Instructional Aides, volunteers, assigned support staff and Code of Student Conduct.

JOB GOAL:

To provide students with a first class learning experience that contributes to their development as enlightened and responsible citizens and as leaders in their communities, while sharing a commitment to the success of the missions, goals and objectives of the Academy.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Demonstrates effective planning and organization for instruction.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to the learning styles and abilities of students.
- Uses creative instructional methods and procedures and adapts effectively to unusual situations.
- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.

- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.

CLASSROOM MANAGEMENT

- Works cooperatively with guardians and generates guardians' confidence in the teacher.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through one's actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and the development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and the conditions of success.
- Uses technology effectively for instruction, record keeping, communication and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Displays pride in being a teacher and a member of the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

SPECIAL EDUCATION TEACHER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Demonstrated competence as a teacher in all areas of focus.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid an effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students, Instructional Aides, volunteers, assigned support staff and Code of Student Conduct.

JOB GOAL:

To provide students with a first class learning experience, contributing to their development as enlightened and responsible citizens and as leaders in their communities, while sharing a commitment to the success of the missions, goals and objectives of the Academy.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Implements the program outlined in the student's Individualized Educational Program ("IEP") in the least restrictive environment.
- Prepares for annual IEPs in a timely manner (completing forms, sending invitations to attendees and scheduling meetings).
- Prepares for three-year re-evaluations in a timely manner (testing, completing forms, sending invitations to attendees and scheduling of meeting times).
- Demonstrates ability to write effective Behavior Plans.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Demonstrates effective planning and organization for instruction.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to learning styles and abilities of students.

- Uses creative instructional methods and procedures and adapts effectively to unusual situations.
- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Works cooperatively with teachers to incorporate the Academy's inclusion model.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.

MAINTAIN STUDENT RECORDS

- Evaluates all student records for current IEP needs as records arrive.
- Maintains accurate special education student records as required by law and local policy.

CLASSROOM MANAGEMENT

- Works cooperatively with parents and generates parents' confidence in the teacher.
- Maintains a comfortable learning environment for students whether in a pullout situation or mainstream setting.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes good citizenship through actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and conditions of success.
- Works with classroom teachers to provide resources and training to best meet student IEP needs.
- Uses technology effectively for instruction, record keeping, administrative tasks and communications.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional, ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Displays pride in being a teacher and a member of the Academy.

FACILITIES:

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

OTHER:

- Assumes other responsibilities assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

MATH SPECIALIST

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Demonstrated competence as a teacher in all areas of focus.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Master's degree.
- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students, Instructional Aides, volunteers, assigned support staff and Code of Student Conduct.

JOB GOAL:

To promote enhanced mathematics instruction and student learning by helping teachers develop more effective mathematics teaching practices that allow all students to reach high standards as well as sharing research addressing how students learn mathematics.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Works with students in order to increase math test scores.
- Spends time in classrooms as well with individual students helping with math lessons.
- Analyzes student achievement data and develops interventions.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Demonstrates effective planning and organization for instruction.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to the learning styles and abilities of students.
- Uses creative instructional methods and procedures and adapts effectively to unusual situations.

- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.

CLASSROOM MANAGEMENT

- Works cooperatively with guardians and generates guardians' confidence in the teacher.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through one's actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and the development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy and recruiting students in the community to attend the Academy.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and the conditions of success.
- Uses technology effectively for instruction, record keeping, communication and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Displays pride in being a teacher and a member of the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

READING SPECIALIST

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Demonstrated competence as a teacher in all areas of focus.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Master's degree.
- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students, Instructional Aides, volunteers, assigned support staff and Code of Student Conduct.

JOB GOAL:

To promote enhanced reading instruction and student learning by helping teachers develop more effective reading teaching practices that allow all students to reach high standards as well as sharing research addressing how students learn reading.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Works with students in order to increase reading test scores.
- Spends time in classrooms as well with individual students helping with reading lessons.
- Conducts reading assessments and analyzes student achievement data and develops interventions.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Works collaboratively with classroom Teachers.
- Demonstrates effective planning and organization for instruction.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to the learning styles and abilities of students.

- Uses creative instructional methods and procedures and adapts effectively to unusual situations.
- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.

CLASSROOM MANAGEMENT

- Works cooperatively with guardians and generates guardians' confidence in the teacher.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through one's actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and the development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and the conditions of success.
- Reads and communicates new developments and research in reading to administration and classroom Teachers.
- Uses technology effectively for instruction, record keeping, communication and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Displays pride in being a teacher and a member of the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

GREAT START READINESS PROGRAM (“GSRP”) TEACHER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with ZA endorsement, or an Early Childhood-General and ZS endorsement.
- Compliance with all Department of Human Services (“DHS”) child care licensing staffing requirements including, but not limited to physical/TB test, CPR/First Aid/Blood borne Pathogen training completion, CPS Child Abuse/Neglect and ICHAT/Fingerprint screening.
- Demonstrated competence as a teacher in all areas of focus.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills working with At-Risk students.

SUPERVISES:

Students, GSRP Associate Teacher/Instructional Aide, volunteers, assigned support staff and Code of Student Conduct.

JOB GOAL:

To provide students with a first class learning experience that contributes to their development as enlightened and responsible citizens and as leaders in their communities, while sharing a commitment to the success of the missions, goals and objectives of the Academy.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

*This position is funded by a grant from Michigan Department of Education (“MDE”) and carries the role of “GSRP Lead Teacher” and includes all of the responsibilities stated in the GSRP grant manual.

CURRICULUM & INSTRUCTION

- Accepts responsibility for the achievement of students.
- Guides the learning process toward achievement of curriculum goals and implementation of personal learning plans of students.
- Develops lesson plans collaboratively with the GSRP Associate Teacher/Instructional Aide and implements the team teaching model as stated in the GSRP grant manual.
- Demonstrates understanding and implementation of the Preschool Program Quality Assessment (“PQA”) and the teaching practices described therein.
- Demonstrates understanding and implementation of MDE’s Early Childhood Standards of Quality for Prekindergarten.

- Demonstrates understanding and implementation of DHS Child Care Licensing Rules.
- Demonstrates effective planning and organization for instruction.
- Selects appropriate materials for implementation of the curriculum and adapts materials and methods to the learning styles and abilities of students.
- Follows the Academy-approved GSRP curriculum and the GSRP grant policies and procedures as the instructional model.
- Uses creative instructional methods and procedures and adapts effectively to unusual situations.
- Motivates students to achieve at their highest level of ability and potential through classroom activities, assignments, relationships, participation and feedback; holds high expectations and demonstrates sensitivity to different learning styles.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.
- Effectively implements and uses the Academy approved screening assessment tool and ongoing developmental assessment and is able to explain and interpret the information for parents.
- Effectively uses home visits to introduce the program and staff to the parent, develop collaboration for the child's learning, and gather, or report, assessment data.

CLASSROOM MANAGEMENT

- Works cooperatively with guardians and generates guardians' confidence in the teacher.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through one's actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and the development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the GSRP program, and the Academy, in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and the conditions of success.
- Uses technology effectively for instruction, record keeping, communication and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional and ethical principles.
- Continually strives to improve classroom methods, teaching techniques and interpersonal relationships.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.

- Displays pride in being a teacher and a member of the Academy.
- May serve in the role of licensing “Program Director” for the GSRP classroom, as assigned.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.
- Assumes responsibility for adherence to and monitoring of all licensing regulations and for educating others on regulations.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process. This is a grant-funded position subject to grant approval by the local ISD and MDE.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

TECHNOLOGY RESOURCE COORDINATOR

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Bachelor's degree in related field required or a combination of education, experience and training that would produce the required knowledge and abilities.
- Ability to use technology as an instructional tool in the classroom, as a means of analyzing academic achievement data and as a tool to aid effective communications.
- Computer literate with extensive knowledge of educational technologies.
- Computer skills in data processing, spreadsheets, databases and research.
- Ability to communicate with students, staff and parents using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Shall possess a valid State of Michigan Teaching Certificate with the appropriate endorsement(s) for all subject area(s) being taught.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Knowledge and skills working with At-Risk students.

JOB GOAL:

To assure the smooth and efficient operations of the media center/technology laboratory by coordinating technology operations of the Academy which enables students and teachers to achieve educational excellence for all children.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Teaches classroom teachers and students the knowledge and skills to use computers as tools for learning, responsible recreation and research.
- Demonstrates effective planning and organization for instruction.
- Cooperates with Academy staff to determine the appropriate use of computer instruction.
- Serves in an ex officio capacity to the instructional staff to select and integrate proper technologies and software to exceed instructional objectives.
- Maintains a comprehensive and efficient system for cataloging materials and equipment then instructs teachers and students on proper use of the system.

CLASSROOM MANAGEMENT

- Works cooperatively with parents and guardians.

- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes good citizenship through actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Provides tutorials to staff and students as needed.
- Supervises the use of technological, instructional and communications media for the Academy.
- Uses technology effectively for instruction, record keeping, communications and other administrative tasks.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional, ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.

OPERATION

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.
- Manages the Academy media center and computer laboratory.
- Supervises responsible use of the internet by students and staff and maintains system security.
- Coordinates the purchase, distribution and inventorying of computer hardware and software.

OTHER:

- Assumes other responsibilities assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and designated Choice Schools Associates, L.L.C. employees evaluate job performance through systematic input from various primary internal and external stakeholders.

BOOKKEEPER/OFFICE MANAGER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- High school diploma or equivalent.
- Bookkeeping experience.
- Excellent verbal and written expression.
- Ability to positively communicate with students, staff and parents.
- Reputation of self-control and sound interpersonal skills.
- Exemplary work habits verified by previous employer.
- Exemplary organizational skills.
- Computer skills in data processing, bookkeeping, spreadsheets, data bases and research.
- Solid record of punctuality.
- Must be at least 18 years of age.
- Valid Michigan driver's license.
- United States citizen.

Desired Requirements:

- Associates degree preferred.
- Experience in a school setting with school-age children.
- Knowledge and skills working with At-Risk students.

JOB GOAL:

To assure the smooth and efficient operation of the Academy office as the communications and operations center for the partnership between internal and external stakeholders in achieving educational excellence for all children.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

OFFICE SERVICES

- Performs usual office routines.
- Performs secretarial and administrative support functions.
- Designs and implements office policies with approval by Principal.
- Organizes office operations and procedures.
- Prepares accurate payroll information including time sheets.
- Manages office operations and office coverage during open hours.
- Manages the Academy's website if assigned by the Principal.
- Handles and prepares correspondence for the Principal and Academy Board.

CUSTOMER SERVICE AND COMMUNITY RELATIONS

- Demonstrates positive customer service and community relations at all times with all people.
- Applies positive customer service to the role and is perceived as a team member by the staff.

- Provides tours and information of the Academy when inquired by community members.
- Shares responsibility for marketing the Academy in the community.

MAINTAIN OFFICE RECORDS

- Maintains student records and student enrollment counts as required by law and local policy.
- Prepares for audits for compliance.
- Maintains the daily teacher attendance record and substitute teacher records.
- Processes enrollment procedures for all students.
- Prepares all required reports and maintains all appropriate records.
- Keeps accurate records on students for lost and damaged textbooks, technology equipment, etc.
- Ensures accurate transfer of student files and records.
- Transfers and disposes of records according to retention schedules and policies.
- Assumes other responsibilities assigned by the Principal.

FINANCIAL

- Conducts daily deposit to the bank.
- Carries out financial operations at the site level, including payroll, purchasing and financial accounting.
- Compares prices and prepares purchase orders for all office and classroom needs for the beginning of the school year and as needed during the year.
- Participates in the pupil accounting audits with accurate information and records.
- Collects fines from students for any lost or damaged textbooks, technology equipment, etc.
- Maintains files on all purchase orders and verifies receipt of materials against packing slips; checks packing slips against invoices for approval of payment to vendors.

OPERATION

- Operates standard office equipment (computer, copier, fax machine, etc.).
- Maintains and replenishes office supply inventory.

OTHER

- Assumes other duties assigned by the Principal and Choice Schools Associates, L.L.C.

WORK ENVIRONMENT:

The work environment is in a standard office setting including standard office equipment (fax, copier, phone, computer, 10-key, etc.). The noise level in the work environment is usually low to moderate. The lighting in the work environment is usually well lit and appropriate for an office setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

ADMINISTRATIVE ASSISTANT

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

- High school diploma required; two years college desired.
- Ability to communicate with students, staff and parents.
- Use of proper grammar and vocabulary.
- Reputation for self-control and sound interpersonal skills.
- Experience in educational setting with school-age children desired.
- Exemplary work habits verified by previous employer.
- Computer skills in data processing, spreadsheets, databases and research.
- Trained in CPR and first aid.
- Valid Michigan driver's license.

JOB GOAL:

To assure the smooth and efficient operation of the Academy office as the communications and operations center for the partnership between internal and external stakeholders in achieving educational excellence for all children.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Performs usual office routines.
- Handles and prepares correspondence for the Principal and Academy Board.
- Maintains student records as required by law and by local policy.
- Receives and routes all incoming calls.
- Demonstrates positive customer and community relations at all times with all people.
- Serves as the Principal's frontline representative.
- Maintains the daily teacher attendance record and substitute teacher records.
- Assists teachers in preparing instructional materials upon request.
- Processes enrollment procedures for all students.
- Carries out financial operations at the site level, including payroll, purchasing and financial accounting.
- Compiles and maintains an up-to-date directory of students and staff throughout the year.
- Maintains a log of visitors to the Academy.
- Applies positive customer service to the role and is perceived as a team member by the staff.
- Assists teachers with simple technology questions.
- Manages the Academy Web site.
- Carries out other duties assigned by the Principal and Choice Schools Associates, L.L.C.

WORK ENVIRONMENT:

The work environment is in a standard office setting including standard office equipment (fax, copier, phone, computer, 10-key, etc.). The noise level in the work environment is usually low to moderate. The lighting in the work environment is usually well lit and appropriate for an office setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C., and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify, and ICHAT clearance.

EVALUATION:

The teachers and the Principal evaluate job performance.

INSTRUCTIONAL AIDE

REPORTS TO: Principal, under the supervision of the classroom Teacher

EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Complete at least two years of study at an institution of higher education (equal to 60 semester hours); or obtain an associate's degree (or higher).
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Ability to communicate with students, staff and guardians in a professional manner.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Valid State of Michigan Teaching Certificate.
- Knowledge and skills working with At-Risk students.
- Experience in educational setting with school-age children.

JOB GOAL:

Assist the classroom Teacher in providing instruction to individual or small groups, carry out appropriate classroom activities and maintain a disruption-free environment.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Assists the classroom Teacher in preparing classroom or laboratory for instruction.
- Helps the classroom Teacher prepare and distribute lesson materials.
- Instructs students under supervision of the classroom Teacher.
- Assists the classroom Teacher in maintaining individual student records when asked.
- Assists the classroom Teacher in keeping the classroom neat, clean and orderly to provide work and study areas conducive to learning.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating an atmosphere of mutual respect, independent thought and expression and student and classroom Teacher experiences in large and small groups.

CLASSROOM MANAGEMENT

- Works cooperatively with parents' and guardians' confidence in the classroom teacher.
- Guides children in working and playing harmoniously with other children.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.

- Promotes responsible citizenship through actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and conditions of success.
- Shares responsibility for professional, cooperative staff relations and out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional, ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and classroom Teacher will evaluate job performance through systematic input from various primary internal and external stakeholders.

CHILD CARE SUPERVISOR

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- High school diploma or equivalent.
- Must be at least 18 years of age.
- Must meet all requirements established by the Michigan DHS.
- Compliance with all DHS child care licensing staffing requirements including, but not limited to physical/TB test, CPR/First Aid/Blood borne Pathogen training completion, CPS Child Abuse/Neglect and ICHAT/Fingerprint screening.
- Ability to walk, lift up to 100 pounds, climb, bend, reach and kneel.
- Ability to communicate with students, staff and guardians in a professional manner.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills working with At-Risk students.
- Experience in educational setting with school-age children.

JOB GOAL:

Supervising and coordinating activities of employees working and children enrolled in the before and after school care program while maintaining a clean and safe child care facility for the children of the Academy.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

GENERAL JOB FUNCTIONS

- Implements the before and after school child care program in accordance with the program and Academy goals and objectives.
- Coordinates, organizes and implements age appropriate activities (crafts, games, outdoor activities), adherence to daily schedule, providing additional activities, crafts, etc., for unexpected schedule changes.
- Carries out discipline according to Academy program policy.
- Initiates and maintain positive relationships with school staff including the Principal, secretaries, custodial staff and teachers.
- Keeps a consistent headcount on all children present at site; communicates changes with all other staff.
- Assists in maintaining clean-up schedules including janitorial duties necessary to maintain the cleanliness of the school facility.
- Maintains all supplies, equipment and materials; purchase necessary supplies when new/additional supplies are needed with approval from the Principal.

- Assists in the implementation of breakfast and other required snacks to meet the nutritional needs of children.
- Monitors teachers to ensure quality of instructional methods and support for program goals.
- Hires, trains and supervises Child Care Workers.
- Works in classrooms as a Child Care Worker on an as needed basis.
- Collects and displays suitable materials for bulletin boards and other educational displays.

REPORTING AND LICENSING

- Provides up-to-date enrollment of children, records of income and expense, maintenance of student/enrollment information, preparation of funds deposits and maintains financial records.
- Processes monthly billing statements, payments and deposits.
- Demonstrates understanding and implementation of DHS Child Care Licensing Rules and collects required paperwork from employees.
- Assumes responsibility for adherence to and monitoring of all licensing regulations and for educating staff on regulations.
- Communicates all incident reports and discipline referrals to the Principal on a daily basis.
- Turns in time sheets in a timely manner; monitors employee attendance.
- Maintains accurate documentation of attendance, absences and emergency information on each child.

RESPONSIBILITIES WHEN INTERACTING WITH CHILDREN

- Consistently demonstrates positive interaction with all children; talks to them and treats them with dignity and respect.
- Consistently demonstrates positive discipline; teaches and redirects rather than scolding or reprimanding them; firmly and consistently enforces the rules.
- Expresses clear expectations and holds children accountable for adhering to them.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

RESPONSIBILITIES WHEN INTERACTING WITH PARENTS

- Positively identifies parents before releasing children (picture ID necessary until you can personally identify them).
- Introduces him/herself to parents and communicates with them regularly regarding program information such as schedule changes and permission slips.
- Communicates on a daily basis regarding the behavior of children. Discusses any behavioral concerns with the parent in a conference, if necessary.
- Encourages parents to participate or volunteer in special events or on field trips.
- Expresses appreciation for parent interest in their child(s) participation in the program.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing, recruiting and retaining students for the Academy.
- Communicates child care services provided to parents in a timely, creative and professional manner.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction, care and conditions of student success.
- Conducts himself or herself according to professional, ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Assists in observing and evaluating Child Care Workers.
- Plans and coordinates staff meetings to promote ongoing communication.
- Assumes other responsibilities assigned by the Principal.
- Attends required professional development trainings and staff meetings.

FACILITIES AND SAFETY

- Maintains confidentiality.
- Reports any suspected abuse to the Principal.
- Maintains a safe and healthy environment.
- Maintains appropriate staff levels to accommodate children enrolled in the program in accordance with regulations.
- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.
- Ensures facility, rooms and play areas are maintained in a clean, orderly and safe condition.
- Reports any safety issues on playground and in building to the Principal.
- Ensures that all staff and children are respectful of school property; ensures all school rules are followed.
- Complies with all emergency procedures appropriate to the site and in conformity with procedures adopted by emergency service authorities to ensure the safety of the children and staff.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is moderate to noisy. The lighting in the work environment is usually well lit and appropriate for a classroom setting. Requires prolonged sitting or standing. Requires stooping, kneeling, crawling, bending, turning and reaching. Requires climbing and balancing. Requires physical exertion to manually move, lift, carry, pull or push moderately heavy materials.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

**GREAT START READINESS PROGRAM (“GSRP”) ASSOCIATE
TEACHER/INSTRUCTIONAL AIDE**

REPORTS TO: Principal; under supervision of the GSRP Teacher
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- CDA certificate or Associates degree in Early Childhood Development.
- Must have evidence of meeting highly qualified requirements, as defined by No Child Left Behind.
- Compliance with all DHS child care licensing staffing requirements including, but not limited to physical/TB test, CPR/First Aid/Blood borne Pathogen training completion, CPS Child Abuse/Neglect and ICHAT/Fingerprint screening.
- Ability to communicate with students, staff and guardians.
- Experience in educational setting with school-age children.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Valid State of Michigan Teaching Certificate
- Knowledge and skills working with At-Risk students.

JOB GOAL:

Assist the GSRP Teacher in providing instruction to individual or small groups, carry out appropriate classroom activities and maintain a disruption-free environment.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

*This position is funded by a grant from MDE and carries the role of “GSRP Associate Teacher” and includes all of the responsibilities stated in the GSRP grant manual.

CURRICULUM & INSTRUCTION

- Assists the GSRP Teacher in preparing classroom or laboratory for instruction.
- Helps the GSRP Teacher collaboratively prepare lesson plans and distribute lesson materials.
- Participates in Team Teaching and instructs students under the supervision of the GSRP Teacher.
- Demonstrates understanding and implementation of the PQA and the teaching practices described therein.
- Demonstrates understanding and implementation of MDE’s Early Childhood Standards of Quality for Prekindergarten.
- Demonstrates understanding and implementation of DHS Child Care Licensing Rules.
- Follows the Academy approved GSRP curriculum and the GSRP grant policies and procedures as the instructional model.
- Assists the GSRP Teacher in maintaining individual student records when asked.

- Assists the GSRP Teacher in keeping the classroom neat, clean and orderly to provide work and study areas conducive to learning.
- Collects and displays suitable materials for bulletin boards and other educational displays.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.
- Demonstrates exceptional classroom techniques, which include the art of questioning, clarity of assignments, communicating, an atmosphere of mutual respect, independent thought and expression and student and teacher experiences in large and small groups.
- Effectively implements and uses the Academy-approved screening assessment tool and ongoing developmental assessment and is able to explain and interpret the information for students' parents.
- Effectively uses home visits to introduce the program and staff to the parent, develop collaboration for the child's learning, and gather, or report, assessment data.

CLASSROOM MANAGEMENT

- Works cooperatively with parents and guardians to enhance confidence in the GSRP Teacher.
- Guides children in working and playing harmoniously with other children.
- Assists GSRP Teachers with supervision of students during play periods and lunch periods.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the GSRP Program, and the Academy, in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and conditions of success.
- Shares responsibility for professional, cooperative staff relations and for out-of-class activities important to the operation of the Academy.
- Conducts himself or herself according to professional, ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.
- Assumes responsibility for adherence to all licensing regulations and for educating others on the regulations.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process. This is a grant-funded position subject to grant approval by the local ISD and MDE.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and GSRP Teacher will evaluate job performance through systematic input from various primary internal and external stakeholders.

FOOD SERVICE COORDINATOR

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Must be at least 18 years of age.
- High school diploma or equivalent.
- Must have a clean background check.
- Must pass a physical exam to certify being in good health and drug free.
- Food service experience in an educational setting.
- Ability to read, follow directions and maintain records.
- Ability to work effectively with school personnel and students in a diverse school community.
- Solid record of punctuality.
- United States citizen; ability to communicate in oral and written English.

Desired Requirements:

- Valid ServSafe Certification.
- Knowledge and skills working with At-Risk students.

SUPERVISES:

Food Service Workers.

JOB GOAL:

Supervises all aspects of kitchen and food service operations in order to provide students with a safe, attractive, comfortable, clean and efficient school nutrition program.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Supervises and evaluates food service staff at the Academy.
- Oversees preparation, packaging and distribution of school meals.
- Coordinates with Principal to ensure food service is meeting the needs of the building students and staff.
- Oversees the effective implementation of the Free/Reduced Breakfast/Lunch Program and all associated data collection and MDE reports.
- Coordinates any and all audits/reviews by the County or State.
- Collects cash for reduced-price meals and full-paid meals.
- Submits all claims for reimbursement by NSLP and CACFP; maintains effective data to substantiate all claims.
- Plans and implements special diets for students with documented special meal requirements.
- Evaluates and reports on menu acceptance in compliance with State and Federal regulations.
- Adheres to all district health and safety policies, including all precautions of the Blood borne Pathogens Exposure Control Plan.
- Accounts and reports funds collected for meals for students and adults.

- Maintains food preparation and dining areas at ratings exceeding state standards.
- Maintains food service areas, equipment and furnishings in neat, clean and appealing condition.
- Achieves high levels of customer satisfaction through student participation rates and by student and adult ratings.
- Promptly reports major repairs needed to the Principal.
- Immediately reports any damage to school property to the Principal.
- Keeps an inventory of food, supplies and equipment on hand and makes requisitions to the Principal far enough in advance to sustain a smooth-running and continuous food service program.
- Works collaboratively with other food service coordinators in the company to establish consistency in service.
- Participates in the hiring process.
- Develops and implements a training program for food service employees.
- Participates in applying for any grants associated with this program.
- Assumes other responsibilities assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job employee maybe required to walk, lift up to 100 pounds, climb, bend, reach and kneel. While performing duties of this job, employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a lunchroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

FOOD SERVICE WORKER

REPORTS TO: Food Service Coordinator
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Must be at least 18 years of age.
- High school diploma or equivalent.
- Must have a clean background check.
- Must pass a physical exam to certify being in good health and drug free.
- Food service experience in an educational setting.
- Ability to read, follow directions and maintain records.
- Ability to work effectively with school personnel and students in a diverse school community.
- Solid record of punctuality.
- United States citizen; ability to communicate in oral and written English.

Desired Requirements:

- Valid ServSafe Certification.
- Knowledge and skills working with At-Risk students.

JOB GOAL:

To provide students with a safe, attractive, comfortable, clean and efficient food service program.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Oversees preparation, packaging and distribution of school meals.
- Collects cash for reduced-price meals and full-paid meals, as assigned.
- Accounts and reports funds collected for meals for students and adults, as assigned.
- Maintains food preparation and dining areas at ratings exceeding state standards.
- Maintains food service areas, equipment and furnishings in neat, clean and appealing condition.
- Achieves high levels of customer satisfaction through student participation rates and by student and adult ratings.
- Promptly reports major repairs needed to the Food Service Coordinator.
- Immediately reports any damage to school property to the Food Service Coordinator
- Keeps an inventory of food, supplies and equipment on hand and makes requisitions to the Food Service Coordinator far enough in advance to sustain a smooth-running and continuous food service program.
- Demonstrates a basic understanding, and implementation, of County Health regulations and MDE School Nutrition Policies/Procedures relative to their work assignments.
- Assumes other responsibilities assigned by the Food Service Coordinator or Principal.

WORK ENVIRONMENT:

While performing duties of this job employee maybe required to walk, lift up to 100 pounds, climb, bend, reach and kneel. While performing duties of this job, employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a lunchroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Food Service Coordinator and the Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

CUSTODIAN

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Must be at least 18 years of age.
- High school diploma or equivalent.
- Must have a clean background check.
- Must pass a physical exam to certify being in good health and drug free.
- Demonstrate aptitude and competence for assigned responsibilities.
- Ability to work effectively with school personnel and students in a diverse school community.
- Solid record of punctuality.
- United States citizen; ability to communicate in oral and written English.

Desired Requirements:

- Custodial experience in a school setting.
- Knowledge and skills working with At-Risk students.

JOB GOAL:

To provide students with a safe, attractive, comfortable, clean and efficient educational setting.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Keeps buildings and premises, including walkways, parking lot and play areas neat and clean at all times.
- Regulates heat, ventilation and air conditioning systems to provide temperatures appropriate for the season and ensures economical usage of fuel, water and electricity.
- Shovels, plows and salts sidewalks, driveways, parking areas and steps, as appropriate.
- Checks daily to ensure exit doors are open and all panic bolts are working properly during the hours of building occupancy.
- Raises the United States flag at or before 8 a.m. on each school day and lowers it at or after 3:30 p.m.
- Sweeps or vacuums classrooms daily and dusts furniture.
- Cleans daily the corridors after school and during the day when the condition requires it.
- Daily scrubs, hoses down and disinfects bathroom floors and cleans all sanitary fixtures and drinking fountains.
- Washes all windows on both the inside and outside at least twice each year and more frequently if necessary.
- Keeps the grounds free from rubbish.
- Performs such yard-keeping chores as grass cutting and tree trimming, as necessary, to maintain the school grounds in a safe and attractive condition.
- Maintains all floors in a clean and attractive condition.
- Weekly cleans all chalkboards and marker boards.

- Makes minor building repairs.
- Promptly reports major repairs needed to the Principal.
- Regularly maintains on a schedule of all motors and other mechanical equipment requiring scheduled servicing.
- Reports any damage to school property.
- Remains on the school property during school hours and during non-school hours when the use of the building has been authorized and attendance is required by the Principal.
- Assumes responsibility for the opening and closing of the building each school day and for determining that all doors and windows are secured and that all lights, except those left on for safety reasons, are turned off.
- Keeps an inventory of supplies, equipment and fuel on hand.
- Conducts an ongoing program of general maintenance, upkeep and repair.
- Moves furniture or equipment within buildings as required for various activities and as directed by the Principal.
- Complies with local laws and procedures for the storage and disposal of trash, rubbish and waste.
- Assumes responsibility for the safe condition of outdoor structures.
- Conducts periodic inspections and tests of all electrical installations in the school to ensure their safe condition.
- Coordinates and works with volunteers in their efforts to beautify Academy grounds.
- Assumes other responsibilities assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job employee maybe required to walk, lift up to 100 pounds, climb, bend, reach and kneel. While performing duties of this job, employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. Tasks may include working alone in the following situations: with ladders of various lengths, with equipment and chemicals, which can be hazardous when not properly handled, and up on rooftops.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

BUS DRIVER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- Must be at least 18 years of age.
- High school diploma or equivalent.
- Valid certifications required by the Department of Transportation and MDE.
- Valid driver's license.
- Reputation for self-control and sound interpersonal skills.
- Exemplary work habits verified by previous employer.
- Exemplary driving record.
- Satisfactory criminal background check and drug screening.
- Solid record of punctuality.
- United States citizen.

Desired Requirements:

- Experience in a school setting with school-age children.
- Knowledge and skills working with At-Risk students.
- First Aid and CPR Certification.

JOB GOAL:

To transport students to and from school site and to assure their safety while passengers in the school bus.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Drives a school bus safely in accordance with time schedules for transporting students to and from their homes, a variety of school sites and on field trips as assigned.
- Oversees the loading and unloading of students, releases students to authorized individuals and assures that safety belts are fastened.
- Maintains order and proper discipline of passengers; resolves disputes, documents and reports severe disciplinary cases.
- Conducts accident investigations.
- Assures maintenance of bus is in safe and clean operating condition; reports needed mechanical repairs, installs special safety belts, sweeps interior of the bus and washes windows daily, services the bus with gas and oil and follows established security procedures.
- Establishes drop off and pickup order of assigned students; confers with parents, supervisors and other staff regarding transportation needs, plots route on map, documents route and adjusts route for new and/or dropped students.
- Directs routing and scheduling of buses and reviews bus stop locations for safety and efficiency.

- Monitors students with special health problems while on bus after receiving written or oral instruction and is aware and alert to any sign of difficulty following prescribed instructions and procedures.
- Responds to inquiries and concerns in a timely manner.
- Keeps supervisor informed of potential problems or unusual events.
- Maintains a variety of records and reports including but not limited to mileage, routing, maintenance and time schedules.
- Represents the school in a positive and professional manner.
- Attends meetings, programs and in-service trainings as assigned.
- Assists in the development of policies and procedures for transportation services.
- Sets high standards and expectations and promotes professional growth for self and others.
- Assists the other routes when breakdown or other unusual circumstances occur as assigned.
- Advises the Principal on matters of student discipline.
- Performs other duties and responsibilities assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions and road hazards prevalent at the time. The noise level in the work environment is usually moderate.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal will evaluate job performance through systematic input from various primary internal and external stakeholders.

CHILD CARE WORKER

REPORTS TO: Principal
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

Minimum Requirements:

- High school diploma or equivalent.
- Must be at least 18 years of age.
- Must meet all requirements established by the Michigan DHS.
- Ability to walk, lift up to 100 pounds, climb, bend, reach and kneel.
- Ability to communicate with students, staff and guardians in a professional manner.
- Excellent verbal and written expression using proper grammar and vocabulary.
- Exemplary work habits verified by previous employers.
- Strong interpersonal skills.

Desired Requirements:

- Knowledge and skills working with At-Risk students.
- Experience in educational setting with school-age children.

JOB GOAL:

Supervising the activities of children enrolled in the latchkey program and maintaining a clean and safe classroom environment for the children.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

CURRICULUM & INSTRUCTION

- Coordinates assigned age appropriate activities for developmental growth.
- Assists in keeping the classroom neat, clean and orderly to provide work and study areas conducive to learning.
- Collects and displays suitable materials for bulletin boards and other educational displays.
- Uses resources effectively to support learning activities in the classroom, the Academy and the community.

CLASSROOM MANAGEMENT

- Works cooperatively with guardians.
- Guides children in working and playing harmoniously with other children.
- Monitors children for the purpose of providing a safe and positive learning environment.
- Demonstrates genuine concern for students in a climate characterized by high personal and student expectations.
- Promotes responsible citizenship through actions as a role model.
- Provides a classroom atmosphere based on the principles of firm, fair and consistent practices, respect for individual children and development of responsible citizenship.

STUDENT ACQUISITION & RETENTION

- Shares responsibility for marketing the Academy in the community.

PROFESSIONAL DEVELOPMENT & LEADERSHIP

- Participates in the development of policies and regulations that affect instruction and conditions of success.
- Conducts himself or herself according to professional, ethical principles.
- Displays personal qualities, which reflect favorably upon the individual, the group and the Academy.
- Assumes other responsibilities assigned by the Principal.

FACILITIES:

- Assumes responsibility for the orderliness of the learning environment and the appropriate and safe use of instructional facilities and equipment.

WORK ENVIRONMENT:

While performing duties of this job, the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify and ICHAT clearance.

EVALUATION:

The Principal and Child Care Supervisor will evaluate job performance through systematic input from various primary internal and external stakeholders.

ATHLETIC COACH

REPORTS TO: Principal and Athletic Director
EMPLOYED BY: Choice Schools Associates, L.L.C.

REQUIREMENTS:

- Must be at least 18 years of age.
- High school diploma or equivalent required.
- Some experience as a coach or assistant coach at the middle or high school level.
- Must possess effective coaching techniques and skills.
- Must possess a thorough knowledge of the MHSAA rules, regulations, strategies and techniques of the sport.
- Must possess the ability to establish and maintain effective working relationships with school administrators, parents and students.
- Respected as a professional and as an individual.

JOB GOAL:

Responsible for coaching student athletes in game strategies and techniques to prepare them for athletic competition. Position motivates student athletes to develop an appreciation of the sport.

ESSENTIAL PERFORMANCE RESPONSIBILITIES:

- Holds organizational meetings for team prospects and encourages potential athletes to participate in the sport.
- Assesses player's skills and assigns team positions.
- Develops a regular practice schedule and organizes practice time to provide both individual and team development.
- Works with the Athletics Director in scheduling facilities for practices and competition.
- Coaches and instructs players, individually or in groups, regarding the rules, regulations, equipment and techniques of the sport.
- Observes players, during competition and practice to determine the needs for individual or team improvement.
- Establishes and maintains standards of pupil behavior and provides proper supervision of athletes at all times.
- Monitors the academic performance of team members to ensure that eligibility requirements are met; encourages student athletes to maintain a high academic standard.
- Follows established procedures in the event of an athlete's injury.
- Conferences with parents/guardians, as necessary, regarding the athletic performance of their student.
- Follows MHSAA, and school regulations governing the athletic program.
- Models sportsman-like behavior and maintains appropriate conduct towards players, officials, and spectators.
- Follows established procedures for the proper care, maintenance and requisitioning of equipment, supplies and uniforms.
- Models nondiscriminatory practices in all activities.
- Carries out other duties assigned by the Principal.

WORK ENVIRONMENT:

While performing duties of this job the employee is exposed to weather conditions prevalent at the time. The noise level in the work environment is usually moderate. The lighting in the work environment is usually well lit and appropriate for a classroom setting.

TERMS OF EMPLOYMENT:

Salary and work schedule established by Choice Schools Associates, L.L.C. and approved by the Academy Board via the annual school operating budget and calendar approval process.

LEGAL REQUIREMENTS:

Criminal Records Check, Unprofessional Conduct Disclosure Release, Sex Offender Registry Clearance, Employment Eligibility Verification using e-verify., and ICHAT clearance.

EVALUATION:

The Principal and Athletic Director will evaluate job performance through systematic input from various primary internal and external stakeholders.

MANAGEMENT SERVICES AGREEMENT

This Management Services Agreement (the "Agreement") is made and entered into as of the 1st day of July, 2014, by and between Choice Schools Associates, L.L.C., a Michigan limited liability company ("CSA"), and the West Michigan Academy of Environmental Science (the "Academy"), a body corporate and public school academy organized under the Revised School Code (the "Code").

WHEREAS, The Academy operates pursuant to a charter contract (the "Contract") issued by the Central Michigan University Board of Trustees ("CMU"); and

WHEREAS, The Academy operates a public school academy under the direction of the Academy Board (the "Board"); and

WHEREAS, CSA is a limited liability company providing educational and managerial services to public school academies that has the ability to implement a comprehensive educational program and management methodologies for the Academy; and

WHEREAS, The Academy desires to engage CSA to perform certain services related to the Academy's educational program and operations.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

ARTICLE I

CONTRACTUAL RELATIONSHIP

A. Authority. The Academy has been granted the Contract by CMU to organize and operate a public school academy, together with the powers necessary or desirable for carrying out the educational program set forth in the Contract. The Academy is authorized by law to contract with a private entity to provide educational management services, provided that no provision of such a contract shall be effective if it would prohibit the Board from acting as an independent, self-governing public body, allow public decisions to be made other than in compliance with the Open Meetings Act, or interfere with the Board's constitutional duty to exercise its statutory, contractual and fiduciary obligations governing the operation of the Academy.

B. Delegated Authority. Acting under and in the exercise of such authority, the Academy hereby delegates to CSA, to the extent permitted by law, specified functions relating to the provision of educational services and the management and operation of the Academy; provided, however, that this Agreement is subject to all of the terms and conditions of the Contract. The Contract shall be deemed incorporated herein by reference. In the event of any inconsistency between the provisions of this Agreement and the provisions of the Contract, the provisions of the Contract shall prevail.

C. Status of the Parties. CSA is a limited liability company of Michigan, and is not a division or a part of the Academy. The Academy is a body corporate and governmental entity authorized by the Code, and is not a division or part of CSA. The relationship between CSA and

the Academy is based solely on the terms of this Agreement. The parties to this Agreement acknowledge that the relationship between them created by this Agreement is that of an independent contractor, and that except as expressly set forth in this Agreement, no employee of CSA shall be deemed to be an agent or employee of the Academy. CSA will be solely responsible for its acts and the acts of its agents, employees, and subcontractors.

D. Designation of Agents. No agent or employee of the Academy shall be determined to be an agent or employee of CSA for any reason or purpose. No agent or employee of CSA shall be determined to be an agent or employee of the Academy, except as follows:

1. CSA, and its respective officers, directors, employees and designated agents are each hereby authorized to serve as agents of the Academy having a legitimate educational interest in the Program and its students for purposes of the Family Educational Rights and Privacy Act, 20 U.S.C. §1232g *et seq.*, ("FERPA"), such that they are jointly and severally entitled to access the educational records of the Program for all purposes related to FERPA.
2. During the term of this Agreement, the Academy may disclose confidential data and information to CSA, and its respective officers, directors, employees and designated agents to the extent permitted by applicable law, including without limitation, the Individuals with Disabilities Education Act ("IDEA"), 20 USC §1401 *et seq.*, 34 CFR 300.610 -300.626; Section 504 of the Rehabilitation Act of 1973, 29 USC §794a, 34 CFR 104.36; the Michigan Mandatory Special Education Act, MCL 380.1701 *et seq.*; the Americans with Disabilities Act, 42 USC §12101 *et seq.*; the Health Insurance Portability and Accountability Act ("HIPAA"), 42 USC 1320d - 13200d-8; 45 CFR 160, 162 and 164; and social security numbers, as protected by the federal Privacy Act of 1974, 5 USC §552a; and the Michigan Social Security Number Privacy Act, MCL 445.84.
3. As otherwise expressly designated by written agreement of the parties with consent from anyone whose consent is required by law or contract.

ARTICLE II

TERM

A. Term. This Agreement shall become effective July 1, 2014, and shall cover seven (7) academic years commencing on July 1, 2014 and ending on June 30, 2021, subject to a continued Contract from CMU and continued state per capita funding. The Contract from CMU is effective through June 30, 2021 and the parties recognize that during the reauthorization process CMU may condition an extension or reauthorization of the Contract upon modifications to this Agreement or submission of a new agreement.

ARTICLE III
FUNCTIONS OF CSA

A. Responsibility. Under the policy direction of the Board, CSA shall be responsible for all of the management, operation, administration, and education at the Academy. Such functions include, but are not limited to:

1. Implementation and administration of the Educational Program contained in the Contract;
2. Curriculum improvement services;
3. Student environment management and community outreach/ marketing services;
4. Computer services;
5. Budget preparation and financial management services, such as accounting and bookkeeping services, financial and operational reports;
6. Risk management, such as the administration of any insurance claims involving personal injury or property loss, relating to the security of the facilities and confidential information and files;
7. Accounts payable;
8. Acquisition of instructional and non-instructional material, equipment and supplies as requested by the Board;
9. Selection, employment and supervision of all teachers and staff and the personnel management services (recordkeeping, wage and benefits administration, training and technical assistance) necessary to support those employees;
10. Food service management;
11. Transportation management;
12. Facilities maintenance;
13. Preparation of required CMU, local, state and federal reports with prior review by the Board;
14. Information and technology system development and management;
15. Preparation of applications for grants and special programs;

16. Securing funding sources for special programs and facility improvements as requested by the Board;
17. Operation of the school building and the installation of technology integral to school design;
18. Administration of extra-curricular and co-curricular activities and programs;
19. Preparation of regulations governing operations of the Academy as approved by the Board;
20. Provide special education services to students who attend the Academy in conformity with the requirements of state and federal laws and applicable regulations and policies;
21. Preparation of strategic plans for the continuing educational and financial benefit of the Academy;
22. Implementation of an ongoing public relations strategy, developed for the Board, for the development of beneficial and harmonious relationships with other organizations and the community;
23. Preparation and enforcement of student codes of conduct; and
24. Any other function necessary or expedient for the administration of the Academy with prior approval from the Board.

B. Educational Goals and Program. CSA shall implement the educational goals and programs set forth in the Contract, including but not limited to methods of pupil assessment, admission policy and criteria, school calendar and school day schedule, age and grade classifications or pupils to be enrolled, and methods to be used to monitor performance towards targeted educational outcomes. In the event that CSA determines that it is advisable to modify the educational goals and program set forth in the Contract, CSA will provide written notification to the Board specifying the changes it recommends and the reasons for the proposed changes. No changes in the educational goals and programs shall be implemented without the prior written approval of the Board and CMU. CSA shall provide the Board with periodic written reports specifying the level of achievement of each of the Academy's educational goals set forth in the Contract and detailing its plan for meeting any educational goals that are not being attained. These reports will be submitted to the Board immediately prior to the Board's regular meeting in January and July each year, and at such other times as specified in Board policy as the same may be changed from time to time.

C. Subcontracts. It is anticipated that CSA will utilize subcontracts to provide some of the services it is required to provide to the Academy, including but not limited to transportation and/or food service. CSA shall not subcontract the management, oversight, or operation of the teaching and instructional program, without the prior written approval of the Board. Board approval of other subcontracts is not required unless the cost for these

subcontracted services exceeds the funds appropriated for that purpose in the Academy's approved budget. CSA will receive no additional fee as a result of subcontracting of any services. CSA remains responsible to the Academy for the services provided through subcontracting agreements.

D. Place of Performance. Instruction services other than field trips will normally be performed at the Academy facilities. CSA may perform functions other than instruction, such as purchasing, professional development, and administrative functions at off-site locations, unless prohibited by applicable law. The Academy shall provide CSA with the necessary office space at the Academy site to perform all services for the Academy described in this Agreement.

E. Acquisitions. All acquisitions made by CSA for the Academy, including, but not limited to, instructional materials, equipment, supplies, furniture, computers and other technology, shall be owned by and remain the property of the Academy. CSA and its subcontractors will comply with all federal laws, rules, and regulations in addition to such policies as the Board may, from time to time adopt, under Section 1267 and Section 1274 of the Code as if the Academy were making these purchases directly from a third party supplier. CSA will not include any fees or charges to the cost of the equipment, materials, and supplies purchased from third parties when it seeks reimbursement for the cost of those acquisitions.

F. Pupil Performance Standards and Evaluation. CSA is responsible for and accountable to the Board for the performance of students who attend the Academy. CSA shall implement pupil performance evaluations which permit evaluation of the educational progress of each Academy student, using measures of student and school performance required by the Contract or applicable laws and such additional measures as shall be mutually agreed between the Board and CSA including but not limited to parent satisfaction surveys.

G. Student Recruitment. CSA shall be responsible for the recruitment of students subject to the provisions of the Contract or applicable laws and the policies adopted by the Board. Students shall be selected in accordance with the procedures set forth in the Contract and in compliance with applicable law. CSA shall follow all applicable procedures regarding student recruitment, enrollment, and lottery management, and shall be responsible for publication of appropriate public notices and scheduling open houses.

H. Student Due Process Hearings. CSA shall provide students with procedural and substantive due process in conformity with the requirements of applicable law regarding discipline, special education, confidentiality, and access to records, to an extent consistent with the Academy's own obligations. The Board shall retain the right to provide due process as required by law and to determine whether any student will be expelled.

I. Legal Requirements. CSA shall provide educational programs that meet the requirements imposed under the Contract and applicable law, unless such requirements are or have been waived.

J. Rules and Procedures. The Board shall adopt rules, regulations, and procedures applicable to the Academy and CSA is directed to enforce the rules, regulations, and procedures adopted by the Board. CSA shall assist the Board in its policy making function by

recommending the adoption of reasonable rules, regulations and procedures applicable to the Academy.

K. School Year and School Day. The school year and the school day shall be as provided in the Contract and as defined annually by the Board.

L. Authority. CSA shall have authority and power necessary to undertake its responsibilities described in this Agreement except in the case(s) wherein such power may not be delegated by law.

M. Compliance with Academy's Contract. CSA agrees to perform its duties and responsibilities under this Agreement in a manner that is consistent with the Academy's obligations under the Academy's Contract issued by the Central Michigan University Board of Trustees. The provisions of the Academy's Contract shall supersede any competing or conflicting provisions contained in this Agreement. CSA agrees to assist the Academy in complying with all of the Academy's reporting, recordkeeping, and other obligations under the Academy's Contract. CSA shall not act in a manner, which will cause the Academy to be in breach of its Contract. Any action or inaction by CSA that causes the Contract to be in jeopardy of termination is a material breach of the Agreement. In addition, a failure of CSA to perform reasonably the functions set forth in Article III may be considered a material breach of this Agreement.

N. Additional Programs. The services provided by CSA to the Academy under this Agreement consist of the Educational Program as set forth in the Contract, as the same may change from time to time. The Board may decide to provide additional programs, including but not limited to summer school. Any revenues collected from such programs will go directly to the Academy. The Academy may also purchase additional services from CSA at mutually agreeable cost.

O. Annual Budget Preparation. CSA will provide the Board with a proposed annual budget that shall conform to the State accounting manual and the Uniform Budgeting and Accounting Act, MCL 141.421 *et seq.* and in a form satisfactory to the Board and to CMU. The budget shall contain object level detail and comply with the public accounting standards applicable to public schools and applicable law. The budget shall include anticipated revenues and projected expenses and costs reasonably associated with operating the Academy and the Educational Program including, but not limited to, the projected cost of all services and educational programs provided to the Academy, rent and lease payments, debt service, maintenance and repairs to Academy facilities, supplies and furnishings necessary to operate the Academy, taxes, insurance premiums, utilities, professional fees, and other costs and expenses connected to the operation of the Academy. The proposed budget shall be submitted to the Board for approval no later than 30 days prior to the date when the approved budget is required to be submitted to CMU. CSA may not make deviations from the approved budget without the prior written approval of the Board.

P. Financial Reporting. On not less than a monthly basis, CSA shall provide the Board with a balance sheet and statement of revenue, expenditures, and changes in fund balance, detailing the status of the budget to actual revenues and a detailed schedule of expenditures at an

object level for review and approval by the Board. A written report shall explain any variances from the approved budget, shall contain recommendations for necessary budget corrections, and shall be prepared at least seven (7) calendar days in advance of the Board meeting to be available for Board packets sent to Board Members in preparation for Board meetings. CSA shall provide special reports as necessary to keep the Board informed of changing conditions.

Q. Operational Reporting. At least four (4) times per year CSA will provide the Board with comprehensive written reports on detailing Academy operations, finances, and student performance. In order to enable the Board to monitor CSA's educational performance and the efficiency of its operation of the Academy, upon the request of the Board, CSA will provide written reports to the Board on any topic of Academy activity or operations and which are consistent with this Agreement. These special reports will be provided in a timely fashion, but not less than one (1) week after the request for the report is received by CSA unless the Board and CSA mutually agree upon an extended timetable.

R. Compliance with Section 503c. On an annual basis, CSA agrees to provide the Board with the same information that a school district is required to disclose under section 503c of the Code, MCL 380.503c and under section 18(2) of the State Aid Act of 1979, MCL 380.1618, for the most recent school fiscal year for which the information is available. Within thirty (30) days of receipt of this information, the Board shall make the information available on the Academy's website home page, in a form and manner prescribed by the Michigan Department of Education. The defined terms in section 503c of the Code shall have the same meaning in this Agreement.

S. Suspension and Debarments List. Federal agencies are required to award contracts only to presently responsible sources and cannot award funds to entities that have been suspended or debarred from doing business with the federal government. The Academy is a recipient of federal funding and CSA is required to refrain from any action that will result in being suspended or debarred. CSA certifies and affirms that it is not included on the federal Suspension and Debarments list of Excluded Parties List; nor is CSA affiliated with any party that is included on the federal Suspension and Debarments list of Excluded Parties List.

ARTICLE IV

OBLIGATIONS OF THE BOARD

A. Board Policy Authority. The Board is responsible for determining the fiscal and academic policies that will govern the operation of the Academy, including but not limited to, policies relative to the conduct of students while in attendance at the Academy or enroute to and from the Academy and regulations governing the procurement of supplies, materials, and equipment. The Board shall exercise good faith in considering the recommendations of CSA on issues including, but not limited to, policies, rules, regulations, procedures, curriculum, and budgets subject to the constraints of law and the requirements of the Contract. Failure of CSA and the Board to agree on educational policies is grounds for termination of the Agreement by either party.

B. Building Facility. The Board is responsible for the acquisition by either purchase or lease of a building facility that complies with all of the requirements of the Contract and applicable law.

C. Academy Employees. The Board may employ a Liaison Officer to review the operations of the Academy and the performance of CSA under this Agreement, and to ensure smooth relationships among the Academy, CSA, and CMU. The Board Liaison Officer may be employed full or part-time and will perform the functions established by the Board. The Board may also employ such clerical staff as it deems necessary. CSA shall cooperate with the Board Liaison Officer and will provide that individual with prompt access to records, facilities, and information as if such requests came from the full Board. CSA shall have no authority to select, evaluate, assign, supervise or control the Board Liaison Officer and agrees that it will not bring or threaten to bring any legal action against the Liaison Officer for the performance of the duties and functions established for that position by the Board and which are consistent with this Agreement. The cost to employ a Liaison Officer and necessary clerical employees shall be paid by the Board.

D. Educational Consultants. The Board may retain an educational consultant or consultants to review the operations of the Academy and the performance of CSA under this Agreement. CSA shall cooperate with the educational consultant or consultants and will provide those individuals with prompt access to records, facilities, and information as if such requests came from the full Board. CSA shall have no authority to select, evaluate, assign, supervise or control any educational consultant employed by the Board, and agrees that it will not bring or threaten to bring any legal action against any educational consultant for the performance of the functions requested to be performed by the Board and which are consistent with this Agreement. The cost to employ an educational consultant shall be paid by the Board.

E. Legal Counsel. The Board shall select and retain legal counsel to advise the Academy regarding its rights and responsibilities under the Contract, this Agreement and applicable law. The Board has the sole authority to hire independent legal counsel.

F. Audit Services. The Board shall select and retain the independent auditor to perform the annual financial audit in accordance with the Contract and applicable state law. The Board has the sole authority to hire independent legal auditors.

G. Budget. The Board will have the sole authority to approve any budget. The Board is responsible for adopting a budget in accordance with the provisions of the Uniform Budgeting and Accounting Act, MCL 141.421 *et seq.*, that has adequate resources to fulfill its obligations under the Contract, including but not limited to its oversight of CSA, the organization of the Academy, negotiation of the Contract and any amendments, payment of employee costs, insurance required under the Contract and this Agreement, the annual financial audit and retention of the Board's legal counsel and consultants. In addition, the Board is responsible for determining the budget reserve amount included as part of the Academy's annual budget, for implementing fiscal policies that will assist the Academy in attaining the stated budget reserve amount and for approving necessary amendments to the budget to reflect necessary deviations from the adopted budget. The budget may be amended from time to time as deemed necessary by the Board.

H. Academy Funds. The Board shall determine the depository of all funds received by the Academy. All funds received by the Academy shall be deposited in the Academy's depository account. Signatories on the Academy Board accounts shall solely be current Board members properly designated annually by Board resolution. All interest or investment earnings on Academy accounts shall accrue to the Academy. The Board shall provide Academy funding on a consistent and timely basis to CSA to fulfill its obligations under this Agreement.

I. Governmental Immunity. The Board shall determine when to assert, waive or not waive its governmental immunity.

J. Contract with CMU. The Board will not act in a manner, which will cause the Academy to be in breach of its Contract with CMU.

K. Evaluation of CSA. The Board will evaluate the performance of CSA each year to provide CSA with an understanding of the Board's view of its performance under this Agreement. A preliminary evaluation will normally occur in December of each year followed by a yearend evaluation in June. The Board will determine the format to conduct this evaluation. Special evaluations may occur at any time.

ARTICLE V

FINANCIAL ARRANGEMENT

A. Primary Source of Funding. As a Michigan public school, the primary source of funding for the Academy is state aid payments based upon the number of students enrolled in the Academy combined with such other payments as may be available from state and federal sources for specific programs and services.

B. Other Revenue Sources. In order to supplement and enhance the state school aid payments and improve the quality of education at the Academy, the Board and CSA, with prior Board approval, shall endeavor to obtain revenue from other sources. In this regard:

1. The Academy and/or CSA shall solicit and receive donations consistent with the mission of the Academy.
2. The Academy and/or CSA may apply for and receive grant money, in the name of the Academy. CSA shall provide advance notification to the Board of any grant applications it intends to make and receive the approval of the Board for the application prior to accepting any grant.
3. To the extent permitted under the Code, the Board authorizes CSA to charge fees to students for extra services such as summer programs, after school programs and athletics and charge non-Academy students who participate in such programs.

All funds received by CSA or the Academy from such other revenue sources shall inure to and be deemed the property of the Academy, except as otherwise agreed by the parties in writing.

C. **Compensation for Services.** For the term of this Agreement, the Academy shall pay CSA an annual fee. This annual fee shall be calculated as follows:

1. **2014-2015 School Year.** The annual fee to be paid for services performed between July 1, 2014 through June 30, 2015 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.
2. **2015-2016 School Year.** The annual fee to be paid for services performed between July 1, 2015 through June 30, 2016 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.
3. **2016-2017 School Year.** The annual fee to be paid for services performed between July 1, 2016 through June 30, 2017 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.
4. **2017-2018 School Year.** The annual fee to be paid for services performed between July 1, 2017 through June 30, 2018 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.
5. **2018-2019 School Year.** The annual fee to be paid for services performed between July 1, 2018 through June 30, 2019 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.

6. **2019-2020 School Year.** The annual fee to be paid for services performed between July 1, 2019 through June 30, 2020 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.
7. **2020-2021 School Year.** The annual fee to be paid for services performed between July 1, 2020 through June 30, 2021 shall be the sum of (a) \$375,000 and (b) ten (10.00%) percent of all payments in excess of \$3,750,000 that the Academy receives directly or indirectly under Paragraph A above less amounts retained by CMU and all grants received by the Academy under Paragraph B (except for donations that are made to Academy) that are to be expended during that school year, but not more than \$325,000.

CSA's annual fee shall be paid in twelve (12) equal monthly installments beginning in July of each school year. The exact day of the month that each monthly installment is to be paid will coincide with the timing of any state aid payment from the State of Michigan to be received in that month. In months where no state aid payments are to be received, the day of the month when that monthly installment will be due will be mutually agreed upon by the parties after taking into consideration available year-end funds and the timing of funds to be made available from state aid anticipation notes or other sources. All installments of the annual fee for the 2020- 2021 school year shall be paid by June 30, 2021 if this Agreement is not extended beyond the scheduled termination date. The amount of the annual fee is subject to reduction in a mutually agreeable amount in any school year if extenuating circumstances make payment of the entire annual fee inappropriate.

D. Reasonable Compensation. The parties wish to satisfy the requirements of Rev. Proc. 97-13 so that the provision of CSA's services under this Agreement does not cause the Academy's facilities to be treated as used in a private business use under Section 141(b) of the Internal Revenue Code of 1986, as amended. CSA's compensation under this Agreement is reasonable compensation for services rendered. CSA's compensation for services under this Agreement will not be based, in whole or in part, on a share of net profits from the operation of the Academy.

E. Payment of Educational Program Costs. In addition to the Academy's obligation to reimburse CSA for the compensation of certain CSA employees under Article VI, all costs reasonably incurred in providing the Educational Program at the Academy shall be paid by the Academy. Such costs shall include, but shall not be limited to, curriculum materials, professional development, textbooks, library books, computer and other equipment, software, supplies utilized at the Academy for educational purposes, services provided pursuant to subcontract, building payments, maintenance, utilities, capital improvements, and marketing and development costs. No corporate costs of CSA shall be paid for by the Academy. Marketing and development costs paid by or charged to the Academy shall be limited to those costs specific to

the Academy program, and shall not include any costs for the marketing and development of CSA. The Board shall reimburse CSA monthly for approved fees and expenses upon properly presented documentation and approval by the Board, but reimbursements for the cost of compensation of CSA employees under Article VI shall be made no later than three (3) business days before that compensation is due to the employees. At its option, the Board may advance funds to CSA for the fees and expenses associated with the Academy's operation provided that documentation for the fees and expenses are provided for Board ratification. In paying costs on behalf of the Academy, CSA shall not charge an added fee. Any costs reimbursed to CSA that are determined by the independent audit not to be reasonably incurred on behalf of the Educational Program of the Academy shall be promptly returned to the Academy by CSA.

F. CSA Costs. The annual management fee to be paid to CSA set forth in Article V, Section C is intended to compensate CSA for all expenses it incurs for administrative and financial services CSA is required to provide under this Agreement, including but not limited to, expenses associated with individuals providing professional and curriculum development services, accounting services, clerical services, management and budgeting services, and administrative services. CSA will provide sufficient professional and non-professional staff in these areas, which shall be compensated by CSA. In addition, the annual management fee is intended to compensate CSA for all costs incurred by CSA to provide these services. The annual management fee does not include payments for CSA personnel provided pursuant to Article VI (B), (C), and (D), the cost of which will be reimbursed in accordance with Article VI (A).

G. CSA Legal Services. The annual management fee set forth in Article V, Section C is intended to compensate CSA for routine legal fees it incurs to receive advice regarding the scope of its obligations under state and federal law to provide the administrative and financial services CSA is required to provide under this Agreement. The annual management fee does not cover non-routine legal services, including but not limited to the legal fees and costs associated with the appointment of special education hearing officers and the engagement of counsel to represent the Academy in legal or administrative proceedings, which are the responsibility of the Academy. The Academy Board shall at all times retain the sole authority and discretion to engage independent legal counsel.

H. Other Public School Academies. The Academy acknowledges that CSA has entered, or will enter into management agreements with other public school academies. CSA shall separately account and provide written detail for reimbursable expenses incurred on behalf of the Academy and other public school academies, and only charge the Academy for expenses incurred on behalf of the Academy.

I. Audit Report Information. CSA will make all of its financial and other records related to the Academy available to the Academy and the Academy's independent auditor selected by the Board.

J. Other Financial Relationships. Any lease, promissory notes or other negotiable instruments, lease-purchase agreements or other financing agreements between the Academy and CSA shall be contained in a document separate from this Agreement and shall comply with CMU's Educational Service Provider Policies.

K. Access to Records. CSA shall keep accurate financial records pertaining to its operation of the Academy, together with all Academy financial, educational and student records prepared by or in the possession of CSA, and retain all of these records for the a period of seven (7) years (or longer if required by Bulletin 1022 of Michigan's record retention Schedule) from the close of the fiscal year to which such books, accounts and records relate. All records shall be kept in accordance with applicable state and federal requirements. Financial , educational, operational and student records that are now or may in the future come into the possession of CSA remain Academy records and are required to be returned by CSA to the Academy upon demand, provided that CSA may retain copies of records necessary to document the services provided to the Academy and its actions under the Agreement. CSA and the Academy shall maintain the proper confidentiality of personnel, student, and other records as required by law. All Academy records shall be physically or electronically available, upon request, at the Academy's physical facilities. The financial, educational, operational and student records pertaining to the Academy are public documents subject to disclosure in accordance with the provisions of the Michigan Freedom of Information Act. This Agreement shall not be construed to restrict CMU's or the public's access to these records under that Act or the Contract.

ARTICLE VI

PERSONNEL AND TRAINING

A. Personnel Responsibility. CSA is responsible for providing the Academy with qualified administrative, teaching, food service, secretarial, maintenance and transportation staff to operate the Academy within the staffing levels approved by the Board in its annual budget. CSA shall have the authority to select, evaluate, assign, discipline, transfer and terminate the employment of all individuals working at or for the Academy with the exception of the Board Liaison officer and Board clerical staff, if any, consistent with applicable law and the provisions of this Agreement. With the exception of the Board Liaison Officer and Board clerical staff, if any, CSA shall be the employer of all individuals working at or for the Academy and will be responsible for the payment of all costs attributable to these employees, including wages, salaries, fringe benefits, unemployment costs, workers compensation costs, and liability insurance costs. Unless required by applicable statute, court or administrative decision, or Attorney General's opinion, CSA shall not make payments to the Michigan Public School Employees' Retirement System or any other public retirement system on behalf of its employees. CSA will provide the Board with a detailed listing of the anticipated compensation and fringe benefit costs for all employees of CSA who will be assigned to provide services at the Academy. The Board will reimburse CSA for the cost of the salaries, fringe benefits, and social security withholdings of employees assigned to the Academy, provided that these costs are no higher than anticipated and approved in the annual budget. At its option, the Board may advance funds to CSA for the cost of the salaries, fringe benefits, and social security of employees assigned to the Academy provided that documentation for the fees and expenses are provided for Board review and the costs are consistent with budget allocations. At the request of the Board, CSA will provide payroll services for employees of the Board. CSA will not assign any employee to work at the Academy who has not successfully completed a pre-employment background check (including criminal history, criminal background and unprofessional conduct checks) and credential verification, and, if appropriate, a pre-employment physical. CSA will not place in the employment contracts with any of its employees assigned to work at the Academy any

restrictions that would prevent the Academy from employing those individuals at the Academy or would prevent those individuals from working for the Academy or for any other entity providing educational services to the Academy. CSA agrees that any provision of an employment agreement with any of its employees that would be in violation of this provision is void and shall not be enforceable in any forum. CSA will comply with the requirements of applicable law, including but not limited to section 1249 of the Code, MCL 380.1249, regarding the evaluation of its employees based in part upon data on student growth and the establishment of employee compensation levels that include job performance and job accomplishments as a significant factor.

B. School Principal. As part of the annual budgeting process, CSA shall make a recommendation to the Board regarding the number of Principals required for the operation of the Academy pursuant to the Contract but the Board shall decide the number of Principals that will be utilized. CSA shall provide the Academy with such Principals as are required by the Academy. CSA will have the authority, consistent with applicable law, to select and supervise the Principal or Principals and to hold those individuals accountable for the success of the Academy. At the request of the Board, CSA will review the performance of a Principal with the Board. The Principal or Principals will be CSA employees, but CSA agrees to consult with the Board prior to hiring a Principal and will consult with the Board prior to taking any action that would alter the employment status of a Principal. Upon receipt of written notification indicating that the Board is not satisfied with the performance of a Principal, CSA will provide a replacement Principal if the performance problems are not resolved. If CSA disagrees with the removal, then the Board will reimburse CSA for reasonable costs associated with the termination of a Principal at the Board's request, provided that the amount of costs to be reimbursed shall not exceed three (3) months of the Principal's compensation. The terms of the employment agreement with a Principal, and the duties and compensation of a Principal shall be determined by CSA, but each Principal must be assigned on a full time basis to the Academy and may not be providing services to any other school or Academy without the prior approval of the Board. If CSA chooses to execute an employment agreement with a Principal that has a term longer than one year, the Board reserves the right to have that Principal placed elsewhere by CSA if the Board is dissatisfied with that individual's performance at the end of any school year.

C. Teachers. As part of the annual budgeting process, CSA shall make a recommendation to the Board regarding the number of teachers required for the operation of the Academy pursuant to the Contract. The Board, however, shall ultimately decide the number of teachers and curriculum. CSA shall provide the Academy with such teachers, qualified in the grade levels and subjects as are required by the Academy. The curriculum taught by such teachers shall be the curriculum, applicable grade levels and subjects taught at the Academy as prescribed in the Contract, and shall conform to the state endorsed requirements, including those for a high school diploma. Such teachers may, at the discretion of CSA, work at the Academy on a full or part time basis. If assigned to the Academy on a part time basis, such teachers may also work at other schools operated by CSA. Each teacher assigned to or retained by the Academy shall be a highly qualified teacher with a valid teaching certificate or temporary special permit issued by the State Board of Education under the Code, to the extent required under the Code and the No Child Left Behind Act of 2001, as amended. If CSA chooses to execute employment agreements with teaching staff that have a term of longer than one year, the Board reserves the right to have teachers placed elsewhere by CSA if the Board is dissatisfied with their

performance at the end of any school year. Teachers employed by CSA shall not be considered teachers for purposes of continuing tenure under MCL Section 38.71 *et seq.*

D. Support Staff. As part of the annual budgeting process, CSA shall make a recommendation to the Board regarding the number of support staff required for the operation of the Academy pursuant to the Contract. The Board, however, shall ultimately decide the number of support staff at the Academy. CSA shall provide the Academy with such support staff, qualified in the areas required, as are required by the Academy. Such support staff may, in the discretion of CSA, work at the Academy on a full or part time basis. If assigned to the Academy on a part time basis, such support staff may also work at other schools operated by CSA. Each support staff employee assigned to or retained by the Academy shall have received the training and hold the certificates, degrees, or licenses legally required for the position to which they are assigned under the Code and the No Child Left Behind Act of 2001, as amended. If CSA chooses to execute contracts with support staff that have a term of longer than one year, the Board reserves the right to have support staff placed elsewhere by CSA if the Board is dissatisfied with their performance at the end of any school year.

E. Training. CSA shall provide training in its methods, curriculum, program, and technology to all instructional personnel on a regular and continuing basis and shall insure that they receive all training required by law. Non-instructional personnel shall receive such other training as CSA determines as reasonable and necessary under the circumstances.

ARTICLE VII

TERMINATION OF AGREEMENT

A. Termination by the Academy for Cause. This Agreement may be terminated by the Academy for cause prior to the end of the term specified in Article II in the event that CSA should fail to remedy a material breach within a period reasonable under the circumstances, which shall not be longer than sixty (60) days after notice from the Academy. Material breach may include, but is not limited to, a failure to carry out its responsibilities under this Agreement such as a failure to make required reports to the Board, failure to account for its expenditures or to pay operating costs (provided funds are available to do so); or a violation of the Contract or of applicable law. In order to terminate this Agreement for cause, the Board is required to provide CSA with written notification of the facts it considers to constitute material breach and the period of time within which CSA has to remedy this breach. After the period to remedy the material breach has expired, the Board may terminate this Agreement by providing CSA with written notification of termination. Any action or inaction by CSA that is not cured within 60 days of notice thereof which causes the Contract to be revoked, terminated, suspended or which causes the Contract to be in jeopardy of revocation, termination or suspension by Central Michigan University is a material breach.

B. Termination by CSA for Cause. This Agreement may be terminated by CSA for cause prior to the end of the term specified in Article II in the event the Academy fails to remedy a material breach within a period reasonable under the circumstances, which shall not be longer than sixty (60) days after notice from CSA. Material breach may include, but is not limited to, a failure by the Academy to carry out its responsibilities under this Agreement such as a failure to make payments to CSA as required by this Agreement or a failure to give consideration to the

recommendations of CSA regarding the operation of the Academy; a violation of the Contract or of applicable law. In order to terminate this Agreement for cause, CSA is required to provide the Board with written notification of the facts it considers to constitute material breach and the period of time within which the Academy has to remedy this breach. After the period to remedy the material breach has expired, CSA may terminate this Agreement by providing the Board with written notification of termination.

C. Revocation or Termination of Contract. If the Academy's Contract issued by the Central Michigan University Board of Trustees is revoked, terminated or a new charter contract is not issued to the Academy after expiration of the Academy's Contract, this Agreement shall automatically terminate on the same date as the Academy's Contract is revoked, terminated, or expires without further action of the parties.

D. Termination by Either Party without Cause.

1. Notwithstanding the provision of Article II, paragraph A, this Agreement is cancelable by the Academy at the end of the third year of the contract (June 30, 2017), upon notice provided no later than March 31, 2017 without penalty or cause.
2. This Agreement is terminable without cause if CSA and the Board are unable to agree on educational programs, curriculum or other educational policies that affect the Academy in a significant way, or if the parties are unable to agree upon the reduction of that annual fee in any school year if extenuating circumstances make payment of the entire annual fee inappropriate, either party may elect to terminate this Agreement at the end of a school year, provided that the terminating party gives the other party written notification of termination at least ninety (90) calendar days prior to the termination date and provides the other party with an opportunity within that period to negotiate an agreement on the educational policies at issue or to negotiate over the amount of the reduction of that year's annual fee.

E. Change in Law. If any federal, state or local law or regulation, or court decision has a material adverse impact on the ability of either party to carry out its obligations under this Agreement, then either party, upon written notice, may request renegotiation of the Agreement; and if the parties are unable or unwilling to renegotiate the terms within 60 days after the notice, the party requiring the renegotiation may terminate this Agreement on 30 days further written notice.

F. Notice of Intention for New Agreement. On or before January 1, 2021, the Academy shall review the performance of CSA and provide notice of intention to approve a new agreement for an additional year or years, subject to the negotiation of the terms for the new agreement and the extension or reauthorization of the Contract. In the event that the Academy does not provide timely notice of intention to continue the contractual relationship with a new agreement, CSA will take appropriate actions to provide for an orderly transition of the management functions performed under this Agreement upon its termination on June 30, 2021.

G. Effective Date of Termination. In the event this Agreement is terminated by either party prior to the end of the term specified in Article II, paragraph A, absent unusual and compelling circumstances, the termination will not become effective until the end of that school year.

H. Rights to Property upon Termination. Upon termination of this Agreement all property (real or personal), equipment, materials and supplies whether purchased by the Academy or by CSA with state school aid funds or other funds secured by the Academy, shall remain the exclusive property of the Academy. CSA shall have the right upon proof of ownership to reclaim any usable property or equipment (e.g., including, but not limited to, desks, computers, copying machines, fax machines, telephones) that were purchased by CSA with funds other than those paid to CSA under Article V(C). Fixtures and building alterations shall become the property of the Academy.

I. Transition. In the event of termination of this Agreement for any reason by either party prior to the end of the Agreement's term, CSA shall provide the Academy reasonable assistance for up to 90 days after the effective date of the termination to allow a transition back to a regular school program or to another education service provider.

ARTICLE VIII

PROPRIETARY INFORMATION

A. Proprietary Information. The Academy shall own all copyright and other proprietary rights to all instructional materials, training materials, curriculum and lesson plans, and any other materials developed by CSA, its employees, agents or subcontractors, or by any individual working for or supervised by CSA, which were developed during working hours or during time for which the individual is being paid by CSA which (i) were directly developed and paid for by the Academy; or (ii) were developed by CSA at the direction of the Board with Academy funds.

B. Required Disclosure. The Academy shall be permitted to report any new teaching techniques or methods of significant revisions to known teaching techniques or methods to CMU and to the State Board of Education, which teaching techniques or methods may thereafter be made available to the public, as provided in Sections 505(3) of the Code, notwithstanding anything contained in this Article VIII to the contrary. CSA's educational materials and teaching techniques are subject to disclosure under the Code and the Michigan Freedom of Information Act.

ARTICLE IX

INDEMNIFICATION

A. Indemnification of CSA. To the extent permitted by law, the Academy shall indemnify and hold CSA (which term for purposes of this Paragraph A, includes CSA's officers, directors, agents and employees) harmless against any and all claims, demands, suits, or other forms of liability that may arise out of, or by reason of, any noncompliance by the Academy with any agreements, covenants, warranties, or undertakings of the Academy contained in or made pursuant to this Agreement; and any misrepresentation or breach of the representations and

warranties of the Board contained in or made pursuant to this Agreement. In addition, the Academy shall reimburse CSA for any and all legal expenses and costs associated with the defense of any such claim, demand, or suit. The indemnification requirements of this paragraph may be met by the purchase of insurance in a form and amounts acceptable to CSA.

B. Limitations of Liabilities. The Academy may assert all immunities and statutory limitations of liability in connection with any claims arising under this Agreement.

C. Indemnification of the Academy. To the extent permitted by law, CSA shall indemnify and hold the Academy (which term for purposes of this Paragraph C, includes the Academy's officers, directors, agents and employees) harmless against any and all claims, demands, suits, or other forms of liability that may arise out of, or by reason of, any noncompliance by CSA with any agreements, covenants, warranties, or undertakings of CSA contained in or made pursuant to this Agreement including any and all employment related claims, demands or suits by CSA employees, former CSA employees or applicants; and any misrepresentation or breach of the representations and warranties of CSA contained in or made pursuant to this Agreement. In addition, CSA shall reimburse the Academy for any and all legal expenses and costs associated with the defense of any such claim, demand, or suit. The indemnification requirements of this paragraph may be met by the purchase of insurance in a form and amounts acceptable to the Academy.

D. Indemnification for Negligence. To the extent permitted by law, the Academy shall indemnify and hold harmless CSA, and CSA's Owner, Board of Directors, partners, officers, employees, agents and representatives, from any and all claims and liabilities which CSA may incur and which arise out of the negligence of the Academy's directors, officers, employees, agents or representatives. TO the extent permitted by law, CSA shall indemnify and hold harmless the Academy, and the Academy's Board of Directors, officers, employees, agents or representatives, from any and all claims and liabilities which the Academy may incur and which arise out of the negligence of CSA's directors, officers, employees, agents or representatives.

E. Indemnification of Central Michigan University. The parties acknowledge and agree that Central Michigan University, its Board of Trustees, and its members, officers, employees, agents or representatives (collectively "University") are deemed to be third party beneficiaries for purposes of this Agreement. As third party beneficiaries, CSA hereby promises to indemnify, defend and hold harmless the University from and against all demands, claims, actions, suits, causes of action, losses, judgments, liabilities, damages, fines penalties, demands, forfeitures, or any other liabilities or losses of any kind whatsoever, including costs and expenses (not limited to reasonable attorney fees, expert and other professional fees), of settlement and prosecution imposed upon or incurred by the University, and not caused by the sole negligence of the University, which arise out of or are in any manner connected with the University Board's approval of the Academy's Application, the University Board's consideration of or issuance of a Contract, CSA's preparation for or operation of the Academy, or which are incurred as a result of the reliance by the University upon information supplied by CSA, or which arise out of CSA's failure to comply with the Contract or applicable law. The parties expressly acknowledge and agree that the University may commence legal action against CSA to enforce its rights as set forth in this section of the Agreement.

**ARTICLE X
INSURANCE**

A. Insurance of the Academy. The Academy shall purchase its own insurance policy and shall secure and maintain such policies of insurance as required by the Michigan Universities Self Insurance Corporation ("M.U.S.I.C."). This coverage shall include the building and related capital facilities if they are the property of the Academy. The Academy shall maintain such insurance in an amount and on such terms as required by the provisions of the Contract, including the indemnification of CSA required by this Agreement. The Academy shall, upon request, present evidence to CSA that it maintains the requisite insurance in compliance with the provisions of this paragraph. CSA shall comply with any information or reporting requirements applicable to the Academy under the Academy's policy with its insurer(s), to the extent practicable.

B. Insurance of CSA. CSA shall secure and maintain such policies of insurance as required by the Contract and the Michigan Universities Self-Insurance Corporation ("M.U.S.I.C."). In the event the University or M.U.S.I.C. requests any change in coverage by CSA, CSA agrees to comply with the change in the type or amount, as requested, within thirty (30) days after notice of the insurance coverage change. CSA's insurance is separate from and in addition to the insurance the Academy Board is required to obtain under the Contract. CSA shall, upon request, present evidence to the Academy and CMU that it maintains the requisite insurance in compliance with the provisions of this paragraph. The Academy shall comply with any information or reporting requirements applicable to CSA under CSA's policy with its insurer(s), to the extent practicable.

C. Workers' Compensation Insurance. Each party shall maintain workers' compensation insurance when and as required by law, covering their respective employees.

**ARTICLE XI
MISCELLANEOUS**

A. Sole Agreement. This Agreement supersedes and replaces any and all prior agreements and understandings between the Academy and CSA on the subject matter hereof.

B. Force Majeure. Neither party shall be liable if the performance of any part or all of this Agreement is prevented, delayed, hindered or otherwise made impracticable or impossible by reason of any strike, flood, riot, fire, explosion, war, act of God, sabotage, accident, or any other casualty, or cause beyond either party's control, and which cannot be overcome by reasonable diligence and without unusual expense.

C. Notices. All notices, demands, requests, and consents under this Agreement shall be in writing, shall be delivered to each party, and shall be effective when received by the parties or mailed to the parties at their respective addresses set forth below, or at such other address as may be furnished by a party to the other party:

If to CSA: Choice Schools Associates
P. O. Box 141493
Grand Rapids, MI 49514

Attn: Sidney Faucette

If to Academy: West Michigan Academy of Environmental Science
4463 Leonard Street, NW
Walker, MI 49544

Attention: Board President

D. Severability. The invalidity of any of the covenants, phrases, or clauses in this Agreement shall not affect the remaining portions of this Agreement, and this Agreement shall be construed as if such invalid covenant, phrase, or clause had not been contained in this Agreement.

E. Successors and Assigns. This Agreement shall be binding upon, and inure to the benefit of, the parties and their respective successors and assigns.

F. Entire Agreement. This Agreement is the entire agreement between the parties relating to the services provided, and the compensation for such services, by the parties. Any modification to this Agreement must be made in writing, approved by the Board and CSA, and signed by a duly authorized officer. In addition, any modification of this Agreement must follow CMU's ESP Policies before it can be executed.

G. Non-Waiver. No failure of a party in exercising any right, power or privilege under this Agreement shall affect such right, power or privilege, nor shall any single or partial exercise thereof preclude any further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies of the parties under this Agreement are cumulative and not exclusive of any rights or remedies, which any of them may otherwise have.

H. Assignment. CSA may not assign this Agreement without the prior written approval of the Board and without prior notification to CMU and must be done in a manner consistent with CMU's ESP Policies. Any assignment to another Educational Service Provider (ESP) will be considered an ESP as defined by CMU's ESP policies and any assignable ESP party shall follow the requirements set forth in the CMU policies.

I. Governing Law. This Agreement shall be governed by and enforced in accordance with the laws of the state of Michigan.

J. Delegation of Authority. Nothing in this Agreement shall be construed as delegating to CSA any of the powers or authority of the Board that are not subject to delegation by the Board under Michigan law or the Contract.

K. Compliance with Law. The parties agree to comply with all applicable laws and regulations.

L. Warranties and Representations. Both the Academy and CSA represent that each has the authority under law to execute, deliver and perform this Agreement and to incur the obligations provided for under this Agreement, that its actions have been duly and validly authorized, and that it will adopt any and all resolutions or expenditure approvals required for execution of this Agreement.

M. Dispute Resolution Procedure. Any and all disputes between the parties concerning any alleged breach of this Agreement or arising out of or relating to the interpretation of this Agreement or the parties' performance of their respective obligations under this Agreement that are unable to be resolved through discussion and negotiation shall be resolved by arbitration, and such an arbitration procedure shall be the sole and exclusive remedy for such matters. The arbitrator shall be selected from a panel provided by and in accordance with the rules of the American Arbitration Association. The arbitration shall be conducted in accordance with the rules of the American Arbitration Association, with such variations as the parties and the arbitrator unanimously accept. Any arbitration hearing shall be conducted in Grand Rapids, Michigan. The arbitrator shall be required to issue a cause opinion with a written explanation as to the final decision. CMU shall be notified of the arbitrator's decision and a copy of the arbitrator's opinion shall be made available to CMU upon request. A judgment on the award rendered by the arbitrators may be entered in any court having appropriate jurisdiction. The cost of arbitration, not including attorney fees, shall be paid by the losing party. It shall be in the discretion of the arbitration panel to award reasonable attorney fees to the prevailing party, to be paid if awarded by the losing party.

N. Modification to Conform to Changed CMU Policies. The parties intend that this Agreement shall comply with CMU's Educational Service Provider Policies, as the same may be changed from time to time. In the event that changes in CMU's Educational Service Provider Policies implemented after the date of execution of this Agreement cause any provision of this Agreement to be in conflict the revised Policies, the parties agree to amend this Agreement to eliminate the conflict within thirty (30) days after being advised by CMU of the changes to its policies.

O. CMU Review. This Agreement is subject to review and non-disapproval by CMU and shall not become effective until the Academy Board is notified in writing that CMU does not disapprove of this Agreement.

The parties have executed this Agreement as of the day and year first above written.

CHOICE SCHOOLS ASSOCIATES, L.L.C.

By: Sarah Kurtdy
its vice president

By: _____

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

By: Matthew R. Smith 5-13-2014
Vice President, Board of Directors

By: Phyllis C. Whaley 5-13-2014

CONTRACT SCHEDULE 6

PHYSICAL PLANT DESCRIPTION

PHYSICAL PLANT DESCRIPTION

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article XI, Section 11.5, the Academy is authorized to operate at the physical facility or facilities outlined in this schedule. The Academy shall not occupy or use any facility until approved for occupancy by the Michigan Department of Licensing and Regulatory Affairs' Bureau of Construction Codes.

Physical Plant Description	6-1
Site Plan	6-3
Floor Plans	6-4
Installment Purchase Financing Agreement	6-9
Quit Claim Deed	6-55
Office of Fire Safety Approvals.....	6-57

1. Applicable Law requires that a public school academy application and contract must contain a description of and the address for the proposed physical plant in which the public school academy will be located. See MCL 380.502(3)(I) and 380.503(6)(f);

2. The address and a description of the site and physical plant (the "Site") of West Michigan Academy of Environmental Science (the "Academy") is as follows:

Address: 4463 Leonard St. NW
Walker, MI 49534

Description: The Academy is located on 62 acres in the City of Walker at the corner of Wilson Road and Leonard Street NW. The Site includes eight modular units and a 30,000 square foot permanent building. The Site also includes an area for parking, a playground and common areas.

The permanent building contains 12 classrooms, a media center, science laboratory, gymnasium with a high school regulation basketball court/volleyball court, male and female locker rooms, office space approximating 1,000 square feet, cafeteria with a preparation kitchen and several restrooms and storage rooms. This building primarily serves grades six through 12.

Each of the three large modular units contains approximately 7,000 square feet. One of the large units contains seven classrooms and an administrative office suite. The remaining two large units contain approximately eight classrooms each. Throughout the three large units, there are several restrooms, a faculty workroom and a computer laboratory/media center. The five small modular units contain approximately 816 square feet each. Four of these provide general storage and one is used as an outdoor education classroom. This configuration of modular buildings primarily serves kindergarten through grade five.

Configuration of Grade Levels: Kindergarten through Twelfth Grade.

Term of Use: Term of Contract.

Name of School District and Intermediate School District:

Local: Kenowa Hills Public Schools
ISD: Kent

3. It is acknowledged and agreed that the following information about this Site is provided on the following pages, or must be provided to the satisfaction of the University Board or its designee, before the Academy may operate as a public school in this state.

- A. Narrative description of physical facility
- B. Size of building
- C. Scaled floor plan

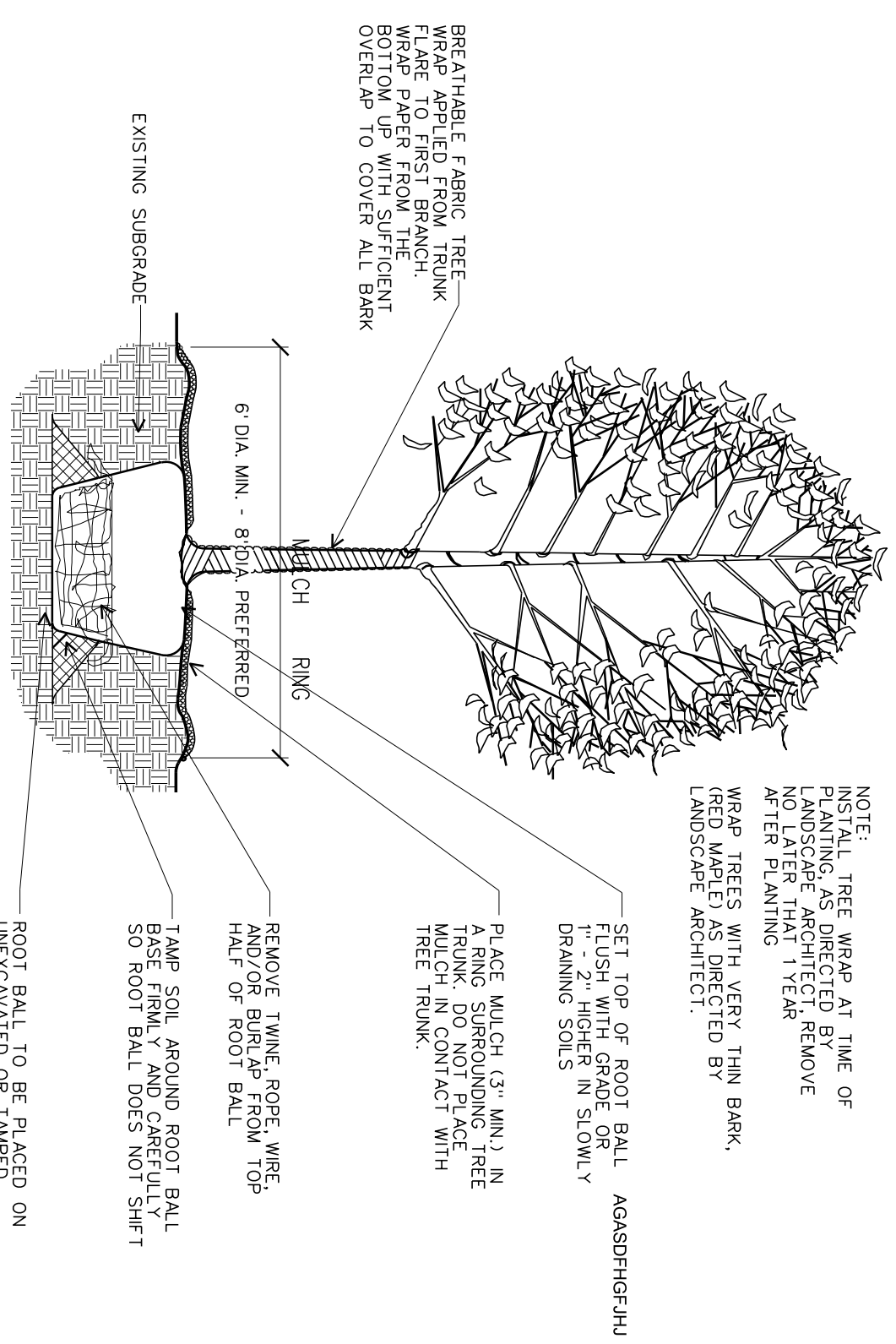
D. Copy of executed lease or purchase agreement

4. In addition, the Academy and the University Board hereby acknowledge and agree that this Contract is being issued to the Academy with the understanding that the Academy cannot conduct classes as a public school academy in this state until it has obtained the necessary fire, health and safety approvals for the above-described physical facility. These approvals must be provided and be acceptable to the University Board or its designee prior to the Academy operating as a public school. In cases of disagreement, the Academy may not begin operations without the consent of the University Board or its designee.

5. If the Site described above is not used as the physical facilities for the Academy, then Schedule 6 of this Contract between the Academy and the University Board must be amended pursuant to Article IX of the Terms and Conditions of Contract, to designate, describe, and agree upon the Academy's physical facilities. The Academy must submit to the University Board or its designee complete information about the new site to be actually used. This information includes that described in paragraphs 2, 3 and 4 of this Schedule 6. It is acknowledged and agreed that the public school academy cannot conduct classes as a public school in this state until it has submitted all the information described above, to the satisfaction of the University Board or its designee, and the amendment regarding the new site has been executed.

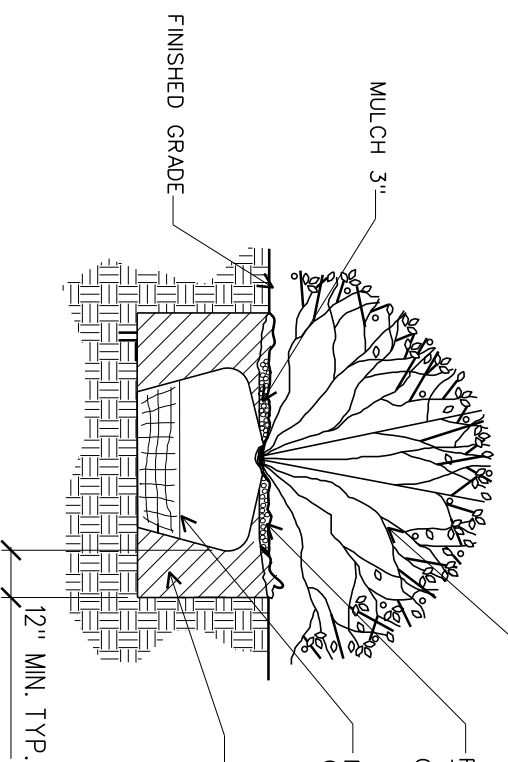
6. Any change in the configuration of grade levels at the Site requires an amendment to this Schedule 6 pursuant to Article IX of the Terms and Conditions of Contract set forth above.

NOTE: INSTALL TREE WRAP AT TIME OF PLANTING, AS DIRECTED BY MANUFACTURER'S INSTRUCTIONS. NO LATER THAN 1 YEAR AFTER PLANTING. WRAP TREES WITH VERY THIN BARK, OR THOSE WITH BRANCHED TRUNKS, TO PROTECT FROM THE PRECIPITANT OVERLAP TO COVER ALL BARK. LANDSCAPE ARCHITECT.



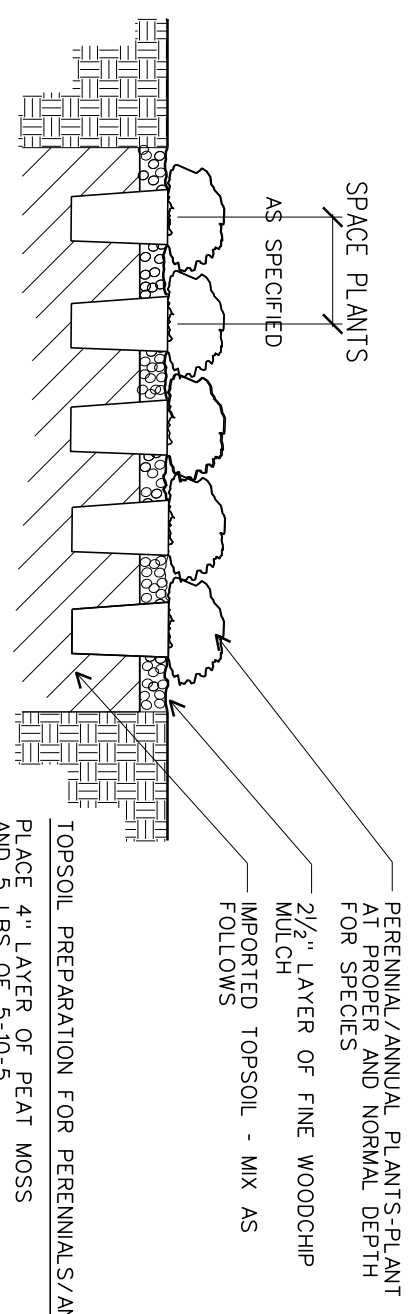
TREE PLANTING DETAIL

NO SCALE



SHRUB PLANTING DETAIL

NO SCALE

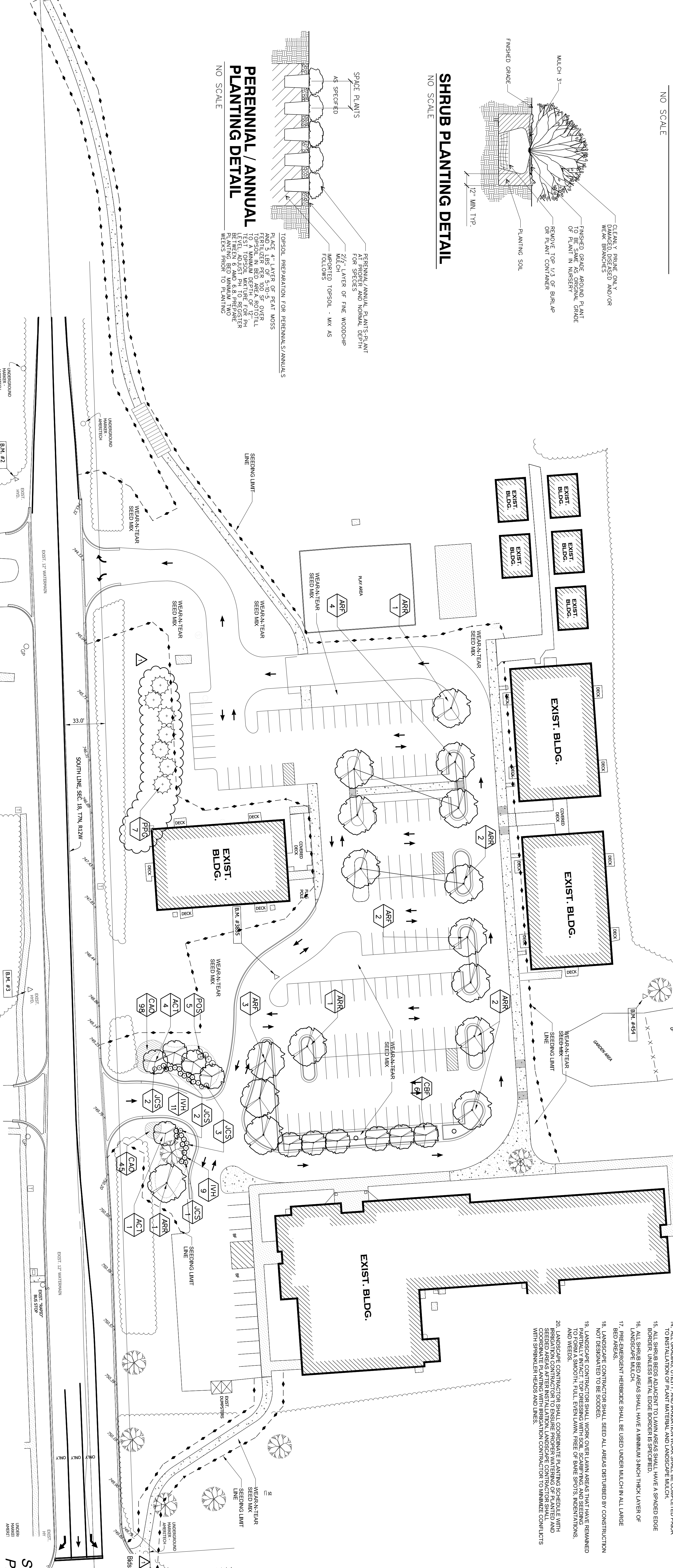


PERENNIAL / ANNUAL PLANTING DETAIL

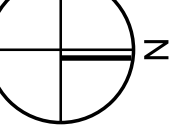
NO SCALE

KEY	QUAN	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
ACT	5	AMELANCHIER CANADENSIS 'TRAZANI'	TRADITION SERVICEBERRY	2 1/2" CAL.	B & B
AGE	10	ACER RUPESTRIS 'FRITZLAR'	FIREBALL RED MAPLE	3" CAL.	B & B
ARR	7	ACER ROUBIDUM 'FRANKSRED'	RED SUNSET RED MAPLE	3" CAL.	B & B
CAD	143	CALYPTROGLOTTIS X ACUTIFLORA 'OVERDRAK'	VARIABLE FEATHER RED GRASS	NO.1	2.5' O.C.
CBF	6	CARPINUS BETULUS 'FASTIGIATA'	PYRAMIDAL HORNBERRY	3" CAL.	B & B
IWH	20	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEET SPHIRE	NO. 5	B & B CONT.
JCS	8	JUNIPERUS CHINENSIS 'SAVBRUK GOLD'	SAVBRUK GOLD JUNIPER	NO. 5	B & B CONT.
POS	5	PHYSOCLADUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE NINEBARK	NO. 5	B & B CONT.
PG1	7	PIECA PUNGENS GLAUCA	COLORADO BLUE SPRUCE	7' TALL	B & B

PLANT LIST



SITE LANDSCAPE PLAN



SCALE: 1" = 40'

LANDSCAPE NOTES:

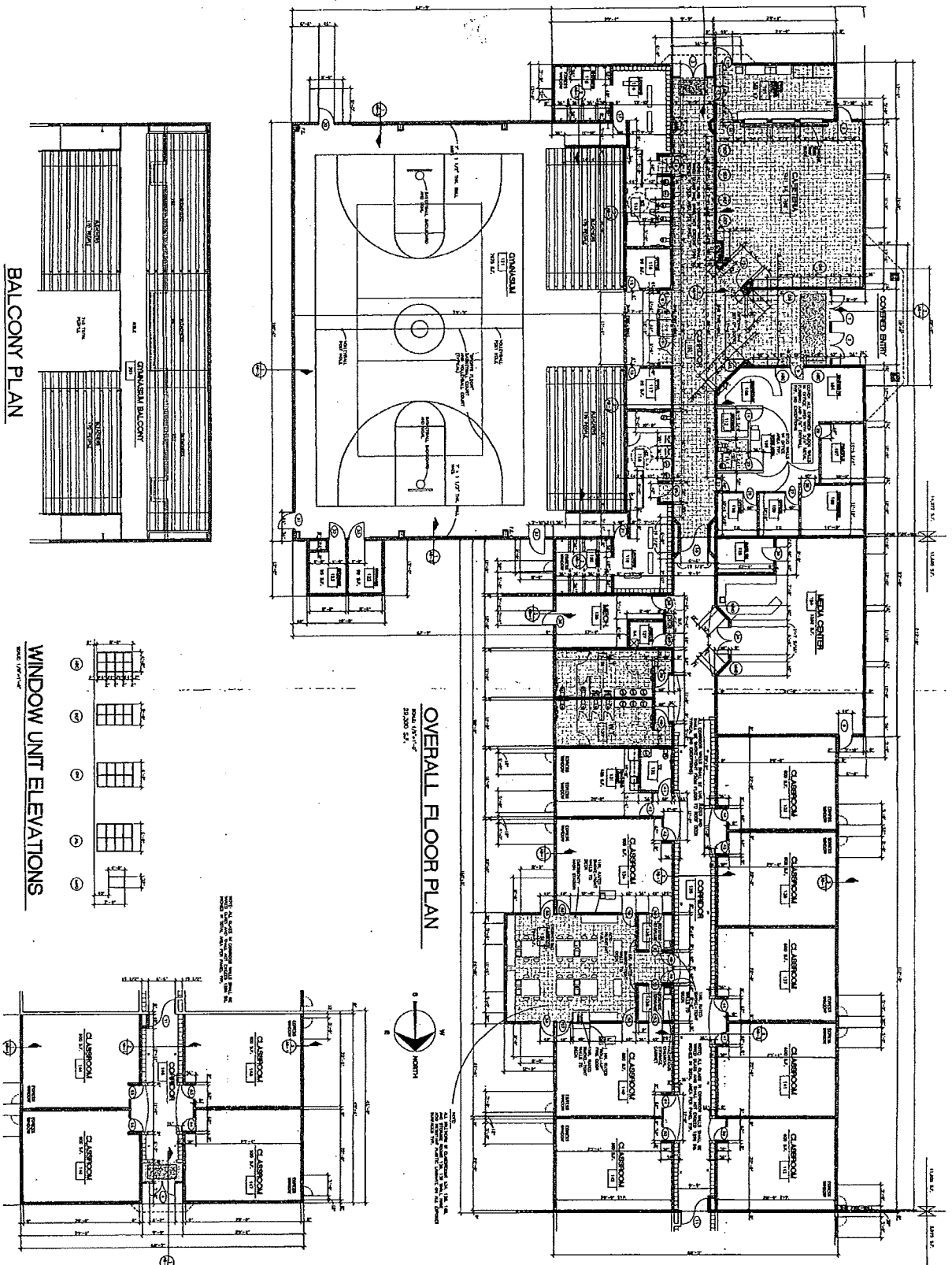
1. CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS FROM THE RELEVANT AGENCIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ALL NECESSARY PERMITS THROUGHOUT CONSTRUCTION.
2. CALL 'MISS DIG' 1-800-482-7171, THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS.
3. EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM ORIGINAL SITE DRAWINGS AND SITE TOPOGRAPHIC SURVEY. EVERY ATTEMPT HAS BEEN MADE TO LOCATE ALL UTILITIES AND TO LOCATE ANY NEW UTILITIES. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BY EXCAVATING FOR NEW UTILITIES. CONTRACTOR SHALL MAKE EVERY PRECAUTION IN EXCAVATING FOR NEW UTILITIES SINCE ACTUAL UNDERGROUND UTILITIES MAY NOT BE AS SHOWN. CONTRACTOR SHALL TAKE CARE TO PROTECT ALL UTILITIES. CONTRACTOR SHALL TAKE PRECAUTIONS PRIOR TO ANY EXCAVATION AND VERIFY LOCATION AND DEPTHS OF ALL UTILITIES.
4. CONTRACTOR SHALL PROVIDE HIS OWN LAYOUT, GRADING, STAKES, AND SURVEY FOR BENCHMARKS AND OTHER EXISTING INFORMATION. CONTRACTOR SHALL FIELD VERIFY LAYOUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL PROTECT ALL EXISTING AND NEW CONSTRUCTION FROM DAMAGE. SHOULD ANY DAMAGE OCCUR, CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS TO ALL EXISTING AND NEW CONSTRUCTION.
6. LANDSCAPE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND RESTORATION ON SITE TO MINIMIZE DAMAGE TO COMPLETED LAWN AND OTHER EXISTING AREAS.
7. IF ANY DISCREPANCY EXISTS BETWEEN THE QUANTITIES, SIZE OR MATERIALS INDICATED ON THE PLAN AND SHOWN IN THE LIST, CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY TO RESOLVE THE DISCREPANCY PRIOR TO BID SUBMITTAL. TO BECOME FINAL WITH ALL CONDITIONS AT THE SITE.
8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE SITE PRIOR TO BID SUBMITTAL. TO BECOME FINAL WITH ALL CONDITIONS AT THE SITE.
9. THE FERTILIZER CONTRACTOR IS RESPONSIBLE FOR ROUGH GRADING OF SUBGRADE BELOW LAWN AND LANDSCAPE AREAS.
10. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REGRADING TOPSOIL, FINE GRADING AND PREPARATION OF ALL LAWN AND LANDSCAPE AREAS.
11. PRIOR TO SPREADING TOPSOIL, THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL EXCAVATIONS ARE CORRECTLY FILLING AND COVERED BY EARTHWORK CONTRACTOR BEFORE PLOUGH ANY TOPSOIL.
12. BEFORE PLANT MATERIAL INSTALLATION BEGINS, STAKE LOCATIONS OF NEW PLANT MATERIAL AND NOTIFY ARCHITECT FOR APPROVAL. NOTIFY ARCHITECT OF ANY CHANGES TO STAKE LOCATIONS PRIOR TO PLANTING.
13. CONTRACTOR SHALL VERIFY ALL STAKE LOCATIONS ARE CORRECT AND OBTAIN APPROVAL FROM ARCHITECT BEFORE PLANTING OR EXCAVATION FOR PLANTING FITS.
14. ALL GRADING, UTILITY, AND IRRIGATION WORK SHALL BE COMPLETED PRIOR TO INSTALLATION OF PLANT MATERIAL AND LANDSCAPE MULCH.
15. ALL SHRUB BEDS ADJACENT TO LAWN AREAS SHALL HAVE A BRANDED EDGE BORDER, UNLESS METAL EDGE BORDER IS SPECIFIED.
16. ALL SHRUB BED AREAS SHALL HAVE A MINIMUM 3 INCH THICK LAYER OF LANDSCAPE MULCH.
17. PRE-EMERGENT HERBICIDE SHALL BE USED UNDER MULCH IN ALL LARGE BED AREAS.
18. LANDSCAPE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION AND NOT RESTORATED TO BE SEEDING.
19. ALL SOIL TO BE SPREAD OR BROADCAST SHOULD BE FIRST TESTED TO DETERMINE SOIL PH AND NUTRIENT LEVELS. ALL AREAS THAT HAVE REMAINED UNDISTURBED AND DO NOT REQUIRE SOIL SPREADING SHOULD BE SEEDING TO FORM A SMOOTH, FULL, EVEN LAWN FREE OF BARE SPOTS, INDETERMINATE AREAS AND WEEDS.
20. LANDSCAPE CONTRACTOR SHALL COORDINATE PLANTING SCHEDULE WITH ARCHITECT AND OBTAIN APPROVAL PRIOR TO PLANTING. CONTRACTOR SHALL COORDINATE PLANTING WITH IRRIGATION CONTRACTOR TO MINIMIZE CONFLICTS WITH SPRINKLER SYSTEMS AND LINES.

State of Michigan	Addendum No. 1
Design	05 July 2012
Draw	28 June 2012
PVI / PA	DD / K/AB
Project Number	20111004

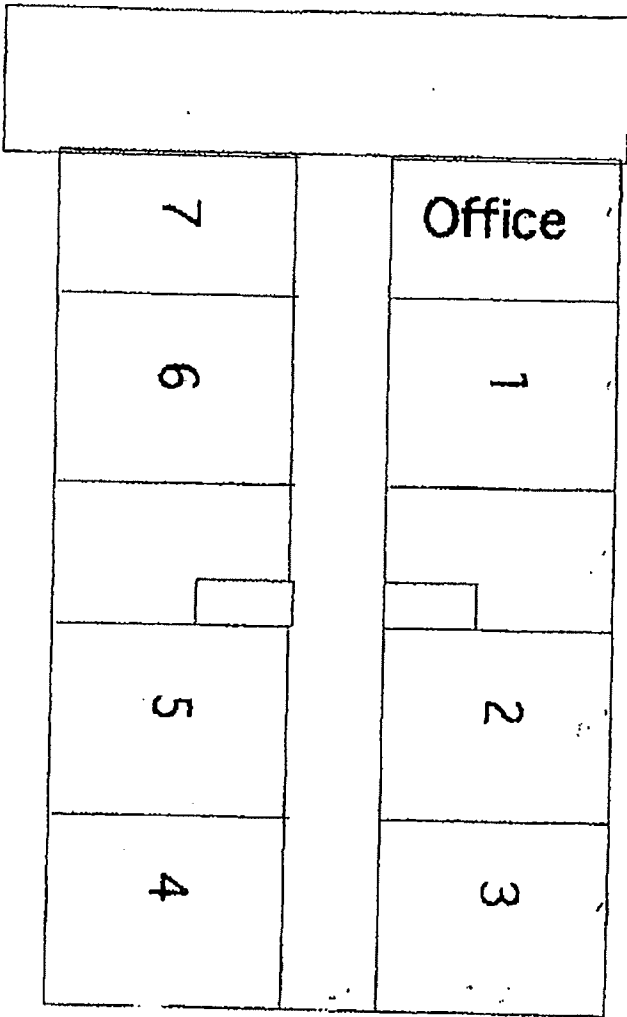
SITE LANDSCAPE PLAN

LP1.0

Integrated Architecture
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 Grand Rapids, MI 49546
 616.574.0220 P
 616.574.0953 F
 www.intarch.com

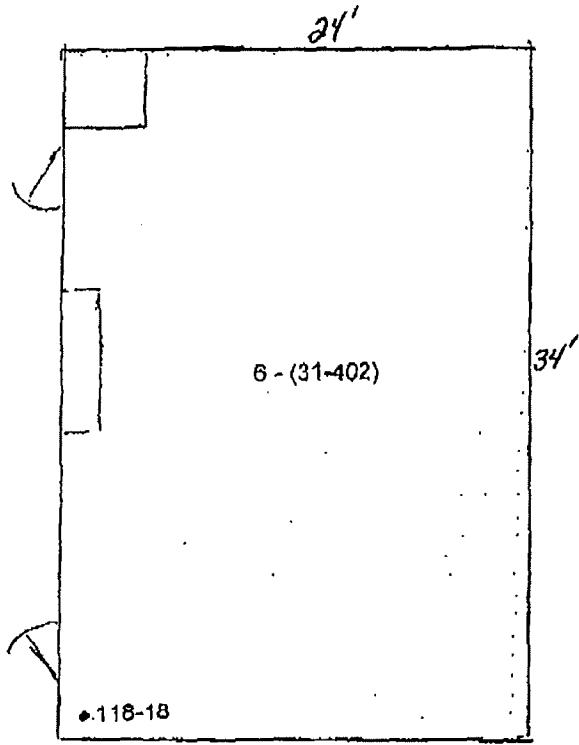
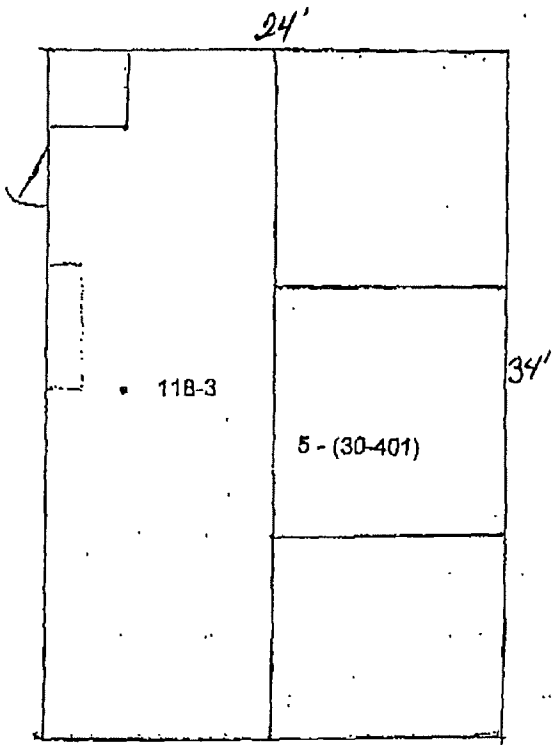


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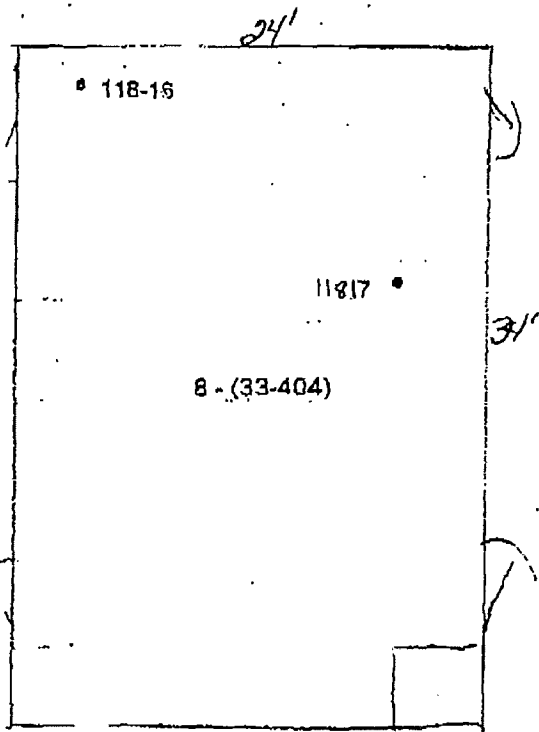
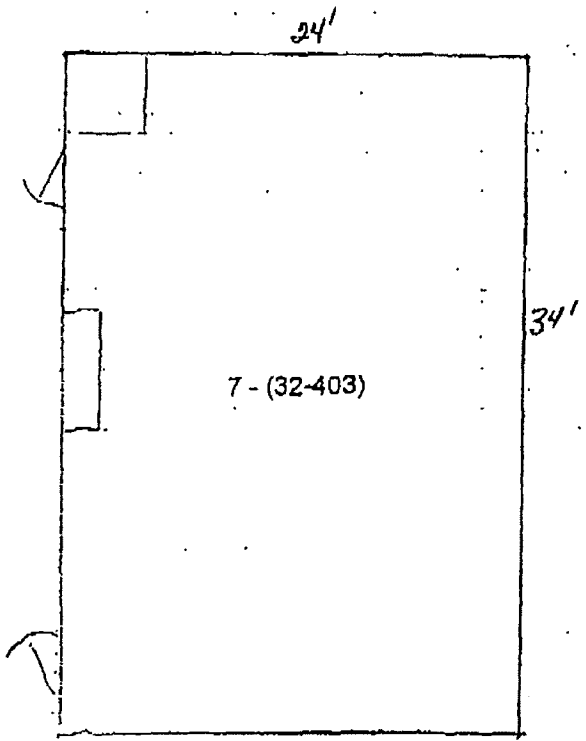


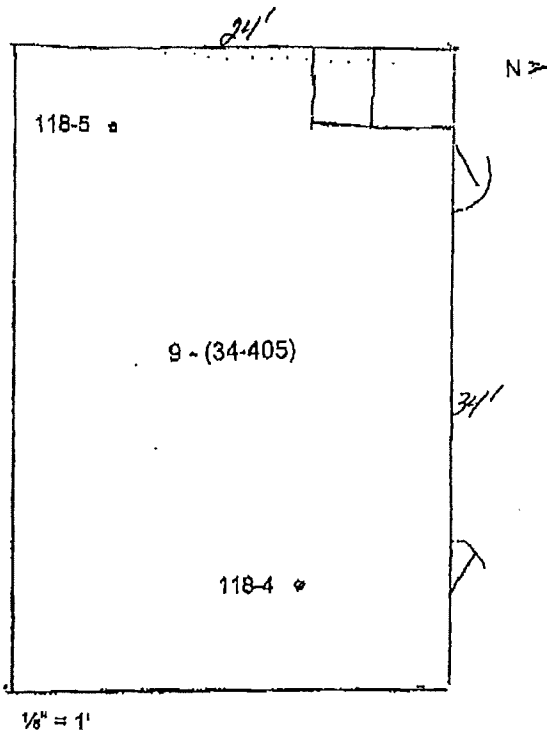
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INSTALLMENT PURCHASE FINANCING AGREEMENT

Among

MICHIGAN PUBLIC EDUCATIONAL FACILITIES AUTHORITY,

F.C.C., INC.

AND

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

Dated as of December 1, 2003

TABLE OF CONTENTS

	<u>Page</u>
ARTICLE I. DEFINITIONS	2
ARTICLE II. REPRESENTATIONS	6
Section 201. Representations by the Company.....	6
Section 202. Representations of the Authority.....	6
Section 203. Representations of the Academy.....	6
ARTICLE III. THE SERIES 2003 BONDS AND THE PROCEEDS THEREOF	10
Section 301. Series 2003 Bonds.....	10
Section 302. Additional Bonds.....	10
Section 303. Investment of Funds and Accounts.....	11
Section 304. Rebate Payments to United States.....	11
ARTICLE IV. SALE, PURCHASE AND CONSTRUCTION OF PROJECT, ASSIGNMENT OF PAYMENTS	11
Section 401. Sale and Purchase.....	11
Section 402. Assignment to Authority.....	12
Section 403. Disbursements from the Project Fund.....	12
Section 404. License to Construct.....	12
Section 405. Title to the Project.....	12
ARTICLE V. INSTALLMENT PAYMENTS	12
Section 501. Installment Payments.....	12
Section 502. Obligations Unconditional.....	13
Section 503. Payment Provisions.....	13
Section 504. Payment General Obligation.....	14
Section 505. The Letter of Credit.....	14
Section 506. State School Aid Pledge.....	15
Section 507. Mandatory and Optional Prepayments.....	16
Section 508. Additional Payment Obligations of the Academy.....	17
Section 509. Fee Payments.....	17
Section 510. Agreement to Supply Letter of Credit.....	18
Section 511. Purchase of Bonds Prohibited.....	18
Section 512. Security Interest in the Project Fund.....	18
Section 513. Continuing Obligation.....	18
Section 514. Assignment by Authority.....	18
Section 515. Authorized Academy Representative.....	18
Section 516. Obligations of the Academy Unconditional.....	18
ARTICLE VI. OTHER OBLIGATIONS OF THE ACADEMY	19
Section 601. Costs of Issuance.....	19
Section 602. Indemnification of the Authority.....	19
Section 603. Indemnification of the Trustee.....	20
Section 604. Taxes and Other Costs.....	20
Section 605. Authority and Trustee Right to Perform Academy Obligations.....	20
Section 606. Audit Obligation.....	21

ARTICLE VII. CONSTRUCTION AND ACQUISITION OF PROJECT.....	21
Section 701. Project Fund Disbursements.....	21
Section 702. Obligation of the Academy to Complete the Project and to Pay Costs in Event Project Fund Insufficient.....	21
Section 703. Recovery Under Breach of Warranty.....	22
Section 704. Completion Certificate.....	22
Section 705. Use of Surplus Funds.....	22
Section 706. Application of Insurance and Condemnation.....	22
ARTICLE VIII. FURTHER OBLIGATIONS OF THE ACADEMY.....	23
Section 801. Compliance With Laws.....	23
Section 802. Maintenance of Legal Existence Qualification.....	23
Section 803. Reports and Access to Projects and Records.....	23
Section 804. Covenant as to Non-Impairment of Tax-Exempt Status.....	24
Section 805. Covenant Regarding Bond Purchases.....	24
Section 806. Academy to Maintain Existence.....	24
Section 807. Other Obligations.....	24
Section 808. Transfer, Assignment and Leasing.....	25
Section 809. Substitution and Removal of Personal Property.....	25
Section 810. Maintenance, Repair and Modification.....	26
ARTICLE IX. ACTIONS AFFECTING COMPANY AND AUTHORITY; INTEREST IN THE AGREEMENT.....	26
Section 901. Interest in the Agreement.....	26
Section 902. Authority Assignment of the Agreement.....	26
Section 903. Rights of Trustee Hereunder.....	26
Section 904. Authority Compliance With Indenture.....	26
Section 905. Supplements to Indenture.....	27
ARTICLE X. EVENTS OF DEFAULT AND REMEDIES.....	27
Section 1001. Events of Default.....	27
Section 1002. Remedies Upon an Event of Default.....	28
Section 1003. Payment of Attorneys' Fees and Other Expenses.....	29
Section 1004. Limitation on Waivers.....	29
ARTICLE XI. MISCELLANEOUS.....	30
Section 1101. Amounts Remaining in Funds.....	30
Section 1102. Notices.....	30
Section 1103. Amendment.....	30
Section 1104. Entire Agreement.....	31
Section 1105. Binding Effect.....	31
Section 1106. Severability.....	31
Section 1107. Execution in Counterparts.....	31
Section 1108. Captions.....	31
Section 1109. Applicable Law.....	31
Section 1110. Non-Liability of State.....	31
Section 1111. Non-Liability of Authorizing Body.....	31
Section 1112. The Indenture.....	31

INSTALLMENT PURCHASE FINANCING AGREEMENT

This is an Installment Purchase Financing Agreement (hereinafter "Agreement") made and entered into as of December 1, 2003 among the **MICHIGAN PUBLIC EDUCATIONAL FACILITIES AUTHORITY** (the "Authority" or the "Issuer"), **F.C.C., INC.** (the "Company") and **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE** (the "Academy").

PREMISES

The Authority has been created by the Enabling Legislation for, among other purposes, the purpose of assisting governmental units, as defined in the Enabling Legislation, including public school academies established under the revised school code, by purchasing municipal obligations in fully marketable form issued by governmental units and by lending money to (a) governmental units including public school academies and (b) other nonprofit entities for the benefit of public school academies.

The School Code authorizes public school academies to acquire by purchase, gift, devise, lease, sublease, installment purchase agreement, land contract, option, or by other means, hold and own in its own name, buildings and other property for school purposes, and interests therein, and other real and personal property, including but not limited to, interests in property subject to mortgages, security interests, or other liens, necessary or convenient to fulfill its purposes.

The School Code also authorizes public school academies to borrow money and issue bonds to defray all or a part of the cost of purchasing, erecting, completing, remodeling, or equipping, or reequipping, except for equipping or reequipping for technology, school buildings, including library buildings, structures, athletic fields, playgrounds, or other facilities, or parts of or additions to those facilities; furnishing or refurnishing new or remodeled school buildings; acquiring, preparing, developing, or improving sites, or parts of or additions to sites, for school buildings, including library buildings, structures, athletic fields, playgrounds, or other facilities; purchasing school buses; acquiring, installing, or equipping or reequipping school buildings for technology or accomplishing a combination of these purposes.

The School Code also authorizes public school academies to enter into agreements and take actions in connection with the operation and maintenance of a public school academy.

The Academy has determined that it has a need to acquire certain real property and real property improvements and refinance certain real property acquisition financing to provide a public school academy facility for the Academy in furtherance of its educational objectives.

The Company pursuant to this Agreement will sell educational facilities to the Academy.

The Authority pursuant to this Agreement will acquire the obligation of the Academy to make certain payments.

In consideration of these Premises and their mutual agreements, the Authority, the Company and the Academy agree as follows:

ARTICLE I.

DEFINITIONS

Words and phrases capitalized herein shall have the meanings ascribed to them in the Indenture and the Resolution adopted by the Authority on December 2, 2003 authorizing the Series 2003 Bonds. In addition, the following words and phrases as used throughout this Agreement shall have the following meanings unless the context or use clearly indicates another or different meaning or intent:

"Additional Payments" means all payments required by the Academy under this Agreement (including but not limited to Fee Payments) other than Installment Payments.

"Actual Interest Component" means the actual amount of interest, as determined by the Trustee under the Indenture, to be paid by the Academy in accordance with Section 503, such that any and all unpaid interest due or to become due on such payment date on the Series 2003 Bonds (and reimbursement of the Bank therefore) is paid in full.

"Agreement" means this Installation Purchase Financing Agreement as the same may be amended or supplemented in accordance with its terms and the terms of the Indenture.

"Authorized Academy Representative" means the Board President of the Academy or any other officer of the Academy authorized to act in such capacity by a resolution adopted by the Board of the Academy.

"Authorizing Body" means Central Michigan University.

"Bond Documents" means this Agreement, the Indenture and the Bond Purchase Agreement.

"Bond Payment Date" means with respect to the Series 2003 Bonds, the Conversion Date and each June 1 and December 1 thereafter.

"Bond Purchase Agreement" means the Bond Purchase and Agreement dated December 5, 2003 among the Authority, the Academy and Fifth Third Securities, Inc.

"Bondholder" means the registered owner of any Series 2003 Bond.

"Charter" means the Academy's Contract with its Authorizing Body, together with its Articles of Incorporation and Bylaws.

"Closing Date" means the date of the initial delivery of the Series 2003 Bonds.

"Code" means the Internal Revenue Code of 1986, as amended, and the regulations proposed and promulgated from time to time thereunder and under the predecessor code.

"Company" means F.C.C., Inc.

"Company's Address" means 8128 Broadmoor Avenue SE, Caledonia, Michigan 49316.

"Completion Certificate" means the certificate provided for in Section 704 hereof, in the form of Exhibit D hereto.

"Completion Date" means the date of the final completion of the Project as certified in the Completion Certificate.

"Construction Agreement" means the agreements between the Academy and the Company pursuant to which the Project is being constructed.

"Enabling Legislation" shall mean Executive Order No. 2002-3, compiled at §12.192 of the Michigan Compiled Laws, the Shared Credit Rating Act, Act No. 227 of the Public Acts of 1985 of the State, as amended, and the Michigan Strategic Fund Act, Act No. 270 of the Public Acts of 1984 of the State, as amended.

"Costs of Issuance" has the meaning given in Section 203(aa).

"Default" and "Event of Default" means those defaults and events of default, respectively, specified and defined in Section 1001.

"Fee Payments" mean the fee payments required by Section 509 hereof.

"Indenture" means the Indenture between the Authority and Fifth Third Bank, a Michigan banking corporation, as trustee, dated as of December 1, 2003, as the same may be amended or supplemented in accordance with its terms.

"Installment Payments" means the amounts payable by the Academy allocable to the repayment of principal of, or interest or redemption under this Agreement which do not consist of Scheduled Fee Payments. *For so long as the Academy has provided for payment of the Series 2003 Bonds and its Installment Payments by provision of a Letter of Credit in accordance with Section 505, "Installment Payment" shall include the reimbursement obligations of the Academy under Section 1(a) and 1(b) the Reimbursement Agreement, which shall be paid in accordance with Section 5.01 of the Indenture.*

"Interest Payment Date" means, with respect to the Series 2003 Bonds, (i) during the Variable Rate Period, the first Business Day of each month, commencing January 2, 2004, (ii) the Conversion Date, and (iii) following the Conversion Date, each June 1 and December 1.

"Maximum Intercept Rate" means, *subject to the proviso set forth below*, initially, the lesser of four and 457/1000 percent (4.457%) or the Maximum Rate permitted by the Indenture;

provided, however, that if at any time the Remarketing Agent (as defined in the Indenture) shall provide written notice to the Authority, the Academy and the Trustee that the actual interest rate borne by the Series 2003 Bonds during any Variable Rate Period shall have come within two hundred basis points (2.00%) of the then-existing Maximum Intercept Rate, then the then-existing Maximum Intercept Rate shall automatically be increased by two hundred basis points (2.00%) with respect to the Scheduled Interest Component and a new schedule of Scheduled Installment Payments shall be prepared by the Authority within two (2) days and provided to the parties to this Agreement and the State Aid Agreement; provided, however, that until such time as the Authority approves a Maximum Intercept Rate of less than eight percent, the designated rate shall be eight percent (8%).

"Non-Arbitrage Certificate" means, collectively, the Non-Arbitrage and Tax Compliance Certificates delivered by the Authority and the Academy in connection with the initial delivery of the Series 2003 Bonds.

"Other Obligations" means obligations of the Academy incurred pursuant to and permitted by Section 807.

"Payment Date" has the meaning given in Section 506 hereof.

"Pledged State Aid" has the meaning given in Section 506 hereof.

"Principal Amount" means \$2,615,000 being the aggregate principal amount of the Series 2003 Bonds.

The term "principal," when used with reference to the principal of the Series 2003 Bonds, means principal of the Series 2003 Bonds and, where appropriate, any premium in addition to principal due upon redemption of the Series 2003 Bonds.

"Project" means the acquisition of improvements to the Site and the personal property as more fully described on Exhibit B hereto including related Project Costs.

"Project Costs" means with respect to the Site and the Project, (a) obligations of the Authority or the Academy incurred for labor and materials and to contractors, builders and materialmen in connection with the acquisition, construction and installation of the Site or the Project; (b) the cost of acquiring or refinancing necessary interests in land and any costs incidental thereto, including costs of assuring title of the Academy to the Project, and recording fees; (c) the cost of bonds and of insurance of all kinds that may be required or necessary during the course of construction of the Project which is not paid by the contractor or contractors or otherwise provided for and taxes and other municipal governmental charges levied or assessed during construction upon the Site or the Project; (d) all costs of architectural, environmental and engineering services, including the expenses of the Academy for test borings, surveys, estimates, plans and specifications and preliminary investigations therefor, and for supervising construction, as well as for the performance of all other duties required by or consequent upon acquisition of the Site or the proper construction of the Project; (e) all other costs which the Academy shall be required to pay, under the terms of any contract or contracts, for the

acquisition, construction, installation, reconstruction, restoration, renovating, equipping and furnishing of the Project; (f) Costs of Issuance not to exceed \$191,208.14; (g) other costs of a nature comparable to those described in clauses (a) through (f) above which the Academy shall be required to pay as a result of the damage, destruction, condemnation or taking of the Site or the Project or any portion thereof; (h) interest on the Series 2003 Bonds or any interim obligation during the period of construction of the Project; or (i) any other costs incurred by the Academy which are properly chargeable to the Site or the Project and which may be financed by the Series 2003 Bonds under the Enabling Legislation. Project costs do not include:

- (a) Upgrades to operating system or application software;
- (b) Media, including diskettes, compact discs, video tapes, and disks, unless used for storage of initial operating system software or customized application software included in the definition of technology under MCL 380.1351a(5); or
- (c) Training, consulting, maintenance, service contracts, software upgrades, troubleshooting, or software support.

"Purchase Price" has the meaning given in Section 401 hereof.

"Scheduled Fee Payments" means the Scheduled Fee Payments set forth on Exhibit A, to be intercepted and allocated to payment of Fee Payments.

"Scheduled Interest Component" means the portion of the Scheduled Installment Payment to be intercepted and allocated for the payment of interest under this Agreement, which shall be determined at the Maximum Intercept Rate, as initially set forth on Exhibit A.

"Scheduled Installment Payment" means the scheduled amounts payable by the Academy as set forth on Exhibit A, which consist of a Scheduled Principal Component, a Scheduled Interest Component, a Set-Aside Component, and a Scheduled Fee Payment Component.

"Scheduled Principal Component" means the portion of the Scheduled Installment Payment to be intercepted and allocated to repayment of the principal amount of this obligation, as set forth on Exhibit A.

"Series 2003 Bonds" means \$2,615,000 Michigan Public Educational Facilities Authority Limited Obligation Variable Rate Demand Revenue Bonds (West Michigan Academy of Environmental Science Project), Series 2003.

"Set-Aside Component" means the portion of the Scheduled Installment Payment to be intercepted and allocated for the payment of principal of and/or interest on the Series 2003 Bonds in the calendar month(s) in which no Payment Date for State School Aid exists, as set forth on Exhibit A.

"Site" means the real property described in Exhibit B hereto, including related Project Costs.

"Unassigned Rights" means the right of the Issuer to make all determinations and approvals and receive all notices accorded to it under this Agreement and to enforce in its name and for its own benefit the provisions of Sections 509, 602 and 1003 of this Agreement with respect to the Issuer fees and expenses, and indemnity payments as the interests of the Issuer and related persons shall appear.

"Underwriter and Remarketing Agent" means Fifth Third Securities, Inc.

ARTICLE II.

REPRESENTATIONS

Section 201. Representations by the Company. The Company makes the following representations and warranties:

(a) The Company is a Michigan corporation which is duly organized, existing and in good standing under the laws of the State of Michigan, is qualified to conduct its business in the State of Michigan, has the requisite power and authority to conduct its business, to own its properties and to execute and deliver, and to perform all of its obligations under this Agreement, and by proper action this Agreement has been duly authorized, executed and delivered by, and assuming due authorization by the other parties thereto, if any, is the valid and binding obligation of the Company.

(b) No director or officer of the Authority has any interest of any kind in the Company which would result, as a result of the issuance of the Series 2003 Bonds, in a substantial financial benefit to such persons other than as a member of the general public.

Section 202. Representations of the Authority. The Authority makes the following representations:

(a) The Authority is a body corporate and politic established and acting pursuant to the Enabling Legislation with full authority under the Enabling Legislation to issue the Series 2003 Bonds and execute and enter into the Agreement, the Indenture and the Bond Purchase Agreement.

(b) All of the proceedings approving the Agreement, the Indenture, and the Bond Purchase Agreement were conducted by the Authority at meetings which complied with Act 267, Michigan Public Acts, 1976, as amended.

(c) No member of the Authority is directly or indirectly a party to or in any manner whatsoever interested in the Agreement, Indenture, Series 2003 Bonds or the proceedings related thereto.

Section 203. Representations of the Academy.

(a) The Academy is a public school academy established in accordance with the provisions of the Revised School Code (the "School Code") and has, and on the Closing

Date, will have, full legal right, power and authority (i) to enter into the Bond Purchase Agreement and this Agreement, and (ii) to sell, pledge and assign to the Authority the state aid payments to be allocated and paid to the Academy as provided herein and the Academy has duly authorized and approved the execution and delivery of and the performance by the Academy of its obligations contained in the Bond Purchase Agreement and this Agreement; and the Bond Purchase Agreement and this Agreement have been duly authorized, executed and delivered by, and assuming due authorization by the other parties thereto, if any, are valid and binding obligations of the Academy.

(b) Neither the authorization, execution or delivery of this Agreement and the Bond Purchase Agreement, the consummation of the transactions contemplated by this Agreement, the Bond Purchase Agreement and the Indenture, nor the fulfillment of or compliance with the terms and conditions of this Agreement and the Bond Purchase Agreement will require any consent or approval of the governing board of the Academy or its Authorizing Body which has not been obtained, or violate any provision of law, any order of any court or other agency of government, the Charter, or any indenture, agreement or other instrument to which the Academy is now a party or by which it or any of its properties or assets is bound, or be in conflict with, result in a breach of or constitute a default (with due notice or the passage of time or both) under its Charter or any such indenture, agreement or other instrument, or, except as provided hereunder, result in the creation or imposition of any lien, charge or encumbrance of any nature whatsoever upon any of the property or assets of the Academy.

(c) No litigation or governmental proceeding is pending or, to the knowledge of the officers of the Academy, threatened against the Academy which could have a material adverse effect on its financial condition or business, its power to make payments under this Agreement or the authority or incumbency of its officers or directors.

(d) The Academy intends to cause the Site and the Project to be operated at all times during the term of this Agreement as a "public school academy" as that term is defined in the Revised School Code. All property which is to be financed or refinanced with the net proceeds of the Series 2003 Bonds will be owned by the Academy.

(e) Moneys which will be made available from the Authority under this Agreement and other sources will be sufficient to pay for the Site and the Project.

(f) The Academy reasonably believes that the revenues and income generally available or to become available to the Academy and payable to the Authority under this Agreement will be sufficient for allocation to and payment of the Series 2003 Bonds and interest thereon when due.

(g) The public school facility being acquired pursuant to and this Agreement is needed by the Academy and does not result in an unnecessary duplication of existing facilities and has been well planned.

(h) Except for preliminary expenditures for architectural, engineering, surveying, soil testing, and similar costs (not including costs of land acquisition, site preparation, and similar costs incident to commencement of construction) that were incurred prior to

commencement of acquisition, construction, renovation or rehabilitation of the facilities comprising the Site and the Project, and did not exceed in the aggregate 20 percent of the issue price of the Series 2003 Bonds, and except for costs of issuance and other costs not in excess of the lesser of \$100,000 or 5 percent of the proceeds of the Series 2003 Bonds, no proceeds of the 2003 Bonds were or will be allocated to the reimbursement of an expenditure for costs of the Project paid more than 60 days prior to March 4, 2003 the date on which the governing Board of the Academy adopted a resolution declaring official intent to finance a portion thereof with debt.

(i) Proceeds of the Series 2003 Bonds will not exceed the cost of the Site and the Project and incidental costs related thereto and to the issuance of the Series 2003 Bonds.

(j) The Academy is not in default in any material respect under any order, writ, judgment, injunction, decree, determination or award or any indenture, agreement, lease or instrument. The Academy is not in default under any law, rule or regulation wherein such default could materially adversely affect the Academy or the ability of the Academy to perform its obligations under this Agreement or the Bond Purchase Agreement.

(k) No more than 10 percent of the proceeds of the Series 2003 Bonds will be used directly or indirectly in a trade or business carried on by any person other than a governmental unit (a "private business use"). No more than 5 percent of the proceeds of the Series 2003 Bonds will be used for any private business use that is not related to governmental purposes of the Authority or the Academy or that, although related to governmental purposes of the Authority or the Academy, exceeds the amount of Series 2003 Bond proceeds used for governmental purposes of the Authority or the Academy other than a related private business use. No more than 5 percent of the proceeds of the Series 2003 Bonds will be used directly or indirectly to make or finance loans to persons other than governmental units or loans for purposes other than enabling a borrower to finance any governmental tax or assessment of general application for a specific essential governmental function such as the Project.

(l) The weighted average maturity of the Series 2003 Bonds is not greater than 120% of the average reasonably expected economic life of the facilities being financed or refinanced by the Series 2003 Bonds, as determined pursuant to Section 147(b) of the Code.

(m) There are no contracts or other arrangements providing for private business use or ownership of any property to be financed by proceeds of the Series 2003 Bonds, and the Academy covenants not to enter into any such contracts or arrangements during the term of this Agreement, including any contracts or arrangements for the provision of medical services, food services, management services, or any other types of services, except contracts and arrangements which satisfy the requirements of Rev. Proc. 97-13 or other applicable regulations under the Code.

(n) The Academy will comply with the provisions of Section 148 of the Code. The Academy covenants, for the benefit of itself, the Authority and the owners from time to time of the Series 2003 Bonds, that it will not cause or permit any proceeds of the Series 2003 Bonds to be invested in a manner contrary to the provisions of Section 148 of the Code, and that it will assume compliance with such provisions on behalf of the Authority (including, without limitation, performing required calculations, the keeping of proper records and the timely

payment to the Department of the Treasury of the United States, in the name of the Authority, of all amounts required to be so paid by Section 148 of the Code), and the Academy shall carry out all of the requirements to calculate and make rebate payments to the United States and preserve records thereof.

(o) Except as permitted by Code Section 149(b), the Series 2003 Bonds are not federally guaranteed. For this purpose, a bond is federally guaranteed if (i) the payment of principal or interest is guaranteed (in whole or in part) by the United States or any agency or instrumentality thereof, (ii) 5% or more of the issue is to be (x) used in making loans the principal or interest with respect to which is to be guaranteed (in whole or in part) by the United States (or an agency of instrumentality thereof) or (y) invested directly or indirectly in federally insured deposits or accounts, or (iii) the payment of principal or interest on such bond is otherwise indirectly guaranteed (in whole or in part) by the United States (or an agency or instrumentality thereof).

(p) There are no other obligations of the Academy that were sold or are to be sold within 15 days of the sale of the Series 2003 Bonds that (i) were or are to be sold pursuant to the same plan of financing with the Series 2003 Bonds and (ii) are reasonably expected to be paid from substantially the same source of funds as the Series 2003 Bonds, determined without regard to guaranties from unrelated parties.

(q) The Academy shall not enter into any contracts or other arrangements which do not comply with (k) and (m) above.

(r) The Academy will not pay or enter into a transaction that reduces the arbitrage rebate to be paid to the United States because the transaction results in a smaller profit or a larger loss than would have resulted if the transaction had been at arm's length and had the yield on the Series 2003 Bonds not been relevant to either party.

(s) The Site will be acquired and the Project will be completed not later than December 15, 2003.

(t) The Project will be constructed and equipped in such manner as to conform with all applicable zoning, planning, building, environmental and other regulations of the governmental authorities having jurisdiction of the Project.

(u) To the best of the knowledge of the Academy, no authorizations, consents or approvals of governmental bodies or agencies are required in connection with the execution and delivery by the Academy of this Agreement or the Bond Purchase Agreement, or in connection with the carrying out by the Academy of its obligations under this Agreement or the Bond Purchase Agreement, which have not been obtained or, if not obtained on the date of this Agreement, are expected to be obtained in the normal course of business at or prior to the time such authorizations, consents or approvals are required to be obtained.

(v) There are no actions or proceedings pending or, to the knowledge of the Academy, threatened before any court or administrative agency which will, in the reasonable judgment of the Academy, materially adversely affect the ability of the Academy to meet its obligations under this Agreement or the Bond Purchase Agreement.

(w) No director or officer of the Authority has any interest of any kind in the Academy which would result, as a result of the issuance of the Series 2003 Bonds, in a substantial financial benefit to such persons other than as a member of the general public.

(x) The information furnished by the Academy and used by the Authority in preparing its Non-Arbitrage Certificate pursuant to the Code and the information statement pursuant to Section 149(e) of the Code (Form 8038-G) is true, accurate and complete as of the date of the issuance of the Series 2003 Bonds.

(y) The Academy has complied and intends to comply with its obligations, covenants and representations under the Bond Documents, to the extent such obligations affect the tax-exempt status of the Series 2003 Bonds.

(z) None of the proceeds of the Series 2003 Bonds will be used to finance the purchase, construction, lease, or renovation of property owned, directly or indirectly, by any officer, board member, or employee of the Academy.

(aa) The Academy shall promptly pay the Costs of Issuance upon notification by the Authority. The term "Costs of Issuance" shall mean and include underwriter's discount, underwriting fees, printing charges, letter of credit fees and related charges of a letter of credit, rating agency charges, trustee fees, bond counsel fees, academy counsel fees, and other counsel fees and issuance fees of the Authority.

(bb) The Academy will utilize the Site and the Project for public school purposes so long as Series 2003 Bonds remain outstanding under the Indenture and will use its best efforts to operate the school in an efficient manner. The Academy will maintain its Charter in good standing. The Academy will not own, operate or utilize other public school facilities which may reduce the utilization or student population of the school facilities being acquired, renovated and restored pursuant to this Agreement.

ARTICLE III.

THE SERIES 2003 BONDS AND THE PROCEEDS THEREOF

Section 301. Series 2003 Bonds. The Authority has authorized the issuance and sale of the Series 2003 Bonds in the Principal Amount. The Authority intends to deliver Series 2003 Bonds subject to the terms of the Bond Purchase Agreement. The proceeds of the Series 2003 Bonds shall be deposited in the Project Fund. The obligations of the Authority, the Company and the Academy under this Agreement are expressly conditioned upon delivery of the Series 2003 Bonds and receipt of the proceeds thereof.

Section 302. Additional Bonds. The Authority may, but shall not be required to, authorize the issuance of the additional bonds upon the terms and conditions provided in the Indenture. Failure by the Authority to issue additional bonds shall not release the Company, or the Academy from any provisions of this Agreement, regardless of the reason for such failure.

Section 303. Investment of Funds and Accounts. Any moneys held as a part of any Fund or Account shall be invested, reinvested or applied by the Trustee in accordance with the provisions of the Indenture. Any moneys held in the Project Fund or Bond Fund (excluding proceeds of a draw on the Letter of Credit, which shall remain uninvested) shall, pending disbursement and upon written request of the Academy or oral or facsimile request of the Academy later confirmed in writing, be invested only in Eligible Investments in accordance with the provisions of Section 5.05 of the Indenture, all at such maturities, rates of interest and other specifications as the Academy may indicate in its request to the Trustee. The investments shall mature not later than the respective dates estimated by the Academy when the moneys in such Funds shall be needed for the purposes provided in this Agreement and the Indenture, but should the cash balance in a Fund be insufficient for such purpose, the Trustee is authorized to sell the necessary portion of such investments to meet that purpose. Recognizing that such investments shall be made at the written direction of the Academy, the Issuer agrees to cooperate with the Academy, and the Academy covenants that it will restrict the use of the proceeds of the Bonds (and any other funds or moneys which may be deemed to be proceeds of the Bonds pursuant to Section 148(a) of the Code), in such manner and to such extent, if any, as may be necessary, after taking into account reasonable expectations at the time the Bonds are issued, so that the Bonds will not constitute "arbitrage bonds" under Section 148(a) of the Code.

The Academy shall not invest, reinvest or accumulate any moneys deemed to be proceeds of the Series 2003 Bonds pursuant to the Code in such a manner as to cause the Series 2003 Bonds to be "arbitrage bonds" within the meaning of the Code.

Section 304. Rebate Payments to United States. The Academy for itself and for the Authority agrees that it shall calculate and make all necessary payments of investment earnings required to be rebated to the United States pursuant to the terms of the Indenture and the Non-Arbitrage Certificate. The Academy hereby further agrees that it shall comply with the procedures outlined in the Academy's Non-Arbitrage and Tax Compliance Certificate and shall furnish to the Trustee and the Authority within fifteen (15) days following each Computation Date (as defined in the Academy's Non-Arbitrage and Tax Compliance Certificate) the computations required thereby. The Trustee has no duty to confirm the accuracy of the computations made by the Academy and may assume that the computations are correct. The Academy shall provide to the Trustee and the Authority evidence of each payment of rebate, if any, within 30 days of each such payment.

ARTICLE IV.

SALE, PURCHASE AND CONSTRUCTION OF PROJECT, ASSIGNMENT OF PAYMENTS

Section 401. Sale and Purchase. In consideration of the payment of the Purchase Price pursuant to the terms of this Agreement, the Company will cause the Project to be constructed and installed on the Site in accordance with the Construction Agreement and Company agrees to comply with the terms of the Construction Agreement. In the event of a conflict between the

terms of this Agreement and the Construction Agreement, the specific terms of this Agreement shall govern.

The Academy hereby agrees to purchase the Project and to pay monthly installments in amounts not less than the Installment Payments set forth on Exhibit A hereto (the "Installment Payments") on the Payment Dates required by Section 506 below, and to make the Additional Payments as described herein. The parties hereto acknowledge that the purchase price (the "Purchase Price") for the Project is \$2,615,000 consisting of \$2,126,296.30 to be paid to the Company \$297,495.56 of Project Costs to be reimbursed to the Academy and \$191,208.14 to be paid in accordance with Section 403 hereof. The Authority, as assignee of the Company, agrees to pay to the Academy by depositing the same into the Project Fund from which the Trustee shall make disbursements and in accordance with the Indenture.

Section 402. Assignment to Authority. The Company immediately and irrevocably assigns to the Authority the Installment Payments and the Additional Payments. The Academy and the Company each represent and warrant that the assignment contained in this Section 402 to the Authority does not violate the Academy's Charter, the Company's Articles of Incorporation or Bylaws or any law or any agreement, contract, or loan agreement to which it is a party and that this Agreement has been duly authorized, executed and delivered by the Academy and the Company.

Section 403. Disbursements from the Project Fund. In consideration of the Company's assignment pursuant to Section 402, the Authority has directed the Trustee to disburse from the Project Fund established under the Indenture to the Company, upon requisition by the Academy, in accordance with Section 701 of this Agreement and the other amounts on deposit therein as provided in this Agreement.

Section 404. License to Construct. The Academy hereby grants the Company a license to construct and install the Project in accordance with the terms of the Construction Agreement.

Section 405. Title to the Project. Title to each installment of the Project shall pass to the Academy upon its construction and installation.

ARTICLE V.

INSTALLMENT PAYMENTS

Section 501. Installment Payments. The Academy hereby agrees that it will not sell, assign title to, lease, or obtain further financing with respect to the Project or the Site except with the written permission of the Trustee while Installment Payments or Additional Payments remain outstanding under this Agreement. The Company and the Academy agree that the Authority may pledge this Agreement as security for its obligations to pay Series 2003 Bonds issued under the Indenture.

If on a Bond Payment Date the Academy's payment of its obligations hereunder have been deficient or if for any other reason the balance in the Bond Fund is insufficient to pay

principal and interest on the Series 2003 Bonds then due, whether by maturity, redemption, or acceleration, the Academy shall forthwith pay the amount of any such deficiency to the Trustee.

Section 502. Obligations Unconditional. The Company immediately and irrevocably assigns to the Authority the Installment Payments and Additional Payments, pursuant to this Agreement and in consideration thereof the Authority has directed the Trustee to disburse from the Project Fund established under the Indenture the amounts on deposit therein as provided in this Agreement. The Academy's obligation to the Authority is an absolute and unconditional general obligation of the Academy and shall remain in full force and effect until the amounts owed hereunder shall have been paid by the Academy to the Authority, and such obligations shall not be affected, modified or impaired upon the happening from time to time of any event, including without limitation any of the following:

(a) Any failure of title with respect to the Academy's or the Company's interest in the Site or the Project or the invalidity, unenforceability or termination of this Agreement;

(b) The modification or amendment (whether material or otherwise) of any obligation, covenant or agreement set forth in this Agreement;

(c) The voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all of the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, arrangement, composition with creditors or readjustment or other similar proceedings affecting the Academy, the Company or any of its or their assets or any allocation or contest of the validity of this Agreement, or the disaffirmance of this Agreement in any such proceedings;

(d) To the extent permitted by law, any event or action which would, in the absence of this clause, result in release or discharge by operation of law of the Academy, or the Company from the performance or observation of any obligation, covenant or agreement contained in this Agreement;

(e) The default or failure of the Academy or the Company fully to perform any of its obligations set forth in this Agreement or any other agreement;

(f) Any casualty or destruction of the Site or the Project;

(g) Any failure of the Bank to perform.

The Authority shall have no liability for the performance of any obligations to the Academy or the Company except as expressly set forth in this Agreement.

Section 503. Payment Provisions. The Academy agrees to pay to the Authority the Installment Payments and the Additional Payments hereunder, which are initially scheduled to be payable as set forth in Exhibit A hereto on the Payment Dates set forth in Section 506 below.

Installment Payments may only be prepaid by the Academy with the prior written approval of the Authority. The Authority may require the Academy to pay a prepayment premium as a condition of prepayment.

In the event of a default in the payment of the Installment Payments or Additional Payments when due, the amount of such default shall bear interest (the "additional interest") at a rate equal to the rate of interest which is two percent above the Authority's cost of providing funds (as determined by the Authority) to make payment on the Series 2003 Bonds of the Authority but in no event in excess of the maximum rate of interest permitted by law. The additional interest shall continue to accrue until the Authority has been fully reimbursed for all costs incurred by the Authority (as determined by the Authority) as a consequence of the Academy's default. Such additional interest shall be payable on the Payment Date following demand of the Authority. So long as the Installment Payments have been paid pursuant to a draw on the Letter of Credit, any default interest shall be paid as provided in the Reimbursement Agreement.

It is expressly agreed between the Company and the Academy, and the Authority by acceptance of the assignment made by this Agreement, that the Academy shall make all payments due hereunder at the designated trust office of the Trustee. The Academy further agrees that it will deposit with the Trustee all payments due hereunder in immediately available funds. The Academy covenants and agrees that its obligations to make payments hereunder are obligations incurred with the Authority under the State School Aid Act, 1979 PA 94, as amended ("School Aid Act") and may be enforced by the Authority and the Trustee on behalf of the Authority.

Section 504. Payment General Obligation. The obligation of the Academy to pay Installment Payments, Additional Payments and all other payments hereunder is a general obligation of the Academy. The Academy shall and hereby agrees to include in its budget and pay each year, until this Agreement is paid in full, such sum or sums as may be necessary each year to make payments of the Installment Payments, Additional Payments and all other payments hereunder and additional interest payments, when due. The obligations of the Academy hereunder may also be deemed to be obligations of the Academy incurred in accordance with Section 504a(g) and Section 1351a of the Revised School Code of 1976, as amended.

Section 505. The Letter of Credit. The Academy shall provide for the payment of its Installment Payments during the Variable Rate Period on the Bonds, and upon conversion to a Fixed Rate Period, during the Fixed Rate Period, by the delivery of a Letter of Credit meeting the requirements of Section 2.18 of the Indenture. The Letter of Credit may be replaced with an Alternate Letter of Credit pursuant to the requirements of Section 2.18 of the Indenture. The Academy shall provide for the payment of any redemption premium (in the case of any optional or mandatory redemption during the Fixed Rate Period) by the delivery of (i) a Letter of Credit which permits the Trustee to draw thereunder for the payment of such premium (if the Bonds are secured by a Letter of Credit), or (ii) other funds (if the Bonds are not secured by a Letter of Credit). The Academy authorizes and directs the Trustee to draw moneys under the Letter of Credit in accordance with the provisions of the Indenture and the terms of the Letter of Credit to the extent necessary to make any payments of principal of, premium, if any and interest on the Bonds as and when the same become due and payable.

Unless otherwise required by the Reimbursement Agreement, if the Bonds are secured by a Letter of Credit and drawings are made thereunder for the purpose of making Installment Payments and payments with respect to the principal, premium, if any, and interest due on the Bonds which are required to be made pursuant to this Article V, no additional payments shall be due or paid by the Academy to the Trustee hereunder with respect to the payment of principal of, premium; if any, or interest on such Bonds to the extent that funds are so drawn on the Letter of Credit and applied by the Trustee for such payment on such dates. If the Academy has deposited moneys into the Revenue Account of the Bond Fund, the Academy directs the Trustee to apply such amounts, to the extent the Bank has not failed to honor a properly presented and conforming drawing under the Letter of Credit, to reimburse the Bank for amounts drawn under the Letter of Credit to make such payments.

Section 506. State School Aid Pledge. The Academy pledges to pay its Installment Payments and Additional Payments and all other amounts required hereby or hereunder from its State School Aid to be allocated to it and payable to its Authorizing Body (the "Pledged State Aid"). Unless otherwise agreed to in writing by the Authority, an amount of each installment of State School Aid (such monies to be used to pay the Installment Payments and Additional Payments when due) as set forth on Exhibit A, which amount is approximately equal to 1/11 of the annual principal payments scheduled on the Series 2003 Bonds (the Scheduled Principal Component and the Set-Aside Component relating to principal) plus 1/11 of the annual interest obligation (assumed at the Maximum Intercept Rate) (the Scheduled Interest Component and the Set-Aside Component relating to interest) plus 1/11 of the annual fees (the Scheduled Fee Payments) shall, pursuant to the agreement of the Authorizing Body, be transmitted directly by the State Treasurer to the Trustee commencing on or before December 20, 2003 and thereafter on or before the 20th of each November, December, January, February, March, April, May, June, July, August and October (each a "Payment Date"); provided however that if (i) applicable law changes to provide for a schedule of school aid payments materially different from that now in effect, (ii) the Series 2003 Bonds are converted to a Fixed Rate Period, or (iii) the Maximum Intercept Rate is adjusted, the Authority, by written notice to the Trustee, the State Treasurer, the Academy and the Authorizing Body may designate different payment dates or amounts to provide for timely receipt of Installment Payments and Additional Payments consistent with such changes which shall thereupon be and become the "Payment Dates" hereunder. If the Payment Date falls on a Saturday, Sunday, or legal holiday, the Installment Payment shall be due on the next previous business day. The Installment Payments and Additional Payments, if any, to the Authority shall be made first from the State School Aid allocated to the Academy during the month of the payment. If, for any reason, the State School Aid allocated to the Academy during the month of the payment is insufficient to pay the Installment Payment and Additional Payment, if any, then in that event the Academy pledges to use any and all other available funds to meet the Installment Payment obligation and Additional Payment obligation, if any. If on any due date for any Installment Payment or Additional Payment the funds with the Trustee are insufficient to pay the Installment Payment and Additional Payment, if any, then the Academy, pursuant to Section 17a(2) of the School Aid Act to the extent necessary to meet the payment obligation assigns to the Authority and authorizes and directs the State Treasurer to intercept and/or advance not to exceed 97% of any payment which is dedicated for distribution or for which the appropriation authorizing payment has been made under the School Aid Act; and in such event pursuant to Section 17a(2) of the School Aid Act, the Authority is authorized,

pursuant to the agreement of the Authorizing Body, to intercept and/or seek an advancement of 97% of the Pledged State Aid to be allocated or distributed to the Authorizing Body with respect to the Academy. The Trustee, on behalf of the Authority, shall immediately notify (or cause notice to be given to) the Academy and the Authorizing Body that it will immediately commence to intercept and/or receive an advancement of the Pledged State Aid and beginning immediately the Authority shall intercept 97% of the Pledged State Aid to be distributed to the Authorizing Body with respect to the Academy. Notwithstanding the foregoing, however, the amount to be applied by the Trustee to Installment Payments hereunder in any fiscal year of the State shall not exceed 20% of the amount of School Aid payable to the Academy by the State in such fiscal year.

The intercepted and/or advanced amount shall be applied on the following priority basis: (i) the amount required to pay the Installment Payment and Additional Payment, if any, when due shall be held by the Trustee for such purpose, (ii) any other amounts owing to the Authority under this Agreement, (iii) an amount equal to the Scheduled Fee Payments and an amount equal to 1/11 of the scheduled fee obligations of the Academy to the Trustee, the Bank and the Remarketing Agent under the Indenture, the Reimbursement Agreement or the Remarketing Agreement shall be paid to the Bank as provided under the Indenture and (iv) to the extent in excess of the amount required to make payment in full of the Installment Payment and Additional Payment, if any, then due, any amounts remaining to be immediately distributed to or at the direction of the Academy. The process set forth above shall continue until sufficient funds are deposited with the Trustee to pay all Installment Payments and Additional Payments. Section 17a(2) of the School Aid Act does not require the State to make an appropriation to any authorizing body, public school academy, other school district or intermediate school district and shall not be construed as creating an indebtedness of the State.

The pledge of State School Aid pursuant to this section is subject to the reservation by the Academy of the right to make additional pledges of State School Aid to secure other obligations as provided in Section 807 hereof and provided that the amount of State School Aid received by the Academy in the fiscal year of the State preceding the incurrence of such additional obligations equals or exceeds the amount required in each year to pay the sum of an amount equal to the Installment Payments and Additional Payments due and the principal and interest and other payments due under such additional obligations for which State School Aid has been pledged.

Section 507. Mandatory and Optional Prepayments. The Academy may prepay its obligations hereunder in whole or in part in Authorized Denominations. The Academy may direct the redemption of the corresponding amount of Bonds then outstanding on such dates and pursuant to the provisions and limitations, and upon payment of any required premium, set forth in Section 2.13(a) of the Indenture.

The Academy shall prepay its obligations hereunder at such times in order to enable the Trustee to redeem all or a portion of the Bonds as required in Section 2.13 of the Indenture.

If the Academy repays or prepays Installment Payments and other amounts owing to the Trustee under this Agreement and the Indenture and to the Bank under the Reimbursement Agreement in such a manner so as to permit the Security to be released from the lien of the

Indenture in accordance with Article VI of the Indenture, then the loan shall be deemed fully repaid, and this Agreement shall be canceled on the date on which the Security is so released. To confirm such cancellation, the Academy may require the Trustee to execute any further reasonable evidence of cancellation on the date the Security is so released.

In the event of any optional prepayment on or before the date set for redemption of the Bonds to be redeemed in connection therewith, the Trustee shall draw upon the Letter of Credit, or during the Fixed Rate Period if the Bonds are not then secured by a Letter of Credit, the Academy shall deposit with the Trustee, an amount sufficient to pay the principal of, premium, if any, and interest on the Bonds and the Academy shall deposit with the Trustee sufficient moneys to pay all fees, costs, and expenses of the Issuer and the Trustee specified in Sections 509, 510, 602, 603 and 1003 hereof accruing through the date set for redemption of the Bonds (provided that no moneys derived from a draw on the Letter of Credit shall be used to pay such fees, costs and expenses of the Issuer or the Trustee).

Section 508. Additional Payment Obligations of the Academy. The Academy agrees to pay, or cause to be paid, to the Trustee on or before each purchase date, an amount sufficient, together with any remarketing proceeds then held by the Remarketing Agent or the Tender Agent, as appropriate, and available for such purpose under Section 3.03 of the Indenture, to enable the Trustee to pay the Purchase Price of all Series 2003 Bonds to be purchased on such date at the price specified therein; provided, however, that if the Letter of Credit is outstanding and drawings may be made thereunder for such purpose, payments with respect to the Purchase Price of the Series 2003 Bonds on such date which are required to be made by the Academy under this Section 508. shall be made on behalf of the Academy by the Trustee with funds drawn by the Trustee under the Letter of Credit. No additional payments shall be due or paid by the Academy hereunder with respect to the Purchase Price of such Series 2003 Bonds to the extent that funds are so drawn under the Letter of Credit and applied by the Trustee, the Tender Agent or the Remarketing Agent to payment of the Purchase Price of Series 2003 Bonds purchased on such date. Anything herein to the contrary notwithstanding, if on any purchase date the remarketing proceeds together with the amount theretofore drawn under the Letter of Credit are, for any reason, insufficient to pay the Purchase Price of the Series 2003 Bonds being tendered on such date as provided in the Indenture, the Academy hereby agrees to immediately pay an amount equal to such deficiency to the Trustee at its corporate trust office in immediately available funds. Such payment shall be made at such times as are necessary so that sufficient funds will be available at such times as are necessary to pay the Purchase Price of the Series 2003 Bonds tendered under the Indenture at the times and in the manner contemplated by the Indenture.

Section 509. Fee Payments. To the extent they are not paid out of the Project Fund to the Authority, the Academy shall pay to the Authority within ten (10) days of demand therefor: (a) all Costs of Issuance and other out-of-pocket costs and expenses of the Authority incidental to the performance of its obligations under this Agreement, the Indenture and the Bond Purchase Agreement, and (b) the out-of-pocket expenses of the Authority incurred by the Authority in enforcing the provisions of this Agreement or the Indenture.

In addition to the aforesaid payments to the Issuer, (a) a one time issuance fee of one half of one percent (1/2 of 1%) of the principal amount of the Series 2003 Bonds prior to or contemporaneously with execution of this Agreement, and (b) on or before March 1 in each year an amount sufficient to assure payment in full of the Academy's allocable share (as determined by the Authority) of the annual general operating expenses of the Authority, but such allocable share shall not exceed one eighth of one percent (1/8 of 1%) of the average principal amount of the Series 2003 Bonds outstanding under the Indenture during the preceding calendar year. This fee may be payable from funds transferred to the Bank pursuant to Section 5.01 of the Indenture, but shall be paid to the Issuer regardless of the availability of funds on deposit at the Bank for such purpose.

Section 510. Agreement to Supply Letter of Credit. The Academy shall provide for the delivery of a Letter of Credit meeting the requirements of Section 2.18 of the Indenture to the Trustee simultaneously with the original issuance of the Series 2003 Bonds.

Section 511. Purchase of Bonds Prohibited. So long as a Letter of Credit is in effect, the Academy will not, and will not permit any Insider of the Academy, to purchase, directly or indirectly, any Bonds, except with funds drawn under the Letter of Credit as required by Section 508 hereof.

Section 512. Security Interest in the Project Fund. To better secure its obligations hereunder, including the obligation to pay Installment Payments and Additional Payments, as and when they are due, the Academy hereby grants a security interest in the moneys at any time held in the Project Fund, and any proceeds thereof, to the Issuer and the Bank (to the extent the Trustee is directed to disburse such moneys to the Bank pursuant to the Indenture) to be perfected by possession of such moneys in the Project Fund by the Trustee and held therein for the benefit of the Bondholders and Bank as provided in the Indenture.

Section 513. Continuing Obligation. The obligations of the Academy under this Agreement shall continue in force until payment in full of the Installment Payments, Additional Payments, and all other payments required to be paid by the Academy by this Agreement.

Section 514. Assignment by Authority. The Academy and the Company hereby each consent to any assignments now or hereafter made by the Authority of the Authority's rights under this Agreement (except the Unassigned Rights) and acknowledge that no further action or consent by the Academy or the Company is necessary to effectuate such an assignment.

Section 515. Authorized Academy Representative. The Academy hereby authorizes and directs the Authorized Academy Representative to act in the capacity of Authorized Academy Representative under the Indenture and hereunder.

Section 516. Obligations of the Academy Unconditional. The obligation of the Academy to pay the Installment Payments and Additional Payments and all other amounts required by this Agreement to be paid by the Academy shall be an absolute and unconditional general obligation of the Academy and shall not be subject to diminution by set-off, recoupment, counterclaim, abatement or otherwise. Until the Series 2003 Bonds have been fully paid (or provision made therefor) in accordance with the Indenture, the Academy (i) shall not suspend or

discontinue any Installment Payments or Additional Payments, (ii) shall perform and observe all of its other obligations contained in this Agreement and (iii) shall not terminate this Agreement for any cause, including, without limiting the generality of the foregoing, defect in title to the Site or the Project, failure to complete the Project, any acts or circumstances that may constitute failure of consideration, destruction of, damage to or condemnation of the Project, commercial frustration of purpose, any change in the tax or other laws of the United States of America or of the State of Michigan or any political subdivision of either, or any failure of the Authority to perform and observe any of its obligations arising out of or connected with the Agreement. It is the intent and expectation of the parties hereto that the Installment Payments will be sufficient for the payment in full of the Series 2003 Bonds, including (i) the total interest to become due and payable on the Series 2003 Bonds to the dates of payment thereof, (ii) the total principal amount of the Series 2003 Bonds, (iii) the redemption premiums, if any, that shall be payable on the redemption of the Series 2003 Bonds prior to their stated payments dates, and (iv) all additional interest, additional principal and any other amounts payable to the Bondholder as and when required by the Series 2003 Bonds or this Agreement. In the event, however, of any deficiency in the payment of such amounts regardless of the reason for such deficiency, the Academy agrees that upon notice of the deficiency from the Bondholder or the Authority it shall then immediately pay the amount of the deficiency to the Bondholder on behalf of the Authority. The obligations of the Academy under this paragraph shall survive the termination of this Agreement.

ARTICLE VI.

OTHER OBLIGATIONS OF THE ACADEMY

Section 601. Costs of Issuance. The Academy covenants and agrees to promptly pay the Costs of Issuance (as defined in Section 203(cc)) upon notification by the Authority.

Section 602. Indemnification of the Authority. (a) The Authority and its members, officers, agents and employees (the "Indemnified Persons") shall not be liable to the Company or the Academy for any reason. The Academy shall, to the extent permitted by law, indemnify and hold the Authority and the Indemnified Persons harmless from any loss, expense (including reasonable counsel fees) or liability of any nature due to any and all suits, actions, legal or administrative proceedings, or claims arising or resulting from, or in any way connected with (i) the financing, construction, operation, use or maintenance of the Site or Project, (ii) any act, failure to act or misrepresentation by any person, firm, corporation or governmental agency, including the Authority, in connection with the issuance, sale, delivery or remarketing of any of the Series 2003 Bonds, (iii) any act or failure to act by the Authority in connection with this Agreement or any other document involving the Authority in this matter, and (iv) the selection and appointment of firms or individuals providing services related to the Bond transactions. If any suit, action or proceeding is brought against the Authority or any Indemnified Person, that suit, action or proceeding shall be defended by counsel to the Authority or the Academy, as the Authority shall determine. If the defense is by counsel to the Authority, which is the Attorney General of Michigan or may, in some instances, be private, retained counsel, the Academy shall indemnify the Authority and Indemnified Persons for the reasonable costs of that defense,

including reasonable counsel fees. If the Authority determines that the Academy shall defend the Authority or Indemnified Persons, the Company or the Academy, as determined by the Authority, shall immediately assume that defense at its own cost. The Academy shall not be liable for any settlement of any proceedings made without its consent (which consent shall not be unreasonably withheld).

(b) The Academy shall not be required to indemnify the Authority or any Indemnified Person under subsection (a), if a court with competent jurisdiction finds that the liability in question was caused by the willful misconduct or sole gross negligence of the Authority or the involved Indemnified Person, unless the court determines that, despite the adjudication of liability but in view of all circumstances of the case, the Authority or the Indemnified Person(s) is (are) fairly and reasonably entitled to indemnity for the expenses which the court considers proper.

(c) The Academy shall, to the extent permitted by law, also indemnify the Authority for all reasonable costs and expenses, including reasonable counsel fees, incurred in (i) enforcing any obligation of the Academy under this Agreement or any related agreement, (ii) taking any action requested by the Academy, (iii) taking any action required by this Agreement or any related agreement, or (iv) taking any action considered necessary by the Authority which is authorized by this Agreement or any related agreement.

(d) The obligations of the Academy under this section shall survive any assignment or termination of this Agreement.

Section 603. Indemnification of the Trustee. The Academy shall, to the extent permitted by law, indemnify and hold the Trustee harmless against any loss, liability or expense incurred without negligence or bad faith on the part of the Trustee, arising out of or in connection with the acceptance or administration of the Indenture, including the costs and expense of defense against any such claim of liability. In the event of the occurrence of any claim indemnified against under this paragraph, the Trustee shall promptly notify the Academy of the existence of the claim and shall give the Academy such assistance and cooperation in the defense thereof as may be reasonably requested. The Academy shall defend any such claim through legal counsel of its choice, and the Academy shall have exclusive authority to defend, settle or otherwise dispose of such claim as it deems advisable in the exercise of its sole discretion.

Section 604. Taxes and Other Costs. The Academy shall promptly pay, as the same becomes due, all lawful taxes and governmental charges of any kind whatsoever, including without limitation income, profits, receipts, business, property and excise taxes, with respect to any estate, interest, documentation or transfer in or of the Site and the Project, the Agreement or any payments with respect to the foregoing, the costs of all building and other permits to be procured, and all utility and other charges and costs incurred in the operation, maintenance, use, occupancy and upkeep of the Site and the Project.

Section 605. Authority and Trustee Right to Perform Academy Obligations. In the event the Academy shall fail to perform any of its obligations under the Agreement, the Authority and the Trustee may, but shall be under no obligation to, perform such obligation and pay all costs related thereto, and all such costs so advanced by the Authority or the Trustee shall become an

additional obligation of the Academy to the Authority or the Trustee, secured under the Indenture, payable on demand with interest thereon at 2% per annum in excess of the average rate per annum borne by the Series 2003 Bonds from the date of advancement until payment, but in no event in excess of the maximum rate permitted by law.

Section 606. Audit Obligation. The Academy shall have an independent audit, using generally accepted accounting principles, of its bonding activities under these sections conducted within 120 days after completion of all projects financed by the proceeds of this Agreement and shall submit the audit report to the Michigan Department of Treasury and the Authority.

ARTICLE VII.

CONSTRUCTION AND ACQUISITION OF PROJECT

Section 701. Project Fund Disbursements. Subject to the conditions set forth below, unless an Event of Default has occurred and is continuing, the Trustee shall disburse out of the Project Fund the lesser of (a) the Project Costs paid or incurred or (b) the Series 2003 Bond proceeds deposited in the Project Fund and investment income in the Project Fund. Such disbursements shall be used to pay the Project Costs so long as there are moneys in the Project Fund, upon presentation of a Requisition Certificate executed by the Academy in the form shown on Exhibit C attached hereto or in a form approved by the Authorized Officer of the Authority.

Each Requisition Certificate shall be accompanied by copies of invoices or other appropriate documentation satisfactory to the Bank, supporting the payments or reimbursements requested and by a brief description of the portion of the Project acquired, constructed or improved; provided that the Trustee shall have no duty or obligation to review such invoices and may conclusively rely on such requisitions. The Bank shall not be obligated to approve any disbursement from the Project Fund unless the Academy shall have satisfied the terms and conditions for each disbursement contained in the Reimbursement Agreement.

Section 702. Obligation of the Academy to Complete the Project and to Pay Costs in Event Project Fund Insufficient. If requested, the Academy shall make available to the Issuer, the Bank and the Trustee such information concerning the Project as any of them may reasonably request. The Academy may revise the plans and specifications for the Project, provided, however, that the Project shall not be materially altered in scope, character, value or operation without the prior written consent of the Bank, and provided, further, that the expenditure of moneys for the Project as modified is permitted by the Enabling Legislation and will not impair the exclusion of interest on the Bonds from gross income for federal income tax purposes.

In the event the money in the Project Fund available for payment of the costs of the Project shall not be sufficient to make such payment in full, the Academy agrees to pay directly, or to deposit moneys in the Project Fund for the payment of, such costs of completing the Project as may be in excess of the moneys available therefor in the Project Fund. The Issuer does not make any warranty or representation, either expressed or implied, that the moneys which will be deposited into the Project Fund, and which under the provisions of this Agreement will be

available for payment of the costs of the Project, will be sufficient to pay all of the costs which will be incurred in connection therewith. The Academy agrees that if, after exhaustion of the moneys in the Project Fund, the Academy shall pay, or deposit moneys in the Project Fund for payment of, any portion of the costs of the Project pursuant to the provisions of this Section 702, it shall not be entitled to any reimbursement therefor from the Issuer, the Trustee, the Bank, or from the owners of any of the Bonds, nor shall it be entitled to any diminution of the amounts payable hereunder.

Section 703. Recovery Under Breach of Warranty. All warranties shall vest in the Academy and in the event of default or breach of warranty by any contractor in connection with the Site or the Project or in the event of a default under the Construction Agreement or with respect to any materials, workmanship or performance or other guaranty, the Academy may, after notification of the Authority, proceed, either separately or in conjunction with others, to pursue such remedies against the party in default and against each surety as it may deem advisable. Any amounts recovered in connection with the foregoing after Project Costs have been paid or duly provided for shall be paid to the Academy.

Section 704. Completion Certificate. The Completion Date of the acquisition, construction and installation of the Project and the payment of the entire Project Costs shall be evidenced to the Trustee and the Authority by the Completion Certificate.

Section 705. Use of Surplus Funds. As soon as practicable and in any event within 60 days from the date of delivery of the Completion Certificate, the Academy shall direct the Trustee to transfer any balance remaining in the Project Fund (i.e. "Surplus Bond Proceeds") to the Bond Fund, for use in accordance with the Indenture. Notwithstanding the foregoing, proceeds of the Series 2003 Bonds may be retained in the Project Fund longer than three (3) years after the Issue Date provided the Academy delivers a Favorable Opinion of Bond Counsel to the Trustee with respect to the retention and investment of such proceeds of the Series 2003 Bonds in the Project Fund.

Section 706. Application of Insurance and Condemnation. In the event (i) the Site or the Project is damaged or destroyed, or (ii) failure of title to all or part of the Site or the Project occurs or title to or temporary use of the Site or the Project is taken by condemnation or by the exercise of the power of eminent domain by any governmental body or by any person, firm or corporation acting under governmental authority, the Academy shall promptly give written notice thereof to the Authority, the Bank and the Trustee. As soon as practicable, but not later than 60 days after such damage or condemnation, the Academy shall elect in writing whether to restore all or part of the Project or to prepay this Agreement. The Academy may only restore all or part of the Project if it demonstrates to the Trustee that (i) it has sufficient money available to it (including insurance proceeds) to undertake such restoration, and (ii) such restoration will not cause interest on the Series 2003 Bonds which would otherwise be excludable from gross income for federal income tax purposes to be included in gross income for federal income tax purposes. If the Academy chooses to restore all or part of the Project, the Trustee shall deposit the proceeds of such condemnation or insurance in the Project Fund, which shall be reactivated and drawn down in the same manner as provided for the Project Fund in Section 601. If the Academy shall elect to restore the Site and the Project, it shall proceed to do so with reasonable dispatch. If the Site and the Project shall have been so damaged or destroyed, or if failure of title or

condemnation or taking of such part thereof shall have been taken so that the Site and the Project may not be reasonably restored within a period of 12 consecutive months (or such longer period of time as is acceptable to the Trustee) to its condition immediately preceding such damage or destruction or failure of title, or if the Academy is thereby prevented from carrying on its normal operations for a period of 12 consecutive months (or such longer period of time as is acceptable to the Trustee), or if the cost of restoring the Site and the Project is reasonably deemed by the Academy to be uneconomic and the Academy abandons the Site and the Project, then all proceeds of such insurance or condemnation shall be transferred to the Bond Fund and used for payment or redemption of the Series 2003 Bonds.

ARTICLE VIII.

FURTHER OBLIGATIONS OF THE ACADEMY

Section 801. Compliance With Laws. The Academy agrees that it shall, throughout the term of the Agreement and at no expense to the Authority, promptly comply or cause compliance with all legal requirements of duly constituted public authorities which may be applicable to the Site or the Project or to the repair and alteration thereof, or to the use or manner of use of the Site or the Project.

Section 802. Maintenance of Legal Existence Qualification. During the term of the Agreement, and except as otherwise provided by Section 806 hereof, the Academy shall maintain its existence and shall not dissolve or otherwise dispose of all or substantially all of its assets or consolidate with or merge into another entity or permit one or more entities to consolidate with or merge into it without the prior written consent of the Authority.

Section 803. Reports and Access to Projects and Records. The Academy covenants that promptly, but not later than one hundred twenty (120) days after the close of each fiscal year, it will file with the Authority and the Trustee (and upon written request with the original Underwriter for the Series 2003 Bonds), in such quantity as the Authority may require, its audited financial statement for such fiscal year reflecting in reasonable detail the financial position and results of operation of the Academy, together with the audit report by a certified public accountant or firm of independent certified public accountants of suitable experience and responsibility. The Trustee may rely on the financial statements and certificates delivered to it and shall have no duty to analyze those documents or perform independent calculations.

The Academy further covenants and agrees that it will promptly file with the Authority a copy of all documentation, materials and notices filed by or on behalf of the Academy pursuant to or in connection with any continuing disclosure undertaking relating to the Series 2003 Bonds or other debt incurred by or for the benefit of the Academy.

Subject to reasonable security and safety regulations, the Authority and the Trustee and the respective duly authorized agents of each shall have the right at all reasonable times to enter the Site and the Project and to examine and inspect the same.

Section 804. Covenant as to Non-Impairment of Tax-Exempt Status. Notwithstanding any other provision of any rights of the Academy under the Agreement, the Academy hereby covenants that, to the extent permitted by law, it shall take all actions within its control and that it shall not fail to take any action as may be necessary to maintain the exclusion of the interest on the Series 2003 Bonds from gross income for federal income tax purposes, on behalf of itself and the Authority, including but not limited to, actions relating to the rebate of arbitrage earnings and the expenditure and investment of Series 2003 Bond proceeds and moneys deemed to be Series 2003 Bond proceeds, all as more fully set forth in the Non-Arbitrage Certificate.

Section 805. Covenant Regarding Bond Purchases. The Academy covenants that neither it nor any related person will purchase Series 2003 Bonds in an amount related to the amount of proceeds of such Bonds.

Section 806. Academy to Maintain Existence. The Academy covenants and agrees that for so long any Series 2003 Bond remains outstanding under the Indenture, it shall maintain its existence as a Public School Academy under Michigan law and shall continue to operate its facilities located at the Site as a public school which will produce sufficient available revenues to pay the Installment Payments and all other amounts due and owing under this Agreement. Notwithstanding the foregoing, the Academy shall have the right to cease operations at the Site upon (a) prepayment in full of the Installment Payments, Additional Payments and any prepayment premium required by the Authority as determined in the sole discretion of the Authority and (b) filing an opinion of Bond Counsel that such prepayment and release will not adversely affect the exclusion of interest on the Series 2003 Bonds from gross income for federal income tax purposes.

Section 807. Other Obligations. The Academy covenants and agrees that, without the prior written consent of the Trustee, at the direction of the holders of 51% of the outstanding Series 2003 Bonds, it will not incur indebtedness for borrowed money, guarantee the obligations of others or incur pecuniary obligations, except the following:

- (a) obligations incurred in the ordinary course of business;
- (b) obligations contained in the Management Agreement which are in all respects subordinate to the Installment Payments and Additional Payments;
- (c) state aid notes issued pursuant to Act No. 451, Public Acts of Michigan, 1976, as amended; and
- (d) purchase money obligations secured only by the property being financed and/or a pledge of State School Aid provided that the aggregate amount of such purchase money obligations outstanding at any one time shall not exceed 15% of the State School Aid received by the Academy in the most recently completed fiscal year.

Notwithstanding the foregoing, the Academy covenants and agrees that the amount of State School Aid to be received by the Academy shall be at least the total of the Installment Payments, Additional Payments and all payments on such other Obligations to which State School Aid has been pledged due in such fiscal year.

Section 808. Transfer, Assignment and Leasing. The Academy may lease any portion of the Project with the prior written consent of the Bank provided that the Academy delivers to the Bank, the Issuer and the Trustee in connection with any such leasing a Favorable Opinion of Bond Counsel with respect to such lease. No leasing shall relieve the Academy from primary liability for any of its obligations hereunder, and in the event of any such leasing the Academy shall continue to remain primarily liable for the payment of Installment Payments and for performance and observance of the other agreements herein on its part to be performed and observed.

So long as the Bonds are secured by the Letter of Credit and subject to the prior written consent of the Bank and the Authority, this Agreement may be assigned and the Project may be sold or conveyed by the Academy to a new owner without the necessity of obtaining the consent of the Trustee or any Bondholder, subject, however, to the following conditions:

- (a) Approval by the Authority, in its sole discretion, of such sale or conveyance;
- (b) The Academy shall, on or prior to the effective date of such sale or assignment, furnish or cause to be furnished to the Issuer, the Remarketing Agent, the Bank and the Trustee (i) an executed assumption agreement whereby the new owner agrees in writing to assume the obligations of the Academy under this Agreement and the Bond Documents to which the Academy is a party, together with the Bank's written consent thereto, and (ii) a Favorable Opinion of Bond Counsel with respect to such assignment or sale agreement; and
- (c) The new owner shall submit evidence to the Trustee that it is qualified to do business as a public school academy in the State of Michigan.

If the Bonds are no longer secured by the Letter of Credit, this Agreement may not be assigned without the prior written consent of the Issuer, the Trustee and a majority of the holders of the Bonds and compliance with the requirements described in (a) and (b) above.

Section 809. Substitution and Removal of Personal Property. Any Property financed or refinanced with Bond proceeds may not be removed from any Project Site unless (i) other property of equivalent or greater value and utility is substituted therefor within six months of such disposition or (ii) the proceeds of the sale of such Property are used in accordance with the following sentence or (iii) the Academy receives an opinion of Bond Counsel that noncompliance with (i) or (ii) above will not adversely affect the exclusion of interest on the Bonds from gross income for federal income tax purposes. Any proceeds received upon the sale of any of the Property financed or refinanced with the proceeds of the Bonds (i) will be invested at a yield not in excess of the yield on the Bonds and used for the purpose of redeeming the Bonds at the first subsequent call date, or (ii) will be used for the purpose of acquiring property performing the same function at such Project site as the disposed Property within six months of the date of receipt of such proceeds. Notwithstanding the foregoing, if any Property financed or refinanced with the proceeds of the Bonds wears out or becomes obsolete so that it is no longer functional to the Academy and the Academy deems it appropriate to dispose of such Property

and, further, if the Academy or any related party thereto receives no economic benefit from the disposal thereof, then the Academy may dispose of such Property other than as provided above.

Section 810. Maintenance, Repair and Modification. The Academy shall cause the Project to be used for the purposes described in this Agreement thereto throughout the term of this Agreement. The Academy does not know of any reason why the Project will not be used and occupied by it in the absence of supervening circumstances not now anticipated by it or beyond its control. The failure of the Academy to use the Project for its intended purposes shall not in any way abate or reduce the obligation of the Academy to pay the Installment Payments and the Additional Payments under the provisions of this Agreement.

The Academy agrees that it will keep the Project in good repair and good operating condition, ordinary wear and tear expected, at its own cost.

The Academy may remodel the Project or make additions, modifications and improvements to the Project from time to time as the Academy, in its discretion, may deem to be desirable, the cost of which shall be paid by the Academy; provided, however, that such additions, modifications and improvements (i) do not materially and adversely alter the scope, character, value or operation of the Project without the prior written consent of the Bank, (ii) do not impair the exclusion of interest on the Bonds from gross income for federal income tax purposes and (iii) do not contravene the provisions of the Enabling Legislation.

ARTICLE IX.

ACTIONS AFFECTING COMPANY AND AUTHORITY; INTEREST IN THE AGREEMENT

Section 901. Interest in the Agreement. Neither the Academy nor the Company shall assign or transfer its rights or obligations under this Agreement, except as shall be permitted in this Agreement or consented to by the Authority and the Trustee.

Section 902. Authority Assignment of the Agreement. The Company and the Academy hereby each acknowledge and consent to the assignment and pledge pursuant to the Indenture by the Authority to the Trustee, as additional security for the Series 2003 Bonds, of this Agreement and all of the Authority's rights and powers under this Agreement, (except the Unassigned Rights) including the right to receive Installment Payments and Additional Payments.

Section 903. Rights of Trustee Hereunder. The terms of the Agreement and the enforcement thereof are essential to the security of the Trustee and are entered into for the benefit of the Trustee. The Trustee shall accordingly have contractual rights and duties in the Agreement and be entitled to enforce separately or jointly with the Authority the terms of the Agreement.

Section 904. Authority Compliance With Indenture. The Authority shall comply with the covenants, requirements and provisions of the Indenture and perform all of its obligations thereunder.

Section 905. Supplements to Indenture. The Authority shall consent to no supplements to the Indenture which have a material effect on the rights or obligations of the Academy or the Trustee without the prior written consent of the Academy and the Trustee, respectively.

ARTICLE X.

EVENTS OF DEFAULT AND REMEDIES

Section 1001. Events of Default. The term "Events of Default" shall mean, whenever used in the Agreement, any one or more of the following events:

(a) Failure by the Academy to make an Installment Payment hereunder when due; provided, however, that no Event of Default described in this subparagraph (a) shall be deemed to have occurred solely by reason of such failure to make such payments if and to the extent that payments have nonetheless been made by the Bank to the Trustee pursuant to the Letter of Credit for deposit in the Bond Fund at such times and in such manner so as to prevent an event of default described under Section 7.01(a) or (b) of the Indenture.

(b) Failure by the Academy to make an Additional Payment hereunder when due; provided however that no Event of Default described in this paragraph (b) shall be deemed to have occurred solely by reason of such failure to make such payments if and to the extent that payments have nonetheless been made pursuant to a drawing on the Letter of Credit in accordance with the requirements of Section 3.3 of the Indenture at such times and in such manner so as to prevent an event of default described under Section 7.01(c) of the Indenture;

(c) Failure by the Academy to observe and perform any other obligations in this Agreement, or in any other related or collateral documents on its part to be observed or performed for a period of forty-five days after written notice specifying such failure and requesting that it be remedied, given to the Academy by the Authority or the Trustee; provided, however, that if said Default shall be such that it cannot be corrected within such period, it shall not constitute an Event of Default if the Default, in the opinion of the Trustee, is correctable without material adverse effect on the Series 2003 Bonds and if corrective action is instituted within such period and diligently pursued until the Default is corrected.

(d) The dissolution or termination of the Academy or failure by the Academy promptly to lift any execution, garnishment or attachment of such consequences as will materially impair its ability to carry out its obligations under this Agreement or the Academy becomes insolvent or bankrupt, or makes an assignment for the benefit of creditors or consents to the appointment of a trustee or receiver for the Academy or for the greater part of its properties; or a trustee or receiver is appointed for the Academy or for the greater part of its properties without its consent and is not discharged within 40 days; or bankruptcy, reorganization or liquidation proceedings are commenced by or against the Academy, and if commenced against the Academy are consented to by it or remain undismissed for 40 days; or an order for relief is entered in any bankruptcy proceeding.

(e) If any representation or warranty made by the Company or the Academy in any document delivered by the Company or the Academy to the purchaser(s) of the Series 2003 Bonds, the Trustee or the Authority in connection with the issuance, sale and delivery of the Series 2003 Bonds is untrue in any material respect.

(f) If the Academy shall default under any other agreement for payment of money and such default shall not be cured within any period of grace provided in such agreement, if any, or if the Academy shall assign or convey or attempt to assign or convey any of its rights or obligations under this Agreement except as shall be permitted under this Agreement, provided, however, that the Academy shall not be in default under this section, if it is contesting in good faith any default under any such other agreement for the payment of money, unless in the estimation of the Trustee the security of the Trustee under this Agreement is materially endangered.

(g) The occurrence of an Event of Default under the Indenture.

The term "Default" shall mean Default by the Academy in the performance or observance of any of the covenants, agreements or conditions on its part contained in this Agreement, exclusive of any period of grace required to constitute an Event.

The Defaults described in subsection (c) above only, are also subject to the following limitation: If the Academy by reason of force majeure is unable to carry out or observe the obligations described in said subsection (c), the Academy shall not be deemed to be in breach or violation of this Agreement or in default during the continuance of such inability. The term "force majeure" as used herein shall include, without limitation, acts of God, strikes, lockouts or other disturbances; acts of public enemies; inability to comply with or to cause compliance with laws, ordinances, orders, rules, regulations or requirements of any public authority or the government of the United States of America or the State of Michigan or any of their departments, agencies, or officials, or any civil or military authority; inability to procure or cause the procurement of building permits, other permits, licenses or other authorizations required for the construction, use, occupation, operation or management of the Project; insurrections; riots; epidemics; landslides; lightning; earthquake; fire; hurricanes; tornadoes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions; breakage or accident to machinery, transmission pipes or canals; partial or entire failure of utilities; or any other cause or event other than financial inability not reasonably within control of the Academy. The Academy agrees, however, to remedy with all reasonable dispatch the cause or causes preventing the Academy from carrying out its agreements; provided, however, that the settlement of strikes, lockouts and other disturbances shall be entirely within the discretion of the Academy, and the Academy shall not be required to make settlement of strikes, lockouts and other disturbances by acceding to the demands of the opposing party or parties when such course is in the judgment of the Academy not in the best interests of the Academy.

Section 1002. Remedies Upon an Event of Default. Whenever any Event of Default shall have occurred and be continuing, the Authority or the Trustee may take any one or more of the following remedial steps:

(a) Declare all indebtedness under the Agreement (i.e., Installment Payments, Additional Payments and all other payments required by this Agreement) to be immediately due and payable, whereupon the payment date for the same shall become immediately accelerated and all such indebtedness shall become immediately due and payable and the Trustee shall thereupon draw upon the Letter of Credit in accordance with its terms and the terms of the Indenture;

(b) Have access to and inspect, examine and make copies of the books and records and any and all accounts, data and income tax and other tax returns of the Academy only, however, insofar as they relate to the Project, the Site or the Event of Default and remedying thereof;

(c) To the extent of any insufficiency after drawing under the Letter of Credit, exercise and enforce all or any of its rights under the security interests granted in this Agreement; and/or

(d) To the extent of any insufficiency after drawing under the Letter of Credit, petition a court of competent jurisdiction for the appointment of a receiver to take possession of and manage and operate all or any part of the assets of the Academy for the benefit of the Authority and the Trustee.

No remedy herein conferred upon or reserved to the Authority or the Trustee is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy now or hereafter existing at law or in equity or by statute.

Any amounts collected pursuant to action taken under this Section shall be paid into the Bond Fund and applied in accordance with the Indenture, except amounts collected pursuant to ARTICLE VI for the benefit of the Authority which shall be paid to or retained by the Authority.

Section 1003. Payment of Attorneys' Fees and Other Expenses. In the event the Academy should default under any of the provisions of this Agreement and the Authority and/or the Trustee should employ attorneys or incur other expenses for the collection of the Installment Payments, and Additional Payments, for the enforcement of performance or observance of any obligation of the Academy in the Agreement or of the foreclosure of any security interests granted in this Agreement, the Academy shall on demand therefor pay to the Authority and/or the Trustee, as the case may be, the reasonable fees of such attorneys and such other reasonable expenses so incurred.

Section 1004. Limitation on Waivers. No delay or omission to exercise any right or power occurring upon any Event of Default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised from time to time and as often as may be deemed appropriate. In order to entitle the Authority or the Trustee to exercise any remedy under this Article, it shall not be necessary to give any notice other than such notice as may be herein expressly required.

In the event any agreement contained in this Agreement should be breached by any party and thereafter waived by the other parties, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder nor a waiver of the same breach on a future occasion. By reason of the assignment and pledge of certain of the Authority's rights and interest in this Agreement to the Trustee, the Authority shall have no power to waive or release the Academy from any Event of Default or the performance or observance of any obligation or condition of the Academy under this Agreement without prior written consent of the Trustee, but shall do so if requested by the Trustee, provided that prior to such waiver or release by the Authority, the Authority shall have been provided with an opinion of bond counsel of nationally recognized standing that such action will not result in any pecuniary liability to it and the Authority shall have been provided such indemnification from the Trustee as the Authority shall deem necessary.

ARTICLE XI.

MISCELLANEOUS

Section 1101. Amounts Remaining in Funds. Any amounts remaining in the Bond Fund or the Project Fund upon expiration or sooner termination of this Agreement after payment in full of the Series 2003 Bonds (or provision therefor) in accordance with the Indenture, and all other costs and expenses of the Authority and the Trustee specified under this Agreement, and all the amounts required to be paid by the Academy under this Agreement and the Indenture shall have been fully paid, shall be applied as provided in the Indenture.

Section 1102. Notices. All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed given when mailed by registered or certified mail, postage prepaid, return receipt requested, addressed to the Authority, the Company, the Academy or the Trustee, as the case may be, at the Authority's Address, the Company's Address, the Academy's Address, or the Trustee's Address, respectively, or hand delivered to the above at their respective addresses. A duplicate copy of each such notice, certificate or other communication given hereunder to the Authority, the Company or the Trustee shall also be given to the others.

The Authority, the Academy, the Company, and the Trustee may by notice given hereunder designate any further or different addresses to which subsequent notices, certificates or communications shall be sent.

Section 1103. Amendment. The Agreement may not be amended or terminated without the prior written consent of the Trustee and the Authority and no amendment to the Agreement shall be binding upon either party hereto until such amendment is reduced to writing and executed by both parties hereto. Amendments to this Agreement are subject to the provisions of Sections 9.03 and 9.04 of the Indenture.

Section 1104. Entire Agreement. The Agreement contains all agreements between the parties and there are no other representations, warranties, promises, agreements or understandings, oral, written or inferred, between the parties, unless reference is made thereto in the Agreement and the Indenture.

Section 1105. Binding Effect. The Agreement shall be binding upon the parties hereto and upon their respective successors and assigns, and the words "Authority," "Company," "Academy" and "Trustee" shall include the parties hereto and their respective successors and assigns and include any gender and singular and plural, any individuals, partnerships or corporations.

Section 1106. Severability. If any clause, provision or section of the Agreement be ruled invalid or unenforceable by any court of competent jurisdiction, the invalidity or unenforceability of such clause, provision or section shall not affect any of the remaining clauses, provisions or sections.

Section 1107. Execution in Counterparts. The Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 1108. Captions. The captions or headings in the Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions of the Agreement.

Section 1109. Applicable Law. The Agreement shall be governed in all respects, whether as to validity, construction, performance or otherwise, by the laws of the State of Michigan.

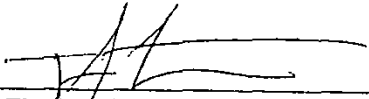
Section 1110. Non-Liability of State. The Agreement shall not be construed to create any liability or indebtedness of the State of Michigan, or of any officer thereof.

Section 1111. Non-Liability of Authorizing Body. The Authority and the Trustee, on behalf of the Bondholder, each understands and agrees that the authorizing body, Central Michigan University, has not agreed to assume, undertake or in any way guarantee payment of the Academy's obligations from any source of revenue available to the Authorizing Body, including the administrative fee deducted by the Authorizing Body from the state school aid payments received by the Authorizing Body for the Academy.

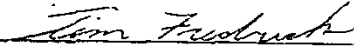
Section 1112. The Indenture. The Academy agrees to be bound by the terms of the Indenture applicable to it, and agrees not to take any action which would cause the Authority or the Trustee to violate the terms of the Indenture.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

**MICHIGAN PUBLIC EDUCATIONAL
FACILITIES AUTHORITY**

By: 
Thomas J. Letavis
Executive Director

F.C.C., INC.

By: 
Its: President

**WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE**

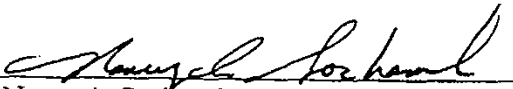
By: 
Nancy A. Sochanek
Its: Board President

EXHIBIT A
INSTALLMENT PAYMENTS

[See attached]

A-1-1

Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000

Michigan Public Education Facilities Authority
 Limited Obligation Variable Rate Demand Revenue Bonds
 (West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Principal Component and Portion of Set-Aside Component Allocated To	Assumed Maximum Intercept Rate*	Interest Component and Portion of Set-Aside Component Allocated to Interest*	Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
12/20/2003	1/01/2004	-	19,018.18	289.73	27,250.00	4,066.60	31,316.60
1/20/2004	2/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
2/20/2004	3/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
3/20/2004	4/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
4/20/2004	5/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
5/20/2004	6/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
6/20/2004	7/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
7/20/2004	8/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
8/20/2004	9/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
9/20/2004	10/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
10/20/2004	11/01/2004	-	19,018.18	289.73	35,671.55	4,066.60	39,738.15
11/20/2004	12/01/2004	8.000%	19,018.18	289.73	35,671.55	4,066.60	39,738.15
12/20/2004	1/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
1/20/2005	2/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
2/20/2005	3/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
3/20/2005	4/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
4/20/2005	5/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
5/20/2005	6/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
6/20/2005	7/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
7/20/2005	8/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
8/20/2005	9/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
9/20/2005	10/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
10/20/2005	11/01/2005	-	17,709.09	276.70	34,349.43	3,794.21	38,143.65
11/20/2005	12/01/2005	8.000%	17,709.09	276.70	34,349.43	3,794.21	38,143.65
12/20/2005	1/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
1/20/2006	2/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
2/20/2006	3/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
3/20/2006	4/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
4/20/2006	5/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
5/20/2006	6/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
6/20/2006	7/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
7/20/2006	8/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
8/20/2006	9/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
9/20/2006	10/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
10/20/2006	11/01/2006	-	16,400.00	256.25	33,019.89	3,521.83	36,541.71
11/20/2006	12/01/2006	8.000%	16,400.00	256.25	33,019.89	3,521.83	36,541.71
12/20/2006	1/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
1/20/2007	2/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
2/20/2007	3/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
3/20/2007	4/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
4/20/2007	5/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
5/20/2007	6/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
6/20/2007	7/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
7/20/2007	8/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
8/20/2007	9/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
9/20/2007	10/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
10/20/2007	11/01/2007	-	15,090.91	235.80	31,690.34	3,256.71	34,947.05
11/20/2007	12/01/2007	8.000%	15,090.91	235.80	31,690.34	3,256.71	34,947.05
12/20/2007	1/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
1/20/2008	2/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
2/20/2008	3/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
3/20/2008	4/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
4/20/2008	5/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
5/20/2008	6/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
6/20/2008	7/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
7/20/2008	8/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
8/20/2008	9/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
9/20/2008	10/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
10/20/2008	11/01/2008	-	13,781.82	215.34	30,360.80	2,977.05	33,337.85
11/20/2008	12/01/2008	8.000%	13,781.82	215.34	30,360.80	2,977.05	33,337.85

*This rate is subject to change as provided in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-1-2, A-1-3, A-1-4, A-1-5, A-1-6, A-1-7, A-1-8, A-1-9, A-1-10, A-1-11, A-1-12, A-1-13, A-1-14, A-1-15, A-1-16, A-1-17, A-1-18, A-1-19, A-1-20, A-1-21, A-1-22, A-1-23, A-1-24, A-1-25, A-1-26, A-1-27, A-1-28, A-1-29, A-1-30, A-1-31, A-1-32, A-1-33, A-1-34, A-1-35, A-1-36, A-1-37, A-1-38, A-1-39, A-1-40, A-1-41, A-1-42, A-1-43, A-1-44, A-1-45, A-1-46, A-1-47, A-1-48, A-1-49, A-1-50, A-1-51, A-1-52, A-1-53, A-1-54, A-1-55, A-1-56, A-1-57, A-1-58, A-1-59, A-1-60, A-1-61, A-1-62, A-1-63, A-1-64, A-1-65, A-1-66, A-1-67, A-1-68, A-1-69, A-1-70, A-1-71, A-1-72, A-1-73, A-1-74, A-1-75, A-1-76, A-1-77, A-1-78, A-1-79, A-1-80, A-1-81, A-1-82, A-1-83, A-1-84, A-1-85, A-1-86, A-1-87, A-1-88, A-1-89, A-1-90, A-1-91, A-1-92, A-1-93, A-1-94, A-1-95, A-1-96, A-1-97, A-1-98, A-1-99, A-1-100.

A-1-1

Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000

Michigan Public Education Facilities Authority
 Limited Obligation Variable Rate Demand Revenue Bonds
 (West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Principal Component and Portion of Set-Aside Component Allocated To	Assumed Maximum Intercept Rate*	Interest Component and Portion of Set-Aside Component Allocated to	Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
Date	Principal	Intercept Rate*	Interest*				
12/20/2008	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
1/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
2/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
3/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
4/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
5/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
6/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
7/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
8/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
9/20/2009	-	-	-	-	-	-	-
10/20/2009	16,363.64	-	12,472.73	194.89	29,031.25	2,704.67	31,735.92
11/20/2009	16,363.64	8.000%	12,472.73	194.89	29,031.25	2,704.67	31,735.92
12/20/2009	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
1/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
2/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
3/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
4/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
5/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
6/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
7/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
8/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
9/20/2010	-	-	-	-	-	-	-
10/20/2010	16,363.64	-	11,163.64	174.43	27,701.70	2,432.28	30,133.99
11/20/2010	16,363.64	8.000%	11,163.64	174.43	27,701.70	2,432.28	30,133.99
12/20/2010	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
1/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
2/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
3/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
4/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
5/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
6/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
7/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
8/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
9/20/2011	-	-	-	-	-	-	-
10/20/2011	16,363.64	-	9,854.55	153.98	26,372.16	2,164.40	28,536.56
11/20/2011	16,363.64	8.000%	9,854.55	153.98	26,372.16	2,164.40	28,536.56
12/20/2011	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
1/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
2/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
3/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
4/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
5/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
6/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
7/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
8/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
9/20/2012	-	-	-	-	-	-	-
10/20/2012	16,363.64	-	8,545.45	133.52	25,042.61	1,887.51	26,930.12
11/20/2012	16,363.64	8.000%	8,545.45	133.52	25,042.61	1,887.51	26,930.12
12/20/2012	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
1/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
2/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
3/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
4/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
5/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
6/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
7/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
8/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
9/20/2013	-	-	-	-	-	-	-
10/20/2013	16,363.64	-	7,236.36	113.07	23,713.07	1,615.12	25,328.19
11/20/2013	16,363.64	8.000%	7,236.36	113.07	23,713.07	1,615.12	25,328.19

*This rate is subject to change as provided in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-1-2.

A-1-1
Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000
Michigan Public Education Facilities Authority
Limited Obligation Variable Rate Demand Revenue Bonds
(West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Date	Principal Component and Portion of Set-Aside		Interest Component and Portion of Set-Aside		Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
		Component Allocated To Principal	Assumed Maximum Interest Rate*	Component Allocated to Interest*	Interest Rate*				
12/20/2013	1/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
1/10/2014	2/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
2/20/2014	3/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
3/20/2014	4/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
4/20/2014	5/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
5/20/2014	6/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
6/20/2014	7/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
7/20/2014	8/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
8/20/2014	9/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
9/20/2014	10/01/2014	-	-	-	-	-	-	-	-
10/20/2014	11/01/2014	16,363.64	-	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
11/20/2014	12/01/2014	16,363.64	8.000%	5,927.27	-	92.61	22,383.52	1,342.74	23,726.26
12/20/2014	1/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
1/20/2015	2/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
2/20/2015	3/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
3/20/2015	4/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
4/20/2015	5/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
5/20/2015	6/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
6/20/2015	7/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
7/20/2015	8/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
8/20/2015	9/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
9/20/2015	10/01/2015	-	-	-	-	-	-	-	-
10/20/2015	11/01/2015	16,363.64	-	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
11/20/2015	12/01/2015	16,363.64	8.000%	4,618.18	-	72.16	21,053.98	1,072.10	22,126.07
12/20/2015	1/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
1/20/2016	2/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
2/20/2016	3/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
3/20/2016	4/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
4/20/2016	5/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
5/20/2016	6/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
6/20/2016	7/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
7/20/2016	8/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
8/20/2016	9/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
9/20/2016	10/01/2016	-	-	-	-	-	-	-	-
10/20/2016	11/01/2016	16,363.64	-	3,309.09	-	51.70	19,724.43	797.96	20,522.40
11/20/2016	12/01/2016	16,363.64	8.000%	3,309.09	-	51.70	19,724.43	797.96	20,522.40
12/20/2016	1/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
1/20/2017	2/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
2/20/2017	3/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
3/20/2017	4/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
4/20/2017	5/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
5/20/2017	6/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
6/20/2017	7/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
7/20/2017	8/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
8/20/2017	9/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
9/20/2017	10/01/2017	-	-	-	-	-	-	-	-
10/20/2017	11/01/2017	16,363.64	-	2,000.00	-	31.25	18,394.89	525.58	18,920.46
11/20/2017	12/01/2017	16,363.64	8.000%	2,000.00	-	31.25	18,394.89	525.58	18,920.46
12/20/2017	1/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
1/20/2018	2/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
2/20/2018	3/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
3/20/2018	4/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
4/20/2018	5/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
5/20/2018	6/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
6/20/2018	7/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
7/20/2018	8/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
8/20/2018	9/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
9/20/2018	10/01/2018	-	-	-	-	-	-	-	-
10/20/2018	11/01/2018	8,636.36	-	690.91	-	10.80	9,338.07	109.09	9,447.16
11/20/2018	12/01/2018	8,636.36	8.000%	690.91	-	10.80	9,338.07	109.09	9,447.16
Totals		2,615,000.00		1,424,000.00		25,324.34	4,257,902.99	354,946.36	4,612,849.35

*This rate is subject to change as provided in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-1-2.

A-1-2
Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000
Michigan Public Education Facilities Authority
Limited Obligation Variable Rate Demand Revenue Bonds
(West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Date	Principal Component and Portion of Set-Aside Component Allocated To Principal	Assumed Maximum Interest Rate*	Interest Component and Portion of Set-Aside Component Allocated to Interest	Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
12/20/2003	1/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
1/20/2004	2/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
2/20/2004	3/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
3/20/2004	4/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
4/20/2004	5/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
5/20/2004	6/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
6/20/2004	7/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
7/20/2004	8/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
8/20/2004	9/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
9/20/2004	10/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
10/20/2004	11/01/2004	16,363.64	-	10,596.63	289.73	27,250.00	4,066.60	31,316.60
11/20/2004	12/01/2004	16,363.64	4.457%	10,596.63	289.73	27,250.00	4,066.60	31,316.60
12/20/2004	1/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
1/20/2005	2/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
2/20/2005	3/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
3/20/2005	4/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
4/20/2005	5/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
5/20/2005	6/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
6/20/2005	7/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
7/20/2005	8/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
8/20/2005	9/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
9/20/2005	10/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
10/20/2005	11/01/2005	16,363.64	-	9,867.23	276.70	26,507.57	3,794.21	30,301.78
11/20/2005	12/01/2005	16,363.64	4.457%	9,867.23	276.70	26,507.57	3,794.21	30,301.78
12/20/2005	1/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
1/20/2006	2/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
2/20/2006	3/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
3/20/2006	4/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
4/20/2006	5/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
5/20/2006	6/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
6/20/2006	7/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
7/20/2006	8/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
8/20/2006	9/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
9/20/2006	10/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
10/20/2006	11/01/2006	16,363.64	-	9,137.82	256.25	25,757.71	3,521.83	29,279.54
11/20/2006	12/01/2006	16,363.64	4.457%	9,137.82	256.25	25,757.71	3,521.83	29,279.54
12/20/2006	1/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
1/20/2007	2/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
2/20/2007	3/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
3/20/2007	4/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
4/20/2007	5/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
5/20/2007	6/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
6/20/2007	7/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
7/20/2007	8/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
8/20/2007	9/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
9/20/2007	10/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
10/20/2007	11/01/2007	16,363.64	-	8,408.42	233.80	25,007.85	3,256.71	28,264.56
11/20/2007	12/01/2007	16,363.64	4.457%	8,408.42	233.80	25,007.85	3,256.71	28,264.56
12/20/2007	1/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
1/20/2008	2/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
2/20/2008	3/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
3/20/2008	4/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
4/20/2008	5/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
5/20/2008	6/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
6/20/2008	7/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
7/20/2008	8/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
8/20/2008	9/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
9/20/2008	10/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
10/20/2008	11/01/2008	16,363.64	-	7,679.01	215.34	24,257.99	2,977.05	27,235.04
11/20/2008	12/01/2008	16,363.64	4.457%	7,679.01	215.34	24,257.99	2,977.05	27,235.04

* This rate is subject to change as described in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-2-1.

Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000

Michigan Public Education Facilities Authority
 Limited Obligation Variable Rate Demand Revenue Bonds
 (West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Principal Component and Portion of Set-Aside Allocated To	Assumed Maximum Interest Rate*	Interest Component and Portion of Set-Aside Component Allocated to	Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
1/20/2008	1/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
1/20/2009	2/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
2/20/2009	3/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
3/20/2009	4/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
4/20/2009	5/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
5/20/2009	6/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
6/20/2009	7/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
7/20/2009	8/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
8/20/2009	9/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
9/20/2009	10/01/2009		-	-	-	-	-
10/20/2009	11/01/2009		6,949.61	194.89	23,508.13	2,704.67	26,212.80
11/20/2009	12/01/2009	4.457%	6,949.61	194.89	23,508.13	2,704.67	26,212.80
12/20/2009	1/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
1/20/2010	2/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
2/20/2010	3/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
3/20/2010	4/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
4/20/2010	5/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
5/20/2010	6/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
6/20/2010	7/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
7/20/2010	8/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
8/20/2010	9/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
9/20/2010	10/01/2010		-	-	-	-	-
10/20/2010	11/01/2010		6,220.20	174.43	22,758.27	2,432.28	25,190.55
11/20/2010	12/01/2010	4.457%	6,220.20	174.43	22,758.27	2,432.28	25,190.55
12/20/2010	1/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
1/20/2011	2/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
2/20/2011	3/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
3/20/2011	4/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
4/20/2011	5/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
5/20/2011	6/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
6/20/2011	7/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
7/20/2011	8/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
8/20/2011	9/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
9/20/2011	10/01/2011		-	-	-	-	-
10/20/2011	11/01/2011		5,490.80	153.98	22,008.41	2,164.40	24,172.81
11/20/2011	12/01/2011	4.457%	5,490.80	153.98	22,008.41	2,164.40	24,172.81
12/20/2011	1/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
1/20/2012	2/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
2/20/2012	3/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
3/20/2012	4/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
4/20/2012	5/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
5/20/2012	6/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
6/20/2012	7/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
7/20/2012	8/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
8/20/2012	9/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
9/20/2012	10/01/2012		-	-	-	-	-
10/20/2012	11/01/2012		4,761.39	133.52	21,258.55	1,887.51	23,146.06
11/20/2012	12/01/2012	4.457%	4,761.39	133.52	21,258.55	1,887.51	23,146.06
12/20/2012	1/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
1/20/2013	2/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
2/20/2013	3/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
3/20/2013	4/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
4/20/2013	5/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
5/20/2013	6/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
6/20/2013	7/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
7/20/2013	8/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
8/20/2013	9/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
9/20/2013	10/01/2013		-	-	-	-	-
10/20/2013	11/01/2013		4,031.99	113.07	20,508.69	1,615.12	22,123.82
11/20/2013	12/01/2013	4.457%	4,031.99	113.07	20,508.69	1,615.12	22,123.82

* This rate is subject to change as described in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-2-1.

A-1-2

Schedule of Intercept Amount Assigned Pursuant to the Financing Agreement (Direct Payments)

\$2,615,000

Michigan Public Education Facilities Authority
 Limited Obligation Variable Rate Demand Revenue Bonds
 (West Michigan Academy of Environmental Science Project), Series 2003

State Aid Intercept Date	Date	Principal Component and Portion of Set-Aside Component Allocated To Principal	Assumed Maximum Intercept Rate*	Interest Component and Portion of Set-Aside Component Allocated to Interest	Scheduled Fee Payments	Total Intercept Amount	Additional Scheduled Fee Payments	Total Amount Including Additional Scheduled Fee Payments
12/20/2013	1/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
1/20/2014	2/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
2/20/2014	3/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
3/20/2014	4/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
4/20/2014	5/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
5/20/2014	6/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
6/20/2014	7/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
7/20/2014	8/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
8/20/2014	9/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
9/20/2014	10/01/2014	-	-	-	-	-	-	-
10/20/2014	11/01/2014	16,363.64	-	3,302.58	92.61	19,758.83	1,342.74	21,101.57
11/20/2014	12/01/2014	16,363.64	4.457%	3,302.58	92.61	19,758.83	1,342.74	21,101.57
12/20/2014	1/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
1/20/2015	2/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
2/20/2015	3/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
3/20/2015	4/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
4/20/2015	5/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
5/20/2015	6/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
6/20/2015	7/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
7/20/2015	8/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
8/20/2015	9/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
9/20/2015	10/01/2015	-	-	-	-	-	-	-
10/20/2015	11/01/2015	16,363.64	-	2,573.18	72.16	19,008.97	1,072.10	20,081.07
11/20/2015	12/01/2015	16,363.64	4.457%	2,573.18	72.16	19,008.97	1,072.10	20,081.07
12/20/2015	1/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
1/20/2016	2/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
2/20/2016	3/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
3/20/2016	4/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
4/20/2016	5/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
5/20/2016	6/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
6/20/2016	7/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
7/20/2016	8/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
8/20/2016	9/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
9/20/2016	10/01/2016	-	-	-	-	-	-	-
10/20/2016	11/01/2016	16,363.64	-	1,843.77	51.70	18,259.11	797.96	19,057.08
11/20/2016	12/01/2016	16,363.64	4.457%	1,843.77	51.70	18,259.11	797.96	19,057.08
12/20/2016	1/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
1/20/2017	2/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
2/20/2017	3/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
3/20/2017	4/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
4/20/2017	5/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
5/20/2017	6/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
6/20/2017	7/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
7/20/2017	8/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
8/20/2017	9/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
9/20/2017	10/01/2017	-	-	-	-	-	-	-
10/20/2017	11/01/2017	16,363.64	-	1,114.37	31.25	17,509.26	525.58	18,034.83
11/20/2017	12/01/2017	16,363.64	4.457%	1,114.37	31.25	17,509.26	525.58	18,034.83
12/20/2017	1/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
1/20/2018	2/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
2/20/2018	3/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
3/20/2018	4/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
4/20/2018	5/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
5/20/2018	6/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
6/20/2018	7/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
7/20/2018	8/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
8/20/2018	9/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
9/20/2018	10/01/2018	-	-	-	-	-	-	-
10/20/2018	11/01/2018	8,636.36	-	384.96	10.80	9,032.12	109.09	9,141.21
11/20/2018	12/01/2018	8,636.36	4.457%	384.96	10.80	9,032.12	109.09	9,141.21
Totals		2,615,000.00		905,881.71	23,374.54	3,546,366.25	354,946.36	3,901,312.61

* This rate is subject to change as described in the Financing Agreement. The initial schedule shall be A-1-1, and upon notice from the Authority, shall be A-1-2.

EXHIBIT B

The Project consists of an approximately 30,000 square foot school building that will house students in grades 8-12. The school building contains 12 regular classrooms, a science laboratory, a media center, a gymnasium with locker rooms, bleachers and rest rooms, a cafeteria with a non-food production kitchen, office area for administration and guidance, and core facilities such as storage, corridors, rest rooms, employee workroom and mechanical rooms. The Project is located on 62 acres and includes new athletic fields for soccer and softball/baseball, parking for 75 individual and a new service road.

The Site consists of 62 acres of property located at 4463 Leonard in the City of Walker, Kent County, Michigan.

INSTALLMENT PURCHASE FINANCING AGREEMENT

B-1

EXHIBIT C

REQUISITION CERTIFICATE

TO: Fifth Third Bank, Trustee, and Michigan Public Educational Facilities Authority

FROM: West Michigan Academy of Environmental Science (the "Academy")

RE: \$ _____ Michigan Public Educational Facilities Authority Limited Obligation Variable Rate Demand Revenue Bonds (West Michigan Academy of Environmental Science Project), Series 2003

This represents Requisition Certificate No. ___ in the total amount of \$ _____ to pay those costs of the Project detailed in the schedule attached.

The undersigned certifies that:

1. The expenditures for which moneys are requisitioned hereby represent proper charges against the Project Fund for the above-named Series 2003 Bonds, have not been included in a previous requisition and have been properly recorded on the Academy's books.
2. The moneys requisitioned hereby are not greater than those necessary to meet obligations due and payable or to reimburse the Academy for its funds actually advanced for the costs of the Project.
3. After payment of moneys hereby requested, there will remain in the Project Fund or otherwise available to the Academy sufficient funds available to complete the Project.

Executed this ___ day of _____, _____.

WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE

By: _____
Authorized Academy Representative

INSTALLMENT PURCHASE FINANCING AGREEMENT

C-1

EXHIBIT D

COMPLETION CERTIFICATE

TO: Fifth Third Bank, Trustee, and Michigan Public Educational Facilities Authority

FROM: West Michigan Academy of Environmental Science (the "Academy")

RE: \$ _____ Michigan Public Educational Facilities Authority Limited Obligation Variable Rate Demand Revenue Bonds (West Michigan Academy of Environmental Science Project), Series 2003

The undersigned does hereby certify:

1. The construction, installation, equipping and furnishing of the Project have been completed in accordance with the descriptions submitted to the Authority and in such manner as to conform with all requirements of the Agreement, as of the date of this Certificate (the "Completion Date"). The facilities comprising the Project are substantially completed and all approvals and certificates necessary to the occupancy and use of such facilities as a public school academy have been received in writing and all conditions appertaining thereto have been met.

2. The Project costs have been paid in full except those not yet due and payable, or which are being contested, which are described below and for which sufficient moneys for payment thereof are being held in the Project Fund:

(a) Cost of the Project not yet due and payable:

<u>Description</u>	<u>Amount</u>
	\$ _____
	\$ _____
TOTAL	\$ _____

(b) Payments being contested:

<u>Description</u>	<u>Amount</u>
	\$ _____
	\$ _____
TOTAL	\$ _____

INSTALLMENT PURCHASE FINANCING AGREEMENT

D-1

3. The moneys in the Project Fund in excess of the totals set forth in 2(a) and (b) above represent Surplus Bond Proceeds and the Trustee is hereby authorized and directed to transfer such moneys to the Bond Fund in accordance with Section 605 of the Agreement.

4. No event of default has occurred under the Agreement, nor has any event occurred which, with the giving of notice or lapse of time or both, shall become an event of default. Nothing has occurred to the knowledge of the Academy that would prevent the performance of its obligations under the Agreement.

This certificate is given without prejudice to any rights against third parties which exist at the date hereof or which may subsequently come into being.

Executed this ____ day of _____, _____.

WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE

By: _____
Authorized Academy Representative

QUIT CLAIM DEED

KNOW ALL PERSONS BY THESE PRESENTS that The Leona Group, L.L.C., a Michigan limited liability company, of 4660 S. Hagadorn Road, Suite 500, East Lansing, Michigan 48823 ("Grantor") conveys to West Michigan Academy of Environmental Science, a Michigan Public School Academy, of 4417 Leonard Street, N.W., Walker, Michigan 49449 ("Grantee"), the following described premises situated in the City of Walker, County of Kent, and State of Michigan, to-wit:

PARCEL A:

The East 1/2 of the Northeast 1/4 of the Southwest 1/4; and also the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the East 50 feet thereof, AND ALSO EXCEPT commencing on the North right-of-way line of Leonard Street (66.00 feet wide) at its intersection with the West right-of-way line of Wilson Avenue (100.00 feet wide) (a/k/a S.T.L. M-11); thence North along the West right-of-way line of Wilson Avenue 20.00 feet; thence Southwesterly to a point on the North right-of-way line of Leonard Street which is 20.00 feet West of the place of beginning; thence East along the North right-of-way line of Leonard Street 20.00 to the place of beginning.

PARCEL B:

The Southeast 1/4 of the Southwest 1/4 of Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, AND ALSO EXCEPT the East 50.00 feet thereof.

Subject to encumbrances, easements and restrictions of record.

For the consideration of less than \$100.00.

This transaction is exempt from State and County transfer tax pursuant to MSA 7.456(26)(a) and (d) and 7.456(5)(a) and (d).

Grantors grant to Grantee the right to make all remaining divisions, if any, under Section 108 of the Land Division Act, being Act 288 of the Public Acts of 1967, as amended. This Property may be located within the vicinity of farmland or a farm operation. Generally accepted agriculture and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act.

Dated this 8 of August, 2000.

1997

MAY 15 1997

FIRE SAFETY INSPECTION/CERTIFICATION REPORT

FACILITY NAME West MI Academy			DATE 04/30/97	COUNTY Kent	PROJECT NUMBER 4-00-1592-96
ADDRESS 4463 Leonard Ave NW			FACILITY TYPE School	RULES/CODES 89 MI Sch	JOB/LIC/FAC. NO. 1592
CITY Grand Rapids	STATE MI	ZIP 49544	FACILITY REP.		INSP. TYPE Recheck

RE: THREE NEW MODULAR UNITS - CHARTER SCHOOL

A final fire safety inspection of the above captioned project was completed this date. Deficiencies noted in our prior inspection reports have been satisfactorily corrected. This report may be considered as final approval of this project.

cc: Schemata Inc, 510 W Fulton NW, Grand Rapids, MI 49504
Gary Cass, Dept. of Education
David Lehman, facility

FIRE SAFETY CERTIFICATION Full Approval		PROJECT STATUS Closed	REVIEWED BY <i>[Signature]</i>	
DISTRIBUTION	INSPECTING OFFICIAL Lt. Michael Pachulski		ADDRESS 588 Three Mile Rd NW	
	SIGNATURE OF OFFICIAL <i>[Signature]</i>	CITY Grand Rapids	ZIP CODE 49544	TELEPHONE 616-784-4996

FILE COPY
 RECEIVED
 APR 7 1998
 BY *[Signature]*

FIRE SAFETY INSPECTION/CERTIFICATION REPORT

FACILITY NAME WEST MICHIGAN ACADEMY			DATE 03/31/98	COUNTY KENT	PROJECT NUMBER 4-00-1211-97
ADDRESS 4463 LEONARD NW			FACILITY TYPE SCHOOL	RULES/CODES 89 MI	JOB/LIC/FAC. NO.
CITY GRAND RAPIDS	STATE MI	ZIP 49544	FACILITY REP.		INSP. TYPE RECHECK

RE: SIX INDIVIDUAL RELOCATABLES AND ONE MULTI-ROOM RELOCATABLE
 92017AB, MU7A152, MU7A138, 2785, 2786, 2859, & 10186(MULTI ROOM).

A recheck fire safety inspection of the above captioned project was completed this date. All deficiencies have been corrected. Full approval.

cc: FACILITY
 DEW-EL PORTABLES, 92 VETERANS DR., HOLLAND, MI 49423
 GARY CASS, DEPARTMENT OF EDUCATION

FIRE SAFETY CERTIFICATION Full approval		PROJECT STATUS closed	REVIEWED BY <i>[Signature]</i>	
DISTRIBUTION Walker FD	INSPECTING OFFICIAL Michael Pachulski	ADDRESS 2922 Fuller NE, Suite 114		
	SIGNATURE OF OFFICIAL <i>[Signature]</i>	CITY GRAND RAPIDS	ZIPCODE 49505	TELEPHONE 616-447-2690

Received 11/24/2003 8:36:27 AM By: LA

BUREAU OF CONSTRUCTION
 CODES AND FIRE SAFETY
 P.O. Box 30700
 Lansing, MI 48909-8200
 www.michigan.gov/bccfs

DEPARTMENT OF CONSUMER & INDUSTRY SERVICES
INSPECTION REPORT

FACILITY NAME W. Mi. Academy of Environmental Science	INSPECTION DATE 10-22-03	COUNTY Kent	PROJECT 0747-03
ADDRESS 4463 Leonard NW	FACILITY TYPE School (charter)	RULES/CODES School - 99	JOB/LIC/FAC. NO.
CITY, STATE ZIP CODE Grand Rapids, MI 49544	FACILITY REPRESENTATIVE Bob Crandall, FCC Inc.		INSPECTION TYPE Recheck
FACILITY PHONE	PHONE 2	FACILITY FAX	

Re: new school building

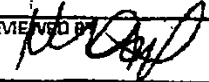

A recheck fire safety inspection was completed this date. Deficiencies noted in prior inspection reports have been satisfactorily corrected. No sprinkler plans were submitted because of a change in design. State Electrical Inspector John Chrusele gave his verbal approval on 10-22-03. This report may be considered as final approval of this project.

Full approval given.

NOTE: School Principal Greg Vander Goot agreed on 10-22-03 and Richard Postema agreed on 10-27-03 that the upper mezzanine in the gymnasium is not to be used or occupied.

Cc: 41074703.doc
 FCC Inc. attn: Tim Fredricks and Bob Crandall
 Richard Postema Associates

DOE Alexander Davlantes
 Facility
 Walker City FD

FIRE SAFETY CERTIFICATION Approved	PROJECT STATUS Closed	REVIEWED BY 
INSPECTING OFFICIAL Thomas Spaman	ADDRESS	2922 Fuller NE, Suite 114 Grand Rapids, Michigan 49505
SIGNATURE OF OFFICIAL 	TELEPHONE	(616) 447-2693
	FAX	(616) 447-2668
	E-MAIL	tspama@michigan.gov
<small>The Department of Consumer & Industry Services will not discriminate against any individual or group because of race, sex, religion, age, national origin, color, marital status, disability, or political beliefs. If you need assistance with reading, writing, hearing, etc., under the Americans with Disabilities Act, you may make your needs known to this agency.</small>		Authority: PA207 of 1941, as amended Completion: Required Penalty: Misdemeanor

BCCFS-40 (Rev. 1/03)

Distribution: Architect, BHS/BR/Ed, Facility, File, Local Fire Department, BCCFS

CONTRACT SCHEDULE 7

**REQUIRED INFORMATION FOR
A PUBLIC SCHOOL ACADEMY**

SCHEDULE 7

REQUIRED INFORMATION FOR A PUBLIC SCHOOL ACADEMY

Required Information for a Public School Academy. This Schedule contains information required by the Code and the Contract. The required information for the Academy is contained in this Schedule 7.

- Section a. Governance Structure. The governance structure of the Academy is set forth in Section a of this Schedule.
- Section b. Educational Goal and Related Measures. The educational goal and related measures of the Academy are set forth in Section b of this Schedule.
- Section c. Educational Programs. The educational programs of the Academy are set forth in Section c of this Schedule.
- Section d. Curriculum. The curriculum of the Academy is set forth in Section d of this Schedule.
- Section e. Methods of Pupil Assessment. The methods of pupil assessment of the Academy are set forth in Section e of this Schedule.
- Section f. Application and Enrollment of Students. The application and enrollment of students criteria of the Academy is set forth in Section f of this Schedule.
- Section g. School Calendar and School Day Schedule. The school calendar and school day schedule procedures are set forth in Section g of this Schedule.
- Section h. Age or Grade Range of Pupils. The age or grade range of pupils to be enrolled by the Academy is set forth in Section h of this Schedule.

SECTION A

GOVERNANCE STRUCTURE

GOVERNANCE STRUCTURE

WHEREAS, the People of Michigan through their Constitution have provided that schools and the means of education shall forever be encouraged and have authorized the Legislature to maintain and support a system of free public elementary and secondary schools; and all public schools are subject to the leadership and general supervision of the State Board of Education; and the Legislature has authorized an alternative form of public school designated a "public school academy" to be created to serve the educational needs of pupils and has provided that pupils attending these schools shall be eligible for support from the State School Aid Fund; and the Legislature has delegated to the governing boards of state public universities, community college boards, intermediate school district boards and local school district boards, the responsibility for authorizing the establishment of public school academies; and the University Board has approved the issuance of a contract conferring certain rights, franchises, privileges, and obligations of a public school academy to the Academy Board.

The Academy is incorporated as a Michigan nonprofit corporation, organized on a non-stock, directorship basis for the purpose of operating as a Michigan public school academy. The Academy shall conduct its affairs as a governmental entity exempt from federal income taxes under Section 115 of the United States Internal Revenue Code or any successor law. The Academy is a body corporate and is not a division or part of Central Michigan University. The relationship between the Academy and the University Board is based solely on the applicable provisions of the Code and the terms of this Contract.

The Academy Board shall have at least five (5), but no more than nine (9) members, as determined by the University Board. Academy Board members shall be appointed according to the terms of the Method of Selection, Appointment and Removal Resolution adopted by the University Board. The Academy Board has all the powers and duties permitted by law to manage the business, property and affairs of the Academy and for adopting policies by which the Academy shall be governed. The Academy Board is responsible for assuring that the Academy operates according to the Terms and Conditions of this Contract and Applicable Law. Contract Schedule 2: Bylaws, set forth a further description of the Academy Board's governance structure.

Academy Board members shall serve in their individual capacity, and not as a representative or designee of any other person or entity. The Academy Board shall ensure compliance with Applicable Law relating to conflicts of interest and prohibited familial relationships, including Article IV, Sections 4.4 and 4.5 of this Contract.

Pursuant to applicable law and the Terms and Conditions of this Contract, including Article III, Section 3.6, the Academy Board may employ or contract for personnel according to the position information outlined in Schedule 5. Before entering into an agreement with an educational service provider or an employee leasing company to provide services or to provide personnel to perform services or work at the Academy, the Academy Board must first comply with the Educational Service Provider Policies issued by the Center.

SECTION B

EDUCATIONAL GOAL AND RELATED MEASURES

EDUCATIONAL GOAL AND RELATED MEASURES

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.2, the Academy shall achieve or demonstrate measurable progress for all groups of pupils toward the achievement of the educational goal identified in this schedule. Although an increase in academic achievement for all groups of pupils as measured by assessments and other objective criteria is the most important factor in determining the Academy's progress toward the achievement of the educational goal, the Center also considers other factors. Upon request, the Academy shall provide the Center with a written report, along with supporting data, assessing the Academy's progress toward achieving this goal. In addition, the University expects the Academy will meet the State of Michigan's accreditation standards pursuant to state and federal law.

Educational Goal to Be Achieved

Prepare students academically for success in college, work and life.

Measures to Assist in Determining Measurable Progress Towards Goal Achievement

To assist in determining whether the Academy is achieving measurable progress toward the achievement of this goal, the Center will annually assess the Academy's performance using the following measures.

Measure 1: Student Achievement

The academic achievement of all students in grades 2-11, who have been enrolled for three* or more years at the Academy, will be assessed using the following metrics and achievement targets:

Grade(s)	Metric	Achievement Targets
Grades 2-8	The average college readiness level based on scaled scores from the NWEA [®] MAP [®] reading and math tests administered in the spring.	Students enrolled for three* or more years will on average achieve scaled scores equal to or greater than the grade-level achievement targets for reading and math identified in this schedule.
Grades 9-11	The average college readiness level based on subject scores from the EXPLORE [®] , PLAN [®] and ACT [®] tests by ACT, Inc. administered in the spring.	Students enrolled for three* or more years will on average achieve EXPLORE, PLAN and ACT subject scores equal to or greater than the achievement targets for reading, math, science, and English identified in this schedule.

*If the cohort of students enrolled for three or more years is not sufficient in size to conduct a valid analysis, the cohort of students enrolled for two or more years will be used.

Achievement Targets

NWEA MAP College Readiness Targets

Grade	MAP Reading Spring Target	MAP Math Spring Target
2	190	191
3	201	204
4	208	214
5	215	224
6	218	229
7	222	236
8	227	242

EXPLORE, PLAN and ACT College Readiness Targets

Grade/Test	Reading	Math	Science	English
9 - EXPLORE	16	18	20	14
10 - PLAN	17	19	21	15
11 – ACT	21	22	24	18

Measure 2: Student Growth

The academic growth of all students in grades 3 through 11 at the Academy will be assessed using the following metrics and growth targets:

Grade(s)	Metric	Growth Targets
Grades 3-8	Growth made by students from fall-to-spring in reading and math as measured by scaled scores on the NWEA MAP.	Students' fall-to-spring academic growth on average will demonstrate progress toward the grade-level achievement targets for reading and math identified in the schedule.
Grade 9-11	Growth made by students in reading, math, science, and English as measured by subject scores on the EXPLORE, PLAN and ACT tests.	Students' academic growth between tests on average will demonstrate progress toward the achievement targets for the grade-level subject scores in reading, math, science, and English identified in the schedule.

SECTION C

EDUCATIONAL PROGRAMS

EDUCATIONAL PROGRAM

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.3, the Academy shall implement, deliver, and support the educational programs identified in this schedule.

The Educational Program is designed to provide students with knowledge, skills, and attitudes to exceed performance and behavior measures established by the Academy Board. In addition, the program gives staff parameters in which to perform responsibilities, provides parents and the general public with information on the specialized instructional program of the Academy, and the achievement of the students. The Academy's mission statement is the guiding statement for programs and activities.

Mission

West Michigan Academy of Environmental Science strives to provide an environment that will foster creativity, promote academic achievement, and develop sound character and citizenship principles emphasizing responsibility to the environment and society, and improving each child's self-esteem and self-concept.

The Academy is a theme school, a magnet school for children whose parents want children to receive an educational program in which environmental science is integrated into all areas of the curriculum and co-curricular activities. Inherent in the environmental science theme is the use of natural resources as the primary laboratory and the expectation that all children can utilize the scientific method as a sixth sense for learning.

Elementary Education Program Kindergarten through Sixth Grades

Sub-schools

The Academy divides the larger school into two sub-schools: an elementary sub-school and a secondary sub-school. Resource teachers and learning specialists float between sub-schools.

The teachers of each sub-school, in essence, represent a professional learning community ("PLC") of instructional professionals assigned the responsibility for academic achievement and social development of all children in the "community." Teacher teams work collaboratively to ensure that each child is learning at the appropriate ability level. When a child is "underperforming," the team works together to design an Individual Student Learning Plan ("ISLP"). The term "underperforming" applies equally to the child who is not working up to potential but is making good grades as it does to the child who is failing.

Accelerated Learning

The term that embraces the Academy's instructional model is accelerated learning. The general definition embraces the basic tenets of Henry M. Levin's (1996) Accelerated School model. The goal is to provide all children with challenging academic programs to ensure that all underachieving children learn with peers on the "level playing field" and that all children enjoy the same advantages as gifted and talented children. Working within the PLC, teachers, in

partnerships with parents, are the fundamental components of the Accelerated School model. The Academy embraces these basic tenets for the delivery of instruction.

Performance-based Promotion

Student promotion requires mastery of the curriculum scope and sequence for the respective grade levels. Performance-based promotion requires the Academy employ highly qualified teachers and ensure the curriculum, instruction, and assessment are aligned. Reliable, valid information and open communication characterize the partnership between teachers and parents.

The Academy believes that all children can satisfactorily master the Grade Level Content Expectations (“GLCE”), the Common Core State Standards (“CCSS”), as well as the additional content standards established by the Academy. The Academy recognizes that each child learns at a different pace and establishes achievement checkpoints for student performance. The Academy designates grades three and six as gateway grades for promotion and retention purposes. Gateway grades are organized around the lower elementary and upper elementary organization of the Academy. The lower elementary team, over a four-year period, is responsible for each student performing at or above grade level on reading/language arts, mathematics, science, and social studies, as measured by sample California Test of Basic Skills (“CTBS”), Northwest Evaluation Association’s (“NWEA”) Measures of Academic Progress (“MAP”), and the Michigan Educational Assessment Program (“MEAP”).

A student who has not satisfactorily mastered the essential knowledge and skills for a grade level is reviewed by the lower elementary school team. The team works with the student toward mastery through academic acceleration and interventions, including, but not limited to, summer school. The team makes decisions on the promotion of a student, the retention of a students, or to promote a student with interventions. At the end of grade three, each student must demonstrate mastery of academic knowledge and skills requisite for promotion to grade four.

The Academy uses the Michigan Literacy Progress Profile (“MLPP”) to assess student progress in reading on “milestone tasks” and on “enabling skills.” Mastery is determined on the basis of multiple assessments ranging from MLPP assessments in reading, CTBS scores in basic skills areas, teacher-made tests, student demonstrations of competency, and the student’s ISLP. Upper elementary school team decisions at grade six are based on teacher-made tests, student projects, demonstrations, participation in specialty programs such as Environmental Awareness Camp, school-related clubs, CTBS, NWEA MAP, and MEAP test scores in core curriculum areas.

Time

To give students additional learning time, the Academy provides Academic Acceleration (intensive and subject-specific individualized tutorials for students who are not performing at grade level), extensive summer programs, and parallel scheduling (whenever possible) for core curricula in grades kindergarten through six. The school day is structured so that the morning schedule is dedicated to the core curricula areas of reading/language arts, mathematics, and social studies. Environmental science is integrated into these three core curriculum areas and science is taught as a stand-alone course to ensure mastery of science standards. If a student is deficient in basic skills and is not able to participate in added time programs, the student’s daily

schedule is adjusted to ensure adequate time to achieve and learn with peers on the level playing field.

School Day

The school day includes seven hours and thirty minutes, of which seven hours and five minutes will be instruction related. Students' instructional time far exceeds the state's required instructional time of 1,098 hours. The principal discourages any disruptions to the morning educational program. Mornings are for basic skills instruction required of all students and recreational activities are not to disrupt the morning program. To maximize student learning, the Academy also provides a full-day kindergarten program.

Instructional Delivery

Pre-Kindergarten

The Academy is authorized to operate an early childhood educational program including Pre-Kindergarten and Michigan's Great Start Readiness Program ("GSRP"). On an annual basis, the Academy shall advise the Center for Charter Schools ("The Center") on the current status of its early childhood educational program. If changes occur in the Academy's early childhood educational program, the Academy shall file a revised Early Childhood Educational Program Questionnaire with The Center. Provided that the Academy's educational program is not in violation of this Contract or Applicable Law, the revised Early Childhood Educational Program Questionnaire shall automatically become part of this Contract following a review by The Center. The form and manner of the Early Childhood Educational Program Questionnaire shall be determined by The Center Director.

Unless permitted under Applicable Law or administrative rule, the Academy shall not use the state school aid funds to establish or operate its early childhood educational program. In accordance with Applicable Law and administrative rule, the Academy shall budget and account for funds and expenses associated with its early childhood educational program.

Lower and Upper Elementary

Elementary school grades use a self-contained model for program delivery. Students have resource teachers in such areas as art, music, physical education, and Spanish. Depending on the subject, students remain in the classroom or go to another area of the building or grounds. To prepare students for middle school, the Academy may follow a departmentalized model for program delivery, when appropriate, for accelerated learning, stronger curriculum, and deeper content knowledge on the part of staff.

Educators of Excellence

The Academy hires educators who believe that excellence derives from mastering details, comprehending concepts, and applying knowledge and skills in the real world. The Academy does not just believe all children can learn but insists that all children will learn. Pedagogy must make a difference in a child's learning. Students are expected to master materials, apply knowledge to concepts, and reflect on learning. Students who attend the Academy understand that this is a theme school and the great outdoors is a natural laboratory. Students must want the outdoors experience, including working the land, searching ponds,

streams, lakes, and rivers, and working to conserve the environment for future generations. The Academy offers a “hands-on” learning experience to students who choose that type of education.

The Academy will not track children by ability as convinced by evidence that early tracking typecasts children into polarized groups of haves and have-nots, winners and losers, smart and dumb. For slower learners, consigned to watered-down curriculum, the judgment too often becomes a self-fulfilling prophecy. Instead, teachers use differentiated instruction methods to encourage all students to excel by concentrating on and engaging students in meaningful learning activities and by holding students to high academic standards.

The premise for learning is that character development and personal management skills form the basis for schooling. Empowered students take responsibility for personal learning and development. The Academy facilitates learning within an environment that encourages high ethical and academic standards and reinforces the positive values taught at home.

Curriculum

The Academy embraces the Michigan Curriculum Framework (“MCF”) as its minimum standards of learning. The curriculum scope and sequence attempts to extend the minimum standards through accelerated learning practices and differentiated instruction. The scope and sequence aligns to the MCF, GLCE, and Common Core State Standards (“CCSS”).

Students can accelerate “forward” for more academic challenge by cross grade learning projects and resource instruction. Students can leave the primary care teacher with a parent’s permission. Performance-based promotion does not allow students to go “backward” to a lower grade because the child has been certified by the prior year’s teacher as having achieved the academic knowledge and skills essential to success at the next grade level.

The Academy uses the Curriculum Crafter Tool (“CCT”) as a resource for instructional delivery. The CCT, a dynamic, web-based structure, houses the Kent County Core Curriculum (“KC4”). The tool provides access to teacher created, standards-based mastery curriculum developed to align with the GLCE and high school content expectations (“HSCE”). The KC4 curriculum is equipped with the following features:

- K-12 scope and sequence showing articulation across the grades;
- alignment to MCF and for English language arts, mathematics, science, and social studies;
- analysis of academic standard including vocabulary, concepts and information, sequence of instruction, and instructional suggestions
- MEAP/MME-like and performance-based assessments
- graphic organizers, resources, suggested materials, and web sites
- alignment of content, instruction, and assessment
- resources for constructing and applying knowledge
- age-appropriate instruction
- various learning styles and effective differentiation strategies
- research-based instructional best practices

- common assessments for district reporting

Curriculum Alignment and Review

The Academy's curriculum aligns with the Michigan Curriculum Framework, GLCE and the CCSS. The curriculum is reviewed annually by Choice Schools' Associate Director of Curriculum and Instruction. Accelerated learning principles and differentiated instruction accentuate the need for proper sequencing of learning objectives and experiences.

Content Areas

Reading/Language Arts

The Academy uses a research-based language arts program. The reading instruction includes phonemic awareness and systematic phonics instruction, as well as fluency, vocabulary, and text comprehension instruction supplemented with a guided reading program. Emergent readers read leveled books, big books, and trade books which feature a blend of phonics and sight word practice.

Through phonemic awareness and systematic phonics instruction, students learn the ability to hear and manipulate the sounds in spoken words and understand that spoken words and syllables are made up of sequences of speech sounds. This is essential to learning to read in an alphabetic writing system because letters represent sounds or phonemes. Furthermore, an understanding of the systematic and predictable relationships between written letters and spoken sounds, and knowledge of these relationships, helps early readers recognize familiar words accurately, automatically and assists in the "decoding" of new words.

However, phonics cannot stand alone; students' ability to read fluently is also important. Fluency instruction teaches students to read and reread a text a certain number of times or until a certain level of understanding is reached. Four readings are sufficient for most students but oral reading practice is increased through the use of audiotapes, tutors, and peer guidance. To further increase fluency, a strong vocabulary base must be taught. The two best strategies for students to learn vocabulary include indirect and direct teaching instruction. Indirect instruction allows students to engage daily in oral language, listen to adults read aloud, and read extensively independently. Direct instruction explicitly teaches both individual words and word learning strategies.

The Academy believes that comprehension instruction ties all the pieces together. Comprehension gives students a purpose for reading, focuses attention on the learning, and helps students to think actively while reading. Additionally, it helps students to review content and make connections to prior knowledge and new learning. Once reading is taught, the Academy's curriculum intensifies the writing expectations. Students practice recalling readings and write the main details from the story, as well as analyze characters and explain content meaning.

The Academy believes in writing across the curriculum to achieve mastery toward the GLCE and CCSS. Students write for a variety of purposes and projects. Writing assignments include daily short- to long-term projects. Daily projects include, but are not limited to, journals and environmental logs. Short-term assignments include, but are not limited to, letter writing, project proposals, grant writing, environmental reports, Role, Audience, Format, Topic, Strong verb ("RAFTS") strategy, and papers that make a real-life connection to the text. Long-term

assignments typically involve multiple draft papers and span anywhere from four weeks to an entire year. In addition to writing, students are taught to edit. Through the process of peer editing, students learn to view writing through a critical eye. Students edit papers on the following content: ideas, organization, voice, word choice, sentence fluency, conventions, and presentation.

The Academy has established the foundation for a strong language arts program. In order for the program to grow and maintain higher student achievements, the Academy utilizes PLC to research best practices and close any curriculum gaps that may arise as content changes.

Mathematics

Mathematics as a discipline has its own language, patterns of thinking, and conventions. The goal of mathematics is to develop in students the higher-order, problem-solving skills. The Academy's program strives to achieve that goal but believes students need a solid grasp of basic facts as the prerequisite for problem solving within all mathematical operations. A certain amount of practice, including "drill and kill," occurs in the process of learning basic mathematics facts and operations. Students practice concepts and constantly review and confirm skills. Practice also extends to examining different approaches to solving problems in different types of situations. At the Academy, students learn the fundamentals and apply concepts in order to move to the next level of problem solving.

Mathematics typically stands alone as a subject and is seldom integrated into other subjects until students master the fundamental basic skills and operations. A building block approach introduces topics in small increments, one bit building upon another in a natural progression, until the student masters the concepts and the skills through daily and cumulative practice. As bits develop into concepts, students respond to questions and hands-on problem solving situations to make step-by-step progress from mastery and application of basic skills to simple, practical problem solving and higher-order problem solving. As students move toward higher-order problem solving, teachers are encouraged to meet in PLC and integrate environmental science topics into lessons. This will increase deep knowledge learning for basic facts and operations, and for problem solving when appropriate.

Science

Science education will be two-pronged but interrelated. First, the program of studies introduces students to science concepts at appropriate grade levels to prepare students for MEAP tests based on the GLCE. Second, the program embeds environmental science topics throughout the curriculum in all subjects. As the Academy is located on a diverse 62-acre parcel of land, many natural resources (e.g., Lake Michigan and Grand River for the study of water and water life) are accessible for use by staff and students. An Environmental Specialist works directly with instructional staff to bring lesson plans to life. The specialist is central to the delivery of a unique hands-on curriculum with environmental science integration

The Academy uses a spiral format to deliver environmental science topics. Kindergarten students learn basic science facts in a hands-on setting where students can apply simple facts to real-world situations. The spiral works much like a column of content; simple to complex, recitation to problem solving. The natural resources of the region serve as the laboratory of the Academy's

environmental theme. Students receive direct, hands-on learning opportunities in which to experiment and observe.

The monthly environmental science themes have been identified for teachers to integrate across the curriculum. The monthly themes are as follows:

- ecosystems & living things water
- weather & climate
- winter ecology
- space exploration & environmental global issues
- science fair
- natural history
- energy
- land use
- agriculture

To further promote environmental studies, sixth grade students, with parental permission, participate in an overnight (two to four nights) Environmental Awareness Camp experience. The camp is under the guidance of the Environmental Specialist supported by staff and parent volunteers. In addition, if funds are available and parental permission granted, eighth grade students take part in a three-day, two-night trip to places such as the Smithsonian Institute, Greenfield Village, The Henry Ford Museum, or an Air and Space Science Museum. The trip is the culminating activity for eighth grade students.

The Academy also sponsors an annual competitive science fair learning experience. Students work with staff advisors and prepare a science fair entry. Entries are reviewed by peers and made available for public view. A panel of judges, including local media and Board representation, offers insight and feedback on fair entries and has the responsibility of judging entries as well. Additionally, as a community outreach program, the Academy endeavors to partner with local farm organizations and provide spring and summer opportunities for community gardening.

Social Studies

Social studies represent the integrated study of the social sciences and environmental stewardship to promote civic competence and good citizenship. Emphasis is placed on the principles of democracy. Practical, real-world environmental issues are processed through democratic institutions in a representative democracy.

The social studies curriculum is designed to develop enlightened citizens. Students are active members of a club or organization serving to improve the school and/or home community through active citizen involvement. The Academy carries out a comprehensive Michigan Community Based Environmental Education Plan (“McBeep”) to provide students with firsthand experience in conserving and preserving the environment for future generations.

Resource Programs

Resource programs may be offered by qualified teachers in the curricular areas of:

- arts (visual art and possibly instrumental music)

- physical education
- foreign language

Arts

The Academy wishes to make the arts (e.g., art, drama, music, and dance) an indispensable component of a child's education while at the same time placing the strongest emphasis on the basic skills of reading, writing, speaking, arithmetic, application of scientific knowledge, and citizenship. The arts offer children opportunities to assimilate and apply learning in ways relevant and meaningful to personal experiences. The enhanced skills of communication, analysis, and self-expression enable students to understand the surrounding world. In art, students become acquainted with great painters, sculptors, and architects. Children refine the ability to interpret art by examining diverse art works, discussing the elements (e.g., perspective, proportion, and scale) present in the works, and by learning about characteristics of art from different periods. Doing is very important to art instruction and students get the opportunity to create drawings, paintings, and sculptures.

The classroom teacher integrates the arts into the core curriculum while the art resource teacher provides appropriate and specialized instruction in visual art. Art and music activities nurture creativity. Students get practice imagining, experimenting, solving problems, thinking independently, and making independent decisions. As a result, students gain pride in accomplishment.

The best way for children to explore the arts is through participation. Active practice at painting, drawing, sculpting, singing, playing simple instruments paves the way to understanding and to self-expression. Instruction in art includes activities such as painting, drawing, and craft making. Students learn about elements such as shape, form, color, and texture, and examine famous examples of sculpture, painting, photography, design, and architecture, as well as folk art. In addition to being a medium of self-expression, art skills are useful to the individual in communications and related careers. Early exposure to the right art instruction allows the child to become art literate and able to access the creativity and expression natural to the child, and bring it forward into adulthood.

Lessons take place on three fronts: creative, analytical, and historical. Students learn much by looking at outstanding examples of art, listening to different types of wonderful music, reading about composers and artists, learning about some artistic and music concepts and terms, and studying the cultures and periods in which works were produced. Teachers at all levels utilize art activities in regular instruction. The art resource teacher acts as a coordinator to work with teachers, as well as students, to bring the creative spirit into art explorations.

Music

Music is integrated into the core curriculum by the classroom teacher, whenever appropriate, and specialized instruction is provided by the music resource teacher. At the lower elementary level, music instruction focuses on students singing, playing games, and experimenting with different instruments. Students learn the concepts such as rhythm, pitch, and volume, and how to read music. In addition, students become familiar with different instruments and the sounds, and listen to a wide range of recordings. In the upper elementary grades, music instruction expands to

include more background knowledge about great art and music from various cultures. When studying a work, students learn about the historical and cultural context of the time in which the piece was created.

In music, students become familiar with famous composers and sample a wide range of recordings ranging from Gregorian chants and classical music to American folk songs and popular music. Students continue to learn more about elementary music theory and about reading music. In addition, students also play some instruments (e.g., keyboard and recorder). Formal instruction in musical instruments for interested children may be provided as after-school enrichment.

Physical Education

Physical education is provided for students in kindergarten through grade six. Organized physical education provides knowledge, skills, and motivation needed for a lifetime of health and exercise. The physical education program aligns with the Academy's character education program. Students learn about teamwork, the importance of playing fairly, winning gracefully, and accepting defeat in good spirit. Physical education contributes to academic achievement as disciplined activity sharpens both mental acuity and an individual's appetite for learning.

Lower elementary students begin with such physical skills as running, jumping, throwing, catching, and kicking. In addition, simple games and exercises such as rope jumping, foot races, dances, simple gymnastics, and stretching build body control and coordination. Exercise as a valid part of life is professed, taught, and modeled by adults. Instruction encourages fitness, respect for rules, sportsmanship, safety, and the proper use of equipment. Activities give practice in rhythm, agility, balance, changing direction, and building speed. The use of kinetic energy to relieve stress, cooperate with a team, or compete for success is basic to the physical education of children.

In upper elementary grades, students take the skills learned in earlier grades and apply to popular American team sports (e.g., soccer, basketball, and softball) and individual sports (e.g., tumbling, foot races, and in-line skating). Students learn rules and skills. Each child is encouraged to choose an activity such as running or basketball, which can translate into a lifelong habit of exercise and physical activity. Students learn about healthy competition and the value of striving toward achieving a team or individual goal. Athletics are an excellent place to learn the value of being a good sport and about winning and losing in other aspects of life. Students participate in a wide range of competitive and noncompetitive activities which build stamina, strength, and agility. Activities continue to emphasize fitness, respect for rules, sportsmanship, safety, and proper use of equipment.

Foreign Language

The Academy offers Spanish language instruction to students. The foreign language program teaches students the root words of fundamental languages. The curriculum focuses on a single language at certain grade levels. Students learn to read, write, and speak through lessons focusing on acquisition skills.

Co-curricular Programs

The Academy encourages student organizations related to environmental science. All teachers are encouraged to sponsor a school-related student organization to involve all children in sustaining the environment and to develop sound conservation and protection habits to carry into adulthood.

Emotional Intelligence

Academic schooling concerns itself with abstract intelligence (the ability to understand and manipulate with verbal and mathematics symbols) and concrete intelligence (the ability to understand and manipulate with objects). Leadership and performance studies (Goleman, 1998) suggest that social intelligence, the ability to understand and relate to people, is important to educating boys and girls as enlightened citizens and responsible family and community members.

Central to social intelligence is emotional intelligence. Goleman defines emotional intelligence as “the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships. Emotional intelligence describes abilities distinct from, but complementary to, academic intelligence, the purely cognitive capacities measured by IQ.” Goleman categorizes emotional intelligence into the five basic emotional and social competencies of self-awareness, self-regulations, motivation, empathy and social skills.

Emotional intelligence assists students in overcoming conflict and resolving disputes. Further, emotional intelligence enables teachers to understand learning difficulties, develop teaching strategies, design assessment techniques and help students understand the role in the community as team members, students, family and caretakers. Individuals with high emotional intelligence often outperform people with higher levels of intellectual intelligence.

The Academy encourages teachers and support staff to participate in ongoing training in emotional intelligence and the application in school settings. A focal point of the training is to empower teachers with the knowledge and skills to carry out emotional literacy prevention programs. The most effective programs in emotional literacy developed as a response to violence and conflict resolution.

Learning Strategies

To raise academic performance, the Academy examines the manner in which individual students learn. The goal of teaching learning strategies is the development of a learner who actively and effectively monitors learning. To assist with learning strategies, instructional staff follow a common lesson plan framework.

Examples of effective learning strategies include the following:

- setting goals and planning an approach
- focusing attention on the information that is most important
- forming mental frameworks for organizing and understanding information
- linking new ideas with prior knowledge in order to make connections and add personal meaning

- monitoring personal comprehension of material to be learned and recognizing when one needs to change the learning approach (Derry 1989, Thomas 1993 Raforth, Leal, and Defabo 1993, and Weinstein et.al. 1999)

Teaching learning strategies makes significant differences in students' academic performance, creates independent learners and builds self-confidence. Learning strategies address the needs of all learners (e.g., below grade level and gifted and talented) and students practice and apply the strategies across the curriculum. Assessment ensures learning strategies become part of each student's regular learning repertoire.

Teachers also model strategic thinking. Teachers talking about thinking and doing may help children to better understand the thought process. The teacher who consistently "thinks out loud" and encourages it on the part of students also has an excellent diagnostic tool available (ERS, 2000).

Educational Development Program

To further empower students, the Academy requires students to create and EPD. An EDP is a document that reflects student educational and career goals, methods to achieve these goals and student activities and achievements. A student designs an EDP under the supervision of an academic specialist. Each EDP contains the following essential elements: personal information such as the student's name, date of birth, and grade level; education, training, and career goals; assessment results, both career- and academic-related; and a plan of action, including high school course selections, expected graduation date and timeline for college application.

Students develop an EDP in seventh grade. Starting the EDP in middle school assists students in planning for high school curriculum and post-secondary goals. An EDP is updated as student interests and abilities become more evident and focused.

Special Education

When making educational placement decisions for students with disabilities, the Academy will ensure that parents are notified and invited to become members of the group making these decisions. When determining how services will be delivered to students with disabilities, the Academy will follow all guidelines issued by the Michigan Department of Education. If a child with a current Individualized Educational Program ("IEP") enrolls in the Academy, the Academy will implement the existing IEP to the extent possible, or will provide an interim IEP agreed to by parents until a new IEP can be developed. IEPs will be developed, revised, and implemented only in accordance with the Individuals with Disabilities Educational Improvement Act ("IDEA") and state laws and regulations.

The Academy will fully comply with applicable laws and regulations governing children with disabilities, particularly IDEA, as follows:

1. The Academy is responsible for providing a free appropriate public education to children with disabilities as detailed in their IEP.
2. The Academy will ensure that children who are suspected of having disabilities are properly evaluated by a multidisciplinary team, which is acceptable to the Michigan

Department of Education, and that children who have already been identified are re-evaluated by the multidisciplinary team at established intervals required by IDEA.

3. When a multidisciplinary team determines that a special education student requires specially designed instruction, the Academy will ensure that the IEP is fully implemented in accordance with IDEA, and reviewed annually.

The special education program uses the inclusion model for providing services to students with IEPs. The Academy discourages pull-out programs. If a student is pulled-out from class, the intervention must be described in an IEP, a 504 Plan, or an ISLP. Cross grade movement for advanced work is not considered a pull-out program. Teachers recognize and honor the educational program stated in an IEP for a special education student, or a 504 plan for a qualified student. In cases where the Academy program is compromised by an IEP, the principal, or designated representative, asks the parent to meet to discuss the Academy's unique educational program and to discuss means by which the child might receive a higher quality educational program than that described in the IEP. The same is true for a student who has a 504 Plan.

Secondary Educational Program Seventh through Twelfth Grades

The mission statement guides the Educational Program and practices for grades seven through twelve.

Educational Program – General Characteristics

The Academy's high school program is characterized by:

- a focus on the core curriculum and environmental science and by co-curricular offerings in the arts and humanities for interested students
- integrated (interdisciplinary) units of study
- self-paced, individualized, and competency based lessons
- technology integration
- assessing at three levels of achievement: competent (70%), proficient (80%), and mastery (90%) through multiple means of assessment, ranging from MEAP tests aligned with the Michigan Merit Curriculum, NWEA MAP, and SAT/ACT test, to demonstrations of authentic works
- Michigan Merit Graduation Units along with dual enrollment with post-secondary credit
- Environmental Science Specialists who coordinate the integration of environmental science across the curriculum
- true to the basic tenets of the charter

Program of Studies

The program of study provides learning modules in the following areas:

1. Sciences

- a. Comprehensive environmental sciences (e.g., agriculture and agribusiness, anatomy and physiology, astronomy, botany, chemistry, ecosystems, energy, health and medicine, mathematics, meteorology, microbiology, physics, and

- zoology)
b. Social sciences (e.g., anthropology, geography, demographics, and economics)

2. Community Service

- a. Volunteer service required annually
- b. Senior community service project
- c. Occupations and work ethic

3. Senior demonstration project based on student's major emphasis of study

Program Responsibility

High school is a time to try out interests, to take some risks, and to measure oneself against the task. The first responsibility is always to oneself, to discover one's potential, interests, and limitations. Teachers and parents are critical partners in the child's education. There must be open, honest dialogue and communication structures to ensure students and parents clearly know the student's status of progress in school.

Student Learning Plan

The educational program is the responsibility of the stakeholders: student-parent-teacher. Each student works with a project design team consisting of a teacher (or teachers) and parent(s) to evaluate the ISLP. In the spring of the second and third years, the ISLP is expanded on the basis of the student's progress to that point in time. All parties through the first three years of high school must approve the plan.

First-Year Students: At initial enrollment, newcomers to the Academy must satisfactorily complete a seminar in research, shared inquiry, and project planning. The student must also demonstrate skills in the use of technology for word processing, spreadsheets, databases, and Internet searches. The student develops the first project plan for implementation under direct guidance of the seminar teacher. Students not possessing computer skills must pursue those studies rapidly and become computer literate by the end of the first semester.

Third-Year Students: At the conclusion of the second year of high school, the student, in consultation with the teacher(s) and parent(s), construct a major area of study for the third and fourth years of high school. The student tests in the requisite skill areas to determine readiness for the chosen major area of study and to demonstrate the proper level of competence in requisite skills to begin the major area of study.

Fourth-Year Students/Senior Project: The senior student continues the major area of study and constructs two plans: occupational and community service. The two plans assist the student in pursuing post-high school plans and finding a place in the community as a citizen and a learner. In the spring of the senior year, the student presents the senior project which is a presentation or demonstration of the major area of study.

The student learning plan consists of the following minimum components:

- Requisite competencies (an outline of academic knowledge and skills that demonstrate the student's readiness for the learning module;

- Core competencies (essential knowledge and skills that must be learned in this module);
- Interdisciplinary platforms for learning (structure/framework for student-centered inquiry into the topic; context within which students identify essential questions which generate content sequences);
- Assessments (means by which student achievement of core competencies and higher-order thinking are measured).

Throughout the four (or more) years in the Academy, students participate actively in community events concerning environmental science. Students in the fourth year participate in activities associated with the individual's major area of study and senior project.

Program Delivery

The core curriculum competencies coincide with the Michigan HSCE for graduation. The Academy uses the Michigan Merit Curriculum analysis and SAT/ACT alignment as guides for measuring student achievement against the HSCE. To be promoted from one grade to the next, the student demonstrates mastery in the core curriculum competencies.

The most difficult component of an integrated, self-paced competency-based program is management by the student and the teacher. The ownership students take regarding education reflects the mission of the Academy. The environment, structure, and content promote the self-learner concept in which students participate in constructing a personal knowledge base and learning problem-solving strategies. The scope of students' education extends beyond the traditional classroom as students interact with mentors, the community, and the physical environment.

First, the student (with close guidance from parents) must be responsible and reliable. Learning is the product of student inquiry into the topic. The student is the point of convergence for learning. Each student has a learning style, just as each teacher has a teaching style. In designing the program for a student, care is taken to incorporate the work of Howard Gardner on multiple intelligences, Daniel Goleman on emotional intelligence, and Eric Jensen on brain-compatible learning. This is an important component in staff development, the introductory student seminar, and developing the student learning plan.

Second, the teacher acts as a resource person, a guide to the student and is firm in expressing expectations and demanding excellence. The teacher must be gifted in inquiry-based instruction, authentic assessment, human relations skills with parents and students, and in the use of technology. The teacher is an instructional leader.

Third, technology is critical to every phase of learning: presentation, research, expression, and managing data. Technology becomes the infrastructure for learning and is interwoven into each strand of study. Technology is consistently used in all strands of study to enrich instruction and provide a deeper learning experience. Technology is also utilized for science fair and senior projects. All students are issued wireless network accounts for use in producing and storing educational products.

Fourth, the Academy community becomes the laboratory for learning. The classroom is wherever the resource is located. It may be a farm, golf course, or ski slope, Lake Michigan, or a puddle out back, the reservation, or the river, the community college, or a nursing home, distance learning, or working with a hoe, or on a fishing boat, library, foreign country, or a soup kitchen, or the hospital; the surrounding which best contributes to the project's learning outcomes is the student's laboratory.

A challenge in a project-based instructional program is instruction in the core curriculum: English, mathematics, sciences, social sciences, and foreign language. In the first and second years, students take coursework to strengthen or accelerate knowledge and skills in academic core courses. In English, major emphasis is placed on analytical thinking skills and writing. Literature is correlated to the humanities to reinforce interdisciplinary studies. Science and mathematics courses emphasize processes, applications, and data analysis that prepare the student to engage in research projects.

Every year that a student is involved in a science course or project, the student submits a science fair project to be exhibited at a school-wide science fair. Students also enter "open entry" science fairs in the region, including the community college or four-year colleges. The sophistication of science fair entries, including statistical analysis of data, must increase significantly each year.

In selected foreign languages, the Academy uses a proficiency framework as a primary basis for determining student performance.

Thinking skills are integrated into each of the core disciplines. Reading comprehension specifically addresses the following thinking skills: comparison/contrast, drawing conclusions, making judgments based on context clues, and critical analysis of literature. The various modes of discourse in writing require logical reasoning, analytical thinking, and creative thinking. Problem-solving skills are a basic requirement in math. Divergent, inventive and analytical thinking are necessary to succeed in a research-based science curriculum. In social sciences, learning experiences that are analytical, evaluative, and critical as well as creative in scope, will be mastered. Students learn to distinguish between and use primary sources and secondary sources in developing analytical and problem-solving projects. Students are also required to pass a geography competency test.

The difference in project work and traditional classroom time is apparent. One is inquiry and student centered, and the other is content and teacher centered. Both are essential to meeting the literacy, developmental, and reasoning needs of all students. Both types of learning are integral to the charter's vision and supplement and complement one another. A student must have the basic skills to be successful with higher-order thinking. Katz (1994) differentiates systematic instruction and project work in the following manner:

Systematic instruction (1) helps children acquire skills, (2) addresses deficiencies in children's learning, (3) stresses extrinsic motivation, and (4) allows teachers to direct the children's work, use expertise, and specify the tasks that the children perform. Project work, in contrast (1) provides children with opportunities to apply skills (2) addresses children's proficiencies (3) stresses intrinsic motivation, and (4) encourages children to

determine what to work on and accepts the student as experts about individual needs. Both systematic instruction and project work have an important place in the curriculum.

The use of themes (broad concept or topic) and units (preplanned lessons and activities) in systematic instruction assist students in learning the skills required for project work. The teacher shares responsibility with the student in making the transition from systematic instruction to project work.

Special needs students flourish in the Academy. Research and experience indicates that many special needs individuals are truly gifted and talented in technology and the sciences. The instructional model for special education is the immersion model, which calls for special needs students to work side by side with the regular education peers in all subjects. There may be an occasional need for special instruction or accommodations for special needs students. Those adjustments do not compromise the integrity of the Educational Program.

Health, Physical Education, and Civics

Health, physical education, and civics are required by Michigan law to be part of a student's high school education. To accomplish those requirements in a manner that exceeds traditional programs, the following approach is suggested:

Health: The health curriculum is embedded in the sciences strand and will be integrated into the sciences. Competencies are identified for student mastery and records kept to indicate a student's accomplishment of the competencies.

Physical Education: Physical education, provided through a diverse model, allows "sports in season" participation, membership in a health club/gymnasium, and/or participation in leisure-time physical fitness activities. Students report monthly on physical fitness activities. Physical education is also offered as a regular class for students in seventh and eighth grades and is available for high school students.

Civics: Civics is embedded in the sciences strand and is important to practices associated with an open learning environment. Students are taught the guiding principles of civics education but will have to live the principles daily as a member of the Academy's learning community. The Academy's Code of Student Conduct is integrated into civics as a partnership in responsibility

Advanced Placement ("AP") Classes

Students enroll in Advanced Placement courses in areas of interest. All students are required to take the Advanced Placement course in at least one of the science areas tested. The Academy pays the cost associated with taking an AP course provided the student completes the program of study, takes the AP examination, and scores a 3 or higher on the examination.

Community Service

Students become actively engaged in community service as a requirement of graduation. The purpose of the requirement is to provide meaningful service and community learning experiences

with the goal of developing students into mature and knowledgeable citizens who take responsibility for communities. Goals include the following:

- To provide meaningful service learning opportunities and community service experiences for students
- To support students' efforts to make voices heard and actions felt on important community issues
- To encourage students and other community members to break down barriers, particularly across ethnic and class lines, and work together to solve common problems
- To foster students' realization of a personal identity as part of a greater whole and nurture passion for active citizenship

Important to the success of the community service program are (1) the emphasis of the humanities program on civic responsibility in all aspects of life, (2) faculty encouraging students to become active participants in school and community affairs, and (3) the active involvement of community leaders in making opportunities available to students. Of course, of extreme importance is the attitude of students toward community service learning through participation and development of an ethic of involvement.

Students prepare for service learning projects through the social studies program. Preparation includes knowledge of national, state, and local government, principles of democracy, representative democracy, federalism, and states' rights and seminars on service, methods of effective communication, and team building. Students select a respective service project during the seminar and develop a project plan with the seminar leader and the service organization representative.

Travel Abroad

Students whose major area of study encourages study abroad may write foreign travel into the student learning plan. The individual nature of the plan permits students to pursue comprehensive studies while traveling away from the Academy and thus being considered to be enrolled in the educational program of the Academy. Interaction with teachers and mentors and regular progress reports can be transmitted by electronic mail, telephone, telefax, and regular mail.

Organization of Student Interventions

Students meet daily with a teacher or teachers for academic acceleration and intervention sessions. These sessions focus upon basic skills in the areas of English, math, scientific inquiry, historical method, primary and secondary research, writing workshop, public speaking, the political process, and/or civics. Through a series of written tests, oral examinations, and demonstrations, the student demonstrates sufficient mastery of the prerequisite knowledge and skills. The CCSS as well as the HSCE guide the minimal basic skills that a student is required to master.

Requisite Knowledge and Skills

For a student to be classified as a fourth year student and begin design of the senior project (which is scheduled for the third year), the individual must demonstrate competence in the following subject areas:

- reading comprehension at the eleventh grade level as measured on criterion reference tests
- composition skills for expository, narrative, and persuasive writing as measured by writing rubrics
- Algebra I and II, geometry competencies as measured by criterion reference tests
- application of the scientific method to real-world situations as demonstrated through science experiments
- local, state, and federal government structure and functions as demonstrated in position papers on government in daily lives
- civics and citizenship, principles of democracy as demonstrated by activity within the west Michigan community, especially the student's home community
- application of the historical method to research as demonstrated in a primary research project
- use of basic applications of technology for production and research

A mentorship is a form of learning, which integrates theory and application through experience. The senior project requires a student to do research and develop a project under the direction of a senior project mentor, a school professional, or other Subject Matter Expert ("SME"). Participation in the senior project requires maturity on the part of the student and a strong commitment from the senior project mentor.

Assessment of Student Achievement

The program has been developed to reflect Michigan Grade Level Content Standards and the Michigan Merit Curriculum with added focus on environmental science. Parents receive timely reports of the child's progress according to the following levels of achievement as outlined in the school's program of study:

- Competent Mastery of a competency at the 70% level of achievement
- Proficient Mastery of a competency at the 80% level of achievement
- Mastery Mastery of a competency at the 90% level of achievement

If a student has not achieved one of these three levels of achievement, there will not be a designation of progress. The student plan clearly states that the competency must be achieved before the student can complete the requirements of the plan, thus every competency is always a work in progress.

Students assess individual projects, indicating problems encountered and solutions developed. Self-assessment, at a minimum, correlate students' works to the respective student learning plans. Students are expected to demonstrate the ability to comprehend and to conduct detailed analyses, make leaps of intuition, hypothesize other possibilities, and evaluate and improve personal work.

Self-assessment can take many forms, including:

- Writing conferences
- Discussion (small group or individual with teacher/mentor)
 - Reflection logs
- Weekly self-evaluations
- Self-assessment checklists and inventories
- Teacher-student interviews

These types of self-assessment require that a student review work to determine what has been learned and what areas of confusion still exist. Students understand the criteria for good work before beginning a project. As students gain experience in evaluating work, the student learns how to set criteria for good work with clarity. Student observations and reflections provide valuable feedback for refining the student learning plan and making it a work in progress.

Appropriate evaluation always compares the student's current work to earlier work. This evaluation indicates the student's progress toward the performance standards consistent with the student learning plan and developmental expectations. The teacher's conclusions about a student's achievement, abilities, strengths, weaknesses, and needs are based on the full range of the student's development, as documented by the data in the ISLP, and on the teacher/mentor's knowledge of curriculum and stages of development. The use of an ISLP provides teachers with a comprehensive system for planning parent-teacher conferences. The parent and teacher review concrete examples of the student's work rather than trying to discuss the child's progress in the abstract. Open communications occurs regularly with parents and parents are informed of the student's performance.

In addition to the levels of achievement, self-assessment, and the ISLP, the Academy utilizes other assessments to monitor student progress. The ACT[®] test is administered to students in eleventh grade with make-ups available in grade twelve. Additional assessments include teacher made tests, student projects, and formative assessments. Teachers use formative assessments to adjust the delivery of instruction and to assist the student in reflecting about the learning. The adjustments provide opportunities for students to achieve and attain the goals established in the ISLP. Teacher made authentic formative assessments are validated by summative assessments that are consistent with HSCE proficiency.

Transfer Students—In and Out

A student who enrolls for the first time is required to demonstrate the same level of competence as required of students who have progressed through the Academy educational program for kindergarten through six grades. The transfer student tests on written examinations and oral examinations. Grade placement and course schedules are based on the student's prior report cards and MEAP tests scores, and on the student's demonstrated performance on written, oral, and NWEA MAP examinations.

At the Academy, there is a premium on sound character and citizenship. Students are respected as reasoning, thinking people who assume responsibility for academic achievement and behavior in a results-based learning culture. Parents become active partners with the Academy and the child to ensure a successful educational program

Curriculum Standards

The Michigan Merit Curriculum is integrated into the Academy’s program of studies to ensure that all students are achieving standards as set forth in the Michigan Merit Curriculum as established by the Michigan State Board of Education.

The Academy’s Educational Program is intended to prepare students to exceed minimum standards; therefore, students are expected to exceed the “floor” standards and to advance to the application and synthesis levels of learning.

Graduation Requirements

Students qualify for graduation upon satisfactory completion of the senior project, satisfactory or proficient scores on MEAP tests, and successful completion of the Michigan Merit Curriculum. A student must satisfy the accreditation standards promulgated by the Michigan State Board of Education. Additionally, the student must satisfy the graduation requirements established by the Academy Board. The Academy Board believes that the graduation requirements reflect a preparedness to continue education at a four year post-secondary institution. With this in mind, the graduation requirements change slightly from year to year so that the students will not only meet the requirements set by the Michigan State Board of Education and the Academy’s environmental science focus, but are challenged with an AP curricula that initiates the beginning of a post-secondary education.

<u>WMAES Graduation Requirements:</u>	<u>WMAES Graduation Requirements:</u>
Class of 2014 English (4 units) Math (4 units) to include Algebra I, Geometry, & Algebra II Science (4 units) to include Physical Science, Biology, & Chemistry and Physics or AP Biology Environmental Science (4 units) Social Studies (3 units) to include Government, Economics, US History, Geography, & World History World Language (2 units) Community Service (1 unit) Physical Education/Health (1 unit) Technology (1 unit) Visual or Applied Arts (1 unit)	Class of 2015 English (4 units) Math (4 units) to include Algebra I, Geometry, & Algebra II Science (4 units) to include Physical Science, Biology, & Chemistry and Physics or AP Biology Environmental Science (4 units) Social Studies (3 units) to include Government, Economics, US History, Geography, & World History World Language (2 units) Community Service (1 unit) Physical Education/Health (1 unit) Technology (1 unit) Visual or Applied Arts (1 unit)

<u>WMAES Graduation Requirements:</u>	<u>WMAES Graduation Requirements:</u>
<p style="text-align: center;">Class of 2016</p> English (4 units) Math (4 units) to include Algebra I, Geometry, & Algebra II Science (4 units) to include Physical Science, Biology, & Chemistry and Physics or AP Biology Environmental Science (4 units) Social Studies (3 units) to include Government, Economics, US History, Geography, & World History World Language (2 units) Community Service (1 unit) Physical Education/Health (1unit) Technology (1 unit) Visual or Applied Arts (1 unit)	<p style="text-align: center;">Class of 2017</p> English (4 units) Math (4 units) to include Algebra I, Geometry, & Algebra II Science (4 units) to include Physical Science, Biology, & Chemistry and Physics or AP Biology Environmental Science (4 units) Social Studies (3 units) to include Government, Economics, US History, Geography, & World History World Language (2 units) Community Service (1 unit) Physical Education/Health (1unit) Technology (1 unit) Visual or Applied Arts (1 unit)

Student Respect and Responsibility

Children today reach out for adults to provide structure. As parents and educators, boundaries and limits are established for life within a civilized society. Unless appropriate behavior is modeled and taught, students may learn inappropriate behavior by default. The Academy has a strong Code of Student Conduct (“Code”) to provide the framework for behaving and learning at school. Parents, the essential partner, are critical to the success of the Code. The Code firmly establishes the responsibilities of the Academy Board, the principal, staff, parents, and students, and further spells out the consequences for failing to meet those responsibilities.

Student Activities

Student government is a centerpiece of the students’ educational experience. The goals are consistent with the basic tenets of the charter. Vehicles to give students “voice” must be the norm in a learning environment characterized by reason, responsibility, and results. Program-relevant clubs and organizations have been established and students participate in local, state, and national opportunities.

Program Evaluation

The Educational Program is formally evaluated on an annual basis. Effective teaching is essential to the implementation of the Academy’s Educational Program. Academy leadership evaluates effective instruction by performing informal and formal teacher observations. The observations provide a platform for quality dialogue for constructive feedback serving to improve instructional practices. Academy staff also meet with leadership to review school performance. Data is collected and analyzed to determine and monitor school improvement goals. Leadership and staff routinely monitor assessment data (e.g., NWEA, MEAP and ACT) to implement needed changes, to ensure adequate growth in all classrooms and to make necessary adjustments to improve the delivery of the Educational Program.

In addition to observations and the examination of data, professional development opportunities and PLC are provided to staff members. Training opportunities and a professional community of learners enhance instructional practices and provide opportunities of collaboration and cooperation with other teachers.

SECTION D
CURRICULUM

CURRICULUM

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.4, the Academy shall implement, deliver, and support the curriculum identified in this schedule.

The Academy has adopted Academy written curriculum and the Curriculum Crafter Tool (CCT). The curriculum for CCT is available electronically and accessible at the following links:

- Curriculum Crafter Tool <http://www.curriculumcrafter.org/>

The curriculum has been reviewed and approved by The Center for Charter Schools.

Elementary Courses:

Indicate all subjects/courses that will be offered, changing the course title to reflect the Academy courses. Mark with an "X" the grade or level the course will be offered. A written curriculum must be submitted for each course that is offered at the Academy.

Course	K	1	2	3	4	5	6	7	8
English Language Arts	X	X	X	X	X	X	X	X	X
Mathematics	X	X	X	X	X	X	X	X	X
Science	X	X	X	X	X	X	X	X	X
Social Studies	X	X	X	X	X	X	X	X	X
Health	X	X	X	X	X	X	X	X	X
Physical Education	X	X	X	X	X	X	X	X	X
Art	X	X	X	X	X	X	X	X	X
Technology	X	X	X	X	X	X	X	X	X
Spanish	X	X	X	X	X	X	X	X	X

High School Courses

Indicate all subjects/courses that will be offered including the grade offered. A written curriculum must be submitted for each course that is offered at the Academy.

Course Name	Grade*
English	
English 9	9
English 10	10
English 11	11
English 12	12
Mathematics	
Algebra I	9
Geometry	10
Algebra II	11
Pre-Calculus	12
Science	
Biology	9
Physical Science	10
Chemistry	11
Physics	12
Social Studies	
US History	9
Economics	10-12
Government	10-12
Global Issues	11-12
History of Science	11-12
World History	11-12
Service Learning	11-12
Physical Education & Health	
PE I	9-12
PE II	9-12

Course Name	Grade*
World Language	
Spanish I	9-12
Spanish II	9-12
Visual, Performing & Applied Arts	
Art A	9-12
Art B	9-12
Other	
Environmental Science I	9
Environmental Science II	10
Environmental Science III-AP	11
Environmental Science IV-Senior Project	12
Business	
Personal Finance	10-12
Entrepreneurial Innovation	11
Introduction to Marketing	10-12
Entrepreneurial Product Design	12
Entrepreneurial Capstone-Make a Pitch	12
Technology	
Technology-PC Applications	9-12
Web Page Design	10-12

*If students are not required to take a course at a specific grade level, indicate by using the word “any.”

**Virtual Courses are any courses that are delivered using a web-based provider. List the course titles (attach additional pages as necessary); provide a password and login for verification.

***Off-Campus Courses: List the titles of all off-campus offerings (attach additional pages as necessary); submit a course description document with the curriculum submission.

Content Area | Environmental Science

Course/Grade Level | Environmental Science 1 – (Freshman)

Strand | Land Use – a study of urban and nonurban land use patterns throughout the world



WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

Gist | Students will gain an understanding of the importance of nonurban land and the protection and management of this type of land, they will also study issues of urban land use including sprawl and sustainable development.

Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: 1 day	<p>1. Have students complete an activity entitled “Tree Fact Gathering” in which each student gets a small slip of paper with a tree fact on it and then the tree fact gathering paper. Students should roam around the room looking for the answers to the questions on the fact gathering paper. The answers are within the small strips. Once they have all their answers review the correct answers and discuss these facts. Students will later use these facts in another activity.</p> <p>Tree Fact Gathering Notes Sheet Tree Fact Gathering Slips of Paper</p> <p>2. In small groups challenge students to create a list of all the ways that they use trees in their lives. Let them know that this is a competition, but if another group lists the same thing neither group gets a point for it. This should be used to assess prior knowledge of students on this topic.</p> <p>3. Go through the first part of the notes on land use that deals with trees, it’s slide 1-6 and the PowerPoint is titled Land Use.</p> <p>Land Use PowerPoint Land Use Student Notes</p> <p>4. Assign the creation of the tree obituary. This assignment asks students to use the information gained through fact gathering and notes to write an obituary for a tree. It is recommended that students complete the information required on the obituary sheet before they actually begin writing the obituary.</p> <p>Tree Obituary</p>

Lesson 2: 2 days	<p>5. Give the students a quick quiz on material covered yesterday.</p> <p>Quiz</p> <ol style="list-style-type: none"> List four reasons that trees are valuable What is meant by the fact that trees are a carbon sink? How do trees relate to global warming? Why are trees important to the economy? List 5 things you use daily made from trees <p>6. Begin with a discussion of forest use with Dr. Suess's <u>The Lorax</u> . Once you've read the book then divide them into small groups of 4 or 5 and hand them one of the oversized index cards with questions on them. It asks a question that the group needs to discuss and then share out their answer to the larger group. It should get them thinking about land use, or at least the use of forests.</p> <p>7. Go through the next set of notes with the class starting at slide 7 and going through 11. Students should be taking notes using their structured notes guide.</p> <p>8. The next assignment is called Morris Woods and it asks students to analyze a reading and take a stand on 3 different uses of a forest. Students should work in partners for this assignment and together read the first paragraph of each proposal which discusses a different option for the use of town owned land. The teams will then need to work together to fill out the grid on the back, they will also need to make a decision as to which proposal they like the best.</p> <p style="text-align: center;">Morris Woods Assignment</p>
Lesson 3: 1 day	<p>9. Students have learned a little about logging and have taken some notes. Ask them to come up with a list of pros and cons for logging. Why would people argue for or against it. Use this as a segue into a discussion of the controversy surrounding logging. Show students the video "Green Dreams: The forest Debate."</p> <p>http://video.google.com/videoplay?docid=6696435984996052189# Have them answer questions in their notes regarding this video.</p> <p style="text-align: center;">Green Dreams Video Questions</p> <p>10. Have students write a short paragraph outlining their position on logging and why they take that stand. It must include at LEAST 3 facts from the video or notes they've taken that supports their opinion.</p> <p>11. Students will learn about the role that fire plays in an ecosystem including the benefits and detriments. On the board make a Fire Power Chart and record ideas for both the harmful and helpful aspects of fire. It doesn't need to relate only to forest fires.</p>
Lesson 4: 2 days	<p>12. Have students take notes on information regarding surface fires. Discuss the policy of fire suppression within the National Parks.</p> <p>13. Discuss with students what must be present in order for fire to burn. Make sure that by the end of the discussion that students know that there must be fuel, oxygen, and ignition source.</p> <p>14. Divide students into partnerships in which they are going to create a public service poster on either the dangers of accidental forest fires or the</p>

benefits of prescribed burns. For the dangers of accidental forest fires they will need to answer questions about: What are the dangers of unintentional fires? How many are set in a year? In what ways do such fires affect the ecosystem? What precautions should be taken to prevent these fires? Or for the prescribed burns they can answer: How do prescribed burns alleviate future fire damage to forests? How often are prescribed burns set? How do foresters choose the area where they plan to set fires? What time of year are they carried out and why? What safety precautions are taken? How do they keep the fire contained? How long does it take for new growth to appear? Each group will present their poster.

[Directions for Poster Project](#)

[Research necessary for Poster Project](#)

Lesson 5:

1 day

15. Write the words overgrazing, rangeland, and desertification on the board and ask each student on a scrap piece of paper to define these words. Each student must do this....then collect these scrap pieces of paper and read off some of the definitions. Have the class decide which definition is closest to the true meaning....this will just hopefully access their background knowledge on the topic.

16. Students will watch a three part video series on youtube about grazing, overgrazing, and grazing management. There are questions for students to answer in their notes regarding these videos

<http://www.youtube.com/watch?v=EtXlZZ9qCJo&feature=related>

<http://www.youtube.com/watch?v=dWnTRHBoYAk&feature=related>

<http://www.youtube.com/watch?v=ezsSaVQZz6I&feature=related>

17. Have students take notes on rangeland and rangeland management from slides in the PowerPoint

18. As a way to reinforce vocabulary take a blank piece of paper and fold it into 8 pieces. Have students draw a picture and write five word definition of the word.....Here are the words I'd like them to use: (the definitions of these are ALL in their notes!)

Clear cutting, Selective cutting, Reforestation, Rangeland, Overgrazing, Deforestation, Grazing management, Non-urban land

Lesson 6:

1 day

17. Have students brainstorm as a group everything that they know about mining. What have they seen in the news, what does it do to the environment, different kinds, etc.

18. Discuss with students that they are going to be miners for the day and their job is to mine chocolate chips out of cookies. The goal is to get the chocolate with as little damage to the land as possible. Once students have finished mining have them answer the three questions on the back of their sheet which discusses mining.

[Cookie Mining Worksheet](#)

19. Show students two videos about mining:

<http://science.discovery.com/videos/how-do-they-do-it-coal-mining.html>

<http://news.discovery.com/videos/earth-scientists-seek-ban-on-mountaintop-mining.html>

20. Have students complete the section of their notes on mining.

<p>Lesson 7:</p> <p>1 day</p>	<p>21. Students will need to review all of the vocabulary in the nonurban land use section of this unit. They will do through the use of a vocab matching game called concentration. Students will need to play this game at least 3 times with 3 different partners!</p> <p>22. Students will work to review the unit so far through the use of a non-urban land study guide, which will prepare them for a quiz.</p>
<p>Lesson 8:</p> <p>1 day</p>	<p>23. Non-urban land-use quiz! Non-urban Land Use Quiz</p> <p>24. Public Lands discussion and activity. In small groups students will be told that their town has just been given 500 acres of forested land just outside of town along a river. They are on the town board and it will be their job to decide how they are going to use the land. They need to come up with a proposal of how to use the land and a litany of reasons that their use of the land is the BEST use. Have them present these to the class.</p> <p>25. Have students brainstorm the different kinds of public property (Public lands) that we have in the United States and get them to try to figure out what's different about each of the types of land.</p> <p>26. Take some notes on public lands in the United States.</p>
<p>Lesson 9:</p> <p>2 days</p>	<p>27. Ask the students to respond to the following question on a little scrap piece of paper: "If you have to choose to live in a city (an urban area) or out in the country (rural area) where would you choose to live? Why?" Have them share their answers.</p> <p>28. See if you can get them to come up with a Venn Diagram about rural areas and urban areas. I'm thinking that just doing a big one up on the board that they can come up and add to would be great.</p> <p>29. Go through slides 34-42. I've left you the blank notes for the kids, but it might be a little confusing....the information from slides 38-42 will go in the table that they have</p> <p>30. Introduce and assign them the "Sister Cities" assignment. Basically they are going to be drawing up two cities that would service the same number of people in roughly the same geographic area. One will be as a sustainable city and the other will represent urban sprawl. They'll need to use the information from their notes to help them create these cities. They should only be working on the URBAN SPRAWL city today. Sister Cities Assignment</p> <p>31. Discuss with students what's wrong with development. Ask them to make a list of problems that urban sprawl causes and then ask them to create a list of possible ways to combat these problems (they can do this just with the person sitting next to them). Go through their answers and discuss the feasibility of them.</p> <p>32. Go through the next set of notes on New Urbanism and Sustainable Cities.</p>

<p>Lesson 10:</p> <p>2 days</p>	<p>33. REVIEW TIME: I have two activities that they can do to review so perhaps you can have them do one and then the other.</p> <p>a. Activity 1 is playing memory with a partner. There are little bags filled with cards. They need to place all cards face down on their desk. One partner goes first and turns over 1 card of each color. If the word and the definition match they can keep it, if not they turn it back over and their partner gets to go. They have played it with me before so they should know what they're doing.</p> <p style="text-align: center;">Memory Game Cards</p> <p>b. Activity 2 is the card and definition game that we sometimes play taping the cards to the lockers. I've made the cards for you and an answer key so you can just put up the cards with the definition...they write down the vocab word they are starting with, then they read the definition under the word and try to go find that card (for example if the definition was a type of logging that takes only the mature trees, they would then be looking for the term selective cutting, they write that down on their paper, read the next definition, etc.)</p> <p style="text-align: center;">Vocab around the World</p> <p>34. Students will watch Sprawling from Grace and will answer some questions as they watch as a wrap-up to the unit on Urban Land Use.</p> <p style="text-align: center;">Sprawling from Grace Video Questions</p> <p>35. Students will complete a Land Use Unit review worksheet and then will be tested on the unit.</p> <p style="text-align: center;">Land Use Review Sheet Land Use Test</p>
Lesson 11:	
Lesson 12:	
Lesson 13:	
Lesson 14:	
Lesson 15:	
Lesson 16:	

Content Area	Environmental Science
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Course/Grade Level	Environmental Science 1 – (Freshman)
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Strand	Hydrosphere – A study of water resources and water pollution
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WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

Gist	Students will gain an understanding of the importance of fresh water, its scarcity, and the problems of pollution that plague both fresh water and salt water.
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Prerequisite Vocabulary (Use a new line for each item)

Solid
Liquid
Gas
Water Vapor

New Vocabulary (Use a new line for each item)

Watershed
Impermeable Surface
Aquifer
Recharge Zone
Permeable Surfaces
Surface Water
Ground Water
Point Source Pollution
Nonpoint Source Pollution
Irrigation
Eutrophication
Oligotrophic
Thermal Pollution
Organic Pollutants
Inorganic Pollutants

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
Fresh water is a precious natural resource that makes up only 3% of the world's water.	Lesson 1: 1 day	<p>1. Students will brainstorm as a group all of the places that they think they might be able to find water (naturally) around the world. There will also be a discussion of fresh water and salt water.</p> <p>2. Students will complete an activity entitled "Where in the world is all the water?" Each group will need five cups to start with and one of those should be filled with water. They should label the cups OCEAN, GLACIERS AND ICE CAPS, SURFACE WATER, and GROUND WATER. Make sure that students know what each of those terms means. Have them figure out what percentage of the water they have in their full cup goes into each of those other categories. In the end you'll</p>

want to explain that 97% is in the oceans or salt water, 2% in glaciers and ice caps, 0.9 % in ground water, and only 0.1% (actually less) is in surface water.

3. Play the incredible journey game from Project Wet.

Incredible Journey

4. Show students the first 6 slides of the “Our Watery World” PowerPoint and have them take notes in their packet of structured notes.

Our Watery World PowerPoint Our Watery World Structured Notes

5. Have them to go back to their journey and write a story about their journey. It should be imaginative and they need to use the vocabulary discussed in the notes like precipitation, runoff, transpiration, evaporation, etc.

Incredible Journey Story Starter

Lesson 2:

1 day

6. Ask students to draw a picture of a watershed (this should judge how much they already know about a watershed). Have them share out the results of their picture.

7. Provide students with a piece of heavy-duty aluminum foil and instruct them to make a landscape, they can make mountains, plains, valleys, etc. Then instruct them to place large dots across their model in a variety of places, the dots should represent a house that’s under construction, an oil leak from a car, etc. Then provide them with a spray bottle and have them mimic a rainstorm...what happens, where does the water go? Does it all drain to the same place? Explain the definition of a watershed.

8. Have students complete the Tracking Pollution ~ A Hazardous whodunit activity in which they will begin to understand the concept of watersheds and how they are linked to groundwater contamination.

Tracking Pollution ~ A Hazardous Whodunit

9. Have the students watch a short youtube video about aquifers.

<http://www.youtube.com/watch?v=lht9WBBXepA>

10. Go through the next slides in the PowerPoint that discuss watersheds and aquifers and have students take notes.

Lesson 3:

2 days

11. On the board write the following statement: “In the next century there WILL be wars over water.” Ask students why they think this might be true and where these wars might take place.

12. Watch the video Blue Gold and have students follow along the video with a set of video questions.

		Blue Gold Video Questions
		12a. Discuss how water is used throughout the United States and discuss water conservation methods. Students will take notes from the PowerPoint.
Lesson 4:	2 days	13. Discuss the issue of dams. Why do some people hate dams and others love them. Have students take notes on dams. 14. Have students participate in a Dam Debate.
		Dam Debate Paperwork
Lesson 5:	1 day	14. Have students brainstorm all the possible things that might pollute a body of water and then ask them to group them according to either point or nonpoint source pollution. 15. Use the watershed model to demonstrate the idea of nonpoint source pollution. 16. Have students take notes on both point and nonpoint source pollution including both causes and possible solutions using the PowerPoint entitled Our Watery World. 17. Have students complete the sources of water pollution worksheet.
		Sources of Water Pollution Worksheet
Lesson 6:	1 day	18. Discuss with students the various types of water pollutants and then classify these as point and nonpoint sources of pollution. Students will need to take notes on the various kinds of pollutants. 19. Challenge students to come up with lists of ways that you could stop these kinds of pollutants from entering waterways. Have them write a letter to their families outlining what they can do as a family to minimize their impact on freshwater systems.
		Postcard to Families
Lesson 7:		20. Perform Artificial Eutrophication lab which requires some set-up prior to completing the lab.
Lesson 8:		
Lesson 9:		Artificial Eutrophication Lab
Lesson 10:		
Lesson 11:		21. Students will continue to take notes from the PowerPoint on Oligotrophic vs. Eutrophic lakes, ponds, etc.
Lesson 12:		
Lesson 13:		22. Students will read an article about thermal pollution and then will create wanted ads for either thermal pollution or some other type of pollution that we have discussed.
Lesson 14:		

Lesson 15:

Thermal Pollution Reading
Wanted Ads Description

Lesson 16:

Content Area	Environmental Science
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Course/Grade Level	Environmental Science 1 – (Freshman)
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Strand	The Atmosphere – a study of the layers of the atmosphere, its composition, the role it plays, the greenhouse effect and air pollution.
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WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

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Gist	
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Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: 1 day	1. Start out this unit by giving them a small pretest on the atmosphere. Atmosphere Pre-test 2. Take notes on the layers of the atmosphere (slides 1-7) from the Atmosphere PowerPoint. Atmosphere PowerPoint Atmosphere Structured Notes 3. Using just a blank sheet of copy paper have students create a model of the earth and our atmosphere. It should include all 5 layers of the atmosphere, pictures of what goes on in the atmosphere and labels as to the height of each layer. This should be a COLORFUL representation. 4. We're going to talk about weather next and so in groups of 2 and ask them to write a script for a 20 second weather forecast. They should include as many weather words that they can think of and then they'll begin presenting these as the class keeps a list of weather words used on the board..
	Lesson 2: 1 day	5. Watch the latest weather forecast from weatherchannel.com http://www.weather.com/outlook/videos/dangerous-winter-storm-this-week-365 6. Take some notes on weather, slides 8-14 of the PowerPoint 7. Read section 2 weather patterns and then in small groups answer the questions. Section 2 Weather Patterns West Michigan Academy of Environmental Science

8. Have them complete the “Reading a Weather Map” the directions of what to do are on it.

[Reading a Weather Map Activity](#)

Lesson 3:

2 days

9. To reinforce some of the concepts that have been covered up through this point in the unit the students will perform several different lab demonstration activities.

- a. Have students in small groups do the warm air, cold air simulation which is actually done with water.
- b. Also have them complete the “Making a Rainstorm” demonstration. For both of these activities there are questions that go along with the exercise.

[Lab Activity Questions](#)

10. Before starting the third lesson you’ll want to set up two tanks with thermometers that will demonstrate the greenhouse effect. Both 10 gallon fish tanks should have a thermometer propped up in the bottom and both should have a grow light shining directly into the tanks. One tank should be open to the air and the other should be sealed with plastic wrap. Students will eventually come to look at the temperature in each tank and surmise about why there is a difference.

11. Have students complete a Venn diagram of weather and climate. Use this as a tool to figure out where they are in terms of knowledge. Have students share these with the class and make a giant one on the board.

12. Provide students with a world map that have several locations marked off on it and ask them to describe the climate at each of the marked locations. Make sure that they are not only describing temperature, but also precipitation.

[World Map Climate Activity](#)

13. Have students check out the tanks that are representing the role of the atmosphere. Have them look at the two thermometers, record their findings and then guess as to why there is a difference in the two. Ask them how this relates to the earth and our atmosphere.

14. Take notes on weather vs. climate, role of the atmosphere, and the greenhouse effect.

15. Have students complete a longitude and latitude worksheet in which they are finding the longitude and latitude of certain locations worldwide and then making an educated guess about the climate (both temperature and precipitation)

[Latitude and Longitude Worksheet](#)

16. Have students play atmosphere bingo to reinforce the vocabulary terms from the unit thus far.

[Atmosphere Bingo](#)

Lesson 4:

1 day

17. Students will take a quiz on material covered up through this point in the unit.

[Atmosphere Quiz](#)

18. Students will move on to take an Air Pollution IQ test to assess their knowledge and understanding of air pollution and its health effects.

[Air Pollution IQ Test](#)

19. Students will now participate in two activities occurring simultaneously.
- Students will work in small groups with the air pollution poster and will answer questions related to these posters. They will have to search for answers.
 - Students will work the teacher to go through an air quality activity that involves food coloring and water to represent the pollutants in our air.

[Air Pollution Poster Questions](#)

[Air Quality Food Coloring Activity](#)

20. Students will take notes on Air Pollution, slides 24-32

21. Students will work in small groups or individually on an independent study activity that reinforces the concepts related to air pollution covered thus far.

[Lesson 1 Independent Activity](#)

Lesson 5:

22. Have students read “Mexico City Air hurting Kids” there are also questions that go along with this.

[Mexico City Reading and Questions](#)

2 days

23. Notes on Air Pollution, slides 33-35

24. Have students perform what comes out of a car’s tailpipe lab

[What comes out of a car’s tailpipe lab](#)

25. Review the BIG BAD SIX air pollutants through discussion and questioning. Have students make a visual for the big bad six including the name, where it comes from, hazards, and a picture.

Lesson 6:

2 days

26. Begin the lesson with a discussion of pH. What do students already know about pH? Bring in a variety of household items and have them try to arrange them in order of their pH (milk, juice, orange, coke, soap, shampoo, draino, etc) Allow students to come up and move things around first and then show them the correct order.

27. Brainstorm a list of things that the students think cause acid rain. Project an world map up on the screen and have them predict areas of the world that they think will have a major problem with acid rain, then show them the true map that already has this detailed on it.

[World Maps](#)

28. Go through the “Testing Acid, Tracking Rain” lab investigation to get students thinking more about acid rain.

[Testing Acid, Tracking Rain](#)

29. Provide students with notes on the causes and effects of acid rain.

30. Assign students to complete the weather special assignment in which they have to write a produce a special segment for TV which will be a weather special on the effects of acid rain in Michigan. They will present these to their

		<p>peers. Peers will also grade them.</p> <p style="text-align: center;">Weather Special Assignment</p>
	Lesson 7 2 days	<p>31. Read “The Trail of the Missing Ozone!” this is a comic and the students can get really into it if you assign them characters and voices. Once you’ve read all or most of the comic assign students to answer the questions in small groups.</p> <p style="text-align: center;">On the Trail of the Missing Ozone! Missing Ozone questions</p> <p>32. Have students take notes from the PowerPoint on good ozone vs. bad ozone slides #42-51</p> <p>33. Assign students to complete the ozone action brochure. This brochure has students discussing both good and bad ozone and ways that ordinary people can help with the problems, both ozone depletion and smog.</p> <p style="text-align: center;">Ozone brochure assignment Ozone brochure additional information</p>
	Lesson 8 1 day	<p>34. Take students through the set-up for the indoor air pollution lab. They’ll be making pollution catchers and then putting them up around the school building.</p> <p style="text-align: center;">Indoor Air Pollution Lab</p> <p>35. Have students read Indoor Air Quality Reading Material and then answer questions orally as a group on this topic.</p> <p style="text-align: center;">Indoor Air Quality Reading Material</p> <p>36. Have students take notes on Indoor Air Pollution slides #52 –</p>
	Lesson 9 1 day	<p>37. Have students use the reading “Understanding the Clean Air Act” to complete a graphic organizer on the topic.</p> <p style="text-align: center;">“Understanding the Clean Air Act” Reading Clean Air Act Graphic Organizer</p> <p>38. Have students take notes on the Clean Air Act slides</p> <p>39. Introduce students to the Fight For Healthy Air writing assignment.</p> <p style="text-align: center;">Fight for Healthy Air</p>
	Lesson 10 3 days	<p>40. Have students go back and check out their indoor air pollution catchers under the microscopes to determine which place was the dirtiest. Students will fill in the remaining questions on their lab sheet. Discuss answers as a class.</p> <p>41. Students will complete one final assignment before reviewing for the test. In pairs students will work on designing a board game on the topic of air pollution.</p> <p style="text-align: center;">Air Pollution Board Game</p> <p>42. Review for the Test</p> <p style="text-align: center;">Air Pollution Test Review Guide Air Pollution Test</p>





Content Area	Environmental Science
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Course/Grade Level	ES2 – Natural History
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Strand	Introduction to Natural History
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Unit Statement (Formerly Standard)

TLW define natural history.
TLW describe why the study of natural history lends itself to a deeper awareness of organisms and the places we live.
TLW explain how natural history is the driving force in environmental education.

Gist	Students will demonstrate their understanding of the role natural history plays in both our relationship with the natural world as well as how it is a critical piece in environmental education.
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Prerequisite Vocabulary (Use a new line for each item)

Observation Classification Interpretation Awareness

New Vocabulary (Use a new line for each item)

Natural History

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
Natural history tells the story of our living earth. It comprises the systematic observation, classification, interpretation, and description of the biosphere and its inhabitants.	Lesson 1: 1 day	<p>TLW define natural history.</p> <ol style="list-style-type: none"> 1. Students are asked to work in a team of three to develop their own definition of “natural history” based on prior knowledge and/or experiences. Definitions are shared with the class. 2. Direct Instruction: <p style="text-align: center;">Introduction to Natural History PowerPoint</p>
Natural history is a primary component of culture. Every society develops some system for classifying, interpreting, and valuing animals, plants, and other natural phenomena. These systems shape our understanding of the world and our place in it.	Lesson 2: 2 days	<p>TLW describe why the study of natural history lends itself to a deeper awareness of organisms and the places we live.</p> <ol style="list-style-type: none"> 1. Students are asked to create a sculpture that illustrates what natural history is. Sculptures will be made of only natural materials collected from the campus ecosystems. 2. Students will defend their sculpture by giving a presentation to the class and explaining why the sculpture they’ve created demonstrates “the study of natural spaces in an effort to gain a deeper awareness of organisms and the places we live”.
Natural history is field-based. It begins with direct	Schedule 7d-17	

observation and study of organisms in the conditions under which they actually live.

Natural history is interdisciplinary. While grounded in the natural sciences, it engages the humanities, social sciences, and the arts, and it informs technical fields such as medicine, agriculture, forestry, and environmental management.

Natural history helps to shape communities and individuals. It gives us deeper insights into our relationships with other beings and the places we inhabit.

Natural history promotes sound environmental practice. It grounds policy in ecological reality, guides decision-making, and inspires and enhances conservation efforts at all levels.

Natural history informs and energizes environmental education. It connects students with nature, creates synergy across fields, and draws strength from all major divisions of the university. It prepares students to live honorably and responsibly in a sustainable world.

Lesson 3:

1 day

TLW explain how natural history is the driving force in environmental education.

1. Article read as a class about Henry David Thoreau. Discuss. Students asked to think about how they care deeply about the people they know well (friends, family) and how hearing about how it is difficult to care deeply about the people of this world that they do not know. – A connection should be discussed. People will care more deeply about the natural spaces they inhabit if they KNOW the trees, birds, etc that live there. Therefore, the natural history course sets the stage for getting to know the natural world SO THAT this “relationship” can fuel care and concern for the environment.

[Article: Henry David Thoreau](#)

Lesson 4:

Lesson 5:

Lesson 6:

Lesson 7:

Lesson 8:

Lesson 9:

Lesson 10:

Lesson 11:

Lesson 12:

Lesson 13:

Lesson 14:

Lesson 15:

Lesson 16:

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Content Area | Environmental Science

Course/Grade Level | ES2 – Natural History

Strand | Birding in Michigan



WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

- TLW identify 20 common Michigan bird species by sight.**
- TLW identify 5 common Michigan bird species by sound.**
- TLW describe the characteristics unique to birds.**
- TLW explain the mechanics of (bird) flight.**
- TLW describe the reasons for and the common dangers of bird migration.**
- TLW demonstrate the importance of using nature journaling as a tool for bird observation and study.**
- TLW apply basic birding techniques in the field.**
- TLW apply their understanding of Michigan bird species food requirements and habitat requirements.**

Gist | Students will be able to explain the importance of birds to healthy Michigan ecosystems and their role in the conservation of Michigan bird species.

Prerequisite Vocabulary (Use a new line for each item)

- Flight
- Feathers
- Eggs
- Migration
- Observation
- Taxonomy

New Vocabulary (Use a new line for each item)

- Coloration
- Markings
- Gizzard
- Syrinx
- Flight Patterns
- Calls / Songs
- Hyperphagia
- Zugunruhe
- Lift
- Thrust

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
<p>Birds are vertebrates with feathers, modified for flight and for active metabolism. Birds are a monophyletic lineage, evolved once from a common ancestor, and all birds are related through that common origin. There are a few kinds of birds that don't fly, but their ancestors did, and these birds have secondarily lost the ability to fly. Modern birds have traits Birds are vertebrates with feathers, modified for flight and for active metabolism. Birds are a monophyletic lineage, evolved once from a common ancestor, and all birds are related through that common origin. There are a few kinds of birds that don't fly, but their ancestors did, and these birds have secondarily lost the ability to fly. Modern birds have traits related to hot metabolism, and to flight:</p>	<p>Lesson 1: 2.5 days</p>	<p>TLW describe the characteristics unique to birds.</p> <ol style="list-style-type: none"> Students are asked to write down a list of the characteristics that they believe are unique only to birds. Lists are shared during a “think-pair-share” activity. Direct Instruction: Lecture PowerPoint presentation on the characteristics of birds. (Students record notes in their nature journals). <p style="text-align: center;">“What Makes a Bird a Bird” PowerPoint</p> <ol style="list-style-type: none"> Students use recycle bin items and natural materials to construct a bird (actual size) that demonstrates the characteristics of birds. For example, straws as the support of the bird that represents the fact that birds have hollow bones. Students should be prepared to give an oral presentation to their peers in which they explain why they chose the materials they did for their bird. They should be prepared to discuss the characteristics of birds during their presentation.
<ul style="list-style-type: none"> horny beak, no teeth large muscular stomach feathers large yolked, hard-shelled eggs. The parent bird provides extensive care of the young until it is grown, or gets some other bird to look after the young. strong skeleton <p>There are about 30 orders of birds, about 180 families, and about 2,000 genera with 10,000 species. Most of them don't live in Michigan, though there Birds are one of the most visible groups of wildlife. However, it helps if you have the proper equipment. Using and understanding some basics about bird watching equipment is a key to enjoyment and success as you conduct your monitoring projects.</p>	<p>Lesson 2: 4-5 days</p>	<p>TLW explain the mechanics of (bird) flight.</p> <ol style="list-style-type: none"> Students are given strips of 2”x6” white paper and various other materials (straws, pencils, Styrofoam cups, tape). They are asked to manipulate the papers in order to demonstrate how they believe bird wings work in order to keep birds in flight (10 minute time limit). These models are share with the class. Instructor let demonstration of the Bernoulli Principle using the same strips of paper. Direct Instruction: Flight <p style="text-align: center;">The Amazing Adaptation of Flight PowerPoint</p> <ol style="list-style-type: none"> Video clip from “Life of Birds” documentary called <i>The Mastery of Flight</i>. Students fill out their answers to questions on a worksheet. <p style="text-align: center;">“Life of Birds” DVD Mastery of Flight video questions (Word Doc)</p>
<p>Essential Field Observation Equipment</p> <p>Bird watching is a relatively inexpensive activity. There are two basic tools that will give you a good start.</p> <p><u>First</u>, find a field guide that you like. There are many from which to</p>	<p>Lesson 3: 4-5 days</p>	<p>TLW apply basic birding techniques in the field. TLW demonstrate the importance of using nature journaling as a tool for bird observation and study.</p> <ol style="list-style-type: none"> Students are brought outside to do some open ended nature journaling about the birds they observe in the field. Students are asked to record basic observations about the birds they see. What are they doing? How are they moving? Discuss shape, flight, feeding behavior etc. Once inside students make a class list on the whiteboard of the

choose, but decide which guide fits your skill level. Golden's *A Guide to Field Identification - Birds of North America* is an easy-to-use field guide, as is Peterson's *Field Guide to Eastern Birds*. These two are very suitable for beginning and expert birders alike. Other field guides offer more detail in their illustrations, which is appealing to those with a bit more skill. You can also find other guides on advanced birding or specific groups of birds, such as hawks or warblers.

Second, a good pair of binoculars is a must. They allow you to see more detail to better identify birds. Binoculars don't have to cost a lot of money, but must adequately magnify birds for identification. Many 7 x 35 or 8 x 42 power binoculars are affordable and good for bird watching. They should be easy to use and comfortable for you. You can buy binoculars through sporting goods stores, catalogs, and the Internet.

If one does a lot of bird watching from a car or view ducks and other waterfowl at various wetlands and other migratory stop-overs, then a spotting scope is another very handy tool to have. In fact, in order to easily identify waterfowl from a distance, it is often necessary to use a spotting scope. There are many to choose from, but in general, they do cost more than a good pair of binoculars. Magnification for spotting scopes generally range from 20x to 80x. At this magnification, a sturdy tripod or window clamp are a must for mounting a spotting scope.

Lesson 4:

4-5 days

Lesson 5:

1.5 days

observations they made in their journals. Commonalities are discussed.

3. Direct Instruction: Lecture on how to go about birding.

[“Learning the Art of Birding” PowerPoint](#)

4. Students complete several different nature journaling exercises in which they are asked to focus on different (but specific) behaviors of birds in the field. These are discussed once back in the classroom.

[Nature Journaling Rubric \(Word Doc\)](#)

TLW identify 20 common Michigan bird species by sight.

TLW identify 5 common Michigan bird species by sound.

1. Direct Instruction: Students are introduced (4 at a time) to the birds common on the WMAES campus. All PowerPoint slides are linked to Cornell’s “All About Birds” database online so that students can also hear the bird calls. Students will be asked to memorize the calls/songs of 5 of the 20 birds talked discussed in class.

[Common Birds of Michigan \(with sounds\) PowerPoint](#)

[Bird Photo Journaling Images \(Word Doc\)](#)

2. Students will begin work on a research project in which they investigate one bird of interest (that spends at least part of its year in Michigan) to investigate in depth. The product will be in the form of a Poster-Board sized brochure that will be presented to the class at the end of the unit.

[Michigan Birds Information Gathering WKST \(Word Doc\)](#)

[Michigan Birds Brochure Rubric \(Word Doc\)](#)

3. Direct instruction related to identifying birds by sight will be interspersed with the following lessons:

TLW describe the reasons for and the common dangers of bird migration.

1. Students are asked to free write about anything and everything they know about *migration* (3 minutes).
2. Direct Instruction: Bird Migration

[The Wonders of Bird Migration PowerPoint](#)

3. Students learn the challenges and resources of migration for two different bird species (Brant & White Crowned Sparrow) though an activity created by the Seattle Times and The Burke Museum. After the activity, students will be able to differentiate between human and natural challenges faced by birds during migration.

[Seasons of Life and Land Bird Migration Activity \(Word Doc\)](#)

Lesson 6:

4-5 days

TLW apply their understanding of Michigan bird species food requirements and habitat requirements.

1. Students work in groups to design a bird garden for the WMAES campus. This culminating project forces students to apply everything they have learned during this unit and apply it to real world habitat construction that attracts native Michigan birds using native Michigan vegetation. The garden is drawn to scale and materials lists need to be generated using actual prices from local hardware and landscape supply stores using a predetermined budget.

Building a Bird Garden Plans (Word Document)

Lesson 7:

Lesson 8:

Lesson 9:

Lesson 10:

Lesson 11:

Lesson 12:

Lesson 13:

Lesson 14:

Lesson 15:

Lesson 16:

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Content Area	Environmental Science
Course/Grade Level	ES2 – Natural History
Strand	Trees of West Michigan
Unit Statement (Formerly Standard)	

Gist	<p>TLW define and describe the various basic anatomical structures of a tree.</p> <p>TLW understand the basic vocabulary (type, shape, margins, arrangement, and venation) necessary for characterizing tree species.</p> <p>TLW be able to comfortably use a dichotomous key to identify unknown tree species.</p> <p>TLW identify by sight 15 different common Michigan tree species.</p> <p>TLW create, and present a professional presentation on a Michigan tree species of choice that informs the class about its physical characteristics, ecology, and uses.</p> <p>TLW discuss the importance of trees on a global scale and discern their role in providing ecosystem services.</p>
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Prerequisite Vocabulary (Use a new line for each item)
Leaves Trunk Roots margin vein stem ecosystem services

New Vocabulary
Dichotomous Inner Bark Outer Bark Cambium Heartwood Sapwood blade lobe petiole midrib
Simple Leaves Compound Leaves Linear Eliptic Oblong Ovate Chordate Serrate Undulate
Lobed Entire Alternate Arrangement Opposite Arrangement Sub-Opposite Arrangement Whorled
Pinate Palmate Parallel conifer broadleaf deciduous

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
Michigan Forests (Michigan Department of Natural Resources) When Michigan became a state in 1837, nearly all of its land was forested. Northern Michigan was a	Lesson 1: 4 days	<p>TLW define and describe the various basic anatomical structures of a tree.</p> <ol style="list-style-type: none"> 1. Introductory Activity: Students are asked to imagine that they are a tree that exists on our school campus. They are given lined paper and asked to write for 8 minutes as this tree, by imagining it is introducing itself to another tree on a date. They should talk

mixture of conifer and hardwood forests dominated by hardwoods such as sugar maple, beech, yellow birch and oak, and softwoods such as pine, hemlock, spruce and fir. In contrast, most of the southern third of Michigan was covered by hardwood forests dominated by oak and hickory. Only a few small grasslands, called oak openings, with widely scattered white and black oak, were found in southern lower Michigan. It was said that a squirrel could have crossed the state without having to come down from the treetops.

Today only about half of Michigan's 36.4 million acres are forested. Although the lands that remain forested have changed a great deal in the past 150 years, they are still very special.

Why Trees Grow Where They Do

To appreciate the wide variety of trees and forests that grow in Michigan, it is important to understand the basic needs of trees as well as the natural and human forces that have shaped and influenced forest development. There are many factors that determine which trees and which forests grow in any given area. Three of the most important are the soil, moisture and climate.

Soil serves as both an anchor and the source of essential nutrients for trees. The type of soil determines which nutrients are present and the quantities available. Clay and loamy soils are generally rich in nutrients. Sandy soils usually contain few nutrients. Hardwood (broad leaved) trees tend to dominate areas containing the richer loamy soils while coniferous (needle leaved) trees are more common on sandy soils.

Moisture is vital to all plants. Its availability throughout the growing season helps determine which species occupy which sites. Clay and loamy soils hold moisture from summer rains much better than porous sandy soils. Pines, particularly jack and red pine, tolerate the low moisture of droughty sandy soils. Hardwood trees, like the beech and sugar maple shown on this poster, require greater amounts of moisture and prefer loamy soils. Swamps (wet forested areas) are occupied by species such as black ash, red maple, black spruce and white cedar that can tolerate saturated conditions

Schedule 7d-27

Lesson 2:
1 day

Lesson 3:
3 days

about their qualities (good and bad), their home (habitat), and their basic requirements (soil, sunlight, water). These are shared with the class.

2. Direct Instruction: [Anatomy of a Tree PowerPoint presentation](#) (This presentation is not used in its entirety all at one time).
3. Students learn more about the anatomy of a tree trunk by completing the Tree Cookie Lab.

[Tree Cookie Lab doc](#)

4. Students complete nature journal entries at various times throughout the unit. Each entry has a different focus. There will be two nature journal entries completed during the "Tree Anatomy" portion of this unit. Nature Journal focus 1: Outer bark; Nature Journal focus 2: Top to Bottom (of a tree)

[Nature Journal Rubric/ Requirements](#)

TLW be able to comfortably use a dichotomous key to identify unknown tree species.

1. Direct Instruction: [Dichotomous Key PowerPoint presentation](#) Before beginning the presentation, students are asked to offer responses regarding what they already know about using a "key".
2. Students are introduced to the idea of a dichotomous key by completing the "Wacky People" dichotomous key assignment.

[Wacky People doc](#)

3. Once students have named all of the Wacky People by completing the assignment, the instructor asks students to list on the whiteboard all of the characteristics they needed to know about these cartoon characters (ie: Hair, eyes, feet, male/female) Instructor makes the connection that in order to identify organisms, we need to familiar with their characteristics.
4. (This learning target (gist) will be revisited once students are comfortable with the characteristics of trees)

TLW understand the basic vocabulary (type, shape, margins, arrangement, and venation) necessary for characterizing tree species.

1. Individual students are given a leaf from a variety of trees outside. Each student given 5 minutes to describe their leaf in as much detail as possible (at this point, most students are unaware of the terminology used to distinguish the characteristics of tree leaves).

2. Direct Instruction: [West Michigan Academy of Environmental Science](#)

<p>over much of the growing season.</p> <p>Climate is a key determinant of where certain trees and forests occur. Temperature is the most important climatic factor affecting where different trees live within a particular climate or region. The decrease in average temperature from southern to northern Michigan brings about major changes in the distribution of trees and forest types. In southern Michigan deciduous hardwood trees are the dominant forest species. Although several of those species, including sugar maple, beech, and basswood, can be found in both southern and northern Michigan, most of the oaks and hickories are restricted to the Lower Peninsula, many to its southern half. Young oak and hickory trees are easily killed by low temperatures or late frosts during the growing season.</p>		<p>As the instructor moves through the various characteristics of tree leaves, students are asked to revisit the description of the leaf on their desk. Their previous description is enhanced with the new vocabulary they're learning throughout.</p> <ol style="list-style-type: none"> There will be two nature journal entries completed during the unit section on basic tree characteristics. Nature Journals will be on TSMAY characteristics both times. Students complete a scavenger hunt outdoors during which they're asked to find leaves with specific characteristics. These leaves are taped to their handout and labeled accordingly. The instructor grades each product based on accuracy. (Students are also asked to find to "mystery leaves" and correctly identify the TSMAY characteristics for those samples). <p style="text-align: center;">TSMAY Scavenger Hunt</p>
<p>North of a line from Bay City to Muskegon, conifer trees, including balsam fir, white and black spruce, tamarack, hemlock, and white, red, and jack pine are more common. These species are adapted to heavy snowfall and long periods of freezing weather. Several hardwoods such as yellow birch, white birch, balsam poplar and trembling aspen are better suited to these harsher conditions and also become more common in the north.</p>	<p>Lesson 4: 4 days total</p>	<p>TLW create, and present a professional presentation on a Michigan tree species of choice that informs the class about its physical characteristics, ecology, and uses.</p> <ol style="list-style-type: none"> This project will be ongoing throughout the remainder of the unit. <p style="text-align: center;">Michigan Tree Field Guide Project Michigan Tree Field Guide Rubric</p>
<p>Influence of the Great Lakes The tremendous volumes of water in the Great Lakes modify the Michigan climate. As air temperatures change with the seasons, Great Lakes water temperatures are slow to respond. This moderates the state's climate, making winters somewhat warmer and summers cooler. Differences of as much as 10 degrees Fahrenheit are common between shoreline and inland counties. These differences affect the distribution of forest species along the coastline, allowing some southern species such as sassafras, hackberry, black gum and flowering dogwood to occur farther north along the coastline than inland. Conversely, northern species such as hemlock, Canada yew and white pine can be found in cool, sheltered areas to the south.</p> <p>The Great Lakes also influence the amount of precipitation throughout Michigan. No parts of the state suffer from a lack of precipitation, although moisture often is in short supply in areas with sandy soil. Prevailing winds blowing across Lake Superior and Lake Michigan pick up moisture and deposit it inland as snow and rain. The west coast of Michigan's Lower Peninsula</p>	<p>Lesson 5: 4 days</p>	<p>TLW be able to comfortably use a dichotomous key to identify unknown tree species.</p> <ol style="list-style-type: none"> Now that students are comfortable with the basic characteristics of trees, they can be given the opportunity to use the dichotomous key found in the classroom set of Michigan Tree Books. <p style="text-align: center;">Michigan Trees By: Barnes and Wagner</p> <ol style="list-style-type: none"> Using a document camera and an unknown tree sample, students will be shown how to navigate the dichotomous key in the Michigan Tree field guide. Outside, students (in pairs) are directed to identify three different trees using the dichotomous key. Instructor remains available to assist pairs of students as they learn to use the key for the first time. Students are given two more days in the field in order to practice identifying unknown tree species using the dichotomous key. Students are then assessed on their ability to accurately identify a tree species using this key during a lab practicum.

and the Keweenaw Peninsula in the Upper Peninsula are the areas most affected and receive much more precipitation, especially snow. Forests in these areas are highly productive.

Forest Development

Early Post Glacial Vegetation

After the last glaciers receded some 12,000 years ago, much of Michigan was barren sand and gravel with shallow ponds, deep lakes and rivers. Primitive plants, such as lichens and mosses, gradually appeared on the bare soil and rocks exposed by the retreating ice. These plants changed the local conditions, improving the soil nutrients and moisture, and making the area increasingly habitable for larger and more complex plants such as grasses, forbs, shrubs and trees. This progression from bare soil to lichens and mosses to complex plants is called *primary succession*.

Gradually, trees and other plants moved into Michigan from the east and south following the retreat of the glaciers. The climate was colder than today, and coniferous trees were the first to appear. The forests of southern Michigan were then similar to those of the boreal spruce fir forests of Canada. As the glaciers receded northward, the climate became warmer and drier. Southern species, including maples and oaks, slowly moved into Michigan and replaced the boreal upland spruce fir species.

Clues of these and other long term changes in climate and forest types can still be found by studying layers of pollen found in the bottom sediments of lakes and swamps. Relict pockets of black spruce, tamarack, and other northern species can also be found in cold, wet bogs and swamps in southern Michigan, where local conditions changed little over time.

Presettlement Forests

While there were large continuous blocks of the same community type prior to European settlement, there were also many smaller tracts of different forest communities within these blocks. Those smaller tracts occurred because of local differences in type of soil, amount of soil moisture, elevation, and steepness and direction of slope. That patchwork of forest communities was also caused by natural disturbances such as windstorms, insect damage and fires.

Lesson 6:
5 days

Lesson 7:
3 days

Lesson 8:

TLW identify by sight 15 different common Michigan tree species.

1. Students are given a pre-test on the tree species they will be asked to memorize by sight. This pretest will be handed back to students at the end of the unit so that they can see how much they've learned.

Michigan Trees Pre-Test

2. Direct Instruction: [Michigan Trees PowerPoint](#) presentation
Instructor will discuss these Michigan trees three or four at a time; after which students will be taken into the field for direct observation of each species. In the field, students will record each species' TSMAY characteristics, as well as record observations regarding its bark, size, and unique characteristics.

TLW discuss the importance of trees on a global scale and discern their role in providing ecosystem services.

1. Students will spend a day with the environmental science specialist for a lesson on the global and cultural significance of trees by learning about Nobel Peace Prize winner, Wangari. A discussion on the importance of trees for survival, in developing countries, will be a focus.

What Do Trees Have to Do with Peace?

2. Students will watch the Planet Earth documentary segment "Seasonal Forests" as a spring board to a discussion on different deciduous forests around the world. Comparisons will be made between forests in other countries, and the forests here in Michigan (the organisms they support, the food and shelter they provide, and the products produced from these different ecosystems). The video segment will be split between two different class periods.
3. Based on what they've learned from the previous lesson as well as what they've gleaned from the Planet Earth documentary, students will work in groups to create a graphic organizer that demonstrates the following: ecosystem services provided by trees, products made from trees, cultural importance of trees, ecological importance of trees. These graphic organizers will be put on display around the room and should therefore be of highest quality.
4. Nature Journal Entry. Focus: Interactions between a tree and the organisms that can be found in, on, or around it. (Ex; fungi, lichens, insects, or birds)

<p>In presettlement times, trees varied in age from patches of saplings regenerating after a blowdown, to even aged communities originating from fires, to old growth stands that could range from 250 to 400 years old. It would be a misconception to view presettlement forests as all old growth. They were, rather, a rich mosaic of various ages.</p>	Lesson 9:	
	Lesson 10:	
	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	
	Lesson 16:	
<p>Forest Succession</p> <p>After a disturbance, such as wind throws, fire, or logging, a process of forest regeneration, called <i>forest succession</i>, occurs. For example, in rich northern hardwood forests, herbaceous vegetation such as sedges, grasses, and bracken fern may initially dominate after a severe fire destroys the large trees. These species are outcompeted by low woody vegetation or shrubs such as sumac, raspberry, and nannyberry. Large shrubs and scrubby trees usually follow. This stage may include chokecherry, mountain ash, witch hazel, and dogwood.</p>		
<p>Natural Disturbances</p> <p>These climax forest communities and some earlier successional forest types are dependent upon natural disturbances such as fires, windstorms and flooding.</p>		

Some form of disturbance characterized all of Michigan's major forest communities. The driest sites, those typically dominated by pines and oaks, were fire prone. Lightning fires, common in late spring or early summer, swept rapidly through the dry grasses, sedges, and fallen needles, often igniting the forests over large areas. Fires in the red and jack pine forests burned forests over many square miles. Following the fires, pine seedlings established rapidly on the bare mineral soil.

Forests on moister sites dominated by beech, sugar maple, and other hardwoods were maintained primarily by extensive windfalls. Windstorms blew down the old hardwoods, removing the heavy forest canopy and allowing sunlight to reach the forest floor. Young hardwoods would take advantage of this opening and rapidly replace the older windfelled trees.

Trees in swamp forests generally have shallow roots. As a result, shallow rooted hemlock, white pine and cedar commonly blew down in swamps.

Human Influence

Before the arrival of European settlers, Native Americans had relatively minor impact on the forests. They cleared a few areas of several hundred acres for villages, crops, and mound building. They also set fires along the forest grassland borders, helping to maintain the fire dependent oak openings. Their accidental fires may have regularly burned through those openings, pine forests and along rivers.

With European settlement, human impact on the forests increased dramatically. The large pine forests of northern Michigan were the first to be cleared. They were very attractive to investors, many of whom had already cut the pine forests in Pennsylvania and New England.

Michigan led the nation in lumber production in the 1880s and 1890s. By the early 1900s, millions of Michigan pine trees worth more than all the gold mined in California had been felled in the Lower Peninsula. As the pine forests were becoming depleted in the Lower Peninsula, logging companies moved to the Upper Peninsula. At that time, hardwood forests were being cut to make charcoal for iron smelting, and timbers for building construction, posts for fences and firewood for fuel.

Michigan forests were seen as

inexhaustible.

Very few settlers paid any attention to what was happening to the forests that had taken thousands of years to develop. They were busy homesteading, starting farms where the magnificent forests had been. Remaining trees and brush had to be cut, stumps pulled, everything piled and burned. Fires often got away and burned huge areas before going out. Entire towns were lost, sometimes with great loss of life. Most of northern Michigan burned during this period, many areas more than once. The charred pine stumps still found throughout the northland attest to these widespread fires.

All this cutting and burning changed the landscape so drastically that it looked more like barrens than forest land. Animals requiring large areas of mixed conifer hardwood forests such as the fisher, the american marten and woodland caribou disappeared. The passenger pigeon, one of the most abundant birds in the Lower Peninsula, became extinct because of the destruction of the oak and beech maple forests upon which it depended, and also indiscriminate market hunting. Wildlife more common to prairies such as the coyote, cowbird, badger, prairie chicken, and meadowlark appeared, taking advantage of the changed habitat.

In 1903, the state government formed "forest reserves" from lands that had been cut over and returned to state ownership due to nonpayment of taxes. In 1920, the Conservation Department now the Department of Natural Resources was created. Its major duties were to control forest fires and to manage the forest reserves, later known as state forests, for timber, wildlife and recreation.

Many farms in the north were on poor, sandy soils, incapable of producing crops for more than five or ten years. Most of those farms were abandoned and, during the economic hard times of the Great Depression, reverted to state ownership. Most of that acreage was added to the state forests, bringing total state forest system lands to more than 3 million acres. (Today, Michigan's state forest system totals 3.9 million acres and is the largest in the United States.)

During the Depression, nearly a half billion pine trees were planted on state forest lands by young men working for the Civilian Conservation Corps. Lands no longer used for farming began returning to forest lands, as natural forest succession progressed throughout

much of northern Michigan. Aspen and young hardwoods appeared on much of the forested area, leading to high populations of deer, ruffed grouse, and snowshoe hare, all species that do well with young, dense forest cover. Some sandier soils have been slow to recover because of the loss of soil nutrients and topsoil from the catastrophic fires.

Present Day Forests

Michigan's original forests were noted for their diversity and richness. Today's forests remain diverse and are continually changing through forest succession. Extensive pine forests found originally on sandier soils have been greatly reduced, despite large scale planting. Sandy soils where the original pine forests occurred and mixed loamy soils originally occupied by hardwood forests are now dominated by large, even aged stands of aspen and second growth hardwoods, especially red maple.

Fire control has eliminated the influence of fire, which was an important factor in maintaining the diversity in the age of forest stands before the state was settled. Northern hardwood forests now occurring throughout much of the northern Lower Peninsula are 60 to 90 years old. Fire control efforts have also reduced the amount of area covered by fire dependent jack pine. On many sandier sites, young white pine are appearing in the understory of the second growth hardwoods. If allowed to mature, they will be the dominant tree in the next stage of forest succession.

The oak hickory forests, oak openings and lowland hardwood forests of southern Michigan have, for the most part, been replaced by farmland and urban development. Mostly small, isolated woodlots remain and many of them are "second growth" stands that have regenerated after being logged in the early 1900s. The changes that have occurred are dramatic, especially on the more productive southern Michigan soils.

Present day forests are managed for timber, wildlife, recreation, aesthetic and ecological values. They play an important role in Michigan's economy. Abundant renewable timber resources provide thousands of jobs in logging and manufacturing. Abundant wildlife is enjoyed by hunters and wildlife viewers. Many people find comfort, beauty and solitude in wilderness and old growth timber areas.

Old Growth Forests

The term "old growth" describes an ecological condition where forest vegetation is dominated by trees in the mature stages of their life cycle. Although this may evoke an image of huge redwood trees with ferns dominating a shady forest floor, Michigan's forests do not always fit that picture. This state's forest landscape is dramatically different in species, topography, and human use when compared to that of the Western U.S., where the most publicized old growth issues have taken place.

The key difference between "eastern" and "western" old growth is that old growth efforts in the west gravitate toward preservation of forest ecosystems, while eastern old growth efforts typically revolve around restoration of forested ecosystems. These ecosystems include ecologically important openings that are not forested, early successional stands and extensive areas of catastrophic or frequent disturbance (e.g., windthrow). Given the importance of these ecological land form variations, the term "old growth" is not entirely accurate. Old growth/biodiversity stewardship is the term that is being used by the Michigan Department of Natural Resources (MDNR) to reflect the broad values of these forested ecosystems.

Michigan is one of the first states to formally develop a plan that specifically addresses native old growth forest condition and biodiversity restoration on state-owned forest lands and other state owned lands (such as state park and recreation areas). More information is available about the MDNR's [Old Growth and Biodiversity Stewardship](#) initiative.

Many convincing arguments have been presented about the value of features associated with old growth forests:

- Dead standing snags and fallen logs of old growth forests support teeming numbers and varieties of wildlife species from salamanders and snakes, to the saw whet owl and flying squirrel, and to the tiniest insects, invertebrates, fungi and bacteria.
- Downed logs decay and release valuable nutrients to future trees and other plants, and serve as nurseries for tree

seedlings that cannot grow in the thick leaf litter on the forest floor.

- Old growth stands recycle many nutrients back into the soil, providing food and shelter to a wide variety of wildlife.
- Large snags, common in old growth stands, provide homes for cavity nesting wildlife such as woodpeckers, nuthatches, barred owls, gray squirrels, martens, and bats.

A few areas in the state escaped the axes and cross cut saws of the logging era. They can be visited today to experience the primeval character of the original presettlement forests. Most are now in public ownership, managed by the U. S. Forest Service, the National Park Service, the Michigan Department of Natural Resources (DNR) or state universities and colleges. Ongoing inventories conducted by the DNR Wildlife Division's Natural Heritage Program continue to locate additional stands. The [linked chart](#) highlights a few of those remnants of the past.

Forests and Wildlife

Like trees, animals have basic requirements that determine where they can and will live. All wildlife species need food, water, cover and safe areas to reproduce and raise their young. However, each species has a unique combination of life requirements and habitats differing from all others.

Two species of woodpeckers, the downy and the hairy, require dying and dead standing trees, called snags, for their habitat. These trees provide their food (insects living in the bark) and cover (cavities or holes in the snags). The hairy requires larger snags than the downy, so their habitat requirements are slightly different. In addition, the hairy woodpecker tends to eat larger insects than the smaller downy woodpecker, and searches for these on different parts of trees. Each fills a different niche or functional role in the forest ecosystem.

Many factors determine which wildlife will live in any forested area. Some of the more important are the type of forest community, the age or successional stage of the forest, the amount of habitat at different levels within the forest canopy, and the season of the year.

Forest type. Some of the greatest differences in wildlife species occur between coniferous and deciduous forests or stands. Red squirrels abound in coniferous forests where they feed heavily on the seeds of pine cones. Gray squirrels occur in deciduous forests and feed on acorns and beechnuts. Red eyed vireos and wood thrushes occur in deciduous forests, while blackburnian warblers and pine warblers prefer coniferous forests.

Other species occur in different forest types in response to the presence or influence of water. Amphibians, such as redbacked and spotted salamanders, prefer moist, mature deciduous forests and live in close association with downed, decaying logs on the forest floor. They have difficulty surviving on dry, sandy pine sites. Red shouldered hawks use extensive lowland deciduous forest types for nesting, while Kirtland's warblers nest only in young jack pine forests.

Forest age. Each successional stage, or age class, of a given forest type supports different wildlife. In northern hardwoods, early successional stages with dense cover near the forest floor support meadow voles, catbirds, chestnutsided warblers, and golden winged warblers. Intermediate successional stages, comprised of small diameter trees, will support deer mice and rose breasted grosbeaks. In mature and old growth stages of hardwood stands, wildlife dependent upon snags and downed woody material including pileated woodpeckers, brown creepers, chipmunks, and redbacked salamanders can be found.

Forest strata. Another way that wildlife have diversified their habitat requirements is by using different levels or vegetational strata within forest stands. Some species, such as ovenbirds, woodland jumping mice and wood thrushes occur at ground level. In mature forest stands, birds such as the American redstart are specialized for use of intermediate or middle strata vegetation at a height of 10 to 25 feet. This strata usually contains either sub canopy trees such as dogwoods or ironwood, or younger individuals of the dominant overstory trees such as sugar maple and beech. Other wildlife, such as red eyed vireos and scarlet tanagers, may spend much of their time in the upper canopy of the forest.

Seasonal change. The habitat requirements of wildlife frequently change with the seasons. Migratory songbirds avoid cold winter conditions and lack of food (such as flying insects)

by migrating to southern climates. Non migratory species must survive winter conditions and may have specialized habitat requirements and survival skills to accomplish this. During winter months, woodpeckers dig out dormant insects and grubs from under the bark of trees. Cavity dependent species will seek out roosting cavities above a small opening in the tree, thus helping trap air warmed by the animal. Den trees with large hollow centers provide protection from cold weather to porcupines, raccoons, opossums and many smaller mammals.

Food becomes less available in the winter. Some species solve this problem by sleeping through the coldest part of winter, hibernating in a protected area such as a hollow tree, a brush pile or a hole underground. Some animals depend on special fat reserves stored in their bodies, while others must actively search out what little food remains.

With the arrival of spring, food becomes more available, and nesting and denning sites are selected to provide a safe location to raise young. Barred owls may seek out broken-topped trees for nesting. Tree frogs, toads, and salamanders move to temporary ponds for mating and egg laying. Black-capped chickadees search out loose bark on trees or softwood snags to excavate small cavities for a nest. Habitats providing different seasonal requirements must be located close enough together in an area for the non migratory species to be able to move to them as needed.

Thus, a great diversity of wildlife lives in each forest ecosystem, sorted according to forest age, type of trees available, location or height of different vegetation strata and the season. Each species has unique strategies and life requirements to help it survive. By maintaining healthy and diverse forest ecosystems through careful planning and conservation, we can be good stewards of this valuable and very important part of our rich natural heritage.

A selection of wildlife and plant species found in Michigan forests:

- Lady Fern
- Moss
- Mourning Cloak
- Northern Flying Squirrel
- Oyster Mushrooms
- Patent Leather Beetle
- Pileated Woodpecker
- Polyporus Mushrooms
- Porcupine
- Red backed Salamander
- Red shouldered Hawk
- Ring-necked Snake
- Schedule 10037 Red-tailed Hummingbird

Scarlet Tanager
 Striped Coral root
 Sugar Maple
 Vermilion Mushrooms
 White breasted Nuthatch
 Wood Thrush
 Wood Turtle
 Yellow Birch

References

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The Lake States Forests, A Resource Renaissance, The Conservation Foundation, Bookcrafters, Chelsea, Michigan, 1988.

The Secret Life of the Forest, Richard M. Ketchum, American Heritage Press, New York, 1970.

The Forest, Peter Farb and the Editors of Life, Time, Inc., New York, 1963.

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Grade level AP Environmental Science **Content Area** Introducing Env. Science & Sustainability

TLW demonstrate.....

TLW define poverty

TLW distinguish among highly developed countries, moderately developed countries, and less developed countries

TLW distinguish between people overpopulation and consumption overpopulation

TLW describe the three most important factors that determine human impact on the environment

TLW define environmental sustainability

TLW relate Garrett Hardin’s description of the tragedy of the commons in medieval Europe to the global commons today.

TLW outline the steps of the scientific method.

TLW distinguish between deductive and inductive reasoning.

TLW list and briefly describe the five stages of addressing environmental problems.

Instructional Days	5	Analysis of Standard		
Prerequisite Vocabulary				
Ecosystem	Renewable Resource	Nonrenewable Resource	Poverty	
Natural Resources	Scientific Method			
New Vocabulary				
Highly Developed Countries	Less Developed Countries	Consumption Overpopulation		
People Overpopulation	Ecological Footprint	Environmental Sustainability		
Global Commons	Environmental Science	Inductive Reasoning		
Deductive Reasoning				

Concepts & Information Teacher Notes	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
<p>Poverty is a condition in which people cannot meet their basic needs for adequate food, clothing, shelter, education, or health.</p> <p>Highly developed countries, such as the US, Canada, Japan, and most of Europe, have complex industrialized bases, low rates of population growth, and high per capita incomes. Less developed countries such as Bangladesh, Mali, Ethiopia, and Laos, are developing countries with a low level of industrialization, a very high fertility rate, a very high infant mortality rate, and a very low per capita income.</p> <p>People overpopulation, the current problem in many developing nations, is a situation in which there are too many people in a given geographical area. Consumption overpopulation, which results from the consumption-oriented lifestyles in many highly</p>		<p>TLW describe the three most important factors that determine human impact on the environment</p> <ol style="list-style-type: none"> The students will complete the “Take a Stand” activity from People Connection in which they are read a statement and they have to respond to it by moving to a specific section of the room that represents the fact that they strongly agree, agree, disagree, or strongly disagree with the statement. <p style="text-align: center;">Take A Stand Activity</p> <ol style="list-style-type: none"> Have one or multiple students take the ecological footprint quiz online in front of the class http://www.footprintnetwork.org/en/index.php/GFN/page/personal_footprint/ and then discuss ways that you could reduce the ecological footprint of a person. Students will be introduced to their vocabulary assignment which they will be responsible for completing for each chapter throughout the course. <p style="text-align: center;">Vocabulary Assignment</p> <p>TLW define poverty</p>

developed nations, occurs when each individual in a population consumes too large a share of the resources.

The IPAT model of environmental impact has three factors; the number of people (P); the affluence per person(A), and the environmental effect of the technologies used to obtain and consume those resources(T). $I = P * A * T$

Environmental sustainability is the ability to meet humanity's current needs without compromising the ability of future generations to meet their needs.

The Tragedy of the Commons refers to the idea parts of our environment are available to everyone but for which no single individual has responsibility – shared resources such as the atmosphere, fresh water, forests, wildlife, and ocean fisheries tend to become overexploited.

Inductive reasoning begins with specific examples and seeks to draw a conclusion or discover a unifying rule on the basis of those examples. Inductive reasoning provides new knowledge but is error-prone. Deductive reasoning operates from generalities to specifics and adds nothing new to knowledge, but it makes relationships among data more apparent.

Addressing environmental problems requires the application of approaches from several fields.

1. Scientific assessment involves identifying a potential environmental problem and collecting data to construct a model.
2. Risk analysis evaluates the potential effects of intervention.
3. Public education and involvement occur when the results of scientific assessment and risk analysis are placed in the public arena.
4. Political action is the implementation of a particular risk-management strategy by elected or appointed officials.
5. Evaluation monitors the effects of the action taken.

Schedule 7d-41

TLW distinguish among highly developed countries, moderately developed countries, and less developed countries

TLW distinguish between people overpopulation and consumption overpopulation

4. Students will review the first 11 slides of the Chapter 1 PowerPoint and will take appropriate notes. Students will be assigned to read pages 2-9 in their text and to complete the first two sections of their Chapter 1 reading guide.

[Chapter 1 PowerPoint](#)
[Chapter 1 Structured Notes](#)
[Chapter 1 Reading Guide](#)

5. Students will be quizzed on information from pages 2-9 of their textbook.

Daily Quiz #1

TLW relate Garrett Hardin's description of the tragedy of the commons in medieval Europe to the global commons today.

6. Students will participate in the *Tragedy of the Commons* activity in which they will simulate Garrett Hardin's theory through a game of fishing.

Tragedy of the Commons Simulation

7. Students will review the section of the PowerPoint for Chapter 1 dealing with environmental sustainability.

TLW outline the steps of the scientific method.

8. The students will be introduced to laboratory safety procedures and rules governing the science lab. Students will then be shown a variety of materials and will be asked to (in small groups) devise a science experiment that follows the procedure for the scientific method. The groups will be responsible for completing a scientific method worksheet that demonstrates each step for their particular experiment.

Scientific Method Worksheet and Materials List

9. Students will review section 4 of the Chapter 1 PowerPoint

TLW distinguish between deductive and inductive reasoning.

10. Students will practice identifying inductive versus deductive reasoning.

11. Students will be quizzed on their knowledge from section 3 and section 4 of the chapter reading.

TLW list and briefly describe the five stages of addressing environmental problems.

12. Students will review the PowerPoint final section that addresses solving environmental problems.
13. Using an article entitled “The Hudson River PCB Cleanup – A light at the end of the Tunnel” students will identify the five steps used to solve environmental problems.

[PCB Article](#)
[PCB Article Worksheet](#)

* Chapters 1 and 2 will test together in a two chapter test. See Chapter 2 CCT unit for test.*



Content Area	Environmental Science
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Course/Grade Level	Advanced Placement Environmental Science
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Strand	Environmental Laws, Economics, and Ethics (Chapter 2)
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Unit Statement (Formerly Standard)

TLW briefly outline the environmental history of the United States.
 TLW describe the environmental contributions of people like Theodore Roosevelt, Gifford Pinchot, John Muir, Rachel Carson, Mardi Murie, Paul Ehrlich, etc.
 TLW explain why the National Environmental Policy Act is the cornerstone of US Environmental Law
 TLW relate how environmental impact statements provide such a powerful protection of the environment
 TLW will explain how economics is related to natural capital
 TLW describe various approaches to pollution control
 TLW describe the differences between varying worldviews as they relate to the environment

Gist	Students will gain a brief history of environmental issues in the United States including key players, key legislation, and the impact of economics on environmental decisions.
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Prerequisite Vocabulary (Use a new line for each item)

Economics Natural Resources Conservation Ethics

New Vocabulary (Use a new line for each item)

Biocentric Preservationist Full-cost Accounting Natural Capital
 Marginal Cost of Pollution Marginal Cost of Pollution Abatement
 Optimum amount of pollution Command and Control Regulation
 Incentive-based regulation Environmental Ethics Anthropocentric
 Conservationist Preservationist Deep Ecology

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
The first two centuries of US history were a time of widespread environmental destruction. During the 1700s and early 1800s, most Americans had a desire to conquer and exploit nature as quickly as possible. During the 19 th century, many US naturalists became concerned about conserving resources. By the late 20 th century,	Lesson 1: 1 day	<p>TLW briefly outline the history of the United States.</p> <p>1. Students will be introduced to the United through the use of dilemma cards which describe various ethical dilemmas that an individual might face that deal with the environment. Dilemma cards provide students with options as to how to proceed. A discussion of various dilemma cards will bring to the light the fact that environmental issues are most often not black and white in nature.</p> <p style="text-align: center;">Dilemma Cards</p> <p>2. Students will be asked to use their text to create a timeline of the environmental history of the US.</p>

<p>environmental awareness had become a pervasive movement.</p> <p>George Perkins Marsh wrote about humans as agents of global environmental change. Teddy Roosevelt appointed Gifford Pinchot as the first head of the US Forest Service. Pinchot supported expanding the nation's forest reserves and managing forests scientifically. The Yosemite and Sequoia National Parks were established, largely in response to efforts of naturalist John Muir. Aldo Leopold wrote about humanity's relationship with nature. Wallace Stegner helped create support for passage of the wilderness act.</p> <p>NEPA, passed in 1970, stated that the federal government must consider the environmental impact of a proposed federal action, such as financing highway or dam construction.</p> <p>By requiring EISs that are open to public scrutiny, NEPA initiated serious environmental protection in the US. NEPA allows citizen suits, in which private citizens take violators, whether they are private industries or government-owned facilities, to court for non-compliance.</p>	<p>Lesson 2:</p> <p>2 days</p>	<p>TLW describe the environmental contributions of people like Theodore Roosevelt, Gifford Pinchot, John Muir, Rachel Carson, Mardi Murie, Paul Ehrlich, etc.</p> <p>3. In groups of two students will be asked to research and present about a person who has been influential in the environmental movement. Presentations may take the form of mock interviews, skits, or simple oral presentations. Presentations must include a quick life story, contributions to the environmental movement, interesting facts.</p> <p style="text-align: center;">Environmental Icons Presentation Rubric</p>
	<p>Lesson 3:</p> <p>1 day</p>	<p>TLW explain why the National Environmental Policy Act is the cornerstone of US Environmental Law TLW relate how environmental impact statements provide such a powerful protection of the environment</p> <p>4. Students will review the chapter 2 PowerPoint which highlights important information about both NEPA and EIS documents.</p> <p style="text-align: center;"> Chapter 2 PowerPoint Chapter 2 Structured Notes Chapter 2 Reading Guide </p> <p>5. Students will be asked to create a graphic organizer that demonstrates their understanding of Environmental Impact Statements.</p> <p style="text-align: center;">EIS Graphic Organizer</p> <p>6. Students will create colorful "shout out" posters that highlight the accomplishments of environmental legislation in the last 40 years. These posters will be hung around the classroom as a reminder.</p>
	<p>Lesson 4:</p> <p>2 days</p>	<p>TLW will explain how economics is related to natural capital TLW describe various approaches to pollution control</p> <p>7. Student will review the remaining section of PowerPoint and discuss the role of both natural capital and pollution control.</p> <p>8. Students will review for Chapters 1 and 2 tests through a game of Taboo, review of vocabulary terms, etc.</p> <p style="text-align: center;"> Chapter 1 Taboo Cards Chapters 1 and 2 Test Chapters 1 and 2 Answer Sheet </p>
	<p>Lesson 5:</p>	
	<p>Lesson 6:</p>	
	<p>Lesson 7:</p>	
	<p>Lesson 8:</p>	
	<p>Lesson 9:</p>	

	Lesson 10:	
	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	

Content Area	Environmental Science
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Course/Grade Level	Advanced Placement Environmental Science
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Strand	Ecosystems and Energy (Chapter 3)
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WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

TLW distinguish among the following ecological levels: population, community, ecosystem, landscape, and biosphere

TLW define energy, and explain how it is related to work and to heat while determining if various forms of energy are potential or kinetic

TLW state the first and second laws of thermodynamics, and discuss the implications of these laws as they relate to organisms

TLW write summary reactions for photosynthesis and cellular respiration and contrast these two biological processes

TLW summarize how energy flows through a food web, using producer, consumer, and decomposer in their explanation

TLW distinguish between gross primary productivity and net primary productivity, and discuss human impacts on the latter

Gist	Students will gain an understanding of the basic functioning of ecosystems and the role that energy plays within those ecosystems.
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Prerequisite Vocabulary (Use a new line for each item)

- Ecosystem
- Biotic
- Abiotic
- Atomosphere
- Food Web

New Vocabulary (Use a new line for each item)

- Ecology
- Population
- Community
- Biosphere
- Hydrosphere
- Lithosphere
- Kinetic Energy
- Potential Energy
- Trophic Level
- Gross Primary Productivity
- Net Primary Productivity

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: 2 days	This chapter is mostly review for students as they have had a great deal of exposure to these concepts in earlier environmental science classes. Students should be divided into small groups to take a section of chapter

3 and learn it well enough to teach it to the class. Students will be required to design PowerPoint slides for their section, design a set of structured notes to go with their section and will be asked to construct two questions that can be used in the reading guide. Students present their portion of the chapter to the class.

[Student PowerPoint from 2010](#)
[Student Reading Guide for 2010](#)
[Template for teaching Chapter 3](#)
[Chapter 3 Review Quiz](#)

Lesson 2:

2 days

TLW distinguish among the following ecological levels: population, community, ecosystem, landscape, and biosphere

TLW define energy, and explain how it is related to work and to heat while determining if various forms of energy are potential or kinetic

TLW state the first and second laws of thermodynamics, and discuss the implications of these laws as they relate to organisms

TLW write summary reactions for photosynthesis and cellular respiration and contrast these two biological processes

TLW summarize how energy flows through a food web, using producer, consumer, and decomposer in their explanation

A station rotation “game” has been designed to further review the concepts covered in chapter 3. In small groups students move from station to station and complete a review worksheet.

[Chapter 3 Station Rotation Directions](#)
[Chapter 3 Station Rotation Worksheet](#)

Lesson 3:

1 day

TLW distinguish between gross primary productivity and net primary productivity, and discuss human impacts on the latter

Complete the Net Primary Productivity lab including all lab questions from the Molnar lab book. (Set up for this experiment should be done during the first week of school)

[Net Primary Productivity Lab](#)

Lesson 4:

* This chapter is taught with the beginning of chapter 5 (cycles of nature) and thus you can find the test for chapters 3 and 5 under the chapter 5 CCT unit.

Lesson 5:

Lesson 6:

	Lesson 7:	
	Lesson 8:	
	Lesson 9:	
	Lesson 10:	
	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	
	Lesson 16:	

Content Area	Environmental Science
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Course/Grade Level	Advanced Placement Environmental Science
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Strand	Ecosystems and Living Organisms (Chapter 4)
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WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

TLW explain the four premises of evolution by natural selection as proposed by Charles Darwin
TLW define ecological succession and distinguish between primary and secondary succession
TLW define symbiosis and distinguish among mutualism, commensalism, and parasitism.
TLW define predation and competition and describe the effects of natural selection on predator-prey relationships
TLW describe the factors that contribute to an organism’s ecological niche and will provide examples of limiting resources and how they might affect an organism’s ecological niche.
TLW relate the concepts of competitive exclusion and resource partitioning.
TLW describe factors associated with high species richness and will provide examples of ecosystem services.

Gist	Students will gain an understanding of the cycling of materials within and ecosystem.
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Prerequisite Vocabulary (Use a new line for each item)

Population Species	Community Predator	Organism Prey	Ecosystem
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New Vocabulary (Use a new line for each item)

Evolution	Natural Selection	Primary Succession	Secondary Succession
Symbiosis	Coevolution	Mutualism	Commensalism
Parasitism	Ecological Niche	Limiting Resources	Keystone Species
Species Richness	Ecosystem Services		

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
<p>Natural selection is the process in which better-adapted individuals—those with a combination of genetic traits better suited to environmental conditions—are more likely to survive and reproduce, increasing their proportion in the population. Natural selection, as envisioned by Charles Darwin, has four premises:</p> <ol style="list-style-type: none"> 1. Each species produces more offspring than will survive to maturity. 2. The individuals in a population exhibit inheritable variation in their traits. 3. Organisms compete with one another for the resources needed to survive. 4. Those individuals with the most favorable combination of traits are 	<p>Lesson 1: 1 day</p>	<p>TLW explain the four premises of evolution by natural selection as proposed by Charles Darwin</p> <ol style="list-style-type: none"> 1. Students will begin with a writing prompt of “What do you know about evolution? Is it something that you buy into, why or why not?” When students have finished use their answers to generate a discussion. 2. Allow students to further explore the idea of Natural Selection through the completion of a “Natural Selection Lab Activity.” This lab requires students to work in groups of four with four different beak types for feeding. It mimics the idea of Natural Selection and works well as a touch stone for students. <p style="text-align: center;"> Natural Selection Lab Directions Natural Selection Lab Questions and Record Sheet </p> <ol style="list-style-type: none"> 3. Go through the first 9 slides of the Chapter 4 PowerPoint.

<p>most likely to survive and reproduce, passing their genetic characters on to the next generation.</p> <p>Ecological succession is the orderly replacement of one community by another. Primary succession is the change in species composition over time in a previously uninhabited environment. Secondary succession is the change in species composition that takes place after some disturbance destroys the existing vegetation; soil is already present.</p> <p>Symbiosis, any intimate relationship or association between members of two or more species, includes mutualism, commensalism, and parasitism. Mutualism is a symbiotic relationship in which both partners benefit. Commensalism is a type of symbiosis in which one organism benefits and the other one is neither harmed nor helped. Parasitism is a symbiotic relationship in which one organism benefits and the other is adversely affected.</p> <p>Predation is the consumption of one species (the prey) by another (the predator). During coevolution between predator and prey, the predator evolves more efficient ways to catch prey, and the prey evolves better ways to escape the predator.</p> <p>An organism's ecological niche is the totality of its adaptations, its use of resources, and the lifestyle to which it is fitted. The ecological niche takes into account all aspects of the organism's existence – all the physical, biological, and chemical factors the organism needs to survive, remain healthy, and reproduce. Organisms can potentially exploit more resources and play a broader role in the life of their community than they actually do. The potential ecological niche of an organism is its fundamental niche, whereas the niche an organism actually occupies is its realized niche.</p> <p>Many ecologists think no two species occupy the same niche in the same community for an indefinite period of time. In competitive exclusion, one species</p>	<p>Lesson 2:</p> <p>1 day</p>	<p style="text-align: right;">Chapter 4 PowerPoint Chapter 4 Reading Guide Chapter 4 Structured Notes</p> <p>TLW define ecological succession and distinguish between primary and secondary succession</p> <p>4. Students will be taken outside to play a succession game that follows the format of the game giants, elves, and wizards. Instead students flash signs of grass, conifer, deciduous.</p> <p>5. Students will review the PowerPoint presentation of slides 10-15.</p> <p>6. Students will be asked to use their notes and the book to complete a comic strip that portrays the idea of succession over time.</p> <p style="text-align: center;">Succession Comic Strip</p>
<p>Schedule 7d-50</p>	<p>Lesson 3:</p> <p>1 day</p>	<p>TLW define symbiosis and distinguish among mutualism, commensalism, and parasitism.</p> <p>TLW define predation and competition and describe the effects of natural selection on predator-prey relationships</p> <p>7. Students will watch and learn about symbiotic relationships through the symbiosis song: http://www.youtube.com/watch?v=8YKAalZAqO4 Once the song is complete they will discuss what they know about different forms of symbiosis and what they learned through the children's song.</p> <p>8. Students will review slides 16-21 which talk about symbiotic relationships.</p> <p>9. Students will be asked to create a window box review of four different symbiotic relationships. They will do this both pictorially and with captions under the picture.</p> <p style="text-align: center;">Symbiosis Window Box Review</p>
	<p>Lesson 4:</p> <p>2 days</p>	<p>TLW describe the factors that contribute to an organism's ecological niche and will provide examples of limiting resources and how they might affect an organism's ecological niche.</p> <p>TLW relate the concepts of competitive exclusion and resource partitioning.</p> <p>TLW describe factors associated with high species richness and will provide examples of ecosystem services.</p> <p>10. Students will review the remainder of the PowerPoint for Chapter 4 to gain a solid understanding of concepts related to ecological niche and resource partitioning.</p> <p>11. Students will go on an outside exploration through a variety of habitats looking at examples of competitive exclusion and resource partitioning. Students will also perform a species richness test at each habitat. They will record both biotic and abiotic factors and then</p>

excludes another as a result of competition for limited resources. Some species reduce competition by resource partitioning, in which they evolve differences in resource use.

Species richness is the number of different species in a community. Species richness is often great when there are many potential ecological niches, when the area is at the margins of adjacent communities, when the community is not isolated or severely stressed, when one species does not dominate others, and when communities have a long history.

their hula hoop they will count the different number of plant species present.

Species Richness Lab Activity

12. Students will complete a short research project on keystone species in which they will be assigned one keystone species and they will be required to research how it is considered a keystone species. What role does it play in an ecosystem. If the species is removed from the ecosystem how does the system change? Students will create a poster and will answer several questions in paragraph form at the bottom of their display.

Keystone Species Assignment

13. As an exit assignment students will write a quick thank you letter to one habitat type, thanking them for the variety of ecosystem services that they provide daily.

Lesson 5:

Lesson 6:

Lesson 7:

Lesson 8:

Lesson 9:

Lesson 10:

Lesson 11:

Lesson 12:

Lesson 13:

Lesson 14:

Lesson 15:

Lesson 16:

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Content Area	Environmental Science
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Course/Grade Level	Advanced Placement Environmental Science
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Strand	Ecosystems and the Physical Environment (Chapter 5)
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WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

TLW summarize the effects of solar energy on Earth’s temperature including the influence of albedos of various surfaces.

TLW describe the five layers of Earth’s atmosphere: troposphere, stratosphere, mesosphere, thermosphere, and exosphere.

TLW discuss the roles of solar energy and the Coriolis effect in producing atmospheric circulation.

TLW define prevailing winds and distinguish among polar easterlies, westerlies, and trade winds.

TLW Discuss the roles of solar energy and the Coriolis effect in producing global water flow patterns, including gyres.

TLW define El Nino-Southern Oscillation and La Nina and describe some of their effects.

TLW distinguish between weather and climate and give three causes of regional precipitation differences.

TLW describe a rain shadow

TLW contrast tornadoes and tropical cyclones

Gist	Students will gain an understanding of the complex workings of the physical environment and the links back to the sun.
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Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: 1 day	<p>TLW summarize the effects of solar energy on Earth’s temperature including the influence of albedos of various surfaces.</p> <p>TLW describe the five layers of Earth’s atmosphere: troposphere, stratosphere, mesosphere, thermosphere, and exosphere.</p> <ol style="list-style-type: none"> 1. Students will begin this unit by brainstorming the reason that we have seasons on a scrap piece of paper. Answers will be shared and discussed as a group. 2. Students will be read: <u>Sunshine Makes the Seasons</u> which is a children’s book that details the reason that we have seasons. The book describes an experiment using an orange and a flashlight that helps to demonstrate the tilt and rotation of the earth. Students will watch this demonstration. 3. Students will take notes on the first five slides of the Chapter 5 (second half) PowerPoint.

Chapter 5 (2nd Half) PowerPoint
Chapter 5 (2nd Half) Structured Notes

4. Students will be asked to make a scaled drawing of the earth's atmosphere including the first 4 layers (with reference to the fifth). They should use the scale of 1" = 10 km. In each section of the atmosphere they must have a minimum of 2 facts about the layer.

Lesson 2:

1 day

TLW discuss the roles of solar energy and the Coriolis effect in producing atmospheric circulation.

TLW define prevailing winds and distinguish among polar easterlies, westerlies, and trade winds.

TLW Discuss the roles of solar energy and the Coriolis effect in producing global water flow patterns, including gyres.

5. Students will take a quiz on the previous days lesson to improve their overall retention of information.

Chapter 5 – Quiz #1

6. To get students to begin thinking about the Coriolis effect I will ask them as a class to help me play a video game that has planes landing which also happens to demonstrate the Coriolis effect <http://www.montereyinstitute.org/noaa/lesson08/18ex1.htm> . Once they have done this several times we will use a small circular piece of cardboard to model the same thing....

7. Students will watch two separate explanations of the Coriolis effect, both of which seek to help students understand this complex concept in simpler terms <http://www.uwf.edu/atc/projects/coriolis/main.swf> . Students will then watch a brief video that explains the Coriolis effect http://www.youtube.com/watch?v=mcPs_OdQOYU . Once they have watched the video they will be handed a map of the world and they will be asked to draw lines that depict the Coriolis effect beginning in several different locations (it is important that they remember the difference in the effect between the northern and southern hemispheres).

8. Go through the PowerPoint on winds. Students already have a copy of structured notes that they should be filling in as they go through this presentation.

9. Students will be asked what they know about oceans and ocean currents. They will then perform the oceans lab and answer questions about ocean currents based upon the results of their experiments. We will discuss the results of the experiment as a class and then review the PowerPoint on ocean circulation.

Oceans Lab

Lesson 3:

1 day

	Lesson 4:	
	Lesson 5:	
	Lesson 6:	
	Lesson 7:	
	Lesson 8:	
	Lesson 9:	
	Lesson 10:	
	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	
	Lesson 16:	

Content Area | Environmental Science

Course/Grade Level | Advanced Placement Environmental Science

Strand | Ecosystems and the Cycling of Nutrients (Chapter 5)



WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

Unit Statement (Formerly Standard)

TLW describe the main steps in each of these biogeochemical cycles: carbon, nitrogen, phosphorus, sulfur, and hydrologic cycles.

TLW describe how humans have influenced the carbon, nitrogen, phosphorus, sulfur, and hydrologic cycles.

TLW understand the effects of solar energy on Earth’s temperature, including the influence of albedos of various surfaces.

Gist | Students will gain an understanding of the cycling of materials within and ecosystem.

Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: 1 day	<p>TLW describe the main steps in each of these biogeochemical cycles: carbon, nitrogen, phosphorus, sulfur, and hydrologic cycles.</p> <p>Brainstorm with students a list of items on earth that may contain carbon. Then conduct the carbon cycle demonstration from the California Academy of Sciences. This demonstration depicts the movement of carbon atoms throughout the carbon cycle.</p> <p style="text-align: center;">Carbon Cycle Demonstration</p> <p>Once students have been introduced to the carbon cycle they will revisit this cycle through a PowerPoint presentation and note-taking on the topic.</p> <p style="text-align: center;">Chapter 5 PowerPoint Presentation Structured Notes outline for Chapter 5</p> <p>Once students have a preliminary understanding of the carbon cycle they will then be asked to complete the carbon movement worksheet in which they will explain how carbon moves from one area of the cycle to another. They will do this through the help of the signs that were used during the carbon cycle demonstration</p>

Carbon Cycle Movement Worksheet

Lesson 2:

2 days

Lesson 3:

1 day

Lesson 4:

Lesson 5:

Lesson 6:

Lesson 7:

Lesson 8:

Lesson 9:

Lesson 10:

	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	
	Lesson 16:	

Choice Schools Associates



Grade level AP Environmental Science **Content Area** Fossil Fuels

TLW demonstrate.....

TWL describe the differences between fossil fuels and their formation.

TWL distinguish between surface mining and subsurface mining.

TWL compare per capita energy consumption in highly developed and developing countries.

TWL discuss the advantages and disadvantages of using fossil fuels as an energy resource.

TWL describe the U.S. dependence on foreign oil.

TWL summarize the continuing controversy surrounding the Arctic National Wildlife Refuge.

TWL define synfuel and describe the environmental implications of using synfuels.

Instructional Days	6			Analysis of Standard
Prerequisite Vocabulary				
Non-renewable Energy		Natural Gas		
Fossil Fuel		Developed Country		
Coal		Developing Country		
Oil		Energy		
New Vocabulary				
Lignite	Subbituminous coal	Bituminous coal	Anthracite	
Surface Mining	Subsurface Mining	Acid Mine Drainage	Acid Deposition	
Resource Recovery	Fluidized-bed combustion	Structural Traps	Synfuels	
Subsidy				

<i>Concepts & Information Teacher Notes</i>	<i>No. of Days</i>	<i>Lessons-Sequence of Instruction/Rules & Procedures</i>
<p>Global energy consumption is increasing each year. Most of the increase is occurring in developing countries, which use more energy as they improve their standard of living. Highly developed nations consume much more energy per person than developing nations.</p> <p>Fossil fuels are combustible deposits in Earth's crust, composed of the remnants of prehistoric organisms that existed millions of years ago. Fossil fuels are nonrenewable resources; Earth has a finite supply of fossil fuels that are depleted by use. Coal is a black combustible solid formed from the remains of ancient plants that lived millions of years ago. Oil is a thick, yellow to black, flammable liquid hydrocarbon mixture. Natural gas is a mixture of gaseous hydrocarbons that often occur with oil deposits.</p> <p>Coal was formed when partially decomposed plant material was exposed to heat and pressure for aeons. Oil and natural gas formed</p> <p>Schedule 7d-59</p>		<p>TWL describe the differences between fossil fuels and their formation. TWL define synfuel and describe the environmental implications of using synfuels</p> <ol style="list-style-type: none"> Students will identify the differences between coal, oil, and natural gas formation through the use of drawing. Students will be asked to draw (in comic book style) the formation of each fossil fuel with information gained from reading "How Fossil Fuels Formed" section of text. Fossil Fuel Formation Chart Students will view and take notes on the fossil fuels PowerPoint. Go through slides 1-8. Fossil Fuels PowerPoint Fossil Fuels Structured Notes As a way of helping students to connect with the idea of coal mining have them complete the cookie mining activity. Cookie Mining Activity 3a. Students will be provided with a handout of graphs that represent statistics about coal mining. They will be asked to draw conclusions based on evidence that appears in the graphs. Practice for Free Response of the AP exam. Coal Mining Graphs 3b. Students will watch a video about mountain top removal as an introduction to the difference between surface and subsurface mining. http://www.youtube.com/watch?v=p5RcbPZXUzo <p>West Michigan Academy of Environmental Science</p>

when countless microscopic aquatic organisms died and settled in oxygen-deficient sediments.

Surfacing mining is the extraction of mineral and energy resources near Earth's surface by first removing the soil, subsoil, and overlaying rock strata.

Subsurface mining is the extraction of mineral and energy resources from deep underground deposits.

4. Have them go through slides 9-16 of the Fossil Fuel PowerPoint.

5. Students will perform a static electricity experiment that will help them understand the inner workings of an electrostatic precipitator. They will also watch a video that reinforces how pollutions control devices work.

[Salt and Pepper Static Electricity Lab](#)

6. Students will be asked to transfer their knowledge about pollution control devices to the task of designing their own edible scrubber that takes into account the properties of food and static electricity.

[Edible Scrubber Activity](#)

TWL compare per capita energy consumption in highly developed and developing countries.

7. Students will make a list of all of things that they use on a daily basis that use energy (hair dryer, PSP, car, etc.) this list will be combined with a class list and then discussed in terms of which sources of energy use would not occur in developing countries and the reasoning behind this.

8. Have students take notes on slides 17-24 of the fossil fuels PowerPoint.

TWL discuss the advantages and disadvantages of using various fossil fuels as energy sources.

9. Students will create advertisements that glorify the positive attribute of their given fossil fuel and in fine print discuss the disadvantages of that source of energy.

[Fossil Fuel Advertisements](#)

TWL describe US dependence on foreign oil.

10. Students should discuss their ideas about the US dependence on foreign oil in terms of the various energy crisis throughout time: OPEC embargo of 1973; 1979 oil shortage during Iranian revolution; 1990 Persian Gulf War. Students will share opinions about dependence on foreign oil.

Show the video *US Dependency on Foreign Oil*

<http://www.youtube.com/watch?v=9adhrg0hCdM&feature=related>

which is a photo portrait of our dependency on foreign oil which is set to music that tells the story. Have students record at least 5 reasons given in the video about ways to relieve our dependence on foreign oil and why it's important.

11. Show students the Coal/Oil Crisis segment of FUEL and have them answer the two video questions.

[FUEL video questions](#)

TLW summarize the continuing controversy surrounding the Arctic National Wildlife Refuge.

12. Students will watch two videos that represent conflicting points of view on drilling in the Arctic and then will write a reflection about which point of view

they represent and why. They must use facts from the video and dispute the opposing arguments.

ANWR Drilling http://www.youtube.com/watch?v=FiwZzj_z7yE

ANWR Arctic National Wildlife Refuge in Alaska
http://www.youtube.com/watch?v=KEeyDj_hRys&feature=fvw

12a. Students will review the basic facts about the Keystone Pipeline project through the PowerPoint slides. Students will then be given either a pro pipeline reading or an anti-pipeline reading. Students will be asked to debate the merits of this project in a round table debate.

[Keystone Pipeline Readings](#)

13. Have students take notes on slides #25 to the end of the PowerPoint

14. Students will take the Fossil Fuels short answer quiz.

[Fossil Fuels Short Answer Quiz](#)

15. Assessments for Unit

[Fossil Fuels Quiz](#)
[Fossil Fuels and Nuclear Energy Test](#)
[Chapter 11- Reading Guide](#)
[Chapter 11 and 12 Review Guide](#)



Grade level AP Environmental Science **Content Area** Major Ecosystems of the World

TLW demonstrate.....

TLW define biome.

TLW briefly describe the nine major terrestrial biomes.

TLW relate at least one human effect on each of the biomes discussed.

TLW explain the similarities and the changes in vegetation observed with increasing elevation AND increasing latitude.

TLW summarize the important environmental factors that affect aquatic ecosystems.

TLW briefly describe the 8 aquatic ecosystems.

TLW relate at least one human effect on each of the aquatic ecosystems discussed.

TLW outline the environmental history of the Florida Everglades.

Instructional Days 5		Analysis of Standard	
Prerequisite Vocabulary Ecosystem			
New Vocabulary			
Biome	Tundra	Boreal Forest	Temperate Rain Forest
Temperate deciduous forest	Temperate Grassland	Chaparral	Desert
Tropical Rain Forest	Savanna	limnetic zone	littoral zone

Concepts & Information <i>Teacher Notes</i>	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
A biome is a large, relatively distinct terrestrial region with a similar climate, soil, plants, and animals, regardless of where it occurs in the world. Tundra is the treeless biome in the far north that consists of boggy plains covered by lichens and small plants such as mosses; tundra has harsh, very cold winters and extremely short summers. Boreal forest is a region of coniferous forest (such as pine, spruce, and fir) in the Northern Hemisphere; it is located south of the tundra. Temperate rain forest is a coniferous biome with cool weather, dense fog, and high precipitation. Temperate deciduous forest is a forest biome that occurs in temperate areas with a moderate amount of precipitation. Temperate grassland is grassland with hot summers, cold winters		<p>TLW distinguish between nuclear energy and chemical energy. TLW contrast fission and fusion.</p> <ol style="list-style-type: none"> 1. Students will discuss and brainstorm all that they know about nuclear energy, creating a giant web on the board. Once the web has been created students will then categorize facts (advantages, disadvantages, how it works, etc.) 2. Students will be given some type of sticky candy (starburst, jelly beans, gum drops) and told that their pieces of candy represent either uranium or plutonium atoms and they are required to break these atoms into smaller and smaller pieces. This should be a bit difficult and it can be explained that just as it took energy for them to break these atoms apart it also gives OFF tons of energy. Then tell them that their candies are now hydrogen atoms and they need to perform nuclear fusion in which they need to put multiple hydrogen atoms together, again giving off a great deal of energy. 3. Show students the nuclear energy PowerPoint and have them take structured notes. <p style="text-align: right;">Nuclear Energy PowerPoint Nuclear Energy Structured Notes</p> <p>TLW discuss the pros and cons of electric power produced by nuclear energy versus coal.</p>

4. Students will read the article *Jeremiad for Belarus* and answer questions regarding the reading. This article gives a perspective on the Chernobyl disaster that often convinces students of the dangers of nuclear power.
5. Students will then be asked to read the article <http://www.benefitsofnuclearpower.com/> Once they have been exposed to both perspectives discuss with students the advantages and disadvantages of nuclear power. Ask students to create a t-shirt design that is either for or against nuclear power.

Nuclear Power T-Shirt Design

TLW relate the pros and cons of permanent storage of high-level radioactive wastes.

6. Have students perform the radioactive decay M&M simulation lab in which students will get an idea first-hand about half-life and the amount of time that it takes for something to have a safe level of radiation.
http://www.sciencenetlinks.com/pdfs/radioactive_actsheet.pdf
7. Discuss with students the idea that Yucca Mountain has been a proposed site for storage of the radioactive waste that they were simulating in the lab activity. Show them the five part video about the making of Yucca Mountain on youtube.com

<http://www.youtube.com/watch?v=iv0Mivu-ceE&feature=related>
<http://www.youtube.com/watch?v=MQtTDf1zTtU&feature=related>
<http://www.youtube.com/watch?v=NYdExgt-N-M&feature=related>
<http://www.youtube.com/watch?v=Su9tRgEDL4g&feature=related>
<http://www.youtube.com/watch?v=656vJSIMFps&feature=related>

TLW describe some of the technological hurdles that must be overcome before nuclear fusion becomes a reliable energy source.

8. Throughout this unit students will be working on a nuclear energy project that entails researching (in their text book) various topics related to nuclear energy and creating a crossword puzzle for nuclear energy and a mini-test for the unit. See project description.

Nuclear Energy Project
Fossil Fuels and Nuclear Energy Test
Chapter 11 and 12 Review Guide

Choice Schools Associates



Grade level AP Environmental Science **Content Area** Nuclear Energy

TLW demonstrate.....

TLW distinguish between nuclear energy and chemical energy.

TLW contrast fission and fusion.

TLW discuss the pros and cons of electric power produced by nuclear energy versus coal.

TLW relate the pros and cons of permanent storage of high-level radioactive wastes.

TLW describe some of the technological hurdles that must be overcome before nuclear fusion becomes a reliable energy source.

Instructional Days	4			Analysis of Standard
Prerequisite Vocabulary				
Energy	Isotope	Oil	Atom	
Proton	Neutron	Nucleus		
New Vocabulary				
Fission	Fusion	Radioactive Decay	Enrichment	
Nuclear Reactor	Breeder Nuclear Fission	Chornobyl	Radioactive waste	
Decommission	Half-life	Radiation		

Concepts & Information Teacher Notes	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
<p>.In an ordinary chemical reaction, the atoms of one element do not change into the atoms of another element, nor does any of their mass change into energy. In contrast, nuclear energy is the energy released by nuclear fission or fusion. In nuclear energy small amounts of matter from atomic nuclei are converted into large amounts of energy.</p> <p>Fission is the splitting of an atomic nucleus into two smaller fragments, accompanied by the release of a large amount of energy. Fusion is the joining of two lightweight atomic nuclei into a single, heavier nucleus, accompanied by the release of a large amount of energy.</p> <p>One reason proponents of nuclear energy argue for the widespread adoption of nuclear energy is that it has less of an environmental impact than fossil fuels, particularly coal. The combustion of coal releases carbon dioxide whereas nuclear energy emits few pollutants into the atmosphere. In particular, nuclear energy provides power without producing carbon dioxide. However, it generates highly radioactive waste such as spent fuel, and permanent waste disposal sites are urgently needed. There are also safety concerns about nuclear power plants. Schedule 7d-64</p>		<p>TLW distinguish between nuclear energy and chemical energy. TLW contrast fission and fusion.</p> <ol style="list-style-type: none"> 1. Ask students to do a free write on if they would be willing to buy a house near a nuclear powerplant. They should give their reasons. Share these as a class. 2. Students will discuss and brainstorm all that they know about nuclear energy, creating a giant web on the board. Once the web has been created students will then categorize facts (advantages, disadvantages, how it works, etc.) 3. Students will be given some type of sticky candy (starburst, jelly beans, gum drops) and told that their pieces of candy represent either uranium or plutonium atoms and they are required to break these atoms into smaller and smaller pieces. This should be a bit difficult and it can be explained that just as it took energy for them to break these atoms apart it also gives OFF tons of energy. Then tell them that their candies are now hydrogen atoms and they need to perform nuclear fusion in which they need to put multiple hydrogen atoms together, again giving off a great deal of energy. 4. Show students the nuclear energy PowerPoint and have them take structured notes on slides 1-8. <p style="text-align: right;"> Nuclear Energy PowerPoint Nuclear Energy Structured Notes </p> <p>TLW discuss the pros and cons of electric power produced by nuclear energy versus coal. West Michigan Academy of Environmental Science</p>

The United States has selected Yucca Mountain in Nevada for a permanent storage site for high-level radioactive wastes from commercially operated nuclear power plants. Since 1983 the US Department of Energy has conducted feasibility studies on Yucca Mountain's geology, and results suggest the site is safe from volcanic eruptions and earthquakes. Transporting high-level wastes from nuclear reactors and weapons sites by truck, rail or air is a major concern. However, leaving nuclear waste at multiple sites spread across the US poses a greater risk of theft and, possibly, human health problems.

Commercial fusion as a source of energy is many years from becoming a reality. It takes extremely high temperatures to make atoms fuse, and the best fusion experiments generate only about one-third of the energy used to heat the fuel. Another challenge is confining the fuel, because at extremely high temperatures, a gas separates into negative electrons and positive nuclei. This superheated, ionized gas, called plasma, has a tendency to expand. Confinement of the plasma is necessary so that the nuclei are close enough to one another to fuse, but a regular container does not work because as soon as the nuclei hit the container walls, they lose so much energy they cannot fuse.

5. Students will read the article *Jeremiad for Belarus* and answer questions regarding the reading. This article gives a perspective on the Chernobyl disaster that often convinces students of the dangers of nuclear power.
6. Go through the PowerPoint slides #9-18
7. Students will then be asked to read the article <http://www.benefitsofnuclearpower.com/> Once they have been exposed to both perspectives discuss with students the advantages and disadvantages of nuclear power. Ask students to create a t-shirt design that is either for or against nuclear power.

Nuclear Power T-Shirt Design

TLW relate the pros and cons of permanent storage of high-level radioactive wastes.

8. Have students perform the radioactive decay M&M simulation lab in which students will get an idea first-hand about half-life and the amount of time that it takes for something to have a safe level of radiation.
http://www.sciencenetlinks.com/pdfs/radioactive_actsheet.pdf
9. Discuss with students the idea that Yucca Mountain has been a proposed site for storage of the radioactive waste that they were simulating in the lab activity. Show them the five part video about the making of Yucca Mountain on youtube.com

<http://www.youtube.com/watch?v=iv0Mivu-ceE&feature=related>
<http://www.youtube.com/watch?v=MQtTDf1zTtU&feature=related>
<http://www.youtube.com/watch?v=NYdExgt-N-M&feature=related>
<http://www.youtube.com/watch?v=Su9tRgEDL4g&feature=related>
<http://www.youtube.com/watch?v=656vJSIMFps&feature=related>

10. Have students take notes on slides 20-25.

TLW describe some of the technological hurdles that must be overcome before nuclear fusion becomes a reliable energy source.

10. Throughout this unit students will be working on a nuclear energy project that entails researching (in their text book) various topics related to nuclear energy and creating a crossword puzzle for nuclear energy and a mini-test for the unit. See project description.

Nuclear Energy Project
Fossil Fuels and Nuclear Energy Test
Chapter 11 and 12 Review Guide



Content Area	Environmental Science
Course/Grade Level	Environmental Science 4
Strand	TWL set and track personal goals, develop plans, and prioritize the tasks set before him/her in order to accomplish a larger goal.

Unit Statement (Formerly Standard)
TLW develop and execute a personal plan for successfully completing their Senior Project.

Gist	Goals, plans, and actions necessary for success.
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Prerequisite Vocabulary (Use a new line for each item) N/A
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New Vocabulary (Use a new line for each item) N/A

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
<p>Goal setting must be:</p> <p>Specific</p> <p>Goals should be straightforward and emphasize what you want to happen. Specifics help us to focus our efforts and clearly define what we are going to do.</p> <p>Specific is the What, Why, and How of the SMART model.</p> <ul style="list-style-type: none"> WHAT are you going to do? Use action words such as direct, organize, coordinate, lead, develop, plan, build etc. WHY is this important to do at this 	Lesson 1: 1 day Lesson 2: Ongoing Lesson 3: Ongoing Lesson 4: Lesson 5: Lesson 6: Lesson 7: Lesson 8: Lesson 9: Lesson 10: Lesson 11: Lesson 12: Lesson 13: Lesson 14: Lesson 15:	<p>1. TLW set personal weekly and monthly goals.</p> <p>“SMART” goal setting is discussed with the class. Students are broken up into small groups to discuss each component of “SMART” as it applies to their projects. Each group presents their ideas to the class. Socratic method instruction ensues.</p> <p>Students are given blank monthly calendar pages on which they are instructed to record activities such as mentor meetings. Instructors check calendars and monitor student progress by looking for weekly evidence of Mentor Meetings, research paper progress, and presentation preparation.</p> <p>Mentors are instructed to look at student calendars and discuss set goals. Mentors are also instructed to grade students on carrying out set goals.</p> <p>2. TLW develop a specific action plan for various aspects of the project.</p> <p>Students are instructed to look ahead – to brainstorm what they envision their final products will look like and what information they will contain:</p> <ul style="list-style-type: none"> Students use a “Field Work” brainstorming handout to create a plan for field work before they begin.

time? What do you want to ultimately accomplish?

- HOW are you going to do it? (By...)

Ensure the goals you set is very specific, clear and easy. Instead of setting a goal to lose weight or be healthier, set a specific goal to lose 2cm off your waistline or to walk 5 miles at an aerobically challenging pace.

Measurable

If you can't measure it, you can't manage it. In the broadest sense, the whole goal statement is a measure for the project; if the goal is accomplished, then it is a success. However, there are usually several short-term or small measurements that can be built into the goal.

Establish concrete criteria for measuring progress toward the attainment of each goal you set. When you measure your progress, you stay on track, reach your target dates, and experience the exhilaration of achievement that spurs you on to continued effort required to reach your goals.

Attainable

When you identify goals that are most important to you, you begin to figure out ways you can make them come true. You develop that attitudes, abilities, skills, and financial capacity to reach them. You begin seeing previously overlooked opportunities to bring yourself closer to the

Lesson 16:

- Students meet with mentors to discuss field work ideas. Realistic plans are set in place. Contacts must be made early.

3. **TLW prioritize weekly and monthly goals according to level of importance and due dates in order to accomplish tasks in an appropriate and timely manner.**

Students use monthly calendars to display their goals visually. Each week students are asked to designate which goals for the week are of highest priority and which goals have a deadline which must be met. Students write out an action plan for the week and submit this plan to their instructor.

Content Expectation(s):

achievement of your goals.

Goals you set which are too far out of your reach, you probably won't commit to doing. Although you may start with the best of intentions, the knowledge that it's too much for you means your subconscious will keep reminding you of this fact and will stop you from even giving it your best.

Realistic

This is not a synonym for "easy." **Realistic, in this case, means "do-able."** It means that the learning curve is not a vertical slope; that the skills needed to do the work are available; that the project fits with the overall strategy and goals of the organization. A realistic project may push the skills and knowledge of the people working on it but it shouldn't break them.

Devise a plan or a way of getting there which makes the goal realistic. The goal needs to be realistic for you and where you are at the moment. A goal of never again eating sweets, cakes, crisps and chocolate may not be realistic for someone who really enjoys these foods.

Be sure to set goals that you can attain with some effort! Too difficult and you set the stage for failure, but too low sends the message that you aren't very capable. **Set the bar high enough for a satisfying achievement!**

Timely

Set a timeframe for the goal:

for next week, in three months, by fifth grade. Putting an end point on your goal gives you a clear target to work towards.

If you don't set a time, the commitment is too vague. It tends not to happen because you feel you can start at any time. Without a time limit, there's no urgency to start taking action now.

SMART Goal Setting –
Adapted from “Goal Setting Guide” Feb. 20, 2010

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Content Area	Environmental Science
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Course/Grade Level	Environmental Science 4
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Strand	TLW demonstrate person responsibility, common sense, and sound reasoning to the construction of his/her final product.
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Unit Statement (Formerly Standard)

TLW develop and execute a personal plan for successfully completing their Senior Project.
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Gist	Goals, plans, and actions necessary for success.
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Prerequisite Vocabulary (Use a new line for each item) N/A
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New Vocabulary (Use a new line for each item) N/A

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: Ongoing	<p>1. TLW demonstrate personal responsibility.</p> <p>Students are made aware that Senior Project class is handled much like an independent study.</p> <p>Students are told that instructors will be available for help during class when asked for assistance and will assist the student in setting reasonable goals – but it is the responsibility of the student to set and attend mentor meetings, meet research paper deadlines, set up field work opportunities, and prepare a formal presentation.</p> <p>The student that is able to demonstrate his/her ability to carry out these vital tasks will create a product he or she can be proud of.</p> <p>2. TLW demonstrate common sense and sound reasoning to the construction of his/her final product.</p> <p>In the developmental stages of project design, students work in groups to analyze whether or not their senior project ideas are possible in the time allotted and with a lack of funding.</p> <p>Students meet often with their project mentors and instructors to discuss whether or not their ideas are feasible. Students are made aware that ultimately – it is the responsibility of the senior to carry out the tasks necessary to successfully meet their senior project requirements.</p>
	Lesson 2: Ongoing	
	Lesson 3:	
	Lesson 4:	
	Lesson 5:	
	Lesson 6:	
	Lesson 7:	
	Lesson 8:	
	Lesson 9:	
	Lesson 10:	
	Lesson 11:	
	Lesson 12:	
	Lesson 13:	
	Lesson 14:	
	Lesson 15:	

Lesson 16:

Content Expectation(s):

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A successful Senior Project requires successful **FIELD WORK.**

Many senior projects have met their doom due to lack of quality hands on experiences.

Do not let this be you. Plan ahead.

It is possible (Eeek!) that you may have to significantly alter your topic in order to appropriately meet this requirement.

Before you finalize your topic choice for the year, answer the following questions as honestly as possible:

1. What are your **initial thoughts** about how you might complete the field work requirements? Be as specific as possible – Where/How exactly will each of the 10 hours be spent?

2. **Who**, specifically, will you need to contact in order to make your field work possible? **How** can you get a hold of that person? You may need to jump on the internet to find out! (For example, if you plan to do any job shadowing at the hospital, who do you need to contact to sign up for it? What is their phone number?) Write this information in the space below.

3. What do you expect to be the obstacles that might stand in your way? What might prevent you from meeting the field work requirements?
4. What changes (if any) might you need to make to your topic choice in order to be successful this year?

5. **Feedback.** You are required to meet with 3 of your peers to discuss your field work ideas. Write their thoughts in the space below.

a.

b.

c.



Content Area	History of Science
Course/Grade Level	12th
Strand	Astronomy Unit

Unit Statement (Formerly Standard)

TLW

Students will understand the history of Astronomy, famous astronomers and their various theories, constellations, and natural satellites.

Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

- Astronomy
- Solar System
- Dwarf Planets
- Astroids
- Terrestrials
- Satellites
- Celestial body
- Galilean Moons
- Lunar Libration
- Galileo Galilei
- Johannes Kepler
- Constellations
- Ursa major
- Ursa Minor
- Bootes
- Arcturus

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	<i>Content Expectation(s):</i>
	Lesson 2:	
	Lesson 3:	
	Lesson 4:	
	Lesson 5:	
	Lesson 6:	
	Lesson 7:	
Schedule 7d-76		West Michigan Academy of Environmental Science

Lesson 8:	<p>Lesson 2: Hand out the worksheet “Aristarchus got it right” and have students complete this assignment. Spend 10-15 minutes in the end of class to share answers and ask their opinions of the reading.</p>
Lesson 9:	
Lesson 10:	
Lesson 11:	
Lesson 12:	
Lesson 13:	
Lesson 14:	
Lesson 15:	
Lesson 16:	
<p>Lesson 3: Present “The Earth’s Moon” presentation and discuss as students take notes. After completion of this, students will spend the hour researching the moons of two other planets.</p> <p>Lesson 4: Continue the research from yesterday. Compare findings with other groups and also compare findings to the notes (Earth’s moon).</p> <p>Lesson 5: Constellations notes – use PowerPoint to takes notes and discuss the various constellations and their effects on history and legends. Assign each group a constellation, have them read about it using the handout and find more information using the text. Lesson 6: Have students use their information to teach an elementary class about space and constellations. They will then create their own constellation using the handout provided.</p> <p>Lesson 7: Threats to Earth PPT – students brainstorm threats to our solar system, discuss in groups and then as a class.</p> <p>Lesson 8: Planet Brochure activity – assign each students planet and have them research information about that planet. Presentations will be in two days.</p> <p>Lesson 9: Continue planet research. Presentations tomorrow.</p> <p>Lesson 10: Presentation of Planet research; Astronomy test review sheet.</p> <p>Lesson 11: Astronomy Test.</p>	
Schedule 7d-77	West Michigan Academy of Environmental Science

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Content Area	History of Science
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Course/Grade Level	12th
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Strand	Natural Wonders of the World Unit
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Unit Statement (Formerly Standard)

TLW

Students will understand the history of the seven wonders of the natural world: Grand Canyon, Great Barrier Reef, Paricutin Volcano, Mt. Everest, Northern Lights, Rio de Janeiro. Victoria Falls

Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)

- Nepal
- India
- Sir George Everest
- Dionisio Pulido
- Edmund Hillary
- Zambezi River
- Khoisan
- Tokaleya
- Francisco Vasquez
- John Wesley Powell
- Lees Ferry
- Coronal Mass Ejection
- Solar Flares
- Magnetic Field
- Magnetic Poles
- Aurora

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	<p><i>Content Expectation(s):</i></p> <p>Lesson 1: Brainstorm – what do you think are the seven most famous natural features of our world? Present the Seven Wonders PPT and discuss as notes are taken.</p> <p>Lesson 2: Grand Canyon- use the documents provided to have students learn about the evolution of the canyon. Also discuss the environmental threats around the area today.</p> <p>Lesson 3: Have students work on the web quest – Rio de Janeiro and Northern Lights. Discuss upon completion.</p>
	Lesson 2:	
	Lesson 3:	
	Lesson 4:	
	Lesson 5:	
	Lesson 6:	
	Lesson 7:	
	Lesson 8:	

Lesson 9:	Lesson 4: Mount Everest reading and questions.
Lesson 10:	Lesson 5: Great Barrier Reef notes, map and facts. Also have students research the environmental impacts global warming is having on this wonder.
Lesson 11:	
Lesson 12:	Lesson 6: Northern Lights notes and classroom discussion.
Lesson 13:	Lesson 7: Ancient Wonders project – this will take 3-4 days for research and the creation of a visual aid. Students will present their findings on day 5.
Lesson 14:	
Lesson 15:	
Lesson 16:	Lesson 12: Review Sheet for test
	Lesson 13: Test.

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Content Area	Social Studies
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Course/Grade Level	History of Science/12
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Strand	
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Unit Statement (Formerly Standard)	
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TLW

Study and analyze the advancements in technology in the Ancient World.

Gist	
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Prerequisite Vocabulary (Use a new line for each item)

- Empire
- Agriculture
- Merit
- Oligarchy
- Democracy
- Odyssey
- Theocracy

New Vocabulary (Use a new line for each item)

- Culture
- Civilization
- Domesticate
- Hammurabi
- Sumerian
- Babylon
- Ziggurat
- Bureaucrat
- Legalism
- Confucianism
- Hoplite
- Phalanx
- Peloponnesian
- Ostracism
- Sun dial
- Cuneiform
- Cartography

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i> Lesson 1: What is culture? Students discuss their own culture Crossing cultures Lesson 2: Cartography -Cartography PowerPoint
	Lesson 2:	
	Lesson 3:	
	Lesson 4:	
	Lesson 5:	

Lesson 6:	-Notes and Questions
	Lesson 3: Mesopotamia
Lesson 7:	-Ancient Mesopotamia guided notes
Lesson 8:	-Ancient Mesopotamia city-states project
Lesson 9:	Lesson 4: Inventions and Science in Mesopotamia
Lesson 10:	-Ancient Mesopotamian invention project
Lesson 11:	Lesson 5: Music in the ancient world
Lesson 12:	-A brief history of music PowerPoint
	-Music Project
Lesson 13:	Lesson 6: Chinese Empires
Lesson 14:	-Rise and fall of Chinese Empires notetaker
	-Chinese Empire worksheet
Lesson 15:	Lesson 7: Development of philosophies in China
Lesson 16:	-Ancient China Worksheet
	Study Guide
	Unit Quiz

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Content Area	Social Studies
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Course/Grade Level	History of Science/12
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Strand	
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Unit Statement (Formerly Standard)	
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TLW

Study and analyze the advancements in technology in Greece and Rome.

Gist	
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Prerequisite Vocabulary (Use a new line for each item)

- Culture
- Ostracism
- Cartography
- Civilization
- Domesticate
- Republic
- Empire
- Scientific Method

New Vocabulary (Use a new line for each item)

- Renaissance**
- Revolution**
- Coliseum**
- Parthenon**
- Reasoning**
- Paradox**
- Heliocentric**
- Geocentric**
- Inductive**
- Deductive**
- Premise**
- Fallacy**

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i>
	Lesson 2:	Lesson 1: Geography of Greece
	Lesson 3:	Students anticipate how the geography of Greece shaped its history and the necessity of its inventions
	Lesson 4:	-First Greek Civilizations
	Lesson 5:	Lesson 2: Greek Mythology
	Lesson 6:	-Greek Mythology Notetaker
	Lesson 7:	-Hero Project
		-Greek Mythology Project
		Lesson 3: Comparing Greek Polis to Ancient Mediterranean city-states

Lesson 8:	-Your Greek Polis
Lesson 9:	Lesson 4: Athens and Sparta
Lesson 10:	-Greek culture notes Lesson 5: The Persian Wars
Lesson 11:	-Marathon Lesson 6: The Peloponnesian War
Lesson 12:	-Study Guide
Lesson 13:	-Unit Quiz Lesson 7: Philosophy
Lesson 14:	-Greek Philosophers assignment Lesson 8: Founding of Rome
Lesson 15:	-Rome founding according to mythology Lesson 9: Roman Republic
Lesson 16:	-Compare government changes in Rome to US Lesson 10: Roman Emperors -Roman emperor campaign poster Lesson 11: The Coliseum -History channel video Lesson 12: 10 technologies that shaped Rome -Notes on documents, gallery walk Study Guide
	Unit Test

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Content Area	Global Issues B

Course/Grade Level	11th

Strand	Unit I: Crime and Terrorism
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Unit Statement (Formerly Standard)

TLW
Study and analyze different acts of crime and terrorism in the United States and around the world.

Gist	
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Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)
 Incarceration
 Murder rate
 Al Qaeda
 Osama bin Laden
 Gun control
 Terrorism
 Reign of Terror
 Irish Republican Army
 Kurdistan Worker’s Party
 Pan Am flight
 Black September
 Weather Underground Organization
 2004 Madrid bombing
 2005 London Bombing

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i> Lesson 1: -Crime notes (use PowerPoint) -Read “Why we must fix our prisons” article and write 15 interesting facts as they read. Lesson 2: - Obama’s Gun Law policies – read and have students formulate their opinion. Lesson 3: - Intro to Hate Crimes PowerPoint (one slide)– discussion questions
	Lesson 2:	
	Lesson 3:	
	Lesson 4:	
	Lesson 5:	
	Lesson 6:	
	Lesson 7:	
	Lesson 8:	

Lesson 9:	on scrap paper and discuss
Lesson 10:	-Hate Crimes webquest
Lesson 11:	Lesson 4:
Lesson 12:	- Teens broke the Law, You be the Judge
Lesson 13:	- Use the book and student sheet to pretend judge a teenage criminal
Lesson 14:	Lesson 5:
Lesson 15:	- Crime in the News – use newspaper or news websites to find information about current events involving crime
Lesson 16:	Lesson 6:
	- Identity Theft brochure
	- Use information on laptops
	Lesson 7:
	- Terrorism notes (use PowerPoint) – have students take notes and discuss each slide as it's presented.
	Lesson 8:
	- Terrorism webquest
	Lesson 9:
	- Osama bin Laden DVD with student questions
	Quiz Review Sheet
	Unit Quiz

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Content Area	Global Issues B

Course/Grade Level	11th

Strand	Unit VI: Dictators
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Unit Statement (Formerly Standard)

TLW
Study and analyze the patterns of dictatorships from the ancient times to present.

Gist	How have dictatorships throughout world history influenced countries, foreign policies, and human rights?
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Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)
 Roman Senate
 Rules and requirements of ancient dictators
 Census
 Titus Larcius
 Consul
 Italian Rebellion
 Lucius Sulla
 Reform
 Julius Caesar
 Napoleon Bonaparte
 French Revolution
 Autocracy
 Totalitarian regime
 Muammar al-Qaddafi
 Isayas Afewerki
 King Abdullah
 Kim Jong-II
 Robert Mugabe

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i>
	Lesson 2:	Lesson 1: History of Dictatorship notes
	Lesson 3:	Lesson 2: Hu Jintao – reading and questions
	Lesson 4:	Lesson 3: Worst Dictators of Today chart (use website to fill in)
	Lesson 5:	

Lesson 6:	Lesson 4: Kim Jung Il brochure Read the brochure together and hand out the assignment sheet. Students will fold the last handout as a brochure and fill out information accordingly.
Lesson 7:	
Lesson 8:	
Lesson 9:	Lesson 5: True Life – Saudi Arabia Read handout summarizing the limitations of freedoms in the Middle East and show the episode “I’m Resisting the Government in Saudi Arabia”
Lesson 10:	
Lesson 11:	
Lesson 12:	Lesson 6: Dictators Wanted Poster Project Students will spend 2-3 days researching an assigned dictator and create a wanted poster for this person. Requirements and student chart are attached.
Lesson 13:	
Lesson 14:	
Lesson 15:	
Lesson 16:	

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Content Area	Global Issues A

Course/Grade Level	11th

Strand	Unit III: Genocide
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Unit Statement (Formerly Standard)

TLW

- Define modern genocide**
- Identify acts commonly committed in genocide**
- Recognize genocide does not always mean killing**
- Recognize the crime of genocide**
- Outline the 8 stages of genocide**
- Locate areas of genocide**
- Generalize what regions have experienced most genocide**
- Infer why those regions have experienced the most genocide**
- Give examples of groups or main divisions targeted in genocide**
- Summarize history of a specific genocide**
- Organize and construct a timeline of important date in genocide**
- Compare and contrast two genocide**
- Gather primary source documents and analyze in relation to genocide**
- Compose and formulate why genocide happens**
- Analyze and judge causes of genocide**
- Collaborate with a partner on research project**
- Prepare and present information on genocide**

Gist	Explore the causes and historical significance of genocide in the 20th century.
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Prerequisite Vocabulary (Use a new line for each item)

- Mass
- Classify
- Symbolize
- Organize
- preparation

New Vocabulary (Use a new line for each item)

- Genocide
- Systematic
- inexorable
- exterminate
- polarization
- denial

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
-	Lesson 1:	1. TLW <i>Content Expectation(s):</i>

Lesson 2:	Lesson 1: -Genocide notes (powerpoint) - Genocide throughout the world map
Lesson 3:	
Lesson 4:	
Lesson 5:	
Lesson 6:	Lesson 2: Genocide Portfolio research project: students will research with partner 2 difference genocides occurring throughout history extensively through causes/effects, primary sources including articles, personal narratives, videos, etc.
Lesson 7:	
Lesson 8:	
Lesson 9:	
Lesson 10:	Lesson 3: - Why genocide happens essay. Students will report in 4-5 paragraphs on their reasons as to the causes of genocide based on the two researched in portfolio
Lesson 11:	
Lesson 12:	
Lesson 13:	Lesson 4: Portfolio presentation to class including historical information and why genocide happens
Lesson 14:	
Lesson 15:	Lesson 5: - genocide study guide and review
Lesson 16:	
	Unit Assessment.

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Content Area	Global Issues B

Course/Grade Level	11th

Strand	Unit II: Immigration
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Unit Statement (Formerly Standard)

TLW
Study and analyze the patterns of immigration from the ancient times to present.

Gist	How has immigration, both past and present, affected American culture?
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Prerequisite Vocabulary (Use a new line for each item)

New Vocabulary (Use a new line for each item)
 Vikings
 Migration
 Naturalization Act of 1790
 Chinese Exclusion Act
 Gentleman’s Agreement
 Alien Registration Act
 Patriot Act
 Contemporary Immigration
 Undocumented Immigrants

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i>
	Lesson 2:	Lesson 1:
	Lesson 3:	- Intro PowerPoint on scrap paper
	Lesson 4:	- Begin notes –student handout
	Lesson 5:	- “Immigration 2012” PowerPoint
	Lesson 6:	- Read “How entering legally is tough”
	Lesson 7:	Lesson 2:
	Lesson 8:	- Folder documents for immigration – “Illegal Immigration and why immigrating legally is difficult”.
	Lesson 9:	Lesson 3:
	Lesson 10:	- Webquest – Immigration yesterday and today

Lesson 11:

Lesson 12:

Lesson 13:

Lesson 14:

Lesson 15:

Lesson 16:

Lesson 4:

- Immigration project – student research two countries – one in the Middle East and one in East Asia and analyze historical immigration and present immigration patterns.

Lesson 5:

- The Other Side of Immigration DVD & questions

Lesson 6:

- Choose 15 of 20 questions after viewing DVD

Lesson 7:

- Quiz Review Sheet and Bingo review game

Lesson 8:

- Quiz - Immigration

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Content Area	Global Issues A

Course/Grade Level	11th

Strand	Unit II: Issues in Africa
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Unit Statement (Formerly Standard)

TLW
Identify Sierra Leone
Analyze Sierra Leone’s History
Examine the Revolutionary United Front: causes for formation, promises, acts of violence, relationship to civil war
define colonialism
identify the legacy of colonialism on Africa
Define child soldiers
judge the methods for rehabilitation of child soldiers
Examine the KONY 2012 campaign
compare/Contrast KONY to Sierra Leone
examine and debate the tactics behind KONY 2012 videos
define conflict diamonds
locate areas with large diamond and other natural resources
explain the natural resource curse and interpret the effects
identify how rebel groups profit from illegal diamond business
analyze blood diamonds in popular culture
evaluate and propose solutions to Kimberley Process

Gist	Identify and examine causes of issues related to the continent of Africa in alignment to the novel <i>A Long Way Gone</i> including but not limited to: legacy of colonialism, civil wars, child soldiers and conflict diamonds
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Prerequisite Vocabulary (Use a new line for each item)
dictatorship
natural resource
diamond

New Vocabulary (Use a new line for each item)
coup
colonialism
UNICEF-child soldier
disarm
demobilize
reintegrate
conflict diamond

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1: Lesson 2: Lesson 3: Lesson 4: Lesson 5: Lesson 6: Lesson 7: Lesson 8: Lesson 9: Lesson 10: Lesson 11: Lesson 12: Lesson 13: Lesson 14: Lesson 15: Lesson 16:	<p>1. TLW <i>Content Expectation(s):</i></p> <p>Lesson 1: Introduce issues in Africa with chapter on Africa use pg. 244-259 <i>Current Issues: Critical Policy Choices Facing the US and the World</i> ©2007 Close Up Foundation Review with students the popularity of Colonialism/white mans burden and identify legacy of colonialism</p> <p>Lesson 2: Introduce Sierra Leone (country of Focus) with notes (powerpoint) Introduce Ishmael Beah's <i>A Long Way Gone</i> students will be reading this novel and completing the discussion questions throughout this unit of study</p> <p>Lesson 3: - Review first 7 chapters of <i>A Long Way Gone</i> - RUF and and civil war in sierra Leone notes (powerpoint)</p> <p>Lesson 4: - View Part I and Part II of KONY 2012 students to write down things they learned, things they noticed (characteristics, methods, etc) and things they have questions on after the video for both. www.youtube.com/watch?v=Y4MnpzG5Sqc</p> <p>- Discuss video and student notes - read together college students writing in reaction to KONY 2012 students to evaluate writing - Compare/Contrast KONY2012 to Sierra Leone</p> <p>Lesson 5: - Child soldier definition and civil war cont. - Review questions 12 and 16 from A Long Way Gone discussion questions - Journal/response: imagine you have been captured by the RUF and you are able to get a letter out to your family. Write to them and tell them about your experiences and feelings.</p> <p>Lesson 6: - Natural Resource Curse - Blood Diamond notes (powerpoint) - Kanye West and Jay-Z lyric analysis: Diamonds in Sierra Leone www.youtube.com/watch?v=92FCRmaggNqQ www.azlyrics.com/.../kanyewest/diamondsfromsierraleonere mix.html</p> <p>Lesson 7: <i>Blood Diamond</i> the movie effect article Blood diamond free response questions</p>

Lesson 8:

National Geographic: *Diamonds of War: Africa's Blood Diamonds*
(2007)

Blood Diamond Poster project

Lesson 9

- Effects of Sierra Leone civil war document based 5 paragraph
essay question writing assignment

Lesson 10

- Issues in Africa study guide and review

Unit Assessment.

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Content Area	Global Issues A

Course/Grade Level	11th

Strand	Unit I: Poverty
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Unit Statement (Formerly Standard)

TLW
Identify what a Global Issue is
Analyze the world population
Explain the possible causes and consequences of population growth
Explore the world at 7 billion
Asses population change in the US
Define overpopulation
Asses the consequences and solutions to population growth and affects on the globe
Identify the current situation of world poverty, the causes, effects, and solutions of world poverty.
Locate and differentiate poverty around the world.
Compare current poverty levels and solutions to historical events of poverty in the US
Evaluate government solutions to poverty
Compare and Contrast poverty in American and the Third World

Gist	Effects, causes, and solutions to population growth and poverty in the world. Compare and Contrast poverty in America and World.
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Prerequisite Vocabulary (Use a new line for each item)
 Population

New Vocabulary (Use a new line for each item)
 Global Issue
 Overpopulation
 Fertility rate
 Third World
 Welfare
 Medicare
 Medicaid
 poverty

Concepts & Information	No. of Days	Lessons-Sequence of Instruction/Rules & Procedures
	Lesson 1:	1. TLW <i>Content Expectation(s):</i>
	Lesson 2:	Lesson 1:

Lesson 3:	-Global Issue Partner Activity
Lesson 4:	- Global Issues Island group intro activity
Lesson 5:	Lesson 2:
Lesson 6:	- Population video clip- youtube:
Lesson 7:	- Analyze over population and brain storm possible causes and consequences in the world
Lesson 8:	- Video and population and environment video clip – YouTube:
Lesson 9:	- Overpopulation reading and discussion
Lesson 10:	Lesson 3:
Lesson 11:	-World at 7 billion statistics
Lesson 12:	-Global Village world population distribution
Lesson 13:	Lesson 4:
Lesson 14:	- Poverty notes (use powerpoint)
Lesson 15:	- Poverty statistics jigsaw activity
Lesson 16:	Lesson 5:
	- Poverty in America use <i>Current Issues: Critical Policy Choices Facing the US and the World</i> ©2007 Close Up Foundation
	- Video: 60 minutes – <i>Changing Faces: Poverty in America</i>
	Lesson 6:
	- Current Statistics/articles on poverty in America and Michigan jigsaw activity
	Lesson 7:
	- President Obama 2012 election stance on Poverty article and solutions
	- Journal free-write assignment: What is the American Recovery and Reinvestment Act? Do you believe that President Obama’s plan to end/lessen poverty is comprehensive enough? Why or why not? If you had to advise President Obama what would be some change or additional solutions you would add?
	Lesson 8:
	- Venn Diagram compare contrast Poverty in America and 3 rd world
	- Quiz review sheet
	Unit Assessment.

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Content Area	Tech
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Course/Grade Level	Pre-K and K
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Unit Statement

TLW demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Gist	Information, Communication and Productivity
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-ICP-S-I1 Students will investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)</p>	<p>Introduce</p> <ul style="list-style-type: none"> Identify the parts of a computer; monitor, keyboard, mouse, CPU, speakers and control buttons Demonstrate mouse skills – click, double-click, and place cursor 	<p>Teaching Ideas Draw a computer and its parts in Paint</p> <p>Make labels and let students place them on the correct computer components</p> <p>Web Resources Lesson Plan - http://www.op97.k12.il.us/instruct/cybercitizens/ccpage5.html</p> <p>Keyboarding http://www.e-learningforkids.org/Courses/Keyboarding_Skills/launch.html</p> <p>Mouse Skills/Math http://www.internet4classrooms.com/month2month.htm</p> <p>Mouse Skills http://www.wacona.com/kindergartengames/kindergartengames.html</p> <p>Mouserise http://www.3street.org/mouse/</p>
<p>T-P-ICP-S-P2 Students will create a variety of tasks using technology devices and systems to support authentic learning</p>	<p>Introduce</p> <ul style="list-style-type: none"> Recognize program and document icons Begin to identify and use developmentally appropriate menus, toolbars, and features within various software 	<p>Web Resources Webbing Tool http://interactives.mped.org/view_interactive.aspx?id=127&title=</p> <p>Graphic Organizers http://edtech.tennessee.edu/~anonis/gohome.html</p> <p>Disney Magic Artist Online http://disney.go.com/magicartist/storybook/index.html</p>
<p>T-P-ICP-S-I3 Students will use appropriate technology terms (e.g., hardware, software, CD, hard drive)</p> <p>Schedule 7d-107</p>	<p>Introduce</p> <ul style="list-style-type: none"> Use appropriate terminology (arrow/pointer, CD drive, computer, digital camera, Enter/Return, headphones, monitor, mouse, print) correctly 	<p>Teaching Ideas</p> <p>Discuss terminology related to computers and software</p> <p>Make labels and let students match the correct technology terms</p> <p>Kids Click!</p>

		http://www.kidsclick.org/topcomp.html Spelling City http://spellingcity.com/
T-P-ICP-S-I4 Students will demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete)	Keyboarding Introduce <ul style="list-style-type: none"> • Begin to use correct orientation of both hands for keyboarding (use left hands for left keys and right hands for right keys) • Use proper posture/technique at the keyboard • Begin to use the home row keys: (a s d f j k , ;) 	Free Online Typing Test http://www.nimblefingers.com/
T-P-ICP-S-I2 Students will describe how to use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia)at home, school and community	Introduce <ul style="list-style-type: none"> • Describe and exhibit responsible and appropriate use of computers, disks, and peripherals 	Teaching Ideas As a class, the teacher and students will create a Do’s and Don’ts list for the proper of computer equipment The teacher will discuss and demonstrate for the students the proper care of the computer equipment. (Clean hands, clean work area, disk care, no food or drinks, no magnets, etc) The teacher will give a rule about proper care for the computer equipment and the students will give an example to support why we have that rule Make a poster to create the Do’s and Don’ts list Web Resources How To Take Care Of Your Computer http://library.thinkquest.org/5862/httcocyc.htm Chip’s Patrol – Computer Care http://www.computerlabkids.com/Cannon/Chip.html
T-P-ICP-S-C1 Students will use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)	Introduce <ul style="list-style-type: none"> • Share and exchange information with support from teachers, family members, or student partners (e.g., talking books, morning news program, text to speech software) 	Teaching Ideas Teacher can demonstrate using technology in instruction through the use of presentations, video clips, spreadsheets, etc. to correlate with core content Create a class book using PhotoStory, MovieMaker, or other multimedia program. Insert the pictures and have the students name them, tell about the pictures, or spell them Have students as a class create, and then use a digital or video camera to take pictures of their creation and the teacher will display it on the computer. Children can write or dictate captions for their photos, or use voice recordings to tell about their work/photos Web Resources Read Please http://www.readplease.com/ Natural Readers – Speech to Text Reader http://www.naturalreaders.com/ Children’s Storybooks Online http://www.magickeys.com/books/ Awesome Talking Library http://www.awesomelibrary.org/Awesome_Talking_Library.html Activities/Lesson Plans Using Microsoft Office Products http://edcommunity.apple.com/ali/galleryfiles/11138/Lesson_Management_Grid_-3rd_gr.pdf

<p>T-P-ICP-S-C2 Students will participate in group projects and learning activities using technology communications</p>	<p>Introduce</p> <ul style="list-style-type: none"> Define digital communication (i.e. email, text messaging, blog, instant messaging (IM), etc.) As a class, explore different forms of digital communications 	<p>Teaching Ideas As a class, adopt a KeyPal to write to during the year</p> <p>Create eCards and class emails</p> <p>Web Resources Kidworld KeyPals http://www.bconnex.net/~kidworld/keypals4.htm ePals Global Community http://www.epals.com/</p>
<p>T-P-ICP-S-P1 Students will explain how information can be published and presented in different formats</p>	<p>Graphic Organizers Introduce</p> <ul style="list-style-type: none"> As a class, introduce electronic graphic organizers (Venn diagrams) <p>Word Processing Introduce</p> <ul style="list-style-type: none"> Recognize a word processing document <p>Multimedia/Presentations Introduce</p> <ul style="list-style-type: none"> Recognize a presentation Help select appropriate images for a multimedia class project As a class, create a simple presentation <p>Spreadsheet Introduce Skill</p> <ul style="list-style-type: none"> Recognize a spreadsheet 	<p>Teaching Ideas</p> <p>Do whole class story writing Create a classroom poster, banner, card, or newsletter Download pictures and then write a story together as a class Create an alphabet book as a class or have students create their own page Use simple presentation tools to create:</p> <ul style="list-style-type: none"> Poster Book Slide Show <p>Use computer generated pictures to create basic neighborhood maps</p> <p>Web Resources www.kidsdomain.com/down/pc/wpforkidspc.html http://www.iol.ie/~askeabns/1%20WP.doc www.bubbl.us</p>

Unit Statement

TLW understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Gist | Safety, and Ethical/Social Issues

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-SESI-S-S1 Students will explain the importance of safe Internet use (e.g., iSafe skills)</p>	<p>Introduce</p> <ul style="list-style-type: none"> • Use internet safety skills (iSAFE) (e.g. ask for adult assistance, apply safety rules to Internet community) • Vocabulary – community, Internet, stranger, digital citizen 	<p>Teaching Ideas Discuss safety issues related to the use of the Internet. Use safe and correct security procedures when working online (such as not disclosing personal information and protecting passwords)</p> <p>Web Resources Elmer the Safety Elephant http://www.elmer.ca/english/thinksafe/index.htm Keep Safe http://www.ikeepsafe.org/ Adventures in Internet Safety http://disney.go.com/surfswell/index.html www.centerdigitaled.com</p>
<p>T-P-SESI-S-S2 Students will use safe behavior when using technology</p>	<p>Introduce</p> <ul style="list-style-type: none"> • Explain that a good digital citizen is a person who follows rules in an Internet community • Identify a stranger as someone whom you and your parents don't know • Discuss how a person you meet online may be a stranger 	<p>Teaching Ideas Ask a policeman to visit class and discuss good citizens and strangers with your students.</p> <p>Web Resources McGruff on Strangers - http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=533E107B-9230-4A76-A620-3FE4FB30A875</p>
<p>T-P-SESI-S-E1 Students will use responsible and ethical behavior in using technology</p>	<p>Introduce</p> <ul style="list-style-type: none"> • Begin using password • Explain why passwords should be kept secret 	<p>Teaching Ideas Discuss safety issues related to passwords and why the need to be kept secret</p>
<p>T-P-SESI-S-E2 Students will adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws</p>	<p>Introduce</p> <ul style="list-style-type: none"> • Acceptable Use Policy (i.e., define purpose, explain consequences of violations, and sign) 	<p>Teaching Ideas The teacher discusses the Acceptable Use Policy and why we need it and the consequences of violations</p> <p>Web Resources Acceptable Use Policy - KDE http://education.ky.gov/KDE/Administrative+Resources/Technology/Additional+Technology+Resources/Acceptable+Use+Policy+Guidelines+and+State+Requirements+for+Student+and+Staff+Access+to+Electronic+I.htm</p>
<p>T-P-SESI-S-S12 Students will collaborate with peers, family members and others when using technology</p>	<p>Introduce</p> <ul style="list-style-type: none"> • Work with others as a team to complete a task when using technology 	<p>Teaching Ideas Participate in a class or small group lessons using technology for shared writing or language experience stories</p> <p>Web Resources Smithsonian Field Trips Pre-K-3 http://educate.si.edu/ft/ft_fs.html Community Alphabet Book – Great for typing vocabulary/spelling definitions http://interactives.mped.org/view_interactive.aspx?id=643&tile= Build Your Community http://www.econedlink.org/lessons/em285/flash/draganddrop.html West Michigan Academy of Environmental Science</p>

		http://www.econedlink.org/lessons/em285/flash/draganddrop2.html http://www.econedlink.org/lessons/em285/flash/draganddrop3.html
T-P-SESI-S-S11 Students will work cooperatively with peers, family members and others when using technology	<u>Introduce</u> <ul style="list-style-type: none"> • Begin to discuss the importance of being a good classmate when using technology • Share available technology resources 	<u>Teaching Ideas</u> Teacher discussion of the importance of being a good classmate <u>Web Resources</u> Netiquette for Kids Resources for Teachers http://www.bpl.org/kids/Teachers.htm
T-P-SESI-S-S13 Students will explain how technology is used in jobs and careers	<u>Introduce</u> <ul style="list-style-type: none"> • Begin to discuss the various types of technology used in careers (e.g., bar code scanners, handhelds (PDAs), cell phones) 	<u>Teaching Ideas – Digital Citizenship</u> Identify and explain that technology is used in their daily lives to do things better or more easily (such as telephone, microwave, television, cameras, and computers) Identify examples of how technology affects the environment (including home and school environments). <u>Web Resources</u> Get Tech Kids http://www.gettech.org/category2.asp?cat=2

Unit Statement

TLW understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Gist | Research, Inquiry/Problem-Solving and Innovation

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-RIPSI-S-R1 Students will use teacher-directed Internet sources as a resource for information</p>	<p>Internet/Online Research <u>Introduce</u></p> <ul style="list-style-type: none"> Discuss the Internet as a source of information at school, home, and at the public library 	<p><u>Teaching Ideas</u> Explain different scenarios to students in which you would need to use the internet to obtain information</p> <p>Create a scavenger hunt for finding information online with your students</p> <p><u>Web Resources</u></p> <p>Kindergarten Webquests Telling Time - http://www.mswindman.netfirms.com/telling_time_.htm</p> <p>Trees All Around - http://www.rock-hill.k12.sc.us/teachers/bves/kberry/webquest2.htm</p> <p>A variety of webquests - http://www.rock-hill.k12.sc.us/schools/elem/odes/webquests-Kindergarten.htm</p> <p>Recycling Scavenger Hunt - http://www.allenisd.org/boon.nsf/216b8c5cd64e92c686256b250060b693/f185bee9ae25e62f8625714f00653558?OpenDocument</p> <p>Animals along the River - http://www.ottawaelem.lasall.k12.il.us/OES%20folder/OES/OES%20Webquest%202002/Central2002/Hartman%20quest/Hartman.html</p>
<p>T-P-RIPSI-S-R2 Students will use electronic resources to access and retrieve information</p>	<p><u>Introduce</u></p> <ul style="list-style-type: none"> Use developmentally appropriate multimedia resources to support learning (e.g., interactive books, educational software, picture dictionary) 	
<p>T-P-RIPSI-S-IP1 Students will gather technology information/data and use for problem solving in all content areas</p>	<p><u>Introduce</u></p> <ul style="list-style-type: none"> Begin to prepare a simple spreadsheet to organize data as a class 	<p><u>Teaching Ideas</u> Describe how technology tools are used to organize data Describe how data will be displayed. Participate in a class lesson using technology tools to display data</p>
<p>T-P-RIPSI-S-IP2 Students will describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving)</p>	<p><u>Introduce</u></p> <ul style="list-style-type: none"> Determine if all equipment is on Begin to know when and who to ask for help with technical 	<p><u>Teaching Ideas</u> The students will practice taking turns turning on the equipment</p>

software, troubleshooting technology issues)	difficulties	
T-P-RIPSI-S-I1 Students will use technology for original creations/innovation in classroom	<u>Introduce</u> <ul style="list-style-type: none"> • Create original work using developmentally appropriate software (e.g., Paint, Word, KidPix, Microsoft Photo Story) 	<u>Teaching Ideas</u> Create illustrations for letter sounds Create illustrations of home with your address Create illustrations for stories “ABC” book slide show
T-P-RIPSI-S-I2 Students will express creativity both individually and collaboratively using technology	<u>Introduce</u> <ul style="list-style-type: none"> • Begin to create multimedia projects individually or as a class activity using age appropriate software 	<u>Teaching Ideas</u> Select and use the appropriate multimedia and publishing tools to express original ideas with print, drawings, digital images, video, sounds, and/or personal recordings Create a class multimedia sequential story



Content Area	Tech
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Course/Grade Level	1st-2nd Grade
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Unit Statement

TLW demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Gist	Information, Communication and Productivity
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-ICP-S-I1 Students will investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)</p>	<ul style="list-style-type: none"> Identify the basic parts of a computer (monitor, keyboard, mouse, CD/DVD drive, printer, 3 ½ floppy drive, USB port, digital camera, projector, scanner) Explain why computers and/or other technologies are used for learning Demonstrate mouse skills – click, double click, drag, scroll, left click, place cursor Basic troubleshooting techniques (determine if all equipment is on) Follow on-screen directions File basics – open, close, use menu options, save, print 	<p>Teaching Ideas Make labels and let students place them on the correct computer components Use computer vocabulary words as part of your spelling lesson Teachers would have students demonstrate mouse skills and file basics</p> <p>Web Resources Labeling Computer Parts Computer Terms Computer Vocabulary http://www.quia.com/mc/65620.html Computer Parts Outer Hardware Spelling City Computer Parts Hangman Kids Click!</p>
<p>T-P-ICP-S-P2 Students will create a variety of tasks using technology devices and systems to support authentic learning</p>	<ul style="list-style-type: none"> Explore finished products that have been electronically created (e.g., graphs, charts, signs, banners, cards, portfolio piece, technical writing) As a class, participate in developing a project that includes selecting software with appropriate capabilities Continue to use proofreading and electronic editing skills (e.g., backspacing, moving cursor to insert words or letters, spell check) 	<p>Web Resources Microsoft Office Templates Punctuation Paintball – Correcting Sentences Using Digital Cameras in the Classroom Disney Magic Artist Online Collaborative Projects for K-12 Classrooms</p>

	<ul style="list-style-type: none"> • Print and save products to identified locations (e.g. hard drive, USB drive, floppy drive) • Identify and use menus, toolbars, and features within various software • Begin to use proofreading and electronic editing skills (e.g., backspacing, moving cursor to insert words or letters) 	http://www.henderson.k12.ky.us/administration/trt/Projects.htm Open Office http://www.openoffice.org/ Using a Digital Camera in the Classroom http://www.wacona.com/digicam/digicam.html Postcard Creator http://www.readwritethink.org/materials/postcard/ Webbing Tool – Graphic Organizers http://interactives.mped.org/view_interactive.aspx?id=127&title = Create A Graph http://www.econedlink.org/lessons/em206/flash/popupGraph.html Power Proofreading http://www.eduplace.com/kids/hme/k_5/proofread/proof.htm NoodleTools http://www.noodletools.com/tools/freetools.php
<p>T-P-ICP-S-I3 Students will use appropriate technology terms (e.g., hardware, software, CD, hard drive)</p>	<ul style="list-style-type: none"> • Use appropriate terminology (arrow/pointer, CD drive, close, computer, CPU, desktop, digital camera, disk drive, server, double click, Enter/Return, headphones, hard drive, laptop, microphone, maximize, minimize, monitor, mouse, open, print, scroll, touchpad, window, scanner) • Discuss as a class types of assistive technology used to help others • Distinguish between hardware and software 	<p>Web Resources TekMom’s – Technology Buzzwords For Students http://www.tekmom.com/buzzwords/index.html</p> <p>Computer Terms http://www.techterms.com/</p> <p>What are the Differences between Hardware and Software? http://www.computerhope.com/issues/ch000039.htm</p> <p>http://www.cyberseniors.org/artman/publish/article_100.shtml</p> <p>Kids Click! http://www.kidsclick.org/topcomp.html</p> <p>Spelling City http://spellingcity.com/</p> <p>Learning Disabilities and Assistive Technologies http://www.gatfl.org/ldguide/default.htm</p> <p>Types of Assistive Technology http://atto.buffalo.edu/registered/ATBasics/Foundation/intro/introbasic.php</p> <p>Assistive Technology Videos – You must have a UnitedStreaming account to view these videos, it is free to all Kentucky Teachers http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetId=8C727FB1-5E63-4267-9752-247326C0D5FB</p>
<p>T-P-ICP-S-I4 Students will demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete)</p>	<p>Keyboarding Introduce Skills – 1st Grade</p> <ul style="list-style-type: none"> • Use thumbs for Space Bar • Distinguish between and type upper and lower case letters • Use Enter/Return key • Begin to use keys (t e h o r n) <p>Introduce Skills – 2nd Grade</p> <ul style="list-style-type: none"> • Use special keys such as enter/return, backspace, left and right shift, and delete • Begin to use keys (m c l ,) <p>Develop Skills- 1st and 2nd Grades</p> <ul style="list-style-type: none"> • Continue to use correct orientation of both hands for keyboarding (use left hands for left keys and right hands for right keys) • Continue to use home row keys (a s d f j k l ; and t e h o r n) • Continue proper posture/technique at the 	<p>Teaching Ideas</p> <p>Make up your own lesson using the keyboard, such as “Type dad, mom, etc.” Use spelling/vocabulary words</p> <p>Alphabetize names lesson: have students type in names in Excel and use a big screen to show their names. Then use the alphabetize feature to teach order and alphabetizing Practice typing their name and other students’ names Match upper and lower case letters.</p> <p>Type the alphabet</p> <p>Type labels for things in the classroom</p> <p>Make designs of different size letters or design different size letters and fonts.</p> <p>Web Resources BBC Dance Mat Typing http://www.bbc.co.uk/schools/typing/</p> <p>Krazy Keyboarding for Kids http://webinstituteforteachers.org/~gammakeys/Lesson/lesson4.htm</p> <p>Keyboarding Sites from Henderson County http://www.henderson.k12.ky.us/administration/trt/Teacher_Resources.htm#Keyboarding</p>

	<p>keyboard</p> <ul style="list-style-type: none"> • Use thumbs for Space Bar • Distinguish between and type upper and lower case letters • Use Enter/Return key 	<p>The Keyboard http://www.quia.com/cb/84277.html</p> <p>Elementary Typing Games – 2nd/3rd http://www.abcya.com/second_grade_computers.htm</p> <p>http://www.abcya.com/third_grade_computers.htm</p> <p>The Original Keyboard Challenge http://www.abcya.com/standard_keyboard.htm</p> <p>Learning to Type – Homework Help http://www.childsoftpress.com/HomeworkHelp/LearningtoType.htm</p>
<p>T-P-ICP-S-I2 Students will describe how to use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia)at home, school and community</p>	<ul style="list-style-type: none"> • Identify and correctly use USB devices (pen drive, jump drive, flash drive, thumb drive) • Describe how to open, close, and use an application correctly • Describe how to start up & shut down computer in the proper manner • Use Ctrl+Alt+Delete with own user ID and password (Log on and off) • Describe and demonstrate proper care of equipment (e.g., keep food, drinks and magnets away from equipment, clean hands, not writing on equipment) • Describe and demonstrate proper safety features associated with each device (e.g., digital camera neck or wrist strap, proper cell phone use) 	<p>Teaching Ideas Demonstrate to a younger student the proper way to start up, shut down, open, close, and use a particular program on the computer</p> <p>Web Resources Using Flash Drives http://homeworktips.about.com/b/2007/01/07/using-flash-drives.htm</p> <p>Computer Care http://www.kidsdomain.com/brain/computer/lesson/comp_les10.html</p> <p>Technology Buzzwords for Students http://www.kidsdomain.com/brain/computer/lesson/comp_les10.html</p> <p>Computer Terms http://www.techterms.com/</p> <p>How To Take Care Of Your Computer http://library.thinkquest.org/5862/httcocyc.htm</p>
<p>T-P-ICP-S-C1 Students will use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)</p>	<ul style="list-style-type: none"> • Share and exchange information with support from teachers, family members, or student partners (e.g., talking books, digital storytelling, morning news program, text to speech software) • As a class, design, create, and participate in projects which will be published or monitored on the web <i>by the teacher</i> (e.g., word processing, presentation tools) • Observe teacher using various software productivity tools (e.g. word processor, spreadsheet, and presentation tools) • Use templates to present written communication 	<p>Teaching Ideas Teachers will use technology in instruction through the use of presentations, video clips, spreadsheets, etc. to correlate with core content</p> <p>Create a class book using PhotoStory, MovieMaker, or other multimedia program. Insert the pictures and have the students name them, tell about the pictures, or spell them</p> <p>Have students build/create, and then use a digital or video camera to take pictures of their creation and display it on the computer. Children can write or dictate or record captions for these photos, or use voice recordings to tell about their work</p> <p>Web Resources Digital Storytelling – PhotoStory 3 http://millie.furman.edu/ml/tutorials/photostory3/index.htm</p> <p>Microsoft Office Templates http://office.microsoft.com/en-us/templates/default.aspx</p> <p>Text to Speech Using Windows XP http://support.microsoft.com/kb/306902</p> <p>Read Please http://www.readplease.com/</p> <p>Natural Readers – Speech to Text Reader http://www.naturalreaders.com/</p> <p>Children’s Storybooks Online http://www.magickeys.com/books/</p> <p>Awesome Talking Library http://www.awesomeTalkingLibrary.com/Awesome_Talking_Library.htm</p>

		<p>1</p> <p>Activities/Lesson Plans Using Microsoft Office Products http://edcommunity.apple.com/ali/galleryfiles/11138/Lesson_Management_Grid_-3rd_gr..pdf</p>
<p>T-P-ICP-S-C2 Students will participate in group projects and learning activities using technology communications</p>	<ul style="list-style-type: none"> • Define digital communication (email, instant messaging (IM), blog, etc.) • As a class, use different forms of digital communication • Use proper digital etiquette (language that does not include profanity, socially sensitive remarks or insults) • Give examples of appropriate and inappropriate digital etiquette (i.e. cell phone use, email, etc.) • Identify basic parts of an email (To:, From:, Subject, and body of email, Send) • Use proper digital etiquette (Do not use all capitals in an email. It is the online equivalent of shouting) • As a class, compose and send a new email message • Participate in collaborative problem solving activities as a class using interactive communications and online resources (e.g. email, online discussions, exchange of information through other web environments, webcams) for class projects 	<p>Teaching Ideas Divide your class into two groups and give each group a specific task or set of questions to investigate. Email community, parents, etc., to obtain their data/information. Students will then compare the data/information they received</p> <p>As a class, adopt a KeyPal to write to during the year</p> <p>Web Resources Kid World Key Pals http://www.bconnex.net/~kidworld/keypals4.htm ePals Global Community http://www.epals.com/ Electronic Sister School Program http://www.kids-commons.net/index.html Netiquette-Making a Big Decision http://www.webquest.org/questgarden/lessons/00773-050921082139/t-resources.htm Internet Super Heros - Cyberbullying http://wiredkids.org/wiredkids_org.html NetSmartz Kids http://www.netsmartzkids.org/indexFL.htm Internet Safety http://www.d11.org/mann/computerliteracy/safety-netiquette.htm Kidz Privacy http://www.ftc.gov/bcp/online/edcams/kidzprivacy/kidz.htm Basic Safety Rules for Email http://www.whitman.edu/whitman/index.cfm?objectId=4B64159A-CB9E-F411-EC7AFBE351CD8B82 Internet Safety Rules for Students http://www.bramlib.on.ca/safety.htm I Keep Safe Kids - Watch Video - Choose the book http://ikeepsafe.org/iksc_kids/ Collaborative Projects for P-12 Classrooms http://www.henderson.k12.ky.us/administration/trt/Projects.htm</p>
<p>T-P-ICP-S-P1 Students will explain how information can be published and presented in different formats</p>	<p>General Skills</p> <ul style="list-style-type: none"> • Identify the purpose of productivity tools such as word processing, spreadsheet, and presentation software • As a class, determine which software tool is appropriate for a project • Use appropriate vocabulary (e.g., productivity tools, word processing, spreadsheets, presentation software, publish, software) <p>Graphic Organizers</p> <ul style="list-style-type: none"> • As a class, use electronic graphic organizers (e.g. Venn Diagram) 	<p>Teaching Ideas Do whole class/individually story writing using word processing</p> <p>Download pictures and then write a story together or individually</p> <p>Create an alphabet book as a class or have students create their own page</p> <p>Create a classroom poster, banner, card or newsletter</p> <p>Graphic Organizers Web Resources Fifty Uses for Concept Mapping Software http://www.uwstout.edu/soe/profdev/conceptmap/50uses.html Graphic Organizer Projects http://www.uwstout.edu/soe/profdev/inspirationprojects.shtml On-Line Writing Modules</p>

<p>Schedule 7d-118</p>	<p>Word Processing</p> <ul style="list-style-type: none"> • Recognize a word processing document • Use appropriate vocabulary (Enter, Space Bar) • Type a sentence with ending punctuation • Use capital letters correctly • Use correct spacing (1 space between words) • Use appropriate vocabulary (backspace, shift, close, menu, new, open, print, save, text, toolbar) <p>Multimedia Presentation</p> <ul style="list-style-type: none"> • Use appropriate vocabulary (audio, clipart, insert, image, resize, slide) • Choose appropriate layout • Select appropriate images for a 	<p>http://www.internet4classrooms.com/on-line.htm Open Office http://www.openoffice.org/</p> <p>Cmap-Concept Mapping http://cmap.ihmc.us/ Venn Diagram – 3 Circles http://interactives.mped.org/view_interactive.aspx?id=28&title=</p> <p>Graphic Organizer Lessons http://www.readwritethink.org/lessons/index.asp?grade=1&strand=2&engagement=12&display.x=46&display.y=17 www.bubbl.us</p> <p>Word Processing Teaching Ideas Use the Word Processing Software provided by your District</p> <p>Draw a picture illustrating new words and letters learned</p> <p>Write stories about pictures</p> <p>Write poetry</p> <p>Do whole class or group story writing</p> <p>Have students create business cards</p> <p>Use pattern books and then have each student make their own book or their own page</p> <p>Publish student art or stories on the web</p> <p>Create a classroom newspaper or newsletter</p> <p>Download pictures and then write a story together as a class, or individually</p> <p>Web Resources Word Processing Worksheet http://www.iol.ie/~askeabns/1%20WP.doc</p> <p>Introducing the Word Processor http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Computer_Science/EDT002_1.html</p> <p>Word Processing for Children http://www.kidsdomain.com/down/pc/wpforkidspc.html</p> <p>Cyberbee Word Step-by-Step http://www.cyberbee.com/word.html</p> <p>Homework Help-Word Processing http://www.childsoftpress.com/HomeworkHelp/WordProcessing.htm</p> <p>Online Word Processor http://writer.zoho.com/jsp/home.jsp?serviceurl=%2Findex.do</p> <p>Multimedia Presentation Use your District’s presentation software that is provided</p> <p>Teaching Ideas Use presentation software to create a class/individual presentation on the alphabet, counting, All about Me, animals, or any core content area subject, etc</p> <p>Web Resources DinoPals with Wordart http://www.education-world.com/a_tsl/archives/06-1/lesson002.shtml</p> <p>Digital Camera/Visual Learning http://www.ashland.k12.ky.us/technology/trt/digital_cameras.htm</p> <p>On-Line Practice Modules http://www.westmichiganacademyofenvironmentalscience.com/</p>
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<p>multimedia class project (insert and resize)</p> <ul style="list-style-type: none"> • Make presentation easily readable (e.g., background color and text) • As a class, create a simple presentation 	<p>Open Office http://www.openoffice.org/</p> <p>Cyberbee - Authors http://www.cyberbee.com/author.html</p> <p>PowerPoint Activities http://www.internet4classrooms.com/on-line_powerpoint.htm</p> <p>PowerPoint Resources from KATE http://coekate.murraystate.edu/pdresources/InteractivePPT/index.htm</p> <p>PowerPoint in the Classroom http://www.henderson.k12.ky.us/administration/trt/PowerPoint.htm#PPT%20Files%20to%20Use%20in%20Your%20Classroom</p> <p>Cyberbee PowerPoint Step-by-Step http://www.cyberbee.com/powerpoint.html</p> <p>Digital Storytelling Through PowerPoint http://techbridgegirls.org/documents/Digital_Storytelling_PowerPoint.pdf</p> <p>Online Presentations http://show.zoho.com/jsp/zoho_login.jsp?serviceurl=%2FHome.do</p> <p>Create Interactive Maps using PowerPoint</p> <p>Open Office http://www.openoffice.org/</p>
<p>Spreadsheet</p> <ul style="list-style-type: none"> • Recognize a spreadsheet • Answer questions using a computer generated chart/graph • As a class, create a simple chart or graph (e.g., Graph Club) • Use appropriate vocabulary (cell, row, column, row heading, column heading, row label, column label, title) • Use a spreadsheet template to enter data (e.g., title, column and row label) 	<p>Spreadsheet Use your District’s spreadsheet software that is provided</p> <p>Teaching Ideas Use spreadsheet to type names or words and use alphabetize feature to teach order</p> <p>Build a graph in the classroom with objects, such as shoes or candy, and then put the information into a spreadsheet or graphing program. This helps children make the connection between the physical items and the symbols, and to reinforce the concept of graphs as visual information</p> <p>Web Resources Spreadsheet Vocabulary http://library.thinkquest.org/J0110054/vocab.html</p> <p>Build a Foundation – Spreadsheets http://danenet.wicip.org/mmsd-it/tlc/ssk-1.html</p> <p>M & M Data http://www.teacherlink.org/content/math/activities/exmmnumerical/home.html</p> <p>On-Line Practice Modules http://www.internet4classrooms.com/on-line_excel.htm</p> <p>Open Office http://www.openoffice.org/</p> <p>Create A Graph http://nces.ed.gov/nceskids/createagraph/default.aspx</p> <p>Draw a Histogram http://www.venturaes.com/tools/histogram.html</p> <p>Illuminations- Pizza, Pizza http://illuminations.nctm.org/LessonDetail.aspx?id=U87</p> <p>Illuminations – Amazing Attributes http://illuminations.nctm.org/LessonDetail.aspx?id=U186</p> <p>Online Spreadsheets http://sheet.zoho.com/login.jsp?serviceurl=%2Fhome.do</p>

Unit Statement

TLW understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Gist Safety, and Ethical/Social Issues

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-SESI-S-S1 Students will explain the importance of safe Internet use (e.g., iSafe skills)</p>	<ul style="list-style-type: none"> • Explain that rules help keep digital citizens safe in their communities • Identify examples of appropriate websites as a class • Compare rules in the physical community and in cyber community that concern communication with strangers • Discuss how a stranger can pretend to be a friend in cyber community • Identify and discuss the danger of giving out personal information in cyber community • Use Internet safety skills (iSAFE) (e.g. ask for adult assistance, apply safety rules to cyber community) • Compare the physical community (where we live) to cyber community Vocabulary – community, Internet, stranger, cyber = virtual = digital communities, cyber bullying 	<p>Web Resources</p> <p>isafe.org http://www.isafe.org/ NetSmartz http://www.netsmartz.org/</p> <p>NetSmartz Kids http://www.netsmartzkids.org/indexFL.htm</p> <p>NetSmartz Activity Cards http://www.netsmartz.org/resources/activitycards.htm</p> <p>Google Educators Posters http://www.google.com/educators/posters.html</p> <p>Internet Resources from HCS http://www.henderson.k12.ky.us/administration/trt/Internet%20Resources.htm</p> <p>How Computer Viruses Work by How Stuff Works http://www.howstuffworks.com/virus.htm</p> <p>Bad Guy Patrol http://www.badguypatrol.ca/default.htm</p> <p>Stranger Danger http://www.mcgruff.org/Games/stranger_danger.php</p> <p>NetSmartz Rules http://www.netsmartzkids.org/activities/nsrules/whofriend.htm</p> <p>Elmer the Safety Elephant http://www.elmer.ca/english/thinksafe/index.htm</p> <p>Kidz Privacy http://www.ftc.gov/bcp/online/edcams/kidzprivacy/index.html</p> <p>Keep Safe http://www.ikeepsafe.org/</p> <p>Adventures in Internet Safety http://disney.go.com/surfswell/index.html</p>
<p>T-P-SESI-S-S2 Students will use safe behavior when using technology</p> <p>Schedule 7d-120</p>	<ul style="list-style-type: none"> • Explain that a good digital citizen is a person who follows rules in the physical and virtual community (i.e. appropriate use of technology) • Identify a stranger as someone whom you and your parents don't know • Compare the rule in the physical community "don't talk to strangers" with one on the cyber community "don't send messages to strangers" • Discuss how a person you meet 	<p>Teaching Ideas Tell your teacher when a site comes up that is inappropriate. She will then turn that site into your schools School Technology Coordinator (STC) or School Technology Assistant</p> <p>Web Resources America Links Up: A Kids Online Teach-In http://kids.getnetwise.org/americalinksup/index2.html</p> <p>Parent – Child Internet Addiction Test http://iks.stage1.sandmanstudios.com/TEST/</p> <p>Parent – Child Internet Addiction Test http://www.netaddiction.com/resources/parents_test.htm</p>

	<p>online may be a stranger</p> <ul style="list-style-type: none"> • Describe what to do when an unintended website is entered • Explain what to do in an uncomfortable online situation • Discuss and follow the five Safety Tips published by the FBI for protecting oneself online 	<p>Kids: Be a Good Cybercitizen http://www.nepc.org/cms/cms-upload/nepc/File/Kids%20Cyber%20Citizens%20Brochure.pdf</p> <p>Bad Guy Patrol http://www.badguypatrol.ca/</p> <p>FBI Safety Tips http://www.fbi.gov/kids/k5th/safety2.htm</p> <p>Discuss Physical Stranger Danger http://www.mcgruff.org/Games/stranger_danger.php</p> <p>Who's Your Friend on the Internet? http://www.netsmartkids.org/activities/nsrules/whofriend.htm</p>
<p>T-P-SESI-S-E1 Students will use responsible and ethical behavior in using technology</p>	<ul style="list-style-type: none"> • Use passwords • Explain why passwords should be secret • Acknowledge ownership of own work (Put name on work) • Acknowledge ownership of another person's work • Ethical use of material (explain that one must have permission to use another person's work or any part of that person's work (copyright laws) • Discuss the impact of cyberbullying 	<p>See your School Technology Coordinator (STC) for student passwords/logins and teach students how to login</p> <p>Web Resources</p> <p>Plagiarism Stopper http://www.ncusd203.org/central/html/where/plagiarism_stoppers.html</p> <p>Copyright Laws http://www.henderson.k12.ky.us/administration/trt/copyright_and_multimedia.htm</p> <p>Copyright with Cyberbee http://www.cyberbee.com/copyrt.html</p> <p>Are You A Good Cybercitizen? http://www.cybercrime.gov/rules/cybercitizen.htm</p> <p>Kidz Privacy http://www.ftc.gov/bcp/online/edcams/kidzprivacy/index.html</p> <p>Internet Cyberbullying http://wiredkids.org/wiredkids_org.html</p>
<p>T-P-SESI-S-E2 Students will adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws</p>	<ul style="list-style-type: none"> • Discuss Acceptable Use Policy (i.e. define purpose, explain consequences of violators, and sign) 	<p>See Your District Acceptable Use Policies</p> <p>Definition - http://en.wikipedia.org/wiki/Acceptable_use_policy</p> <p>Web Resources</p> <p>Acceptable Use Policy - KDE http://education.ky.gov/KDE/Administrative+Resources/Technology/Additional+Technology+Resources/Acceptable+Use+Policy+Guidelines+and+State+Requirements+for+Student+and+Staff+Access+to+Electronic+I.htm</p>
<p>T-P-SESI-S-S12 Students will collaborate with peers, family members and others when using technology</p>	<ul style="list-style-type: none"> • Work as a team to complete a task when using technology 	<p>Teaching Ideas</p> <p>Divide your class into two groups and give each group a specific task or set of questions to investigate. Email community, parents, etc., to obtain their data/information. Students will then compare the data/information they received</p> <p>Web Resources</p> <p>ReadWriteThink: Lesson Ideas - Email http://www.readwritethink.org/lessons/lesson_view.asp?id=300</p> <p>Create a Website http://www.teacherweb.com/IdxStates.htm</p> <p>Monster Exchange http://www.monsterexchange.org/index.asp</p> <p>Community Alphabet Book – Great for typing vocabulary/spelling definitions http://interactives.mped.org/view_interactive.aspx?id=643&tile=</p> <p>Build Your Community http://www.econedlink.org/lessons/em285/flash/draganddrop.html http://www.econedlink.org/lessons/em285/flash/draganddrop2.html http://www.econedlink.org/lessons/em285/flash/draganddrop3.html</p>

<p>T-P-SESI-S-SI1 Students will work cooperatively with peers, family members and others when using technology</p>	<ul style="list-style-type: none"> • Discuss the importance of being a good classmate when using technology • Respect other people's point of view and ideas when completing a class project • Share available technology resources 	<p>Web Resources Adventures of Cyberbees – Key Pals http://www.cyberbee.com/keypals.html Netiquette for Kids http://www.bpl.org/kids/ParentsResources.htm Resources for Parents http://www.bpl.org/kids/ParentsResources.htm Are You A Good CyberCitizen? http://www.cybercrime.gov/rules/cybercitizen.htm Resources for Teachers http://www.bpl.org/kids/Teachers.htm Essential Online Etiquette http://www.microsoft.com/protect/computer/basics/netiquette.mspx</p>
<p>T-P-SESI-S-SI3 Students will explain how technology is used in jobs and careers</p>	<ul style="list-style-type: none"> • Discuss the various types of technology used in careers (e.g., bar code scanners, handhelds (PDAs), cell phones) 	<p>Teaching Ideas Choose several careers in the community and/or state and brainstorm a list of technologies they would use. Use a graphic organizer, spreadsheet, or presentation software to chart your information</p> <p>Web Resources Get Tech Kids http://www.gettech.org/category2.asp?cat=2</p>

Unit Statement

TLW understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Gist | Research, Inquiry/Problem-Solving and Innovation

Concepts & Information	Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-RIPSI-S-R1 Students will use teacher-directed Internet sources as a resource for information</p>	<p>Internet/Online Research</p> <ul style="list-style-type: none"> • As a class, discuss when an Internet search may be effective • Discuss the Internet as a source of information at school, home, and at the public library • Use teacher-selected Internet resources to locate, discuss, and compare information within content areas as a class/group <p>Web Resources Snopes.com-Internet Fact or Fiction http://www.snopes.com iSafe.org http://www.isafe.org Verizon Thinkfinity - Student Materials Index http://www.thinkfinity.org/teacher/shell.aspx?filename=/teacher/interactive_content_index.aspx&site_area=teacher (Choose ALL for Subject, Content Partner, Resource Type, and Records Per Page Choose Grade Band K-2 and 3-5 Click Search) Google Help Central http://www.google.com/help/cheatsheet.html Google Posters http://www.google.com/educators/posters.html Kids Click!</p>

		<p>http://www.kidsclick.org</p> <p>Internet Island – Sailing the Cyber Seas http://www.computerlab.kids.new.net/internet.htm</p> <p>Search Engines</p> <p>Google http://www.google.com</p> <p>Yahoo http://www.yahoo.com</p> <p>Yahoo! Kids http://kids.yahoo.com/</p> <p>Ask http://www.ask.com</p> <p>Ask for Kids http://www.askforkids.org/</p> <p>Dogpile http://www.dogpile.com</p> <p>Four Nets for Better Searching http://webquest.sdsu.edu/searching/fournets.htm</p> <p>Awesome Library for Kids http://www.awesomelibrary.org/student.html</p>
<p>T-P-RIPSI-S-IP1</p> <ul style="list-style-type: none"> • Students will gather technology information/data and use for problem solving in all content areas 	<ul style="list-style-type: none"> • Prepare a simple spreadsheet to organize and /or calculate data • Use a graph as a class to make predictions • Use a prepared spreadsheet to create a graph as a class to produce results and make informed decisions to answer a real life question • Use technology resources for problem solving and illustration of thoughts (e.g., puzzles, logical thinking programs, digital cameras, drawing tools) • Use teacher-created web activities for problem solving and critical thinking (e.g., webquests, IMMEX) • Know when and who to ask for help with technical difficulties 	<p>Web Links</p> <p>Bar Graph - Illuminations http://illuminations.nctm.org/ActivityDetail.aspx?ID=63</p> <p>Circle Graph - Illuminations http://illuminations.nctm.org/ActivityDetail.aspx?ID=60</p> <p>GimpShop – Graphic editing software http://www.gimpshop.com/</p> <p>Adventures of Cyberbee – Curriculum Ideas http://www.cyberbee.com/intclass.html</p> <p>Treasure Hunts - Cyberbee http://www.cyberbee.com/hunts.html</p> <p>Math Cats http://www.mathcats.com/sitemap.html</p> <p>Internet Projects http://www.cln.org/int_projects.html</p> <p>Webquests and Online Lessons http://www.bestteacherusa.net/wquest.htm</p>
<p>T-P-RIPSI-S-R2</p> <p>Students will use electronic resources to access and retrieve information</p> <p>Schedule 7d-123</p>	<p>Introduce Skills</p> <ul style="list-style-type: none"> • Scan electronic resources for relevant information as a class activity • Use prepared electronic databases as a class activity to conduct keyword search/filters to meet information needs (e.g., automated circulation, OPAC, Web Collection Plus, CD-ROM encyclopedias, KYVL) • Use developmentally appropriate multimedia resources to support learning (e.g., interactive books, educational software, elementary multimedia encyclopedias) <p>Develop Skills</p> <ul style="list-style-type: none"> • Determine best resource for gaining information to answer an essential question as a class activity (e.g., electronic, print, 	<p>Lesson Ideas</p> <p>Exchanging information or collaborating on a project via email with another classroom is a great way to build an online community of learners.</p> <p>Write Right Back: Recognizing Readers’ Needs for E-mail Replies and Expectations http://www.readwritethink.org/lessons/lesson_view.asp?id=300</p> <p>Web Resources</p> <p>KET EncycloMedia http://www.ket.org/education/encyclomedia.htm</p> <p>Free Video Clips http://www.encyclomedia.com/</p> <p>Kentucky Virtual Library http://www.kyvl.org/</p> <p>Kidspace @ The Internet Public Library http://www.ipl.org/div/kidspace/</p> <p>Awesome Library http://www.awesomelibrary.org/</p> <p>West Michigan Academy of Environmental Science</p>

	<p>people)</p> <ul style="list-style-type: none"> • Use video and audio information (e.g., KET EncycloMedia) • Use electronic mail (e-mail) to contact appropriate sources and receive information as a class 	<p>Dictionary.com http://www.dictionary.com</p> <p>Reference.com http://www.reference.com</p> <p>Thesaurus.com http://www.thesaurus.com</p> <p>Yahoo Dictionary http://kids.yahoo.com/reference/dictionary/english</p> <p>NASA Picture Dictionary http://www.nasa.gov/audience/forstudents/k-4/dictionary/index.html</p> <p>Adventures of Cyberbees - Research Tools http://www.cyberbee.com/tools.html</p> <p>Kids Click! http://www.kidsclick.org/</p> <p>Adventures of Cyberbees – Key Pals http://www.cyberbee.com/keypals.html</p> <p>Email Abbreviations for Students http://www.readwritethink.org/materials/email-abbr/</p> <p>Cyberbees - Authors http://www.cyberbee.com/author.html</p> <p>Letters to Santa Project http://www.globalschoolnet.org/GSH/project/santa/index.cfm</p>
<p>T-P-RIPSI-S-IP2</p> <ul style="list-style-type: none"> • Students will describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues) 	<ul style="list-style-type: none"> • Use problem solving/simulation software as a class to determine appropriate software and hardware to use in solving a real life problem as a class activity (e.g., graphing software) • Know when and who to ask for help with technical difficulties 	<p>Contact your School Technology Coordinator (STC) or School Technology Assistant for troubleshooting issues</p> <p>Web Resources</p> <p>IMMEX http://www.immex.com</p> <p>Lemonade Stand http://www.coolmath-games.com/lemonade/</p> <p>Sunkist Lemonade Stand for Kids http://www.sunkist.com/kids/lemonade/</p> <p>Intel Visual Ranking Tool http://www97.intel.com/en/thinkingtools/visualranking</p> <p>Intel Seeing Reason Tool http://www97.intel.com/en/thinkingtools/seeingreason</p> <p>Intel Showing Evidence Tool http://www97.intel.com/en/thinkingtools/seeingreason</p> <p>NASA KSNN – K-2 Newsbreaks http://ksnn.larc.nasa.gov/k2newsbreaks.cfm</p> <p>NASA KSNN – 3-5 Newsbreaks http://ksnn.larc.nasa.gov/35newsbreaks.cfm</p> <p>NASA Kids’ Club http://www.nasa.gov/audience/forchildren/kidsclub/flash/index.html</p> <p>CO-CO's ADVERSMARTS: An Interactive Unit on Food Marketing on the Internet http://www.media-awareness.ca/english/games/coco/</p> <p>Treasure Hunts - Cyberbee http://www.cyberbee.com/hunts.html</p> <p>NASA Simulations – Science Activities and Simulations http://www.knowitall.org/nasa/simulations/science.html</p>
<p>T-P-RIPSI-S-11</p> <ul style="list-style-type: none"> • Students will use technology for original 	<ul style="list-style-type: none"> • Create original work using developmentally appropriate software (e.g., Paint, Word, Microsoft Photo Story) 	<p>Teaching Ideas</p> <p>Create a sequential multimedia story to include student narration and music using technology as a class or in small groups</p> <p style="text-align: right;">West Michigan Academy of Environmental Science</p>

<p>creations/ innovation in classroom</p>	<ul style="list-style-type: none"> • Modify an existing linear or sequential multimedia story to include student narration as a class/group activity 	<p>Develop an idea for a new invention and present to classmates using technology</p> <p>Use Microsoft Paint , Word, or PowerPoint to create an original creation</p> <p>Web Resources Microsoft Photo Story 3 http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.aspx</p> <p>Windows Movie Maker http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.msp</p> <p>Open Office http://www.openoffice.org/</p> <p>Pics 4 Learning http://pics4learning.com/</p> <p>Freefoto http://www.freefoto.com/index.jsp</p> <p>GimpShop – Graphic editing software http://www.gimpshop.com/</p> <p>Word Build – Language Arts Lesson http://www.readwritethink.org/materials/wordbuild/WordBuild.pdf</p> <p>Geography Skills in Your Town Lesson http://www.nationalgeographic.com/xpeditions/lessons/18/gk2/geoskills.html</p> <p>Kids on the Net - Writing http://kidsonthenet.org.uk/</p>
<p>T-P-RIPSI-S-I2</p> <ul style="list-style-type: none"> • Students will express creativity both individually and collaboratively using technology 	<ul style="list-style-type: none"> • Create multimedia projects individually or as a class activity using age appropriate software (e.g., Microsoft Photo Story) • Express innovative and/or entrepreneurial ideas using technology as a tool 	<p>Teaching Ideas</p> <p>Use Microsoft Paint , Word, or PowerPoint to create an original creation</p> <p>Web Resources Microsoft Photo Story 3 http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.aspx</p> <p>Windows Movie Maker http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.msp</p> <p>Open Office http://www.openoffice.org/</p> <p>GimpShop – Graphic editing software http://www.gimpshop.com/</p> <p>Getting to Know You Lesson http://alex.state.al.us/lesson_view.php?id=4018</p> <p>Habitats Lesson http://alex.state.al.us/lesson_view.php?id=7087</p> <p>Check Technology Grades 1-3 and search multimedia for several different lessons http://alex.state.al.us/search.php?fa_submit=PLANS</p> <p>Ideas for Using a Digital Camera http://www.edzone.net/~mwestern/pix.html</p> <p>Digital Imaging Videos – Training Video http://www.kidzonline.org/TechTraining/</p>



Content Area	Tech
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Course/Grade Level	3 rd Grade
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Unit Statement

TLW demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Gist	Information, Communication and Productivity
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-ICP-S-I1 Students will investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)</p>	<ul style="list-style-type: none"> • Follow on-screen directions • Identify the basic parts of a computer (monitor, keyboard, mouse, CD/DVD drive, printer, 3 ½ floppy drive, USB port, digital camera, projector, scanner) • Explain why computers and/or other technologies are used for learning • Demonstrate mouse skills – click, double click, drag, scroll, left click, place cursor • File basics – open, close, use menu options, save, print • Basic troubleshooting techniques (determine if all equipment is on) 	<p>Teaching Ideas Make labels and let students place them on the correct computer components</p> <p>Use computer vocabulary words as part of your spelling lesson Students demonstrate mouse skills and file basics</p> <p>Web Resources Labeling Computer Parts http://www.eduplace.com/rdg/gen_act/g_start/graphics/comp1.html</p> <p>Computer Terms http://www.eduplace.com/rdg/gen_act/g_start/graphics/comp1.html</p> <p>Computer Vocabulary http://www.quia.com/mc/65620.html</p> <p>Computer Parts http://www.computerlabkids.com/parts.htm</p> <p>Outer Hardware http://www.kidsdomain.com/brain/computer/lesson/comp_les1.html</p> <p>Spelling City http://spellingcity.com/</p> <p>Computer Parts Hangman http://www.quia.com/hm/86691.html</p> <p>Kids Click! http://www.kidsclick.org/topcomp.html</p>
<p>T-P-ICP-S-P2 Students will create a variety of tasks using technology devices and systems to support authentic learning</p>	<ul style="list-style-type: none"> • As a class, discuss the technology tools used throughout the development process of a product (initial brainstorming to final product completion) • Create and publish products collaboratively for audiences inside and outside the classroom using technology tools (e.g., multimedia or presentation) 	<p>Web Resources Microsoft Office Templates http://office.microsoft.com/en-us/templates/default.aspx</p> <p>Punctuation Paintball – Correcting Sentences http://www.iknowthat.com/com/App?File=Paintball.htm&Type=S&App=Paintball&Topic=Topic1&SkipGuestWarning=true</p> <p>Using Digital Cameras in the Classroom http://coekate.murraystate.edu/camera/ideas.htm</p>

<p>T-P-ICP-S-I3 Students will use appropriate technology terms (e.g., hardware, software, CD, hard drive)</p>	<p>authoring, desktop publishing, Web tools, digital cameras, scanners)</p> <ul style="list-style-type: none"> Identify finished products that have been electronically created (e.g., graphs, charts, signs, banners, cards, portfolio piece, technical writing) As a class, participate in developing a project that includes selecting software with appropriate capabilities Print and save products to identified locations (e.g. hard drive, USB drive, floppy drive) Identify and use menus, toolbars, and features within various software Use proofreading and electronic editing skills Distinguish between hardware and software Use appropriate terminology (arrow/pointer, CD drive, close, computer, CPU, desktop, digital camera, disk drive, server, double click, Enter/Return, headphones, hard drive, laptop, microphone, maximize, minimize, monitor, mouse, open, print, scroll, touchpad, window, scanner) Discuss as a class, digital access for all students. <ul style="list-style-type: none"> Accommodations could include but are not limited to individuals with special needs, physically challenged, foreign language students, etc. Examples could include enhanced keyboard, text to speech, magnify screen, etc. 	<p>Disney Magic Artist Online http://disney.go.com/magicartist/storybook/index.html</p> <p>Collaborative Projects for P-12 Classrooms http://www.henderson.k12.ky.us/administration/trt/Projects.htm</p> <p>Open Office http://www.openoffice.org/</p> <p>Using a Digital Camera in the Classroom http://www.wacona.com/digicam/digicam.html</p> <p>Webbing Tool – Graphic Organizers http://interactives.mped.org/view_interactive.aspx?id=127&title =</p> <p>Create A Graph http://www.econedlink.org/lessons/em206/flash/popupGraph.html</p> <p>Power Proofreading http://www.eduplace.com/kids/hme/k_5/proofread/proof.htm</p> <p>NoodleTools http://www.noodletools.com/tools/freetools.php</p> <p>Web Resources TekMom's – Technology Buzzwords For Students http://www.tekmom.com/buzzwords/index.html</p> <p>Computer Terms http://www.techterms.com/</p> <p>What are the Differences between Hardware and Software? http://www.computerhope.com/issues/ch000039.htm http://www.cyberseniors.org/artman/publish/article_100.shtml</p> <p>Kids Click! http://www.kidsclick.org/topcomp.html</p> <p>Spelling City http://spellingcity.com/</p> <p>Learning Disabilities and Assistive Technologies http://www.gatfl.org/ldguide/default.htm</p> <p>Assistive Technology Training Online Project http://atto.buffalo.edu/registered/ATBasics/Foundation/intro/introbasic.php</p> <p>Assistive Technology Videos – You must have a United Streaming account to view these videos, it is available to all Kentucky Teachers http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetId=8C727FB1-5E63-4267-9752-247326C0D5FB</p>
<p>T-P-ICP-S-I4 Students will demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete) Schedule 7d-127</p>	<p>Keyboarding</p> <ul style="list-style-type: none"> Introduce the following keys: (b p w g q u : and caps lock) Continue proper use of home row keys: (a s d f j k , ;) Continue proper use of keys: (t e h 	<p>Teaching Ideas Make up your own lesson using the keyboard, such as “Type dad, mom, etc.” Use spelling/vocabulary words</p> <p>Alphabetize names lesson: have students type in names in Excel and use a big screen to show their names. Then use the alphabetize feature to teach order and alphabetizing</p> <p>Practice typing their name and other students’ names</p> <p>Match up words with pictures Weed Michigan Academy of Environmental Science</p>

	<p>o r n space bar and enter)</p> <ul style="list-style-type: none"> • Continue proper use of keys: (m c I . , left and right shift) • Continue to use both hands for keyboarding (use right and left hand orientation) • Display proper body position • Type upper and lower case letters (shift keys) • Continue to use special keys such as Enter/Return, backspace, shift and delete 	<p>Type the alphabet</p> <p>Type labels for things in the classroom</p> <p>Make designs of different size letters or design different size letters and fonts.</p> <p>Web Resources</p> <p>BBC Dance Mat Typing http://www.bbc.co.uk/schools/typing/</p> <p>Krazy Keyboarding for Kids http://webinstituteforteachers.org/~gammakeys/Lesson/lesson4.htm</p> <p>Keyboarding Sites from Henderson County http://www.henderson.k12.ky.us/administration/tr/Teacher_Resources.htm#Keyboarding</p> <p>The Keyboard http://www.quia.com/cb/84277.html</p> <p>Elementary Typing Games http://www.abcya.com/third_grade_computers.htm</p> <p>The Original Keyboard Challenge http://www.abcya.com/standard_keyboard.htm</p> <p>Learning to Type – Homework Help http://www.childsoftpress.com/HomeworkHelp/LearningtoType.htm</p>
<p>T-P-ICP-S-I2 Students will describe how to use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia)at home, school and community</p>	<ul style="list-style-type: none"> • Correctly use USB devices (pen drive, jump drive, flash drive, thumb drive) • Describe how to open, close, and use an application correctly • Describe how to start up & shut down computer in the proper manner • Use Ctrl+Alt+Delete with own user ID and password (Log on/log off) Start up & shut down computer in the proper manner • Describe and demonstrate proper care equipment (e.g., keep food, drinks and magnets away from equipment , clean hands, not writing on equipment) • Describe and demonstrate proper safety features associated with each device (e.g., digital camera neck or wrist strap, proper cell phone use) 	<p>Teaching Ideas Demonstrate to a younger student the proper way to start up, shut down, open, close, and use a particular program on the computer</p> <p>Web Resources Using Flash Drives http://homeworktips.about.com/b/2007/01/07/using-flash-drives.htm</p> <p>Computer Care http://www.kidsdomain.com/brain/computer/lesson/comp_les10.html</p> <p>Technology Buzzwords for Students http://www.kidsdomain.com/brain/computer/lesson/comp_les10.html</p> <p>Computer Terms http://www.techterms.com/</p> <p>How To Take Care Of Your Computer http://library.thinkquest.org/5862/httcocyc.htm</p>
<p>T-P-ICP-S-C1 Students will use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)</p>	<ul style="list-style-type: none"> • Use templates to present written communication • Use various software productivity tools (e.g., word processors, spreadsheets, presentation tools) • Share and exchange information with others with support from teachers, family members, or student partners (e.g., talking books, digital storytelling, morning news program, text to speech software) • Design, create, and participate 	<p>Teaching Ideas Teachers will use technology in instruction through the use of presentations, video clips, spreadsheets, etc. to correlate with core content</p> <p>Create a class book using PhotoStory, MovieMaker, or other multimedia program. Insert the pictures and have the students name them, tell about the pictures, or spell them</p> <p>Have students build/create, and then use a digital or video camera to take pictures of their creation and display it on the computer. Children can write, dictate or record captions for these photos, or use voice recordings to tell about their work</p> <p>Web Resources Digital Storytelling – PhotoStory 3 http://millie.furman.edu/ml/tutorials/photostory3/index.htm</p> <p>Microsoft Office Templates http://www.office.com</p>

	<p>in projects which will be published or monitored on the web by the teacher</p>	<p>http://office.microsoft.com/en-us/templates/default.aspx</p> <p>Text to Speech Using Windows XP http://support.microsoft.com/kb/306902</p> <p>Read Please http://www.readplease.com/</p> <p>Natural Readers – Speech to Text Reader http://www.naturalreaders.com/</p> <p>Children’s Storybooks Online http://www.magickeys.com/books/</p> <p>Awesome Talking Library http://www.awesomelibrary.org/Awesome_Talking_Library.html</p>
<p>T-P-ICP-S-C2 Students will participate in group projects and learning activities using technology communications</p>	<ul style="list-style-type: none"> • Compose and send a new email message • Open and reply to e-mail messages • Participate in collaborative problem solving activities as a class using interactive communications and online resources (e.g. email, online discussions, exchange of information through other web environments, webcams) for class projects • Identify basic parts of an email (To:, From:, Subject:, Send:, and body of email) • Do not use all capital letters in an email (the online equivalent of shouting). • Give examples of appropriate or inappropriate emails (digital etiquette) • Use proper digital etiquette (language that does not include profanity, socially sensitive remarks or insults) 	<p>Teaching Ideas</p> <p>Divide your class into two groups and give each group a specific task or set of questions to investigate. Email community, parents, etc., to obtain their data/information. Students will then compare the data/information they received</p> <p>As a class, adopt a KeyPal to write to during the year</p> <p>Web Resources</p> <p>Kid World Key Pals http://www.bconnex.net/~kidworld/keypals4.htm</p> <p>ePals Global Community http://www.epals.com/</p> <p>Electronic Sister School Program http://www.kids-commons.net/index.html</p> <p>Netiquette-Making a Big Decision http://www.webquest.org/questgarden/lessons/00773-050921082139/t-resources.htm</p> <p>Internet Super Heros - Cyberbullying http://wiredkids.org/wiredkids_org.html</p> <p>NetSmartz Kids http://www.netsmartzkids.org/indexFL.htm http://www.d11.org/mann/computerliteracy/safety-netiquette.htm http://www.ftc.gov/bcp/online/edcams/kidzprivacy/kidz.htm</p> <p>Basic Safety Rules for Email http://www.whitman.edu/whitman/index.cfm?objectId=4B64159A-CB9E-F411-EC7AFBE351CD8B82</p> <p>Internet Safety Rules for Students http://www.bramlib.on.ca/safety.htm http://ikeepsafe.org/iksc_kids/</p> <p>Collaborative Projects for P-12 Classrooms http://www.henderson.k12.ky.us/administration/trt/Projects.htm</p>
<p>T-P-ICP-S-P1 Students will explain how information can be published and presented in different formats</p> <p>Schedule 7d-129</p>	<p>General Skills</p> <ul style="list-style-type: none"> • Identify the purpose of productivity tools such as word processing, spreadsheet, and presentation software • As a class, determine which software tool is appropriate for a project • Use appropriate vocabulary (e.g., productivity tools, word processing, spreadsheets, presentation software, publish, software) 	<p>Teaching Ideas</p> <p>Do whole class/individually story writing using word processing</p> <p>Download pictures and then write a story together or individually</p> <p>Create an alphabet book as a class or have students create their own page</p> <p>Create a classroom poster, banner, card or newsletter</p> <p>Graphic Organizers</p> <p>Web Resources</p> <p>Fifty Uses for Concept Mapping Software West Michigan Academy of Environmental Science http://www.westmichiganacademyofenvironmentalscience.org/conceptmap50uses.html</p>

	<p>Graphic Organizers</p> <ul style="list-style-type: none"> • Use electronic graphic organizers (e.g. Venn Diagram) 	<p>Graphic Organizer Projects http://www.uwstout.edu/soe/profdev/inspirationprojects.shtml</p> <p>Bubbl – free graphic organizer www.bubbl.us</p> <p>On-Line Practice Modules http://www.internet4classrooms.com/on-line.htm</p> <p>Open Office http://www.openoffice.org/</p> <p>Cmap-Concept Mapping http://cmap.ihmc.us/ Venn Diagram – 3 Circles http://interactives.mped.org/view_interactive.aspx?id=28&title=</p> <p>Graphic Organizer Lessons from Read, Write, Think http://www.readwritethink.org/lessons/index.asp?grade=1&strand=2&engagement=12&display.x=46&display.y=17</p>
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<p>Schedule 7d-130</p>	<p>Word Processing</p> <ul style="list-style-type: none"> • Introduce formatting (bold, italics, size, text color, font styles) • left/right/center alignment, word wrap) • Introduce editing (undo, backspace, delete, moving cursor to insert words or letters and spell check) • Use appropriate vocabulary (bold, center, copy, cut, desktop, document, drag, dropdown, edit, file, font, format, highlight, insert, italic, left align, paste, right align, spell check, table, tools, underline, undo, view, window, word wrap, zoom) • Use editing tools (backspace, delete) • Type a sentence with ending punctuation • Use capital letters correctly • Use correct spacing (1 space between words) • Use appropriate vocabulary (backspace, shift, close, menu, new, open, print, save, text, toolbar) • Recognize a word processing document • Use appropriate vocabulary (Enter, Space Bar) 	<p>Teaching Ideas</p> <p>Draw a picture illustrating new words and letters learned</p> <p>Write stories about pictures</p> <p>Write poetry</p> <p>Do whole class or group story writing</p> <p>Have students create business cards</p> <p>Use pattern books and then have each student make their own book or their own page</p> <p>Publish student art or stories on the web</p> <p>Create a classroom newspaper or newsletter</p> <p>Download pictures and then write a story together as a class, or individually</p> <p>Web Resources</p> <p>Word Processing Worksheet http://www.iol.ie/~askeabns/1%20WP.doc</p> <p>Introducing the Word Processor http://www.eduref.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Computer_Science/EDT002_1.html</p> <p>Word Processing for Children http://www.kidsdomain.com/down/pc/wpforkidspc.html</p> <p>Cyberbee Word Step-by-Step http://www.cyberbee.com/word.html</p> <p>Homework Help-Word Processing http://www.childsoftpress.com/HomeworkHelp/WordProcessing.htm</p> <p>Online Word Processor http://writer.zoho.com/jsp/home.jsp?serviceurl=%2Findex.do</p> <p>Teaching Ideas</p> <p>Use presentation software to create a class/individual presentation</p>
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<p>Schedule 7d-131</p>	<p>Multimedia Presentation</p> <ul style="list-style-type: none"> • Choose appropriate layout (title slide, bulleted list, bulleted list with clipart) • Create a simple presentation • Insert text in appropriate textboxes • Make presentation easily readable (e.g., background color and text) • View slideshow • Use appropriate vocabulary (audio, clipart, insert, image, slide) • Select appropriate images for a multimedia class project (insert and resize) <p>Spreadsheet</p> <ul style="list-style-type: none"> • Introduce cell data • Introduce cell formatting (font, size, color, style) • Select a cell, row, and column • Identify and define vocabulary (cell address, active cell) • Create simple chart or graph (e.g., Spreadsheet program) • Continue to use a spreadsheet template to enter data including titles, column labels, row labels • Use appropriate vocabulary (cell, row, column, row heading, column heading, row label, column label, title) • Recognize a spreadsheet • Answer questions using a computer generated chart/graph 	<p>any core content area subject, etc</p> <p>Web Resources DinoPals with Wordart <u>http://www.education-world.com/a_tsl/archives/06-1/lesson002.shtml</u></p> <p>Digital Camera/Visual Learning http://www.ashland.k12.ky.us/technology/trt/digital_cameras.htm</p> <p>On-Line Practice Modules http://www.internet4classrooms.com/on-line.htm</p> <p>Open Office http://www.openoffice.org/</p> <p>Cyberbee - Authors http://www.cyberbee.com/author.html</p> <p>PowerPoint Activities http://www.internet4classrooms.com/on-line_powerpoint.htm</p> <p>PowerPoint Resources from KATE http://coekate.murraystate.edu/pdresources/InteractivePPT/index.htm</p> <p>PowerPoint in the Classroom http://www.henderson.k12.ky.us/administration/trt/PowerPoint.htm#PPT%20Files%20to%20Use%20in%20Your%20Classroom</p> <p>Cyberbee PowerPoint Step-by-Step http://www.cyberbee.com/powerpoint.html</p> <p>Digital Storytelling Through PowerPoint http://techbridgegirls.org/documents/Digital_Storytelling_PowerPoint.pdf</p> <p>Online Presentations http://show.zoho.com/jsp/zoho_login.jsp?serviceurl=%2FHome.do</p> <p>Open Office http://www.openoffice.org/</p> <p>Spreadsheet Teaching Ideas</p> <p>Use spreadsheet to type names or words and use alphabetize feature to teach order</p> <p>Build a graph in the classroom with objects, such as shoes or candy, and then put the information into a spreadsheet or graphing program. This helps children make the connection between the physical items and the symbols, and to reinforce the concept of graphs as visual information</p> <p>Web Resources Spreadsheet Vocabulary <u>http://library.thinkquest.org/J0110054/vocab.html</u></p> <p>Build a Foundation – Spreadsheets http://danenet.wicup.org/mmsd-it/tlc/ssk-1.html</p> <p>M & M Data http://www.teacherlink.org/content/math/activities/exmmnumerical/home.html</p> <p>On-Line Practice Modules http://www.internet4classrooms.com/on-line_excel.htm</p> <p>Open Office http://www.openoffice.org/</p> <p>West Michigan Academy of Environmental Science</p>
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Unit Statement

TLW Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Gist Safety, and Ethical/Social Issues

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-SESI-S-S1 Students will explain the importance of safe Internet use (e.g., iSafe skills)</p>	<ul style="list-style-type: none"> • Compare attributes of the physical community (where we live) and the cyber community • Describe appropriate and inappropriate websites • Describe online situations that may make you feel uncomfortable • Compare rules in the physical community and in cyber community that concern communication with strangers and trusted adults • Discuss how a stranger can pretend to be a friend in cyberspace • Identify the characteristics of personal information • Vocabulary – Cyber community, cyber citizen, cyberspace, websites, Internet, stranger 	<p>Web Resources isafe.org http://www.isafe.org/ NetSmartz http://www.netsmartz.org/ NetSmartz Kids http://www.netsmartzkids.org/indexFL.htm NetSmartz Activity Cards http://www.netsmartz.org/resources/activitycards.htm Google Educators Posters http://www.google.com/educators/posters.html Internet Resources from HCS http://www.henderson.k12.ky.us/administration/trt/Internet%20Resources.htm How Computer Viruses Work by How Stuff Works http://www.howstuffworks.com/virus.htm Bad Guy Patrol http://www.badguypatrol.ca/default.htm Stranger Danger http://www.mcgruff.org/Games/stranger_danger.php NetSmartz Rules http://www.netsmartzkids.org/activities/nsrules/whofriend.htm http://www.netsmartzkids.org/activities/nsrules/whofriend.htm Elmer the Safety Elephant http://www.elmer.ca/english/thinksafe/index.htm Kidz Privacy http://www.ftc.gov/bcp/online/edcams/kidzprivacy/index.html Keep Safe http://www.ikeepsafe.org/ Adventures in Internet Safety http://disney.go.com/surfswell/index.html</p>
<p>T-P-SESI-S-S2 Students will use safe behavior when using technology</p>	<ul style="list-style-type: none"> • Explain potential risks to personal safety when supplying personal information, choosing a screen name, and selecting a password • Describe what to do when an unintended website is entered • Discuss and follow the five Safety Tips published by the FBI for protecting oneself online 	<p>Teaching Ideas Tell your teacher when a site comes up that is inappropriate She will then turn that site into your schools School Technology Coordinator (STC) or School Technology Assistant</p> <p>Web Resources America Links Up: A Kids Online Teach-In http://kids.getnetwise.org/americalinksup/index2.html Parent – Child Internet Addiction Test http://iks.stage1.sandmanstudios.com/TEST/</p>

		<p>Parent – Child Internet Addiction Test http://www.netaddiction.com/resources/parents_test.htm</p> <p>Kids: Be a Good Cybercitizen http://www.ncpc.org/cms/cms-upload/ncpc/File/Kids%20Cyber%20Citizens%20Brochure.pdf</p> <p>Bad Guy Patrol http://www.badguypatrol.ca/</p> <p>FBI Safety Tips http://www.fbi.gov/kids/k5th/safety2.htm</p> <p>Discuss Physical Stranger Danger http://www.mcgruff.org/Games/stranger_danger.php</p> <p>Who’s Your Friend on the Internet? http://www.netsmartkids.org/activities/nsrules/whofriend.htm</p> <p>Internet Cyberbullying http://wiredkids.org/wiredkids_org.html</p>
<p>T-P-SESI-S-E1 Students will use responsible and ethical behavior in using technology</p>	<ul style="list-style-type: none"> • Acceptable Use Policy (i.e., define purpose, explain consequences of violations, and sign) • Acknowledge ownership of own work • Acknowledge ownership of another person’s work • Explain that one must have permission to use another person’s work and any part of that persons work (copyright laws) • Explain why a password needs to be kept secret • Discuss the impact of cyberbullying 	<p>See your School Technology Coordinator (STC) for student passwords/logins and teach students how to login</p> <p>Web Resources Plagiarism Stopper http://www.ncusd203.org/central/html/where/plagiarism_stoppers.html</p> <p>Copyright Laws http://www.henderson.k12.ky.us/administration/trt/copyright_and_multimedia.htm</p> <p>Copyright with Cyberbee http://www.cyberbee.com/copyrt.html Are You A Good Cybercitizen? http://www.cybercrime.gov/rules/cybercitizen.htm</p> <p>Kidz Privacy http://www.ftc.gov/bcp/online/edcams/kidzprivacy/index.html</p> <p>Internet Cyberbullying http://wiredkids.org/wiredkids_org.html</p>
<p>T-P-SESI-S-E2 Students will adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws</p>	<ul style="list-style-type: none"> • Discuss Acceptable Use Policy (i.e. define purpose, explain consequences of violators, and sign) 	<p>See Your District Acceptable Use Policies</p> <p>Definition - http://en.wikipedia.org/wiki/Acceptable_use_policy</p> <p>Web Resources Acceptable Use Policy - KDE http://education.ky.gov/KDE/Administrative+Resources/Technology/Additional+Technology+Resources/Acceptable+Use+Policy+Guidelines+and+State+Requirements+for+Student+and+Staff+Access+to+Electronic+I.htm</p>
<p>T-P-SESI-S-SI2 Students will collaborate with peers, family members and others when using technology</p>	<ul style="list-style-type: none"> • Participate in class activities using appropriate digital etiquette (e.g., email, blog, forum) • Work with others as a team • Complete a task using technology 	<p>Teaching Ideas Divide your class into two groups and give each group a specific task or set of questions to investigate. Email community, parents, etc., to obtain their data/information. Students will then compare the data/information they received</p> <p>Web Resources ReadWriteThink: Lesson Ideas - Email http://www.readwritethink.org/lessons/lesson_view.asp?id=300 Create a Website http://www.teacherweb.com/IdxStates.htm</p> <p>Monster Exchange http://www.monsterexchange.org/index.asp</p> <p>Community Alphabet Book – Great for typing vocabulary/spelling definitions http://interactive.mind.org/view_interactive.aspx?id=643&file=WestMichiganAcademyofEnvironmentalScience</p>

		<p>Build Your Community</p> <p>http://www.econedlink.org/lessons/em285/flash/draganddrop.html</p> <p>http://www.econedlink.org/lessons/em285/flash/draganddrop2.html</p> <p>http://www.econedlink.org/lessons/em285/flash/draganddrop3.html</p>
<p>T-P-SESI-S-II Students will work cooperatively with peers, family members and others when using technology</p>	<ul style="list-style-type: none"> • Discuss the importance of being a responsible citizen when using technology • Work in collaborative groups to produce a product using e-communication (e.g., e-mail, forums, blogs, video conferencing) • Participate in Internet projects 	<p>Web Resources</p> <p>Adventures of Cyberbees – Key Pals http://www.cyberbee.com/keypals.html</p> <p>Netiquette for Kids http://www.bpl.org/kids/Netiquette.htm</p> <p>Resources for Parents http://www.bpl.org/kids/ParentsResources.htm</p> <p>Are You A Good CyberCitizen? http://www.cybercrime.gov/rules/cybercitizen.htm</p> <p>Resources for Teachers http://www.bpl.org/kids/Teachers.htm</p> <p>Essential Online Etiquette http://www.microsoft.com/protect/computer/basics/netiquette.mspx</p>
<p>T-P-SESI-S-SI3 Students will explain how technology is used in jobs and careers</p>	<ul style="list-style-type: none"> • Discuss the various types of technology used in careers (e.g., bar code scanners, PDAs, cell phones) • Explain how technology is used in jobs and careers to support the needs of the community • Discuss as a class, digital access for all students. <ul style="list-style-type: none"> ○ Accommodations could include but are not limited to individuals with special needs, physically challenged, foreign language students, etc. ○ Examples could include enhanced keyboard, text to speech, magnify screen, etc. 	<p>Teaching Ideas</p> <p>Choose several careers in the community and/or state and brainstorm a list of technologies they would use. Use a graphic organizer, spreadsheet, or presentation software to chart your information</p> <p>Web Resources</p> <p>Get Tech Kids http://www.gettech.org/category2.asp?cat=2</p>

Unit Statement

TLW understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Gist | Research, Inquiry/Problem-Solving and Innovation

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-P-RIPSI-S-R1 Students will use teacher-directed Internet sources as a resource for information</p>	<p>Internet/Online Research</p> <ul style="list-style-type: none"> ● Discuss the information found in an Internet document and make a distinction between fact and opinion ● Begin to explore Internet resources and information using teacher created bookmarks/favorites ● Begin to use keywords to broaden and narrow searches as a class activity ● Identify and/or use Internet terms (home page, favorites, home, address bar) ● As a class, discuss when an Internet search may be effective ● Discuss the Internet as a source of information at school, home, and at the public library ● Use teacher-selected Internet resources to locate, discuss, and compare information within content areas as a class/group 	<p>Web Resources Snopes.com-Internet Fact or Fiction http://www.snopes.com</p> <p>iSafe.org http://www.isafe.org</p> <p>Verizon Thinkfinity - Student Materials Index http://www.thinkfinity.org/teacher/shell.aspx?filename=/teacher/interactive_content_index.aspx&site_area=teacher (Choose ALL for Subject, Content Partner, Resource Type, and Records Per Page Choose Grade Band K-2 and 3-5 Click Search) KET Encyclomedia - Internet-based learning service that offers a wealth of multimedia materials. Students can also use the service. (Contact your district <i>CIO/DTC</i> or <i>TRT</i> to have an account created.) http://streaming.discoveryeducation.com/index.cfm IPL - Internet Public Library http://www.ipl.org/</p> <p>Google Help Central http://www.google.com/help/cheatsheet.html</p> <p>Google Posters http://www.google.com/educators/posters.html</p> <p>Kids Click! http://www.kidsclick.org</p> <p>Internet Island – Sailing the Cyber Seas http://www.computerlab.kids.new.net/internet.htm</p> <p>Search Engines Google http://www.google.com</p> <p>Yahoo http://www.yahoo.com</p> <p>Yahoo! Kids http://kids.yahoo.com/</p> <p>Ask http://www.ask.com</p> <p>Ask for Kids http://www.askforkids.org/</p> <p>Dogpile http://www.dogpile.com</p> <p>Four Nets for Better Searching http://webquest.sdsu.edu/searching/fournets.htm</p> <p>Awesome Library for Kids http://www.awesomelibrary.org/student.html</p>

<p>T-P-RIPSI-S-IP1 Students will gather technology information/data and use for problem solving in all content areas</p>	<ul style="list-style-type: none"> • Use teacher-created web activities for problem solving and critical thinking • Prepare a simple spreadsheet to organize and /or calculate data • Use a graph as a class to make predictions • Use a prepared spreadsheet to create a graph as a class to produce results and make information decisions to answer a real life question. • Use technology resources for problem solving and illustration of thoughts (e.g. puzzles, logical thinking program, digital cameras, drawing tools) 	<p>Web Links Bar Graph - Illuminations http://illuminations.nctm.org/ActivityDetail.aspx?ID=63</p> <p>Circle Graph - Illuminations http://illuminations.nctm.org/ActivityDetail.aspx?ID=60</p> <p>GimpShop – Graphic editing software http://www.gimpshop.com/</p> <p>Adventures of Cyberbee – Curriculum Ideas http://www.cyberbee.com/intclass.html</p> <p>Treasure Hunts - Cyberbee http://www.cyberbee.com/hunts.html</p> <p>Math Cats http://www.mathcats.com/sitemap.html</p> <p>Internet Projects http://www.cln.org/int_projects.html</p> <p>Webquests and Online Lessons http://www.bestteacherusa.net/wquest.htm</p>
<p>T-P-RIPSI-S-R2 Students will use electronic resources to access and retrieve information</p>	<ul style="list-style-type: none"> • Determine best resource for gaining information to answer an essential question as a class activity (e.g., electronic, print, people) • Use video and audio information (e.g., KET EncycloMedia) • Use electronic mail (e-mail) to contact appropriate sources and receive information as a class • Scan electronic resources for relevant information as a class activity • Use prepared electronic databases as a class activity to conduct keyword search/filters to meet information needs (e.g., automated circulation, OPAC, Web Collection Plus, CD-ROM encyclopedias, KYVL) • Use developmentally appropriate multimedia resources to support learning (e.g., interactive books, educational software, elementary multimedia encyclopedias) and create graphs to answer a real life question 	<p>Lesson Ideas Exchanging information or collaborating on a project via email with another classroom is a great way to build an online community of learners.</p> <p>Write Right Back: Recognizing Readers' Needs for E-mail Replies and Expectations http://www.readwritethink.org/lessons/lesson_view.asp?id=300</p> <p>Web Resources KET EncycloMedia http://www.ket.org/education/encyclomedia.htm</p> <p>Free Video Clips http://www.encyclomedia.com/</p> <p>Kentucky Virtual Library http://www.kyvl.org/</p> <p>Kidspace @ The Internet Public Library http://www.ipl.org/div/kidspace/</p> <p>Awesome Library http://www.awesomelibrary.org/</p> <p>Dictionary.com http://www.dictionary.com</p> <p>Reference.com http://www.reference.com</p> <p>Thesaurus.com http://www.thesaurus.com</p> <p>Yahoo Dictionary http://kids.yahoo.com/reference/dictionary/english</p> <p>NASA Picture Dictionary http://www.nasa.gov/audience/forstudents/k-4/dictionary/index.html</p> <p>Adventures of Cyberbees - Research Tools http://www.cyberbee.com/tools.html</p> <p>Kids Click! http://www.kidsclick.org/</p> <p>Adventures of Cyberbees – Key Pals http://www.cyberbee.com/keypals.html</p> <p>Email Abbreviations for Students http://www.readwritethink.org/materials/email-abbr/</p> <p>Cyberbees - Authors http://www.westmichiganacademy.org/ West Michigan Academy of Environmental Science</p>

		<p>Letters to Santa Project http://www.globalschoolnet.org/GSH/project/santa/index.cfm</p>
<p>T-P-RIPSI-S-IP2 Students will describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues)</p>	<ul style="list-style-type: none"> • Use problem solving /simulation software as a class • Determine appropriate software and hardware to use in solving a real life problem as a class activity • Know when and who to ask for help with technical difficulties 	<p>Contact your School Technology Coordinator (STC) or School Technology Assistant for troubleshooting issues</p> <p>Web Resources</p> <p>Lemonade Stand http://www.coolmath-games.com/lemonade/</p> <p>Sunkist Lemonade Stand for Kids http://www.sunkist.com/kids/lemonade/</p> <p>Intel Visual Ranking Tool http://www97.intel.com/en/thinkingtools/visualranking</p> <p>NASA KSNN – K-2 Newsbreaks http://ksnn.larc.nasa.gov/k2newsbreaks.cfm</p> <p>NASA KSNN – 3-5 Newsbreaks http://ksnn.larc.nasa.gov/35newsbreaks.cfm</p> <p>NASA Kids’ Club http://www.nasa.gov/audience/forkids/kidsclub/flash/index.html</p> <p>CO-CO’s ADVERSMARTS: An Interactive Unit on Food Marketing on the Internet http://www.media-awareness.ca/english/games/coco/</p> <p>Treasure Hunts – Cyberbee http://www.cyberbee.com/hunts.html</p> <p>NASA Simulations – Science Activities and Simulations http://www.knowitall.org/nasa/simulations/science.html</p>
<p>T-P-RIPSI-S-11 Students will use technology for original creations/ innovation in classroom</p>	<ul style="list-style-type: none"> • Create original work using developmentally appropriate software 	<p>Teaching Ideas</p> <p>Create a sequential multimedia story to include student narration and music using technology as a class or in small groups</p> <p>Develop an idea for a new invention and present to classmates using technology</p> <p>Use Microsoft Paint , Word, or PowerPoint to create an original creation</p> <p>Web Resources</p> <p>Microsoft Photo Story 3 http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.mspx</p> <p>Windows Movie Maker http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.mspx</p> <p>Open Office http://www.openoffice.org/</p> <p>Pics 4 Learning http://pics4learning.com/</p> <p>Freefoto http://www.freefoto.com/index.jsp</p> <p>GimpShop – Graphic editing software http://www.gimpshop.com/</p> <p>Word Build – Language Arts Lesson http://www.readwritethink.org/materials/wordbuild/WordBuild.pdf</p> <p>Geography Skills in Your Town Lesson http://www.nationalgeographic.com/xpeditions/lessons/18/gk2/geoskills.html</p> <p>Kids on the Net - Writing <ul style="list-style-type: none"> • http://kidsonthenet.org.uk/ </p>

<p>T-P-RIPSI-S-I2 Students will express creativity both individually and collaboratively using technology</p>	<ul style="list-style-type: none"> • Create multimedia projects individually or as a class activity using age appropriate software 	<p><u>Teaching Ideas</u> Use Microsoft Paint , Word, or PowerPoint to create an original creation</p> <p><u>Web Resources</u> Microsoft Photo Story 3 http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.mspx</p> <p>Windows Movie Maker http://www.microsoft.com/windowsxp/downloads/updates/moviemaker2.mspx</p> <p>Open Office http://www.openoffice.org/</p> <p>http://alex.state.al.us/lesson_view.php?id=4018</p> <p><u>Habitats Lesson</u> http://alex.state.al.us/lesson_view.php?id=7087 Check Technology Grades 1-3 and search multimedia for several different lessons http://alex.state.al.us/search.php?fa_submit=PLANS</p> <p><u>Ideas for Using a Digital Camera</u> http://www.edzone.net/~mwestern/pix.html</p> <p><u>Digital Imaging Videos – Training Video</u> http://www.kidzonline.org/TechTraining/</p>



Content Area	Tech
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Course/Grade Level	4 th -5th Grade
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Unit Statement

TLW Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Gist	Information, Communication and Productivity Intermediate
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-I-ICP-S-11 Students will investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)</p>	<ul style="list-style-type: none"> Describe specific components of a computer and peripheral devices and explain their function (input, output, process, storage) Demonstrate mouse skills--right click Follow on-screen directions 	<p><u>Web Resources</u> Parts of a computer - http://www.spclc.org/31Aug20053.html</p> <p>Online Crossword Puzzle for Computer Terms http://www.catawba.k12.nc.us/pages/sites/edwebsites/computerskills/quizzes/hardwardcc.htm</p> <p>Vocabulary List http://www.catawba.k12.nc.us/pages/techtrac/techtrac10/brenda/hwdef.htm</p> <p>Computer Basics: Games, Flash cards, and Concentration http://www.quia.com/jg/65620.html</p> <p>Inside a Computer http://www.kids-online.net/learn/c_n_1.html</p>
<p>T-I-ICP-S-12 Students will use and care for technology (e.g., computers, telephones, cell phones, digital and video cameras, Internet) at home, school and workplace</p>	<ul style="list-style-type: none"> Compare and contrast examples of common uses of technology in daily life Correctly use USB devices (pen drive, jump drive, flash drive, thumb drive) Properly log on and off using the student's ID and password Properly shut down a computer or other device Practice responsible use of technology equipment (e.g., digital camera neck or wrist strap, keep food, drinks, and magnets away from equipment, clean hands, not writing on equipment) 	<p><u>Web Resources</u> General care information for your computer http://userwww.sfsu.edu/~tgaines/education/students/care.htm#main</p> <p><u>Lesson Plans</u> Taking care of your computer http://www.kidsdomain.com/brain/computer/lesson/comp_les10.html</p>
<p>T-I-ICP-S-13 Students will use appropriate technology terms (e.g., hardware, software, CD, hard drive)</p>	<ul style="list-style-type: none"> Communicate accurately about technology using developmentally appropriate terminology (Refer to 3rd Grade Master Skills Level) 	<p><u>Web Resources</u> Technology Terms http://www.spclc.org/31Aug20053.html</p> <p>Create Technology Spelling Lists http://www.spellingcity.com/</p> <p>TekMom's Buzzwords for Students http://www.tekmom.com/buzzwords/</p> <p>Tech Terms Dictionary http://www.techterms.com/</p>

		Glossary of Internet and Research Related Terms http://www.oslis.org/elementary/index.php?page=glossary
T-I-ICP-S-I4 Students will explain the use of networks and the need for login procedures (e.g., stand alone, network, file server, LANs network resources)	<ul style="list-style-type: none"> • Demonstrate correct procedures for logging on a computer (student username, private password) • Save and access files to appropriate locations (e.g., local hard drive, personal network folder, class or group shared network folders, and/or USB drives) 	<p><u>Web Resources</u> Password Rap http://www.netsmartzkids.org/tunes/index.htm</p> <p><u>Lesson Plans</u> What is a network? http://www.cybersmartcurriculum.org/lesson_plans/45_20.asp</p>
T-I-ICP-S-C2 Students will participate in online group projects and learning activities using technology communications	<ul style="list-style-type: none"> • Use technology communication to participate in online group projects and learning activities (e.g., Monster Exchange, Global SchoolNet Foundation, morning news program, forums, Backpack Buddies, student email, Square of Life) • Correspond appropriately via digital communication (e-mail, blog, etc.) • Develop projects in a format with an appropriate purpose and audience 	<p><u>Teaching Ideas</u> Monster Exchange http://www.monsterexchange.org/about/about_msdescription.htm</p> <p>Square of Life: Studies in Local and Global Environments www.k12science.org/curriculum/squareproj</p> <p>The Center for Innovation in Engineering and Science Education http://www.k12science.org/currichome.html</p> <p>Global Schoolnet Projects http://www.globalschoolnet.org/GSH/pr/index.cfm</p> <p><u>Web Resources</u> Safe online communities http://www.ability.org.uk/kids_and_teens_online_communitie.htm</p>
T-I-ICP-S-P3 Students will create a variety of tasks using technology devices and systems to support authentic learning	<ul style="list-style-type: none"> • Create projects with an authentic purpose and audience using technology devices • Select appropriate technology tools used throughout the development process of a projects (initial brainstorming to final project completion) 	<p><u>Teaching Ideas</u> Devices to use: probes, digitizer pens, document cameras, computerized microscopes, scanners, digital cameras</p>
TE-SK-I-ICP-S-C3 Students will use technology to collect data for content area assignments/projects	<ul style="list-style-type: none"> • Create spreadsheets to collect, analyze, organize, and display content data for class/group assignment/project, citing resources 	<p><u>Web Resources</u> Online tutorial for Excel http://einstein.cs.uri.edu/tutorials/csc101/pc/excel97/excel.html</p> <p>Teacher Resources for Excel http://its.leesummit.k12.mo.us/excel.htm</p> <p><u>Lesson Plans</u> The Democracy Project http://coekate.murraystate.edu/kate/tick/resource/1749/</p>
T-I-ICP-S-C1 Students will use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)	<ul style="list-style-type: none"> • Design, create, and participate in projects which will be published or monitored on the web by the teacher 	<p><u>Teaching Ideas</u> Create talking books, digital storytelling, morning news program</p> <p>Utilize text to speech software, wiki, blogs</p> <p><u>Web Resources</u> How to use wikis with students http://teaching.mrbelshaw.co.uk/index.php/2007/02/21/wikipattemnscom-learn-how-to-use-a-wiki-successfully-with-your-students/</p> <p>Understanding a blog http://computer.howstuffworks.com/blog.htm</p>
T-I-ICP-S-C4 Students will use a variety of tools and formats (oral presentations, journals and multimedia presentations) to summarize and Schedule 7d-141	<ul style="list-style-type: none"> • Identify, discuss and use different technology formats to communicate information for a group or individual project (e.g., PowerPoint, 	<p><u>Web Resources</u> Guidelines for multimedia presentations http://www.fi.edu/fellows/fellow4/may99/multimedia.html</p> <p>Guidelines and rules for presentations for teachers West Michigan Academy of Environmental Science</p>

<p>communicate the results of observations and investigations</p>	<p>Publisher brochures and newsletters, Movie Maker, Photo Story)</p> <ul style="list-style-type: none"> ● Create electronic documents to use with oral presentations (e.g., information from research project including science experiments) 	<p>http://www.comdis.wisc.edu/staff/mrchial/InstDevSite/rules.htm</p>
<p>T-I-ICP-S-C5 Students will use online collaborative tools (e.g., email, videoconferencing)</p>	<ul style="list-style-type: none"> ● Compose a new email message which may include attaching files ● Open, reply, reply all, and forward e-mail messages ● Recognize, discuss and/or use e-mail, blogs, forums, video conferencing, and/or web conferencing as a means of interactive communications 	<p><u>Lesson Plans</u> Email guidelines for student use and activities http://www.remc11.k12.mi.us/bstpract/bstpract/130/130.pdf</p>
<p>T-I-ICP-S-15 Students will demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., home row finger placement) at the computer workstation</p>	<ul style="list-style-type: none"> ● Use the <u>Kentucky Cyber Keys</u> document for keyboarding keys by grade level on pages 2 and 3 ● Use home row keys properly ● Use proper ergonomics; appropriate table, chair, keyboard, monitor height, correct position of keyboard and mouse ● Understand proper body position, posture, wrists/elbow place ● Use a smooth and rhythmic key stroke pattern 	<p><u>Teaching Ideas</u> See the <u>Kentucky Cyber Keys</u> document for correct hand placement and keyboarding skills. <i>This can be obtained from the CIO/DTC or TRT in your district.</i></p> <p><u>Web Resources</u> Extensive list of freeware/shareware/internet based typing programs http://typingsoft.com/all_typing_tutors.htm</p> <p>Posture and position at computer workstation http://www.orosha.org/cergos/whatodo1.html</p> <p><u>Lesson Plans</u> Beginning Computer lesson http://alex.state.al.us/lesson_view.php?id=1961</p>
<p>T-I-ICP-S-P1 Students will develop, publish and present information in print and digital formats</p>	<ul style="list-style-type: none"> ● Use various technology tools throughout the development process of a product (initial brainstorming to final product completion) ● Use existing documents to identify and discuss document design and layout as a class (e.g., letter, memo, newspaper) ● Create products with an authentic purpose and audience using technology devices (e.g., multimedia/presentation authoring, desktop publishing, Web tools, digital cameras, scanners) ● Present published information to classmates (e.g., PowerPoint, web documents) 	<p><u>Web Resources</u> Guidelines and rules for publishing/presenting student created presentations/documents http://www.comdis.wisc.edu/staff/mrchial/InstDevSite/rules.htm</p> <p><u>Lesson Plans</u> Bully Quest http://coekate.murraystate.edu/kate/tick/resource/1343/</p>
<p>T-I-ICP-S-P2 Students will use productivity tools to produce content area assignments/projects</p>	<p>GENERAL SKILLS</p> <ul style="list-style-type: none"> ● Create projects for content area assignments using appropriate technology (e.g., use Paint for digital art, use Word or webpage editor for virtual museum, use a spreadsheet for data collection and graphing) 	<p><u>GENERAL SKILLS</u></p> <p><u>Web Resources</u> Beginning movie creation http://www.town4kids.com/town4kids/kids/digitalmedia/movie_making/movie_main.htm</p>

GRAPHIC ORGANIZERS

- Use electronic graphic organizers (e.g. Venn Diagram)

GRAPHIC ORGANIZERS**Teaching Ideas**

Use electronic graphic organizers to assist in idea development and/or to demonstrate content knowledge

Web Resources

Create a graphic map

<http://readwritethink.org/materials/graphicmap/>

Create a timeline

<http://www.readwritethink.org/materials/timeline/>

Create a plot diagram

<http://www.readwritethink.org/materials/plot-diagram/>

Graphic organizer

<http://www.bubbl.us/>

Lesson Plans

Lesson using a graphic map

http://www.readwritethink.org/lessons/lesson_view.asp?id=67

Lesson on creating a family timeline

http://www.readwritethink.org/lessons/lesson_view.asp?id=870

Writing lesson

http://www.readwritethink.org/lessons/lesson_view.asp?id=14

Graphing Plot and Character

http://www.readwritethink.org/lessons/lesson_view.asp?id=869

WORD PROCESSING**Teaching Ideas**

Use word processors throughout the writing process

Web Resources

Handout for menu bars in Word (PDF)

<http://www.lakelandgov.net/library/files/FEEC60E38267442E9C0D41CF6921A1D5.pdf>

Microsoft Word – basic functions of Word

http://www.internet4classrooms.com/on-line_word.htm

Microsoft Word Modules - Can be used by students and teachers.

http://www.wcu.edu/ccenter_inf/CatOnline/MSWD/index.html

MULTIMEDIA PRESENTATIONS**Web Resources**

Menu bars in PowerPoint

http://www.utexas.edu/its/training/handouts/UTOPIA_PowerpointGS/

Guidance in creating multimedia projects

http://www.adobe.com/education/digkids/training/multimedia_projects West Michigan Academy of Environmental Science

WORD PROCESSING

- Use appropriate formatting styles (e.g., bold, italics, size, text color, font, styles, left/right/center alignment, word wrap)
- Use appropriate editing features (e.g., undo, backspace, delete, moving cursor to insert words or letters and spell check)
- Use appropriate vocabulary (bold, center, copy, cut, desktop, document, drag, dropdown, edit, file, font, format, highlight, insert, italic, left align, paste, right align, spell check, table, tools, underline, undo, view, window, word wrap, zoom, backspace, shift, close, menu, new, open, print, save, text, toolbar)

MULTIMEDIA PRESENTATIONS

- Choose appropriate layout (title slide, bulleted list,

	<p>bulleted list with clipart</p> <ul style="list-style-type: none"> • Create a presentation • Insert text in appropriate textboxes • Make presentation easily readable (e.g., background color and text) • View slideshow • Insert audio/video, clipart/ images <p>SPREADSHEET</p> <ul style="list-style-type: none"> • Format cells using different font, size, color, and style • Select a cell, row, and column • Create a basic chart or graph • Use a spreadsheet template to enter data including titles, column labels, row labels • Use appropriate vocabulary (cell, row, column, row heading, column heading, row label, column label, title) 	<p>Rubrics for multimedia projects http://www.uwstout.edu/soe/profdev/rubrics.shtml</p> <p><u>Lesson Plans</u> Webquest for multimedia project creation and copyright guidelines http://www.hazelwood.k12.mo.us/~jdarnell/webq/</p> <p><u>SPREADSHEETS</u></p> <p><u>Teaching Ideas</u> Use spreadsheets to create and label graphs including a title, x and y-axis labels, and a key/legend</p> <p>Use spreadsheets to solve problems by performing calculations using simple formulas (e.g., +, -, *, /)</p> <p>As a class, use spreadsheets to explore patterns and make predictions</p> <p>Handout on creating charts and graphs in Excel (PDF) http://www.sresd.k12.mi.us/tis/training/Charts%20and%20Graphs.pdf</p> <p>Excel Resources http://www.sabine.k12.la.us/class/excel_resources.htm#Elementary%20School</p> <p><u>Web Resources</u> Handout for menu bars in Excel (PDF) http://www.lakelandgov.net/library/files/85A02F9EB81B4CF084EECE7592F50674.pdf</p> <p>Create a Graph http://nces.ed.gov/nceskids/createagraph/</p> <p>Microsoft Excel Modules http://www.internet4classrooms.com/on-line_excel.htm</p> <p>A variety of Excel resources http://its.leesummit.k12.mo.us/excel.htm</p> <p><u>Lesson Plans</u> Spreadsheet Activity for teachers http://www.learnnc.org/lessons/DpiIntegrationStrategies52320020</p>
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Unit Statement

TLW understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Gist Safety and Ethical/Social Issues

Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-I-SESI-S-1 Students will explain the importance of safe Internet use (e.g., iSafe skills)</p>	<ul style="list-style-type: none"> • Compare and contrast rules in the physical community (real world) and in cyber community (virtual world) to become a model digital citizen • Discuss how a stranger can pretend to be a friend in cyberspace • Identify and describe appropriate and inappropriate websites • Identify and describe online situations that may make you feel uncomfortable • Identify and discuss the need to make responsible and ethical choices when using personal information online 	<p><u>Teaching Ideas</u> Integrate these skills into your social studies curriculum. Enlist your school counselor to help teach this skill.</p> <p><u>Web Resources</u> NetSmartz http://www.netsmartz.org/</p> <p>iSAFE http://www.isafe.org/</p> <p>How to Recognize Grooming (Online Predators) http://www.connectsafely.org/articles--advice/safety-advice-articles/how-to-recognize-grooming.html</p> <p><u>Lesson Plans</u> Online Credibility-Video 5 http://kidzonline.com/TechTraining/video.asp?UnitQry=Utilizin%20the%20Internet</p> <p>Netiquette: Making a Big Decision Treasure Hunt http://www.webquest.org/questgarden/lessons/00773-050921082139/t-resources.htm</p> <p>Cyberspace Country http://www.cybersmartcurriculum.org/lesson_plans/45_19.asp</p> <p>Safety with Cyberpals http://www.cybersmartcurriculum.org/lesson_plans/45_02.asp</p> <p>Private Information http://www.cybersmartcurriculum.org/lesson_plans/45_01.asp</p>
<p>T-I-SESI-S-2 Students will apply safe behavior when using technology</p>	<ul style="list-style-type: none"> • Recognize, discuss and model responsible and safe behavior using online resources as a class/group/individual • Discuss and follow the five Safety Tips published by the FBI for protecting oneself online 	<p><u>Teaching Ideas</u> Integrate these skills into your social studies curriculum. Enlist your school counselor to help teach this skill.</p> <p><u>Web Resources</u> FBI Internet Safety Tips - http://www.fbi.gov/kids/k5th/safety2.htm</p> <p>iSAFE http://www.isafe.org/</p> <p>NetSmartz http://www.netsmartz.org/</p> <p>Kid's Rules for Online Safety http://www.safekids.com/kidsrules.htm</p> <p><u>Lesson Plans</u> Do the Right Thing http://www.cybersmartcurriculum.org/lesson_plans/45_09.asp</p> <p>Safe Online Summer Scavenger Hunt http://www.fbi.gov</p>

		sos.org/hunt/hunt.cfm
<p>T-I-SESI-S-EI2 Students will explore, investigate and practice the use of technology in an appropriate, safe and responsible manner</p>	<ul style="list-style-type: none"> Recognize and discuss the forms of digital communication (e.g. email, instant messaging (IM), online bulletin boards, blogs, social chat rooms) Compare and contrast appropriate versus inappropriate behavior related to digital communication to avoid the spread of malicious software (Spyware, spamming, flaming, virus infection) Discuss the importance of ethical, responsible, and safe behavior when using networked digital information (e.g., Internet, mobile phone, wireless, LANs) 	<p><u>Teaching Ideas</u> Enlist your school counselor to help teach this skill.</p> <p><u>Web Resources</u> Tech Terms Dictionary http://www.techterms.com/</p> <p>TekMom's Buzzwords for Students http://www.tekmom.com/buzzwords/</p> <p>NetSmartz http://www.netsmartz.org/</p> <p>The Core Rules of Netiquette http://www.albion.com/netiquette/corerules.html</p> <p><u>Lesson Plans</u> CyberSmart Curriculum http://www.cybersmartcurriculum.org/curr_over/</p> <p>Netiquette Jeopardy http://www.webquest.org/questgarden/lessons/00773-050921082139/t-resources.htm</p> <p>Reflection Exercise on Netiquette http://www.webquest.org/questgarden/lessons/00773-050921082139/t-resources.htm</p> <p>Email Safety http://www.cybersmartcurriculum.org/lesson_plans/45_05.asp</p>
<p>T-I-SESI-S-EI3 Students will use ethical behavior while using technology in personal and community contexts</p>	<ul style="list-style-type: none"> Discuss the key general attributes of kindness (real world and cyber world) Compare and contrast the critical attributes of bullying (real world and cyber world) Understand how cyber citizenship relates to digital etiquette Understand the procedures of how to report cyber bullying Discuss ways to cope with cyber bullying Discuss ethical behavior when socializing online (i.e., blogs, social chat rooms, wikis) Discuss digital law issues: <ul style="list-style-type: none"> File sharing sites Pirating software Subverting Digital Rights Management (DRM) 	<p><u>Teaching Ideas</u> Enlist your school counselor to help teach this skill.</p> <p><u>Web Resources</u> NetSmartz http://www.netsmartz.org/</p> <p>iSAFE http://www.isafe.org/</p> <p>Cyberbullying http://www.stopcyberbullying.org</p> <p><u>Lesson Plan</u> CyberSmart Curriculum http://www.cybersmartcurriculum.org/curr_over/</p> <p>FBI-SOS http://www.fbi-sos.org/hunt/hunt.cfm</p> <p>Bully Quest http://coekate.murraystate.edu/kate/tick/resource/1343/</p>
<p>T-I-SESI-S-SI1 Students will use technology to collaborate and engage in interactive projects with others (e.g., local, national and global) and credit all participants for their contribution to the work</p>	<ul style="list-style-type: none"> Work in collaborative groups to produce a product using digital communication (e.g., e-mail, forums, blogs, video conferencing) Participate in local and national Internet projects (e.g., STLP, ThinkQuest, Reel School, ePals) 	<p><u>Teaching Ideas</u> Monster Exchange http://www.monsterexchange.org/about/about_msdescription.htm</p> <p>Collaborative and Interactive Online Projects http://eduscapes.com/ladders/themes/interactive.htm</p> <p>Technospud Projects http://www.technospudprojects.com/current.htm</p> <p>Square of Life: Studies in Local and Global Environments www.k12science.org/curriculum/squareproj</p>

		<p>The Center for Innovation in Engineering and Science Education (CIESE) http://www.k12science.org/currichome.html</p> <p>Global Schoolnet Projects http://www.globalschoolnet.org/GSH/pr/index.cfm</p>
<p>T-I-SESI-S-EI1 Students will investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use (e.g., plagiarism, intellectual property, copyright and the conditions of Acceptable Usage Policy)</p>	<ul style="list-style-type: none"> Recognize, discuss, and use responsible, ethical, and safe behaviors when using technology resources (School's Acceptable Use Policy) (AUP) Identify and discuss issues regarding selection and use of materials for multimedia projects (e.g., personal information of the student and others, copyright laws, appropriateness and accuracy of information) Recognize and discuss how Copyright Laws protect ownership of intellectual property and discuss consequences of misuse (e.g., downloading and sharing music, videos, images, games and text documents) 	<p><u>Teaching Ideas</u> Integrate these skills in your social studies and language arts curriculum.</p> <p>Enlist your school counselor to help teach this skill.</p> <p>Enlist your school librarian to help teach this skill.</p> <p><u>Web Resources</u> You Quote it, You Note It - Plagiarism Tutorial http://library.acadiau.ca/tutorials/plagiarism/</p> <p>Video 5-Online Credibility http://kidzonline.com/TechTraining/video.asp?UnitQty=Utilizing%20the%20Internet</p> <p>When is Downloading Music on the Internet Illegal? http://www.webopedia.com/DidYouKnow/Internet/2004/music_downloading.asp</p> <p>Cyberethics: Downloading Music from the Internet http://www.emints.org/ethemes/resources/S00001138.shtml</p> <p>Computer Crime & Intellectual Property www.cybercrime.gov</p> <p><u>Lesson Plans</u> TICK (Technology in Classrooms in Kentucky) http://coekate.murraystate.edu/kate/tick/</p> <p>Understand Your Acceptable Use Policy http://www.cybersmartcurriculum.org/lesson_plans/45_07.asp</p> <p>Rikki-Tikki Research http://www.cartercountyschools.org/staffdev/trlp/fourthgrDriver.htm</p> <p>Whose is it Anyway? http://www.cybersmartcurriculum.org/lesson_plans/45_08.asp</p>
<p>T-I-SESI-S-SI2 Students will use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk)</p>	<ul style="list-style-type: none"> Recognize and use proper social etiquette relating to computers, networking, or digital information 	<p><u>Web Resources</u> Blog Basics - http://www.teachersfirst.com/content/blog/blogbasics.cfm</p> <p>Instant Messaging Etiquette http://pcworld.about.com/news/May302002id99405.htm</p> <p><u>Lesson Plans</u> Good Email Manners http://www.cybersmartcurriculum.org/lesson_plans/45_10.asp</p>
<p>T-I-SESI-S-SI4 Students will explain how technology has had an influence on our world</p>	<ul style="list-style-type: none"> Recognize, discuss and visually represent changes in information technology that have impacted changes that have occurred in schools, workplace and society in the United States 	<p><u>Lesson Plans</u> Great Communicators http://www.cybersmartcurriculum.org/lesson_plans/45_21.asp</p>
<p>T-I-SESI-S-SI5 Students will explain how technology supports career options and lifelong learning</p>	<ul style="list-style-type: none"> Explore and discuss how technology is used in jobs and careers to support the needs of the local and global community to support lifelong learning 	<p><u>Web Resources</u> Careers http://www.gettech.org/default2.asp</p> <p>Science and Technology http://www.girlpower.gov/girlarea/sciencetech/jobs/</p>

<p>T-I-SESI-S-SI3 Students will investigate how assistive technologies support learning.</p>	<ul style="list-style-type: none"> ● Explore and discuss as a class, digital access for all students. <ul style="list-style-type: none"> ○ Accommodations could include but are not limited to individuals with special needs, physically challenged, foreign language students, etc. ○ Examples could include enhanced keyboard, text to speech, magnify screen, etc. 	<p><u>Web Resources</u> Overview of Assistive Technology for children http://atto.buffalo.edu/registered/ATBasics/Foundation/intro/introbasic.php</p> <p>United Streaming video http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=8C727FB1-5E63-4267-9752-247326C0D5FB</p> <p>Tech Matrix http://www.techmatrix.org/matrix.aspx?s=131&ls=124,122,127,126,125,123,121</p>
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Unit Statement

TLW understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Gist | Research, Inquiry/Problem-Solving and Innovation

Concepts & Information	Lessons-Sequence of Instruction/Rules & Procedures
<p>T-I-RIPSI-S-R1 Students will gather and use accurate information from a variety of electronic sources (e.g. teacher-selected Web sites, CDROM, encyclopedias and automated card catalog, online virtual library; word processing, database, spreadsheet) in all content areas</p> <ul style="list-style-type: none"> ● Use keywords and symbols to locate, expand, or limit a specific search, including Boolean/advanced searches ● Select the best electronic resource(s) for gaining information to answer an essential question ● Gather and use information from a variety of resources (e.g., websites, CDROM encyclopedias, video, audio) ● Scan for relevant information within an electronic resource ● Use an electronic database to gather resources to answer an essential question (e.g., Kentucky Virtual Library, Internet Public Library/KidSpace, EncycloMedia) 	<p><u>Web Resources</u> TICK (Technology in Classrooms in Kentucky) http://coekate.murraystate.edu/kate/tick/</p> <p>How to Find Information on the Web http://www.oslis.org/elementary/index.php?page=findInformation</p> <p>How to Choose Resources http://www.oslis.org/elementary/index.php?page=chooseResources</p> <p><u>Electronic Databases</u> KYVL http://www.kyvl.org/</p> <p>KET Encyclomedia http://streaming.discoveryeducation.com/index.cfm IPL - Internet Public Library http://www.ipl.org/</p> <p><u>Ask an Expert Resources</u> Ask an Expert http://www.askanexpert.com/</p> <p>Ask Dr. Math http://mathforum.org/dr.math/dr-math.html</p> <p>Just Answer http://www.justanswer.com/?r=gagen&gclid=CLai846bq5ECFQFflwodBguXfA</p> <p>Ask a Science expert http://www.ciese.org/askanexpert.html</p> <p>Ask Dr. Econ http://www.frbsf.org/education/activities/drecon/askecon.cfm</p> <p>Ask CNN http://www.cnn.com/CNN/askcnn/</p> <p><u>Lesson Plans</u> The Democracy Project http://coekate.murraystate.edu/kate/tick/resource/1749/</p> <p>Bully Quest - webquest http://coekate.murraystate.edu/kate/tick/resource/1343/</p> <p>Rikki-Tikki Research http://coekate.murraystate.edu/kate/tick/resource/117/</p> <p>Adventure into the Unknown... - A webquest on the Lewis and Clark Expedition http://coekate.murraystate.edu/kate/tick/resource/1199/</p> <p>Bluegrass Biographies http://coekate.murraystate.edu/kate/tick/resource/1620/</p>

<p>T-I-RIPSI-S-R2 Students will correctly cite sources</p>	<ul style="list-style-type: none"> Use appropriate bibliographic citations for electronic resources (e.g., web page, data source, picture, music, video, journal article) 	<p>Web Resources Citation Machine http://citationmachine.net/</p>
<p>T-I-RIPSI-S-R4 Students will use technology tools to process data and report results</p>	<ul style="list-style-type: none"> Use a word processed document with an embedded table to report results and organize information Use spreadsheets to organize and calculate data and create graphs to answer a real life question Enter data into a spreadsheet as a class to test simple “what if...” statements to solve problems and make decisions Use presentation software to report/present information 	<p>Web Resources School Safari Thinkquest http://library.thinkquest.org/J0110054/ Crazy Questions and Incriminating Spreadsheet Data http://www.ncwiseowl.org/kscope/techknowpark/FreeFall/Graphing.html Introduction to IF statements http://pubs.logicalexpressions.com/Pub0009/LPMArticle.asp?ID=225 Collecting Data and Creating Graphs http://coekate.murraystate.edu/kate/tick/resource/564/ Lesson Plans TICK (Technology in Classrooms in Kentucky) http://coekate.murraystate.edu/kate/tick/ Using Technology in Teaching Reading http://alex.state.al.us/lesson_view.php?id=4247 Tasty Tech Activity with Excel http://coekate.murraystate.edu/kate/tick/resource/1297/ What Color are Your Skittles? http://coekate.murraystate.edu/kate/tick/resource/1301/ Energy that Causes Us to Burn http://coekate.murraystate.edu/kate/tick/resource/397/</p>
<p>T-I-RIPSI-S-R5 Students will use content-specific tools to enhance understanding of content (e.g., environmental probes, sensors, robotics, simulation software and measuring devices)</p>	<p>Develop Skill</p> <ul style="list-style-type: none"> Use problem solving and/or simulation software as a class or individually 	<p>Web Resources Crocodile Clips 3 Elementary - free software lets you experiment with basic electricity. It includes worksheets that cover a variety of topics. You can also set up your own circuits. http://www.softlookup.com/display.asp?id=2877 Crocodile Clips Engaging Educational Technology http://www.crocodile-clips.com/index2.jsp Solar System 3D Simulator http://www.brothersoft.com/solar-system-3d-simulator-44467.html Stock Market Game http://smgww.org/ Online Credibility-Video 5 http://kidzonline.com/TechTraining/video.asp?UnitQty=Utilizing%20the%20Internet</p>
<p>T-I-RIPSI-S-R3 Students will evaluate the accuracy, relevance, appropriateness, comprehensiveness and bias of electronic information sources</p>	<ul style="list-style-type: none"> Discuss how to determine if an electronic source is accurate, relevant, appropriate, and comprehensive a class Determine the bias of an electronic information source Identify and explain the difference between fact and opinion 	<p>Web Resources <i>For Teachers</i> Critical Evaluation of Information Sources http://libweb.uoregon.edu/guides/findarticles/credibility.html Critical Evaluation of a Web Page http://school.discoveryeducation.com/schrockguide/evalelem.html Evaluating Web Pages: Techniques to Apply & Questions to Ask http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html How to Evaluate Information http://www.oslis.org/elementary/index.php?page=evaluateGood</p>
<p>T-I-RIPSI-S-IPS1 Students will determine which technology is useful and select the</p>	<ul style="list-style-type: none"> Select and use appropriate technology tools for a planned project and extended 	<p>Teaching Ideas Use Inquiry, Problem, or Project Based Learning</p>

appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem-solve in self-directed and extended learning	learning	<p><u>Web Resources</u> Global Schoolnet Projects http://www.globalschoolnet.org/GSH/pr/index.cfm</p> <p><u>Lesson Plans</u> Standards Based Learning Activity Collection http://www.proquestk12.com/curr/elibrary.shtml</p>
T-I-RIPSI-S-IPS2 Students will use technology to solve problems using critical thinking and problem-solving strategies	<ul style="list-style-type: none"> Use web activities for problem solving and critical thinking (e.g., Webquests, Lemonade Stand, Intel Visual Ranking Tool, Intel Seeing Reason Tool, Intel Showing Evidence Tool) 	<p><u>Teaching Ideas</u> Lemonade Stand Game http://www.lemonadegame.com/</p>
T-I-RIPSI-S-IPS3 Students will solve content-specific problems using a combination of technologies	<ul style="list-style-type: none"> Plan and use two or more technologies to complete a content projects/assignment 	<p><u>Teaching Ideas</u></p> <p><u>Web Resources</u></p> <p><u>Lesson Plans</u></p>
T-I-RIPSI-S-II Students will use technology to organize and develop creative solutions, ideas or products	<ul style="list-style-type: none"> Explore creative solutions, ideas or products to create a multimedia story Use published documents (e.g., letter, memo, newspaper) to identify and discuss document design and layout as a class 	<p><u>Teaching Ideas</u></p> <p><u>Web Resources</u></p> <p><u>Lesson Plans</u></p>
T-I-RIPSI-S-I2 Students will use technology to express creativity both individually and collaboratively	<ul style="list-style-type: none"> Identify and discuss the use of multimedia tools to report content area information 	<p><u>Teaching Ideas</u> Create a content related multimedia project using appropriate software (e.g., Movie Maker, Photo Story, KidPix, Pinnacle Studio)</p> <p>Participate in online collaborative projects with students from other classes, schools, or countries</p> <p><u>Web Resources</u> Monster Exchange http://www.monsterexchange.org/about/about_msdescription.htm</p> <p>Square of Life: Studies in Local and Global Environments www.k12science.org/curriculum/squareproj</p> <p>The Center for Innovation in Engineering and Science Education (CIESE) http://www.k12science.org/currichome.html</p> <p>Global Schoolnet Projects http://www.globalschoolnet.org/GSH/pr/index.cfm</p>

Content Area	Tech
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Course/Grade Level	6th-8th
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Unit Statement

Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
Students connect knowledge and experiences from different subject areas.
Students expand their understanding of existing knowledge by making connections with new knowledge, skills and experiences.

Gist	Information, Communication and Productivity
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-MS-ICP-S-II Students will use a variety of technology (e.g., probeware, handhelds, digital and video cameras, scanners) to collect, analyze and present in all content areas.</p>	<ul style="list-style-type: none"> Recognize different common file extensions (e.g., rtf, doc xls, ppt, htm, exe, bmp, jpg txt), use online applications (PDF, plug-ins) and understand memory size Demonstrate an understanding of components and functions of a computer system and use terminology related to server, operating system, LAN (Local Area Network), WAN (Wide Area Network), www, URL, bookmarks HTML and network Use content specific hardware such as graphing calculators, digital and video cameras, scanners, scientific probes, and content specific software such as spreadsheets, databases, and concept mapping for tutorials, assessment, productivity to collect, analyze, and present information 	<p>Teaching Ideas Utilize the Internet to define and illustrate terminology related to the computer system</p> <p>Using guided prompts, have students write a reflection describing their history, experience, and feelings about using the computer.</p> <p>Model the setup of a computer system</p> <p>Have students create and summarize a diagram or demonstration of setting up a computer.</p> <p>Web Resources How Stuff Works – The Computer Channel Intel – The Journey Inside Tech Terms Dictionary Webopedia Net Dictionary Kidz Online – Net Basics</p>

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<p>T-MS-ICP-S-I2 Students will recognize, discuss and use terms/concepts related to the protection of computers, networks and information (e.g., virus protection, network security, passwords, firewalls, privacy laws)</p>	<ul style="list-style-type: none"> Investigate, discuss, and explain why computers, networks, and information must be protected from viruses, vandalism, and intrusion, both malicious and mischievous Demonstrate knowledge of relevancy of technology to future careers, life-long learning, and individual's daily lives 	<p>Teaching Ideas Have students create a brochure that educates others on viruses, vandalism, intrusion both malicious and mischievous.</p> <p>Web Resources How Computer Viruses Work http://computer.howstuffworks.com/virus.htm Computer Hope – Virus Information http://www.computerhope.com/vlist.htm</p>
<p>T-MS-ICP-S-I3 Students will use proper keyboarding techniques, optimal posture and correct hand placement (e.g., continue appropriate finger reaches and building speed)backspace, shift, delete)</p>	<ul style="list-style-type: none"> Use the Cyber Keys Document for keyboarding keys by grade level on pages 2, 3, and 7 Use proper keyboarding techniques to improve accuracy, speed, and general efficiency in computer operation 	<p>Teaching Ideas Have students identify the alphabetic and numeric keys then demonstrate correct finger positioning and keyboarding technique.</p> <p>Web Resources Teaching Keyboarding When? Why? How? http://www.educationworld.com/a_tech/tech/tech072.shtml</p> <p>Free Ten Key Number Pad Course http://www.typeonline.co.uk/number_pad_lesson1.html</p> <p>Free Typing Games http://www.freetypinggame.net/free-typing-test.asp</p> <p>Krazy Keyboarding for Kids http://webinstituteforteachers.org/~gammakeys/Lesson/Lesson1.htm</p> <p>Power Typing http://www.powertyping.com/</p> <p>Touch Typing http://www.sense-lang.org/typing/</p> <p>Free Software Kiran's Typing Tutor http://www.kiranreddys.com/products/typing.html</p>
<p>T-MS-ICP-S-C2 Students will select and use appropriate technology to collect, analyze and share information</p>	<ul style="list-style-type: none"> Recognize and discuss use of a variety of software (e.g., spreadsheets, word processing, database, and presentation software) to calculate, graph, and present data in a variety of settings (e.g., schools, government, business, and industry) Use content specific hardware such as graphing calculators, scientific probes, and content specific software such as spreadsheets, 	<p>Web Resources Word Processing Tools for Writing: Word Processing http://eduscapes.com/sessions/ptools/wordwk.htm</p> <p>Homework Help-Word Processing http://www.childsoftpress.com/HomeworkHelp/WordProcessing.htm</p> <p>On-Line Practice Modules for Word http://www.internet4classrooms.com/on-line_word.htm</p> <p>Spreadsheets</p>

	<p>databases, and concept mapping for tutorials, assessment, productivity and problem solving</p>	<p><u>Tools for Calculating: Spreadsheets</u> http://eduscapes.com/sessions/ptools/ss1.htm</p> <p><u>Ways to use Excel in the Classroom</u> http://eduscapes.com/sessions/ptools/ss1.htm</p> <p><u>M & M Data</u> http://www.teacherlink.org/content/math/activities/ex-mmnumerical/home.html</p> <p><u>On-Line Practice Modules for Excel</u> http://www.internet4classrooms.com/on-line_excel.htm</p> <p><u>Analyzing Data using Microsoft Excel</u> http://www.microsoft.com/education/excel2002tutorial.mspx</p> <p><u>Databases</u> <u>Tools for Organizing: Databases</u> http://eduscapes.com/sessions/ptools/secdata.htm</p> <p><u>Access – Building Simple Databases</u> <u>Database Lessons and Exams</u> http://www.teach-ict.com/gcse/software/db/students/shome_db.htm</p> <p><u>Multimedia Presentations</u> <u>Power Point in the Classroom</u> http://www.actden.com/pp2003/</p> <p>PowerPoint Activities http://www.internet4classrooms.com/on-line_powerpoint.htm</p> <p>PowerPoint Resources from KATE http://coekate.murraystate.edu/pdresources/InteractivePPT/index.htm</p> <p>PowerPoint in the Classroom http://www.henderson.k12.ky.us/administration/trt/PowerPoint.htm#PPT%20Files%20to%20Use%20in%20Your%20Classroom</p> <p>Create Interactive Maps using PowerPoint http://www.educationworld.com/a_tech/techtorial/techtorial080.shtml</p> <p>On-Line Practice Modules http://www.internet4classrooms.com/on-line.htm</p> <p><u>Rules for Making Presentations</u> http://www.cs.cmu.edu/~mihaib/presentation-rules.html</p> <p><u>Embedding Video</u> http://streaming.discoveryeducation.com/professionalDevelopment/teachingTips/teachingTip2.cfm</p> <p><u>Free Software</u> <u>CleverKeys</u> http://www.cleverkeys.com/ck.html?p=home</p>
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<p>T-MS-ICP-S-C1 Students will use technology to communicate in a variety of modes (e.g., audio, speech to text, print, media)</p>	<ul style="list-style-type: none"> Use appropriate digital communication tools (e.g., email, video conferencing, web authoring, forum, blog, wiki, podcasting, instant messaging) 	<p>Web Resources <u>Epals – Where Learner’s Connect</u> http://www.epals.com/</p> <p><u>Ask an Expert</u> http://www.askanexpert.com/</p> <p><u>Ask Dr. Math</u> http://mathforum.org/dr.math/dr-math.html</p> <p><u>Ask a Scientist</u> http://www.ciese.org/askanexpert.html</p> <p><u>Become involved in the Square of Life Project</u> http://www.k12science.org/curriculum/squareproj/</p>
<p>T-MS-ICP-S-C3 Students will use online collaboration and interactive projects (e.g., email, videoconferencing) to communicate with others (e.g., experts, mentors)</p>	<ul style="list-style-type: none"> Participate in collaborative problem-based learning projects using online tools (e.g., content/course management systems, video conferencing, blogs, wiki, class or group forums, and email to collaborate and communicate with others) 	<p>Web Resources <u>Telecollaborate</u> http://nschubert.home.mchsi.com/</p> <p><u>Teachers Guide to International Collaboration</u> http://www.ed.gov/teachers/how/tech/international/index.html?exp=0</p> <p><u>The Globe Project</u> http://www.globe.gov/r?lang=en&nav=1</p> <p><u>Classroom Blogs and Wikis</u> http://my-ecoach.com/online/webresourcelist.php?rld=4992</p> <p><u>Blog Basics for the Classroom</u> http://www.teachersfirst.com/content/blog/blogbasics.cfm</p> <p><u>Students of the World – Penpals, Countries & Schools</u> http://www.studentsoftheworld.info/</p>
<p>T-MS-ICP-S-C4 Students will use a variety of electronic formats (e.g., web publishing, oral presentations, journals and multimedia presentations) to summarize and communicate results</p>	<ul style="list-style-type: none"> Select and justify the use of appropriate online collaborative tools to develop content area presentations 	<p>Web Resources <u>Imaging the Internet - Ideas to Implement in the Middle School Curriculum</u> http://www.elon.edu/e-web/predictions/kidzone/middleschool.xhtml</p>
<p>TE-SK- MS-ICP-04 Students will use productivity tools to complete content assignments and projects</p>	<p>Word Processing</p> <ul style="list-style-type: none"> Edit a word processing document. Use appropriate punctuation (period, question mark, comma, exclamation mark, quotation marks, parentheses, semicolon, and colon) Use correct word and line spacing: <ul style="list-style-type: none"> One space between words One space after punctuation Return key to create blank lines Delete key to delete blank lines 	<p>Web Resources <u>Keyboard Shortcuts and Windows Tips</u> http://www.kahl.net/tools/wintips.html#More%20Shortcuts</p>

	<ul style="list-style-type: none"> ○ Line spacing ● Use appropriate formatting (e.g. bold, italics, size, text, color, font type, styles, left/right/center alignment, and word wrap) ● Use formatted list (Bulleted, Numbered, List, Outline) ● Format a document (e.g. multiple columns, Page Break, Section Break, Column Break, Header, Footer with page number) ● Use appropriate editing features (e.g. undo, backspace, delete, spell check, moving cursor to insert words or letters, Thesaurus, Find / Replace feature, Set Page Margins, Show/Hide Invisibles and word count.) ● Utilize appropriate Toolbars. ● Use appropriate tab settings (e.g. tab key, Tab Leaders hanging and first line indents) ● Insert, Align and format Objects (e.g. graphics/clip art, chart, table) <p>Multimedia Presentation</p> <ul style="list-style-type: none"> ● Explain the purpose of a presentation. (e.g., communication, show knowledge of content subject, share information.) ● Plan and organize information with audience in mind to use on templates and on any previously created presentation. ● Use appropriate formatting (e.g. background, hide slides, modify the slide master, etc.) ● Insert and format appropriate Objects (e.g. table, hyperlinks, spreadsheet, chart, digital images, sound, animation) ● Utilizing appropriate Slide Show Options/features (transition, loop setting, delete slides, set slide transitions, change slide order, set slide timings, etc.) 	
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	<p>Graphic Organizer</p> <ul style="list-style-type: none"> • Use electronic graphic organizers (e.g. Venn Diagram) <p>Spreadsheet</p> <ul style="list-style-type: none"> • Use appropriate vocabulary (e.g. cell, row, column, row heading, active cell, row label, column label, title, entry bar/ formula bar, sort, range, relative cell reference, print area / print range, merge, center, insert, absolute cell reference column heading, cell address) • Use a blank spreadsheet to enter data including: titles, column labels, row labels, formulas • Edit and move cell data. (e.g. insert row(s) & column(s), delete row(s) & delete column(s)) • Format cell data (numbers, currency, percentages, decimal places/ precision, format date and time) • Format cells (alignment, row height, column width, wrap) • Explain and use basic formulas. • Identify the symbols used in formulas. = + - * / () • Create basic formulas using + - * / applying the order of operations • Explain the difference between relative and absolute cell reference • Explain the concept and parts of functions (e.g. Sum, Average). • Create a basic chart/graph (e.g. column, bar, resize charts, moving charts, pie, line) • Format various parts of chart. (title, label the axes, modify, size/scale, show/hide legend, 	
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	<p>manipulate chart range data, format text, etc.)</p> <ul style="list-style-type: none"> • 	
<p>T-MS-ICP-S-P2 Students will construct and publish information in printed and digital formats (e.g., printed reports, resumes, brochures, charts, multimedia presentations, videos and websites) for authentic audiences</p>	<ul style="list-style-type: none"> • Understand the elements of good web design • Evaluate online resources (web sites, wikis, blogs) for accuracy, relevance, appropriateness, comprehensiveness, and bias of information sources concerning real-world problems • Publishes information in a variety of ways including printed copy, monitor, display, Internet documents, and video 	<p>Web Resources Website Evaluation WebQuest http://www.albany.edu/~ef8043/webquest.htm</p> <p>Kathy Shrocks Guide for Educators – Critical Evaluation http://school.discoveryeducation.com/schrockguide/eval.html</p> <p>Evaluating Web Pages – Techniques to Apply and Questions to Ask http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html</p> <p>Background City http://www.backgroundcity.com/</p> <p>All Free Backgrounds http://www.allfreebackgrounds.com/</p> <p>Media Awareness - Educational Games http://www.media-awareness.ca/english/games/index.cfm</p> <p>QUICK Quiz http://www.quick.org.uk/menu.htm</p> <p>Complete Web 2.0 directory http://www.go2web20.net/</p>
<p>T-MS-ICP-S-P3 Students will use technology to develop innovative and creative products</p>	<ul style="list-style-type: none"> • Create and/ or develop original works (e.g., electronic music, art, video, websites and other electronic formats) using technology tools • Designs, develops, publishes and presents real-world products using technology resources that demonstrate and communicates curriculum concepts to audiences inside and outside the classroom • Develops and uses teacher and/ or student created rubrics for assessment of projects • Works responsibly, independently, and as part of a group in developing a project 	<p>Web Resources Audacity http://audacity.sourceforge.net/</p> <p>PhotoFiltre http://photofiltre.free.fr/</p> <p>Photostory http://www.microsoft.com/windowsxp/using/digitalphotography/photostory/default.mspx</p> <p>Graphics Den http://www.actden.com/grap_den/index.htm</p> <p>Pics4Learning http://www.pics4learning.com/</p> <p>FreeFoto http://www.freefoto.com/index.jsp</p>

Unit Statement

TLW understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

Students demonstrate the ability to make decisions based on ethical values.

Students individually demonstrate consistent, responsive and caring behavior.

Students demonstrate the ability to accept the rights and responsibilities for self and others.

Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.

Gist	Safety and Ethical/Social Issues
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-MS-SESI-S-HI3 Students will use technology to engage in interactive projects in the classroom</p>	<ul style="list-style-type: none"> Plan collaborative project with group Collaborates with peers, experts, and others using collaborative digital communication tools to investigate curriculum-problems, issues and information 	<p>Web Resources Apple – Learning Exchange http://edcommunity.apple.com/ali/</p> <p>Zesty Projects using Microsoft Office http://www.actden.com/o2k/</p> <p>Microsoft Lesson Plans for students and educators http://www.microsoft.com/education/lessonplans.msp</p> <p>Thinkfinity – Literacy, Education, & Technology http://www.marcopolo-education.org/home.aspx</p> <p>KATE – Technology in Classrooms in Kentucky http://coekate.murraystate.edu/kate/tick/</p>
<p>T-MS-SESI-S-HI7 Students will engage technology to support learning (e.g., online courses, online assessments)</p>	<ul style="list-style-type: none"> Select appropriate online activities in support of direct and independent learning (e.g. web 2.0 applications, webquests, podcast, Internet 2, etc.) 	<p>Web Resources Best Webquests http://bestwebquests.com/</p> <p>Kathy Schrock’s Guide for Educators – WebQuests in our Future http://school.discoveryeducation.com/schrockguide/webquest/w ebquest.html</p> <p>Teacher Tap – Locate and Evaluate Webquests http://eduscapes.com/tap/topic4.htm</p> <p>Searching for treasure on the Internet http://www.education-world.com/a_curr/curr113.shtml</p>

		<p><u>Complete Web 2.0 directory</u> http://www.go2web20.net/</p> <p><u>Kentucky Internet 2</u> http://i2.ky.gov</p> <p><u>Commonweath VideoConferencing Network</u> http://www.kyvideo.org/</p>
<p>T-MS-SESI-S-S1 Students will explain the importance of safe Internet use (e.g., iSafe skills)</p>	<ul style="list-style-type: none"> • Understands and follows rules and procedures for technology use to become a model digital citizen • Recognize, discuss, and model responsible safe behavior using online resources as a class/group/individual 	<p><u>Web Resources</u></p> <p><u>ISAFE</u> http://www.isafe.org/</p> <p><u>Netsmartz for Teens</u> http://www.netsmartz.org/netteens.htm</p> <p><u>OnGuard Online</u> http://onguardonline.gov/index.html</p> <p><u>Wired Safety</u> http://www.wiredsafety.org/</p> <p><u>The Police Notebook – Internet Safety online</u> http://www.ou.edu/oupd/inetmenu.htm</p> <p><u>Teaching Ideas</u> Discuss computer applications relating to ethics such as copyright laws, piracy, privacy, public domain, unauthorized access, etc.</p> <p>Have students read and discuss information regarding “Plagiarism.” As an individual project, have students create a cartoon script about the topic.</p> <p>Have students research, create, and key reports on topics such as plagiarism, cheating, stealing, time management, punctuality, leadership, etc.</p> <p>Discuss ethics in the occupational environment such as having a guest speaker discuss workplace confidentiality, integrity, honesty, punctuality, and cooperation.</p> <p>Have students create a handmade brochure that educates others on piracy, etc. When skills permit in future units, allow students to transfer the handmade brochure into electronic format.</p>
<p>T-MS-SESI-S-S2 Students will apply safe behavior when using technology</p>	<ul style="list-style-type: none"> • Using technology in ways that minimize the negative effects on others by being a model digital citizen • Report suspicious/ threatening activities • Maintain password privacy • Respect privacy of others • Protect personal information • Exercises appropriate care when working with all types of media and equipment 	<p><u>Teaching Ideas</u> Have students research the Privacy laws including but not limited to CN-SPAM Act of 2003, Sarbanes-Oxley Act of 2002, and Provide Appropriate Tools Required to Intercept and Obstruct Terrorism (PATRIOT) Act of 2001.</p>

<p>T-MS-SESI-S-HI1 Students will use appropriate behavior related to computers, networks, digital information (e.g., security, privacy, passwords, personal information)</p>	<ul style="list-style-type: none"> • Discuss examples of technology use and what is considered appropriate or inappropriate behavior to obtain a clear understating of what is required of them to be members of the digital society • Respecting others online: not engaging in cyber bullying, flaming, and inflammatory language. • Investigate key concepts associated with cyber bullying including defining and discussing motivations of bullies • Discuss digital security risks and problems associated with downloading items and how spyware can compromise personal information • Discuss proper email protocol and the necessity of using caution when opening email to protect computer security 	<p>Web Resources Netsmartz for Kids http://www.netsmartz.org/netteens.htm</p> <p>Teaching Ideas Have students create a chart that compares and contrasts the different security products (e.g., antivirus vs. firewalls).</p>
<p>T-MS-SESI-S-HI2 Students will use proper social etiquette with any technology (e.g., email, blogs, IM, telephone, help desk) while collaborating with peers, experts and others</p>	<ul style="list-style-type: none"> • Demonstrates proper digital etiquette and knowledge of acceptable use in class, lab, or on the internet. 	<p>Web Resources Computer Crime and Intellectual Property- Cyberethics http://www.usdoj.gov/criminal/cybercrime/cyberethics.htm</p> <p>Teaching Ideas Participate in a guided discussion of what is appropriate and inappropriate etiquette when interacting with others in online activities. Have students use the Internet to research netiquette. Have students create a “Netiquette Fact Sheet” to use while interacting with peers, experts, and other audiences.</p>
<p>T-MS-SESI-S-EI1 Students will describe intellectual property issues related to technology</p>	<ul style="list-style-type: none"> • Demonstrate knowledge of freeware, shareware, public domain software, and commercial software • Model ethical acquisition and use of digital information, citing sources appropriately • Demonstrate understanding of intellectual property and copyright laws by crediting work of self and others 	<p>Web Resources Kidz Online – Security & Ethics http://kidzonline.com/TechTraining/video.asp?UnitOrq=Scurity</p> <p>What’s the Download? http://www.whatsthe-download.com/whats_the_controversy/faq/</p>
<p>T-MS-SESI-S-EI2 Students will practice responsible (e.g., virus protection, passwords) use of technology adhering to the Acceptable Use Policy (AUP) as well as other state and federal laws</p>	<ul style="list-style-type: none"> • Exhibit responsible ethical and safe behavior (e.g., log on/off network using their own id, create strong passwords and don’t share with others, be protective of personal information (their own and others) know and 	<p>Web Resources Fair use of copyrighted materials http://www.utsystem.edu/OGC/intellectualProperty/copypol2.htm</p> <p>Teaching Ideas Using a multimedia presentation, discuss the school handbook, the technology acceptable use policy, classroom procedures, and</p>

	<p>follow federal and state laws, and AUP requirements)</p> <ul style="list-style-type: none"> • Explain what “Fair Use” means with regard to copyright material • Recognize copyright (©) and trademark(™) icons and what they symbolize and their intent • Discuss copyright issues 	<p>all safety procedures for the classroom level and building level.</p> <p>Read and discuss with students the school acceptable use policy.</p> <p>Have students and parents sign a district approved Technology Acceptable Use Policy.</p>
<p>T-MS-SESI-S-EI3 Students will model ethical behavior relating to security, privacy, passwords and personal information and recognize possible consequences of misuse</p>	<ul style="list-style-type: none"> • Discuss the social implications of viruses, hacking, offensive material, and vandalism (e.g., economic impact on businesses attacked) • Keep passwords secure • Secure personal information • Maintain own and respect others’ privacy • Understand consequences of misuse 	
<p>T-MS-SESI-S-EI4 Students will use legal and ethical practices when completing digital projects/school work and credit all participants for their contribution to the work</p>	<ul style="list-style-type: none"> • Appropriately utilize and cite the intellectual property including video, audio, graphic images, and text • Credit all participants of collaborative and interactive projects for their contribution to the work • Understand the responsibilities and impact of the authorship of original work 	<p><u>Web Resources</u> Noodletools http://www.noodletools.com/</p> <p>Citation Machine http://citationmachine.net/</p> <p>Teen Link – How to Write a Bibliography http://teenlink.nypl.org/bibliography.html</p> <p>You Quote it, You Note it – Plagiarism Tutorial http://library.acadiau.ca/tutorials/plagiarism/</p> <p><u>Teaching Ideas</u> Divide students into two groups. Allow groups to debate ethical and security issues related to file sharing web sites.</p>
<p>T-MS-SESI-S-EI5 Students will investigate basic issues related to responsible use of technology and describe personal consequences of inappropriate use</p>	<ul style="list-style-type: none"> • Investigate and discuss the misuse of passwords • Investigate and discuss virus detection/prevention, to protect computer systems and databases from unauthorized use and tampering 	
<p>T-MS-SESI-S-EI6 Students will investigate software piracy, its impact on the technology industry and possible repercussions to individuals and/or the school district</p>	<ul style="list-style-type: none"> • Examine the consequences regarding copyright violations (e.g., computer hacking, computer piracy, intentional virus settings, invasion of privacy) • Research piracy issues (software, music, movies) and its impact on technology and entertainment industries and recognize possible repercussions to both the individual and the school district 	

	<ul style="list-style-type: none"> Recognize that piracy creates social, cultural, political, and economic issues requiring them to make informed decisions 	
<p>T-MS-SESI-S-HI5 Students will investigate how the use of technology affects humans in various ways (e.g., safety, comfort, choices and attitudes)</p>	<ul style="list-style-type: none"> Discuss how technology and the use of the computer can be associated with gaps in homeland security (e.g., hacking, malicious code, cyber terrorism) Demonstrate knowledge of the relevancy of technology and how it affects individual's daily lives 	
<p>T-MS-SESI-S-HI4 Students will describe how societal expectations drive the acceptance and use of new products and systems</p>	<ul style="list-style-type: none"> Research opportunities, characteristics, and preparation requirements for occupations in current and emerging technology Analyze technology trends and their global economic, political and social impacts and predict impact for emerging technologies 	<p>Teaching Ideas Have students interview 10 family members to determine to which career pathway their career goals are aligned.</p> <p>Web Resources Occupational Outlook Handbook http://www.bls.gov/oco/</p> <p>Go Higher Ky – KHEAA Career Information site http://www.gohigherky.org/</p>
<p>T-MS-SESI-S-HI6 Students will explore how technology is used in different occupations</p>	<ul style="list-style-type: none"> Research opportunities, characteristics, and preparation requirements for occupations in current and emerging technology 	<p>Web Resources GetTech Careers http://www.gettech.org/default2.asp</p> <p>Teaching Ideas Have students research and compile information identifying typical tasks, working conditions, education and training, types of technology used in the job, and wages for various careers. Have students choose between writing a report, creating a collage, role playing, creating a poster, or making a multimedia presentation.</p> <p>Have a guest speaker visit the class to discuss different careers and the impact technology has had .</p>
<p>T-MS-SESI-S-HI8 Students will conclude that assistive technology supports learning to ensure equitable access to a productive life</p>	<ul style="list-style-type: none"> Research digital access for assistive technologies and how they can provide access to support learning and ensure access to a productive life Explore and discuss as a class, assistive technologies for all students. Accommodations could include but are not limited to individuals with special needs, physically challenged, foreign language students, etc. Examples could include: 	<p>Web Resources Introduction to Assistive Technology http://atto.buffalo.edu/registered/ATBasics/Foundation/intro/introbasic.php</p> <p>Learning Disabilities and Assistive Technologies http://www.gatfl.org/ldguide/default.htm</p>

	enhanced keyboard, text to speech, magnify screen, etc.	
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Unit Statement
<p>TLW understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.</p> <p>Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.</p> <p>Students identify and analyze systems and the ways their components work together or affect each other.</p> <p>Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.</p> <p>Students use creative thinking skills to develop or invent novel, constructive ideas or products.</p> <p>Students use a decision-making process to make informed decisions among options.</p> <p>Students use problem-solving processes to develop solutions to relatively complex problems.</p> <p>Students connect knowledge and experiences from different subject areas.</p>

Gist	Research, Inquiry/Problem-Solving and Innovation
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Concepts & Information		Lessons-Sequence of Instruction/Rules & Procedures
<p>T-MS-RIPSI-S-II Students will use technology to express creativity in all content areas</p>	<ul style="list-style-type: none"> • Use of appropriate technology tools based on content area assignment to enhance creativity 	<p>Web Resources The Creativity Portal http://www.creativity-portal.com/</p>

<p>T-MS-RIPSI-S-R4 Students will evaluate the accuracy and appropriateness of electronic information</p>	<ul style="list-style-type: none"> • Use multiple sources for a single subject search to obtain relevant information based on research topic • Understand and evaluate web resources for validity, reliability and biases of information 	<p>Web Resources KET Encyclomedia http://www.ket.org/education/encyclomedia.htm</p> <p>Encyclomedia http://www.encyclomedia.com/</p> <p>Encyclopedia Britannica http://www.britannica.com/</p> <p>Microsoft Encarta Encyclopeda http://encarta.msn.com/</p> <p>Awesome Library http://www.awesomelibrary.org/student5.html</p> <p>Library Spot http://www.libraryspot.com/</p> <p>Dictionary http://dictionary.reference.com/</p> <p>Wikipedia http://www.wikipedia.org/</p>
<p>T-MS-RIPSI-S-IP3 Students will apply strategies for identifying and solving minor hardware and software problems</p>	<ul style="list-style-type: none"> • Analyze and troubleshoot software and hardware problems • Uses online Help 	<p>Web Resources Computer Tips http://www.computerfreetips.com/</p> <p>Computer Hope – Basic Computer Troubleshooting http://www.computerhope.com/basic.htm#03</p> <p>MAC 101 – Getting Started with the Mac http://www.apple.com/support/mac101/</p> <p>The Essential Mac - Troubleshooting http://www.essentialmac.com/fix/index.html</p>
<p>T-MS-RIPSI-S-IP4 Students will use technology to solve problems using critical thinking and problem-solving strategies</p>	<ul style="list-style-type: none"> • Participate in project-based learning activities 	<p>Web Resources Kathy Schrock’s Guide for Educators – Lesson Plans and Thinking Skills http://school.discoveryeducation.com/schrockguide/edles.html</p> <p>IMMEX http://www.immex.ucla.edu/</p>
<p>T-MS-RIPSI-S-R1 Students will demonstrate an understanding of the strengths and limitations of the Internet</p>	<ul style="list-style-type: none"> • Identifies the source, location, media, type, relevancy, and content validity of needed digital information • Evaluate online resources (web sites, wikis, blogs) for accuracy, relevance, appropriateness, comprehensiveness, and bias of information sources concerning real-world problems • 	<p>Web Resources Thinkfinity: Wading through the Web, Internet Research Strategies http://www.readwritethink.org/lessons/lesson_view.asp?id=983</p> <p>Welcome to the Web – The Internet http://www.teachingideas.co.uk/welcome/internet/index.htm http://www.teachingideas.co.uk/welcome/internet/index.htm</p> <p>Kathy Shrocks Guide for Educators – Critical Evaluation http://school.discoveryeducation.com/schrockguide/eval.html</p> <p>Evaluating Web Pages – Techniques to Apply and Questions to Ask http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluating</p>

		ate.html QUICK Quiz http://www.quick.org.uk/menu.htm Complete Web 2.0 directory http://www.go2web20.net/
T-MS-RIPSI-S-R2 Students will apply a research process model (e.g., Big6, Research Cycle) to conduct online research	<ul style="list-style-type: none"> Apply a problem-solving process (especially Big6) to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution Use a decision-making process (especially Big6) to identify a situation that requires a decision, gather information, identify options, predict consequences and take action to implement a decision 	Web Resources The Big 6 http://www.big6.com/
T-MS-RIPSI-S-R3 Students will locate and collect information from a variety of electronic resources (e.g. search engines, CDROM, online periodical databases, Virtual library/online catalogs, interactive video conferencing) and correctly cite sources	<ul style="list-style-type: none"> Apply appropriate electronic search strategies in the acquisition of information, including keyword and Boolean search strategies Demonstrates the ability to access, operate, and manipulate information from secondary/remote devices (e.g., CD-ROM, online catalogs, Virtual library) Model ethical acquisition and use of digital information, citing sources appropriately and requesting permissions when needed 	Web Resources Kentucky Virtual Library http://www.kyvl.org/ Complete Web 2.0 directory http://www.go2web20.net/ Kentucky Internet 2 http://i2.ky.gov Commonweath VideoConferencing Network http://www.kyvideo.org/
TE-SK-MS-RII-3d Students will organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files)	<ul style="list-style-type: none"> Use a word processed document with an embedded table to report results and organize information Use spreadsheets to organize and calculate data and create graphs to answer a real life question 	Web Resources A Thousand Lockers – Data Collection Activity Data Collecting in the Classroom http://mathforum.org/workshops/sum98/participants/sinclair/datacollecting.html Suzanne’s Math Lessons – Data Analysis and Probability http://mathforum.org/alejandre/index.html
T-MS-RIPSI-S-R5 Students will communicate results of research and learning with others using the most appropriate tools (e.g., desktop-published or word-processed report, multimedia presentation)	<ul style="list-style-type: none"> Organize, analyze and report information from outlines, reports, databases and visuals, including graphs, charts, timelines and maps 	
T-MS-RIPSI-S-R6 Students will manipulate data using charting tools and graphic organizers (e.g., concept mapping,	<ul style="list-style-type: none"> Manipulate and analyze data using charting tools and graphic organizers (e.g., concept mapping, flow 	Web Resources Inspiration – Curriculum Resources http://www.inspiration.com/resources/index.cfm

<p>flow charting and outlining software) to connect ideas and organize information</p>	<p>charting and outlining software) to connect ideas and organize information</p>	<p>Draw a Histogram http://www.venturaes.com/tools/histogram.html</p> <p>Kidszone – Create a Graph http://nces.ed.gov/nceskids/createagraph/default.aspx</p> <p>The Graphic Organizer http://www.graphic.org/</p>
<p>T-MS-RIPSI-S-IP2 Students will determine which technology is useful and select the appropriate tool(s) (e.g., calculators, data collection probes, videos, educational software) to inquire/problem-solve in self-directed and extended learning</p>	<ul style="list-style-type: none"> Select and demonstrate appropriate use of digital technology tools 	<p>Web Resources National Middle School Association – Problem based Learning in Mathematics http://www.nmsa.org/Research/ResearchSummaries/ProjectBasedLearninginMath/tabid/1570/Default.aspx</p>
<p>T-MS-RIPSI-S-IP5 Students will explore how inquiry/ problem-solving impact science, technology, engineering and mathematics (STEM) (e.g., design, programming, robotics)</p>	<ul style="list-style-type: none"> Use web resources to explore how inquiry/problem-solving impact science, technology, engineering and mathematics 	<p>Web Resources Crocodile Science Player http://www.crocodile-clips.com/Videos_and_Downloads/Free_Software/Crocodile_Science_player/</p> <p>Computing Technology for Math Excellence http://www.ct4me.net/math_projects.htm</p> <p>NASA Online – Learning Modules in Math & Science http://www.knowitall.org/nasa/index.html</p>
<p>T-MS-RIPSI-S-IP1 Students will use appropriate technology and strategies to solve content-specific problems in the real-world</p>	<ul style="list-style-type: none"> Identify a problem in the community or surroundings and use technology tools to develop a solution 	<p>Teaching Ideas Develop a community action plan to encourage businesses to establish themselves or relocate to your area.</p> <p>Identify a community health issue and develop and implement a campaign to improve the health habits of local residents.</p> <p>Web Resources 4Teachers – Problem Based Learning http://pblchecklist.4teachers.org/</p> <p>Project Based Learning Online http://pbl-online.org/</p> <p>Teacher Tap – Project, Problem, Inquiry-Based Learning http://eduscapes.com/tap/topic43.htm</p>
<p>T-MS-RIPSI-S-I2 Students will design, develop, publish and present original, innovative products (e.g., Web pages, video, robotics, online content)</p>	<ul style="list-style-type: none"> Design, develop, publish and present original innovative products 	<p>Teaching Ideas</p>
<p>T-MS-RIPSI-S-I3 Students will collaborate with peers, experts and others to develop solutions and innovative products (e.g., design/CAD, troubleshooting, helpdesk,</p>	<ul style="list-style-type: none"> collaborate with peers, experts and others online or in person to develop solutions and innovative products 	<p>Teaching Ideas Utilize an online discussion board for students to access and post entries regarding a classroom topic.</p> <p>Invite guest speakers from the business community to participate in a classroom chat session.</p>

<p>models, systems)</p>	<ul style="list-style-type: none"> • adhere to fair use and multimedia copyright guidelines, citing sources of copyrighted materials in papers, projects, and multimedia presentations* • understand that intellectual property applies to their own original work 	<p>Web Resources Just Answer http://www.justanswer.com/?r=gagen&gclid=CLL3or7-qpECFRE_OAodyzmgfw</p> <p>Collaborative Projects for P-12 Classrooms http://www.henderson.k12.ky.us/administration/trt/Projects.htm</p>
<p>T-MS-RIPSI-S-I4 Students will describe how technological innovation often results when ideas, knowledge or skills are shared within a technology</p>	<ul style="list-style-type: none"> • Describe how technological innovation leads to entrepreneurial opportunities in a knowledge-based economy 	<p>Web Resources Consortium for Entrepreneurship Education http://www.entre-ed.org/</p> <p>Teaching Kids Business – Entrepreneurship Program http://www.teachingkidsbusiness.com/entrepreneurship-program.htm</p> <p>Entrepreneurship for K-12 Children http://www.edu-cyberpg.com/Teachers/Digitaldivideentra.html</p>

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn to identify and name the primary colors, understand how colors are seen, perceived in the world. They will see how when the primary colors are mixed you create new colors. They will be able to talk about their art and compare it to other art and artists work. Also have an understanding of how symbols are used to represent things in the world. (Gist: Primary Colors)

Unit of Instruction Analysis					
<p>Note:</p> <ul style="list-style-type: none"> Please see the resource folder for this standard for an overview of the Elementary Visual Art Curriculum. 					
<p>Prerequisite Vocabulary</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Blue</td> <td style="width: 50%;">cut</td> </tr> <tr> <td>color</td> <td>different</td> </tr> </table>		Blue	cut	color	different
Blue	cut				
color	different				
<p>New Vocabulary</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">collage</td> <td style="width: 50%;">primary colors</td> </tr> </table>		collage	primary colors		
collage	primary colors				
<p>Assessments</p> <ul style="list-style-type: none"> Observation, look for understanding, class participation proper use of tools and completed work. 					
Concepts & Information	Unit Standards and Instruction Materials				
<p>Observation, look for understanding, class participation proper use of tools and completed work.</p> <p>C/D by Percy Vol.1 Book called Mouse Prints or another book showing colors and color mixing</p>	<p>Begin by reading or telling a story that identifies the primary colors. Discuss the story and ask them to identify primary colors in the room. They will be told to raise their hands and then as a group, have them say, repeat, or recite the primary colors.</p> <ol style="list-style-type: none"> Have them watch demonstration on how to use the paints to mix the colors then paint their names. Have prepared containers, or paper plates to set out as well as their names on prepared papers. Painting procedures will be gone over and 				

rules regarding the procedures discussed.

4. Have the students use finger-paints that are passed out to mix and paint their names using the primary colors. Ask the students to cover their tables with newspaper while supplies are being passed out. Ask the students to notice what happens when red and yellow mix, blue and yellow, and red and blue.
5. If a student is done quickly give them a blank paper and have them paint whatever they like.
6. Upon completion, students will be instructed to wash hands in the sinks and then place their art in/on the drying rack, which should be demonstrated before starting. Have them throw away any leftover paint/paper plates and fold closed the newspaper and throw this away as well. Assist in these procedures.

In closing sing and/or listen to and a song about the primary colors.

Look at the art they made previously. Discuss what they made and why. Listen and sing the primary color song that we ended on the in the previous lesson. After listening to and singing the song, again ask the students to find something in the room that is Red, Yellow, and Blue. Have them recite as a group what the primary colors are.

Talk to the students about collage art and what it means. Tell how some artist use collage to tell a story or present an expression or ideas. Show examples of collage artwork. Tell them that they were making a school collage. It will have items in it that relate to school.

1. Pass out papers that have school related items printed on them such as a bus, an apple, or a book.
2. Ask the students what color is a school bus, then an apple, and what color could a book be colored, that is one of the primary colors.
3. Have several items to color that relate to back to school and the primary colors, along with some recognizable symbols, such as a stop sign.

4. Have the students cut out the images and glue the red ones to red construction paper and yellow to yellow, etc. Demonstrate proper use of glue sticks and how to glue.
5. Show and have them cut around the items allowing some of the colored construction paper to show. Demonstrate how to do this.
6. Students will clean up and throw away paper scraps and put away supplies.
7. Have them place all of the pieces/items they colored together in an envelope with their name on it. Have them write their name on the back of each of the items.

In closing listen to and sing along to the color song. Ask them to all recite what the primary colors are once again.

Ask the students what they are making and what the primary colors are. Discuss the art of collage with them once again. Sing the primary color song.

1. Go over the steps of making the collage and explain to them what collage means and that they are making one using the items they have colored and cut out.
2. Students still cutting, coloring and gluing to the colored paper will finish this process first
3. Have them glue the colored items on to a large 12x18 piece of construction paper. Probably black or gray. I will demonstrate on how they can overlap each other but not go off the side of the paper.
4. Ask them to use their crayons to write out on a separate piece of paper ABC's and 123's along with some beginning site words that I will put on the board to copy. Assist when and where necessary.
5. Show them an example of a finished collage similar to the one they are making
6. Show them how to cut around the writing and glue these on their collages as the final step. They write their names on the back of them as they finish.

In closing have the students listen and sing the

	<p>primary color song one more time. Ask them what the primary colors are and what collage means. Look at the work they made as a group. Talk about what they see. Point out the images and how they represent things to us in the real world. Notice the way they show the colors, etc. Compare the students work to other artwork that has symbols or is in a collage style. Have them point out similarities and differences.</p>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn to identify and create art using various types and qualities of line, They will understand how lines are used in art and how they relate to the real world. They will understand how a resist works when watercolors do not stick to a crayon/wax surface.

(Gist: Types and Qualities of Line)

Unit of Instruction Analysis	
New Vocabulary	
design	outline
Prerequisite Vocabulary	
crayon	drawing
Assessments	
<ul style="list-style-type: none"> • Observation, look for understanding, class participation proper use of tools and completed work. 	
Concepts & Information	Unit Standards and Instruction Materials
<p>Percy CD songs about line</p> <p>Lesson one: Line Design line drawing/ resist painting using different types of lines arranged in a design of the students choosing.</p>	<p>To begin lesson have a discussion about line ask what they think a line is. Talk about the different types of lines and do a demonstration of different types of lines.</p> <ol style="list-style-type: none"> 1. Have the students follow directions to create a line design picture. Explain what a design is. 2. Demonstrate examples of line types on the board then ask the students to repeat these on their papers.

Lesson Two:
Drawing bag / hidden
object game/exercise

3. Have them choose a different color for each line type
4. Placement and length to be determined by the student.
5. Have the students go over the lines with a thicker line so that it will show up when painted over. Explain about how the wax in the crayon will resist the paint.
6. The students will paint over the lines with thinned water base paint or watercolors, causing a resist.
7. They will choose the colors for the resists excluding black or brown as these are very dark and may still cause it to be difficult to see the line designs.
8. Clean up and put away supplies. Place line design art on a drying rack.

In closing have a group discussion about types of lines and what a line is defined as being. Sing the song about line. Get into a line and go around the school copying different kinds of lines with their bodies.

Prepare bags with simple shaped blocks or found objects that are easy to identify and draw, it is best to have enough for every student to have one to start. Put a number on each bag, ex.1-20. If it is a large class it may be better to use letters since they may be more familiar with them early in the year.

1. I pass out papers with divided sections and numbers in the corner of each section to correspond to the number of bags.
2. Have the students feel objects in a bag and draw what they feel in the bag to the corresponding numbered square. No looking allowed.
3. Have students repeat the process by passing their bags to the next person to do the same thing while they take a bag from someone else.
4. They will continue this process until they have drawn all the objects in each of the bags.

In closing have the students show their drawings and see if they all drew the objects similar to each other. I

	<p>then reveal the objects one at a time to see if they drew and guessed what the object was correctly. Talk about how they felt about drawing something they could not see. Explain that artist train themselves to draw better by doing drawings this way. Do the line dance again. And sing the line song.</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW identify and make geometric shapes and forms and identify the difference between 2-D shapes and 3-D forms.

(Gist: 2-D Shapes and 3-D Forms)

Unit of Instruction Analysis	
New Vocabulary	
2-D shape and 3-D form	geometric shapes and forms
<hr/>	
Prerequisite Vocabulary	
circle	rectangle
<hr/>	
Assessments	
<ul style="list-style-type: none"> • Observation, look for understanding, class participation proper use of tools and completed work. 	
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Concepts & Information	Unit Standards and Instruction Materials
<p>Supplies and Resources:</p> <p>Percy CD Music in the Key of Art</p> <p>Lesson one: Printing using geometric shapes</p>	<p>Discuss what shapes are. Ask the students to identify them as you draw or point to them in the room. Sing along with the song about shapes from the CD.</p> <ol style="list-style-type: none"> 1. Demonstrate how to make a print with a pre made sponge in a geometric shape dipped in paint. 2. Again go over rules and procedures of using paint 3. Have students cover their tables and pass out supplies, (paints of different colors on Styrofoam plates or trays with assigned shapes to that color. Explain that the shape needs to stay in its assigned color. 4. Wash hands when done and clean up tables. If

Lesson Two:
Create 3-D form using
clay

time have them use the paints to make the shapes using a paintbrush.

5. When room is clean have the student do a color worksheet on shape drawing. Completing the picture.

In closing again talk about what shapes are and ask the students to identify them then have them sing the shape song.

The lesson will begin with discussion about what 3-D is verses 2-D. Explain the difference and give examples. Have the students give examples that they may have seen. Discuss them.

1. Pass out modeling clay and have the students make a 3-D form. Have them repeat the process until they have a form they wish to share with the class.
2. Have the students tell about the form they made. It could be real or not.
3. Have the students explain why this is considered a 3-D form. Teacher may assist in pointing out specific features.

In close sing the song about shapes and the vase song, and ask the class to tell the difference between a shape that is 2-D and a form that is 3-D.

Lesson Three:

Sculpture from a variety
of shapes/forms from
found and made objects.

Talk about sculpture and show examples from art prints and or books. Discuss the history and some of the artists that you show examples of.

To begin lesson go over what is a 3-D form. Have students pick from a variety of found and collected objects such as small paper rolls, cut up egg carton containers and other containers preferably made of paper or cardboard for easy attaching with glue and or tape. They are then told that they will build a 3-D sculpture using these objects.

1. Instruct on how they can connect or attach the objects to each other to build a sculpture.
2. Show how the sculpture needs a base to support the objects.
3. Demonstrate how to hold the pieces together. They will need to tape and or glue them as they go.

4. Show how they can use construction paper or cardboard scraps to create a shape or form to add to their sculpture.
5. Pass out supplies and assist as needed.

In closing have students place the sculptures out of the way but first write their name of them. Talk about the work as a group. Sing along to the vase song.

Begin by talking about their sculptures. Are they similar to the ones they looked at earlier? How? If not then why? Notice that most sculptures are one color. Explain that they will paint their sculpture one color.

1. Let the students cover their tables with newspaper then pass out paint to the tables.
2. Let the student choose the color they wish to paint their sculpture with.
3. Again place out of the way to an assigned place for drying.
4. Clean up and put away supplies

In closing ask the students to tell you what the difference is between 2-D shapes and 3-D forms. Sing the shape song, and also the vase song. Talk about what they have been making and how it is like what other artists make and have made. How? Why?

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW identify contrasts in size such as large to small, or big to little, create art using these concepts. Talk about how these sizes are connected to us and the world we live in.

(Gist: Contrast in Size)

Unit of Instruction Analysis	
New Vocabulary	
alike	collage
Prerequisite Vocabulary	
big	little
fat	short

Assessments

- Observation, look for understanding of what is to be learned, class participation during discussion and or critique, as well as proper use of tools/supplies and completed work with good use of class time.

Concepts & Information	Unit Standards and Instruction Materials
<p>Make a painting and recognize what contrast in size is.</p> <p>Make collage using a variety of papers</p> <p>Practice drawing skills incorporating size differentiation.</p>	<p>Discuss sizes and listen to stories or songs about size. Go through procedures and rules for painting. Make a painting using the idea of contrast in size as the subject. Make some things big and others very little.</p> <p>Hang artwork and talk about the art they made</p> <hr/> <p>Discuss size some more, have students volunteer to measure things. Make a collage art piece using cut papers,(construction paper, magazines, wallpapers, and gift wrap) and have the students cut out shapes that are large and small to arrange on their papers to create art. Hang art and talk about them as a group.</p> <hr/> <p>Finish up with drawing things that art contrasts in size. Start out simple with shapes and then proceed to objects and people. Show art as a group and discuss the sizes of things shown in the art.</p>

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW identify and make geometric shapes and forms and identify the difference between 2-D shapes and 3-D forms in the world and in art.

(Gist: Geometric Shapes and Forms)

Unit of Instruction Analysis

Prerequisite Vocabulary	
circle	rectangle
Assessments	
<ul style="list-style-type: none"> • Observation, look for understanding, class participation proper use of tools and completed work. 	
Standards Addressed	
<ul style="list-style-type: none"> • 1.1,1.2,1.3,2.1,2.2,2.3,3.1, 3.5,4.14.2,4.3,5.1,5.3 	
New Vocabulary	
2-D shape and 3-D form	geometric shapes and forms
Concepts & Information	Unit Standards and Instruction Materials
<p>Supplies and Resources: Percy CD Music in the Key of Art</p> <p>Lesson one: Printing using geometric shapes</p> <p>Lesson Two: Create 3-D form using clay</p>	<p>Discuss what shapes are. Ask the students to identify them as you draw or point to them in the room. Sing along with the song about shapes from the CD.</p> <ol style="list-style-type: none"> 1. Demonstrate how to make a print with a pre made sponge in a geometric shape dipped in paint. 2. Again go over rules and procedures of using paint 3. Have students cover their tables and pass out supplies, (paints of different colors on Styrofoam plates or trays with assigned shapes to that color. Explain that the shape needs to stay in its assigned color. 4. Wash hands when done and clean up tables. If time have them use the paints to make the shapes using a paintbrush. 5. When room is clean have the students do a color worksheet on shape drawing. Completing the picture. <p>In closing again talk about what shapes are and ask the students to identify them then have them sing the shape song.</p>

Lesson Three:
Sculpture from a variety
of shapes/forms from
found and made objects.

The lesson will begin with discussion about what 3-D is versus 2-D. Explain the difference and give examples. Have the students give examples that they may have seen. Discuss them.

1. Pass out modeling clay and have the students make a 3-D form. Have them repeat the process until they have a form they wish to share with the class.
2. Have the students tell about the form they made. It could be real or not.
3. Have the students explain why this is considered a 3-D form. Teacher may assist in pointing out specific features.

In close sing the song about shapes and the vase song, and ask the class to tell the difference between a shape that is 2-D and a form that is 3-D.

Talk about sculpture and show examples from art prints and or books. Discuss the history and some of the artists that you show examples of.

To begin lesson go over what is a 3-D form. Have students pick from a variety of found and collected objects such as small paper rolls, cut up egg carton containers and other containers preferably made of paper or cardboard for easy attaching with glue and or tape. They are then told that they will build a 3-D sculpture using these objects.

1. Instruct on how they can connect or attach the objects to each other to build a sculpture.
2. Show how the sculpture needs a base to support the objects.
3. Demonstrate how to hold the pieces together. They will need to tape and or glue them as they go.
4. Show how they can use construction paper or cardboard scraps to create a shape or form to add to their sculpture.
5. Pass out supplies and assist as needed.

In closing have students place the sculptures out of the way but first write their name of them. Talk about the work as a group. Sing along to the vase song.

	<hr/> <p>Begin by talking about their sculptures. Are they similar to the ones they looked at earlier? How? If not then why? Notice that most sculptures are one color. Explain that they will paint their sculpture one color.</p> <ol style="list-style-type: none"> 1. Let the students cover their tables with newspaper then pass out paint to the tables. 2. Let the student choose the color they wish to paint their sculpture with. 3. Again place out of the way to an assigned place for drying. 4. Clean up and put away supplies <p>In closing ask the students to tell you what the difference is between 2-D shapes and 3-D forms. Sing the shape song, and also the vase song. Talk about what they have been making and how it is like what other artists make and have made. How? Why?</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW develop the ability to utilize space on the picture plane, (fill the area or areas on the paper to make sense for the size of the paper or image being created) They will understand new ways to create art. They will learn about space in our atmosphere and understand how we are all part of the same universe.

(Gist: Space)

Unit of Instruction Analysis				
Standards Addressed				
<ul style="list-style-type: none"> • 1.1,1.2,1.3,2.1,2.2,2.3,2.4,2.5,3.1,3.3,3.4,5.1,5.4 				
New Vocabulary				
placement	position	space		
Prerequisite Vocabulary				
big	little	right	size	
left				

Assessments

- Observation, look for understanding, class participation proper use of tools and completed work.

Concepts & Information

Supplies and Resources:
There's No Place Like Space by Tish Rabe is a great book to use for introducing the Space theme. It is also a good beginning reader

Working with Space.
And using the idea of “outer-space” are a fun way to connect the goals
And concepts
Both being called space it gets the idea across in a different way.
I think in order for the concept to be achieved it may need to be repeated and reinforced with a variety of lessons.

Open to any number of possible projects in a 2-D format. Painting with any variety of tools.
Cutting and gluing of papers in collage art or drawing and coloring are all possible to reach this goal.

Unit Standards and Instruction Materials

Introduce the story and talk about what space is and how that is where stars are found. Then bring up the constellations. Explain how some stars are in special groups that look like animals.

1. Hand out black paper and animal shapes that represent the constellations such as a bear.
2. Trace around the animal templates with a white colored pencil or crayon
3. Use light colored crayons or chalk to color in the animal shapes after tracing them.
4. Add star stickers

In closing discuss the way the shapes fill the page. Talk about how there is space around them but the animals are big enough to be seen easily. Talk about how it would look if they were very small on the same size paper, or very big. Note that the size and amount used on the paper is proper for the picture.

Collage. Talking about outer space some more. Discuss how it is huge and open and has lots of things such as the stars, planets and moons. Talk about who goes into outer space and how.

1. Pass out pre traced planets, stars and a rocket ship in a variety of colors and styles.
2. Have the students choose the ones they want to us in their art.
3. Have them cut out the images. Some students may need assistance
4. Then give them each a black background paper and glue
5. Demonstrate how to glue them on the paper so that they use the space of the paper.

In closing again talk about how the size of the pieces in their art fit the page. They are not too small or too

	<p>big. Discuss outer space and ask them some questions like what planet are they from and where is their rocket ship heading to.</p> <hr/> <p>Talk about space once again but this time have them use their imaginations. Ask them to pretend they are Astronauts visiting another planet and they meet an alien. They need to paint a picture of this alien so the people on earth will know what he looked like. Remember to use the entire page when making the painting.</p> <ol style="list-style-type: none"> 1. Pass out materials 2. Provide covers for tables to make easy clean up if possible. Give smocks to students to wear if possible. 3. Go over painting rules and demonstrate how to use the brush and paint correctly. 4. Pass out the paint and brushes and some plain white heavy weight paper. 5. Have the students paint the alien they met. 6. Clean up mess and wash as well as put away the art for drying on the drying rack. <p>In closing, talk about their aliens. What is their name and what was it like on their planet? Then ask them about the size they chose to make their aliens. Did it fit the page correctly or were they too big or small?</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW identify a variety of textures in the environment and experiment with textures. Talk about visual textures in art and actual textures we can touch.

(Gist: Textures)

Unit of Instruction Analysis			
New Vocabulary			
environment	man made	natural	texture
Standards Addressed			

- 1.1,1.2,2.1,2.2,2.3,2.5,3.1,3.4,5.1,5.4

Prerequisite Vocabulary

bumpy	rough	scratchy	smooth
feel	rubbing	side	soft
flat			

Assessments

- Observation, look for understanding, class participation proper use of tools and completed work.

Concepts & Information

Unit Standards and Instruction Materials

Supplies and Resources:

Any books that support the subject and concept

Talk about texture. What it means. Ask the students to name some. Give a couple of examples to get them going. Tell them they are going to go outside to make art. This may be best done early or late in the year if the area your in such as Michigan has cold weather which makes it unsuitable for outside activities. If it is too cold you could gather some fallen leaves and do this all indoors.

1. Start out by showing students how to make a rubbing using the side of a crayon that has no wrapping on it.
2. Demonstrate the process on a leaf, bark, a brick or large rock and anything else you might find outside but try to focus on the items in nature.
3. Have the students try several times with a variety of colors so that they fill their paper.
4. Have extra paper in case needed.

In closing talk again about the texture and how the raised area of the object they rubbed over left a mark or image on their paper. It is almost like magic the way the image appears.

In this lesson the students will discuss how sometimes we look at a picture and it looks real but

is not. You almost think if you touch it may have a texture. Show samples of art that reinforce what is being discussed.

To begin the activity explain that they are going to use a variety of fabrics and images to create a picture of an animal. They will cut the pieces into squares, circles rectangles and triangles. Have stencils to use for tracing.

1. Pass out the stencils and the fabrics, wallpaper scraps, and images of textures from magazines, etc.
2. Allow the students to choose from a variety placed on their tables.
3. Pass out scissors to cut out the shapes.
4. Pass out a variety of animal shapes to glue the pieces to. Use all farm animals or all zoo animals, or maybe all safari animals. House pets works well also.
5. I then have them glue the pieces to the animal shapes
6. I demonstrate showing how they can overlap the shapes.
7. They can either cut shapes for the face or have them draw in the face.

In closing we have a quick discussion about the texture animals they made. Is it something like a patchwork stuffed toy? Talk about the textures they used and how they look. Was it a real texture or one that was made up?

Printmaking: To begin this lesson recall the first lesson on the rubbings. Talk about how the raised lines of an object revealed a print. Ask them have they ever used stamps to make prints. Talk about how this happens. Tell them that they are going to make prints like a stamp but with sponges and other materials prepared for printing.

1. Prepare a variety of textured materials such as sandpaper and bubble wrap for use as a printing tool. Glue to a block or whatever you may have that will work.
2. Prepare surface for painting.
3. Pass out supplies
4. Demonstrate on how to make print. Explain

	<p>that the printing object should be placed down gently and firmly without moving it once it is placed on the paper</p> <p>5. Clean up and put work on drying rack</p> <p>In closing talk about the types of prints they were able to make. Which ones did they like the most and why?</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn about plants and harvesting for food during the fall. They will learn about textures of the plants and be able make an example of an ear of corn. Practice cutting and gluing. Use fine motor skills.

(Gist: Colors and Textures of Plants)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> 1.1,1.2,2.1,2.2,2.3,5.1 	
New Vocabulary	
bumpy	Indian corn
harvest	rough
Prerequisite Vocabulary	
corn	grow
green	orange
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding.. 	

Concepts & Information	Unit Standards and Instruction Materials
Continue discussions about harvest, fall and some of the plants grown and harvested	Begin by talking about the fall and the plants that are harvested for food I the fall. Talk about the colors and the textures. Focus on corn and how

<p>or picked during the fall.</p>	<p>it looks different when it is picked than when we eat it. Talk about the Indian corn and how this is different than the kind we eat.</p> <p>Students will cut out corn and husk shapes. They will glue these together. They will then add cut paper tiles and some unpopped dried corn to the ears. We will talk about the textures and when finished color a picture of a fall scene that has corn in it.</p>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn about the artists Piet Mondrian and his art. They learn what primary colors are and how to make secondary colors. They learn about shapes, and patterns. They learn how to make art in the style of Mondrian and understand different ways to make art and different responses of what art means.

(Gist: Mondrian - Shape - Line - Color)

<p align="center">Unit of Instruction Analysis</p>	
<p>Standards Addressed</p> <ul style="list-style-type: none"> Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, history, 3.1, 3.2 connections to..., 5.1 	
<p>New Vocabulary overlap pattern</p>	<p>Piet Mondrian</p>
<p>Prerequisite Vocabulary blue green</p>	<p>orange purple</p>
<p>Assessments</p> <ul style="list-style-type: none"> Based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts. 	
<p align="center">Concepts & Information</p>	<p align="center">Unit Standards and Instruction Materials</p>

<p>To learn about an artist from history and how we can use what he did in his art in our own.</p> <p>To learn about color theory and color mixing and patterns created by repeating lines.</p>	<p>TLW observe an artwork by Piet Mondrian and point out shapes, line, and colors. TLW notice that the lines that were up and down were in the vertical direction and the line that were side to side were in the horizontal direction.</p> <p>They learned that the colors they found in Mondrian's painting (red, yellow, and blue) are known as the primary colors. They learned that the primary colors are very special to us because all other colors originate from them. In their work, they used primary colored tissue paper to recreate the geometric shapes in Mondrian's work. The kids discovered that when red and yellow tissue paper were overlapped, they created a second color (orange). They learned that when 2 of the primary colors are mixed together they create the secondary colors (orange, green, and purple). They also learned about pattern, and the wonderful colors in the fall leaves.</p>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn and understand what warm and cool colors are. They will learn how to make leaf rubbings and they will understand that there are 4 seasons in a year and in the fall season trees leaves change color and fall off. The students will be able to know what a wash is and how to apply one to their art. They will learn that the watercolor wash resists the crayon applied by the rubbings. They will learn about the parts of the flower and the color and texture of them, then relate their work to warm colors and fall season.

(Gist: Warm and Cool Colors)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Performance 1.1, 1.2, 1.3, Creating 2.1, 2.2, analyze 3.1,3.2,3.3,3.4 History, 4.1,4.2,4.3, Connections5.1,5.3, 5.4 	
New Vocabulary	
nature	seasons
resist	texture
Prerequisite Vocabulary	

blue color cool	green orange
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Assessments

- Based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts.

Concepts & Information

Lesson plan 2, 3:
The concept is to have students gain knowledge of color and relationships of those to nature and the world we live in. It is also to improve skills in using art tools in different ways, and know that texture is how something feels.

Lesson 3: The concept is to continue making connections to nature and the season of fall as well as the warm colors, and textures.

Unit Standards and Instruction Materials

Day 1: This was color mixing making colors from primary to secondary. Then making a finger painting. We discussed colors and how all colors come from red, yellow and blue.

Days 2-3: To begin these lessons we will discuss the color mixing paintings they have done previously. They are asked if they remember which two colors are mixed to create orange/ I then ask them how they feel when they look at these colors. I ask if they can think of things that are those colors. I then tell them that they are called warm colors. I then have them focus on things that are warm colored in nature and can especially found in the fall.

- Day 2
1. We go out and gather some leaves.
 2. To begin art I show a sample and do a demonstration on how to create a leaf rubbing with the side of a crayon. I tell them that a leaf has a texture that is lined with ridges or bumps.
 3. They are given paper and crayons that have no paper.

- Day 3
4. When they have finished the leaf rubbings I do a second demo show how to apply the warm colored wash.

5. I then pass out dishes of watercolor paints previously prepared in warm colors. The students put a wash over the leaf rubbings.
6. I also point out to them how the watercolor resists the crayon.
7. I have them put away art to dry and clean up all messes.
8. When done I then give them a print of a tree with no leaves and I have them finish the picture by coloring it and then paint dots of warm colors for the leaves.

In closing we talk about the seasons and fall. I then ask them again what is a warm color? I ask what they can find in nature that has warm colors. I also ask them what a texture is. I ask them what kind of texture is a leaf, bark etc.

Day 4: Students will make sunflowers from paper plates black/brown tissue paper and construction paper.

I will show them some fake sunflowers and if possible a real one. I will discuss the colors and textures. I will ask the students what they like and feel. I will ask them when do they see sunflowers? Why they might be called sunflowers? I will ask if they have ever eaten sunflower seeds. I let them know that this is where we get them and focus their attention on the center of the flower.

I will also show them images of Van Gogh's Sunflowers and explain how he liked to paint them and discuss his use of color and wide bold brush strokes that give a lot of texture to his art.

To begin I will explain that we are making sunflowers and show them an example. I will do a demonstration of how to cut the plates on the lines that are drawn on the plates to create petals. I will also show how to add tissue puffs to the center of the sunflower using their finger. Then I will show how to add more petals, a stem and the leaves. We will talk about the parts of the flower as we go and understand that all flowers have these parts.

1. I pass out plates and other supplies, as they need them. Also glue to attach the parts.
2. I Have them do the plate and the tissue center

	<p>first.</p> <ol style="list-style-type: none"> 3. As they are ready I give out the other petals to cut and attach then I give them a stem and 2 leaves to cut and attach. If I have them I will pass out real sunflower seeds to place in the center of the tissue puffs. I will ask them to count how many they have. 4. I have them write their names on the back and place them in a pile so that I can put them up later when they dry. 5. I have them clean up their scraps and we sing a song about sunflowers. <p>I then have them gather as group and discuss the art they made. I ask them about warm colors the season of fall and the textures found on a sunflower.</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn to cut around a circle to make petals for a sunflower. The students will be able to tell you what a sunflower gives us and that they grow in the fall. The students will learn how to make a textured center with paper and add real sunflower seeds. They will also learn about Van Gogh and his painting Sunflowers.

(Gist: Fall Shapes - Colors - Textures)

Unit of Instruction Analysis	
New Vocabulary	
resist	texture
rubbing (pertaining to art)	
Standards Addressed	
<ul style="list-style-type: none"> • Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, 2.5 History, 2.1, 2.2, connections to..., 5.1 	
Prerequisite Vocabulary	
fall	leaves
flat	pull
Assessments	

- Based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts.

Concepts & Information	Unit Standards and Instruction Materials
<p>Fall Shapes, Colors and textures continued</p> <p>To improve knowledge of different plants seen during the fall. To improve dexterity and fine motor skills. To improve knowledge of color relationships. To improve knowledge of shapes and textures. Finally to introduce the students to a famous artist and his art work.</p>	<p>To begin the lesson I read a short story about fall that has sunflowers in it.</p> <p>In a group discussion, I ask the students To tell me what they know about sunflowers. Why do they think it is called a sunflower? What time of year do they grow? What color are they? What does the middle have? What does the middle look like it might feel like, the petals feel like?, and the stalk and leaves?</p> <p>I show the students a pot of fake sunflowers and I show them a real one I cut and bring in that is already dying. We continue talking g about them. I also show them a picture of sunflowers painted by Van Gogh, and we discuss this and how the lines make the picture look.</p> <ol style="list-style-type: none"> 1. I pass out yellow paper plates and show an example of how they are to cut around the outside to make a petal shape. 2. I then pass out small pieces of brown tissue that will be applied to the center. I demonstrate how to do this and show an example. 3. I pass out long stems to be glued to the flower and some leaves to cut out and place on the stems. 4. I then give them a few real sunflower seeds to put on the center of the flower just like a real one. 5. If done early, I give them a color page of Van Gogh's sunflower painting to color. <p>In closing we clean up then return to our seats where we discuss again about shapes and parts of the flower petals, leaves, center, seeds. We discuss the textures. Then we talk about Van Gogh and I ask them some</p>

questions that were told earlier.

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW cut out a variety of basic shapes from colored papers to assemble and make a witch with a hat. They will learn that cat from last weeks lesson and hat both sound the same (they rhyme). They will continue to learn about textures and be able to apply texture patches, and yarn for hair to the witches they make. They will also learn to make connections to other words that rhyme.

(Gist: Cutting Basic Shapes)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, history, 3.1, 3.2, connections to..., 5.1 	
New Vocabulary	
placement	position
Prerequisite Vocabulary	
cat	hat
circle	rectangle
Assessments	
<ul style="list-style-type: none"> Based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts. 	
Concepts & Information	Unit Standards and Instruction Materials
Reinforce learning of shapes, textures cutting and assembly of parts. Make connections to words that rhyme.	<p>Day 1: I point out some of the words we are using in our art that rhyme.</p> <ol style="list-style-type: none"> I show a sample of what they are going to make. I point out all the shapes. I then start passing out the papers that have the drawn shapes on them to cut out. I start with

<p>I will have them make their own witches hats to wear.</p>	<p>the main parts and have them assemble these first.</p> <ol style="list-style-type: none"> 3. I then give them smaller parts if the time allows. 4. We will then clean up our supplies and collect art., making sure everyone has put their names on them <p>We end class with a discussion and review of rhyming words as well as the shapes.</p> <hr/> <p>Day 2: To begin this lesson I read the story the cat in the hat. Talk about the rhyming words.</p> <p>I will go over what we talked about the week before and discuss how artists sometimes choose to use simple shapes to make a design in their art.</p> <ol style="list-style-type: none"> 1. I will have the students add the finishing pieces to their witches such as stripes, yarn for hair and patches. 2. I will pass out parts to cut out to make their own witches hats to wear. They can also enhance these with extra patches and shapes as well. 3. They will wear the hats and tell about words that rhyme with hat. 4. I have them clean the room. And put away supplies <p>Then in closing we discuss again using shapes, and textures in art and point out how we used them in ours. I will go over some of the rhyming words we discussed in the last session. And ask if they can add to the list. If time we can listen to a related story or sing a song.</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)
TLW use objects to create circle print and square prints and be aware of new shapes from overlapping.
(Gist: Use Objects to Create Prints)

Unit of Instruction Analysis
<p>New Vocabulary overlap</p>
<hr/> <p>Prerequisite Vocabulary</p>

circle	square
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. We will have group critiques and class discussions of artwork. 	
Concepts & Information	Unit Standards and Instruction Materials
	<p>Printmaking / painting using circles and squares. Create art using shapes that overlap to create new shapes</p> <p>Clean up and review what was discussed.</p>

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW draw and color a rainbow in a scene and know order of colors.

(Gist: Color Order)

Unit of Instruction Analysis	
New Vocabulary	
color order	patterns
Prerequisite Vocabulary	
colors	rainbow
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. We will have group critiques and class discussions of artwork. 	
Concepts & Information	Unit Standards and Instruction Materials

<p>Have students look through crystal glass to make/see a rainbow.</p>	<p>Rainbow landscape/tree drawings/ watercolor painting. Talk about weather and how rainbows are made.</p> <p>Reinforce colors and see how they connect to the real world and nature/our environment.</p> <p>Clean up and review what was discussed.</p> <hr/>

LOWER ELEMENTARY VISUAL ART: (Visual Art)

TLW create new designs from a variety of shapes. TLW learn about 3-D art and how to create a hot air balloon in 3-D. We will discuss helium and how when heated it rises. They will relate art to science. They will make patterns in their art and create new colors in the overlapping of the papers.

(Gist: Create with Shapes)

Unit of Instruction Analysis	
<p>New Vocabulary combine overlap</p>	<p>layers</p>
<p>Prerequisite Vocabulary circle diamond heart</p>	<p>oval patterns</p>
<p>Assessments</p> <ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. We will have group critiques and class discussions of artwork. 	
<p>Concepts & Information</p>	<p>Unit Standards and Instruction Materials</p>

	<p>TLW use a variety of shapes to create a layered collage style artwork with a variety of patterns. We will discuss the art when done and compare our art to other abstract art that uses geometric shapes in the design.</p> <p>Clean up and review what was discussed.</p> <hr/> <p>TLW use strips of tissue paper in a starch solution laid over a latex balloon to create hot air balloons.</p> <hr/> <p>TLW add a box folded from paper to attach to the bottom as the basket. Clean up and review what was discussed.</p> <hr/>
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LOWER ELEMENTARY VISUAL ART: (Visual Art)
TLW learn about an artist and her art style. They will make art in this style. They will learn about patterns and textures found in quilts.
(Gist: Fabric Pattern and Texture)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> 1.1,1.2,1.3,2.1,2.2,2.3,3.1,3.2,3.3,4.1,5.1 	
New Vocabulary	
Faith Ringgold	story quilts
Prerequisite Vocabulary	
pattern	quilt
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. We will have group critiques and class 	

discussions of artwork.	
Concepts & Information	Unit Standards and Instruction Materials
<p>Quilt blocks stories Art by Faith Ringgold</p>	<p>TLW learn about an artist and her art style. They will make art in this style. They will learn about patterns and textures found in quilts.</p> <p>Students will hear a story and discuss the art of Faith Ringgold. They will then draw a picture about their family. They will then put together cut papers with fabric textures in a pattern to look like a quilt. They will put the picture of their family story in the center the same way Ringgold does in her story quilts.</p> <p>In closing we will discuss our story quilts and compare them to Faith Ringgolds art.</p> <hr/>

UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn About The Mexican Custom The Day Of The Dead. They will learn about images of the custom and the skeleton as it relates to the celebration. They will also learn about the parts of the skeleton and how to make a marionette of a skeleton. They will then create an altar box and a line design of a skull that is symbolic of the designs used by the Mexican people in their artwork for The Day of the Dead.

(Gist: Cultural Art)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> perform, 1.1, 1.2, 1.3, create, 2.1,2.2,2.3,2.4,analyze, 3.1,3.2,3.3,3.5,historical cultural, and historical connections,4.1,4.2,4.3 Art and life connections,5.1,5.3,5.4 	
New Vocabulary	
altar	Day of the Dead
Prerequisite Vocabulary	
culture	Mexican
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 	
Concepts & Information	Unit Standards and Instruction Materials
<p>These lessons are to show how an art form and customs of a culture are related and have been passed down through history.</p>	<p>TLW learn About The Mexican Custom The Day Of The Dead. They will learn about images of the custom and the skeleton as it relates to the celebration. They will also learn about the parts of the skeleton and how to make a marionette of a skeleton. They will then create an altar box and a line design of a skull that is symbolic of the designs used by the Mexican people in their artwork for The Day of the Dead.</p> <p>Begin with discussions about the Day of the Dead.</p>

Show samples of art and explain the history. Then I talk about some of the art and the significance of the skeleton. Then explain that they are going to be making a marionette skeleton.

1. Explain the process and do a demonstration as to how to proceed.
2. Hand out supplies and as they get all the pieces cut out they will then be given a whole punch and a set of brads to attach the parts.
3. Demonstrate how to attach the parts.
4. When done clean up scraps and put away supplies.

I have the students talk about the skeletons and then we go through them one at a time where I tell them what the proper name is. I have them write this on the back of the bone so they will remember.

UPPER ELEMENTARY VISUAL ART: (Visual Art)
TLW learn about an artist and art form from history and make associations about words that describe themselves.
(Gist: Portraits)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Performance 1.1, 1.2, 1.3, 1.4, Create, 2.1, 2.2, 2.4, 2.5, Describe, 3.1, 3.2, 3.3, 3.4, 3.5, History, 4.1, 4.2, Connections, 5.1 	
New Vocabulary	
pop art	proportion
Prerequisite Vocabulary	
adjective	edge
describe	outline
Assessments	
<ul style="list-style-type: none"> I will base this on observation where I will look at class participation, good use of classroom time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 	
Concepts & Information	Unit Standards and Instruction Materials
<p>Lesson on portraits and pop art.</p> <p>The concept is to think about describing themselves in a positive way using an adjective word as part of their art. They will be learning about self portraits and proportion in facial features and how to use primary colors in the style of a famous artist.</p>	<p>TLW learn about an artist and art form from history and make associations about words that describe themselves.</p> <p>Create art in the style of an artist from history, understand different ways to make art, why we/artists make different types of art and understand why different responses are given to art for different reasons.</p> <p>The students will be able to describe themselves using a positive adjective. The students will create a self portrait drawing/painting in the style of a famous pop artist from the 60's. The students will learn about proportion and placement of facial features. The</p>

	<p>students will understand what primary colors are and how to use these to make their painting. The students will be able to identify the work of Roy Lichtenstein.</p> <p>I will begin by asking the students to define an adjective. I will then ask if they can use some positive adjectives to describe themselves. We will write some on the board. I will then have them write a list of adjectives to be used in referring to themselves. I then want them to pick one adjective to use in their art. I will also provide samples of Lichtenstein's work.</p> <p>Days 1-2</p> <ol style="list-style-type: none"> 1. I will show a sample and pass out the drawing supplies and paper. 2. I will show how to draw out the design and also demonstrate how to draw facial features and proper placement/proportion. <p>Day 2</p> <ol style="list-style-type: none"> 3. I will then provide tempera paint in the primary colors. I will give the rules concerning painting. 4. Students will clean up all messes and put supplies away <p>Day 3</p> <ol style="list-style-type: none"> 5. Students who need to continue painting will do this first 6. When work is dry I will provide black markers to outline the edges of the colors. 7. Those who finish early can make up a cartoon story. Coloring it in and outlining in black <p>In closing we will display the art and have a class discussion about what we have made and have learned.</p> <hr/>
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UPPER ELEMENTARY VISUAL ART: (Visual Art)
TLW learn about a variety of design formats and create products that illustrate various ways of creating art.
(Gist: Design)

Unit of Instruction Analysis	
New Vocabulary	
accordion fold	grid
alternating	Matisse
embellish	Michelangelo

Standards Addressed

- Performance 1.1, 1.2, 1.3, 1.4, Create, 2.1, 2.2, 2.4, 2.5, Describe, 3.1, 3.2, 3.3, 3.4, 3.5, History, 4.1, 4.2, connections, 5.1

Prerequisite Vocabulary

copy

fold

cutting paper

stripes

Assessments

- based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts.

Concepts & Information**Unit Standards and Instruction Materials**

TLW learn about a variety of design formats and create products that illustrate various ways of creating art.

TLW learn about radial designs, make 3-D art with popsicle sticks. Make stained glass windows on paper in the style of a Rose window. Make radial designs and learn about art history and rose windows, create ornaments from popsicle sticks, Learn about Michelangelo and Renaissance painting, the Sistine Chapel.

Learn about Matisse and cut paper art.

Learn about abstract art and warm and cool color painting. Create pos/neg designs.

Recognize why art was made and why we make art today. Understand different ways of making art and responses to art.

Lesson 1: They will draw/paint with watercolors under their desks similar to the way Renaissance artists and Michelangelo did In order to paint the ceilings of

Cathedrals during the Renaissance. They will talk about this and how they had to paint quickly on wet plaster that dried fast something like our watercolors. They will discuss Michelangelo and how it took 4 years to paint the Sistine Chapel.

Lesson 2: Rose window stained glass. (Renaissance Art Cathedral) Reintroduce the idea of a radial design. Come back next time to frame it and embellish the designs.

Lesson 3: Make Radial designs with sponge prints embellish with glitter. Discuss rose windows again

Lesson 4: Matisse style cut paper designs, learn about pos/neg space and shapes.

Lesson 5: Make accordion fold designs into radial designs. Color paper in stripes then fold and attach to create the radial design.

Lesson 6: Begin warm cool color pos/negative designs. Make the paintings first in an abstract design 2 paintings one cool colors and one in warm colors

Day 2 Fold, glue and attach cut strips of paper from paintings in an alternating design on the accordion folded paper.

Lesson 7: Make ornaments with popsicle sticks into stars and snowflakes paint white silver and gold then add sprinkles of glitter

Lesson 1: They will draw/paint with watercolors under their desks similar to the way Renaissance artists and Michelangelo did. They will talk about this and how they had to paint quickly on wet plaster that dried fast something like our watercolors. They will discuss Michelangelo and how it took 4 years to paint the Sistine Chapel.

Lesson 2: Make a watercolor painting if done with yarn leaves art. The painting will be of the fall season and incorporate a warm color scheme. Discuss the colors, textures, and the lines created by

	the yarn
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UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn a new method of painting using marbles to create abstract lines then create a layered artwork from this (4th grade). They will see how organic and geometric shapes can be combined to create art. TLW learn about horizontal and vertical lines as well as how to change 2-D images to look 3-D with shading and tins (5th grade).

(Gist: Abstract Lines - Horizontal and Vertical Lines)

Unit of Instruction Analysis	
New Vocabulary	
2-D	horizontal
3-D	layering and dimension
Prerequisite Vocabulary	
design lines	overlap
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. We will have group/class critiques and discussions of artwork. 	
Standards Addressed	
<ul style="list-style-type: none"> Performance 1.1, 1.2, 1.3, 1.4, Create, 2.1, 2.2, 2.4, 2.5, Describe, 3.1, 3.2, 3.3, 3.4, 3.5, History, 4.1, 4.2, connections, 5.1 	
Concepts & Information	Unit Standards and Instruction Materials
	<p>TLW learn a new method of painting using marbles to create abstract lines then create a layered artwork from this (4th grade). They will see how organic and geometric shapes can be combined to create art. TLW learn about horizontal and</p>

vertical lines as well as how to change 2-D images to look 3-D with shading and tins (5th grade).

Sequence of Instruction/Rules & Procedures

4th grade: students will begin with a marble painting in similar color families.

They will come back the next day and add horizontal and vertical lines and finally they will add a variety of shapes all layered over each other. They will add geometric designs to these.

They will use organic and geometric shapes and lines combined to create art.

Talk about art by Jackson Pollock

Clean up and discuss what they have learned

Pre readiness: I make sure all of the students can use a ruler correctly making parallel vertical and horizontal lines. They need to practice on scrap paper first to show me they are able to do this correctly. I also have them use oil pastels and practice blending with white and black layering with a color to achieve lighter and darker values (tints and shades).

Process:

1. I have the students start with a sheet of black paper, a ruler and pencil. Instead of planning their entire drawing first with a lot of pencil lines, I insist that they draw, color and shade each “pipe” first, (one at a time) before going on to the next. So, as shown in my diagram, they were to first draw two parallel lines on their paper, either horizontally or vertically – no diagonals allowed. When complete, they colored in this “pipe” a single main color, whichever they prefer.
2. When the “pipe” was filled with color, the students are to use a white pastel and add it on top of one side, and black pastel on the other. It is important that they go back and mix the main pastel color on top so that everything blended

	<p>together and the colors didn't look too striped. Soft gradations of color were the goal.</p> <p>3. This step was repeated at least three to five times so that the students ended up with a picture that had at least one "pipe" in front, one in the middle, and one in the background. If a student is finished early and did everything correct they can move on to transforming a circle into a sphere.</p> <p>In closing observation class discussion/critique</p> <p>Clean up and discuss what they have learned.</p> <hr/>
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UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW create art in the style of Andy Warhol, make connections to history, make connections to new ways of creating and interpreting art, and learn about positive and negative space and be able to carve a linoleum block with a simple image to be used for repeated image printing. Compare and discuss art made by the student to art done in a similar way. Know that there are different responses to art and different reasons to create art. (Gist: Linoleum Block Printing)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Performance, 1.1, 1.2, 1.3, create, 2.1, 2.2, 2.3, 2.4, Analyze describe evaluate, 3.1, 3.3, 3.4 history, 4.1 Connections 5.1 	
New Vocabulary	
Andy Warhol	carving
Prerequisite Vocabulary	
carving	color
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. Most projects will also have a rubric and 	

a class critique of completed work and that of established artists.	
Concepts & Information	Unit Standards and Instruction Materials
	<p>TLW create art in the style of Andy Warhol, make connections to history, make connections to new ways of creating and interpreting art, and learn about positive and negative space and be able to carve a linoleum block with a simple image to be used for repeated image printing. Compare and discuss art made by the student to art done in a similar way. Know that there are different responses to art and different reasons to create art.</p> <p>Work on carving and printmaking for pop art pictures. The students prepare a large paper 18x24 divided into equal rectangles. They color these with bold colors using a different color in each space.</p> <p>They will carve a printing block with the understanding of positive and negative space. We will have a demo on correct safety and understanding. They will use printers ink to stamp the design created into the spaces that were previously colored on the 18x24 paper.</p> <p>Assessment: class critique and rubric</p> <p>Clean up and discuss what they have learned.</p>

UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn to create a collage of a landscape that will show foreground middle ground and background and understand what these are. Students will be able to look at works of art to identify these parts in a landscape painting. They will learn to cut shapes the need to fit the space of their paper and their landscape scene.

(Gist: Landscape Collage)

Unit of Instruction Analysis	
Prerequisite Vocabulary	
landscape	layers

Assessments

- I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding.

Standards Addressed

- Performance, 1.1, 1.2, 1.3, create, 2.1, 2.2, 2.3, 2.4, Analyze describe evaluate, 3.1, 3.3, 3.4 history, 4.1 Connections 5.1

New Vocabulary

background

foreground

Concepts & Information**Unit Standards and Instruction Materials**

Lesson one:
They will gain an understanding of how to relate what they see in the real world to their art. They will gain an understanding of layering from large to small etc. they will be able to identify foreground middle ground and background.

TLW create a collage of a landscape that will show foreground middle ground and background and understand what these are. Students will be able to look at works of art to identify these parts in a landscape painting. They will learn to cut shapes the need to fit the space of their paper and their landscape scene.

To begin I will show several samples of art and point out in each what part is foreground middle ground and background. I will also point this out in real life by looking out the window and pointing these out.

Day 1

1. I will show a demonstration of how to cut papers to create different layers in a landscape collage. I will also demonstrate how to glue and attach the paper.
2. I will then show them where to find the supplies they need and have them precede.
3. I will point out that if they want to they may wish to draw the object item or area out first.
4. I will encourage them to make the scene related to the fall season and discuss what things they could include.
5. When finished the students will clean up and

	<p>put away supplies.</p> <p>Day 2</p> <ol style="list-style-type: none"> 1. I will have them finish the landscapes and those who get done early can make a drawing of a landscape using chalk on black paper 2. The students will clean up room and put away supplies. <p>In closing we will put up work and discuss them.</p>
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UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn how to make a 3-D sculpture/figure using a 2 liter bottle or large plastic drink bottles. They will learn to use their imaginations to make a Halloween character. They will learn to problem solve and think critically about how to achieve a character of their choosing with given media. (art supplies and tools)

(Gist: Sculpture)

Unit of Instruction Analysis	
New Vocabulary	
3-D	plane (as it relates to line of a sculp
Standards Addressed	
<ul style="list-style-type: none"> • Performance, 1.1, 1.2, 1.3, create, 2.1, 2.2, 2.3, 2.4, Analyze describe evaluate, 3.1, 3.2, 3.3, 3.4 history,4.1 Connections5.1, 5.2 	
Prerequisite Vocabulary	
figure	private
Halloween character	public
Assessments	
<ul style="list-style-type: none"> • I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 	
Concepts & Information	Unit Standards and Instruction Materials

To use imagination and problem solving skills to create a sculpture that represents a Halloween character, such as a vampire, a Frankenstein, witch, etcetera.

TLW learn how to make a 3-D sculpture/figure using a 2 liter bottle or large plastic drink bottles. They will learn to use their imaginations to make a Halloween character. They will learn to problem solve and think critically about how to achieve a character of their choosing with given media. (art supplies and tools)

Begin by discussing sculpture in art. Talk about different types and show some examples. Ask the students if they have seen any sculptures before. Have them tell about them. Talk about the different reasons for making a sculpture. Why some are very large and others are small. Some decorate our homes and others public spaces. Then talk about statues as sculpture. The figure as it is presented in a sculpture. Then talk about figures and characters we symbolize with Halloween. Explain that they are going to make a Halloween figure into 3-D sculpture using a plastic bottle. They are also shown a variety of other art supplies available to use.

1. Demonstrate how to start by gluing a layer of fabric or paper over the surface of the bottle.
2. Then how to ball up a newspaper and attach this with tape to form a head.
3. They can create the arms and legs as they go.
4. Make sure they have the basic structure done the first week and any extras and details will be done the second week. If they need to use paint they must leave it to dry and then pick up to take home later during the second week.

Discuss the images created. Did they look like a Halloween character? Did the show form in a 3-D space? Did they like what they made? Why? Why not?

UPPER ELEMENTARY VISUAL ART: (Visual Art)

The students will learn how to make a poster that effectively states the message Beat the MEAP and include being responsible. They will understand what a border is and why they should use one in the poster art. They will also understand the importance of lettering/Font as well as balance of items in the art. The students will understand symmetrical and asymmetrical balance.

(Gist: Poster Art)

Unit of Instruction Analysis

Prerequisite Vocabulary

advertisement	MEAP				
<p>Assessments</p> <ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 					
<p>Standards Addressed</p> <ul style="list-style-type: none"> Performance 1.1, 1.2, 1.3, 1.4, create, 2.1, 2.2, 2.4, 2.5, evaluate, 3.2, 3.3, 3.4 connections 5.1, 5.4 					
<p>New Vocabulary</p> <table border="0"> <tr> <td>asymmetrical</td> <td>border</td> </tr> <tr> <td>balance</td> <td>font/lettering</td> </tr> </table>		asymmetrical	border	balance	font/lettering
asymmetrical	border				
balance	font/lettering				
<p>Concepts & Information</p>	<p>Unit Standards and Instruction Materials</p>				
	<p>TLW learn how to make a poster that effectively states the message Beat the MEAP and include being responsible. They will understand what a border is and why they should use one in the poster art. They will also understand the importance of lettering/Font as well as balance of items in the art. The students will understand symmetrical and asymmetrical balance.</p> <p>The students will have an open discussion on poster art, the meaning of being responsible and elements required in this poster. The message of Beat the Meap etc.</p> <ol style="list-style-type: none"> The students are told what supplies are to be used and the paper to do the art on. I then show them where to get supplies and any stencils etc. they may want to use. I help out with demonstrating how to make a border. I continue to assist as necessary. I have students clean up and put away all 				

	<p>supplies when finished.</p> <p>In closing we will put the art up and discuss, we will then display it in the school.</p> <hr/>
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UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn a new way of making art using yarn, they will reinforce the concept of texture and learn how to apply strands of yarn in different radiating patterns. They will understand there are different reasons for making art and learn about careers in art using textiles.

(Gist: Textile Art)

Unit of Instruction Analysis	
New Vocabulary	
continuity	radiate
<hr/>	
Prerequisite Vocabulary	
connect	line
<hr/>	
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 	
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Concepts & Information	Unit Standards and Instruction Materials
<i>Line yarn art</i>	<p>TLW learn a new way of making art using yarn, they will reinforce the concept of texture and learn how to apply strands of yarn in different radiating patterns. They will understand there are different reasons for making art and learn about careers in art using textiles.</p> <p>To begin we will discuss the different images that are common this time of year. They will then talk about the textures and smells and how we use all our senses even in art. I will then explain that they will be drawing a simple picture of something seasonal and then instead of coloring it in they will use strands of</p>

	<p>yarn wrapped closely together to form the color, and this will have a texture from the yarn.</p> <p>Discuss the outcome of their art and relate that to art using different types of textiles and careers in the textile industry, such as fabric makers, and rug makers.</p> <hr/>
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UPPER ELEMENTARY VISUAL ART: (Visual Art)

TLW learn about the artist Edvard Munch and his art. They will learn that certain ways of painting can represent emotions. They will learn how to make a painting in the style of Edvard Munch showing emotion through line and color.

(Gist: Art and Emotion)

Unit of Instruction Analysis	
New Vocabulary	
Edvard Munch	The Scream
<hr/>	
Prerequisite Vocabulary	
color emotion	feeling
<hr/>	
Assessments	
<ul style="list-style-type: none"> based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts. I will also provide a rubric. 	
<hr/>	
Standards Addressed	
<ul style="list-style-type: none"> Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, history, 2.1, 2.2 connections to..., 5.1 	
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Concepts & Information	Unit Standards and Instruction Materials
Lesson on Expression and understanding of art	TLW learn about the artist Edvard Munch and his art. They will learn that certain ways of

and emotion.

It is to learn about art from history and different ways to express our emotions through art with use of line and color. Practice using paints and blending colors.

painting can represent emotions. They will learn how to make a painting in the style of Edvard Munch showing emotion through line and color.

Day 1

I will begin by showing The Scream by Munch and a few other paintings by other artist. I will have the students tell me what is alike and different in them and how they make you feel when you look at them.

Why?

1. I will then play some music or some sounds and they will write what the sound makes them feel like and or identify what is making the sound.
2. I will then have them do a drawing representing a sound they have just heard. How can they convey these feelings effectively?

Day 2

3. I will have them do a drawing/ painting in the style of the Scream
4. I will discuss how color and line both are important in making this painting make you feel the way you do. If the colors were different the impact would not be nearly as severe.

Day 3

Continue with scream paintings. They should be finished at the end of this day.

In closing

Have a display of work and discuss them as a group.

Which ones were successful in conveying emotion the best and why?

MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW learn to make pos/neg cut paper designs in the Japanese style of Notan. They will learn about contrasting colors and be able to create cut paper designs of their own. The students will make a color wheel of a unique design using colored pencils and blending of colors to create new ones. They will learn about maps and topography art of map making. They will use maps to create an abstract mixed media artwork. They will then learn about textures and color relationships and new ways to use paint to get different effects.

(Gist: Cut Paper Design)

Unit of Instruction Analysis	
New Vocabulary	
axis	Japanese paper cutting
Standards Addressed	
Prerequisite Vocabulary	
negative	primary color
positive	secondary color
Assessments	
<ul style="list-style-type: none"> Project Rubric based on product and observation where I will look for class participation, good use of class time, completed work, effort, prior ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts. 	
Concepts & Information	Unit Standards and Instruction Materials
	<p>TLW learn to make pos/neg cut paper designs in the Japanese style of Notan, They will learn about contrasting colors and be able to create cut paper designs of their own.</p> <p>Notan Cut paper Japanese art Cut paper pos and negative designs</p> <p>Abstract mixed media abstract art, using maps as inspiration Layered tissue over maps and hemp lined to create a</p>

	<p>3-D effect. Light paint and antiquing with metallic and black combination brings out texture.</p> <p>Holiday cut paper chain modern art in the shape of trees</p> <p>Use wrapping paper cut in strips then folded to make a series of simple chains that are laid/ glued in a Christmas tree pattern.</p>
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MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW learn about the art of Grant Wood and American Gothic, They will learn how to assemble parts to make a whole. They will learn how to alter an image to make a new version of the art. They will understand about different responses to art and be able to talk about their own art.

(Gist: Altering)

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Michigan Art Education Content Standards and Benchmarks: Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, history, 2.1, 2.2 connections to..., 5.1 	
New Vocabulary	
altering	American Gothic
Prerequisite Vocabulary	
assemble	features
Assessments	
<ul style="list-style-type: none"> Observation of class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and understanding of concepts. And a Rubric 	
Concepts & Information	Unit Standards and Instruction Materials

<p>Check for knowledge of the elements of art.</p> <p>Art of Grant Wood American Gothic. Collage and altering an image.</p>	<p>TLW learn about the art of Grant Wood and American Gothic, They will learn how to assemble parts to make a whole. They will learn how to alter an image to make a new version of the art. They will understand about different responses to art and be able to talk about their own art.</p> <p>Day 1</p> <p>Take a quiz on the elements of art. Then have a class discussion on their geometric drawings. What works and why. Which ones have a focal point and show good balance.</p> <p>Day 2</p> <p>Introduce the art American Gothic and the artist Grant Wood. We discuss the Artist and his painting. I then explain how they will alter the image by coloring and covering over areas with prints from magazines to create a new version of the art.</p> <ol style="list-style-type: none"> 1. I show them how to assemble several pages together to create a large uncolored print of the painting. 9 pieces taped together 2. They clean up and return supplies <p>Days 3-5</p> <ol style="list-style-type: none"> 3. I supply several magazines and demonstrate how to begin with things like hair. I look for hair from images in the magazines. I cut them out and show how they cover over the hair of one of the people in the painting. 4. I supply glue and scissors and some colored papers. 5. They clean up and return supplies <p>At the end of Day 5 we have a group display and discuss the art</p> <hr/>
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MIDDLE SCHOOL VISUAL ART: (Visual Art)

The students will be able to make a variety of lines to create a continuous pattern. The students will also be able to create radiating bands of color around their line designs. They will know the difference between warm and cool colors. The students will be able to identify and apply the

**elements of art in their work and that of others.
(Gist: Line Design)**

Unit of Instruction Analysis	
Standards Addressed	
<ul style="list-style-type: none"> Michigan Art Education Content Standards and Benchmarks: Performance 1.1, 1.2, 1.3, skills, 2.1, 2.2, 2.3, describe, 3.4, connections, 5.2, 	
New Vocabulary	
continuous	elements of art
Prerequisite Vocabulary	
line	pattern
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. 	
Concepts & Information	Unit Standards and Instruction Materials
Continue line design lesson. Begin review on elements of art.	<p>TLW be able to make a variety of lines to create a continuous pattern. The students will also be able to create radiating bands of color around their line designs. They will know the difference between warm and cool colors. The students will be able to identify and apply the elements of art in their work and that of others.</p> <p>The students will complete line designs started last week.</p> <p>The students will then discuss the work and what they have learned as a group.</p> <p>Begin review on elements. I will hand out a packet and as a group we will walk through and go through each step of each element. The students will receive a quiz on these at the end.</p>

MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW learn about art of Seurat and pointillism. They will be able to make an art work in this style. They will understand how our eyes react different to different color combinations.

(Gist: Seurat and Pointillism)

Unit of Instruction Analysis	
Prerequisite Vocabulary connect line	
Assessments <ul style="list-style-type: none">I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. In grades 6 and higher I will use a rubric outlining specific project/lesson objectives and expectations.	
Standards Addressed	
New Vocabulary combined contrast compliment pattern	
Concepts & Information	Unit Standards and Instruction Materials
	<p>TLW learn about art of Seurat and pointillism. They will be able to make an art work in this style. They will understand how our eyes react different to different color combinations.</p> <p>Discuss pointillism and making a pointillism style picture, like that of Seurat</p> <p>Use oil pastels dotted closely together in different color combinations to give effect of Seurat style of painting, contrast, complimentary etc.</p> <p>Continue discussion and demonstration as needed.</p>

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MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW learn about Byzantine art and mosaic tile art. They will create art in this style. They will create art representing a cornucopia with fruit. They will understand that art can be altered to new ways but continue to represent other art from a different era.

(Gist: Mosaic - Byzantine Art)

Unit of Instruction Analysis	
New Vocabulary	
Byzantine	juxtaposition
Prerequisite Vocabulary	
tiles	
Assessments	
<ul style="list-style-type: none"> I will be basing this on observation where I will look at class participation, good use of class time, completed work, effort, prior work ethic and ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for prior knowledge and understanding. In grades 6 and higher I will use a rubric outlining specific project/lesson objectives and expectations. 	
Concepts & Information	Unit Standards and Instruction Materials
	<p>TLW learn about Byzantine art and that of Mosaic tile art. They will create art in this style. They will create art representing a cornucopia with fruit. They will understand that art can be altered to new ways but continue to represent other art from a different era.</p> <p>Mosaic / Byzantine art. Discuss the idea of the cornucopia and the concept of bountifulness and horn of plenty. Use small paper tile to make art for the season of thanksgiving.</p> <p>Do a demo on how to apply the tiles. Supply a variety of colors and allow students to use a color scheme of their choosing but discuss color relationships, such as</p>

	warm and cool colors.
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MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW gain an understanding of one and two point perspective and apply this knowledge in their art. They compare and contrast their work to other artwork of similar style

(Gist: Perspective)

Unit of Instruction Analysis	
New Vocabulary	
2 point perspective	vanishing point
Standards Addressed	
<ul style="list-style-type: none"> Michigan Art Education Content Standards and Benchmarks: Performance, 1.1, 1.2, 1.3, create, 2.1, 2.2, 2.5, evaluate, 3.1, 3.3, 3.4, connections, 5.2, 5.3 	
Prerequisite Vocabulary	
diagonal	horizontal
Assessments	
<ul style="list-style-type: none"> I will use a Rubric, which will be based on participation, use of class time, effort, prior work, neatness, proper use of materials and behavior especially at clean up. Some will be based on observation and others will be based on work that is turned in. I will also be looking for prior knowledge and understanding. 	

Concepts & Information	Unit Standards and Instruction Materials
Continuing unit on perspective drawing Lesson 2, 2 point perspective The students will learn	<p>TLW gain an understanding of one and two point perspective and apply this knowledge in their art. They compare and contrast their work to other artwork of similar style.</p> <p>To begin lesson I hand out a worksheet with steps to create a simple street view drawing in 2 point perspective. I will then walk through each step in a demonstration on the board.</p>

<p>how to create a street scene drawing using 2 point perspective.</p>	<ol style="list-style-type: none"> 1. I then allow students to complete the worksheet and I walk around to make sure all students understand the process. 2. I point out the necessity of using a ruler. 3. I collect all worksheets, which should be completed in one class. 4. I have student pick up room and put away any supplies they may have used, ex: pencils, rulers <p>In closing I ask if anyone has any questions and let them know that we will begin a final artwork of a street scene using the knowledge from the worksheet to be applied in the final product tomorrow.</p>
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MIDDLE SCHOOL VISUAL ART: (Visual Art)

TLW learn how to make/build a 3-dimensional sculpture using toothpicks. They will gain understanding of form in space. They will utilize knowledge of positive and negative space in a 3-D form. They will view similar sculpture and compare their work to other artists artwork.

(Gist: Linear Sculpture)

<p align="center">Unit of Instruction Analysis</p>	
<p>New Vocabulary 3-D design</p>	<p>linear sculpture</p>
<p>Standards Addressed</p> <ul style="list-style-type: none"> • Michigan Art Education Content Standards and Benchmarks: Performance, 1.1, 1.2, 1.3, create 2.1,2.2,2.4, history, 2.1, 2.2 connections to..., 5.1 	
<p>Prerequisite Vocabulary assemble elements and principals of design</p>	<p>matching</p>
<p>Assessments</p> <ul style="list-style-type: none"> • Based on observation where I will look for class participation, good use of class time, completed work, effort, prior work ability, neatness, proper use of materials and behavior especially at clean up. I will also be looking for knowledge and 	

understanding of concepts with a rubric.

Concepts & Information	Unit Standards and Instruction Materials
<p>Students will be able to create a 3-D linear sculpture using 100 toothpicks identifying space, form, balance, rhythm and unity in a sculpture.</p>	<p>TLW learn how to make/build a 3-dimensional sculpture using toothpicks. They will gain understanding of form in space. They will utilize knowledge of positive and negative space in a 3-D form. They will view similar sculpture and compare their work to other artists' artwork.</p> <p>Day 2-5</p> <p>Introduce 3-D linear sculpture. Showing examples</p> <ol style="list-style-type: none">1. I show them how to assemble several units to create a balanced sculpture.2. I have them begin making their units for the sculpture.3. They clean up and return supplies4. I have them begin assembling the units into a whole unified sculpture <p>Days 6</p> <ol style="list-style-type: none">1. I supply them with bases so they can mount the sculpture.2. I provide a joint compound to coat base and prepare it for painting.3. Allow to dry4. I have them sand the base smooth then paint with a black or white spray paint. <p>Day 7</p> <p>Anyone needing to complete assignment this is the last day to finish them. If done early they can assist fellow students or work on independent projects.</p> <p>In closing, we have a class critique and turn in work with a rubric.</p>

**HS VA A: (Create, Present, Respond)
2-D and 3-D Design Introduction
(Gist: 2-D and 3-D Design)**

Unit of Instruction Analysis	
Prerequisite Vocabulary	
abstract balance	line
color	medium or media
color wheel	movement
composition	negative space
content contrast	pattern
creativity emphasis	perspective
form	positive space
harmony	principles of design
Course Information	
<ul style="list-style-type: none"> • Art I students will be introduced to a wide range of art areas and techniques. Instruction builds on planned student growth in art concepts and skills. Classes should be taken in sequence beginning with Art I followed by Art II. Integrated into the Art II class, selected students (with teacher permission only) may do independent, advanced study of a specific field of art, such as painting or ceramics AP (Artist Portfolio) to build a portfolio in order to prepare for college. • Rubrics are to be used to address specific criteria of lessons or projects. In class observations, look for understanding, class participation, proper use of tools and completed work. • Supplies and Resources: Teacher created PowerPoints, art images on the internet, and visual samples in class whenever possible. Internet and teacher’s personal library for research. Also, museum tours/field trips. 	
New Vocabulary	
aesthetics	Byzantine and Surrealism
analysis	coil
aperture	Cubism
art criticism	Dadaism
asymmetrical	focal point
Baroque	hand and slab build
Art Credit Guidelines Addressed	
<ul style="list-style-type: none"> • C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion. 	

- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information	Unit Standards and Instruction Materials
<p>2-D and 3-D design</p> <p>Learning all the elements and principles of Art and how they are used to comprise an Artwork.</p> <p>Learning how to Critique a work</p>	<p>Perception</p> <p>Art I students use direct observation, imagination, and personal experiences as inspiration for artworks. For planning original works, students record visual ideas about their environment and experiences in a sketchbook, in photographs, or on a computer. Learners use concise vocabulary to compare and contrast the use of art elements and design principles in personal works and the works of others.</p>

of art.

*Description

*Analysis

*Interpretation

*Judgment

*Developing a definition of art and how art

Relates to their current world and

Surroundings

Occupations

Using 2/D and

3/D plans

*Art as occupation

*Understanding preplanning in art

*Design in real life context

*Research methods

*Presentation methods

*Looking at Surrealism in art

*Colored pencil techniques

*Composition

*Giving new meaning to ordinary objects.

*Grid drawing

*Understanding design on a 2-dimensional

Level.

*Drawing from observation

*Working from a sketch

*Collage as art

*Media placement

*Composition

*Cubism

*History of Grips, Picasso and Braque's

Creative Expression/Performance

Art I students engage in planning to aid in the development of complex two- and three dimensional artwork using imaginative combinations of materials. For two-dimensional projects, they use pencils, markers, pastels, crayons, water-based paint, printmaking, photography, and electronic media. Art I printmaking techniques include stamping, found object, stencil, linoleum, woodcuts, and simple silk screen. Experiences in photography provide students with opportunities to try variations in composition and record their environment. Learners experiment with various electronic media applications, such as electronic multiples and original computer images. Three-dimensional materials include clay, papier-mâché, plaster, wood, wire, found objects, and combinations of these media. Three-dimensional techniques include both additive and subtractive methods of building. Ceramic techniques for pottery and sculpture include coil, pinch, slab, and combinations of these methods. Students learn various ways of decorating clay such as incising, staining, and glazing. Students heighten their sensitivity to texture, color, and design through experiences in fibers, such as weaving on simple looms, stitchery, and soft sculpture. Students may develop three-dimensional works, such as masks, animals, people, or abstract forms free and intuitively or planned from drawings. Design decisions reflect conscious, thoughtful choices rather than spontaneous actions.

Art I students analyze ways that design affects daily life, especially as it influences consumer attitudes and choices. Learners apply design skills in their lives outside of art class, creating folders and visuals for class presentations and school events and aiding in the installation of exhibits. Through discussion and observation, students become aware of design principles as they apply to the planning of schools, homes, shopping centers, and public spaces.

Historical/Cultural Heritage

*Working from 3-D and flattening to 2/D

*Balancing 2-dimensional design and 3-dimensional design on one surface.

*Working from sketches to create 3-dimensional portions of project and
*Working from 3-D models to create 2-dimensional portions of a project.

*Architectural design

*Blueprints

*Sketching

*Math in art

*Working from a 2-D sketch and blueprint to create a 3-dimensional sculptural work.

*Color Families

*Color Mixing

*Understanding the importance of color in design.

*Color vs. Neutrals

By viewing reproductions, prints, videos, periodicals, books, or original artworks in museums, in galleries, or on the Internet, students in Art I investigate selected historical periods and styles from many cultures. Through discussion with teachers and peers, students identify styles and trends, such as surrealism, pop art, or expressionism. As learners investigate contemporary trends, they discover that art exhibits include combinations of light, video, and performance, whereas in the past, art exhibits were primarily collections of objects. Through discussion and selected reading, students discover career opportunities available for persons who become highly skilled in art and design and lifelong opportunities for self-expression and artistic growth.

Response/Evaluation

Art I students observe, discuss, and write critically about their own artworks and works from selected periods and cultures. They analyze their own artworks in the planning stage, in progress, and on completion. They interpret and evaluate their own artworks and those of others in thoughtful discussions in which learners demonstrate attentiveness and respect for the opinions of others. In these discussions and independently, they speculate about intent, process and result. Students select work for a personal portfolio as a record of learning and growth. Teachers and students collaborate in selecting works for different types of exhibits, such as those showing a wide variety of media, one medium only, or a particular theme in one or more media.

To become more familiar with art vocabulary, Art I students divide into twelve groups. Each group studies a set of three slides or prints in terms of a particular design element (e.g., color, line, value, composition) or principle (e.g., balance, texture, symmetry, asymmetry). Each group answers a question such as “How does the use of line in these paintings make you feel?” or “How do painters use texture for different effects?” After each group

reports and the class comes to a consensus on definitions, the teacher reconfigures groups to look at another set of artworks and focus on unity. Each group is asked a question such as, “Which elements did the artists use in these works of art? How did artists bring together many elements and principles to create these artworks?”

HS VA A: (Create, Present, Respond)
Ceramics Introduction Unit
(Gist: Ceramics)

Unit of Instruction Analysis

Course Information

- Art I students will be introduced to a wide range of art areas and techniques. Instruction builds on planned student growth in art concepts and skills. Classes should be taken in sequence beginning with Art I followed by Art II. Integrated into the Art II class, selected students (with teacher permission only) may do independent, advanced study of a specific field of art, such as painting or ceramics AP (Artist Portfolio) to build a portfolio in order to prepare for college.
- Rubrics are to be used to address specific criteria of lessons or projects. In class observations, look for understanding, class participation, proper use of tools and completed work.
- Supplies and Resources: Teacher created PowerPoints, art images on the internet, and visual samples in class whenever possible. Internet and teacher’s personal library for research. Also, museum tours/field trips.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies

to facilitate critical decision-making, problem solving, editing, and the creation of solutions.

- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information	Unit Standards and Instruction Materials
<p>Exhibition</p> <ul style="list-style-type: none"> *Preparing work for display *Understanding why artists display work 	<p>Ceramics Introduction</p> <p>To introduce hand-building techniques to beginning ceramics students first there will be a unit on masks. The class will study masks from various cultures (e.g., Native American, African, Mexican) and create a series of masks inspired by the culture studied, using press- or drop-mold ceramic techniques. Because it is important for students to have experience with scholarly reading and writing, they will research other cultures' uses and construction of masks in cooperative learning groups. For the students' research, provide art from power point or internet, samples of masks, and art reference books. At the end of the unit, each group creates an original presentation that</p>

includes a demonstration of the culture's mask-making techniques and cultural and philosophical influences on their work.

**HS VA A: (Create, Present, Respond)
Printmaking Introduction Unit
(Gist: Printmaking)**

Unit of Instruction Analysis

Course Information

- Art I students will be introduced to a wide range of art areas and techniques. Instruction builds on planned student growth in art concepts and skills. Classes should be taken in sequence beginning with Art I followed by Art II. Integrated into the Art II class, selected students (with teacher permission only) may do independent, advanced study of a specific field of art, such as painting or ceramics AP (Artist Portfolio) to build a portfolio in order to prepare for college.
- Rubrics are to be used to address specific criteria of lessons or projects. In class observations, look for understanding, class participation, proper use of tools and completed work.
- Supplies and Resources: Teacher created PowerPoints, art images on the internet, and visual samples in class whenever possible. Internet and teacher's personal library for research. Also, museum tours/field trips.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and

functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.

- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information	Unit Standards and Instruction Materials
	<p style="text-align: center;">Printmaking Introduction</p> <p>Begin by making monoprints with linoleum blocks. After carefully introducing tools, the concepts of positive and negative space, and the concept of pressure. Show the class prints by Matisse, Picasso, and O’Keefe. Students then create a drawing, possibly of something organic, such as the cross section of a piece of fruit. Students transfer the drawing to the linoleum block and cut away the design. Students roll ink onto the block and place a sheet of soft paper on top of the inked linoleum. After burnishing the back of the paper, students pull the print and place it in a drying rack. The next day students discuss their results and the changes they will make in their next print.</p> <hr style="width: 50%; margin-left: auto; margin-right: 0;"/>

**HS VA A: (Create, Present, Respond)
Photography Introduction Unit
(Gist: Photography)**

Unit of Instruction Analysis

Course Information

- Art I students will be introduced to a wide range of art areas and techniques. Instruction builds on planned student growth in art concepts and skills. Classes should be taken in sequence beginning with Art I followed by Art II. Integrated into the Art II class, selected students (with teacher permission only) may do independent, advanced study of a specific field of art, such as painting or ceramics AP (Artist Portfolio) to build a portfolio in order to prepare for college.
- Rubrics are to be used to address specific criteria of lessons or projects. In class observations, look for understanding, class participation, proper use of tools and completed work.
- Supplies and Resources: Teacher created PowerPoints, art images on the internet, and visual samples in class whenever possible. Internet and teacher's personal library for research. Also, museum tours/field trips.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative

process for an audience.

- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

New Vocabulary

aesthetics

Byzantine and Surrealism

analysis

coil

aperture

Cubism

art criticism

Dadaism

asymmetrical

focal point

Baroque

hand and slab build

Concepts & Information	Unit Standards and Instruction Materials
	<p>Basic Photography</p> <p>To begin this Unit the students are introduced to basic photo taking/making information, such as the rule of thirds, what is an aperture, shutter speed and what is does the ISO reading mean. They will then be exposed to some varying conditions of light and movement to photograph using the knowledge about camera settings to improve their photos. After amassing several quality photos the students will be introduced to photo shop and the various editing tools. They will then be given assignments to alter and change their photos accordingly.</p> <p>When introduction is over I will give a more specific photo, editing and final printing assignment.</p> <hr/>

HS VA B: (Create, Present, Respond)

Art II Ceramics

(Gist: Ceramics)

Unit of Instruction Analysis	
Prerequisite Vocabulary	
abstract balance	Dadaism
aesthetics	focal point
analysis	form
aperture	hand or slab build
art criticism	harmony
asymmetrical	horizon line
Baroque	Impressionism
Byzantine and Surrealism	line
coil	linoleum block
color	medium or media
color wheel	modernism
composition	monoprint
content contrast	movement
creativity emphasis	negative space
Cubism	
<hr/>	
New Vocabulary	
80 percent gray	depth of field
backlit	dodge
bitmap	emulsion
burn	eraser tool
clone stamp	etching
color noise	glazing
contact print	
<hr/>	
Course Information	
<ul style="list-style-type: none">• Art II will again encompass sections in 2-D (drawing, and painting) and 3-D design (sculpture), along with ceramics printmaking and photography. This Class will also allow students who are advanced enough (at the teacher's permission) in art to have the ability to do independent study and to focus on one media and build a portfolio to be used in applying for college.• In Art II, students will learn to broaden their already developing art skills and fine tune their knowledge of the elements and principals of design in the making of art, while also	

exploring art and artists from history, and other cultures. The students will make sound judgments about their art and that of other artists both current and historical. Drawing using various mediums including; pencil, colored pencil, charcoal. Create depth using shading techniques such as cross-hatching, blending, stippling and use of line. Render objects proportionately through basic shape drawing. Use of various acrylic painting tools including; water based acrylics, various sized and shaped brushes, gesso, gloss and metallic mediums on canvas surface. Still life observation study with varied contrasts to create depth and value. Understanding of mixing colors to create various tones and hues. Knowledge of brush use and acrylic paints; mixing, layering and creating a textured look to subject. Use of silk screening materials; various ink colors, screen frames, fabric squeegee, screen filler, drawing fluid, photo emulsion, diazo sensitizer. Proper understanding of materials and order in which they are used. Ability to create patterns and stencils based on works of Keith Haring, focusing on simplification of the world around us. Use of various sculpting materials; Plaster strips, paper mache, chicken wire, acrylic paints. Ability to render object in a 3 dimensional aspect. Modeling using plaster/paper mache and shaping of wire. Create aesthetically pleasing structure from all angles. Learn how to make quality photos using Photoshop and to print quality prints.

- Rubrics will be used to address specific criteria of lessons or projects. In class observations of understanding, class participation, proper use of tools and completed work will also be included.
- Supplies and Resources: Pamphlets, periodicals, magazines, books, videos, art prints, museum visits, online resources, and teacher created PowerPoints.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.

- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information	Unit Standards and Instruction Materials
	<p>Ceramics</p> <p>By maintaining a sketchbook or ceramics journal, students create a valuable repository for visual fragments, precise observations, characteristics of ceramic materials, and designs for ceramic pieces. Students develop vocabulary specific to the discipline of ceramics, including appropriate terminology for equipment, materials, and processes.</p> <p>Through observation of teacher demonstration and guided practice students gain skills needed to construct original ceramic pieces. They identify clay as a product of the earth that undergoes various stages—dry, plastic, leatherhard, greenware, bisque, glazed ware—to become a finished piece. Students use basic methods of construction, such as pinch, coil, and slab, to explore forms. Students attend to surface design by using various glazing or staining processes. They discriminate between mass-produced ceramics products and unique items created by a skilled ceramist.</p> <p>Students select an historical period to investigate independently by viewing reproductions, prints, videos, periodicals, books, or original works in museums, galleries, or on the Internet. They compare ceramics from other cultures, gaining insight into the many ways people from other</p>

	<p>cultures create and use ceramics. Through selected readings, students investigate training and career opportunities available to persons who become highly skilled in ceramics as a fine art form or in creating functional pieces for everyday use. Students' interests in ceramics provide lifelong opportunities for self-expression and artistic growth.</p> <p>Students critique their own work in discussion and in writing. They analyze their own pieces in planning, in progress, and at completion. They critique their work in small groups or with the teacher. Learners demonstrate attentiveness and respect for others' opinions in discussions. Students document their pieces by making notes throughout the process and by drawing the actual finished piece. Advanced students create a portfolio of their ceramics by making slides of works as they are completed. The slide portfolio serves as a record of growth, entry for competitions, and an application for college entrance.</p> <p>The students collaborate to select pieces to be part of a ceramics exhibit in the art room or in other exhibit areas at an art show held at the school.</p>
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**HS VA B: (Create, Present, Respond)
 Art II Drawing and Painting/2-D Design
 (Gist: Drawing and Painting)**

Unit of Instruction Analysis
<p>Course Information</p> <ul style="list-style-type: none"> • Art II will again encompass sections in 2-D (drawing, and painting) and 3-D design (sculpture), along with ceramics printmaking and photography. This Class will also allow students who are advanced enough (at the teacher's permission) in art to have the ability to do independent study and to focus on one media and build a portfolio to be used in applying for college. • In Art II, students will learn to broaden their already developing art skills and fine tune their knowledge of the elements and principals of design in the making of art, while also exploring art and artists from history, and other cultures. The students will make sound

judgments about their art and that of other artists both current and historical. Drawing using various mediums including; pencil, colored pencil, charcoal. Create depth using shading techniques such as cross-hatching, blending, stippling and use of line. Render objects proportionately through basic shape drawing. Use of various acrylic painting tools including; water based acrylics, various sized and shaped brushes, gesso, gloss and metallic mediums on canvas surface. Still life observation study with varied contrasts to create depth and value. Understanding of mixing colors to create various tones and hues. Knowledge of brush use and acrylic paints; mixing, layering and creating a textured look to subject. Use of silk screening materials; various ink colors, screen frames, fabric squeegee, screen filler, drawing fluid, photo emulsion, diazo sensitizer. Proper understanding of materials and order in which they are used. Ability to create patterns and stencils based on works of Keith Haring, focusing on simplification of the world around us. Use of various sculpting materials; Plaster strips, paper mache, chicken wire, acrylic paints. Ability to render object in a 3 dimensional aspect. Modeling using plaster/paper mache and shaping of wire. Create aesthetically pleasing structure from all angles. Learn how to make quality photos using Photoshop and to print quality prints.

- Rubrics will be used to address specific criteria of lessons or projects. In class observations of understanding, class participation, proper use of tools and completed work will also be included.
- Supplies and Resources: Pamphlets, periodicals, magazines, books, videos, art prints, museum visits, online resources, and teacher created PowerPoints.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results

of the artistic/creative process, and a variety of potential audiences or users.

- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information

This section is to allow students to continue in their abilities and develop their interests in a variety of art fields.

There is never a wrong way to paint or a mistake, only what you can create from that.

Unit Standards and Instruction Materials

Drawing

Begin a lesson on perspective by showing Albrecht Durer's engravings *St. Jerome dans sa Cellule* and *Melancolia*, and the photograph, *Portico of Attalos in the Agora*. Students look for lines that would be parallel in real life, and vanishing points. They learn that perspective has been used to add realism to art since the 1400s in Florence, Italy.

Mr. Thomas illustrates the same view from multiple perspectives (e.g., from above, from the side) and defines horizon line and vanishing point. Students select an object from their environment to draw in multiple perspectives. They then meet with other students to review and critique their own and others' works.

Building on skills learned in Art I, Drawing II students search for parallels between visual structures in their natural and human-made environments. They then incorporate their findings in visual themes. Students use concise vocabulary to evaluate and compare the suitability of drawing materials for expressing visual themes in their own work.

Drawing II students create original works using pencils, charcoal, soft pastels, oil pastels, pen or brush and ink, markers, and electronic and mixed media. Learners experiment with various types of papers and grounds. Students plan and execute complex works, such as perspectives, landscapes, portraits, self-portraits, and

abstractions from sketchbooks, still lifes, and models. Students develop their own artistic interests and themes by making several drawings with similar intent and subjects but with changes in technique, format, and/or media.

Students apply drawing skills in their own lives, such as using drawing to illustrate their writing

Students in Drawing II investigate selected historical periods and styles by viewing drawings from the accomplished artists. They select an historical period or style to research independently. They select and compare drawings from many cultures to gain insight into ways that similar ideas can be expressed differently.

Drawing II students critique, evaluate, and interpret their own drawings and the drawings of others. Students collect work for a personal portfolio as a record of growth and as the basis of future planning.

Painting

They view the video, *Rauschenberg, The Other ROCI*. Students learn that he is a native Texan who has worked in many media, among them photography, painting, drawing, prints, paper, and sculpture. Rauschenberg's work in large formats, such as set designs and his "visual autobiography," *The 1/4 Mile or 2 Furlong Piece*, provide examples of many of the techniques the students have studied. Additionally, the class learns about Rauschenberg's efforts to exhibit his work in countries where artistic experimentation has been suppressed. The film also exposes students to the roles critics play in an artist's work. After the visit to the retrospective, students discuss the paintings they viewed and analyze Rauschenberg's techniques. Ms. Hamilton challenges students to design and develop a painting that incorporates two or more media that they have not previously used.

Building on the foundation of Art I, Painting II students use a sketchbook for visual notation and planning original paintings. They search for parallels between the visual structures in their natural and human-made environments and incorporate their findings in their

own visual themes. They use precise vocabulary to evaluate and compare suitability of painting materials for expressing personal themes and visual investigations.

Students create original paintings with various techniques and media. They investigate color schemes, including monochromatic, analogous, complementary, and original color schemes. They use inks, watercolors, acrylics, oils, and mixed media. Painting II students experiment with different types of paper and other grounds, such as canvas, masonite, and cardboard. They create paintings from sketchbook ideas, still life, models, perspectives, landscapes, portraits, self-portraits, and abstractions. Students develop their own interests and artistic themes by making multiple paintings with similar intent and subject, but with changes in technique, format, media, or style. Painting II students analyze and compare trends in contemporary painting from contemporary art periodicals. They apply design, drawing, and painting in their own lives.

Students in Painting II investigate selected historical periods and styles by viewing paintings from accomplished historic and contemporary painters. They select an historical period or style to research independently and view reproductions, prints, videos, periodical, books, or original works in museums, galleries, or on the Internet. Students select and compare paintings from many cultures, gaining insight into the ways that people from different cultures express similar ideas. Through selected readings, learners become aware of career opportunities available for persons who become highly skilled painters. Students' interest in painting provides lifelong opportunities for self-expression and artistic growth.

Students critique their own paintings and paintings from selected periods. They analyze their paintings in the planning stage, in progress, and upon completion. Students interpret their own paintings and those of others in thoughtful discussion and speculation about intent, process, and result. Advanced students collect work for a personal portfolio as a record of growth and basis for planning future pieces and to use for college entry requirements. Students collaborate to select

paintings to be part of a painting exhibit at a school art fair/exhibit.

HS VA B: (Create, Present, Respond)
Art II Sculpture, 3-D Design
(Gist: Sculpture)

Unit of Instruction Analysis

Course Information

- Art II will again encompass sections in 2-D (drawing, and painting) and 3-D design (sculpture), along with ceramics printmaking and photography. This Class will also allow students who are advanced enough (at the teacher’s permission) in art to have the ability to do independent study and to focus on one media and build a portfolio to be used in applying for college.
- In Art II, students will learn to broaden their already developing art skills and fine tune their knowledge of the elements and principals of design in the making of art, while also exploring art and artists from history, and other cultures. The students will make sound judgments about their art and that of other artists both current and historical. Drawing using various mediums including; pencil, colored pencil, charcoal. Create depth using shading techniques such as cross-hatching, blending, stippling and use of line. Render objects proportionately through basic shape drawing. Use of various acrylic painting tools including; water based acrylics, various sized and shaped brushes, gesso, gloss and metallic mediums on canvas surface. Still life observation study with varied contrasts to create depth and value. Understanding of mixing colors to create various tones and hues. Knowledge of brush use and acrylic paints; mixing, layering and creating a textured look to subject. Use of silk screening materials; various ink colors, screen frames, fabric squeegee, screen filler, drawing fluid, photo emulsion, diazo sensitizer. Proper understanding of materials and order in which they are used. Ability to create patterns and stencils based on works of Keith Haring, focusing on simplification of the world around us. Use of various sculpting materials; Plaster strips, paper mache, chicken wire, acrylic paints. Ability to render object in a 3 dimensional aspect. Modeling using plaster/paper mache and shaping of wire. Create aesthetically pleasing structure from all angles. Learn how to make quality photos using Photoshop and to print quality prints.
- Rubrics will be used to address specific criteria of lessons or projects. In class observations of understanding, class participation, proper use of tools and completed work will also be included.
- Supplies and Resources: Pamphlets, periodicals, magazines, books, videos, art prints, museum visits, online resources, and teacher created PowerPoints.

Art Credit Guidelines Addressed

- C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making analytical, application, aesthetic, and design choices, before completion.
- C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural, environmental, and/or economic contexts of the visual, performing, or applied arts discipline.
- C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techniques, skills, and applications of the visual, performing, or applied arts discipline.
- C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate critical decision-making, problem solving, editing, and the creation of solutions.
- C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process.
- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

Concepts & Information	Unit Standards and Instruction Materials
The potential of being able to create something a bit larger than life in at least how it can be viewed by so many. Public displays can give a	Sculpture, 3-D Design Sculpture II students make visual notations from the natural environment and record interesting visual relationships in mechanical

strong impact and response to current events and conditions.

structures as sources for their designs.

By maintaining a sketchbook, students create a valuable resource for visual fragments, precise observations, the history of sculpture, characteristics of sculptural materials, and designs for future work. Students develop vocabulary specific to the discipline of sculpture, including appropriate terminology for equipment, materials, and processes.

Through observation of teacher demonstration and guided practice, students gain the skills needed to construct original realistic or nonobjective sculptures, using additive or subtractive methods in paper, cardboard, wire, wood, found object, clay, and plaster. They select materials and explore appropriate methods of joining, such as gluing, nailing, binding, and riveting. Students carefully consider the amount and type of surface textures and make appropriate selections for additional surface treatments from materials, such as paints, stains, glazes, or patinas. Students analyze and compare trends in sculpture by viewing selected contemporary art and sculpture periodicals. Design skills are used in making decisions about their own sculptures and in helping plan installations of sculpture exhibits in the classroom and other display areas.

Students in Sculpture II select an historical period to investigate independently by viewing reproductions, prints, videos, periodicals, books, or original works in museums, in galleries, or on the Internet. They compare sculpture from other cultures, gaining insight into the many ways that people from other cultures have used sculpture. Through selected readings, students investigate training and career opportunities available to persons who become highly skilled in sculpture as an art form. Students' interest in sculpture provides lifelong opportunities for self-expression and artistic growth.

	<p>Sculpture II students critique their own work in discussion and in writing. They analyze their own pieces in the planning stage, in progress, and upon completion. They critique their work in small groups and with the teacher. Learners demonstrate attentiveness and respect for others' opinions in discussions. Students create a portfolio of their sculpture by making slides/digital photos of works as they are completed. The slide portfolio serves as a record of growth, an entry for competitions, and an application for college entrance.</p>
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**HS VA B: (Create, Present, Respond)
Art II Printmaking
(Gist: Printmaking)**

Unit of Instruction Analysis	
<p>Art Credit Guidelines Addressed</p> <ul style="list-style-type: none"> • C.1 Engage in full iterative cycles of the artistic/creative process by problem seeking, exploring, making • C.2 Develop an idea, question, or problem that is guided by the personal, historical, contemporary, cultural • C.3 Understand, recognize, and use the elements, organizational principles, patterns, relationships, techni • C.4 Use the best available and appropriate instruments, resources, tools, and technologies to facilitate cri • C.5 Reflect on and articulate the steps and various relationships of the artistic/creative process. • P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual improve daily life, and solve problems with insight, reason, and competence. • P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visu • P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/cr • P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an au • R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts. • R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines • R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, • R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the 	
<p>Course Information</p> <ul style="list-style-type: none"> • Art II will again encompass sections in 2-D (drawing, and painting) and 3-D design (sculpture), along wi 	

teacher's permission) in art to have the ability to do independent study and to focus on one media and bu

- In Art II, students will learn to broaden their already developing art skills and fine tune their knowledge of art and other cultures. The students will make sound judgments about their art and that of other artists both of their own and using shading techniques such as cross-hatching, blending, stippling and use of line. Render objects properly using various sized and shaped brushes, gesso, gloss and metallic mediums on canvas surface. Still life observation of tones and hues. Knowledge of brush use and acrylic paints; mixing, layering and creating a textured look. Drawing fluid, photo emulsion, diazo sensitizer. Proper understanding of materials and order in which they are used of the world around us. Use of various sculpting materials; Plaster strips, paper mache, chicken wire, acrylic and of wire. Create aesthetically pleasing structure from all angles. Learn how to make quality photos using Photoshop
- Rubrics will be used to address specific criteria of lessons or projects. In class observations of understanding
- Supplies and Resources: Pamphlets, periodicals, magazines, books, videos, art prints, museum visits, online

Concepts & Information	Unit Standards and Instruction Materials
<p>Old process that can take on modern themes and subjects and give them new perspective</p>	<p>Printmaking Students in Printmaking II begin to create multicolor silk-screen prints. Though considered a contemporary technique, students explore the long history of silk screen and view works of Frank Stella, Andy Warhol, Robert Rauschenberg, and others. Students also look for examples of silk screen in the world around them. They create their own freeform designs and pull prints. With each new pull, students add more pigment and less base. The process ends with a discussion of students' evaluations of their own work and how their compositions could be more effective.</p> <p>Printmaking II students identify sources of their work by examining their physical, emotional, social, and political environments. Students identify local, state, national, and global issues as sources for their works and interpret their ideas in their personal styles. Investigating, interpreting, and reinventing a subject by attempting multiple solutions lead students in thematic development.</p> <p>Students create original prints, using processes such as silk screen, contact print and block printing. Students discover the importance of careful registration as they experiment with multiple colors by using more than one plate. Students develop their own interests and artistic themes by making one or</p>

more prints with similar intent and subject but with changes in technique, format, printing process, or style.

Students in Printmaking II independently select and investigate a period or style in printmaking and identify cultural, historical, and political influences. Students in advanced study collect work for their personal portfolios, photographing key pieces to become part of a slide/digital portfolio for documentation and for college entrance or application.

HS VA B: (Create, Present, Respond)

Art II Photography

(Gist: Photography)

Unit of Instruction Analysis

Course Information

- Art II will again encompass sections in 2-D (drawing, and painting) and 3-D design (sculpture), along with ceramics printmaking and photography. This Class will also allow students who are advanced enough (at the teacher’s permission) in art to have the ability to do independent study and to focus on one media and build a portfolio to be used in applying for college.
- In Art II, students will learn to broaden their already developing art skills and fine tune their knowledge of the elements and principals of design in the making of art, while also exploring art and artists from history, and other cultures. The students will make sound judgments about their art and that of other artists both current and historical. Drawing using various mediums including; pencil, colored pencil, charcoal. Create depth using shading techniques such as cross-hatching, blending, stippling and use of line. Render objects proportionately through basic shape drawing. Use of various acrylic painting tools including; water based acrylics, various sized and shaped brushes, gesso, gloss and metallic mediums on canvas surface. Still life observation study with varied contrasts to create depth and value. Understanding of mixing colors to create various tones and hues. Knowledge of brush use and acrylic paints; mixing, layering and creating a textured look to subject. Use of silk screening materials; various ink colors, screen frames, fabric squeegee, screen filler, drawing fluid, photo emulsion, diazo sensitizer. Proper understanding of materials and order in which they are used. Ability to create patterns and stencils based on works of Keith Haring, focusing on simplification of the world around us. Use of various sculpting materials; Plaster strips, paper mache, chicken wire,

acrylic paints. Ability to render object in a 3 dimensional aspect. Modeling using plaster/paper mache and shaping of wire. Create aesthetically pleasing structure from all angles. Learn how to make quality photos using Photoshop and to print quality prints.

- Rubrics will be used to address specific criteria of lessons or projects. In class observations of understanding, class participation, proper use of tools and completed work will also be included.
- Supplies and Resources: Pamphlets, periodicals, magazines, books, videos, art prints, museum visits, online resources, and teacher created PowerPoints.

Art Credit Guidelines Addressed

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- P.1 Apply the techniques, elements, principles, intellectual methods, concepts, and functions of the visual, performing, or applied arts discipline to communicate ideas, emotions, experiences, address opportunities to improve daily life, and solve problems with insight, reason, and competence.
- P.2 Demonstrate skillful use of appropriate vocabularies, tools, instruments, and technologies of the visual, performing, or applied arts discipline.
- P.3 Describe and consider relationships among the intent of the student/artist, the results of the artistic/creative process, and a variety of potential audiences or users.
- P.4 Perform, present, exhibit, publish, or demonstrate the results of the artistic/creative process for an audience.
- R.1 Observe, describe, reflect, analyze, and interpret works of the visual, performing, or applied arts.
- R.2 Identify, describe, and analyze connections across the visual, performing, and applied arts disciplines, and other academic disciplines.
- R.3 Describe, analyze, and understand the visual, performing, or applied arts in historical, contemporary, social, cultural, environmental, and/or economic contexts.
- R.4 Experience, analyze, and reflect on the variety of meanings that can be derived from the results of the artistic/creative process.

<p align="center">Concepts & Information</p>	<p align="center">Unit Standards and Instruction Materials</p>
<p>Great for connecting modern themes and technology along with how it all began and how the basics are important to begin understanding the modern techniques</p>	<p>Photography Providing a balance between photographic technique and content, this unit is designed to increase students' appreciation of the uses of photography as art and information. Initially, students categorize photographs taken by others and pre-sorted by the teacher into six groups: descriptive, explanatory, interpretive, ethically evaluative, aesthetically evaluative, and theoretical. Then students begin to use these categories for their own photographs. Finally, students choose one category and make a 10- slide, silent sequence for projection. Class discussion following the sequence focuses on the importance of a clearly articulated theme and developmental sequence.</p> <p>Photography II students identify sources for their work by examining their physical, social, and political environments. Learners establish connections between things similar and dissimilar and seeing them in new ways. Students identify local, state, national, and global issues as sources for their works and interpret their ideas in personal styles. Investigating, interpreting, and reinventing a subject by attempting multiple solutions lead students in thematic development.</p> <p>Students produce a photographic series, exploring ways to produce emotional content and mysterious or surrealistic effects in their photographs. Students experiment with the effects of light by producing photographs of the same subject under a variety of lighting situations.</p> <p>Students in Photography II select and investigate an historical period or style in photography and identify cultural, historical,</p>

and political influences.

Students in advanced independent study build a personal portfolio for documentation of growth, planning of artistic direction, entry into photography competitions, and college entrance applications.

HS PE 1: (High School Physical Education 1 Curriculum)

TLW demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities. TLW demonstrate understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities. TLW participate regularly in lifelong physical activity. TLW achieve and maintain a health-enhancing level of physical fitness. TLW exhibit responsible personal and social behavior that respects self and others in physical activity settings. TLW value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

(Gist: High School Physical Education 1)

Unit of Instruction Analysis			
Prerequisite Vocabulary			
ball	goalie	motivation	serve
base	half	negative reinforcement	set
bat	half court	offense	softball
batting order	half-time	opponent	spike
bump	hand-ball	out	sprint
chest pass	hit	out of bounds	stretch
defense	home run	outfield	strike
distance run	infield	overtime	strike
double dribble	inning	penalty box	substitute
down	jump-ball	pitch	tie
end-zone	jump-shot	positive reinforcement	time-out
foul	kick-off	receive	touchdown
free-throw	lay-up	referee	travel
goal	mitt	rhythm	
New Vocabulary			
3-second violation	check	illegal motion	rotation
8 count beat	consolation	kill	round robin tournament
ace	corner kick	linebacker	safety
agility	crease	offside	scrimmage
back court violation	dig	on-deck	service court
backhand	double play	overhand serve	setter
base hit	doubles	pedometer	shuffle
bases loaded	drop-kick	penalty kick	slide
birdie/shuttlecock	false start	pop-up	slide tackle

blitz	free kick	punt	smash
block	full count	quarter	snap
box-out	fumble	rally scoring	steal
bunt	goalie box	rank	team building
calorie	ground ball	rebound	technical foul
cardio workout	high-stick		

Concepts & Information	Unit Standards and Instruction Materials
<p>Motor Skills Walking, jogging, running, stretching, and step aerobics.</p> <p>Content Knowledge Students will analyze and assess individual physical activity goals. They will also evaluate cardiorespiratory, endurance, and flexibility health-related fitness standards for age and gender.</p> <p>Personal/Social Behaviors Students will apply internal and external feedback to improve motor skills and movement patterns, fitness and physical activities in dynamic settings. They will also choose to exercise regularly outside of P.E. for personal enjoyment and benefit in active settings.</p>	<p>TLW be able to assess general health-related physical fitness, increase general knowledge about health-related fitness, and develop the basic aerobic capacity that will allow safe participation in community recreation settings.</p> <p>A. Aerobic Activities</p> <ol style="list-style-type: none"> 1. Walking 2. Daily warm-up jogging exercise 3. Mile run 4. Fitness testing 5. Aerobic step testing <hr/> <p>TLW demonstrate the skills of moving, controlling, hitting a game object within a specified place using team building concepts and proper athletic conduct.</p> <p>A. Net Games</p> <ol style="list-style-type: none"> 1. Volleyball 2. Tennis 3. Badminton <hr/> <p>TLW be able to demonstrate skills involving accuracy and control in obtaining the objective of getting an object closer to a target than their opponents.</p> <p>A. Target Games</p> <ol style="list-style-type: none"> 1. Disc Golf <hr/> <p>TLW be able to demonstrate the skills of scoring by sending a game object through a goal or across a line involving the movement of players in a defined playing area.</p>

Motor Skills

Striking, serving, jumping, lateral movements, and striking.

Content Knowledge

Students will analyze and evaluate knowledge of movement concepts while performing locomotor and non-locomotor and manipulative skills during participation in net games.

Personal/Social**Behaviors and Values**

Students will participate in activities that are vigorous in intensity level. They will also exhibit behaviors which exemplify responsibility, best effort, cooperation, and compassion in dynamic settings.

Motor Skills

Advanced form of swinging, striking, walking, jogging, and throwing

Content Knowledge

Students will analyze game play, synthesize skills or tactical problems of the game or evaluate player performance of tactical problems such as accuracy

Invasion Games (Each sport involves, teaching skills, modified games and scrimmages, then play in a tournament for student and teacher assessment)

1. Flag football
2. Soccer
3. Basketball
4. Floor Hockey
5. Speedball

TLW be able to demonstrate the skills of hitting, kicking or throwing into an object, then score runs by advancing to designated areas. The fielders will retrieve the game object and get it to a specific place to stop runs from being scored and to get opponent's out.

A. Striking/Fielding Games

1. Softball
2. Kickball

TLW demonstrate rhythmic movement concepts and skills with the addition of equipment.

A. Rhythmic Activities

1. Group/Social Dance (Electric Slide, Cha Cha Slide, & The Hustle)
 2. Jump Rope (Jump Rope for Heart)
-

in distance and direction

Personal/Social Behaviors and Values

Students will exhibit behaviors which exemplify the character traits of constructive competition, initiative, and leadership in dynamic settings.

Motor Skills

Mature form of kicking, catching, foot dribble, and striking with hands and/or implements.

Content Knowledge

Students will analyze game play, synthesize skills or tactical problems of the game or evaluate player performance of tactical problems including off-the-ball movements, preventing scoring and starting/restarting play during games.

Personal/Social Behaviors and Values

Students will exhibit behaviors which exemplify each of the personal/social character traits of responsibility, best effort cooperation and compassion in dynamic settings. They will also use

physical activity as a positive opportunity for social interaction in outside settings.

Motor Skills

Running, striking, throwing, kicking and catching.

Content Knowledge

Students will analyze game play, synthesize skills or evaluate player performance during infield and outfield tactical problems, including scoring and staying in the game.

Personal/Social Behaviors and Values

Students will apply internal and external feedback to improve motor skills and movement patterns, fitness and physical activities in dynamic settings. They will also exhibit behaviors which exemplify each of the character traits including responsibility, best effort, cooperation, and compassion.

Motor Skills

Mature form of jumping,

turning, swinging, swaying, hopping, leaping, spinning, stepping, sliding, and galloping.

Content Knowledge

Students will assess specialized movement activities that utilize mature form of movement skills and concepts. The students will also recognize rhythmic activity as a positive opportunity for social interaction in dynamic settings.

Personal/Social Behaviors and Values

Students will exhibit indicators of enjoyment for the aesthetic and creative aspects of skilled performances in dynamic settings

HS PE 2 : (High School Physical Education 2 Curriculum)

TLW demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities. TLW demonstrate understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities. TLW participate regularly in lifelong physical activity. TLW achieve and maintain a health-enhancing level of physical fitness. TLW exhibit responsible personal and social behavior that respects self and others in physical activity settings. TLW value physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

(Gist: High School Physical Education 2)

Unit of Instruction Analysis	
Prerequisite Vocabulary	
alley	false start
ball	foul
base	free-throw
bat	goal
batting order	goalie
blitz	half
block	half-time
bump	hand-ball
chest pass	hit
defense	home run
distance run	infield
double dribble	inning
down	jump-ball
end-zone	jump-shot
face-off	
New Vocabulary	
3-second violation	cradle
ace	crease
agility	dig
approach	double play
back court violation	doubles
backhand	drop-kick
base hit	free kick
bases loaded	full count
birdie/shuttlecock	fumble
block	goalie box
box-out	ground ball
bunt	high-stick

cardio workout	illegal motion
center	juggle
check	kill
consolation	lateral pass
corner kick	man to man

Concepts & Information	Unit Standards and Instruction Materials
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<p>Motor Skills Walking, jogging, running, stretching, and step aerobics</p> <p>Content Knowledge Students will analyze and assess individual physical activity goals. They will also evaluate cardiorespiratory, endurance, and flexibility health-related fitness standards for age and gender.</p> <p>Personal/Social Behaviors Students will apply internal and external feedback to improve motor skills and movement patterns, fitness and physical activities in dynamic settings. They will also choose to exercise regularly outside of P.E. for personal enjoyment and benefit in active settings.</p> <p>Motor Skills Striking, serving, jumping, lateral movements, and striking.</p> <p>Content Knowledge Students will analyze and</p>	<p>TLW be able to assess general health-related physical fitness, increase general knowledge about health-related fitness, and develop the basic aerobic capacity that will allow safe participation in community recreation settings.</p> <p>A. Aerobic Activities</p> <ol style="list-style-type: none"> 1. Walking 2. Daily warm-up jogging exercise 3. Mile run 4. Fitness testing 5. Aerobic step testing <hr/> <p>TLW demonstrate the skills of moving, controlling, hitting a game object within a specified place using team building concepts and proper athletic conduct.</p> <p>A. Net Games</p> <ol style="list-style-type: none"> 1. Volleyball 2. Tennis 3. Badminton <hr/> <p>TLW be able to demonstrate skills involving accuracy and control in obtaining the objective of getting an object closer to a target than their opponents.</p> <p>A. Target Games</p> <ol style="list-style-type: none"> 1. Disc Golf <hr/> <p>TLW be able to demonstrate the skills of scoring by sending a game object through a goal or</p>
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evaluate knowledge of movement concepts while performing locomotor and non-locomotor and manipulative skills during participation in net games.

Personal/Social Behaviors and Values

Students will participate in activities that are vigorous in intensity level. They will also exhibit behaviors which exemplify responsibility, best effort, cooperation, and compassion in dynamic settings.

Motor Skills

Advanced form of swinging, striking, walking, jogging, and throwing

Content Knowledge

Students will analyze game play, synthesize skills or tactical problems of the game or evaluate player performance of tactical problems such as accuracy in distance and direction

Personal/Social Behaviors and Values

Students will exhibit behaviors which exemplify the character traits of constructive competition, initiative, and leadership in dynamic settings.

across a line involving the movement of players in a defined playing area.

Invasion Games (Each sport involves, teaching skills, modified games and scrimmages, then play in a tournament for student and teacher assessment)

1. Flag football
2. Soccer
3. Basketball
4. Floor Hockey
5. Speedball

TLW be able to demonstrate the skills of hitting, kicking or throwing into an object, then score runs by advancing to designated areas. The fielders will retrieve the game object and get it to a specific place to stop runs from being scored and to get opponent's out.

- A. Striking/Fielding Games
1. Softball

TLW demonstrate rhythmic movement concepts and skills with the addition of equipment.

- A. Rhythmic Activities
1. Group/Social Dance (Electric Slide, Cha Cha Slide, & The Hustle)
 2. Jump Rope (Jump Rope for Heart)
-

Motor Skills

Mature form of kicking, catching, foot dribble, and striking with hands and/or implement

Content Knowledge

Students will analyze game play, synthesize skills or tactical problems of the game or evaluate player performance of tactical problems including off-the-ball movements, preventing scoring and starting/restarting play during games.

Personal/Social Behaviors and Values

Students will exhibit behaviors which exemplify each of the personal/social character traits of responsibility, best effort cooperation and compassion in dynamic settings. They will also use physical activity as a positive opportunity for social interaction in outside settings.

Motor Skills

Running, striking, throwing, kicking and catching.

Content Knowledge

Students will analyze game play, synthesize skills or evaluate player performance during infield and outfield tactical

problems, including scoring and staying in the game.

Personal/Social Behaviors and Values

Students will apply internal and external feedback to improve motor skills and movement patterns, fitness and physical activities in dynamic settings. They will also exhibit behaviors which exemplify each of the character traits including responsibility, best effort, cooperation, and compassion.

Motor Skills

Mature form of jumping, turning, swinging, swaying, hopping, leaping, spinning, stepping, sliding, and galloping.

Content Knowledge

Students will assess specialized movement activities that utilize mature form of movement skills and concepts. The students will also recognize rhythmic activity as a positive opportunity for social interaction in dynamic settings.

Personal/Social Behaviors and Values

Students will exhibit indicators of enjoyment for the aesthetic and creative aspects of skilled performances in dynamic settings

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Spanish 1A Curriculum



WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

WMAES strives to provide an environment that will foster creativity, promote academic achievement, and develop sound character and citizenship principles emphasizing responsibility to the environment and society, while maintaining and improving each student's self-esteem and self-concept.

Course Overview

Spanish is the second most commonly spoken language in the United States. People in more than twenty different countries speak Spanish and it ranks within the top three most spoken languages in the world. Proficiency in Spanish, along with an understanding of the values and beliefs of Spanish-speaking cultures, enable people to participate actively in the diverse global community of the 21st century. Students enrolled in Spanish embark on a voyage of discovery. Students explore the language and the culture of the peoples who speak this modern world language and begin to develop the ability to understand simple spoken and written Spanish. At the same time, students learn to communicate orally and in writing in a culturally appropriate manner about familiar topics that include self, school, Hispanic traditions, pastimes, family, travel and the environment. Vocabulary and basic grammatical structures are taught within the context of everyday topics. Culture is embedded throughout the course and relates directly to the topics studied.

Application

Students start using the language to exchange greetings and introductions, follow simple classroom directions, and spell words in Spanish. Students learn to tell time and the date, talk about the weather, and discuss seasons. In addition, students interpret simple spoken and written Spanish and use the language to communicate about things the student likes to do, personalities, the school day, basic foods and beverages, as well as activities to maintain good health.

There are five major units in Spanish 1A:

Pre-unit (revisión): ¡Bienvenidos a la clase de español!/ Welcome to Spanish Class!

Unit 1: Mis amigos y yo/my friends and I

Unit 2: La escuela / School

Unit 3: La comida / Food

Unit 4: Los pasatiempos/ Pastimes

Unit 5: El clima y la hora / Weather and Time

Spanish 1A

Pre-unit -¡Bienvenidos a la clase de español!/ Welcome to Spanish Class!

In the pre-unit, students exchange greetings and make introductions in a culturally appropriate manner. They learn numbers for telling time and the date and the Spanish alphabet for spelling. Students follow simple classroom directions and ask and answer simple questions. They communicate orally and in writing about the classroom, basic weather conditions, and the seasons. Throughout the unit, students interpret basic information on these topics when listening and reading.

Students will be able to:

- Exchange greetings in a culturally appropriate manner
- Make introductions
- Ask about things in the classroom
- Understand classroom commands
- Ask how to spell words
- Tell time
- Tell the date
- Describe basic weather conditions
- Identify the seasons
- Identify use of tú and usted
- Identify some Spanish-speaking countries
- Identify some famous Spanish speakers
- Compare ways of greeting people in Spanish-speaking countries and in the

Students will learn and apply:

- The alphabet
- Accent marks
- Numbers from 1–100
- Llamarse
- Estar with greetings
- Present tense of ser with days of the week, dates, and time
- Nouns and gender
- Date format
- Present tense of hacer with weather

Standards

- 1.1.N.SL a
- 1.1.N.SL b
- 1.1.N.SL c

Unit 1 –Mis amigos y yo (My friends and I)

In Unit 1, *Mis amigos y yo*, students speak and write about things they like to do and ask and answer simple questions about activities. Students compare popular activities in the United States with those in Spanish-speaking countries. In addition, students give simple descriptions about personality traits and ask about the traits of others. Further, students identify some attitudes about friendship that are held by people from Spanish speaking countries. Throughout the unit, students interpret basic information on these topics when listening and reading.

Students will be able to:

- Communicate about preferences regarding activities
- Express agreement or disagreement
- Communicate about their own personalities and those of others
- Identify some Spanish-speaking countries
- Identify some famous Spanish-speaking people
- Identify music and dances of different Spanish-speaking countries
- Identify attitudes about friendship of people in Spanish-speaking countries and make comparisons to their country.

Students will learn and apply:

- Infinitive construction with present tense of gustar (only Me gusta ..., te gusta ...)
- Negatives (no, no...nada, ni...ni)
- Adjective agreement
- Placement of adjectives
- Definite and indefinite articles

Standards

- 1.1.N.RW.e
- 1.1.N.RW.h

Unit 2 - La escuela / School

In this unit, *La escuela*, students exchange information, orally and in writing, about school schedules and classes. Students describe classrooms including the location of objects. In addition, students describe the school day in Spanish-speaking countries and make comparisons to the US school day. Throughout the unit, students interpret basic information on school when listening and reading.

Students will be able to:

- Communicate about school schedules and course preferences
- Describe their school day
- Tell time and use the 24 hour clock
- Communicate about their classroom and the location of items
- Identify some Spanish-speaking countries
- Identify courses students take in Spanish-speaking countries and compare them to courses taken in the U.S.
- Identify attitudes about school in Spanish-speaking countries and compare them to those in the U.S.

Students will learn and apply:

- Subject pronouns
- Present tense of –ar verbs
- Present tense of estar
- Prepositions of location
- Plurals of nouns and articles
- De to indicate possessio

Standards

1.1.M.SL.a

2.2.N.E.a

5.1

Unit 3 - La comida / Food

In Unit 3, *La comida*, students exchange information, orally and in writing, about basic foods for breakfast, lunch, and dinner. Students also exchange preferences regarding food choices and communicate about ways to maintain personal health. In addition, students identify common foods as well as eating habits in Spanish-speaking countries and make comparisons to the individual student's culture. Throughout the unit, students interpret basic information on these topics when listening and reading.

Students will be able to:

- Communicate about food and beverages for breakfast, lunch and dinner
- Communicate about preferences for foods and beverages.
- Communicate about foods and exercise to maintain one's health
- Identify some Spanish-speaking countries
- Identify foods and beverages from Spanish-speaking countries and compare to those in the U.S.

Standards

- 2.1.N.F.c
- 2.2.N.F.a

- Describe breakfast in Spanish-speaking countries and compare it to breakfast in the U.S.

Students will learn and apply:

- Present tense of -er and -ir verbs
- Adverbs and expressions of frequency
- Use of present tense of gustar and encantar with plural nouns
- Plural of adjectives
- Present tense of ser

Unit 4 – Los pasatiempos / Pastimes

In Unit 4, *Los pasatiempos*, students exchange basic information, orally and in writing, about pastimes and places in the community. Students ask and answer simple questions and talk about after-school activities both in the United States and in Spanish-speaking countries. In addition, students learn how to extend and respond to invitations. Throughout the unit, students interpret basic information on pastimes when listening and reading.

Students will be able to:

- Communicate about pastimes
- Extend, accept, and decline invitations
- Communicate about places in the community
- Identify some Spanish-speaking countries
- Identify some famous Spanish-speaking people

- Identify pastimes in Spanish-speaking countries and compare them to those in the U.S.

Students will learn and apply:

- Present tense of ir
- Question words
- Simple future tense (ir a + infinitive)
- Present tense of jugar

Standards

- 2.1.N.F.d
- 1.1.N.RW.d
- 1.2.N.L.b

Unit 5—El clima y la hora / Weather and Time

Throughout Unit 5, *El clima y la hora*, students continue to practice newly acquired Spanish words relating to weather and time. Students learn weather and common time expressions to engage in daily Spanish conversation. Furthermore, students enhance understanding of the many uses of two verbs *ser* and *estar* in Spanish while recapping knowledge of numbers in Spanish when telling time. By the end of the unit, students will be able to speak about the weather and tell time in Spanish.

Students will be able to:

- Describe the current weather
- Ask relevant questions regarding weather
- Engage in conversation about weather in Latin America
- Tell time and ask others about the time
- Identify various time expressions
- Correlate weather and time into daily conversations

Students will learn and apply:

- Weather expression *hace* + adjective
- Weather expression *esta* + adjective
- Conjugate the verb *ser* to tell time
- Apply knowledge of numbers when telling time
- Recall important question words when asking about weather and time

Standards

1.3.N.S.b

Spanish 1B Curriculum



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There are five major units in Spanish 1B:

Pre-unit (revisión): ¡Bienvenidos a la clase de español!/ Welcome to Spanish Class!

Unit 5: Fiesta en familia / Family Celebrations

Unit 6: La casa / Around the House

Unit 7: La ropa y tiendas / Clothing and Stores

Unit 8: Experiencias / Experiences

Unit 9: Medios de comunicación / Methods of Communication

Spanish 1B

Pre-unit -¡Bienvenidos a la clase de español!/ Welcome to Spanish Class!

In the pre-unit, students exchange greetings and make introductions in a culturally appropriate manner. They learn numbers for telling time and the date and the Spanish alphabet for spelling. Students follow simple classroom directions and ask and answer simple questions. They communicate orally and in writing about the classroom, basic weather conditions, and the seasons. Throughout the unit, students interpret basic information on these topics when listening and reading.

Students will be able to:

- Exchange greetings in a culturally appropriate manner
- Make introductions
- Ask about things in the classroom
- Understand classroom commands
- Ask how to spell words
- Tell time
- Tell the date
- Describe basic weather conditions
- Identify the seasons
- Identify use of tú and usted
- Identify some Spanish-speaking countries
- Identify some famous Spanish speakers
- Compare ways of greeting people in Spanish-speaking countries and in the U.S
- Understand basic conjugations (AR, ER, IR)

Students will learn and apply:

- The alphabet
- Accent marks
- Numbers from 1–100
- Llamarse
- Estar with greetings
- Present tense of ser with days of the week, dates, and time
- Nouns and gender
- Date format
- Present tense of hacer with weather
- Conjugate basic AR, ER, IR verbs in the present

Spanish 2A Curriculum



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Course Overview

Students in Spanish 2 continue the voyage of discovery and furtherer explore the language and the culture of the peoples who speak this modern world language. Students continue to develop the ability to understand spoken and written Spanish. At the same time, students learn to communicate orally and in writing in a culturally appropriate manner about a variety of familiar topics that include self, school, daily routines, shopping, community, emergencies, cooking, and travel. Vocabulary and grammatical structures are taught within the context of everyday topics. Culture is embedded throughout the course and relates directly to the topics studied.

Application

Students use Spanish to exchange information, orally and in writing, about themselves and others. Students interpret spoken and written Spanish from a variety of sources and use the language to communicate about classes, school activities, daily routines, clothes shopping, as well as the community.

There are five major units in Spanish 2A:

Pre-unit (revision): ¡Bienvenidos a la clase de español! / Welcome to Spanish class

Unit 1: Tu día escolar/College life

Unit 2: Un evento especial/A special event

Unit 3: Tú y tu comunidad/You and your community

Unit 4: Recuerdos del pasado/Past memories

Unit 5: En las noticias/In the news

Spanish 2A

Pre-unit -¡Bienvenidos a la clase de español!/ Welcome to Spanish Class!

In the pre-unit, students exchange greetings and make introductions in a culturally appropriate manner. Students learn numbers for telling time and the date and the Spanish alphabet for spelling. In additions, students follow simple classroom directions and ask and answer simple questions as well as communicate orally and in writing about the classroom, basic weather conditions, and the seasons. Throughout the unit, students interpret basic information on these topics when listening and reading.

Students will be able to:

- Exchange greetings in a culturally appropriate manner
- Make introductions
- Ask about things in the classroom
- Understand classroom commands
- Ask how to spell words
- Tell time
- Tell the date
- Describe basic weather conditions
- Identify the seasons
- Identify use of tú and usted
- Identify some Spanish-speaking countries
- Identify some famous Spanish speakers
- Compare ways of greeting people in Spanish-speaking countries and in the U.S
- Review of present and preterit tense
- A basic review of simple future tense conjunctions

Students will learn and apply:

- The alphabet
- Accent marks
- Numbers from 1–100
- Llamarse
- Estar with greetings
- Present tense of ser with days of the week, dates, and time
- Nouns and gender
- Date format
- Present tense of hacer with weather
- Conjugate AR, ER, and IR verbs in the present and preterit
- IR + A + verb to use the simple future tense

Standards

- 1.1.N.SL.a
- 1.1.N.SL.c

Spanish 2A

Unit 1- Tu día escolar / College Life

In Unit 1, Tu día escolar, students communicate, orally and in writing, about classes and classroom rules as well as the activities both during the school day and after school. Students identify school rules and customs in Spanish-speaking countries and compare them to those in the United States. In addition, students compare after-school activities in Spanish-speaking countries to those in the United States. Throughout the unit, students interpret information on these topics when listening and reading.

Student will be able to:

- Communicate about classes and classroom rules, activities, and school work
- Communicate about after-school activities
- Identify some famous Spanish-speaking people
- Identify customs and school rules in Spanish-speaking countries and compare them to those in the U.S.
- Identify after-school activities in Spanish-speaking countries and compare them to those in the U.S.

Students will learn and apply:

- Stem-changing verbs in present tense
- Affirmative and negative words
- Hay que/Se prohíbe + infinitive
- Comparisons of equality
- Saber and conocer
- Hacer + time expressions

Standards

1.1.N.SL.h

1.1.N.RW.h

Unit 2 – Un evento especial / A special event

In this unit, Un evento especial, students communicate, orally and in writing, about morning and evening routines and getting ready for a special event. In addition, students identify special events in Spanish-speaking countries and compare the events to those in the United States. Throughout the unit, students interpret information on the topic when listening and reading.

Students will be able to:

- Communicate about daily routines
- Communicate about getting ready for a special event
- Identify some Spanish-speaking countries
- Identify special events in Spanish-speaking countries and compare them to those in the

US

Students will learn and apply:

- Reflexive verbs in present tense
- Uses of ser and estar
- Possessive adjectives - long form

Standards

1.1.M.SL.a

1.3.N.W.b

4.1

Unit 3 –Tú y tu comunidad / You and Your Community

In Unit 3, Tú y tu comunidad, students communicate about what they did in places throughout the community. They ask for and give directions for getting around communities. Students identify characteristics of neighborhoods in Spanish-speaking countries as well as customs related to shopping in open-air markets and compare them to those in the United States. Throughout the unit, students interpret information on communities when listening and reading.

Students will be able to:

- Communicate about what they did in places in the community
- Ask for and give directions
- Identify some Spanish-speaking countries
- Identify customs related to shopping in open-air markets in Spanish-speaking countries and compare them to shopping customs in the U.S.
- Identify characteristics of neighborhoods in Spanish-speaking countries and compare them with those in the U.S.

Students will learn and apply:

- Direct object pronouns
- Preterit of ir, ser
- Preterit of hacer, tener, estar, poder
- Present tense of salir, decir
- Irregular affirmative tú commands

Standards

- 1.3.M.S.c
- 2.1.N.F.a
- 2.1.N.F.b
- 2.1.N.F.c
- 4.1

Unit 4 –Recuerdos del pasado / Memories of the Past

In this unit of Spanish 2A, students communicate, orally and in writing, about childhood. Students ask and answer questions about what they were like as children and communicate about past family celebrations and holidays. Students compare children’s stories, fables, or songs from Spanish-speaking countries to those from the United States. In addition students identify and describe family celebrations and holidays in Spanish-speaking countries and make comparisons to those in the United States. Throughout the unit, students interpret information on childhood and family celebrations when listening and reading.

Students will be able to:

- Communicate about childhood
- Communicate about what they were like as children
- Communicate about past family celebrations and holidays
- Identify some Spanish-speaking people
- Identify children’s stories, fables, or songs from Spanish-speaking countries and compare them with those from the U.S.
- Identify and describe family celebrations and holidays in Spanish-speaking countries and compare them with those in the U.S.

Students will learn and apply

- The imperfect tense: regular and irregular verbs
- Indirect object pronouns
- Verbs that use indirect object pronouns
- Use of preterit and imperfect
- Reciprocal verbs

Standards

- 1.1.N.SL.h
- 1.3.N.W.c
- 2.1.N.F.e

Unit 5—En las noticias / In the News

In the final unit, students discuss emergencies, crises, rescues, heroic acts, past situations and settings, weather conditions, and understand cultural perspectives on natural disasters and legends. Student will describe an accident scene, talk about injuries and treatments, talk about what you were doing when an accident occurred and understand cultural perspectives on health.

Students will be able to:

- Use the preterit and imperfect tense to describe previous events
- Identify disasters zones in Latin America
- Narrate a natural disaster scene while using vocabulary from the unit
- Describe health measures and treatments

Students will learn and apply:

- Irregular preterit: venir, poner, decir, and traer
- Imperfect progressive and preterit
- Expressions using tener, the use of que! in exclamations

Standards

- 1.1.M.SL.g
- 1.3.N.W.b
- 2.1.N.H.d

Spanish 2B Curriculum



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Application

Students in Spanish 2B communicate orally and in writing about childhood and holidays. Students use Spanish to communicate about past and present disasters, emergencies, accidents, and medical treatments. In addition, students speak and write about foods and cooking as well as about past and present travel experiences. Throughout the course, students interpret information on these topics when listening and reading.

There are five major units in Spanish 2B:

Pre-unit (revision): ¡Bienvenidos a la clase de español! / Welcome to Spanish class!

Unit 6: La televisión y el cine / Television and Cinema

Unit 7: Buen provecho / Food and Dining

Unit 8: Cómo ser un buen turista / How to Become a Good Tourist

Unit 9: ¿Cómo será el futuro? / Predicting the Future

Unit 10: Los negocios y el empleo/ Business and Employment

Spanish 2B

Students will be able to:

- Exchange greetings in a culturally appropriate manner
- Make introductions
- Ask about things in the classroom
- Understand classroom commands
- Ask how to spell words
- Tell time
- Tell the date
- Describe basic weather conditions
- Identify the seasons
- Identify use of tú and usted
- Identify some Spanish-speaking countries
- Identify some famous Spanish speakers
- Compare ways of greeting people in Spanish-speaking countries and in the U.S
- Review of present and preterit tense conjugations
- A basic review of simple future tense
- The present progressive

Students will learn and apply:

- The alphabet
- Accent marks
- Numbers from 1–100
- Llamarse
- Estar with greetings
- Present tense of ser with days of the week, dates, and time
- Nouns and gender
- Date format
- Present tense of hacer with weather
- Conjugate AR, ER, and IR verbs in the present and preterit
- IR + A + verb to use the simple future tense
- Estar + ando, iendo = ing in Spanish

Unit 6 – La televisión y el cine / Television and Cinema

In Unit 6, *La televisión y el cine*, students read, listen, and speak about commonly watched sporting events, competitions, and television programs in Latin America. Students will use cultural understanding to make associations and form opinions about the Hispanic media. The student will express himself in Spanish and justify opinions to classmates.

Students will be able to:

- Listen and read about TV shows and sporting events
- Talk and write about a TV show and emotions
- Exchange information about your reaction to a TV program
- Understand television programming on Spanish channels
- Compare the popularity of game shows and reality shows in Spain and the U.S.
- Identify famous actors, athletes, and shows seen in common day television

Students will learn and apply:

- Sporting event and contest vocabulary
- Emotions (key expressions)
- Specific reflexive verbs
- Preterit of –IR stem-changing verbs
- Conjugate the verbs *preferir*, *dormir* and *pedir* in the preterit tense

Unit 7—Buen Provecho / Food and Dining

In Unit 7, *Buen Provecho*, students communicate, orally and in writing, about foods and cooking. They follow recipe directions and provide descriptions of food preparation. Students identify and describe foods and dishes from Spanish-speaking countries as well as outdoor food vendors and compare to those in the United States. Throughout the unit, students interpret information on foods and cooking when listening and reading.

Students will be able to:

- Communicate about foods
- Communicate about cooking and recipes
- Identify some Spanish-speaking countries
- Identify and describe dishes and foods from Spanish-speaking countries and compare them to the U.S.
- Describe outdoor food vendors in Spanish-speaking countries and compare them to those in the U.S.

Students will learn and apply:

- Negative tú commands
- The impersonal se
- Ud, uds. Commands + regular and irregular
- Uses of *por/para*
- Preterit of –ir stem-changing verbs

Standards

2.1.N.F.c

Unit 8—Cómo ser un buen turista / How To Become a Good Tourist

In unit 8, *Cómo ser un buen turista*, the students learn about foreign travel in Hispanic countries. The theme also focuses on basic transportation/methods of travel. The unit introduces a new verb conjugation tense that a sense of doubt or indecisiveness to a situation (subjunctive). Students make an itinerary and communicate with a partner methods of travel and tourism. Lastly, students make comparisons between travel in the United States and Latin America.

Students will be able to:

- Listen to and read about travel recommendations
- Talk and write about suggestions for safe and enjoyable trips
- Exchange information about planning a trip
- Understand historical record-keeping
- Compare airports and transportation in Spanish-speaking countries with those in the U.S.

Students will learn and apply:

- Learn vocabulary regarding travel plans and airports
- The present subjunctive
- Irregular verbs in the subjunctive
- Verbs that are followed by *que* + subjunctive
- Useful expressions regarding tourism/travel

Unit 9-¿Cómo será el futuro? / Predicting the future

In unit 9, *¿Cómo será el futuro?*, students communicate about the future and discuss professions in science, technology, fine arts, and business. Students will make predictions and apply knowledge to support their hypothesis. Students also speak about everyday plans that are to be completed later on that day/week. Lastly, the student will compare/contrast (in Spanish) the educational system in the United States, Latin America, or Spain (Europe).

Students will be able to:

- Listen to and read about students' future plans
- Talk and write about high school activities and career plans
- Exchange information about high school will be like for new students
- Understand folk art from Spanish-speaking countries
- Compare education in the Spanish-speaking world with that in the U.S.

Standards

2.2.N.E.a
4.2.N.a
5.2.N.c

Students will learn and apply:

- The future tense
- The future tense: irregular verbs
- Vocabulary regarding professions
- Vocabulary about the future
- Business vocabulary

Unit 10 Los negocios y el empleo / Business and Employment

For the final unit of Spanish IIB, the students apply Spanish knowledge toward a business setting. Vocabulary consists of frequently used Spanish words used in retail, hospital, and private ownership business situations. The goal of this unit is for students to realize how to apply their Spanish in any future occupation. To conclude the unit, students research a future profession of interest and conduct a three minute sales pitch in Spanish.

Students will be able to:

- Read about different professions and vocabulary the benefits of speaking Spanish
- Listen to personal testimonials that Spanish support speaking a foreign language in the workplace
- Reflect upon their own professional goals and how they will apply Spanish within their work setting
- Make comparisons between the American and Hispanic workforce
- Analyze the Hispanic community within Grand Rapids and the importance of diversity in the community

Standards

5.2.N.c

Students will learn and apply:

- Business and occupational
- The conditional verb tense in (íra, íras, íra, íramos, íran)
- Further application of the simple future tense (IR +A+verb)
- Conocer VS Saber
- Recognition of three verb conjugations consisting of present, past, conditional, and future tense

MS Spanish Curriculum



WEST MICHIGAN ACADEMY
OF ENVIRONMENTAL SCIENCE

WMAES strives to provide an environment that will foster creativity, promote academic achievement, and develop sound character and citizenship principles emphasizing responsibility to the environment and society, while maintaining and improving each student's self-esteem and self-concept.

Course Overview

Spanish is the second most commonly spoken language in the United States. People in more than 20 different countries speak Spanish and it ranks within the top three most spoken languages in the world. Proficiency in Spanish along with an understanding of the values and beliefs of Spanish-speaking cultures will enable people to participate actively in the diverse global community of the 21st century. Students in middle school Spanish embark on a voyage of discovery and explore the language and the culture of the peoples who speak this modern world language. Students begin to develop an ability to understand simple spoken and written Spanish. At the same time, students learn to communicate orally and in writing in a culturally appropriate manner about familiar topics that include self, school, Hispanic traditions, pastimes, family, travel and the environment. Vocabulary and basic grammatical structures are taught within the context of everyday topics. Culture is embedded throughout the course and relates directly to the topics studied.

Application

Students start using the language to exchange greetings and introductions. Students follow simple classroom directions, spell words in Spanish, tell time and the date, talk about the weather, and discuss seasons. Students interpret simple spoken and written Spanish and use the language to communicate about likes, personalities, the school day, basic foods and beverages, as well as activities to maintain good health.

There are ten major units in MS Spanish:

- Unit 1- Why study Spanish? L.A. geography introduction
- Unit 2- Alphabet, greetings, pronouns, interrogative words, adjectives
- Unit 3- Numbers 0-50, articles, family members
- Unit 4- Weather/seasons, months, days, colors, hacer
- Unit 5- Classroom objects, classes, time
- Unit 6- Body parts, hospital vocab, doler, lastimar
- Unit 7- Animals, environment, natural wonders
- Unit 8- Cultural traditions, holidays, adjectives
- Unit 9- Gustar (to like), encantar (to love) w/IO pronouns, pastimes
- Unit 10- SER (to be) vs ESTAR (to be), ir + a (to go to)

Week	Standards	Content/Pacing	Skills
1	5.1, 5.2	Why study Spanish?	Explore the value of communicating in another language
2	4.2, 1.1, 1.2	Geography, greetings, pronouns, interrogative words, ser	Improve geographical understanding and making comparisons with English grammar
3	1.1, 1.2, 1.3	Numbers 0-50, AR, ER, IR verb endings, choosing the correct verb	Enhancing mathematical skills (arithmetic) and creating a foundation for verb conjugation
4	1.1, 1.2, 2.2, 4.1	Weather, months, days, colors, hacer (to make)	Applying daily vocabulary to lexicon and continuing communication among peers
5	1.1, 1.2, 3.1	Estar (to be), feelings, classroom objects, classes, time	Learning to express one's feelings and learning school vocabulary
6	1.1, 1.2, 3.1	Body parts, hospital vocab, doler (to ache), lastimar (to hurt)	Introduction to indirect object pronoun usage in a medical setting
7	2.1, 3.2, 4.2	Animals, environment, natural wonders	Applying environmental science to classroom content while learning about foreign countries
8	2.1, 2.2	Cultural traditions, family members and celebrations	Reading about Hispanic culture and traditions that differ from American customs
9	1.1, 5.1	Gustar (to like), encantar (to love), w/IO pronouns, pastimes	Enhancing self-expression and general communication
10	1.2, 3.1	SER (to be) vs ESTAR (to be), ir + a (to go to)	Discovering the different usage of the two verbs and learning to use the future tense
11	1.3, 2.1, 5.2	Country project	Students apply knowledge and create a presentation on a chosen country
12		Final exam	An assessment based reflection that covers the entire trimester

SECTION E

METHODS OF PUPIL ASSESSMENT

METHODS OF PUPIL ASSESSMENT

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.5, the Academy shall properly administer all state-mandated academic assessments identified in the Code, as applicable, and all academic assessments identified in the Public School Academy Chartering Policies adopted by the University Board, as applicable, in accordance with the requirements detailed in the Master Calendar annually issued by the Center.

The Academy shall authorize the Center to have access to the Academy's Student/School Data Applications through the Center for Educational Performance and Information and to the electronic reporting system administered by the Michigan Department of Education to access the Academy's state assessment results, as applicable. The Academy shall ensure that those involved with the administration of these assessments are properly trained and adhere to the ethical standards and testing procedures associated with these assessments.

Academic Assessments to Be Administered:

<u>Grade(s)</u>	<u>Academic Assessment(s)</u>
Grade 1	a standardized, norm-referenced assessment as required by the Code.
Grades 2-11	assessments as identified in Schedule 7b including all state-mandated assessments.

SECTION F

APPLICATION AND ENROLLMENT OF STUDENTS

APPLICATION AND ENROLLMENT OF STUDENTS

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Sections 6.6 and 6.16, the Academy shall comply with the application and enrollment requirements identified in this Schedule.

Enrollment Limits

The Academy will offer kindergarten through twelfth grade. The maximum enrollment shall be 900 students. The Academy Board will annually adopt maximum enrollment figures prior to its application and enrollment period.

Requirements

Section 504 of the Code provides that public school academies shall not charge tuition and shall not discriminate in its pupil admissions policies or practices on the basis of intellectual or athletic ability, measures of achievement or aptitude, status as a student with a disability, or any other basis that would be illegal if used by a Michigan school district. However, a public school academy may limit admission to pupils who are within a particular range of age or grade level or on any other basis that would be legal if used by a Michigan school district and may give enrollment priority as provided below.

- Academy enrollment shall be open to all individuals who reside in Michigan. Except for a foreign exchange student who is not a United States citizen, a public school academy shall not enroll a pupil who is not a Michigan resident.
- Academy admissions may be limited to pupils within a particular age range/grade level or on any other basis that would be legal if used by a Michigan school district.
- The Academy shall allow any pupil who was enrolled in the Academy in the immediately preceding school year to enroll in the Academy unless the appropriate grade is not offered.
- No student may be denied participation in the application process due to lack of student records.
- If the Academy receives more applications for enrollment than there are spaces available, pupils shall be selected for enrollment through a random selection drawing.

The Academy may give enrollment priority to one (1) or more of the following:

- A sibling of a pupil enrolled in the Academy.
- A pupil who transfers to the Academy from another public school pursuant to a matriculation agreement between the Academy and other public school that provides for this enrollment priority, if all of the following requirements are met:
 1. Each public school that enters into the matriculation agreement remains a separate and independent public school.
 2. The Academy shall select at least 5% of its pupils for enrollment using a random selection process.

3. The matriculation agreement allows any pupil who was enrolled at any time during elementary school in a public school that is party to the matriculation agreement and who was not expelled from the public school to enroll in the public school academy giving enrollment priority under the matriculation agreement.
- A child, including an adopted child or legal ward, of a person who is employed by or at the Academy or who is on the Academy Board.

Matriculation Agreement

- The Academy Board may enter into a matriculation agreement with another public school pursuant to section 504(4) of the Code.
- However, before the Academy Board approves a matriculation agreement, the Academy shall provide a draft copy of the agreement to the Center for review.
- Any matriculation agreement entered into by the Academy shall be added to this Schedule 7f through a contract amendment approved in accordance with Article IX in the Terms and Conditions of this Contract.
- Until the matriculation agreement is incorporated into this Contract, the Academy is prohibited from granting an enrollment priority to any student pursuant to that matriculation agreement.

Application Process

- The Academy shall make reasonable effort to advertise its enrollment openings.
- The Academy's open enrollment period shall be a minimum of two weeks (14 calendar days) in duration and shall include evening and weekend times.
- The Academy shall accept applications all year. If openings occur during the academic year, students shall be enrolled. If openings do not exist, applicants shall be placed on the official waiting list. The waiting list shall cease to exist at the beginning of the Academy's next open enrollment period.
- In the event there are openings in the class for which students have applied, students shall be admitted according to the official waiting list. The position on the waiting list shall be determined by the random selection drawing. If there is no waiting list, students shall be admitted on a first-come, first-served basis.
- The Academy may neither close the application period nor hold a random selection drawing for unauthorized grades prior to receipt of written approval from the Center.

Legal Notice or Advertisement

- The Academy shall provide legal notice or advertisement of the application and enrollment process in a local newspaper of general circulation. A copy of the legal notice or advertisement shall be forwarded to the Center.
- At a minimum, the legal notice or advertisement must include:

1. The process and/or location(s) for requesting and submitting applications.
 2. The beginning date and the ending date of the application period.
 3. The date, time, and place the random selection drawing(s) will be held, if needed.
- The legal notice or advertisement of the application period shall be designed to inform individuals that are most likely to be interested in attending the Academy.
 - The Academy, being an equal opportunity educational institution, shall be committed to good-faith affirmative action efforts to seek out, create and serve a diverse student body.

Re-enrolling Students

- The Academy shall notify parents or guardians of all enrolled students of the deadline for notifying the Academy that they wish to re-enroll their child.
- If the Academy Board has a sibling preference policy, the re-enrollment notice must also request that the parent or guardian indicate whether a sibling(s) seeks to enroll for the upcoming academic year.
- An enrolled student who does not re-enroll by the specified date can only apply to the Academy during the application period for new students.
- An applicant on the waiting list at the time a new application period begins must reapply as a new student.
- After collecting the parent or guardian responses, the Academy must determine the following:
 1. The number of students who have re-enrolled per grade or grouping level.
 2. The number of siblings seeking admission for the upcoming academic year per grade.
 3. If space is unavailable, the Academy must develop a waiting list for siblings of re-enrolled students.
 4. The number of spaces remaining, per grade, after enrollment of current students and siblings.

Random Selection Drawing

A random selection drawing is required if the number of applications exceeds the number of available spaces. Prior to the application period, the Academy shall:

- Establish written procedures for conducting a random selection drawing.
- Establish the maximum number of spaces available per grade or age grouping level.
- Establish the date, time, place and person to conduct the random selection drawing.
- Notify the Center of both the application period and the date of the random selection drawing, if needed. The Center may have a representative on-site to monitor the random selection drawing process.

The Academy shall use a credible, impartial individual who is not employed by, under contract with, a member of the Board of, or otherwise affiliated with the Academy to conduct the random selection drawing. Further, the Academy shall:

- Conduct the random selection drawing in a manner that is open to parents, community members and members of the public who want to observe the process.
- Use numbers, letters, or another system that guarantees fairness and does not give an advantage to any applicant.

The Academy shall notify applicants not chosen in the random selection drawing that they were not selected and that their name has been placed on the Academy's official waiting list for openings that may occur during the academic year. Students shall appear on the official waiting list in the order they were selected in the random selection drawing.

SECTION G

SCHOOL CALENDAR AND SCHOOL DAY SCHEDULE

SCHOOL CALENDAR AND SCHOOL DAY SCHEDULE

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.7, the Academy shall comply with the school calendar and school day schedule requirements identified in this schedule.

School Calendar

The Academy's school calendar shall comply with Sections 1175, 1284 and 1284a, if applicable, of the Code. The Academy's school calendar shall also comply with the minimum requirements set forth in Section 101 of the School Aid Act of 1979 (MCL 388.1701). The Academy Board must submit a copy of the Academy's school calendar to the Center in accordance with the Master Calendar of Reporting Requirements.

School Day Schedule

The Academy Board must structure the Academy's school day schedule to meet the required number of instructional days and hours. The Academy Board must submit the school day schedule to the Center prior to the commencement of each academic year.

SECTION H

AGE OR GRADE RANGE OF PUPILS

AGE OR GRADE RANGE FOR PUPILS TO BE ENROLLED

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article VI, Section 6.8, the Academy shall comply with the age or grade ranges as stated in this schedule.

The Academy will enroll students in kindergarten through twelfth grade.

Students of the Academy will be children who have reached the age of 5 by the dates outlined in the Code.

CONTRACT SCHEDULE 8

**INFORMATION AVAILABLE TO
THE PUBLIC AND THE CENTER**

INFORMATION AVAILABLE TO THE PUBLIC AND THE CENTER

Pursuant to Applicable Law and the Terms and Conditions of this Contract, including Article XI, Section 11.8, the Academy shall comply with this Schedule.

Information Available to the Public and The Center

The Code provides that the board of directors of a public school academy shall make information concerning its operation and management available to the public and to the Center in the same manner as is required by state law for school districts.

The Code provides that the board of directors of a public school academy shall collect, maintain, and make available to the public and the Center, in accordance with applicable law and the Contract, at least all of the following information concerning the operation and management of the Academy:

1. A copy of the Academy's Charter Contract.
2. A list of currently serving members of the Academy Board, including name, address, and term of office.
3. Copies of policies approved by the Academy Board.
4. The Academy Board meeting agendas and minutes.
5. The budget approved by the Academy Board and of any amendments to the budget.
6. Copies of bills paid for amounts of \$10,000.00 or more, as submitted to the Academy Board.
7. Quarterly financial reports submitted to the Center.
8. A current list of teachers and administrators working at the Academy that includes individual salaries as submitted to the Registry of Educational Personnel.
9. Copies of the teaching or administrator's certificates or permits of current teaching and administrative staff.
10. Evidence of compliance with the criminal background and records checks and unprofessional conduct check required under sections 1230, 1230a, and 1230b of the Code for all teachers and administrators working at the Academy.
11. Curriculum documents and materials given to the Center.
12. Proof of insurance as required by the Contract.
13. Copies of facility leases or deeds, or both.
14. Copies of any equipment leases.
15. Copies of any management contracts or services contracts approved by the Academy Board.
16. All health and safety reports and certificates, including those relating to fire safety, environmental matters, asbestos inspection, boiler inspection, and food service.
17. Annual financial audits and any management letters issued as part of the Academy's annual financial audit, required under Article VI, Section 6.11 of the Terms and Conditions of this Contract.
18. Any other information specifically required under the Code.

Information to be Provided by the Academy's Educational Service Provider (if any)

Pursuant to the Terms and Conditions of this Contract, including Article III, Section 3.6, the University Board authorizes the Academy Board to employ or contract for personnel according to the position information outlined in Schedule 5. Any Educational Service Provider Management Agreement entered into by the Academy must contain a provision requiring the educational service provider to provide to the Academy Board information concerning the operation and management of the Academy (including without limitation, but not limited to, the items identified above and annually the information that a school district is required to disclose under Section 18(2) of the State School Aid Act of 1979, MCL 388.1618) available to the Academy Board in order to enable the Academy to fully satisfy its obligations under Section 11.8(a) of the Terms and Conditions.

AMENDMENT NO. 1

to the
July 1, 2014 Contract to Charter
A Public School Academy and Related Documents

Issued To

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
(A PUBLIC SCHOOL ACADEMY)

By

THE CENTRAL MICHIGAN UNIVERSITY
BOARD OF TRUSTEES
(AUTHORIZING BODY)

CONTRACT AMENDMENT NO. 1

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

In accordance with Article IX of the Terms and Conditions of the Contract (the "Contract"), dated July 1, 2014, issued by the CENTRAL MICHIGAN UNIVERSITY BOARD OF TRUSTEES (the "University Board") to WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE (the "Academy"), the parties agree to amend the Contract as follows:

- 1.) Amend Schedule 7, Section d: Curriculum, by inserting at the end of this Section the materials attached as Tab 1.

This entire amendment is hereby approved by the University Board and the Academy Board through their authorized designees, and shall have an effective date of January 13, 2015.



Dated: 3/27/15

By: Cynthia M. Schumacher, Executive Director
The Governor John Engler Center for Charter Schools
Designee of the University Board



Dated: 3/10/15

By: Board President
West Michigan Academy of Environmental Science
Designee of the Academy Board

West Michigan Academy of Environmental Science
Contract Amendment No. 1

Tab 1

Students successfully completing a season of a WMAES Varsity sport are able to use the sport in place of the PE portion of the physical wellness credit. The requirements are listed below.

The requirements for earning credit towards the Physical Education requirement for graduation:

- Must be in good athletic and academic standing- complete the season and be eligible academically.
- Injured players may receive a letter if in the opinion of the head coach, Athletic Director and Principal, he/she would have participated enough if they had not been injured, and also served the team in some capacity while injured.
- Show marked improvement during the season and from the previous season.
- Be of good character, a teammate and team player.
- Attend all practices, games, meets or matches unless excused by the coach, parent or doctor.
- Contribute to the team's success.
- Regular member of the varsity team.
- At the discretion of the head coach, only with the approval of the Athletic Director and Principal.

AMENDMENT NO. 2

to the
July 1, 2014 Contract to Charter
A Public School Academy and Related Documents

Issued To

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE
(A PUBLIC SCHOOL ACADEMY)

By

THE CENTRAL MICHIGAN UNIVERSITY
BOARD OF TRUSTEES
(AUTHORIZING BODY)

CONTRACT AMENDMENT NO. 2

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE

In accordance with Article IX of the Terms and Conditions of the Contract (the "Contract"), dated July 1, 2014, issued by the CENTRAL MICHIGAN UNIVERSITY BOARD OF TRUSTEES (the "University Board") to WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE (the "Academy"), as amended, the parties agree to further amend the Contract as follows:

- 1.) Amend Schedule 6: Physical Plant Description, by replacing the Installment Purchase Financing Agreement contained therein with the materials attached as Tab 1.

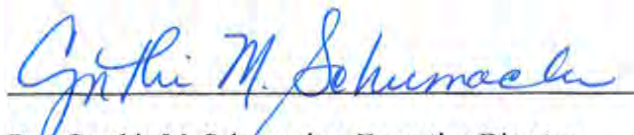
The changes identified in Section 1 shall have an effective date of March 16, 2015.

- 2.) Amend Schedule 4: Oversight, Compliance and Reporting Agreement, by inserting the following language at the end of Section 2.2. Compliance and Reporting Duties:

1. If the Academy operates an online or other distance learning program, it shall submit a monthly report to the Michigan Department of Education, in the form and manner prescribed by the Michigan Department of Education, that reports the number of pupils enrolled in the online or other distance learning program, during the immediately preceding month.

The changes identified in Section 2 shall have an effective date of July 1, 2015.

This entire amendment is hereby approved by the University Board and the Academy Board through their authorized designees.



Dated: 6/24/15

By: Cynthia M. Schumacher, Executive Director
The Governor John Engler Center for Charter Schools
Designee of the University Board



Dated: 6/9/15

By: Board President
West Michigan Academy of Environmental Science
Designee of the Academy Board

West Michigan Academy of Environmental Science
Contract Amendment No. 2

Tab 1

CONSTRUCTION AND SUPPLEMENTAL FINANCE AGREEMENT¹

\$6,000,000.00 & \$1,000,000.00 Senior Loans \$437,500.00 Subordinate Loan \$750,000.00 Secondary Construction Loan	Loan Date March 16, 2015	Maturity Date Senior Loans and Subordinate Loan: April 30, 2016 Secondary Construction Loan: March 16, 2022	Loan Nos. 375513400 375523500	Officer Ian Wiesner and William Robison
References in the boxes above are for Lender's use only and do not limit the applicability of this document to any particular loan or item.				

THIS CONSTRUCTION AND SUPPLEMENTAL FINANCE AGREEMENT (this “**Agreement**”) is made and entered into as of the 16th day of March, 2015, by and between (i) **CAPITAL IMPACT PARTNERS**, a nonprofit corporation organized under the laws of the District of Columbia at the direction of the U.S. Congress in 12 U.S.C. Section 3051 (together with its successors and assigns, “**Lender**”), having its principal place of business at 2011 Crystal Drive, Suite 750, Arlington, Virginia 22202, and (ii) **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation (together with its permitted successors and assigns, “**Borrower**”), having its principal place of business at 4463 Leonard NW, Walker, Michigan 49534, on the following terms and conditions.

I. DEFINITIONS, CONDITIONS AND ACCOUNTING TERMS.

1.1 Definitions. For purposes of this Agreement, capitalized terms used in the Loan Documents shall have the meanings set forth in this Agreement.

Advance means a disbursement of the funds of the Loans made, or to be made, to Borrower or on Borrower's behalf on a multiple advance basis under the terms and conditions of this Agreement, including any disbursement to be made out of a Disbursement Account established pursuant to the terms hereof.

Affiliates means any Person: (i) which directly or indirectly controls, or is controlled by, or is under common control with Borrower; (ii) which directly or indirectly beneficially owns or holds five percent (5%) or more of any class of voting stock of Borrower; or (iii) of which five percent (5%) or more of its voting stock is directly or indirectly beneficially owned or held by Borrower. The term control means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

Architect means InterActive Studio, LLC, a Michigan limited liability company.

Borrower shall have the meaning given to that term in the preamble of this Agreement and its permitted successors and assigns, if any.

Business Day means any day other than a Saturday, a Sunday or any other day on which commercial banks in the State of Michigan and/or Commonwealth of Virginia are required or permitted by law to close.

Closing Date means the date hereof.

¹ Although referenced as “commercial loans”, “Loans” or “Notes” herein, the evidence of indebtedness referred to herein is a bond issued by Borrower, a Michigan public school academy, pursuant to Section 1351a of the Revised School Code, MCL 380.1351a (“**Section 1351a**”). It may be referenced in this and other documentation prepared by Lender and executed by Borrower as a Note, a Loan or a Bond, but in all such instances such references are intended to refer to and shall refer to the obligation issued under Section 1351a. Further, the transactions contemplated herein do not constitute a “line of credit” to Borrower under the provisions of Section 1225 of the Revised School Code, MCL 380.1225.

Code means the United States Internal Revenue Code of 1986, as amended.

Collateral means all real property, improvements, fixtures, personal property (tangible and intangible) and other assets granted as collateral security for the Loans, whether granted directly or indirectly, whether granted now or in the future, and whether granted in the form of a security interest, mortgage, collateral mortgage, deed of trust, assignment, pledge, crop pledge, chattel mortgage, collateral chattel mortgage, chattel trust, factor's lien, equipment trust, conditional sale, trust receipt, lien, charge, lien or title retention contract, lease or consignment intended as a security device, or any other security or lien interest whatsoever, whether created by law, contract, or otherwise. Collateral for the Senior Loans shall include without limitation: (i) first position blanket lien on all tangible and intangible business assets of Borrower and all proceeds thereof²; and (ii) a perfected, first position mortgage on the Premises. Collateral for the Subordinate Loan shall include without limitation: (i) second position blanket lien on all tangible and intangible business assets of Borrower and all proceeds thereof³; and (ii) a perfected, second position mortgage on the Premises. Collateral for the Secondary Construction Loan shall include without limitation a third position blanket lien on all tangible and intangible business assets of Borrower and all proceeds thereof⁴ and after the Senior Loans and Subordinate Loan have been paid off, it shall be a second position blanket lien.

Completion Date means a date not later than March 31, 2016 with respect to the Construction Project, minus the Additional Site Work (as defined below and as more fully described in the Construction Contract) and a date not later than September 30, 2016 with respect to the Additional Site Work.

Construction Commitment Letter means that certain letter from Lender to Borrower dated November 10, 2014, pursuant to which Lender committed to make the Senior Loans and the Subordinate Loan to Borrower on the terms and subject to the condition set forth therein. In the event of any conflicts between the terms hereof and the terms of the Construction Commitment Letter, the terms hereof shall supersede and govern.

Construction Consultant means Partners Engineering & Science, Inc.

Construction Contract means collectively two (2) construction contracts approved by Lender: one in a budgeted amount of \$7,016,009.00 and the other in a budgeted amount of \$474,858.00, which second contract relates to the Additional Site Work, both with the General Contractor and which contract amounts include specific contingencies within a budget approved by Lender and which shall be sufficient to complete the Construction Project.

Construction Project or Project means the construction of a new building and the renovation of existing buildings on the Premises, including additional site work consisting of removal of portable classrooms and installation of new parking lot and related site work (the "**Additional Site Work**"). Upon completion: (a) the new building will consist of two (2) stories and 51,970 square feet; and (b) the existing buildings will include the renovation of the primary existing building of 29,300 square feet. In addition, there will be three (3) modular classroom buildings. The new and existing buildings are used and occupied as a public school academy under the laws of the State of Michigan.

Debt Service Reserve Account means that that certain Disbursement Account at National Cooperative Bank, N.A., a national bank, to be set up as of the Closing Date, (i) in which on the closing date of the Permanent Loan, proceeds of the Permanent Loan in the amount of six (6) months of principal and interest payments (the required amount shall be based on the total amount of the Permanent Loan) shall be deposited and (ii) which shall be controlled by and pledged to Lender.

² To the extent permitted by law

³ To the extent permitted by law

⁴ To the extent permitted by law

Default Rate has the meaning set forth in the respective Notes executed in connection with the Senior Loans, the Subordinate Loan and the Secondary Construction Loan.

Disbursement Account means any construction disbursement, debt service, interest reserve, collateral reserve or other bank account held in the name of Borrower at National Cooperative Bank, N.A., a national bank, into which Lender shall deposit Loan Proceeds, and out of which account Lender shall disburse or authorize the disbursement of funds for any designated purpose required hereunder or under any other Loan Documents. Disbursement Account shall include the following: (i) the Debt Service Reserve Account, (ii) the Interest Reserve Account and (iii) the Replacement Reserve Account.

Dollars, "\$" or "U.S. Dollars" means the lawful money of the United States of America.

Environmental Indemnity Agreement means that certain Environmental Certificate and Indemnification and Accessibility Indemnification Agreement regarding Hazardous Substances and Accessibility Laws (as such term is defined in said agreement) of even date herewith between Lender and Borrower, as amended from time to time, which shall be satisfactory to Lender in all respects.

Environmental Laws shall have the meaning set forth in the Environmental Indemnity Agreement.

Event of Default shall have the meaning given to that term in Article XII of this Agreement.

Expense Deposit means the deposit previously given by Borrower to Lender in the amount of Ten Thousand and 00/100 Dollars (\$10,000.00) which has been applied to expenses related to Closing that have been incurred by Lender with respect to the Senior Loans and Subordinate Loan.

Financing Statements means UCC-1 financing statements authorized by Borrower hereunder and naming Borrower as debtor and Lender as the secured party, which shall be satisfactory to Lender in all respects.

Forward Commitment means a commitment by General Board on Pensions of the United Methodist Church ("GBOP") to purchase a 95% interest and participation in the Permanent Loan.

GAAP means generally accepted accounting principles as in effect from time to time. Unless otherwise expressly specified herein, all accounting terms used in this Agreement shall be interpreted, all accounting determinations hereunder shall be made, and all financial statements required to be delivered hereunder shall be prepared, on an accrual basis in accordance with GAAP.

General Contractor means Owen-Ames-Kimball Co., a Michigan corporation, engaged by Borrower to construct and complete the Construction Project.

Governmental Authority means any nation or government, any state or other political subdivision thereof, and any entity exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government having the force of law.

Hazardous Substance shall have the meaning set forth in the Environmental Indemnity Agreement.

Improvements means all improvements, structures or buildings and all replacements and alterations thereof or thereto, whether now or hereafter located upon the Premises, including all equipment, apparatus, machinery and fixtures of every kind and nature whatsoever, which form a part of such improvements, structures or buildings, including without limitation a new building and the existing buildings to be renovated as part of the Construction Project (collectively, the "**Building**").

Indebtedness means, for any Person: (i) all indebtedness or other obligations of such Person for borrowed money or for the deferred purchase price of property or services; (ii) all obligations evidenced by notes, bonds,

debentures or similar instruments, including obligations so evidenced incurred in connection with the acquisition of property, assets or businesses; (iii) all indebtedness created or arising under any conditional sale or other title retention agreement with respect to property acquired by such Person (even though the rights and remedies of the seller or lender under such agreement in the event of default are limited to repossession or sale of such property); (iv) all reimbursement or other obligations of such Person under or in respect of letters of credit and bankers acceptances; (v) all reimbursement or other obligations of such Person in respect of any bank guaranties, surety bonds and similar instruments issued for the account of such Person or as to which such Person is otherwise liable for reimbursement of drawings or payments; and (vi) all guaranties of indebtedness of another person and all indebtedness of another Person secured by any Lien upon or in property owned by the Person for whom indebtedness is being determined, whether or not such Person has assumed or become liable for the payment of such indebtedness of such other Person.

Interest Rate Lock Fee means the sum of 0.15% of that portion of the Permanent Loan to be sold to GBOP as a participant in the Permanent Loan.

Interest Reserve Account means that that certain Disbursement Account at National Cooperative Bank, N.A., a national bank (i) in which on the Closing Date proceeds of the Senior Loans in the amount of Two Hundred Thirty Two Thousand Four Hundred Twenty Two and 00/100 Dollars (\$232,422.00) shall be deposited and (ii) which shall be controlled by and pledged to Lender. Funds in the Interest Reserve Account will be disbursed over a 14-month period to make interest payments on the Loans.

Land means the real property owned by Borrower in the City of Walker, County of Kent and State of Michigan, which is commonly known as 4463 Leonard NW, consisting of approximately 57.43 acres, as more particularly described in Exhibit A hereto, including the Improvements thereon, all easements, rights, privileges and appurtenances thereunto belonging or in any way appertaining, and all estate, right, title, interest, claim and demand whatsoever of Borrower therein, and in and to any and all streets, ways, alleys, passages, sewer rights, waters, water courses, water rights and powers adjacent thereto, whether at law or in equity, in possession or expectancy, and whether now owned or hereafter acquired.

Legal Requirements applicable to any property or Person means (i) all decisions, statutes, ordinances, rulings, directions, rules, regulations, orders, writs, decrees, injunctions, permits, certificates, or other requirements of any court or other Governmental Authority in any way applicable to or affecting such property or such Person or its business, operations, or assets having the force of law; and (ii) all such person's operating agreement, bylaws and articles of incorporation or partnership, limited partnership, joint venture, trust or other form of business association agreement. As to the Premises, such term, includes, without limitation, all legal requirements relating to the acquisition, development and construction/renovation of the Improvements, ownership, use, occupancy, possession, operation, maintenance, alteration and repair thereof, as well as all related permits, easements, covenants, restrictions and similar items.

Lender shall have the meaning given to that term in the preamble of this Agreement.

Lien means, with respect to any asset, any mortgage, deed of trust, lien (statutory or otherwise), pledge, charge, security interest, hypothecation, assignment or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law, including any conditional sale or other title retention agreement, any lease in the nature thereof, any option or other agreement to give a security interest in and any authorized filing of or agreement to give any financing statement under the UCC (or equivalent statutes) of any jurisdiction.

Loans mean collectively the Senior Loans, the Subordinate Loan and the Secondary Construction Loan made by Lender to Borrower pursuant to this Agreement.

Loan Documents means this Agreement, the Notes, the Mortgages and all other promissory notes, credit agreements, loan agreements, environmental agreements, security agreements, mortgages, deeds of trust, security

deeds, collateral mortgages, Financing Statements and all other instruments, agreements and documents, whether now or hereafter existing, executed by Borrower in connection with the Loans.

Loan Proceeds means the proceeds of the Loans to be advanced upon and subject to the provisions of this Agreement.

Manager means Choice Schools Associates, L.L.C., a Michigan limited liability company.

Maturity Date means: (i) with respect to the Senior Loans and the Subordinate Loan, April 30, 2016; and (ii) with respect to the Secondary Construction Loan, March 16, 2022.

Mortgages means those certain mortgages, inclusive of security agreements and fixture filing with assignment of rents and leases, of even date herewith and made by Borrower, as amended from time to time in accordance with their terms, which shall be satisfactory to Lender in all respects.

Notes mean collectively the Senior Notes, the Subordinate Note and the Secondary Construction Note executed by Borrower in favor of Lender pursuant to this Agreement.

Obligations means the Loans and any and all other liabilities and obligations of Borrower to Lender, whether now existing or hereafter created or arising, direct or indirect, matured or unmatured, and whether absolute or contingent, joint, several or joint and several, and no matter how the same may be evidenced including interest and fees that accrue after the commencement by or against Borrower of any proceeding under any debtor relief laws naming such Person as the debtor in such proceeding, regardless of whether such interest and fees are allowed claims in such proceeding. Without limiting the generality of the foregoing the term Obligations shall mean and include the Indebtedness evidenced by the Notes or any of the other Loan Documents, including all principal and interest, fees, costs and expenses for which Borrower is responsible under this Agreement or under any of the other Loan Documents, and all covenants, agreements, duties and other obligations hereunder and under the other Loan Documents.

Operating Permits means all permits, licenses, approvals, authorizations, consents, franchises, patents, copyrights, trademarks, and trade names, agreements and other instruments, or rights thereto, that are necessary or required for Borrower to operate its business and the Premises.

Origination Fee means collectively, a commitment or origination fee of Ninety Two Thousand Nine Hundred Sixty Eight and 75/100 Dollars (\$92,968.75) in connection with the Senior Loans and the Subordinate Loan and Seven Thousand Five Hundred and 00/100 Dollars (\$7,500.00) in connection with the Secondary Construction Loan.

Permanent Loan means the permanent loan to be made by Lender to Borrower in the maximum principal amount of Seven Million Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$7,437,500.00).

Permanent Loan Commitment means the commitment of Lender as set forth in its commitment letter dated November 10, 2014, to extend and make a permanent loan to Borrower with proceeds sufficient to pay off the Senior Loans and the Subordinate Loan; provided, however, the Permanent Loan Commitment of Lender is subject to the participation of GBOP under its Forward Commitment.

Permitted Indebtedness means: (i) Indebtedness to Lender; and (ii) except as set forth in **Section 7.12** of this Agreement, only such other Indebtedness expressly approved in writing by Lender in its sole and absolute discretion.

Permitted Liens means: (i) liens and security interests securing Permitted Indebtedness in favor of Lender; and (ii) liens for taxes, assessments, or similar charges either not yet due or being contested in good faith.

Person means an individual, corporation, partnership, limited liability company, trust, unincorporated association, government, governmental authority or other entity, as the context may require.

Premises means the Land and Improvements.

Project Completion means completion of the Construction Project (minus the Additional Site Work) and:

(a) the issuance of a certificate of occupancy, which may be temporary, permitting the use of the Premises as a public school academy, subject only to completion of minor punchlist items for which Lender will retain one hundred (100%) percent of the costs and work to be performed, which will not give rise to a claim of construction lien against the Premises, unless insured over as to Lender's Mortgages by the Title Company; any such costs retained by Lender will be disbursed only upon completion of such work; and

(b) approval of the work by the Construction Consultant; and

(c) the issuance by the surveyor of a final as-built survey, certified to Lender and Title Company, and having an updated (current) certification by the surveyor satisfactory to Lender; and

(d) the issuance by the Title Company of an endorsement insuring the full amount of the Senior Loans and the Subordinate Loan disbursed to date as a first and second, as applicable, lien upon the Premises, together with a 3.1 zoning endorsement; and

(e) the payment of all sums required to pay interest and other charges and expenses to maturity.

With respect to the Additional Site Work, Project Completion shall mean completion of the Additional Site Work and:

(a) the issuance of final and unconditional certificate of occupancy;

(b) approval of the work by the Construction Consultant; and

(c) the payment of all sums required to pay interest and other charges and expenses to maturity.

Project Documents means the Construction Contract, the Plans and Specifications (hereinafter defined) and such other Construction Project-related documents as may be identified by Lender, all of which Project Documents shall be collaterally assigned to Lender as additional security for the Loans, and the General Contractor and Architect shall consent to such assignments on Lender's standard form of consent and assignment.

Project Equity means a cash investment of at least Five Hundred Eighty Seven Thousand Forty Three and 00/100 Dollars (\$587,043.00) by Borrower. Borrower shall increase the Project Equity as necessary from time to time in the event the Loans are insufficient to complete the Construction Project.

Property Taxes means any form of real estate or personal property tax or assessment, general, special, ordinary or extraordinary, and any license fee, commercial rental tax, improvement bond or bonds, levy or tax (other than inheritance, personal income or estate taxes) imposed on the Collateral by any authority having the power to tax, including, without limitation, any city, state or federal government, or any school, agricultural, sanitary, fire, street, drainage or other improvement district thereof, as against any legal or equitable interest of Borrower in the Collateral, and any tax, fee, levy, assessment or charge imposed in partial or total substitution for any such tax, fee, levy, assessment or by reason of the transactions contemplated by the Loan Documents.

Replacement Reserve Account means that that certain Disbursement Account at National Cooperative Bank, N.A., a national bank, which shall be controlled by and pledged to Lender, to be set up as of the Closing Date, but to be funded no later than the fifth (5th) anniversary of the closing of the Permanent Loan and continuing

thereafter until the Permanent Loan has been irrevocably repaid in full. Borrower shall make monthly contributions into the Replacement Reserve Account on the first day of each calendar month following funding of said account in an amount equal \$0.0125 per square foot of the Premises. The monthly contribution will be finalized at the closing of the Permanent Loan and is currently estimated to be \$931.40. The funds in Replacement Reserve Account shall be used for replacement and repairs required to be made to the Premises and for any other work approved by Lender. On or before the fifth (5th) anniversary of the closing of the Permanent Loan, Borrower shall cause a property inspection to be performed on the Premises, and a report (the "**Property Condition Report**") of such inspection to be prepared, by a contractor satisfactory to Lender in its sole discretion. From and after the date of such Property Condition Report, Borrower shall adjust the amount of the monthly contributions into the Replacement Reserve Account to reflect the recommendations contained in the Property Condition Report. Lender shall make disbursements from the Replacement Reserve Account as requested by Borrower and approved by Lender in its sole discretion, no more frequently than once in any thirty (30) day period, upon delivery by Borrower of Lender's standard form of draw request accompanied by copies of paid invoices for the amounts requested and, if required by Lender for requests in excess of Ten Thousand and No/100 Dollars (\$10,000.00) for a single item, lien waivers, and releases from all parties furnishing materials and/or services in connection with the requested payment. Lender may require an inspection of the Premises at Borrower's expense prior to making a disbursement in order to verify completion of replacements and repairs of items in excess of Ten Thousand and No/100 Dollars (\$10,000.00) for which reimbursement is sought. The Replacement Reserve Account shall be controlled and administered by Lender. Until expended or applied as provided above, funds on deposit in the Replacement Reserve Account shall constitute additional security for the Permanent Loan. The depletion of the Replacement Reserve Account shall not relieve Borrower of its obligations with respect to maintenance and repair of the Premises. Upon repayment of the Permanent Loan in full and fulfillment by Borrower of all of its obligations under the documents evidencing the Permanent Loan, all funds remaining in the Replacement Reserve Account shall be released to Borrower.

Required Insurance means all insurance coverage with respect to the Premises and the Collateral as Lender shall require from time to time. Property insurance coverage required with respect to any Collateral shall not be less than that encompassed by "Fire, Extended Coverage and Vandalism and Malicious Mischief" perils broadened to include the so-call "All Risk of Physical Loss" coverage. Insurance shall be written on a replacement cost basis, and shall be in an amount not less than the amount necessary to comply with any co-insurance percentage stipulated in the policy or policies, but in all events not less than one hundred percent (100%) of insurable value (based on replacement cost). Public liability insurance shall include comprehensive coverage, including "XCU Coverage", provide coverage of not less than One Million and 00/100 Dollars (\$1,000,000.00) per accident or occurrence for personal injury or injury to property and Three Million and 00/100 Dollars (\$3,000,000.00) in the aggregate, and name Lender as an insured, to the extent Lender's interest may appear. Borrower shall also provide Lender with evidence: (1) of workers' compensation insurance, with statutory coverage limits; (2) that all insurance premiums have been paid at least one (1) year in advance; and (3) of such other insurance coverages, or information with respect to the insurance required hereby, as Lender may reasonably request. Each policy of insurance maintained pursuant to the terms hereof shall: (t) name Lender (together with its successors and assigns as their interests may appear) as an additional insured, as its interest may appear with respect to liability insurance coverage, and any additional insured parties shall be subject to Lender's approval in its sole and absolute discretion; (u) contain a standard non-contributory form mortgagee clause endorsement in favor of Lender with respect to hazard insurance coverage; (v) name Lender as loss payee and provide that all insurance proceeds for losses be adjusted and be payable to Lender; (w) include effective waivers (whether under the terms of any such policy or otherwise) by the insurer of all claims for insurance premiums against all loss payees and named insureds other than Borrower (provided that Lender shall have the right to pay premiums and continue any insurance upon the insolvency of Borrower or the foreclosure or other transfer of the Collateral) and all rights of subrogation against any named insured; (x) except in the case of public liability insurance and workers' compensation insurance, provide that any losses shall be payable notwithstanding (i) any act, failure to act, negligence, violation or breach of warranties, declarations or conditions contained in such policy by Borrower or Lender or any other named insured or loss payee, (ii) any foreclosure or other proceeding or notice of sale relating to the insured properties, or (iii) any change in the title to or ownership or possession of the insured properties; (y) provide that if all or any part of such policy is canceled, terminated or expires, the insurer will forthwith give

notice thereof to each named insured and loss payee and that no cancellation, termination, expiration or reduction in amount or material change in coverage thereof shall be effective until at least thirty (30) days after receipt by each named insured and loss payee of written notice thereof; and (z) not be subject to a deductible in excess of amounts as shall be reasonably satisfactory to Lender. All insurance policies shall be issued by a company or companies authorized to issue insurance in the jurisdiction in which the Premises is located and all insurers and reinsurers shall have the A.M. Best rating of "A-" and a financial size category of "V" or better, and the originals of these policies shall be deposited with Lender throughout the entire term of the Loans. Not later than twenty (20) days prior to the expiration, termination or cancellation of any insurance policy which Borrower is required to maintain hereunder, Borrower shall obtain a replacement policy or policies (or a binding commitment for such replacement policy or policies), which shall be effective no later than the date of the expiration, termination or cancellation of the previous policy, and shall deliver to Lender a certificate and a true and complete copy of such policy or policies which comply with the requirements of this Agreement or a copy of a binding commitment for such policy or policies.

Secondary Construction Loan means that certain non-revolving loan in the maximum principal amount of up to Seven Hundred Fifty Thousand and 00/100 Dollars (\$750,000.00) to be used by Borrower for secondary construction financing.

Secondary Construction Loan Fee means a fee relating to the Secondary Construction Loan, which is 0.35% of the difference between (x) \$750,000.00 and (y) the sum of (a) the total amount that has been prepaid to such date on the Secondary Construction Loan and (b) the current amount outstanding on the Secondary Construction Loan, which fee is payable by Borrower to Lender on a quarterly basis until the Disbursement End Date (as defined in the Secondary Construction Note).

Secondary Construction Loan Note means that certain Promissory Note (Secondary Construction Loan) of even date herewith made by Borrower and payable to the order of Lender in the maximum principal amount of Seven Hundred Fifty Thousand and 00/100 Dollars (\$750,000.00), or so much of it as shall be advanced, together with all modifications, amendments, renewals, extensions, replacements, and substitutions thereof or therefor.

Secondary Construction Loan Proposal Letter means that certain proposal letter from Lender to Borrower dated January 16, 2015, pursuant to which Lender proposed to make the Secondary Construction Loan to Borrower on the terms and subject to the condition set forth therein. In the event of any conflicts between the terms hereof and the terms of the Secondary Construction Loan Proposal Letter, the terms hereof shall supersede and govern.

Security Agreements means those certain security agreements made by Borrower for the benefit of Lender on the date hereof, pursuant to which Borrower has pledged to Lender all of Borrower's right, title and interest in and to certain personal property of Borrower more specifically identified therein, including, without limitation, the Collateral.⁵

Senior Loans means those certain construction loans in the maximum principal amount of up to Six Million and 00/100 Dollars (\$6,000,000.00) ("**Loan A**") and One Million and 00/100 Dollars (\$1,000,000.00) ("**Loan B**") made by Lender to Borrower pursuant to this Agreement to be used by Borrower to fund the Construction Project.

Senior Notes means those certain Construction Mortgage Notes (Senior Loan) of even date herewith made by Borrower and payable to the order of Lender in the maximum principal amounts of Six Million and 00/100 Dollars (\$6,000,000.00) ("**Note A**") and One Million and 00/100 Dollars (\$1,000,000.00) ("**Note B**"), or so much of them as shall be advanced, together with all modifications, amendments, renewals, extensions, replacements, and substitutions thereof or therefor.

⁵ To the extent permitted by law

Subordinate Loan means that certain construction loan in the maximum principal amount of up to Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$437,500.00) made by Lender to Borrower pursuant to this Agreement to be used by Borrower to fund the Construction Project.

Subordinate Note means that certain Construction Mortgage Note (Subordinate Loan) of even date herewith made by Borrower and payable to the order of Lender in the maximum principal amount of Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$437,500.00), or so much of it as shall be advanced, together with all modifications, amendments, renewals, extensions, replacements, and substitutions thereof or therefor.

Title Company means the title insurance company selected by Borrower and acceptable in all respects to Lender.

Title Policies mean ALTA loan title insurance policies issued by the Title Company, having liability in the amount of the Senior Loans and Subordinate Loan, respectively, and insuring, as of the time and date that the Mortgages are recorded, that fee title to the Premises is vested in Borrower and that the lien of the Mortgages is a valid first priority Lien on the Premises with respect to the Senior Loans and a valid second priority Lien on the Premises with respect to the Subordinate Loan, subject only to those Liens and exceptions as shall be acceptable to Lender in its sole discretion and containing such endorsements as Lender shall require, including, during the Senior Loans and the Subordinate Loan, pending disbursement endorsements, in each case insuring the first lien or second lien position of the Mortgages, as applicable.

UCC means the Uniform Commercial Code as the same may from time to time be in effect in the State of Michigan or the Uniform Commercial Code (or similar code or statute) of another jurisdiction, to the extent it may be required to apply to any item or items of Collateral.

1.2 Construction. Unless the context of this Agreement or other Loan Documents otherwise clearly require, reference to the plural include the singular and the singular the plural. The word "Borrower" shall mean "each Borrower and its successors and assigns;" the word "Lender" shall mean "Lender or any subsequent holder of the Notes"; the word "Notes" shall mean "the Notes or other evidence of Obligations secured by the Collateral and the other Loan Documents;" and the terms "include", "including" and similar terms shall be construed as if followed by the phrase "without being limited to." Whenever the context may require, any pronouns used herein shall include the corresponding masculine, feminine or neuter forms, and the singular form of nouns and pronouns shall include the plural and vice versa. All references to dollar amounts shall mean amounts in lawful money of the United States of America. Accounting words and terms not otherwise defined in this Agreement shall have the meanings assigned to them in accordance with GAAP as in effect on the date of this Agreement. Article, Section and Subsection references are to this Agreement unless otherwise specified.

II. LOAN TRANSACTION.

2.1 Terms of Loans.

(a) Terms of the Senior Loans:

(i) Subject to the terms and conditions contained in this Agreement, on the Closing Date, Lender agrees to make advances or disbursements of Loan A in the maximum aggregate principal amount of Six Million and 00/100 Dollars (\$6,000,000.00), or so much thereof as such be advanced by Lender.

(ii) If (A) Borrower has invested the full value of the Project Equity in the Project, (B) the full principal amounts of Loan A and the Subordinate Loan have been disbursed, and (C) the Loans and Project Budget are "in balance" as described in **Section 3.25**, Lender agrees to make advances or disbursements of Loan B in the maximum aggregate principal amount of One Million and 00/100 Dollars (\$1,000,000.00), or so much thereof as such be advanced by Lender.

(iii) Borrower's obligation to repay the Senior Loans shall be evidenced by the Senior Notes and secured by the first priority mortgage and by a first priority security interest in and to the Collateral. All sums advanced in connection with the Senior Loans shall be deemed to be advanced under the Senior Notes and Lender is hereby authorized by Borrower to (i) endorse on the Senior Notes the amount of each payment by Borrower of principal and interest; or (ii) enter the amount of such payment in Lender's records, including, if applicable, Lender's computer records, which endorsement or entry shall, in the absence of manifest error, be prima facie evidence of the outstanding balance of the Senior Loans; provided, however, that the failure to make such endorsement or entry with respect to any payment shall not limit or otherwise affect the Obligations of Borrower hereunder and under the Senior Notes and other Loan Documents.

(b) Terms of the Subordinate Loan:

(i) Subject to the terms and conditions contained in this Agreement, on the Closing Date, Lender agrees to make advances or disbursements of the Subordinate Loan in the maximum aggregate principal amount of Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$437,500.00), or so much thereof as such be advanced by Lender.

(ii) Borrower's obligation to repay the Subordinate Loan shall be evidenced by the Subordinate Note and secured by the second priority mortgage and by a second priority security interest in and to the Collateral. All sums advanced in connection with the Subordinate Loan shall be deemed to be advanced under the Subordinate Note and Lender is hereby authorized by Borrower to (i) endorse on the Subordinate Note the amount of each payment by Borrower of principal and interest; or (ii) enter the amount of such payment in Lender's records, including, if applicable, Lender's computer records, which endorsement or entry shall, in the absence of manifest error, be prima facie evidence of the outstanding balance of the Subordinate Loan; provided, however, that the failure to make such endorsement or entry with respect to any payment shall not limit or otherwise affect the Obligations of Borrower hereunder and under the Subordinate Note and other Loan Documents.

(c) Terms of the Secondary Construction Loan:

(i) Subject to the terms and conditions contained in this Agreement, on the Closing Date, Lender agrees to make advances or disbursements of the Secondary Construction Loan in the maximum aggregate principal amount of Seven Hundred Fifty Thousand and 00/100 Dollars (\$750,000.00), or so much thereof as such be advanced by Lender.

(ii) Borrower's obligation to repay the Secondary Construction Loan shall be evidenced by the Secondary Construction Loan Note and secured by a third priority security interest in and to the Collateral comprised of Borrower's business assets, as such assets are more fully described in the Security Agreement executed by Borrower in favor of Lender of even date herewith securing the Secondary Construction Loan Note. All sums advanced in connection with the Secondary Construction Loan shall be deemed to be advanced under the Secondary Construction Loan Note and Lender is hereby authorized by Borrower to (i) endorse on the Secondary Construction Loan Note the amount of each payment by Borrower of principal and interest; or (ii) enter the amount of such payment in Lender's records, including, if applicable, Lender's computer records, which endorsement or entry shall, in the absence of manifest error, be prima facie evidence of the outstanding balance of the Secondary Construction Loan; provided, however, that the failure to make such endorsement or entry with respect to any payment shall not limit or otherwise affect the Obligations of Borrower hereunder and under the Secondary Construction Loan Note and other Loan Documents.

(d) Use of Loan Proceeds: The Loan Proceeds together with the Project Equity shall be used solely to pay off existing debt, pay approved costs of the Construction Project, and to pay all closing costs, legal fees and any other financing costs related to the Loans approved by Lender. The proceeds of these obligations are being used by Borrower for capital expenditures and to pay costs of issue and are not being used for maintenance costs or other expenditures not permitted by Section 1351a of the Act. The proceeds of the Loans shall not be

used by Borrower to carry on propaganda or otherwise attempt to influence legislation, or to participate or intervene in any political campaign on behalf of, or in opposition to, any candidate for public office within the meaning of Section 501(c)(3), 170(c)(2)(D), or 4945(d)(1) of the Code, or to influence the outcome of any specific public election or to carry on, directly or indirectly, any voter registration drive within the meaning of Section 4945(d)(2) of the Code, or for the personal benefit of any officers, directors, or employees of Borrower.

(e) Terms of the Permanent Loan:

(i) Subject to the terms and conditions contained in this Agreement and in the Permanent Loan Commitment, Lender agrees to make a loan, in the form of an extension and amendment of the Senior Loans and Subordinate Loan, to refinance the Senior Loans and Subordinate Loan, in the maximum principal amount of Seven Million Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$7,437,500.00).

(ii) Borrower's obligation to repay the Permanent Loan shall be governed by a new loan agreement (the "**Permanent Loan Agreement**"), evidenced by a new promissory note (the "**Permanent Loan Note**") and secured by the Mortgages (or amendment to or replacement of the Mortgages as determined by Lender prior to the Maturity Date) and by a security interest in and to the Collateral, as amended, if deemed necessary by Lender, to reflect the Permanent Loan. The Permanent Loan Agreement, Permanent Loan Note and all other documents and instruments evidencing and securing the Permanent Loan here referred to collectively as the "**Permanent Loan Documents**".

(iii) The proceeds of the Permanent Loan shall be used solely to pay or to refinance the Senior Loans and the Subordinate Loan in full. The Secondary Construction Loan will not be paid off at the time the Permanent Loan is entered into between Borrower and Lender and the parties agree that it shall be subordinate to the Permanent Loan.

(iv) The Permanent Loan Documents shall be prepared by Lender or its counsel prior to, executed by Borrower on or before, and take effect as of, the Maturity Date.

2.2 Conditions to Making the Loans. Lender's obligation to make the Loans is conditioned upon Borrower's satisfaction of all of the following conditions precedent, each of which shall be in the form and substance satisfactory to Lender in its sole and absolute discretion:

(a) **Documents.** Lender shall have received all of the following instruments and documents, in form, content and execution acceptable to Lender:

(i) **Loan Documents.** The following Loan Documents:

- A. this Agreement;
- B. the Notes;
- C. the Mortgages;
- D. the Security Agreements;
- E. the Environmental Indemnity Agreement;
- F. Collateral Assignment of Construction Contract;
- G. Collateral Assignment of Architect Contract and Plans and

Specifications;

- H. Collateral Assignment of Permits and Contracts;
- I. Collateral Account Control Agreement in connection with the Debt Service Reserve Account;
- J. Collateral Account Pledge Agreement in connection with the Debt Service Reserve Account;
- K. Collateral Account Control Agreement in connection with the Interest Reserve Account;
- L. Collateral Account Pledge Agreement in connection with the Interest Reserve Account;
- M. Collateral Account Control Agreement in connection with the Replacement Reserve Account;
- N. Collateral Account Pledge Agreement in connection with the Replacement Reserve Account;
- O. Financing Statements to be filed with the State of Michigan and Kent County;
- P. Subordination of Management Fees executed by Borrower and Manager; and
- Q. any other Loan Documents required by Lender to be executed.

(ii) **Third-Party Consents.** All consents and approvals required by Lender to be executed by any and all parties to contracts, agreements, entitlements and other arrangements assigned to Lender.

(iii) **Opinion.** The opinion of outside counsel for Borrower covering such matters incident to the transaction contemplated by this Agreement, and which is acceptable in form and substance to Lender, in its sole discretion.

(iv) **Leases.** Copies of any leases or occupancy agreements.

(v) **Other Documents.** Any subordination, assignments or other agreements required by Lender.

(vi) **Organizational Documents.** Copies of all organizational documents of Borrower (which shall include Borrower's bylaws and articles of incorporation and any amendments thereto filed with the Michigan Secretary of State), and such certificates as Lender may require relating to the authority of Borrower and its constituent members to borrow money and to execute, deliver and perform their respective obligations under the Loan Documents; a copy of Borrower's certificate of good standing in the State of Michigan; all in form and content acceptable to Lender, accompanied by such Secretary of State certifications as Lender may require. In addition a copy of the letter issued by the Internal Revenue Service evidencing Borrower's status as a charitable, tax-exempt organization.

(vii) **Authorization.** A certificate of an authorized officer, member or manager of Borrower as to organizational, authority and incumbency matters, evidencing, among other things, resolutions of Borrower duly authorizing the Loans and the placement of a lien on the assets of Borrower in order to secure the

Loans, and such other resolutions, authorizations, documents and instruments as Lender may require as evidence of Borrower's authority to transact business and to enter into the transactions contemplated hereby.

(viii) **Lien Searches.** Receipt of such UCC, judgment, bankruptcy, pending litigation, tax and special searches on Borrower, the Premises and the other Collateral, as Lender may deem appropriate, which shall show the absence of any adverse interests or encumbrances other than the Permitted Liens.

(ix) **Title and Title Insurance.** Title to the Premises shall be satisfactory in all respects to Lender, free and clear of all liens, claims, rights and interests not acceptable to Lender. Furthermore, the Land shall constitute contiguous parcels and have no gaps and/or gores, and have the benefit of all easements (including all easements necessary for access and parking), rights and other agreements that are, in the reasonable judgment of Lender, necessary or appropriate for the current and/or contemplated use or development of the Premises. Borrower shall have furnished to Lender a mortgagee's title insurance policy, on the then current ALTA form, without standard exceptions, from the Title Company (with re-insurance in amounts and from national title insurance companies satisfactory to Lender, if required), insuring that the Mortgages are a valid first lien on the Premises and second lien on the Premises, as applicable, subject only to exceptions acceptable to Lender. Such policies shall (1) insure title up to the maximum principal amount of the Senior Notes and the Subordinate Note, as applicable; (2) insure that Borrower owns the Land and all Improvements; (3) provide that the Premises are insured free and clear of all liens, claims and encumbrances not expressly agreed to by Lender in writing; (4) contain no general exception for survey matters, and no exception for (and affirmative insurance against) construction, mechanics' and materialmen's liens, filed or unfiled; and (5) provide such endorsements as Lender shall require, including the following: access; comprehensive; deletion of the arbitration clause; environmental lien; single tax parcel; survey; usury; and 3.1 zoning and such other endorsements as Lender may require insuring the Mortgages as a first and prior lien upon the Premises with respect to the Senior Loans and a second lien upon the Premises with respect to the Subordinate Loan (collectively, the "**Title Policies**"). The title commitment and Title Policies shall be subject to Lender's approval in all respects. Each Advance of the Senior Loans or the Subordinate Loan shall be subject to the receipt of a pending disbursement endorsement by the Title Company insuring the first priority or second priority of the Mortgages, as required by this **Section 2.2(a)(ix)**.

(x) **Survey.** Borrower shall have furnished to Lender a current survey of the Premises certified to Lender and the Title Company by a surveyor licensed to practice in the state in which the Premises are located, to the most recent standard of the "Minimum Standard Detail Requirements for Land Title Surveys" jointly established and adopted by ALTA and ACSM or such other standards as Lender in its sole discretion shall accept, confirming the legal description of the Premises as set forth on **Exhibit A** hereto. With regard to all site plans, subdivision plats, condominium declarations and survey maps and plans to be recorded, Borrower shall have furnished to Lender evidence acceptable to Lender that the same have been accepted by all necessary governmental agencies, and Borrower shall have also provided to Lender a certification from the architect or engineer preparing the site plan, subdivision plat, condominium declaration and/or survey map and plans confirming that the Premises has been designed to be constructed entirely within the boundary lines of the Land.

(xi) **Insurance.** Evidence that all Required Insurance has been placed (and remains in force) on the Premises and all other Collateral encumbered in connection with the Loans.

(xii) **Environmental Report.** A Phase I environmental assessment and, if warranted by the results of such Phase I environmental assessment, a Phase II environmental assessment, each from an environmental engineering firm acceptable to Lender, prepared or updated not later than sixty (60) days prior to the closing of the Loans, relating to the Premises, together with a letter from each preparer thereof entitling Lender and its successors and assigns to rely upon said environmental assessment(s).

(b) **Compliance with Michigan Construction Lien Act.** Borrower shall be in compliance with the construction lien laws of the State of Michigan, as amended and with all requirements of the Title

Company administering and/or insuring construction draws pursuant to this Agreement so as to create and maintain the first lien and second lien of the Mortgages. In furtherance thereof, Borrower shall employ, at its sole cost and expense, a party experienced in the construction business and acceptable to Lender, to act as Borrower's "Designee" for all purposes specified in the Construction Lien Act, including the receipt on behalf of Borrower, of all notices or other instruments whose furnishing is required under said Construction Lien Act, which such Designee shall also furnish a copy of such notices or other instruments to Lender. In addition, Borrower shall have recorded in the Office of the Kent County Register of Deeds, a Notice of Commencement as required by said Construction Lien Act, prior to the first "actual physical improvement" to the Premises or to any construction or renovation activities at the Premises. In the absence of the specific written consent of Lender and the Title Company, neither Borrower, nor contractor, agent, employee or any other person or entity shall have taken any action which would constitute an "actual physical improvement" to the Premises prior to the recordation of the Mortgages. The term "actual physical improvement" shall be defined as the same is defined in the Construction Lien Act of Michigan. All of the foregoing or any waivers thereof by Lender shall be satisfactory to the Title Company.

(c) **Appraisal.** Borrower shall have provided to Lender at Borrower's expense an MAI appraisal, in form, content and from an appraiser acceptable to Lender in its sole discretion, resulting in a maximum loan to value of 85% upon Project Completion (including the Additional Site Work) and stabilization.

(d) **Property Condition Reports.** Borrower shall have provided to Lender, in form, content and from a consultant acceptable to Lender, a property condition report of the Land and Improvements, together with such other reports, studies or testing as Lender may require, demonstrating that the Land and Improvements are in a physical condition acceptable to Lender. Lender acknowledges receipt of said property condition report and the same is acceptable to Lender.

(e) **Financial Statements.** Borrower shall have delivered to Lender true, correct and complete Borrower prepared financial statements for the period ending in June 30, 2014. Lender acknowledges receipt of said financing statements and the same are acceptable to Lender.

(f) **Underwriting Materials.** All information and due diligence materials requested by Lender in connection with its underwriting process. The information and materials provided to Lender shall be true and complete in all respects as of the date furnished and on the Closing Date.

(g) **Project Budget; Cost Breakdown; Draw Schedule; Construction Schedule.** Borrower shall deliver to Lender a line item budget for the Construction Project, which shall include evidence of the Project Equity (the "**Project Budget**"). The Project Budget must be prepared on AIA Form G702 and G703 (latest edition) and must be in such detail and broken down into such categories as Lender may require, and must include, among other things: (i) a detailed trade cost breakdown, in such detail and broken down into such categories as Lender may require, be in a total amount which does not exceed the Project Budget and be based on actual contracts obtained as of the date of this Agreement and the best estimate of the General Contractor as to contracts not yet entered into; (ii) a minimum ten percent (10%) hard cost contingency; (iii) a minimum five percent (5%) soft cost contingency; (iv) if any portion of the Loan Proceeds are to be used to purchase or install fixtures, furniture or equipment, a minimum five percent (5%) FF&E contingency; and (v) an estimated monthly draw schedule over the term of the Loans. The trade breakdown shall be based on actual contracts obtained to date and the best estimate of the General Contractor as to contracts not yet entered into. Furthermore, the cost breakdown must segregate direct costs associated with the completion of tenant work, if any. Borrower shall also provide Lender with a construction schedule which reflects the intended detailed sequence and duration of all significant activities for the period of the Construction Contract entered into between Borrower and the General Contractor. The Project Budget is set forth in **Exhibit B** attached hereto and by this reference incorporated herein, which has been approved by Lender, as the same may be amended from time to time in a manner acceptable to Lender in all respects.

(h) **Plans and Specifications.** Borrower shall deliver to Lender: (i) final plans and specifications for the construction/renovation of the Construction Project (the “**Plans and Specifications**”), which shall have been initialed by Borrower, the General Contractor and the Architect, to evidence their approval of the same; and (ii) evidence that all necessary and appropriate governmental approvals and permits have been obtained. The Plans and Specifications shall include, without limitation, architectural plans and details, exterior elevations (if the scope includes exterior work), an interior finish schedule, structural plans and details, plumbing plans, HVAC plans, electrical plans, grading plans, landscaping plans, drainage, sewer, water, street, electrical and gas plans.

(i) **Construction Contract and Subcontracts.** Borrower shall furnish to Lender: (i) a fully executed copy of the Construction Contract, in a form acceptable to Lender, between Borrower and the General Contractor, where the basis of payment is “cost plus” for all Improvements, including site work, and which, at a minimum, sets forth the nature of the work to be performed, the labor and materials to be supplied and the dollar amount of such work and/or materials and includes a schedule of values setting forth the amounts required to complete all aspects of the Project and an estimated draw schedule setting forth an estimated schedule of draw requests to be submitted by the General Contractor over the course of construction and completion of the Project; (ii) a Qualification Statement for the General Contractor, together with evidence that the General Contractor is duly licensed and registered in the jurisdiction in which the Construction Project is located or to be constructed; and (iii) a list of all contractors, subcontractors and material suppliers to be employed in connection with the Construction Project. Upon the request of Lender, Borrower shall furnish to Lender copies of executed contracts between the General Contractor and each of the other contractors, subcontractors and material suppliers to be used in connection the Construction Project.

(j) **Architect Contract.** Borrower shall furnish to Lender: (i) a fully executed copy of the contract between Borrower and Architect, in a form acceptable to Lender, setting forth the fees and responsibilities of the Architect in connection with the design of the Project and the ongoing construction thereof through Project Completion (including the Additional Site Work, if required by Lender), including an obligation to prepare and issue to Lender a Certificate of Completion once Project Completion (including the Additional Site Work, if required by Lender) has occurred; and (ii) a Qualification Statement for the Architect, together with evidence that the Architect is duly licensed and registered in the jurisdiction in which the Construction Project is located or to be constructed.

(k) **Miscellaneous.** Such other agreements, statements, papers and documents as may be required by this Agreement or as Lender may otherwise require; and such other funds, papers, instructions or documents as Title Company may require to issue the Title Policies.

(l) **Project Equity.** Evidence that the Project Equity has been fully invested and fully funded in the Construction Project.

(m) **Recordation and Title Policies.** Recordation shall have occurred, and Title Company shall have issued or agreed unconditionally to issue the Title Policies as of recordation.

(n) **Financing Statements.** The Financing Statements shall have been duly filed before or concurrently with the closing of the Loans.

(o) **Loan Fee and Loan Expenses.** Any fees incurred in connection with the Loans, including the Origination Fee, document preparation fees, Lender’s reasonable attorneys’ fees and all then-outstanding expenses incurred in connection with the Loans, including recording fees, UCC filing and search fees, plus all other costs and charges associated with the closing of the Loans shall have been paid by Borrower or otherwise provided for (less any portion of the Origination Fee that Borrower has already paid to Lender).

(p) **Interest Rate Lock Fee.** The Interest Rate Lock Fee shall have been paid to GBOP.

(q) **GBOP Commitment.** Lender shall have received the Forward Commitment from GBOP with respect to the Permanent Loan.

(r) **Participation.** Liberty Bank and Trust Company, or other third party selected by Lender, shall have agreed to participate in the Senior Loans on the terms and conditions acceptable to Lender.

(s) **No Material Adverse Change.** There shall have occurred no material adverse change in the financial condition or operations of Borrower since the date of Borrower's most recent financial statements submitted to Lender.

(t) **No Default.** Borrower shall have complied with all of the terms and conditions set forth in the Construction Commitment Letter and the Secondary Construction Loan Proposal Letter, as well as all other reasonable and/or customary requirements of Lender and No Event of Default shall exist under the Construction Commitment Letter, the Secondary Construction Loan Proposal Letter or the terms hereof.

(u) **Eligible Borrower.** Borrower shall have furnished sufficient information to Lender to verify that Borrower is an "eligible borrower" under the National Consumer Cooperative Bank Act, as amended, at 12 U.S.C. Section 3001 et seq., in accordance with Lender's policies.

(v) **Payment and Performance Bonds.** A Payment and Performance Bond(s) issued by a bonding company having a AAA rating by A.M. Best Co., assuring final, lien free completion of the Project in accordance with the Plans and Specifications, in an amount equal to the cost of constructing and completing the Project and otherwise in a form satisfactory to Lender.

(w) **Special Loan Provisions.** The provisions set forth in Article XX of this Agreement shall apply to the construction aspects of the Project.

2.3 Conditions to Making the Permanent Loan. Lender's obligation to make the Permanent Loan is conditioned upon Borrower's satisfaction of all of the conditions set forth in the Permanent Loan Commitment. Without limitation of the terms of the Permanent Loan Commitment:

(a) There shall have occurred no material adverse change in the financial condition or operations of Borrower since the date of Borrower's most recent financial statements submitted to Lender.

(b) Project Completion shall have occurred (minus the Additional Site Work).

(c) Borrower shall have complied with all of the terms and conditions set forth in the Permanent Loan Commitment.

(d) Borrower shall have complied and shall then be in material compliance with all the terms, covenants and conditions of this Agreement; there shall exist no Event of Default under this Agreement; and the representations and warranties contained in this Agreement shall be true in all material respects, with the same effect as though such representations and warranties had been made at the time of the making of any such advance.

(e) Borrower's request for the Permanent Loan shall constitute a representation and warranty, by Borrower to Lender: (i) that all representations, warranties, covenants and agreements of Borrower as set forth in this Agreement and the Loan Documents are true and correct in every respect; and (ii) the Project has been completed, a full and final certificate of occupancy has been issued and all persons performing work or providing materials to the Project have been paid in full (minus the Additional Site Work).

2.4 Change of Law. Notwithstanding any other provision herein, if after the date of this Agreement any change in applicable law or regulation or in the interpretation or administration thereof by any governmental

authority charged with the interpretation or administration thereof (whether or not having the force of law) shall change the basis of taxation (including without limitation the imposition of any stamp tax or transaction tax) of payments to Lender of the principal of or interest on the Loans made or any fees or other amounts payable hereunder (other than changes in respect of taxes imposed on the income of Lender by the jurisdiction in which Lender is organized or has its principal office or is operating or doing business or, in either case, by any political subdivision or taxing authority therein), or shall impose, modify or deem applicable any reserve, special deposit or similar requirement against assets of, deposits with or for the account of or credit extended by Lender or shall impose on Lender or the interbank Eurodollar market any other condition affecting this Agreement or the Loans, and the result of any of the foregoing shall be to increase the cost to Lender of making or maintaining the Loans or to reduce the amount of any sum received or receivable by Lender hereunder (whether of principal, interest or otherwise) by an amount deemed by Lender to be material, then Borrower will pay to Lender such additional amount or amounts as will compensate Lender for such additional costs incurred or reduction suffered. Lender will notify Borrower that Lender is entitled to compensation pursuant to this **Section 2.4** as promptly as practicable after it determines to request such compensation.

2.5 Order of Disbursement of Loans. The Loans shall be disbursed to Borrower in the following order: (i) first, Loan A in the maximum principal amount of up to Six Million and 00/100 Dollars (\$6,000,000.00) shall be disbursed until Loan A has been fully disbursed; (ii) second, the Subordinate Loan shall be disbursed until the Subordinate Loan has been fully disbursed; (iii) third, if (A) Borrower has invested the full value of the Project Equity in the Project, (B) the full principal amounts of Loan A and the Subordinate Loan have been disbursed, and (C) the Loans and Project Budget are "in balance" as described in **Section 3.25**, then Loan B, in the maximum principal amount of up to One Million and 00/100 Dollars (\$1,000,000.00), shall be disbursed until Loan B has been fully disbursed; and (iv) fourth, the Secondary Construction Loan shall be disbursed.

2.6 School Aid Act Limitations. Notwithstanding any other provision contained in this Agreement or in the Senior Notes, the Subordinate Note or the Secondary Construction Note, Lender and Borrower acknowledge that the amount to be paid by Borrower under the Senior Loans, the Subordinate Loan and the Secondary Construction Loan in any fiscal year of Borrower shall not exceed twenty percent (20%) of the amount of School Aid payable to the Borrower by the State of Michigan in such fiscal year as required by MCL 388.1618. Notwithstanding the foregoing, if Borrower is in default under the Senior Notes, the Subordinate Note and/or the Secondary Construction Note, such limitation shall not be a defense to payment under said notes and Lender shall have all remedies available to it due to such default.

III. CONSTRUCTION ADVANCES. With respect to each request from Borrower for an Advance of Loan Proceeds subsequent to the initial Advance hereunder (including without limitation any disbursement out of a Disbursement Account), Lender's obligation to make such Advance, if any, shall be subject to the fulfillment to Lender's satisfaction of all of the conditions set forth below.

3.1 Purpose and Use of Advance. Any and all Advances shall be only for the purpose of, and shall be used by Borrower only for, the purposes set forth in **Section 2.1(d)** hereof.

3.2 Disbursement Account.

(a) On or before the date of this Agreement, Borrower shall establish any Disbursement Account required by Lender as security for the Loans. No trust relationship shall be created by any such Disbursement Account. Upon an Event of Default, Lender may pursue all of its rights and remedies against any Disbursement Account and the funds in any Disbursement Account may be applied against the outstanding amounts due to Lender.

(b) At Closing of the Loans: (i) Borrower shall establish the Debt Service Reserve Account; (ii) Borrower shall establish the Interest Reserve Account; and (iii) Borrower shall establish the Replacement Reserve Account.

3.3 Loan Documents. Borrower shall provide to Lender such other Loan Documents, or amendments or modifications thereto as Lender may require for the Loans, all in form and substance satisfactory to Lender and Lender's counsel.

3.4 Compliance with Agreement. All of the terms and conditions of this Agreement and the other Loan Documents shall have been complied with by Borrower to the satisfaction of Lender.

3.5 Borrower's Authorization. Borrower shall have provided in form and substance satisfactory to Lender, updated certificates of an authorized officer of Borrower as to organizational, authority and incumbency matters, evidencing, among other things, resolutions of Borrower duly authorizing the Advance and such other resolutions, authorizations, documents and instruments as Lender or its counsel may require.

3.6 Permits, Reports, Etc. Lender shall have received copies of all permits, reports, applications and approvals, denials thereof, and communications relating thereto, issued by, or submitted by Borrower to, any Governmental Authority, in form and content acceptable to Lender.

3.7 Representations and Warranties. The representations and warranties set forth in this Agreement, in the other Loan Documents, and in any document or certificate delivered to Lender under this Agreement shall be and remain true and correct.

3.8 Updated Lien Searches. Borrower shall, at Borrower's sole cost and expense, have delivered to Lender such UCC, judgment, bankruptcy, pending litigation, tax and special searches on Borrower and the Collateral as Lender may deem appropriate, which shall show the absence of any adverse interests or encumbrances.

3.9 No Event of Default. There shall not exist at the time of any Advance a condition which would constitute an Event of Default, or any act, event or condition which, with notice or the passage of time, or both, would constitute a default, under this Agreement or under any other Loan Document.

3.10 Compliance With Law and Other Requirements. Each of Borrower and the Collateral shall be in compliance with all applicable laws, all permits, consents, licenses or approvals of any Governmental Authority and all conditions of any thereof, and with respect to the Premises, all zoning, land use and planning requirements, all subdivision and parcel map requirements and conditions, all requirements and conditions imposed by any public utility in connection with the use of all or any part of the Premises or the supply of utilities to all or any part of the Premises.

3.11 No Adverse Change. There shall have been no material adverse change in the financial condition of Borrower.

3.12 Other Documents and Assurances. Lender shall have received such other documents, certificates, consents, approvals and assurances as it shall require in its sole discretion. Borrower shall have executed and acknowledged (or caused to be executed and acknowledged) and delivered to Lender all documents, and taken all actions, required by Lender from time to time to confirm the rights created or now or hereafter intended to be created under the Loan Documents, or otherwise to carry out the purposes and the transactions contemplated thereunder.

3.13 Evidence of Satisfaction of Conditions. Borrower shall have furnished such evidence as Lender may require, in form and content acceptable to Lender and at such times as Lender may require, to establish the satisfaction of all conditions of the Advance, and Lender shall have had a reasonable time in which to review and approve such evidence.

3.14 Disbursement in Trust. Borrower covenants and agrees that it will receive all Advances of Loan Proceeds as a trust fund, and all Advances will be withdrawn and used solely for the purposes described in

Section 2.1 hereof and for no other purpose whatsoever. It is understood, however, that nothing herein set forth shall impose upon Lender or its designated agent any obligation whatsoever to see to the proper application of any such monies by Borrower.

3.15 Request for Advance.

(a) **Requisitions.** At least ten (10) Business Days prior to the date of a proposed Advance, Borrower shall provide to Lender and the Construction Consultant a fully executed request for an Advance (a "**Requisition**") in the form attached hereto as **Exhibit C**, together with copies of receipts or invoices for any items to be purchased or costs to be paid with respect to such Advance and all items listed on **Exhibit D** attached hereto. Advances of Loan Proceeds shall be made not more frequently than once per month.

(b) **Lender's Right to Make Advances.** Notwithstanding anything contained herein to the contrary, Lender may disburse all or any portion of the Loans before all conditions precedent are satisfied if Lender in its judgment deems it desirable to do so, and any such early disbursement by Lender shall be deemed to have been made under the Notes and secured by the Mortgages and other Loan Documents securing the Loans. Further, Lender shall be entitled to deduct from any Advance to Borrower and to disburse instead to the appropriate payee such amounts as may be necessary to pay: (A) any encumbrances, taxes, easements or other charges or liens upon the Collateral which are due and payable, whether existing before or accruing after the date of this Agreement; (B) any premium on any insurance policy affecting the Collateral; (C) any fees, costs and/or expenses due to Lender from Borrower; and (D) all due and overdue interest on the Loans. Such disbursements and/or deductions shall be for the account of Borrower as if they were made upon the Requisition of Borrower. Any sums so disbursed by or at the direction of Lender shall, if not paid by Borrower upon demand, bear interest at the Default Rate.

(c) **Lender's Right to Withhold Payment.** Without limiting the rights of Lender set forth in this Agreement or in any other Loan Document, it is understood and agreed that Lender may withhold payment of any Advance or part thereof, if in the discretion of Lender, all of the conditions set forth in this Agreement have not been satisfied. Lender shall not be required to make any disbursements hereunder if, in Lender's judgment, the undisbursed portion of the Loans is insufficient to pay the total unpaid cost necessary to complete the Project in accordance with the Project Budget, and such insufficiency is not deposited with Lender as hereinbefore provided or if such construction is in material violation of any Legal Requirement, or if any requirement of this Agreement is not satisfied or if any Event of Default exists under this Agreement or any document evidencing or securing the Loans. All proceeds of the Loans shall be used solely to reimburse Borrower for approved Project costs in the amounts as set forth in the final Project Budget approved by Lender. Nothing contained herein shall impose upon Lender any obligation to see to the proper application of advances under the Loans.

(d) **No Requirement To Make Advance.** Lender shall not be required to make any Advance unless it shall be made in conformity with this Agreement. No Advance shall be due unless, in the reasonable judgment of Lender, all work usually done at the stage of construction when the Advance is made payable be done in good and workmanlike manner and all materials and fixtures usually furnished and installed at the time are furnished and installed, but Lender may advance parts of the whole of any installments before they become due if Lender believes it advisable to do so. All such Advances or payments shall be deemed to have been made in pursuance of this Agreement and not in modification hereof. The making of any Advance or any part of an Advance shall not be deemed an approval or acceptance by Lender of the work theretofore done. Any advance of installment or any part or parts thereof may be postponed or deferred by mutual consent of Borrower and Lender. Any such postponement or postponements shall be deemed to be in pursuance of this Agreement and not in modification thereof.

(e) **Title Endorsement.** Except for Advances under the Secondary Construction Loan, each disbursement shall require receipt by Lender of a pending disbursement endorsement in the full amount of the amount requested, inclusive of all sums advanced to date and each disbursement may be made on a "30-day lag"

basis with respect only to lien waivers, subject to receipt by Lender of the required endorsement to Lender's Title Policies.

3.16 Request for Disbursement Constitutes Representation. Each and every request for an Advance or consent to an Advance presented by Borrower to Lender shall constitute a representation and warranty, by Borrower to Lender that the sums for which payment is requested are then due and owing by Borrower and will be paid in cash by Borrower within ten (10) days after Borrower's receipt of the requested Advance.

3.17 Project Budget. Borrower shall have furnished to Lender, and Lender shall have accepted, a Project Budget.

3.18 Construction Consultant. Lender shall have the right to designate the Construction Consultant to monitor the progress of the Project and to perform such other duties as Lender may require, including without limitation the preparation and delivery to Lender of a plan and cost review of the Project in form and substance satisfactory to Lender in all respects. Borrower shall provide to the Construction Consultant all documents and information requested by the Construction Consultant in order to accurately and completely complete the plan and cost review. Borrower shall be responsible for all fees and disbursements of any such persons retained by Lender in connection with the Loans (including those incurred in connection with the Loans prior to the date of the Construction Commitment Letter and/or the Secondary Construction Loan Proposal Letter), whether or not the Loans close or are funded.

3.19 Construction Contract. The Construction Contract shall be prepared on the AIA Abbreviated Standard Form of Agreement between Borrower and the General Contractor, providing for payments as a stipulated sum or "cost plus" for all Improvements to be constructed in connection with the Construction Project, in an amount and on terms and conditions satisfactory to Lender. The Construction Contract shall include the following provisions:

(a) **Stored Materials.** Lender shall not be required to make any Advance for stored materials under any circumstances. In the event that Lender elects, in its sole and absolute discretion, to make an Advance for stored materials, the Advance will be made subject to such additional terms and conditions as Lender may require at the time of the Advance, including, without limitation, a requirement that the General Contractor carry additional insurance coverage in amounts and of the type determined by Lender to be necessary to mitigate the risks associated with the storage of the materials.

(b) **Acknowledgement and Agreements with respect to the Loans.** The General Contractor shall acknowledge that Borrower is financing the Construction Project with the proceeds of the Loans from Lender and must comply with certain terms and conditions set forth in the Loan Documents. The General Contractor shall agree to use its best efforts to comply with Lender's requirements which bear upon the work to be performed in connection with the Construction Project. The General Contractor shall make the site, its work location and all Project Documents available at reasonable times for inspection by Lender and Lender's representatives, consent to and execute all documents necessary to effectuate the assignment of the Project Documents to Lender for collateral purposes, and promptly furnish Borrower or Lender or Lender's representatives with information, documents and materials that Borrower or Lender may request from time to time.

(c) **Retainage:** Lender shall retain (from each advance) an amount equal to the greater of ten percent (10%) of the request or any retainage held by Borrower for such request, which retainage shall be released only upon Project Completion (including the Additional Site Work, if required by Lender), free of any Construction Lien and claims of a Construction Lien. There shall be no retainage for non-construction cost items and such advance will be made on the basis of one hundred percent (100%) of the cost of approved invoices for such items. However, an Advance of Loan Proceeds for construction profits shall be funded based on the percentage of construction completed.

(d) **Change Orders.** All change orders shall be subject to the prior written approval of Lender, the Construction Consultant and any surety. Notwithstanding the foregoing, no such consent shall be required for change orders which (i) involve an amount of less than Ten Thousand and 00/100 Dollars (\$10,000.00) individually, or less than Twenty Thousand and 00/100 Dollars (\$20,000.00) in the aggregate, (ii) do not increase the price of the Construction Contract or the amount of the General Contractor's fee, (iii) do not materially diminish the scope of the Improvements or materially alter the Plans and Specifications, and (iv) will not delay completion of the Project.

3.20 Survey. The survey required to be submitted to Lender pursuant to **Section 2.2(a)(x)** hereof shall show (a) the dimensions of the Land; (b) the dimensions and location of all Improvements located on the Premises, as the same currently exist or are to be constructed, expanded, renovated, remodeled and/or rehabilitated in accordance with the Plans and Specifications, together with all other improvements, structures or buildings, and all replacements and alterations thereof or thereto, whether now or hereafter located upon the Land, including all plant equipment, apparatus, machinery and fixtures of every kind and nature whatsoever forming a part of such improvements, structures or buildings; (c) all roads located on or affecting the Premises; (d) all above- and below-ground easements and rights of way affecting the Premises, including, without limitation, all easements for sewer, ingress, egress and/or parking, specifying the holder of each such easement and the pertinent recording information, any and all building restriction and/or set back lines and all means of egress and ingress; and (e) any and all encroachments with respect to the Premises. In connection with new construction Borrower shall have also furnished to Lender a record plat and site plan showing each of the items shown on the survey, and all subdivision plats recorded or to be recorded, all of which must be acceptable to Lender. With regard to all site plans and subdivision plats to be recorded, Borrower shall have furnished to Lender evidence acceptable to Lender that the same have been accepted by all necessary governmental agencies, and Borrower shall have also provided to Lender a certification from the architect or engineer preparing the site plan confirming that the Improvements have been designed to be constructed entirely within the boundary lines of the Land.

3.21 Other Engineers. If Borrower contracts directly for any engineering services, the engineers providing such services (the "**Engineers**") shall be duly licensed and registered in the jurisdiction in which the Construction Project is located and shall provide to Borrower and Lender a Qualification Statement on AIA Form B431 (or similar qualification form from the American Consulting Engineer Council (ACEC)). Each Engineer shall be acceptable to Lender, and the contract between Borrower and each such Engineer shall be on standard AIA or ACEC forms and be acceptable to Lender in all respects. Borrower shall provide a copy of each such contract to Lender upon Lender's request.

3.22 Plans and Specifications; Soil Report. Borrower shall have delivered to Lender final plans and specifications for the Project, as accepted by Lender, which may include, without limitation, all architectural plans and details, exterior elevations, interior finish schedule, structural plans and details, plumbing plans, HVAC plans, electrical plans, grading plans and drainage, sewer, water, street and gas plans (the "**Plans and Specifications**"), which shall have been initialed by Borrower, the General Contractor and the Architect, to evidence their approval of the same, and approved by the Construction Consultant, together with evidence that all necessary and appropriate governmental approvals and permits have been obtained. The Plans and Specifications shall include, without limitation, architectural plans and details, exterior elevations, interior finish schedule, structural plans and details, plumbing plans, HVAC plans, electrical plans, grading plans, landscaping plans, drainage, sewer, water, street, electrical and gas plans.

3.23 Zoning Compliance, Availability of Utilities, Permits. Borrower shall furnish to Lender satisfactory evidence of:

(a) permitted zoning of the Premises for the construction and contemplated use of the Construction Project, and compliance with all applicable zoning laws, ordinances, codes, rules and regulations beyond any possible appeal period and without the need for any special exceptions or approvals by any zoning or other board or body;

(b) evidence of the availability of all necessary utilities, including drainage (both on-site and off-site), water supply, storm sewer and sewer treatment capacity, gas and electric power utility services and telephone, in quantities sufficient for the successful construction and operation of all Improvements, and the payment of all requisite tap-in or connection fees;

(c) compliance with all laws, ordinances, codes, rules and regulations affecting or relating to development, construction or use of the Construction Project, including all applicable building, safety, ecological and environmental laws, ordinances, codes, rules and regulations; and

(d) the issuance of all permits, licenses and approvals necessary in connection with construction/renovation, use or operation of the Improvements, including a building permit, copies of all of which shall be provided to Lender immediately upon Borrower's receipt of same.

3.24 Additional Insurance Requirements. Without limiting any other provision hereunder, Borrower agrees as follows:

(a) Borrower's policy of property damage insurance must include comprehensive builder's risk coverage on a completed value, non-reporting form, with permission to complete and occupy, and be sufficient in coverage to reimburse all budgeted soft costs to be expended in connection with the Loans. Coverage shall not be less than that encompassed by "Fire, Extended Coverage and Vandalism and Malicious Mischief" perils broadened to include the so-call "All Risk of Physical Loss" coverage. Insurance shall be written on a replacement cost basis, and shall be in an amount not less than the amount necessary to comply with any co-insurance percentage stipulated in the policy or policies, but in all events not less than one hundred percent (100%) of insurable value (based on replacement cost).

(b) Borrower shall also provide Lender with evidence: (i) of general liability insurance for the General Contractor and Architect; (ii) of appropriate insurance for each Engineer; and (iii) of flood insurance acceptable to Lender if the Premises is located in an area which has been identified by the Secretary of Housing and Urban Development as a flood hazard area and in which flood insurance has been made available under the National Flood Insurance Act of 1968 (the "Act"), as amended, and Borrower will keep the Premises covered by flood insurance up to the maximum limit of coverage available under the Act, but not in excess of the amount of the Notes.

3.25 Loans in Balance; Additional Borrower Funds. Borrower shall maintain the Loans "in balance." The Loans are "in balance" whenever the amount of the undisbursed Loan Proceeds, plus any sums to be provided by Borrower are sufficient in the judgment of Lender to pay, through the completion of the Improvements and maturity of the Loans, all of the following sums: (a) all costs of construction, ownership, maintenance and leasing of the Improvements; (b) all monies owing or owed third party consultants, suppliers, or contractors; and (c) all interest and other sums or costs which may accrue under the Loan Documents. The Loans are "out of balance" if Lender, in its sole judgment, determines that there are insufficient funds to pay all such costs and sums. Whenever the Loans become out-of-balance, Lender may require the immediate deposit by Borrower of additional funds into a Disbursement Account. Borrower's failure to deposit the funds so demanded by Lender shall constitute a default under the Loan Documents.

3.26 Limitation of Lender Inspections; No Reliance. Lender has no duty to approve the General Contractor or any subcontractors and materialmen, to inspect their records, to supervise or inspect the work or construction, to inspect the books and records of Borrower or the General Contractor and any such inspection is for the sole purpose of preserving Lender's rights hereunder. Failure to perform any of the foregoing shall not constitute a waiver of any of the rights of Lender hereunder. Inspection not followed by notice of default shall not constitute a waiver of any default then existing nor shall it constitute a representation that there has been or will be compliance with the Plans and Specifications or that the construction is free from defective materials or workmanship. Any and all inspections of the Premises made by Lender or its agents, employees and/or designees shall be solely for Lender's own information and shall not be deemed to have been made for or on account of

Borrower or any other person. Borrower hereby specifically relieves Lender of any and all liability or responsibility in any way relating to the Project and the Premises, including the work performed thereon, the material or labor supplied in connection therewith, and any errors, inconsistencies or other defects in the Plans heretofore or hereafter accepted by Lender. Furthermore, Lender shall not be responsible, liable or obligated to any contractors, subcontractors, suppliers, materialmen, laborers, architects, engineers or any other person for services or work performed or goods delivered by them or any of them in and upon the Premises or employed, directly or indirectly, in connection with the Project, or for any debts or claims whatsoever accruing in favor of any such parties and against Borrower, or others, or against the Premises. It is distinctly understood and expressly agreed that the relationship between Lender and Borrower is that of creditor and debtor, respectively, and that Borrower is and shall not be an agent of Lender for any purpose whatsoever. Without limiting the generality of the foregoing, advances made at Lender's option directly to any contractor, subcontractor or supplier of labor and/or materials, or to any other person, shall not be deemed a recognition by Lender of any third party beneficiary status of any such person. No sight visit, observation, or examination by Lender shall impose any liability on Lender, or result in a waiver of any default of Borrower. Neither Borrower nor any other party is entitled to rely on any site visit, observation or examination by Lender. Lender owes no duty of care to protect Borrower or any other party against, or to inform Borrower or any other party of any other adverse conditions affecting the Premises.

3.27 Commencement and Completion of Construction. Borrower shall commence construction of the Improvements (minus the Additional Site Work) within thirty (30) days after the closing of the Loans and complete the construction of the Improvements (minus the Additional Site Work) no later than March 31, 2016. Borrower shall complete construction of the Additional Site Work no later than September 30, 2016.

3.28 Construction Liens. The Premises shall be and remain free and clear of all construction or mechanics liens ("**Construction Liens**"), other than the Permitted Encumbrances. If any Construction Lien is filed against the Premises or if any firm, person or corporation having a right to file a Construction Lien is not paid or bonded over as provided by the lien laws of the State of Michigan, and if the Title Company does not insure over such Construction Lien, regardless of the fact that such lien or claim is or may be subordinate to the liens of the Mortgages, Lender shall have the right following written notice to Borrower to pay said lien or claim or any part thereof and to deduct from and charge the amount so paid to the sum agreed to be loaned or advanced by Lender. In the event the amount so paid when added to the amounts theretofore loaned or advanced by Lender exceeds the face amount of the Notes, such excess or overage shall be added to the principal amount of said Notes and may be collected as part thereof and shall be deemed to be secured by all of the Mortgages and security interests contemplated herein; provided, however, that after securing written permission of Lender, Borrower shall not be required to pay or discharge any Construction Lien, nor shall it be deemed to be in default for not doing so if in good faith and by appropriate legal proceedings, it shall contest either the validity thereof or the amount claimed to be due, and where requested by Lender, shall file a statutory bond so as to remove such lien from the real estate records and cause Title Company to insure over any said lien or claim of lien by an endorsement to the Title Policies or provide such security as in Lender's sole discretion shall be deemed necessary or desirable.

3.29 Secondary Construction Loan Fee. With respect to advances of the Secondary Construction Loan, the applicable Secondary Construction Loan Fee shall have been paid to Lender.

3.30 Notice. Borrower agrees to promptly notify Lender of material disputes with the General Contractor, subcontractors, materialmen, engineers, supervisory personnel or any other persons working on or supplying material to the work of construction. Borrower shall, wherever possible, seek to resolve any such material dispute in a manner which will allow work to proceed expeditiously.

IV. REPRESENTATIONS AND WARRANTIES. In order to induce Lender to enter into this Agreement and to make the Loans, Borrower represents and warrants to Lender, as of the date of this Agreement, the date of any Advance, the date of any renewal, extension or modification of the Loans, and at all times any Obligations exist:

4.1 Organization; Power and Authority; Ownership. Borrower is a public school academy which has been duly established as a public school academy in accordance with Part 6A of the Revised School Code, Michigan Public Act 451 of 1976, as amended (the "**School Code Act**"). Borrower is qualified to do business under the laws of all jurisdictions in which the nature of its business or the location of any of its properties requires qualification. Borrower has the full power and authority to own its properties and to transact the business in which it is presently engaged or presently proposes to engage. Borrower maintains its principal office at 4463 Leonard NW, Walker, Michigan 49534. Unless Borrower has designated otherwise in writing, the principal office is the office at which Borrower keeps its books and records including its records concerning the Collateral. Borrower will notify Lender prior to any change in the location of Borrower's state of organization, any change in Borrower's name or any change in the location of its principal office. Borrower has obtained all licenses, permits, franchises and other governmental authorizations necessary to the ownership or leasehold interest and use of its properties and the conduct of its business, including the operation of a public school academy on the Premises. Borrower shall do all things necessary to preserve and to keep in full force and effect its existence, rights and privileges, and shall comply with all regulations, rules, ordinances, statutes, orders and decrees of any Governmental Authority or quasi-governmental authority or court applicable to Borrower and/or the Project.

4.2 Assumed Business Names. Borrower has filed or recorded all documents or filings required by law relating to all assumed business names used by Borrower. Excluding the name of Borrower, the following is a complete list of all assumed business names under which Borrower does business: none.

4.3 Authorization. The execution, delivery and performance by Borrower of each of the Loan Documents, consummation of the transactions contemplated thereby, and compliance with the provisions thereof have been duly authorized by all necessary action by Borrower and do not and will not: (i) require any consent or approval which has not been obtained; (ii) contravene Borrower's Articles of Incorporation and Bylaws; (iii) violate or cause Borrower to default under any provision of any law, rule, regulation (including, without limitation, Regulation U of the Board of Governors of the Federal Reserve System), order, writ, judgment, injunction, decree, determination or award presently in effect having applicability to Borrower, or Borrower's contract obligations with its authorizing body; (iv) result in a breach of or constitute a default under any indenture or loan or credit agreement or any other agreement, lease or instrument to which Borrower is a party or by which Borrower or its properties may be bound or affected; or (v) result in, or require, the creation or imposition of any Lien, upon or with respect to any of the properties now owned or hereafter acquired by Borrower (except for Permitted Liens).

4.4 Financial Information. All financial data and financial statements delivered to Lender concerning Borrower or the Collateral present in a complete and accurate manner the financial condition and the prospects of Borrower or the Collateral, as the case may be, and all material liabilities, fixed or contingent, are fully shown or provided for in such financial statements, and there has been no material adverse change which would affect the financial condition of Borrower or the Collateral since the date of the most recent such financial data or statements.

4.5 Legal Effect. This Agreement is, and each of the other Loan Documents and any instrument or agreement Borrower is required to give or execute under this Agreement or any other Loan Documents, when delivered, as applicable, will be, legal, valid, and binding obligations of Borrower and its successors and assigns, enforceable against Borrower and its successors and assigns in accordance with their respective terms, except to the extent that such enforcement may be limited by applicable Bankruptcy, insolvency, and other similar laws affecting creditors' rights generally.

4.6 Properties. Except as contemplated by this Agreement or as previously disclosed in Borrower's financial statements or in writing to Lender and as accepted in writing by Lender or, with respect to the Premises, the title exceptions that have been expressly accepted by Lender in writing, and except for property tax liens for taxes not presently due and payable, Borrower owns and has good title to all of Borrower's properties, including the Premises and the other Collateral, free and clear of all security interests, liens or encumbrances, and has not executed any security documents or financing statements relating to such properties, including the Collateral. All of Borrower's properties are titled in Borrower's legal name, and Borrower has not used, filed a financing statement or had a financing statement filed, under any other name for at least the last five (5) years.

4.7 Enforceability of Security Interest. To the extent the Collateral consists of accounts, chattel paper, or general intangibles, as defined by the UCC, the security interests in the Collateral granted to Lender is enforceable in accordance with its terms, is genuine, and fully complies with all applicable laws and regulations concerning form, content and manner of preparation and execution, and all persons appearing to be obligated on the Collateral have authority and capacity to contract and are in fact obligated as they appear to be on such Collateral. There shall be no setoffs or counterclaims against any of the Collateral, and no agreement shall have been made under which any deductions or discounts may be claimed concerning the Premises except those disclosed to Lender in writing.

4.8 Insurance. Each insurance policy currently owned or held by Borrower is and satisfies all of the requirements for Required Insurance as set forth herein and the requirements of **Section 3.24**.

4.9 Interest in Collateral. No person, party, firm or corporation has: (1) any possessory interest in Borrower's rights to the Collateral or right to occupy the Premises except Borrower; or (2) an option to purchase the Collateral or an interest therein. No lease exists on or with respect to the Premises.

4.10 Fire of other Casualty. No portions of the Collateral has been damaged by fire, water, wind or other cause of loss or any previous damage has been fully restored.

4.11 Hazardous Substances. Except as disclosed to and acknowledged by Lender in writing, Borrower represents and warrants that: (1) during the period of Borrower's ownership of the Collateral, there has been no use, generation, manufacture, storage, treatment, disposal, release or threatened release of any Hazardous Substance by any person on, under, about or from any of the Collateral; (2) Borrower has no knowledge of, or reason to believe that there has been, (a) any breach or violation of any Environmental Laws, (b) any use, generation, manufacture, storage, treatment, disposal, release or threatened release of any Hazardous Substance on, under, about or from the Collateral by any prior owners or occupants of any of the Collateral, or (c) any actual or threatened litigation or claims of any kind by any person relating to such matters; and (3) neither Borrower nor any tenant, contractor, agent or other authorized user of any of the Collateral shall use, generate, manufacture, store, treat, dispose of or release any Hazardous Substance on, under, about or from any of the Collateral in violation of any Environmental Laws. The representations and warranties contained herein are based on Borrower's due diligence in investigating the Collateral for Hazardous Substances. Borrower hereby (1) releases and waives any claims against Lender for indemnity or contribution in the event Borrower becomes liable for cleanup or other costs under any Environmental Law or other law, and (2) agrees to indemnify, defend, and hold harmless Lender against any and all claims, losses, liabilities, damages, penalties, and expenses that Lender may directly or indirectly sustain or suffer resulting from a breach of this Section or as a consequence of any use, generation, manufacture, storage, disposal, release or threatened release of a Hazardous Substance on or with respect to the Collateral. This **Section 4.11**, including the obligation to indemnify and defend, shall survive the payment of the Indebtedness and the termination, expiration or satisfaction of this Agreement and shall not be affected by Lender's acquisition of any interest in some or all of the Collateral, whether by foreclosure or otherwise.

4.12 Litigation and Claims. Except as disclosed in the reports delivered pursuant to the terms hereof, no litigation, claim, investigation, administrative proceeding or similar action (including those for unpaid taxes) against Borrower (including its officers or principals thereof), its properties, or any of the Collateral is pending or

threatened, and no other event has occurred that may materially adversely affect the financial condition of Borrower, including without limitation, the operation of its business, the ability of Borrower to perform the Obligations, or the validity or enforceability of any of the Loan Documents.

4.13 Taxes. Borrower has filed all tax returns and reports required to be filed with the United States government or with any state or local government, and has paid in full or made adequate provision on its books for the payment of all taxes, assessments, governmental charges, interest, penalties or deficiencies shown to be due or claimed to be due on or in respect of such tax returns and reports, except those presently being or to be contested by Borrower in good faith in the ordinary course of business and for which adequate reserves have been provided.

4.14 Bankruptcy, Reorganization or Insolvency. Borrower is not currently: (1) the subject of or a party to any completed or pending bankruptcy, reorganization or insolvency proceeding; or (2) the subject of any judgment unsatisfied of record or docketed in any court of the state in which its properties are located or in any court located in the United States.

4.15 Permitted Liens. Except for Permitted Liens, unless otherwise previously disclosed to Lender in writing, Borrower has not entered into or granted any security agreements, or permitted the filing or attachment of any security interests on or affecting the Collateral that would be prior or that may in any way be superior or subordinate to Lender's security interests and rights in and to the Collateral.

4.16 Binding Effect. This Agreement, the Notes and all other Loan Documents are binding upon the signers thereof, as well as upon their successors, representatives and assigns, and are legally enforceable in accordance with their respective terms.

4.17 Other Agreements. Borrower is not in default in any respect in the performance, observance, or fulfillment of any of the obligations, covenants, or conditions contained in any agreement or instrument to which it is a party, which default may materially and adversely affect the ability of Borrower to commence and complete the Project, operate its businesses as presently contemplated, including, without limitation, the operation of the Premises, or to perform its obligations under any of the Loan Documents.

4.18 Brokerage Commissions. Borrower has not dealt with any person, firm or corporation who is or may be entitled to any finder's fee, brokerage commission, loan commission or other sum in connection with the Loans.

4.19 Utilities. All utility services necessary for the use of the Land and Improvements thereon, are available, including without limitation all electrical and telephone facilities, water supply, gas, storm and sanitary sewer facilities.

4.20 Accuracy of Submitted Information; Omissions. All documents, certificates, information, materials and financial statements furnished to Lender pursuant to this Agreement or otherwise in connection with the Loans: (1) are true and correct in all material respects; (2) do not contain any untrue statement of a material fact; and (3) do not omit any material fact necessary to make the statements contained therein or herein not misleading. There is no fact known to Borrower which Borrower has not disclosed to Lender in writing which materially adversely affects, or, so far as Borrower can now foresee, could materially adversely affect, the properties, business, prospects, profits or condition (financial or otherwise) of Borrower or the ability of Borrower to perform its obligations under this Agreement or any other Loan Documents to which it is a party.

4.21 Unpaid Materialmen. No person, firm or corporation has performed on behalf of Borrower any construction work or furnished services in connection with any construction carried on or to be carried on at the Premises who or which remains unpaid in excess of thirty (30) days at the time of execution of this Agreement other than payments to be made in connection with the Advances hereunder.

4.22 Foreign Person. Borrower is not a foreign corporation, foreign partnership, foreign trust, foreign estate or other foreign person as such terms are defined in the Code. Borrower's U.S. tax identification number is 38-3198590. The representations and certifications made under this **Section 4.22** are made under penalties of perjury.

4.23 Terrorism and Anti-Money Laundering. Borrower warrants and agrees as follows:

(a) As of the date hereof and throughout the term of the Loans, Borrower, and to the knowledge of Borrower, any director, officer, agent, employee or Affiliate of Borrower, is not currently the subject of any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC"), the U.S. State Department and the United Nations Security Council ("Sanctions") and Borrower will not knowingly directly or indirectly use the proceeds of the Loans or otherwise make available such proceeds to any Person for the purpose of financing the activities of any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions with the result that Lender would be in violation of applicable law. Borrower and, to the knowledge of Borrower, no Affiliate of Borrower is in violation of the Patriot Act (as defined in **Section 22.6** below).

(b) To comply with applicable U.S. anti-money laundering laws and regulations, all payments by Borrower to Lender or from Lender to Borrower will only be made in Borrower's name and to and from a bank account of a bank based or incorporated in or formed under the laws of the United States or a bank that is not a "foreign shell bank" within the meaning of the U.S. Bank Secrecy Act (31 U.S.C. § 5311 et seq.), as amended, and the regulations promulgated thereunder by the U.S. Department of the Treasury, as such regulations may be amended from time to time.

(c) To provide Lender at any time and from time to time during the term of the Loans with such information as Lender determines to be necessary or appropriate to comply with the anti-money laundering laws and regulations of any applicable jurisdiction, or to respond to requests for information concerning the identity of Borrower, any Person controlling or controlled by Borrower or any Person having a beneficial interest in Borrower, from any governmental authority, self-regulatory organization or financial institution in connection with its anti-money laundering compliance procedures, or to update such information.

(d) The representations and warranties set forth in this **Section 4.23** shall be deemed repeated and reaffirmed by Borrower as of each date that Borrower makes a payment to Lender under the Notes, this Agreement and the other Loan Documents or receives any payment from Lender. Borrower agrees promptly to notify Lender in writing should Borrower become aware of any change in the information set forth in these representations.

4.24 Zoning. The Premises are zoned to permit the use of the Premises and existing and future Improvements as a public school academy.

4.25 School Code Act/Municipal Finance Act Compliance. In issuing these obligations, Borrower represents and warrants to Lender that it has and/or will comply in all material respects with any applicable requirements of the Revised School Code, Michigan Public Act 451 of 1976, as amended, and the Revised Municipal Finance Act, Michigan Public Act 34 of 2001, as amended, and other applicable law. It is hereby certified and recited that all acts, conditions and things required by law, precedent to and in the issuance of these obligations have been done, exist and have happened in regular and due time and form as required by law, and that the total indebtedness of Borrower, including these obligations, does not exceed any constitutional or statutory limitation.

V. [RESERVED.]

VI. AFFIRMATIVE COVENANTS. Borrower covenants and agrees with Lender that, unless otherwise consented to in writing by Lender, until payment in full of all amounts outstanding under the Loan Documents

and satisfaction of all other Obligations of Borrower under the Loan Documents, Borrower shall comply with the following affirmative covenants and shall:

6.1 Performance. Duly and punctually pay all sums to be paid to Lender in accordance with the terms and conditions of the Notes, this Agreement and the other Loan Documents and perform and comply, in a timely manner, with all terms, conditions, and provisions set forth in this Agreement, the other Loan Documents, and all other instruments and agreements between Borrower and Lender. Borrower shall notify Lender immediately in writing of any default or any act, event or condition which, with notice or the passage of time, or both, would constitute a default in connection with any such agreement.

6.2 Notices of Claims and Litigation. Promptly inform Lender in writing of (1) any and all material adverse changes in Borrower's financial condition, and (2) any and all existing and threatened litigation, claims, investigations, administrative proceedings or similar actions affecting Borrower that could materially affect the financial condition of Borrower.

6.3 Maintenance of Existence and Principal Place of Business. (1) Maintain its existence and its form of organizational and governance documents previously accepted by Lender, and provide Lender with evidence of the same from time to time upon Lender's written request; (2) furnish to Lender not less than thirty (30) days prior written notice of any contemplated change of its principal place of business or the location where it keeps its books and records with respect to accounts and contracts or any of the Property; (3) maintain its assets in good order and repair; and (4) maintain its chief executive office and principal place of business in Michigan.

6.4 Maintenance of Collateral. Borrower shall maintain, keep, and preserve the Collateral in good working order and condition, ordinary wear and tear excepted. In addition, Borrower shall maintain, keep, and preserve all of its properties (tangible and intangible) necessary or useful in the proper conduct of its business in good working order and condition, ordinary wear and tear excepted.

6.5 Financial Records. Maintain at all times proper books and records in accordance with GAAP, applied on a consistent basis, and permit Lender to examine and audit Borrower's books and records at all reasonable times.

6.6 Reporting Requirements. At Borrower's expense, furnish Lender with the following:

(a) **Notice of Default.** As soon as possible, and in any event not later than two (2) Business Days after Borrower is aware of the occurrence of any Event of Default, a statement of an authorized officer or representative of Borrower describing the details of such Event of Default and any curative action Borrower proposes to take.

(b) **Annual Financial Statements.** As soon as available, but in no event later than one hundred twenty (120) days after the end of each fiscal year of Borrower, Borrower shall deliver to Lender: (A) financial statements of Borrower, including an audit report, a balance sheet, statement of profit and loss and cash flow statement, for the prior year then ended, audited by an independent certified public accountant satisfactory to Lender; (B) a certificate (each an "**Annual Certificate of Performance**"), issued by an authorized officer, member or manager of Borrower who is active in, and knowledgeable of, the financial operations of Borrower, indicating that: (i) all financial data and financial statements delivered to Lender concerning Borrower completely and accurately disclose the financial condition and operations of Borrower, and all material liabilities, fixed or contingent, are fully shown or provided for in such financial statements; (ii) there has been no change in the business or operations of Borrower, which may adversely affect the financial condition of Borrower; (iii) no Event of Default has occurred or is continuing under the Loan Documents; (iv) Borrower is in compliance with all affirmative and negative covenants, including financial covenants, set forth in the Loan Documents; and (v) all social impact data delivered to Lender concerning Borrower is accurate and complete; and (C) social impact data relating to Borrower's business and operations presented on the Social Impact Management Form provided by Lender for such purpose. If Borrower cannot make any of these required statements as written, then Borrower

must provide to Lender in writing, together with the Annual Certificate of Performance, (i) which conditions the Borrower cannot meet and (ii) a written explanation as to why it cannot make the required statement.

(c) **Quarterly Financial Statements.** As soon as available, but in no event later than forty-five (45) days after the end of each quarter of each fiscal year of Borrower, Borrower shall deliver to Lender (A) financial statements of Borrower including a balance sheet, statement of profit and loss and cash flow statement, for the prior quarter then ended, each prepared by Borrower, with reasonable detail and on a basis consistently applied, and if requested by Lender, certified as true and correct by the Chief Financial Officer or other authorized officer of Borrower who is active in, and knowledgeable of, the financial operations of Borrower, and (B) a certificate issued by an authorized officer of Borrower who is active in, and knowledgeable of, the financial operations of Borrower indicating that: (i) all financial data and financial statements delivered to Lender concerning Borrower completely and accurately disclose the financial condition and operations of Borrower, and all material liabilities, fixed or contingent, are fully shown or provided for in such financial statements; (ii) there has been no change in the business or operations of Borrower, which may adversely affect the financial condition of Borrower; (iii) no event of default has occurred or is continuing under the Loan Documents; and (iv) Borrower is in compliance with all affirmative and negative covenants, including financial covenants, set forth in the Loan Documents.

(d) **Tax Returns.** Deliver, within one hundred fifty (150) days after the end of each calendar year, the federal and state tax returns (and supporting schedules, if any) of Borrower.

(e) **School Report.** Within one hundred twenty (120) days after the end of each fiscal year of Borrower, a report detailing (i) the school's enrollment for the current academic year; (ii) the per-grade student turnover from the previous year; (iii) the teacher turnover from the previous year; and (iv) the academic performance for the previous school year.

(f) **School Information.** Simultaneously with submission to the charter authority, a true, correct and complete copy of any and all reports, documentation and other information required to be furnished by the Borrower pursuant to or in connection with the provisions of its charter and the charter school requirements to the extent such information is not legally required to be kept confidential.

(g) **Charter School Certification.** Within thirty (30) days after the beginning of each fiscal year the Borrower shall provide a signed Charter School Certification from The U.S. Department of Education;

(h) **Operating Budget.** By September 15 of each year, an annual operating budget for the current fiscal year, approved by the board of directors, which shall include projected revenues and expenses, in such detail and by such categories as may be requested by Lender.

6.7 Additional Information. The Borrower shall also deliver to the Lender such additional information and statements regarding the Borrower's business, operations and social impact as the Lender may request from time to time. All reports, statements and other information required to be submitted by Borrower shall be in form and substance reasonably satisfactory to Lender in all respects and all financial reports, statements and information required in this Article VI shall be prepared in accordance with GAAP.

6.8 Financial Covenants. Borrower shall maintain the following financial covenants, compliance with which shall be determined in accordance with GAAP, measured at the end of each of the Borrower's fiscal years, commencing with the fiscal year ending on June 30, 2015:

(a) Borrower shall maintain a Debt Service Coverage Ratio of not less than 1.15:1.00. The term "**Debt Service Coverage Ratio**" means Borrower's annual operating EBITDA (earnings before interest expense, taxes, depreciation, and amortization) divided by the sum of Borrower's Current Portion of Long Term Debt (for the prior period) and interest expense on all Borrower's debt;

(b) Borrower shall maintain a Leverage Ratio of Total Liabilities to Tangible Net Worth of not greater than 3.00:1.00; and

(c) Borrower shall maintain a Current Ratio of Current Assets to Current Liabilities of not less than 1.40:1.00.

6.9 Insurance. Carry and maintain in full force all Required Insurance and such other insurance as Lender may require with respect to Borrower's properties and operations, in form, amounts and coverages reasonably acceptable to Lender, including such coverage, policies and terms set forth as a condition precedent to each Advance as set forth in this Agreement. Each insurance policy shall include an endorsement providing that coverage in favor of Lender will not be impaired in any way by any act, omission or default of Borrower or any other person. In connection with all policies covering assets in which Lender holds or is offered a security interest for the Loans, Borrower will provide Lender with such Lender's loss payable or other endorsements as Lender may require. Furnish to Lender, upon request of Lender, reports on each existing insurance policy showing such information as Lender may reasonably request, including the following: (1) the name of the insurer; (2) the risks insured; (3) the amount of the policy; (4) the properties insured; (5) the then current property values on the basis of which insurance has been obtained, and the manner of determining those values; and (6) the expiration date of the policy. In addition, upon request of Lender (however not more often than annually), Borrower will have an independent appraiser satisfactory to Lender determine, as applicable, the actual cash value or replacement cost of the Collateral. The cost of such appraisal shall be paid by Borrower. In the event of any loss or damage to all or any portion of the Collateral, the insurance proceeds shall be used as set forth in the Mortgages; provided, however, any application of such insurance proceeds or any portion thereof to any Obligations shall not be construed to cure or waive any default or notice of default hereunder or invalidate any act done pursuant to any such default or notice.

6.10 Transfer of Ownership/Ownership Interest. Borrower shall provide notice to Lender prior to any change in the membership or voting control of Borrower. There shall be no sale, assignment or other change or transfer of legal or equitable control of Borrower or the issuance, sale, merger, consolidation, transfer, pledge, assignment or disposition of any ownership interest of Borrower (except in the case of death or disability of a member). In addition, without the prior written consent of Lender, Borrower shall not suffer or permit any sale, assignment or other change or transfer of legal or equitable control of any of Borrower's real property (whether owned or leased), except in the case of a residential lease, if such lease is on a form previously approved by Lender without material deviation.

6.11 Additional Debt. Without the prior written consent of Lender, and except for Permitted Indebtedness, Borrower shall not undertake any additional debt.

6.12 Management. The management of the Project shall be and, during the term of the Loans, shall remain, under the control of Borrower. Borrower shall notify Lender in writing of any change in the composition of its management team, its members and/or managers or other similar governance body within ten (10) days of becoming aware of such change.

6.13 Other Agreements. Comply with all terms and conditions of all other agreements, whether now or hereafter existing, between Borrower and any other party and notify Lender immediately in writing of any default or any act, event or condition which, with notice or the passage of time, or both, would constitute a default under any other such agreements.

6.14 Loan Fees, Charges and Expenses. Pay all fees, charges, and other expenses which are then due and payable as specified in this Agreement or any other Loan Document, plus all other costs and charges associated with the closing of the Loans, including Lender's reasonable attorneys' fees, whether or not the Loans are closed or funded.

6.15 Taxes, Charges and Liens. Timely file all tax and information returns and pay and discharge when due all of its Indebtedness and obligations, including, without limitation, all assessments, taxes, governmental charges, levies and liens, of every kind and nature, imposed upon Borrower or its properties, income, or profits, prior to the date on which penalties or interest would attach or accrue, and all lawful claims that, if unpaid, might become a lien or charge upon any of Borrower's properties, income, or profits; provided however, (i) Borrower shall have the right to contest any Property Taxes with respect to the Collateral and (ii) Borrower shall have the right to contest all other items so long as such contest (a) is made in good faith; (b) is diligently prosecuted to completion; (c) shall not materially adversely affect the business operations, assets (including the Premises) or condition (financial or otherwise) of Borrower or materially adversely affect Borrower's ability to perform its obligations under the Loan Documents; and (d) shall not materially adversely affect Lender's security interest in or the value of the Collateral. Borrower shall pay all governmental charges or taxes, including interest or penalties, (except income, franchise or other similar taxes imposed on Lender) payable with respect to the existence, execution or delivery of any of the Loan Documents by reason of any existing or future federal, state or local statute.

6.16 Performance of Contracts. Perform in all material respects all obligations under all contracts to which it is a party.

6.17 Title. Borrower shall at all times maintain, protect and defend the rights, title and interest of Borrower in the Collateral, and shall take all actions reasonably necessary to maintain the rights, privileges and benefits of Borrower in connection with the Collateral. Borrower shall at all times protect and defend the rights, title and interest of Lender as secured party and lienor with respect to the Collateral against the claims of all other persons, and shall take all actions reasonably necessary to protect and defend the rights of Lender as holder of a security interest in and assignment of the rights of Borrower in the Collateral.

6.18 Covenants regarding the Collateral.

(a) Borrower shall keep, maintain and preserve, and cause others to keep, maintain and preserve, the Collateral and all of Borrower's other properties (tangible and intangible) necessary or useful in the proper conduct of its business in good order, repair and condition at all times while this Agreement remains in effect, and pay when due all claims for work done on, or services rendered or material furnished in connection with the Collateral so that no lien or encumbrance may ever attach to or be filed against the Collateral.

(b) Borrower hereby authorizes Lender to file Financing Statements, or alternatively, a copy of this Agreement to perfect Lender's security interests; at Lender's request, additionally agree to sign all other documents that are necessary to perfect, protect, and continue Lender's security interests in the Collateral, including, making sure Lender is shown as the only security interest holder on the title covering the Collateral; pay all filing fees, title transfer fees, and other fees and costs involved unless prohibited by law or unless Lender is required by law to pay such fees and costs; irrevocably appoint Lender to execute documents necessary to transfer title if there is a default; and allow Lender to file a copy of this Agreement as a Financing Statement.

(c) Borrower shall, without limiting the prohibitions on mergers involving Borrower contained in this Agreement, not reincorporate or reorganize itself under the laws of any jurisdiction other than the jurisdiction in which it is incorporated as of the date hereof without the prior written consent of Lender.

(d) Borrower shall promptly notify Lender in writing at Lender's address shown above (or such other addresses as Lender may designate from time to time) prior to any: (i) change in Borrower's name; (ii) change in Borrower's assumed business name(s); (iii) change in Borrower's principal office address; (iv) change in Borrower's state of organization; or (v) conversion of Borrower to a new or different type of business entity. No change in Borrower's name or state of organization will take effect until after Lender has received notice.

(e) Borrower shall, upon Lender's request, advise Lender of the exact location of all of the Collateral.

(f) Borrower hereby acknowledges that it is not authorized to file any amendment or termination statement with respect to any financing statement without the prior written consent of Lender and agrees that it will not do so without the prior written consent of Lender, subject to Borrower's rights under Section 9-509(d)(2) of the UCC, or any successor provision of the UCC.

6.19 Further Assurances. Borrower shall at all times defend its interest in the Collateral against all persons and all claims and demands whatsoever, and shall, upon request of Lender: (1) furnish, execute and/or deliver, as appropriate, such further assurance of title and additional documents regarding the Collateral and Lender's security interests therein as Lender may from time to time reasonably request; and (2) do any other act Lender determines necessary to effectuate the purposes and provisions of this Agreement and the other Loan Documents, or as required by law or otherwise in order to perfect, preserve, maintain or continue the security interests of Lender in the Collateral.

6.20 Operations. Borrower shall maintain executive and management personnel with substantially the same qualifications and experience as the present executive and management personnel, provide written notice to Lender of any change in executive and management personnel within ten (10) days of obtaining knowledge of such change and conduct its business affairs in a reasonable and prudent manner.

6.21 Environmental Studies. Borrower shall promptly conduct and complete, at Borrower's expense, all such investigations, studies, samplings and testings as may be requested by Lender or any governmental authority relative to any substance, or any waste or by-product of any substance defined as or reasonably believed to be a Hazardous Substance at or affecting the Collateral or any other property or any facility owned, leased or used by Borrower.

6.22 Compliance with Governmental Requirements. Borrower shall observe and comply in all material respects with all laws, ordinances, and regulations, now or hereafter in effect, of all governmental authorities applicable to Borrower and its properties, businesses and operations, and to the use or occupancy of the Collateral.

6.23 Inspection. Borrower shall permit employees or agents of Lender at any reasonable time to inspect the Collateral for the Loans wherever located and Borrower's other properties and to examine or audit Borrower's books, accounts, and records and to make copies and memoranda of Borrower's books, accounts, and records. If Borrower now or at any time hereafter maintains any records (including without limitation computer generated records and computer software programs for the generation of such records) in the possession of a third party, Borrower, upon request of Lender, shall notify such party to permit Lender free access to such records at all reasonable times and to provide Lender with copies of any records it may request, all at Borrower's expense.

6.24 Environmental Compliance and Reports. Borrower shall observe and comply in all respects with any and all Environmental Laws; not cause or permit to exist, as a result of an intentional or unintentional action or omission on Borrower's part or on the part of any third party, on or with respect to the Collateral or any other property owned and/or occupied by Borrower, any environmental activity where damage may result to the environment, unless such environmental activity is pursuant to and in compliance with the conditions of a permit issued by the appropriate federal, state or local governmental authorities; and shall furnish to Lender promptly and in any event within thirty (30) days after receipt thereof a copy of any notice, summons, lien, citation, directive, letter or other communication from any governmental agency or instrumentality concerning any intentional or unintentional action or omission on Borrower's part in connection with any environmental activity whether or not there is damage to the environment and/or other natural resources.

6.25 Divestiture of Collateral. Except for dispositions or transfers of personal property with a value of less than Five Thousand and 00/100 Dollars (\$5,000.00) occurring in the ordinary course of Borrower's business, Borrower acknowledges and agrees that no Collateral covered by any security interests granted under the Loan Documents may be transferred, abandoned, destroyed, sold, leased, assigned, disposed of or otherwise divested by Borrower without the prior written consent of Lender unless, with respect only to personal property,

Borrower shall concurrently replace such Collateral with similar property of equivalent value on which Lender has a valid first, second or third lien, as applicable. Collateral which Borrower removes from the Premises without Lender's prior written consent shall not be released from Lender's security interests.

6.26 Additional Assurances. Borrower shall make, execute and deliver to Lender such promissory notes, mortgages, deeds of trust, security agreements, assignments, financing statements, instruments, documents and other agreements as Lender or its attorneys may reasonably request to evidence and secure the Loans and to perfect all security interest of Lender in the Collateral.

6.27 Permits, Reports, Etc. Borrower shall also keep and maintain in full force and effect all permits and approvals by any Governmental Authority necessary for the ownership, operation and leasing of the Collateral.

VII. NEGATIVE COVENANTS. Borrower covenants and agrees with Lender that until payment in full of all amounts outstanding under the Loan Documents and satisfaction of all other Obligations, Borrower shall comply with the following negative covenants:

7.1 Other Indebtedness. Without the prior express written consent of Lender, Borrower will not create, incur, assume, guarantee, permit to exist, or otherwise become directly or indirectly liable for any Indebtedness, except Permitted Indebtedness. Borrower will not dispose, with or without recourse, of any accounts or notes receivable or any sums due or to become due except for fair value in the ordinary course of business.

7.2 Further Encumbrances, Liens, Etc. Other than Permitted Liens specifically contemplated by this Agreement, Borrower shall not: (1) create, incur, assume, or permit to exist any lien upon the Collateral; (2) sell, convey, transfer, lease, assign, pledge or otherwise dispose of the Collateral or any interest it may now or hereafter have in the Collateral except, with respect only to personal property, in the ordinary course of business or in connection with the replacement of Collateral with property having equal or greater value; (3) do or permit anything to impair the security or value of the Collateral; or (4) suffer or permit any lien, attachment or encumbrance that is created with respect to the Collateral to remain unpaid, undischarged, unbonded or undismissed for a period of thirty (30) days. Unless waived by Lender, all proceeds from any disposition of the Collateral (for whatever reason) shall be held in trust for Lender and shall not be commingled with any other funds; provided, however, this requirement shall not constitute consent by Lender to any sale or other disposition. Upon receipt, Borrower shall immediately deliver any such proceeds to Lender. Borrower shall have the right to contest all other liens so long as such contest: (a) is made in good faith; (b) is diligently prosecuted to completion; (c) shall not materially adversely affect the business operations, assets or condition (financial or otherwise) of Borrower or materially adversely affect Borrower's ability to perform its obligations under the Loan Documents; and (d) shall not materially and adversely affect Lender's security interest in or the value of the Collateral.

7.3 Continuity of Operations. Borrower shall not (1) engage in any business activities substantially different than those in which Borrower is presently engaged, (2) cease operations, liquidate, dissolve, or acquire any other entity or change its name, (3) make any distribution with respect to any capital account, whether by reduction of capital or otherwise, or (4) suffer or permit any sale, assignment or other change or transfer of legal or beneficial equity interest in Borrower or suffer or permit the issuance, sale, merger, consolidation, transfer, pledge, assignment or disposition of any membership, equity or other direct or indirect ownership interest of Borrower.

7.4 Loans and Acquisitions and Guaranties. Borrower shall not (1) loan, invest in, extend credit or advance money or assets to any other person, enterprise or entity, (2) purchase, create or acquire any interest in any other enterprise or entity, or (3) except as provided in **Section 7.12** below, incur any obligation as surety or guarantor, in each case other than in the ordinary course of business.

7.5 Limitation on Contingent Liabilities. Borrower will not guarantee or otherwise become directly or indirectly responsible (including under an agreement to purchase any obligations, stock, assets, goods or services or to supply or advance any funds, assets, goods or services) for any Indebtedness or other obligation of any person, except: (i) by endorsement, in the ordinary course of collection, of negotiable instruments; or (ii) in the ordinary course of Borrower's business (subject to any limitations set forth in this Agreement), provided that such endorsement or incurring such obligation in the ordinary course of Borrower's business would not materially adversely affect the Collateral or Borrower's ability to repay the Loans or perform its obligations under this Agreement or any other Loan Documents.

7.6 Acquisition or Sale of Business; Merger or Consolidation. Borrower shall not: (1) acquire all or substantially all of the assets or business of any other Person; (2) liquidate, dissolve, merge or consolidate, or begin any proceedings to do so; or (3) except as otherwise specifically permitted pursuant to the terms and conditions of the Loan Documents, sell, lease, assign or transfer any substantial part of its business or assets, or any assets (including in sale-leaseback transactions) unless in the ordinary course of business and the assets included are not necessary for its business as conducted prior to such transfer.

7.7 Affect Rights of Lender. Borrower shall not at any time do or perform any act or permit any act to be performed that would be contrary to the interests or rights of Lender under any of the Loan Documents.

7.8 Agreements. Borrower shall not enter into any agreement containing any provisions which would be violated or breached by the performance of Borrower's obligations under this Agreement or in connection herewith.

7.9 Payments. Following any Event of Default, Borrower shall not, without Lender's prior written consent, declare or pay any dividends, fees, expenses or other sums, or make any distributions in cash or assets to any equity holder, or other person or entity or enterprise directly or indirectly owned in whole or in part by any equity holder, or make any loan, salary advance or other payment to any equity holder or other entity or enterprise directly or indirectly owned in whole or in part by any equity holder.

7.10 Organizational Documents. Without the prior written consent of Lender, permit the amendment or other modification of Borrower's Bylaws.

7.11 Impairment of Collateral. Without the prior written consent of Lender, Borrower shall not make any further assignment, pledge or disposition of any of the Collateral, or do or permit anything to impair the security or value of the Collateral.

7.12 Additional Liability Cap. The Borrower may incur additional indebtedness, liabilities or obligations in the ordinary course of business, without the prior written consent of the Lender, up to a total maximum amount of One Hundred Thousand and 00/100 Dollars (\$100,000.00) (the "**Additional Liability Cap**"). Except as provided below with respect to the Michigan Finance Authority State Aid Note Loan Program, the prior written consent of the Lender shall be required in connection with all additional indebtedness, liabilities and obligations in excess of the Additional Liability Cap; provided, however, that Lender shall not unreasonably withhold its consent to such additional indebtedness provided that Borrower has submitted evidence satisfactory to Lender that such additional indebtedness shall not cause Borrower to violate or default under any of the financial covenants set forth in the Loan Documents. The Borrower may continue to participate in the Michigan Finance Authority State Aid Note Loan Program for an annual amount up to Five Hundred Seventy Thousand and 00/100 Dollars (\$570,000.00) without the prior written consent of the Lender. In order to apply for any amount above Five Hundred Seventy Thousand and 00/100 Dollars (\$570,000.00), the prior written consent of the Lender would be required, which consent shall not be unreasonably withheld, conditioned or delayed, provided that the financial covenants set forth in this Agreement will not be violated due to such increased amount.

7.13 Management. The Borrower shall notify the Lender in writing of any change in the composition of its management team, and its board of directors, board of managers or other similar governance body, within ten (10) days of becoming aware of such change.

VIII. [RESERVED].

IX. LENDER'S EXPENDITURES. If any action or proceeding is commenced that would materially affect Lender's interest in the Collateral or if Borrower fails to comply with or perform any Obligations, Lender, on Borrower's behalf, may (but shall not be obligated to) take any action that Lender deems appropriate, including, discharging or paying all taxes, liens, security interests, encumbrances and other claims at any time levied or placed on the Collateral and paying all costs for insuring, maintaining and preserving the Collateral. All such expenditures incurred or paid by Lender for such purposes will then bear interest at the rate charged under the Notes from the date incurred or paid by Lender to the date of repayment by Borrower. All such expenses will become a part of the Obligations and, at Lender's option, will: (a) be payable on demand; (b) be added to the balance of the Notes and be apportioned among and be payable with any installment payments to become due during the remaining term of the Notes; or (c) be treated as a balloon payment which will be due and payable at the applicable Notes' maturity.

X. CESSATION OF ADVANCES. Lender shall not be obligated to make any Advances or otherwise advance Loan Proceeds under Loan B until (A) Borrower has invested the full value of the Project Equity in the Project, (B) the full principal amounts of Loan A and the Subordinate Loan have been disbursed, and (C) the Loans and Project Budget are "in balance" as described in **Section 3.25**. Lender shall have no obligation to make Advances or otherwise disburse Loan Proceeds if: (a) Borrower is in default under the terms of this Agreement or any of the other Loan Documents or any other agreement that Borrower has with Lender, without regard to any applicable cure period; (b) Borrower becomes insolvent, files a petition in bankruptcy or similar proceedings, or is adjudged a bankrupt; or (c) there occurs a material adverse change in Borrower's financial condition or in the value of the Collateral.

XI. RIGHT TO POSSESSION OF COLLATERAL. Until an Event of Default, Borrower may have possession of the tangible personal property and beneficial use of the Collateral and may use the Collateral in any lawful manner not inconsistent with this Agreement or the other Loan Documents, provided that Borrower's right to possession and beneficial use shall not apply to any Collateral where the possession thereof by Lender is required by law to perfect Lender's security interests therein. If Lender at any time has possession of any Collateral, whether before or after an Event of Default, Lender shall be deemed to have exercised reasonable care in the custody and preservation of such Collateral if Lender takes such action for that purpose as Borrower shall request or as Lender, in Lender's sole discretion, shall deem appropriate under the circumstances, but failure to honor any request by Borrower shall not of itself be deemed to be a failure to exercise reasonable care. Lender shall not be required to take any steps necessary to preserve any rights in the Collateral against prior parties, nor to protect, preserve or maintain any security interest given to secure the Obligations.

XII. DEFAULT. Any of the following events or conditions shall constitute a default under this Agreement and any other Loan Document ("**Event of Default**") :

12.1 Payment Default. Borrower fails to make any installment of interest or principal within ten (10) days after the same becomes due hereunder or under any of the other Loan Documents.

12.2 Other Payment Defaults. Borrower fails to make any other payment (other than payments referred to in **Section 12.1** above) within ten (10) days after written notice from Lender.

12.3 Other Defaults. Borrower fails to comply with or to perform any other Obligation, covenant or condition contained in this Agreement or in any of the other Loan Documents or to comply with or to perform any obligation, covenant or condition contained in any other agreement between Lender and Borrower and any such failure continues for a period of thirty (30) days after written notice from Lender.

12.4 Default in Favor of Third Parties. Borrower defaults under any loan, extension of credit, security agreement, purchase or sales agreement, or any other agreement, in favor of any other creditor or person that may materially affect any of Borrower's property or Borrower's ability to repay the Loans or perform its obligations under this Agreement or any of the other Loan Documents.

12.5 False Statements. Any warranty, representation or statement made in any Loan Document or furnished to Lender by Borrower in any certificate, document, opinion or financial or other statement or on Borrower's behalf under this Agreement or the other Loan Documents at any time is false or misleading in any material respect, either now or at the time made or furnished or becomes false or misleading at any time thereafter.

12.6 Failure to Pay or Perform. Borrower shall: (i) fail to pay any Indebtedness, or any interest or premium thereon, when due after taking into account any applicable grace or cure periods (whether by scheduled maturity, required prepayment, acceleration, demand, or otherwise); or (ii) fail to perform or observe any term, covenant, or condition on its part to be performed or observed under any agreement or instrument relating to any such Indebtedness, when required to be performed or observed after taking into account any applicable grace or cure periods, if the effect of such failure to perform or observe is to accelerate, or to permit the acceleration after the giving of notice or passage of time, or both, of the maturity of such Indebtedness, whether or not such failure to perform or observe shall be waived by the holder of such Indebtedness; or any such Indebtedness shall be declared to be due and payable, or required to be prepaid (other than by a regularly scheduled required prepayment), prior to the stated maturity thereof.

12.7 Dissolution, Insolvency, Bankruptcy. Borrower: (i) shall be unable to, or shall admit in writing its inability to pay its debts as such debts become due; (ii) shall make an assignment for the benefit of creditors, petition or apply to any tribunal for the appointment of a custodian, receiver, or trustee for it or a substantial part of its assets; (iii) shall commence any proceeding under any Bankruptcy, reorganization arrangements, readjustment of debt, dissolution, or liquidation law or statute of any jurisdiction, whether now or hereafter in effect; (iv) shall have any such petition or application filed or any such proceeding commenced against it in which an order for relief is entered or adjudication or appointment is made and which remains undismissed for a period of ninety (90) days or more; (v) by any act or omission shall indicate its consent to, approval of, or acquiescence in any such petition, application, or proceeding, or order for relief, or the appointment of a custodian, receiver, or trustee for all or any substantial part of its properties; or (vi) shall suffer any such custodianship, receivership, or trusteeship to continue undischarged for a period of sixty (60) days or more.

12.8 Defective Collateralization. This Agreement or any of the other Loan Documents ceases to be in full force and effect (including failure of any collateral document to create a valid and perfected security interest or lien) at any time and for any reason.

12.9 Creditor or Forfeiture Proceedings. Commencement of foreclosure or forfeiture proceedings, whether by judicial proceeding, self-help, repossession or any other method, by any creditor of Borrower or by any governmental agency against any of the Collateral. This includes a garnishment of any of Borrower's accounts, including deposit accounts, with Lender. However, this Event of Default shall not apply if there is a good faith dispute by Borrower as to the validity or reasonableness of the claim that is the basis of the creditor or forfeiture proceeding and if Borrower gives Lender written notice of the creditor or forfeiture proceeding and deposits with Lender monies or a surety bond for the creditor or forfeiture proceeding, in an amount determined by Lender, in its sole discretion, as being an adequate reserve or bond for the dispute.

12.10 Enjoined from Operating Business. Borrower shall be enjoined, restrained or in any way prevented by court order from conducting all or a substantial part of its business, and such proceeding or injunction shall not be stayed or dismissed within ninety (90) days from the date of entry of such injunction or other form of restriction.

12.11 Money Judgment. There is entered against Borrower a final judgment or order for the payment of money in an aggregate amount exceeding Ten Thousand and 00/100 Dollars (\$10,000.00) (to the extent not covered by independent third-party insurance as to which the insurer has been notified of such judgment or order and does not deny coverage) and there is a period of ninety (90) consecutive days during which a stay of enforcement of such judgment, by reason of a pending appeal or otherwise, is not in effect.

12.12 Dissolution of Borrower. Borrower shall dissolve, or any Person shall commence any action or proceeding which seeks as one of its remedies the dissolution of Borrower and such action or proceeding is not dismissed within one hundred twenty (120) days.

12.13 Adverse Change. A material adverse change occurs in Borrower's financial condition.

12.14 Lender's Entry. If Lender or Lender's agents are not permitted to enter upon and/or inspect the Collateral, during normal business hours with reasonable advance notice.

12.15 Construction Lien. The filing of any Construction Lien against the Premises or any part thereof without discharge (by payment or bonding over pursuant to applicable law) or satisfaction thereof or provision therefor satisfactory to Lender in accordance with the terms hereof, including in all events, affirmative coverage by the Title Company, within thirty (30) days from the date that Borrower has notice (from any source) of any such filing.

12.16 Project Completion. Project Completion does not occur on or before the applicable Completion Date, or if Lender reasonably determine that Project Completion will not occur on or before the applicable Completion Date.

12.17 General Contractor. The General Contractor defaults under the Construction Contract in a manner which Lender deems to be material, and, unless otherwise agreed in writing by Lender, Borrower fails promptly to exercise its rights and remedies under the Construction Contract with respect to such default.

12.18 Casualty. If the Premises, in the sole judgment of Lender, shall be materially injured or destroyed by fire or other casualty or a taking shall have occurred such that Lender reasonably determines that the Premises cannot be completed or repaired or replaced within a reasonable period, or that the Loan Proceeds not yet advanced (plus any insurance proceeds payable as a result of such fire or casualty and all amounts paid to Lender by Borrower pursuant to the terms hereof, excluding amounts paid as interest on the Notes) are insufficient to complete, repair or replace the Improvements and pay all expenses in connection therewith.

12.19 Cross-Default. The Loans are cross-defaulted so that if there is a default under any of the loans described herein it shall be considered a default under all of the Loans.

XIII. REMEDIES.

13.1 Remedies. Upon the occurrence of any Event of Default, Lender may, at its option: (i) declare all sums of interest and principal remaining outstanding on the Loans and all other sums outstanding under or in respect of this Agreement or any other Loan Document to be immediately due and payable, without notice of default, presentment, demand, protest, or further notice of any kind, all of which are hereby expressly waived by Borrower; (ii) exercise any additional right or remedy which Lender may have under this Agreement or any other Loan Document; and (iii) exercise any additional right or remedy which Lender may have at law or in equity.

13.2 Borrower's Obligation to Give Notice of Event of Default. Borrower shall give written notice to Lender of the occurrence of any Event of Default or the existence of any event which would, with the passage of time or giving of notice or both, constitute an Event of Default hereunder immediately after discovery of any such event.

13.3 Disbursement of Funds.

(a) Upon the existence of an Event of Default or of an event which would, with the passage of time or the giving of notice or both, constitute an Event of Default under this Agreement, any Loan Documents, Lender's obligation to disburse funds shall be suspended until the event is cured within the time period provided herein; upon the existence of an Event of Default, Lender's obligation to disburse the proceeds of the Loans shall terminate.

(b) If, at the time of the making of an advance of the Loans, the Project is not in substantial compliance with the approved Plans and Specifications and Project Budget and the approved construction schedule (as set forth in the Construction Contract), then the obligation of Lender to disburse the proceeds of the Loans shall be suspended until funding of the Project is resumed and, the Project is brought into compliance with the approved Project Budget and construction schedule.

13.4 Default Rate. After maturity of the Loans by acceleration or otherwise, Borrower shall pay interest at the Default Rate.

13.5 Lender's Cure Rights. Lender shall have the right (but shall have no obligation) at any time to take in its name or in the name of Borrower such action as Lender determine is necessary or advisable to cure any default to protect the rights of Borrower or Lender thereunder, or to receive and satisfy the requirements thereof. Lender shall incur no liability if any action so taken shall prove to be inadequate or invalid, and Borrower hereby indemnifies, holds harmless and agrees to defend Lender from and against any loss, cost, liability or expense (including reasonable attorneys' fees and expenses) incurred in connection with any such action. Lender may advance funds for any of the purposes described in this **Section 13.5**, and such advances, even if in excess of the amount of the Loans, shall be payable to Lender on demand and shall be secured by the Loan Documents.

13.6 Right to Complete Construction. Upon the occurrence of an Event of Default and during the continuance thereof, Lender shall have the right (but not the obligation), in addition to such other rights and remedies available to Lender hereunder or under the Loan Documents, to the fullest extent permitted by applicable law, to enter into possession of the Premises, to take over and complete the Project, to discharge and replace the General Contractor and any other contractor or subcontractor, to employ watchmen to protect the Premises and for those purposes, to make disbursements. Any contracts entered into or indebtedness incurred upon the exercise of such right may be in the name of Borrower. Lender is hereby authorized and irrevocably appointed attorney-in-fact (said appointment being coupled with an interest) to enter into said contracts, incur such obligations, enforce any contracts or agreements theretofore made by or on behalf of Borrower and to do any and all things necessary or proper to complete the Project, including the signing of Borrower's name to such contracts and documents as may be deemed necessary by counsel for Lender. In no event shall Lender be required to expend its own funds to complete the Project if the funds undisbursed are insufficient, but Lender may, at its option, advance such funds. Any funds so advanced shall be paid to Lender by Borrower on written demand, together with interest at the Default Rate from the date of advance until paid and shall be secured by the Loan Documents.

13.7 Right to Advance or Post Funds. Where disputes have arisen which, in the good faith and reasonable opinion of Lender, may endanger timely completion of the Project or fulfillment of any condition precedent or threaten default hereunder, Lender may, without Borrower's approval, but after written notice to Borrower, agree to advance funds for the Project to the General Contractor or others; provided, that, prior notice to Borrower shall not be required if Lender's Collateral is threatened or in the event of an emergency. Such agreement or agreements may take the form which Lender deem proper, including, but without limiting the generality of the foregoing agreements, to indemnify a title insurer against possible assertion of lien claims, agreements to pay disputed amounts to the General Contractor or to any other Contractor in the event Borrower is unable or unwilling to pay the same, and the like. Borrower agrees to reimburse Lender for all sums paid or agreed to be paid pursuant to such undertakings with interest at the Default Rate from the date of payment until date of reimbursement and any sums so advanced shall be secured by the Loan Documents.

13.8 Curing of Defaults by Disbursement from the Disbursement Account. Upon the existence of an Event of Default which may be cured by the payment of money or the threat of such defaults as determined by Lender in good faith, Lender shall have the right (but not the obligation) to make such payment after written notice to Borrower if the default or threatened default is failure to pay monies due from Borrower to the General Contractor or to any other Contractor or failure of a General Contractor or any other Contractor to perform under their respective contract(s), thereby curing the default; provided, that, prior written notice to Borrower shall not be required if Lender's Collateral is threatened or in the event of an emergency. If the payment of any such sums results or may, in Lender's good faith determination, result in the reduction in the amount of funds available under the Project Budget below that required to complete the renovations of the Project, the amount which Lender determines in good faith to be necessary to provide for such completion shall be deposited with Lender by Borrower within ten (10) days after written demand therefor by Lender.

13.9 Remedies are Cumulative. All remedies provided for herein are cumulative and shall be in addition to any and all other rights and remedies provided by law, including banker's lien and right of offset. The exercise of any right or remedy by Lender hereunder shall not in any way constitute a cure or waiver of default hereunder or under the Mortgages or invalidate any act done pursuant to any notice of default or prejudice Lender in the exercise of any of their rights hereunder or under the Loan Documents, unless in the exercise of said rights, Lender realize all amounts owed under the Notes, the other Loan Documents and hereunder.

13.10 Right of Contest. Borrower shall have the right to contest in good faith any claim, demand, levy or assessment, the assertion of which would constitute an Event of Default hereunder. Any such contests shall be prosecuted diligently and in a manner which does not prejudice Lender hereunder. Upon written demand by Lender, Borrower shall make suitable provisions by deposit of funds or by bond satisfactory to Lender for the possibility that the contest will be unsuccessful. Such provision shall be made within ten (10) business days after written demand therefor and if made by deposit of funds, the amount so deposited shall be disbursed in accordance with the resolution of the contest either to Borrower or the adverse claimant.

13.11 Waiver of Certain Laws. To the extent permitted by applicable law, Borrower hereby agrees to waive and does hereby absolutely and irrevocably waives and relinquishes the benefit and advantage of the doctrine of marshalling, any non-judicial valuation, stay, appraisal, extension or right to a judicial hearing prior to foreclosure, pursuant to statute and case made and provided, now existing or which may hereafter exist, which but for this provision, might be applicable to any sale made under the judgment, order or decree or any court, or otherwise, based on any promissory note or Loan Documents contemplated hereby or on any claim for interest on the promissory note or on any security interest contemplated by this Agreement.

13.12 Receiver. Upon the occurrence of an Event of Default, Lender shall be entitled, upon written notice to Borrower, but without contest and completely without regard to the adequacy of any security for the debt, to the appointment of a receiver of the Project and the renovation and construction contemplated by this Agreement, inclusive of the Premises and of the rents and profits derived therefrom; provided, however, Borrower shall have thirty (30) days after written notice from Lender to cure such Event of Default prior to Lender seeking the appointment of a receiver. This appointment shall be in addition to any other rights, relief or remedies afforded Lender. Such receiver, in addition to any other rights to which it shall be entitled, may exercise the rights granted herein to Lender under this **Section 13**, and shall be authorized to sell, foreclose or complete foreclosure on all mortgages and security interests contemplated by this Agreement for the benefit of Lender pursuant to provisions of applicable Michigan real property law and the UCC. In the event of any deficiency, Borrower shall remain liable therefor.

13.13 Additional Remedies. Lender shall have all rights and remedies of a secured party under the UCC, including without limitation, the right without demand or notice to Borrower, to collect, receive or take possession of the Collateral or any part thereof. Borrower shall be liable for, and shall pay on demand, all expenses of retaking, holding, preparing for sale, sale, or the like, and all reasonable attorneys' fees and other expenses incurred by Lender in connection with the collection of the obligations and the enforcement of Lender's rights under the Loan Documents, all of which expenses and fees shall constitute additional obligations secured

by the Loan Documents. Borrower will execute and deliver, or cause to be executed and delivered, such instruments, documents, assignments, waivers, certificates and affidavits and supply or cause to be supplied such further information and take such action as Lender shall require in connection with such sale.

13.14 All Rights and Remedies. Lender shall have all the rights and remedies provided in the other Loan Documents or available at law, in equity, or otherwise.

13.15 Election of Remedies. Except as may be prohibited by applicable law, all of Lender's rights and remedies shall be cumulative and may be exercised singularly or concurrently. Election by Lender to pursue any remedy shall not exclude the pursuit of any other remedy, and an election to make expenditures or to take action to perform an obligation of Borrower shall not affect Lender's right to declare a default and to exercise its rights and remedies. Lender shall have full recourse to the assets of Borrower in the enforcement of the Loans.

XIV. WAIVER OF JURY TRIAL. TO THE MAXIMUM EXTENT PERMITTED BY LAW, BORROWER AND LENDER EACH WAIVE THEIR RESPECTIVE RIGHTS TO A TRIAL BY JURY OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF OR RELATED TO THIS AGREEMENT, ANY OF THE OTHER LOAN DOCUMENTS, OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY, IN ANY ACTION, PROCEEDING OR OTHER LITIGATION OF ANY TYPE BROUGHT BY ANY OF THE PARTIES AGAINST ANY OTHER PARTY OR PARTIES, WHETHER WITH RESPECT TO CONTRACT CLAIMS, TORT CLAIMS, OR OTHERWISE. BORROWER AND LENDER EACH AGREE THAT ANY SUCH CLAIM OR CAUSE OF ACTION SHALL BE TRIED BY A COURT TRIAL WITHOUT A JURY. WITHOUT LIMITING THE FOREGOING, THE PARTIES FURTHER AGREE THAT THEIR RESPECTIVE RIGHT TO A TRIAL BY JURY IS WAIVED BY OPERATION OF THIS SECTION AS TO ANY ACTION, COUNTERCLAIM OR OTHER PROCEEDING WHICH SEEKS, IN WHOLE OR IN PART, TO CHALLENGE THE VALIDITY OR ENFORCEABILITY OF THIS AGREEMENT OR ANY OF THE OTHER LOAN DOCUMENTS OR ANY PROVISION HEREOF OR THEREOF. THIS WAIVER SHALL APPLY TO ANY SUBSEQUENT AMENDMENTS, RENEWALS, SUPPLEMENTS OR MODIFICATIONS TO THIS AGREEMENT OR ANY OF THE OTHER LOAN DOCUMENTS. **A COPY OF THIS SECTION XIV MAY BE FILED WITH ANY COURT AS WRITTEN EVIDENCE OF THE WAIVER OF THE RIGHT TO TRIAL BY JURY AND CONSENT TO TRIAL BY COURT. THIS SECTION XIV MAY NOT BE AMENDED, MODIFIED, TERMINATED OR WAIVED EXCEPT BY A WRITING WHICH MAKES SPECIFIC REFERENCE TO THIS SECTION XIV.**

XV. WAIVER OF RIGHT OF OFFSET. Borrower hereby acknowledges and agrees that no portion of the indebtedness evidenced by the Notes or any other Obligations payable by Borrower pursuant to any of the Loan Documents shall be or be deemed to be offset or compensated by all or any part of any claim, cause of action, counterclaim, or cross-claim, whether liquidated or unliquidated which Borrower or any Affiliate thereof has, may have or claim to have against Lender.

XVI. RELATIONSHIP OF PARTIES. Neither this Agreement nor any of the other Loan Documents is intended to create any relationship between (a) Lender and (b) Borrower, except as specifically stated herein or in the other Loan Documents, and Lender does not assume and shall not have a fiduciary duty to Borrower.

XVII. PROCESS SERVICE. All parties hereto agree that process may be served upon any party hereto by hand delivery, by certified or registered mail, return receipt requested or by overnight courier that provides written confirmation of receipt, directed to such party at its last known address, and each party waives any defense of insufficiency of service with respect to process so served.

XVIII. STATE TAX. Borrower agrees that if, during the term of the Loans the State of Michigan (the "State") imposes or assesses against Lender any fees or taxes, including, without limitation, financial institutions excise tax, or franchise, gross receipts or other similar tax (collectively, the "Tax") based upon Lender's status as an out-of-state financial institution, unincorporated business association and/or the like doing business in the State solely as a result of making the Loans, Borrower shall pay an amount equal to such Tax to Lender upon presentation by

Lender of documentation evidencing the assessment of such Tax against Lender and the amount thereof. Upon payment of such amount, Borrower shall have the right (but not the obligation) at its sole cost and expense and with counsel of its choosing to appeal the imposition of any Tax on Lender, and shall be entitled to any refunds of Tax paid by Borrower to Lender as a result of any appeal whether or not initiated by Borrower. Lender hereby agrees to make a good faith effort to provide Borrower with such information as is commercially reasonable for Lender to provide in connection with any appeal (all of which shall be at Borrower's sole cost and expense).

XIX. INDEMNIFICATION. Borrower hereby indemnifies, defends, and holds Lender, its Affiliates, and their officers, directors, trustees, members, managers and agents (each an "**Indemnified Party**") harmless for, from, and against any and all actual or threatened liabilities, claims, actions, causes of action, judgments, orders, damages (including foreseeable and unforeseeable consequential damages), costs, expenses, fines, penalties, and losses (including sums paid in settlement of claims and all reasonable consultant, expert and legal fees and expenses of the Indemnified Party's counsel), and any resulting damages, harm or injuries to the person or property of any third parties, directly or indirectly arising out of or resulting from: (a) any brokerage commissions or finder's fees claimed by any broker or other party in connection with the transactions contemplated hereby; (b) Borrower's failure to perform any of Borrower's obligations, as and when required by the Loans, this Agreement or any of the other Loan Documents, including any failure of any representation or warranty of Borrower to be true and correct and any failure of Borrower to satisfy any covenant herein; (c) Lender's performance on the Loans or any of the Loan Documents, including Lender's exercise or failure to exercise any rights, remedies or powers in connection with the Loans, the Collateral or any of the Loan Documents; (d) any claim or cause of action of any kind by any person or entity to the effect that Lender is in any way responsible or liable for any act or omission of Borrower, whether on account of derivative liability or otherwise; (e) any act or omission by Borrower, any of its directors, officers, employees, consultants, representatives or agents, or other person or entity, except Lender or its agents, with respect to the Loans, any of the other Loan Documents, the Collateral; (f) any claim or cause of action of any kind by any person or entity which would have the effect of denying Lender the full benefit or protection of any provision of the Loans, this Agreement or any of the other Loan Documents; (g) any losses, costs, damages or expenses that Lender may incur, directly or indirectly, including reasonable attorneys' fees, as a result of or in connection with the assertion against Lender of any claims relating to the presence or removal of any Hazardous Substances on all or any portion of the Premises, Borrower's other properties, the other Collateral or any adjacent property or any violation of any Environmental Law; (h) the ownership, management, maintenance, operation, marketing, leasing, sale, use or development of, or improvement to, the Premises, whether such claims are based on theories of derivative liability, comparative negligence or otherwise; and (i) any failure to satisfy any requirement of any applicable laws, governmental policies or standards, reports, maps, development agreements, or regulatory agreements that apply or pertain to the Collateral; excepting those arising out of, or resulting, solely from the applicable Indemnified Party's gross negligence or willful misconduct. Notwithstanding anything to the contrary in any other Loan Document, the provisions of this Article XIX shall survive the termination of this Agreement, repayment of the Loans and foreclosure or sale of the Collateral or security interests of Lender, or similar proceedings.

XX. CONSTRUCTION OF THE IMPROVEMENTS.

20.1 Required Commencement and Completion Date. Borrower agrees to (i) commence construction and renovation of the Improvements (minus the Additional Site Work) not later than thirty (30) days after the date hereof, (ii) proceed continuously with construction and renovation of the Improvements (including the Additional Site Work once such work commences) without interruption for more than ten (10) consecutive days, except for an act of God, including a hurricane, and (iii) fully construct/renovate the Improvements (minus the Additional Site Work) on or before March 31, 2016 and the Additional Site Work on or before September 30, 2016 (A) in accordance with the Plans and Specifications, (B) free and clear of all construction, mechanics' and materialmen's claims and liens, and (C) in compliance with all applicable restrictions, conditions, ordinances, permits, codes, regulations and laws of all governmental authorities, departments and agencies having jurisdiction over and/or an interest in the Premises.

20.2 Failure to Construct; Lender's Right to Act. If for any reason the renovation and expansion of the Improvements is discontinued for a period of ten (10) consecutive days, except for an act of God, including a hurricane, or is otherwise not carried on with dispatch, Lender may at its option: (i) hire a watchman and/or provide materials and labor to protect the Improvements from depredation and injury; (ii) enter into and upon the Premises and complete renovation and expansion of the Improvements; (iii) operate the Improvements; or (iv) any combination of the foregoing. Borrower hereby grants to Lender the full power and authority to make such entry and to enter into such contracts or arrangements as may be necessary to protect and/or complete and/or operate the Improvements. If Lender enters upon the Land and undertakes the protection, completion and/or operation of the Improvements as aforesaid, Lender shall be entitled to have any of the Loan Proceeds advanced to Lender or at its direction for the payment of bills theretofore or thereafter contracted in connection with the protection, completion and/or operation of the Improvements. In addition, Lender may at its option expend money in protecting, completing and/or operating the Improvements, over and above the total amount of the Loans, and such money when so expended shall be added to the principal of the Loans and the same, together with interest thereon at the Default Rate, shall be secured by the Mortgages and other Loan Documents and shall be payable by Borrower on demand, anything to the contrary herein notwithstanding.

20.3 No Lender Liability for Improvements.

(a) **No Liability for Construction.** Any and all inspections of the Improvements made by Lender or its agents, employees and/or designees shall be solely for Lender's own information and shall not be deemed to have been made for or on account of Borrower or any other person. Borrower hereby specifically relieves Lender of any and all liability or responsibility in any way relating to the construction and renovation of the Improvements, including, without limitation, the work performed thereon, the material or labor supplied in connection therewith and any errors, inconsistencies or other defects in the Plans and Specifications heretofore or hereafter accepted by Lender.

(b) **No Liability for Liens.** Lender shall not be responsible, liable or obligated to any contractors, subcontractors, suppliers, materialmen, laborers, architects, engineers or any other person for services or work performed or goods delivered by any of them in and upon the Premises or employed, directly or indirectly, in the renovation and expansion of the Improvements, or for any debts or claims whatsoever accruing in favor of any such parties and against Borrower or others, or against the Premises. It is distinctly understood and expressly agreed that the relationship between Lender and Borrower is that of creditor and debtor, respectively, and that Borrower is not and shall not be an agent of Lender for any purpose whatsoever. Without limiting the generality of the foregoing, disbursements made at Lender's option directly to any contractor, subcontractor or supplier of labor and/or materials, or to any other person, shall not be deemed a recognition by Lender of any third-party beneficiary status of any such person.

20.4 Lender's Right of Entry. Lender shall at all times have the right of entry and free access to the Premises for the purpose of inspecting the same, and Lender shall also have the right to inspect all books, records and contracts of Borrower relating to the Property.

20.5 Watchmen. If during the progress of construction/renovation Borrower neglects or refuses to employ adequate watchman service for the protection of the Premises, Lender may employ or engage one or more persons as reasonably needed to perform such service. Any amounts so expended, if not paid by Borrower on demand, shall bear interest at the Default Rate.

20.6 Borrower's Duty to Inform Lender. As soon as Borrower becomes aware of any state of facts which materially changes the total of all items or any line item in the Project Budget, Borrower shall promptly give Lender written notice of such facts and of each actual or anticipated change and the reasons for such change.

XXI. TRANSACTION EXPENSES.

21.1 On the Closing Date, Borrower shall pay the out-of-pocket fees payable and other charges incurred by Lender in connection with this Agreement, the transaction contemplated by this Agreement, and the documents entered into in connection therewith, including, without limitation:

(a) title insurance premiums, appraiser fees, environmental audit fees and insurance consulting fees; and

(b) all legal and accounting fees and expenses, including, without limitation, Lender's reasonable attorneys' fees and expenses for services performed and sums advanced or disbursed in connection with the transactions contemplated by this Agreement, plus reimbursement of all out-of-pocket expenses incurred in connection therewith, including without limitation any applicable internal documentation fees.

21.2 Borrower shall pay, on an annual basis within ten (10) business days following written notice from Lender of the amount thereof, the annual out-of-pocket fees payable and other charges incurred in connection with servicing, special servicing, asset management, tax returns of Lender and audits of Lender and Lender's reporting obligations; provided, however, that Borrower shall be responsible for paying such fees and charges only to the extent that debt service on the Loans is insufficient to cover such fees and charges.

XXII. MISCELLANEOUS PROVISIONS. The following miscellaneous provisions are a part of this Agreement:

22.1 Amendments. This Agreement, together with any other Loan Documents, constitutes the entire understanding and agreement of the parties as to the matters set forth in this Agreement. No alteration of or amendment to this Agreement shall be effective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

22.2 Attorneys' Fees; Expenses. Borrower agrees that if Lender hires an attorney to help enforce this Agreement, Borrower shall pay, subject to any limits under applicable law, Lender's reasonable attorneys' fees and all of Lender's other collection expenses, whether or not there is a lawsuit and including additional legal expenses for bankruptcy proceedings.

22.3 Caption Headings. Caption headings in this Agreement are for convenience purposes only and are not to be used to interpret or define the provisions of this Agreement.

22.4 Consent to Loan Participation. Borrower agrees and consents to Lender's sale or transfer, whether now or later, of one or more participation interests in the Loans to one or more purchasers, whether related or unrelated to Lender. Lender may provide, without any limitation whatsoever, to any one or more purchasers, or potential purchasers, any information or knowledge Lender may have about Borrower or about any other matter relating to the Loans, and Borrower hereby waives any rights to privacy Borrower may have with respect to such matters. Borrower additionally waives any and all notices of sale of participation interests, as well as all notices of any repurchase of such participation interests. Borrower also agrees that the purchasers of any such participation interests will be considered as the absolute owners of such interests in the Loans and will have all the rights granted under the participation agreement or agreements governing the sale of such participation interests. Borrower further waives all rights of offset or counterclaim that it may have now or later against Lender or against any purchaser of a participation interest in the Loans and unconditionally agrees that either Lender or such purchaser may enforce Borrower's obligation under the Loans irrespective of the failure or insolvency of any holder of any interest in the Loans. Borrower further agrees that the purchaser of any such participation interests may enforce its interests irrespective of any personal claims or defenses that Borrower may have against Lender.

22.5 Information Sharing. Lender may provide, to the fullest extent permitted by law, any financial or other information or knowledge Lender may have about Borrower or any matter relating to this Agreement, the

Loan Documents and/or any related documents or relating to the Project, to any of its subsidiaries, Affiliates or successors, and Borrower waives any right to privacy Borrower may have with respect to such matters. Without limitation of the foregoing, such information may be shared with the attorneys, accountants, inspectors, architects, engineers, contractors and others retained by Lender in connection with the Project or as may be required by law.

22.6 Governing Law; Consent to Jurisdiction. To the extent permitted by law, this Agreement shall be governed by, and construed in accordance with the laws of the State of Michigan. To the extent permitted by law, Borrower and Lender hereby consent to the personal jurisdiction over Borrower and Lender, respectively, of the Circuit Court for the County of Kent, the United States District Court for the Western District of Michigan, and waive all objections to the venue of such courts, for the adjudication of any case or controversy arising under or relating to this Agreement or any of the other Loan Documents. To the extent permitted by law, Borrower and Lender further consent to service of process upon each of them in such manner as shall be permitted by the laws of the State of Michigan if litigation or other legal process is commenced in the courts of the State of Michigan or by applicable federal law (including reference to state law) if litigation or legal process is commenced in the United States District Court for the Western District of Michigan.

22.7 USA PATRIOT Act Notice. Lender hereby notifies Borrower that pursuant to the requirements of the USA PATRIOT Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)) (the “Patriot Act”), it is required to obtain, verify and record information that identifies Borrower, which information includes the name and address of Borrower and other information that will allow Lender, as applicable, to identify Borrower in accordance with the Patriot Act. Borrower shall, promptly following a request by Lender, provide all documentation and other information that Lender requests in order to comply with its ongoing obligations under applicable “know your customer” and anti-money laundering rules and regulations, including the Patriot Act.

22.8 Preference Payments. To the extent that any payment by or on behalf of Borrower is made to Lender or Lender exercises its right of set-off, and such payment or the proceeds of such set-off or any part thereof is subsequently invalidated, declared to be fraudulent or preferential, set aside or required (including pursuant to any settlement entered into by Lender in its discretion) to be repaid to a trustee, receiver or any other party, in connection with any proceeding under the debtor relief laws, or otherwise, then (a) to the extent of such recovery, the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such set-off had not occurred.

22.9 No Waiver by Lender. Lender shall not be deemed to have waived any rights under this Agreement unless such waiver is given in writing and signed by Lender. No delay or omission on the part of Lender in exercising any right shall operate as a waiver of such right or any other right. A waiver by Lender of a provision of this Agreement shall not prejudice or constitute a waiver of Lender’s right otherwise to demand strict compliance with that provision or any other provision of this Agreement. No prior waiver by Lender, nor any course of dealing between Lender and Borrower, or between Lender and any Borrower, shall constitute a waiver of any of Lender’s rights or of any of Borrower’s obligations as to any future transactions. Whenever the consent of Lender is required under this Agreement, the granting of such consent by Lender in any instance shall not constitute continuing consent to subsequent instances where such consent is required and in all cases such consent may be granted or withheld in the sole discretion of Lender.

22.10 Notices. All notices and other communications provided for under this Agreement shall be in writing and shall be personally delivered or sent by first class United States mail, by nationally recognized overnight courier such as Federal Express or DHL, or by telecopy or by other means of telecommunication, to the following addresses:

to Borrower: West Michigan Academy of Environmental Science
4463 Leonard NW
Walker, Michigan 49534
Attn: Julia Kozminski, Board Secretary and Stan Rathbun, Board Agent
Email: Julia.kozminski@ci.walker.mi.us

Email: stanrathbun@choiceschools.com
Telephone No.: (989) 506-1841
Telecopy No.: (616) 785-8455

with a copy to: Mika Meyers Beckett & Jones PLC
900 Monroe Avenue NW
Grand Rapids, Michigan 49503
Attn: Daniel J. Parmeter Jr., Esq.
Telephone No.: (616) 632-8020
Telecopy No.: (616) 632-8002

to Lender: Capital Impact Partners
2011 Crystal Drive, Suite 750
Arlington, Virginia 22202
Attn: Loan Servicing Department
Telecopy No.: (703) 647-3490

with a copy to: Dykema Gossett PLLC
400 Renaissance Center
Detroit, Michigan 48243
Attn: Danielle M. Graceffa, Esq.
Telephone No.: (313) 568-5363
Telecopy No.: (855) 246-1916

or, as to each party, at such other address as shall be designated by such party in a written notice to the other party complying as to delivery with the terms of this **Section 22.10**. All such notices and communications shall be deemed received: (i) if personally delivered, upon delivery; (ii) if sent by first class United States mail, following deposit in the mail with first class postage prepaid, upon receipt; (iii) if sent by courier service with next Business Day delivery charges prepaid, upon receipt; and (iv) if sent by telex, telecopy or similar form of telecommunications, upon receipt.

22.11 Power of Attorney. Borrower hereby appoints Lender as Borrower's irrevocable attorney-in-fact (the "**Attorney**") with full power and substitution for the purpose of (A) executing any documents necessary to perfect, amend, or to continue the security interest granted in this Agreement and any other Loan Document or to demand termination of filings of other secured parties and (B) following any material breach or noncompliance by Borrower with respect to any Loan Document, taking any other action and executing any document or instrument, in the name of Borrower or otherwise, which the Attorney may at any time deem necessary or appropriate in order to protect Lender's security interests in the Collateral or any part thereof or to foreclose said security interests in accordance herewith or otherwise fulfill the Obligations of Borrower under the Loan Documents, including, without limitation, any action permitted under the Security Agreements. Lender may at any time, and without further authorization from Borrower, file a carbon, photographic or other reproduction of any Financing Statement or of this Agreement for use as a Financing Statement. Borrower will reimburse Lender upon demand for any costs and expenses, including, without limitation, (Y) reasonable attorneys' fees and (Z) all expenses for the perfection and the continuation of the perfection of Lender's security interests in the Collateral, that Lender may incur while acting as Borrower's attorney-in-fact hereunder, all of which costs and expenses are included in the Obligations. Lender may at any time terminate the appointment of Lender as the Attorney hereunder and designate a successor Attorney hereunder, upon written notice to Borrower of the designation of such successor Attorney.

22.12 Severability. Any provision of any Loan Document which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions of such Loan Documents or affecting the validity or enforceability of such provision in any other jurisdiction. Unless otherwise required by law, the illegality, invalidity, or

unenforceability of any provision of this Agreement shall not affect the legality, validity or enforceability of any other provision of this Agreement.

22.13 Subsidiaries and Affiliates of Borrower. Under no circumstances shall this Agreement be construed to require Lender to make any loan or other financial accommodation to any of Borrower's subsidiaries or Affiliates.

22.14 Successors and Assigns. All covenants and agreements by or on behalf of Borrower contained in this Agreement or any of the other Loan Documents shall bind Borrower's successors and assigns and shall inure to the benefit of Lender and its successors and assigns. Borrower shall not, however, have the right to assign Borrower's rights under this Agreement or any interest therein, without the prior written consent of Lender.

22.15 Survival of Representations and Warranties. Borrower understands and agrees that in making the Loans, Lender is relying on all representations, warranties, and covenants made by Borrower in this Agreement or in any certificate or other instrument delivered by Borrower to Lender under this Agreement or the other Loan Documents. Borrower further agrees that regardless of any investigation made by Lender, all such representations, warranties and covenants will survive the making of the Loans and delivery to Lender of the Loan Documents. Further, all covenants shall be continuing in nature, and shall remain in full force and effect until such time as Borrower's Obligations shall be paid in full, or until this Agreement shall be terminated in the manner provided above, whichever is the last to occur.

22.16 Disclosure. Borrower agrees to permit Lender to disclose and publicize Borrower's identity and the amount and purpose of the Loans. Borrower further agrees not to post signs or otherwise identify Lender's participation without Lender's prior written approval.

22.17 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument.

22.18 Entire Agreement. This Agreement, together with the other Loan Documents, constitutes the entire agreement among the parties with respect to the subject matter contained herein and therein, and supersedes any prior agreements or understanding among the parties, whether written or oral.


BORROWER ACKNOWLEDGES HAVING READ ALL THE PROVISIONS OF THIS AGREEMENT AND BORROWER AGREES TO ITS TERMS.

[Remainder of page intentionally left blank; signature page follows.]

IN WITNESS WHEREOF, Borrower and Lender have executed and delivered this Agreement as of the day and year first above written.

BORROWER:

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan non-profit corporation

By: 
Peter Vandersluis
Title: Board President

LENDER:

CAPITAL IMPACT PARTNERS, a Congressionally chartered District of Columbia non-profit corporation

By: _____
Name: _____
Title: _____

IN WITNESS WHEREOF, Borrower and Lender have executed and delivered this Agreement as of the day and year first above written.

BORROWER:

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan non-profit corporation

By: _____
Peter Vandersluis
Title: Board President

LENDER:

CAPITAL IMPACT PARTNERS, a Congressionally chartered District of Columbia non-profit corporation


By:  _____
Name: Cindy Stewart
Title: Senior Director & Credit Officer

EXHIBIT A

Legal Description

Real estate situated in the City of Walker, County of Kent, State of Michigan, described as follows:

PARCEL A:

The East 1/2 of the Northeast 1/4 of the Southwest 1/4; and also the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the East 50 feet thereof, AND ALSO EXCEPT commencing on the North right-of-way line of Leonard Street (66.00 feet wide) at its intersection with the West right-of-way line of Wilson Avenue (100.00 feet wide) (a/k/a S.T.L. M-11); thence North along the West right-of-way line of Wilson Avenue 20.00 feet; thence Southwesterly to a point on the North right-of-way line of Leonard Street which is 20.00 feet West of the place of beginning; thence East along the North right-of-way line of Leonard Street 20.00 feet to the place of beginning.

PARCEL B:

The Southeast 1/4 of the Southwest 1/4 of Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, AND ALSO EXCEPT the East 50.00 feet thereof.

Tax Item No. 41-13-18-300-018

Commonly known as: 4463 Leonard Street NW, Walker, Michigan 49534

EXHIBIT B

Project Budget

WMAES (\$000)					
Sources:			Uses:		
	Amount	% Total		Amount	% Total
Senior Debt: CIP/Liberty Loan	\$ 7,000,000	80%	Construction Costs	\$ 5,761,164	66%
Sub Debt: CIP	\$ 437,500	5%	Soft Costs	\$ 1,307,205	15%
Equity, net	\$ 607,532	7%	Contingency - 10% hard costs, 5% soft & eq.	\$ 590,985	7%
CIP Secondary Construction Loan	\$ 750,000	9%	Refinance Existing Debt	\$ 595,000	7%
			Loan Reserve and Construction Period Interest	\$ 501,279	6%
			GBOP Extension Fee	\$ 39,400	0%
Total Sources of Funds	\$ 8,795,032	100%	Total Project Costs	\$ 8,795,032	100%

WMAES (\$000) - Construction Loan					
Sources:			Uses:		
	Amount	% Total		Amount	% Total
Senior: CIP Portion of Loan	\$ 4,000,000	42%	New Construction	\$ 5,761,164	61%
Senior: Liberty Bank Portion of Loan	\$ 3,000,000	32%	Hard Costs Contingency	\$ 540,499	6%
Sub Construction: CIP	\$ 437,500	5%	Hard Costs Sub-Total	\$ 6,301,663	67%
Equity - Already Spent	\$ 1,265,561	13%	Owen-Ames-Kimball	\$ 482,318	5%
CIP Secondary Construction Loan	\$ 750,000	8%	InterActive Studio	\$ 427,400	5%
			FF&E	\$ 100,000	1%
			Legal and Other	\$ 197,018	2%
			Soft Costs & Equip. Contingency of 5%	\$ 50,486	1%
			Origination Fees	\$ 100,469	1%
			Soft Costs Sub-Total	\$ 1,357,691	14%
			Refinance Existing Debt	\$ 595,000	6%
			Interest during construction	\$ 232,422	2%
			Loan Reserve - undrawn during constr.	\$ 268,857	3%
			GBOP Extension Fee	\$ 39,400	0%
			GBOP Deposit - refunded after construction	\$ 140,000	1%
			Refund Borrower - at closing	\$ 379,400	4%
			Refund Borrower - after closing	\$ 138,629	1%
			Sub-Total - Other	\$ 1,793,707	19%
Total Sources of Funds	\$ 9,453,061	100%	Total Project Costs	\$ 9,453,061	100%

WMAES (\$000) - Permanent Debt					
Sources:			Uses:		
	Amount	% Total		Amount	% Total
Note A - GBOP	\$ 7,000,000	85%	Refinance Construction Loan	\$ 7,168,644	88%
Note B - Capital Impact	\$ 437,500	5%	Loan Reserve - drawn	\$ 268,857	3%
CIP Secondary Construction Loan	\$ 750,000	9%	Equity left in project	\$ 750,000	9%
Total Sources of Funds	\$ 8,187,500	100%	Total Project Costs	\$ 8,187,500	100%
Total WMAES Equity in Project	\$ 1,357,532	14%			

WMAES (\$000) - Permanent Debt (w/o contingencies used during construction)					
Sources:			Uses:		
	Amount	% Total		Amount	% Total
Note A - GBOP	\$ 7,000,000	92%	Refinance Construction Loan	\$ 6,577,659	87%
Note B - Capital Impact	\$ 437,500	6%	Loan Reserve	\$ 268,857	4%
CIP Secondary Construction Loan	\$ 159,015	2%	Equity Left in Project	\$ 159,015	2%
			Refinance CIP Secondary Construction Loan	\$ 590,985	8%
Total Sources of Funds	\$ 7,596,515	100%	Total Project Costs	\$ 7,596,515	100%
Total WMAES Equity in Project	\$ 766,547	9%			

Equity Spent	\$	1,265,561
Equity That Must Be Spent	\$	-
Amount above planned	\$	107,532
Net Equity	\$	607,532

CIP Portion	\$	4,000,000
Liberty Bank - Part I	\$	2,000,000
Liberty Bank - Part II	\$	1,000,000
Total Senior Debt	\$	7,000,000
CIP Sub Debt	\$	437,500
Total Secured Debt	\$	7,437,500
CIP Proposed Loan	\$	750,000

Appraised Value - Original	\$	9,425,000
Appraised Value - Updated	\$	8,750,000
Change in Appraisal	\$	675,000
As is Value	\$	3,670,000
Value of improvement	\$	5,080,000

LTV Total Debt	85.0%
LTV GBOP Debt	85.0%
LTV Note A	80.0%
LTV Senior Debt	80.0%

LTV Total w/o contingency	78.2%
LTV GBOP w/o contingency	85.0%
LTV Note A w/o contingency	73.2%
LTV Senior Debt w/o contingency	73.2%

Equity to Project Costs	6.4%
Equity to Construction	8.8%
(Eq. + Reserves) to Project Costs	12.4%
(Eq. + Reserves) to Construction	16.1%

Max GBOP Debt	\$	7,437,500.00
Max GBOP Portion	\$	7,000,000.00
CIP Portion	\$	437,500.00

New Construction	\$	5,761,164
FF&E	\$	100,000
Allowances	\$	69,000
Contingency - Hard Costs	\$	540,499
Contingency - Soft Costs	\$	45,486
Contingency - FF&E	\$	5,000
Owen-Ames-Kimball	\$	482,318
InterActive Studio	\$	427,400
Other soft costs	\$	60,000
	\$	7,490,867

Site work - summer of 2016	\$	474,858
Hard Costs	\$	5,761,164
Soft Costs	\$	1,138,718
Contingency	\$	590,985
	\$	7,490,867

Origination Fee - Real Estate	\$	92,969
Origination Fee - Secondary Construction Loan	\$	7,500
Legal and Other Costs	\$	68,018
	\$	168,487

Refinance Existing Debt	\$	595,000
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Months of Loan Reserve	6
Months of Construction Reserve	6

GBOP Extension Fee	\$7,000,000
Months	
1	\$17,500.00
2	\$21,000.00
3	\$24,500.00
4	\$28,000.00
5	\$31,500.00
6	\$35,000.00

GBOP Shortfall Fee	\$	4,400
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EXHIBIT C

Requisition Form

BORROWER'S CERTIFICATE AND REQUEST FOR LOAN ADVANCE

To: Capital Impact Partners

Re: Loans pursuant to the Construction and Supplemental Finance Agreement (the "Agreement") dated as of _____, 2015 by and between Capital Impact Partners ("Lender") and West Michigan Academy of Environmental Science, a Michigan non-profit corporation ("Borrower"), having its principal place of business at 4463 Leonard NW, Walker, Michigan 49534.

LOAN/DRAW REQUEST NO. _____

AMOUNT OF LOAN ADVANCE REQUESTED \$ _____

DATE: _____ FOR THE PERIOD ENDED: _____

1. Borrower's Certificate and Request for Loan Advance is submitted by Borrower to Lender pursuant to the provisions of the Agreement for the above referenced amount in order to induce Lender to make the loan advance requested.
2. Borrower requests Lender to make a loan advance for the following categories in the following amount(s):

Hard Costs (Design Build Agreement)	\$ _____
Equipment Costs	\$ _____
Soft Costs	\$ _____
Total Loan Advance Requested	\$ _____
Lender to Fund	\$ _____

3. **BORROWER HEREBY CERTIFIES, WARRANTS AND REPRESENTS TO LENDER THAT (EXCEPT FOR LENDER'S APPROVAL OF THIS LOAN REQUEST, RECEIPT BY LENDER OF A SATISFACTORY REPORT FROM LENDER'S CONSTRUCTION CONSULTANT AND THE DELIVERY OF TITLE INSURANCE ENDORSEMENT) EACH CONDITION PRECEDENT TO LENDER'S OBLIGATION TO MAKE THE REQUESTED LOAN ADVANCE PURSUANT TO THE AGREEMENT HAS BEEN SATISFIED. BORROWER FURTHER CERTIFIES THAT TO THE BEST OF BORROWER'S KNOWLEDGE, THERE EXISTS NO INCIPIENT DEFAULT OR EVENT OF DEFAULT UNDER ANY LOAN DOCUMENTS, BORROWER HAVING DULY COMPLIED WITH AND OBSERVED ALL OF THE TERMS, COVENANTS AND CONDITIONS OF THE AGREEMENT AND LOAN DOCUMENTS.**

BORROWER: WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan non-profit corporation

By: _____
Name: _____
Title: _____

EXHIBIT D

Requirements for Requisitions

- (1) A certification of the Construction Consultant certifying that (A) there have been regular inspections of the Project during the course of construction, (B) the construction is proceeding on schedule, in accordance with the approved Plans and Specifications, satisfactorily, and in conformance with generally accepted construction standards for the area in which the Project is located, (C) the amount requested in the Requisition, plus amounts previously disbursed, do not exceed the percentage of construction actually completed as of the date of the Requisition, and (D) the undisbursed portion of the proceeds of the Loans are sufficient to complete the Project in accordance with the approved Plans and Specifications and pay all interest expenses and other costs of the Project. The required confirmation may be verbal, provided written confirmation is received by Lender within three (3) days of such verbal communication.
- (2) A completed standard AIA Form G702 and Form G703 signed by the General Contractor, subcontractors and Borrower, together with the General Contractor's sworn statements (in substantially the form attached as Schedule 1 to this Exhibit D): including, unconditional waivers of lien, and all subcontractors', material suppliers' and laborers' sworn statements; conditional lien waivers for all previous invoices paid pursuant to the provisions hereof for the value of all services rendered and/or materials supplied in excess of Two Thousand Five Hundred and 00/100 Dollars (\$2,500), individually, or in excess of Five Thousand and 00/100 Dollars (\$5,000) in the aggregate, in a form that is legally binding in the jurisdiction in which the Premises are located and approved by Lender, covering all work, paid with the proceeds of the prior Requisitions; such invoices, contracts or other supporting data as Lender may require to evidence that all costs for which disbursement is sought have been incurred, in form acceptable to the Title Company and Lender; final or unconditional lien waivers for the full contract amount at such time as a final invoice for services rendered and/or materials supplied is tendered (less the final invoice amount, which may be subject to a conditional lien waiver).
- (3) A certificate (in substantially the form attached as Schedule 2 to this Exhibit D) (and if requested by Lender, other evidence satisfactory to Lender).
- (4) Original invoices and bills, and other back-up documentation required by Lender for all costs of the Project for which the release of funds is being requested and a signed request for any other funds, to evidence that the fixtures and equipment, if any, have been paid for and are free of any lien or security interest therein except in favor of Lender.
- (5) Copies of any proposed or executed change orders on standard AIA G701 form which have not been previously furnished to Lender and which require and are not valid without the signatures of the General Contractor, Borrower and Architect.
- (6) Copies of all construction contracts (including subcontracts) which have been executed since the last disbursement, together with any bonds obtained or required to be obtained with respect thereto.
- (7) All required permits and other government approvals then needed in connection with the Project not previously delivered to Lender.

- (8) Evidence of insurance for any material to be incorporated into the Project which is stored off of the Property.

Additional Conditions Precedent to Final Funds Release

In the event that a Requisition represents the final application of funds with respect to the Loans, in addition to the information set forth above, the following information shall be included with such Requisition:

- (1) A certification of the Construction Consultant that the Project has been completed (exclusive of punch list items and other minor work with respect to the Project and which in the aggregate will not in the opinion of Lender exceed \$25,000) substantially in accordance with the Plans and Specifications and that the Project shall contain all furniture, fixtures and equipment required to be delivered by Borrower in accordance with the Plans and Specifications for the use and operation of the Project, or which may be required by any applicable laws.
- (2) An AIA G704 Certificate of Substantial Completion signed by Borrower and Architect and certifying that the Project has been completed substantially in accordance with the Plans and Specifications approved by Lender and all applicable Legal Requirements.
- (3) A certification from the Construction Consultant certifying that (A) there have been regular inspections of the Project during the course of construction, and (B) the Project has been fully completed substantially in accordance with the Plans and Specifications.
- (4) A certification from the Architect that the Project, as completed, satisfies applicable building and zoning laws, ordinances and regulations.
- (5) Copies of all permanent (or temporary) certificates of occupancy (or their local equivalent) and all other certificates, licenses, consents and approvals required for the use and operation of the Project issued by or obtained from the appropriate governmental authorities.
- (6) Insurance policies evidencing compliance with all insurance requirements under the Loan Documents.
- (7) Evidence that all taxes and impositions which are due and payable for the current tax year have been paid in full.
- (8) Final lien releases and waivers from the Architect, General Contractor and all subcontractors for the work performed for the Project, unless any claim for payment is being contested and Borrower shall have provided for bonding or insuring over such claim to Lender's satisfaction, in its sole discretion.
- (9) A final "as-built" survey of the Project on the Premises describing the dimensions and location of all improvements constructed in place which conforms to the then current minimum detail requirements for ALTA/ACSM Land Title Surveys.
- (10) A set of detailed as-built plans and specifications for the Project which shall have been reasonably approved as such in writing by Borrower and Architect.

SCHEDULE 1

Form of Sworn Statement

State of Michigan _____)
 County of _____)
 _____ (Department), being sworn, states the following:
 That _____ is the owner, contractor, subcontractor or his agent
 in the following described real property situated in the City of _____
 County of Wayne Michigan, described as follows: _____
 Commonly known as: _____

The following is a statement of each subcontractor and supplier, and laborer, for whom payment and withholdings is due but unpaid, with whom the contractor/subcontractor has performance under the contract with the owner or lessee of the property, and the amounts due to the contractor has not received in final form, or subcontracted with any person other than those set forth and sums no money for the improvement other than the sums set forth.

I under this statement as the contractor/subcontractor or as the Owner of the contractor/subcontractor to represent to the owner or lessee of the property his or her agents that the property is free from claims of construction or the possibility of construction liens, except as specifically set forth in this statement and except for claims of construction liens by persons that may be provided under section 109 of the construction lien act, 1930 PA 497, IML 5701-1095.

1	NAME, ADDRESS AND TELEPHONE NO. OF SUBCONTRACTOR, SUPPLIER OR LABORER	TYPE OF IMPROVEMENT PERMITTED	TOTAL CONTRACT PRICE	CHRONIC OFFENSES (\$ MI)	ADJUSTED CONTRACT PRICE	AMOUNT AVAILABLE TO PAY	AMOUNT CURRENTLY OWING	TOTAL RETENTION WITHHELD	984388 TO 984392
1			0.00		0.00				0.00
2			0.00		0.00				0.00
3			0.00		0.00				0.00
4			0.00		0.00				0.00
5			0.00		0.00				0.00
6			0.00		0.00				0.00
7			0.00		0.00				0.00
8			0.00		0.00				0.00
9			0.00		0.00				0.00
10			0.00		0.00				0.00
11			0.00		0.00				0.00
12			0.00		0.00				0.00
13			0.00		0.00				0.00
14			0.00		0.00				0.00
15			0.00		0.00				0.00
16			0.00		0.00				0.00
17			0.00		0.00				0.00
18			0.00		0.00				0.00
19			0.00		0.00				0.00
20			0.00		0.00				0.00
21			0.00		0.00				0.00
22			0.00		0.00				0.00
23			0.00		0.00				0.00
24			0.00		0.00				0.00
25			0.00		0.00				0.00
26			0.00		0.00				0.00
27			0.00		0.00				0.00
28			0.00		0.00				0.00
29			0.00		0.00				0.00
30			0.00		0.00				0.00
31			0.00		0.00				0.00
32			0.00		0.00				0.00
33			0.00		0.00				0.00
34			0.00		0.00				0.00
35			0.00		0.00				0.00
	1228		0.00		0.00		0.00		0.00

36				0.00				0.00
37				0.00				0.00
38				0.00				0.00
39				0.00				0.00
40				0.00				0.00
41				0.00				0.00
42				0.00				0.00
43				0.00				0.00
44				0.00				0.00
45				0.00				0.00
46				0.00				0.00
47				0.00				0.00
48				0.00				0.00
49				0.00				0.00
50				0.00				0.00
TOTALS				0.00	0.00	0.00	0.00	0.00

WARNING TO OWNER OR LESSEE: AND OWNER OR LESSEE OF THE PROPERTY MAY NOT RELY ON THIS SWORN STATEMENT TO AVOID THE CLAIM OF A SUBCONTRACTOR, SUPPLIER, OR LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING OR A LABORER WHO MAY PROVIDE A NOTICE OF FURNISHING UNDER SECTION 109 OF THE CONSTRUCTION LIEN ACT, 1980 PA 497, MCL 570.1109, FOR THE DESIGNER OR TO THE OWNER OR LESSEE IF THE DESIGNER IS NOT NAMED OR HAS DIED.

WARNING TO DEPOSITOR: A PERSON WHO GIVES A FALSE SWORN STATEMENT WITH INTENT TO DEFRAUD IS SUBJECT TO CRIMINAL PENALTIES AS PROVIDED IN SECTION 109 OF THE CONSTRUCTION LIEN ACT, 1980 PA 497, MCL 570.1110.

Deponent _____
 Subscribed and sworn to before me on _____ (Date)
 Notary Public, _____ County, MI My commission expires: _____

SCHEDULE 2

Form of Certificate

COMPLIANCE CERTIFICATE

Date: _____

Capital Impact Partners
2011 Crystal Drive, Suite 750
Arlington, Virginia 22202

As of this _____ day of _____, 201____, the undersigned do hereby certify the following to **CAPITAL IMPACT PARTNERS**, a nonprofit corporation organized under the laws of the District of Columbia at the direction of the U.S. Congress in 12 U.S.C. Section 3051 ("**Lender**"), with respect to that certain Project defined in that certain Construction and Supplemental Finance Agreement dated as of _____, 2015 (the "**Loan Agreement**"), by and among **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation ("**Borrower**") and Lender. All capitalized terms not otherwise defined herein shall have the meanings given to them in the Loan Agreement.

1. The original projected completion date of the Project was _____, 20____. The current projected completion date of the Project is _____, 20____.

2. As of the date hereof, the completed construction percentage is _____, which percentage is measured by [_____] [Indicate whether measured by the percent of the Project Budget used or the amount of work remaining to be completed]

3. The Loans and the Project Budget are in balance. Attached hereto as Schedule 1 is a current statement of sources and uses for construction of the Project and such statement is accurate and any changes have been approved by the required parties and are reflected herein. [Include an updated chart of sources and uses for the Project reflecting such certification, which shall provide in detail a breakdown of costs and percentages of completion of all phases of construction, the amounts expended for construction to the date of the Requisition, the amounts then due and unpaid, and an estimate of the amount necessary to complete the improvements for the Project.]

4. The total of the unpaid costs in connection with completion of the Project do not exceed the sum of (i) the undisbursed proceeds of the Loans plus (ii) [list all other sources available to Borrower with respect to the construction of the Project, if applicable].

5. No liens have been filed, or, to the best of our knowledge after due inquiry, threatened with respect to the Project.

6. There are (i) no existing conditions which would prohibit the completion of the Project, (ii) no defaults or events of default under the Loan Agreement or any other agreement material to the Project and (iii) no events which with the giving of notice or the passage of time would result in a default or event of default under the Loan Agreement or any other agreement material to the Project.

7. No claims have been made to Borrower or General Contractor by, nor is any suit now pending on behalf of, any contractor, subcontractor, laborer or materialman and further that no chattel mortgages, conditional bills of sale, retention or title agreements, security agreements, financing statements, or personal property leases have been given or are outstanding as to any fixtures, appliances, or equipment which are now installed in or upon the Project, excepting those provided for and permitted under the Loan Agreement.

Schedule 2 to Exhibit D

8. All of the applicable conditions precedent to disbursements set forth in the Loan Agreement have been satisfied with respect to each disbursement made up to and including the date of this Compliance Certificate.

9. Borrower's representations and warranties in the Loan Agreement and in the Loan Documents remain true and correct in all material respects and all funds received through and including the previous Requisition have been applied to invoices received for labor and materials originating from the construction of the improvements for the Project, and for other proper costs specified in the approved Project Budget.

10. The current amount of Retainage is _____, which amount is not included in the amount of funds described in the Requisition (unless such Requisition is a final Requisition being submitted for the Project).

11. All funds received through and including the previous Requisition have been applied to invoices received for labor and materials originating from the construction of the Improvements, and for other proper costs specified in the approved Project Budget.

The undersigned do hereby certify as to all statements contained in the foregoing Compliance Certificate.

BORROWER:

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan non-profit corporation

By: _____
Name: _____
Title: _____
Date: _____

GENERAL CONTRACTOR:

OWEN-AMES-KIMBALL, a

By: _____
Name: _____
Title: _____
Date: _____

CONSTRUCTION MORTGAGE NOTE¹
(\$6,000,000.00 Senior Loan)

\$6,000,000.00

Date of Note: March 16, 2015

Maturity Date: April 30, 2016

FOR VALUE RECEIVED, on the Maturity Date, the undersigned, **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation ("**Borrower**"), promises to pay to the order of **CAPITAL IMPACT PARTNERS**, a non-profit corporation organized under the laws of the District of Columbia at the direction of the United States Congress in 12 U.S.C. 3051 ("**Lender**"), whose address is 2011 Crystal Drive, Suite 750, Arlington, Virginia 22202, or at such other place as Lender may designate in writing, the principal sum of up to Six Million and 00/100 Dollars (\$6,000,000.00), plus interest as hereinafter provided, in lawful money of the United States, or such lesser sum, if any, due Lender by Borrower under the "**Loan Account**" hereinafter provided.²

All capitalized terms or phrases herein but not otherwise defined herein shall have the respective meanings given them in the Loan Agreement (defined below).

INTEREST RATE:

The unpaid principal balance outstanding from time to time under this Construction Mortgage Note (this "**Note**") shall bear interest (the "**Effective Interest Rate**") on a basis of a year of three hundred sixty (360) days and the actual number of days elapsed in any period for which interest is payable, at a rate of six and one quarter (6 1/4%) percent per annum.

REPAYMENT AND TERM:

Interest only shall be paid monthly in arrears commencing on May 1, 2015, and continuing on the first (1st) day of each month thereafter until the Maturity Date. During the term of the Loan, the interest payments shall be paid from the Interest Reserve Account.

¹ Although entitled "Construction Mortgage Note" this evidence of indebtedness is a bond issued by Borrower, a Michigan public school academy, pursuant to Section 1351a of the Revised School Code, MCL 380.1351a ("**Section 1351a**"). It may be referenced in this and other documentation prepared by Lender and executed by Borrower as a Note, or a Bond, but in all such instances such references are intended to refer to and shall refer to this obligation issued under Section 1351a. Further, the transactions contemplated herein do not constitute a "line of credit" to Borrower under the provisions of Section 1225 of the Revised School Code, MCL 380.1225.

² This obligation is a full faith and credit general obligation of Borrower. This obligation and interest hereon are payable, as a first budget obligation, from any funds of Borrower available therefor.

On the Maturity Date (above stated), the unpaid principal balance and all accrued interest shall be due and payable in full. The loan evidenced by this Note is non-revolving and re-advances will not be permitted.

All payments other than scheduled payments paid hereunder shall, at option of Lender, first be applied against accrued interest, then, any costs and expenses, if any, and the balance against principal.

Any payment made by mail will be deemed tendered and received only upon actual receipt, promptly on the date due for each such payment as herein required (time being of the essence), at the address of Lender designated for such payment whether or not Lender has authorized payment, by mail or any other manner. Borrower hereby expressly assumes all risk of loss or liability resulting from non-delivery or delay in delivery of any payment transmitted by mail or in any other manner.

PREPAYMENT:

This Note may be prepaid in whole or in part at any time, without the payment of any prepayment fee, penalty or premium; provided, that, any partial prepayment shall be in an amount of not less than One Hundred Thousand Dollars (\$100,000.00). No partial prepayment of this Note shall affect the obligation of the Borrower to continue the regular payments hereinbefore mentioned.

LOAN ACCOUNT:

All loan advances hereunder shall be charged to a Loan Account in Borrower's name on Lender's books, and Lender shall debit to such account the amount of each loan advance when made and credit to such account the amount of each repayment hereunder. Lender shall render Borrower, from time to time a statement of account setting forth the Borrower's loan balance in said Loan Account which shall be deemed to be correct and accepted by and binding upon Borrower, unless Lender receives a written statement of exceptions within ten (10) business days after such statement has been rendered to Borrower. Such statement of account shall be prima facie evidence of the loan advances owing to Lender by Borrower hereunder.

Nothing herein contained, nor any transaction relating thereto, or hereto, shall be construed or so operate as to require the Borrower to pay, or be charged, interest at a greater rate than the maximum allowed by the applicable law relating to this Note. Should any interest or other charges, charged, paid or payable by the Borrower in connection with this Note, or any other document delivered in connection herewith, result in the charging, compensation, payment or earning of interest in excess of the maximum allowed by the applicable law as aforesaid, then any and all such excess shall be and the same is hereby waived by the holder, and any and all such excess paid shall be automatically credited against and in reduction of the principal due under this Note. If Lender shall determine that the Effective Interest Rate (together with all other charges or payments related hereto that may be deemed interest) stipulated under this Note is, or may be, usurious or otherwise limited by law, the unpaid balance of this Note, with accrued

interest at the highest rate then permitted to be charged by stipulation in writing between Lender and Borrower, at the option of Lender, shall immediately become due and payable.

EVENT OF DEFAULT:

If Borrower fails to make any payment within ten (10) days from the date such payment is due hereunder, or if any other Event of Default (as defined in the Loan Agreement) exists, the entire unpaid principal balance and all accrued interest shall, at the option of Lender, be immediately due and payable, together with (to the extent permitted under applicable law) the costs, outside consultants' fees and reasonable attorneys' fees incurred by Lender in collecting or enforcing payment. During any period that an Event of Default exists, the outstanding principal amount hereof shall bear interest at the Default Rate, which is 3% per annum in excess of the Effective Interest Rate. If any required installment of interest is not paid within ten (10) days from the date such payment is due, then, at the option of Lender, in addition to all other sums due hereunder, a late charge of not more than five cents (\$.05) for each dollar of the installment of interest so overdue may be charged.

Acceptance by Lender of any payment in an amount less than the amount then due shall be deemed an acceptance on account only, and the failure to pay the entire amount then due shall be and continue to be an Event of Default. Upon any Event of Default, neither the failure of Lender promptly to exercise its right to declare the outstanding principal and accrued unpaid interest hereunder to be immediately due and payable, nor the failure of Lender to demand strict performance of any other obligation of the Borrower or any other person who may be liable hereunder shall constitute a waiver of any such rights, nor a waiver of such rights in connection with any future default on the part of the Borrower or any other person who may be liable hereunder.

Borrower and all endorsers and guarantors hereof, if any, hereby jointly and severally waive presentment for payment, demand, notice of non-payment, notice of protest or protest of this Note, diligence in collection or bringing suit, and hereby consent to any and all extensions of time, renewals, waivers, or modifications that may be granted by Lender with respect to payment or any other provisions of this Note, and to the release of any Collateral or any part thereof, with or without substitution. The liability of the Borrower shall be absolute and unconditional, without regard to the liability of any other party hereto. This Note shall be deemed to have been executed in, and all rights and obligations hereunder shall be governed by, to the extent permitted by law, the laws of the State of Michigan.

To the extent permitted by law, Borrower hereby waives any plea of jurisdiction or venue on the ground that Borrower is not a resident of Kent County, Michigan, and hereby specifically authorizes any action brought to enforce Borrower's obligations to Lender to be instituted and prosecuted in either the Circuit Court of Kent County, Michigan, or in the United States District Court for the Western District of Michigan at the election of Lender, and Borrower hereby submits to the jurisdiction of such Court.

This Note is executed pursuant to a Construction and Supplemental Finance Agreement of even date herewith between Borrower and Lender, as the same may be amended, modified or altered

from time to time (the “**Loan Agreement**”) and is secured by a mortgage and the other Loan Documents described in the Loan Agreement. Reference is hereby made to said Loan Agreement and Loan Documents for additional terms relating to the transaction giving rise to this instrument, the security given for this instrument and additional terms and conditions under which this instrument matures, accelerates or may be prepaid.

This Note is recourse to the Borrower. Borrower’s liability under this Note is not limited by any security interests provided by Borrower to Lender to secure the indebtedness evidenced under this Note and the other Loan Documents.

BORROWER ACKNOWLEDGES THAT THE RIGHT TO TRIAL BY JURY IS A CONSTITUTIONAL RIGHT, BUT THAT THE SAME MAY BE WAIVED. BORROWER, AFTER CONSULTATION (OR HAVING HAD THE OPPORTUNITY TO CONSULT) WITH COUNSEL OF ITS CHOICE, KNOWINGLY AND VOLUNTARILY, HEREBY WAIVES ANY RIGHT TO TRIAL BY JURY IN THE EVENT OF LITIGATION REGARDING PERFORMANCE OR ENFORCEMENT OF, OR IN ANY WAY RELATED TO THIS NOTE, THE LOAN AGREEMENT OR ANY MATTER RELATED TO THE LOAN EVIDENCED BY THIS NOTE.

The proceeds of this obligation are being used by Borrower for capital expenditures and to pay costs of issue and are not being used for maintenance costs or other expenditures not permitted by Section 1351a. In issuing this obligation, Borrower represents and warrants to Lender that it has and/or will comply in all material respects with any applicable requirements of the Revised School Code, Michigan Public Act 451 of 1976, as amended, and the Revised Municipal Finance Act, Michigan Public Act 34 of 2001, as amended, and other applicable law. It is hereby certified and recited that all acts, conditions and things required by law, precedent to and in the issuance of this obligation have been done, exist and have happened in regular and due time and form as required by law, and that the total indebtedness of Borrower, including this obligation, does not exceed any constitutional or statutory limitation.

[remainder of page intentionally left blank; signature page follows]

SIGNATURE PAGE TO CONSTRUCTION MORTGAGE NOTE
(\$6,000,000.00 SENIOR LOAN)

BORROWER:

**WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE**, a Michigan non-
profit corporation

By:  _____

Peter Vandersluis

Its: Board President

Address of Borrower:

4463 Leonard NW
Walker, Michigan 49534

Tax Identification No.: 38-3198590

CONSTRUCTION MORTGAGE NOTE¹
(\$1,000,000.00 Senior Loan)

\$1,000,000.00

Date of Note: March 16, 2015

Maturity Date: April 30, 2016

FOR VALUE RECEIVED, on the Maturity Date, the undersigned, **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation ("**Borrower**"), promises to pay to the order of **CAPITAL IMPACT PARTNERS**, a non-profit corporation organized under the laws of the District of Columbia at the direction of the United States Congress in 12 U.S.C. 3051 ("**Lender**"), whose address is 2011 Crystal Drive, Suite 750, Arlington, Virginia 22202, or at such other place as Lender may designate in writing, the principal sum of up to One Million and 00/100 Dollars (\$1,000,000.00), plus interest as hereinafter provided, in lawful money of the United States, or such lesser sum, if any, due Lender by Borrower under the "**Loan Account**" hereinafter provided.²

All capitalized terms or phrases herein but not otherwise defined herein shall have the respective meanings given them in the Loan Agreement (defined below).

INTEREST RATE:

The unpaid principal balance outstanding from time to time under this Construction Mortgage Note (this "**Note**") shall bear interest (the "**Effective Interest Rate**") on a basis of a year of three hundred sixty (360) days and the actual number of days elapsed in any period for which interest is payable, at a rate of six and one quarter (6 1/4%) percent per annum.

REPAYMENT AND TERM:

Interest only shall be paid monthly in arrears commencing on May 1, 2015, and continuing on the first (1st) day of each month thereafter until the Maturity Date. During the term of the Loan, the interest payments shall be paid from the Interest Reserve Account.

¹ Although entitled "Construction Mortgage Note" this evidence of indebtedness is a bond issued by Borrower, a Michigan public school academy, pursuant to Section 1351a of the Revised School Code, MCL 380.1351a ("**Section 1351a**"). It may be referenced in this and other documentation prepared by Lender and executed by Borrower as a Note, or a Bond, but in all such instances such references are intended to refer to and shall refer to this obligation issued under Section 1351a. Further, the transactions contemplated herein do not constitute a "line of credit" to Borrower under the provisions of Section 1225 of the Revised School Code, MCL 380.1225.

² This obligation is a full faith and credit general obligation of Borrower. This obligation and interest hereon are payable, as a first budget obligation, from any funds of Borrower available therefor.

On the Maturity Date (above stated), the unpaid principal balance and all accrued interest shall be due and payable in full. The loan evidenced by this Note is non-revolving and re-advances will not be permitted.

All payments other than scheduled payments paid hereunder shall, at option of Lender, first be applied against accrued interest, then, any costs and expenses, if any, and the balance against principal.

Any payment made by mail will be deemed tendered and received only upon actual receipt, promptly on the date due for each such payment as herein required (time being of the essence), at the address of Lender designated for such payment whether or not Lender has authorized payment, by mail or any other manner. Borrower hereby expressly assumes all risk of loss or liability resulting from non-delivery or delay in delivery of any payment transmitted by mail or in any other manner.

PREPAYMENT:

This Note may be prepaid in whole or in part at any time, without the payment of any prepayment fee, penalty or premium; provided, that, any partial prepayment shall be in an amount of not less than One Hundred Thousand Dollars (\$100,000.00). No partial prepayment of this Note shall affect the obligation of the Borrower to continue the regular payments hereinbefore mentioned.

LOAN ACCOUNT:

All loan advances hereunder shall be charged to a Loan Account in Borrower's name on Lender's books, and Lender shall debit to such account the amount of each loan advance when made and credit to such account the amount of each repayment hereunder. Lender shall render Borrower, from time to time a statement of account setting forth the Borrower's loan balance in said Loan Account which shall be deemed to be correct and accepted by and binding upon Borrower, unless Lender receives a written statement of exceptions within ten (10) business days after such statement has been rendered to Borrower. Such statement of account shall be prima facie evidence of the loan advances owing to Lender by Borrower hereunder.

Nothing herein contained, nor any transaction relating thereto, or hereto, shall be construed or so operate as to require the Borrower to pay, or be charged, interest at a greater rate than the maximum allowed by the applicable law relating to this Note. Should any interest or other charges, charged, paid or payable by the Borrower in connection with this Note, or any other document delivered in connection herewith, result in the charging, compensation, payment or earning of interest in excess of the maximum allowed by the applicable law as aforesaid, then any and all such excess shall be and the same is hereby waived by the holder, and any and all such excess paid shall be automatically credited against and in reduction of the principal due under this Note. If Lender shall determine that the Effective Interest Rate (together with all other charges or payments related hereto that may be deemed interest) stipulated under this Note is, or may be, usurious or otherwise limited by law, the unpaid balance of this Note, with accrued

interest at the highest rate then permitted to be charged by stipulation in writing between Lender and Borrower, at the option of Lender, shall immediately become due and payable.

EVENT OF DEFAULT:

If Borrower fails to make any payment within ten (10) days from the date such payment is due hereunder, or if any other Event of Default (as defined in the Loan Agreement) exists, the entire unpaid principal balance and all accrued interest shall, at the option of Lender, be immediately due and payable, together with (to the extent permitted under applicable law) the costs, outside consultants' fees and reasonable attorneys' fees incurred by Lender in collecting or enforcing payment. During any period that an Event of Default exists, the outstanding principal amount hereof shall bear interest at the Default Rate, which is 3% per annum in excess of the Effective Interest Rate. If any required installment of interest is not paid within ten (10) days from the date such payment is due, then, at the option of Lender, in addition to all other sums due hereunder, a late charge of not more than five cents (\$.05) for each dollar of the installment of interest so overdue may be charged.

Acceptance by Lender of any payment in an amount less than the amount then due shall be deemed an acceptance on account only, and the failure to pay the entire amount then due shall be and continue to be an Event of Default. Upon any Event of Default, neither the failure of Lender promptly to exercise its right to declare the outstanding principal and accrued unpaid interest hereunder to be immediately due and payable, nor the failure of Lender to demand strict performance of any other obligation of the Borrower or any other person who may be liable hereunder shall constitute a waiver of any such rights, nor a waiver of such rights in connection with any future default on the part of the Borrower or any other person who may be liable hereunder.

Borrower and all endorsers and guarantors hereof, if any, hereby jointly and severally waive presentment for payment, demand, notice of non-payment, notice of protest or protest of this Note, diligence in collection or bringing suit, and hereby consent to any and all extensions of time, renewals, waivers, or modifications that may be granted by Lender with respect to payment or any other provisions of this Note, and to the release of any Collateral or any part thereof, with or without substitution. The liability of the Borrower shall be absolute and unconditional, without regard to the liability of any other party hereto. This Note shall be deemed to have been executed in, and all rights and obligations hereunder shall be governed by, to the extent permitted by law, the laws of the State of Michigan.

To the extent permitted by law, Borrower hereby waives any plea of jurisdiction or venue on the ground that Borrower is not a resident of Kent County, Michigan, and hereby specifically authorizes any action brought to enforce Borrower's obligations to Lender to be instituted and prosecuted in either the Circuit Court of Kent County, Michigan, or in the United States District Court for the Western District of Michigan at the election of Lender, and Borrower hereby submits to the jurisdiction of such Court.

This Note is executed pursuant to a Construction and Supplemental Finance Agreement of even date herewith between Borrower and Lender, as the same may be amended, modified or altered

from time to time (the “**Loan Agreement**”) and is secured by a mortgage and the other Loan Documents described in the Loan Agreement. Reference is hereby made to said Loan Agreement and Loan Documents for additional terms relating to the transaction giving rise to this instrument, the security given for this instrument and additional terms and conditions under which this instrument matures, accelerates or may be prepaid.

This Note is recourse to the Borrower. Borrower’s liability under this Note is not limited by any security interests provided by Borrower to Lender to secure the indebtedness evidenced under this Note and the other Loan Documents.

BORROWER ACKNOWLEDGES THAT THE RIGHT TO TRIAL BY JURY IS A CONSTITUTIONAL RIGHT, BUT THAT THE SAME MAY BE WAIVED. BORROWER, AFTER CONSULTATION (OR HAVING HAD THE OPPORTUNITY TO CONSULT) WITH COUNSEL OF ITS CHOICE, KNOWINGLY AND VOLUNTARILY, HEREBY WAIVES ANY RIGHT TO TRIAL BY JURY IN THE EVENT OF LITIGATION REGARDING PERFORMANCE OR ENFORCEMENT OF, OR IN ANY WAY RELATED TO THIS NOTE, THE LOAN AGREEMENT OR ANY MATTER RELATED TO THE LOAN EVIDENCED BY THIS NOTE.

The proceeds of this obligation are being used by Borrower for capital expenditures and to pay costs of issue and are not being used for maintenance costs or other expenditures not permitted by Section 1351a. In issuing this obligation, Borrower represents and warrants to Lender that it has and/or will comply in all material respects with any applicable requirements of the Revised School Code, Michigan Public Act 451 of 1976, as amended, and the Revised Municipal Finance Act, Michigan Public Act 34 of 2001, as amended, and other applicable law. It is hereby certified and recited that all acts, conditions and things required by law, precedent to and in the issuance of this obligation have been done, exist and have happened in regular and due time and form as required by law, and that the total indebtedness of Borrower, including this obligation, does not exceed any constitutional or statutory limitation.

[remainder of page intentionally left blank; signature page follows]

SIGNATURE PAGE TO CONSTRUCTION MORTGAGE NOTE
(\$1,000,000.00 SENIOR LOAN)

BORROWER:

**WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE**, a Michigan non-
profit corporation

By:  _____

Peter Vandersluis

Its: Board President

Address of Borrower:

4463 Leonard NW
Walker, Michigan 49534

Tax Identification No.: 38-3198590

CONSTRUCTION MORTGAGE NOTE¹
(Subordinate Loan)

\$437,500.00

Date of Note: March 16, 2015

Maturity Date: April 30, 2016

FOR VALUE RECEIVED, on the Maturity Date, the undersigned, **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation (“**Borrower**”), promises to pay to the order of **CAPITAL IMPACT PARTNERS**, a non-profit corporation organized under the laws of the District of Columbia at the direction of the United States Congress in 12 U.S.C. 3051 (“**Lender**”), whose address is 2011 Crystal Drive, Suite 750, Arlington, Virginia 22202, or at such other place as Lender may designate in writing, the principal sum of up to Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$437,500.00), plus interest as hereinafter provided, in lawful money of the United States, or such lesser sum, if any, due Lender by Borrower under the “**Loan Account**” hereinafter provided.²

All capitalized terms or phrases herein but not otherwise defined herein shall have the respective meanings given them in the Loan Agreement (defined below).

INTEREST RATE:

The unpaid principal balance outstanding from time to time under this Construction Mortgage Note (this “**Note**”) shall bear interest (the “**Effective Interest Rate**”) on a basis of a year of three hundred sixty (360) days and the actual number of days elapsed in any period for which interest is payable, at a rate of six and one quarter (6 1/4%) percent per annum.

¹ Although entitled “Construction Mortgage Note” this evidence of indebtedness is a bond issued by Borrower, a Michigan public school academy, pursuant to Section 1351a of the Revised School Code, MCL 380.1351a (“**Section 1351a**”). It may be referenced in this and other documentation prepared by Lender and executed by Borrower as a Note, or a Bond, but in all such instances such references are intended to refer to and shall refer to this obligation issued under Section 1351a. Further, the transactions contemplated herein do not constitute a “line of credit” to Borrower under the provisions of Section 1225 of the Revised School Code, MCL 380.1225

² This obligation is a full faith and credit general obligation of Borrower. This obligation and interest hereon are payable, as a first budget obligation, from any funds of Borrower available therefor.

REPAYMENT AND TERM:

Interest only shall be paid monthly in arrears commencing on May 1, 2015, and continuing on the first (1st) day of each month thereafter until the Maturity Date. During the term of the Loan, the interest payments shall be paid from the Interest Reserve Account.

On the Maturity Date (above stated), the unpaid principal balance and all accrued interest shall be due and payable in full. The loan evidence by this Note is non-revolving and re-advances will not be permitted.

All payments other than scheduled payments paid hereunder shall, at option of Lender, first be applied against accrued interest, then, any costs and expenses, if any, and the balance against principal.

Any payment made by mail will be deemed tendered and received only upon actual receipt, promptly on the date due for each such payment as herein required (time being of the essence), at the address of Lender designated for such payment whether or not Lender has authorized payment, by mail or any other manner. Borrower hereby expressly assumes all risk of loss or liability resulting from non-delivery or delay in delivery of any payment transmitted by mail or in any other manner.

PREPAYMENT:

This Note may be prepaid in whole or in part at any time, without the payment of any prepayment fee, penalty or premium; provided, that, any partial prepayment shall be in an amount of not less than One Hundred Thousand Dollars (\$100,000.00). No partial prepayment of this Note shall affect the obligation of the Borrower to continue the regular payments hereinbefore mentioned.

LOAN ACCOUNT:

All loan advances hereunder shall be charged to a Loan Account in Borrower's name on Lender's books, and Lender shall debit to such account the amount of each loan advance when made and credit to such account the amount of each repayment hereunder. Lender shall render Borrower, from time to time a statement of account setting forth the Borrower's loan balance in said Loan Account which shall be deemed to be correct and accepted by and binding upon Borrower, unless Lender receives a written statement of exceptions within ten (10) business days after such statement has been rendered to Borrower. Such statement of account shall be prima facie evidence of the loan advances owing to Lender by Borrower hereunder.

Nothing herein contained, nor any transaction relating thereto, or hereto, shall be construed or so operate as to require the Borrower to pay, or be charged, interest at a greater rate than the maximum allowed by the applicable law relating to this Note. Should any interest or other charges, charged, paid or payable by the Borrower in connection with this Note, or any other document delivered in connection herewith, result in the charging, compensation, payment or earning of interest in excess of the maximum allowed by the applicable law as aforesaid, then any and all such excess shall be and the same is hereby waived by the holder, and any and all

such excess paid shall be automatically credited against and in reduction of the principal due under this Note. If Lender shall determine that the Effective Interest Rate (together with all other charges or payments related hereto that may be deemed interest) stipulated under this Note is, or may be, usurious or otherwise limited by law, the unpaid balance of this Note, with accrued interest at the highest rate then permitted to be charged by stipulation in writing between Lender and Borrower, at the option of Lender, shall immediately become due and payable.

EVENT OF DEFAULT:

If Borrower fails to make any payment within ten (10) days from the date such payment is due hereunder, or if any other Event of Default (as defined in the Loan Agreement) exists, the entire unpaid principal balance and all accrued interest shall, at the option of Lender, be immediately due and payable, together with (to the extent permitted under applicable law) the costs, outside consultants' fees and reasonable attorneys' fees incurred by Lender in collecting or enforcing payment. During any period that an Event of Default exists, the outstanding principal amount hereof shall bear interest at the Default Rate, which is 3% per annum in excess of the Effective Interest Rate. If any required installment of interest is not paid within ten (10) days from the date such payment is due, then, at the option of Lender, in addition to all other sums due hereunder, a late charge of not more than five cents (\$.05) for each dollar of the installment of interest so overdue may be charged.

Acceptance by Lender of any payment in an amount less than the amount then due shall be deemed an acceptance on account only, and the failure to pay the entire amount then due shall be and continue to be an Event of Default. Upon any Event of Default, neither the failure of Lender promptly to exercise its right to declare the outstanding principal and accrued unpaid interest hereunder to be immediately due and payable, nor the failure of Lender to demand strict performance of any other obligation of the Borrower or any other person who may be liable hereunder shall constitute a waiver of any such rights, nor a waiver of such rights in connection with any future default on the part of the Borrower or any other person who may be liable hereunder.

Borrower and all endorsers and guarantors hereof, if any, hereby jointly and severally waive presentment for payment, demand, notice of non-payment, notice of protest or protest of this Note, diligence in collection or bringing suit, and hereby consent to any and all extensions of time, renewals, waivers, or modifications that may be granted by Lender with respect to payment or any other provisions of this Note, and to the release of any Collateral or any part thereof, with or without substitution. The liability of the Borrower shall be absolute and unconditional, without regard to the liability of any other party hereto. This Note shall be deemed to have been executed in, and all rights and obligations hereunder shall be governed by, to the extent permitted by law, the laws of the State of Michigan.

To the extent permitted by law, Borrower hereby waives any plea of jurisdiction or venue on the ground that Borrower is not a resident of Kent County, Michigan, and hereby specifically authorizes any action brought to enforce Borrower's obligations to Lender to be instituted and prosecuted in either the Circuit Court of Kent County, Michigan, or in the United States District

Court for the Western District of Michigan at the election of Lender, and Borrower hereby submits to the jurisdiction of such Court.

This Note is executed pursuant to a Construction and Supplemental Finance Agreement of even date herewith between Borrower and Lender, as the same may be amended, modified or altered from time to time (the “**Loan Agreement**”) and is secured by a mortgage and the other Loan Documents described in the Loan Agreement. Reference is hereby made to said Loan Agreement and Loan Documents for additional terms relating to the transaction giving rise to this instrument, the security given for this instrument and additional terms and conditions under which this instrument matures, accelerates or may be prepaid.

This Note is recourse to the Borrower. Borrower’s liability under this Note is not limited by any security interests provided by Borrower to Lender to secure the indebtedness evidenced under this Note and the other Loan Documents.

BORROWER ACKNOWLEDGES THAT THE RIGHT TO TRIAL BY JURY IS A CONSTITUTIONAL RIGHT, BUT THAT THE SAME MAY BE WAIVED. BORROWER, AFTER CONSULTATION (OR HAVING HAD THE OPPORTUNITY TO CONSULT) WITH COUNSEL OF ITS CHOICE, KNOWINGLY AND VOLUNTARILY, HEREBY WAIVES ANY RIGHT TO TRIAL BY JURY IN THE EVENT OF LITIGATION REGARDING PERFORMANCE OR ENFORCEMENT OF, OR IN ANY WAY RELATED TO THIS NOTE, THE LOAN AGREEMENT OR ANY MATTER RELATED TO THE LOAN EVIDENCED BY THIS NOTE.

THIS NOTE IS SUBJECT AND SUBORDINATE IN PAYMENT AND PRIORITY TO THAT CERTAIN CONSTRUCTION MORTGAGE NOTE OF EVEN DATE IN THE PRINCIPAL AMOUNT OF SEVEN MILLION AND 00/100 DOLLARS (\$7,000,000.00) BY BORROWER IN FAVOR OF LENDER EVIDENCING THE SENIOR LOAN (AS DEFINED IN THE LOAN AGREEMENT).

The proceeds of this obligation are being used by Borrower for capital expenditures and to pay costs of issue and are not being used for maintenance costs or other expenditures not permitted by Section 1351a. In issuing this obligation, Borrower represents and warrants to Lender that it has and/or will comply in all material respects with any applicable requirements of the Revised School Code, Michigan Public Act 451 of 1976, as amended, and the Revised Municipal Finance Act, Michigan Public Act 34 of 2001, as amended, and other applicable law. It is hereby certified and recited that all acts, conditions and things required by law, precedent to and in the issuance of this obligation have been done, exist and have happened in regular and due time and form as required by law, and that the total indebtedness of Borrower, including this obligation, does not exceed any constitutional or statutory limitation.

[remainder of page intentionally left blank; signature page follows]

SIGNATURE PAGE TO CONSTRUCTION MORTGAGE NOTE
(SUBORDINATE LOAN)

BORROWER:

**WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE**, a Michigan non-
profit corporation

By: 

Peter Vandersluis

Its: Board President

Address of Borrower:

4463 Leonard NW
Walker, Michigan 49534

Tax Identification No.: 38-3198590

PROMISSORY NOTE¹
(Secondary Construction Loan)

\$750,000.00

Date of Note: March 16, 2015

Maturity Date: March 16, 2022

FOR VALUE RECEIVED, on the Maturity Date, the undersigned, **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan non-profit corporation (“**Borrower**”), promises to pay to the order of **CAPITAL IMPACT PARTNERS**, a non-profit corporation organized under the laws of the District of Columbia at the direction of the United States Congress in 12 U.S.C. 3051 (“**Lender**”), whose address is 2011 Crystal Drive, Suite 750, Arlington, Virginia 22202, or at such other place as Lender may designate in writing, the lesser of: (a) the principal sum of Seven Hundred Fifty Thousand and 00/100 Dollars (\$750,000.00) (the “**Loan Amount**”); or (b) the aggregate principal amount outstanding under this Note as a result of advances made hereunder, plus interest as hereinafter provided, in lawful money of the United States, as provided under the “**Loan Account**” hereinafter provided.²

All capitalized terms or phrases herein but not otherwise defined herein shall have the respective meanings given them in the Loan Agreement (defined below).

INTEREST RATE:

The unpaid principal balance outstanding from time to time under this Promissory Note (this “**Note**”) shall bear interest (the “**Effective Interest Rate**”) on a basis of a year of three hundred sixty (360) days and the actual number of days elapsed in any period for which interest is payable, at the applicable rate set forth below. The loan evidenced by this Note shall be repaid with interest in the following manner:

A. For the period commencing on the date of this Note and ending on March 16, 2018, the unpaid principal balance outstanding from time to time shall bear interest at the rate of 6.0% per annum.

¹ Although entitled “Promissory Note” this evidence of indebtedness is a bond issued by Borrower, a Michigan public school academy, pursuant to Section 1351a of the Revised School Code, MCL 380.1351a (“**Section 1351a**”). It may be referenced in this and other documentation prepared by Lender and executed by Borrower as a Note, or a Bond, but in all such instances such references are intended to refer to and shall refer to this obligation issued under Section 1351a. Further, the transactions contemplated herein do not constitute a “line of credit” to Borrower under the provisions of Section 1225 of the Revised School Code, MCL 380.1225.

² This obligation is a full faith and credit general obligation of Borrower. This obligation and interest hereon are payable, as a first budget obligation, from any funds of Borrower available therefor.

B. For the period commencing on March 17, 2018 and ending on March 16, 2019, the unpaid principal balance outstanding from time to time shall bear interest at the rate of 6.5% per annum.

C. For the period commencing on March 17, 2019 and ending on March 16, 2020, the unpaid principal balance outstanding from time to time shall bear interest at the rate of 7.0% per annum.

D. For the period commencing on March 17, 2020 and ending on March 16, 2022, the unpaid principal balance outstanding from time to time shall bear interest at the rate of 7.5% per annum.

REPAYMENT AND TERM:

A. Interest only shall be paid monthly in arrears commencing on May 1, 2015, and continuing on the first (1st) day of each month thereafter until the Disbursement End Date (defined below). Borrower may draw on the loan evidenced by this Note, up to the Loan Amount, until the earlier of (i) Project Completion (as such term relates to the Additional Site Work, which is defined in the Loan Agreement) or September 30, 2016 (the “**Disbursement End Date**”). Any amount undrawn as of the Disbursement End Date will become unavailable to Borrower.

B. Commencing on the first (1st) day of the month following the Disbursement End Date and continuing on the first (1st) day of each calendar month thereafter to the first (1st) day of the month immediately preceding the Maturity Date, the unpaid principal balance shall be repaid by consecutive monthly payments of principal and interest, which shall be determined by the number of months between the Disbursement End Date and the Maturity Date (the “**Amortization Period**”) beginning on the first (1st) day of the month following the Disbursement End Date (the “**Term Date**”). The amount of the monthly principal and interest payment shall be the amount necessary to amortize the outstanding principal balance hereunder as of the Term Date, with interest at the rate in effect as of the Term Date, over the Amortization Period.

C. On the Maturity Date (above stated), the unpaid principal balance and all accrued interest shall be due and payable in full. This Note is a non-revolving note and readvances of amounts paid are not permitted. All payments other than scheduled payments paid hereunder shall, at option of Lender, first be applied against accrued interest, then, any costs and expenses, if any, and the balance against principal.

D. Any payment made by mail will be deemed tendered and received only upon actual receipt, promptly on the date due for each such payment as herein required (time being of the essence), at the address of Lender designated for such payment whether or not Lender has authorized payment, by mail or any other manner. Borrower hereby expressly assumes all risk of loss or liability resulting from non-delivery or delay in delivery of any payment transmitted by mail or in any other manner.

PREPAYMENT:

This Note may be prepaid in whole or in part at any time, without the payment of any prepayment fee, penalty or premium. No partial prepayment of this Note shall affect the obligation of the Borrower to continue the regular payments hereinbefore mentioned.

LOAN ACCOUNT:

All loan advances hereunder shall be charged to a Loan Account in Borrower's name on Lender's books, and Lender shall debit to such account the amount of each loan advance when made and credit to such account the amount of each repayment hereunder. Lender shall render Borrower, from time to time a statement of account setting forth the Borrower's loan balance in said Loan Account which shall be deemed to be correct and accepted by and binding upon Borrower, unless Lender receives a written statement of exceptions within ten (10) business days after such statement has been rendered to Borrower. Such statement of account shall be prima facie evidence of the loan advances owing to Lender by Borrower hereunder.

Nothing herein contained, nor any transaction relating thereto, or hereto, shall be construed or so operate as to require the Borrower to pay, or be charged, interest at a greater rate than the maximum allowed by the applicable law relating to this Note. Should any interest or other charges, charged, paid or payable by the Borrower in connection with this Note, or any other document delivered in connection herewith, result in the charging, compensation, payment or earning of interest in excess of the maximum allowed by the applicable law as aforesaid, then any and all such excess shall be and the same is hereby waived by the holder, and any and all such excess paid shall be automatically credited against and in reduction of the principal due under this Note. If Lender shall determine that the Effective Interest Rate (together with all other charges or payments related hereto that may be deemed interest) stipulated under this Note is, or may be, usurious or otherwise limited by law, the unpaid balance of this Note, with accrued interest at the highest rate then permitted to be charged by stipulation in writing between Lender and Borrower, at the option of Lender, shall immediately become due and payable.

EVENT OF DEFAULT:

If Borrower fails to make any payment within ten (10) days from the date such payment is due hereunder, or if any other Event of Default (as defined in the Loan Agreement) exists, the entire unpaid principal balance and all accrued interest shall, at the option of Lender, be immediately due and payable, together with (to the extent permitted under applicable law) the costs, outside consultants' fees and reasonable attorneys' fees incurred by Lender in collecting or enforcing payment. During any period that an Event of Default exists, the outstanding principal amount hereof shall bear interest at the Default Rate, which is 3% per annum in excess of the Effective Interest Rate. If any required installment of interest is not paid within ten (10) days from the date such payment is due, then, at the option of Lender, in addition to all other sums due hereunder, a late charge of not more than five cents (\$.05) for each dollar of the installment of interest so overdue may be charged.

Acceptance by Lender of any payment in an amount less than the amount then due shall be deemed an acceptance on account only, and the failure to pay the entire amount then due shall be and continue to be an Event of Default. Upon any Event of Default, neither the failure of Lender promptly to exercise its right to declare the outstanding principal and accrued unpaid interest hereunder to be immediately due and payable, nor the failure of Lender to demand strict performance of any other obligation of the Borrower or any other person who may be liable hereunder shall constitute a waiver of any such rights, nor a waiver of such rights in connection with any future default on the part of the Borrower or any other person who may be liable hereunder.

Borrower and all endorsers and guarantors hereof, if any, hereby jointly and severally waive presentment for payment, demand, notice of non-payment, notice of protest or protest of this Note, diligence in collection or bringing suit, and hereby consent to any and all extensions of time, renewals, waivers, or modifications that may be granted by Lender with respect to payment or any other provisions of this Note, and to the release of any Collateral or any part thereof, with or without substitution. The liability of the Borrower shall be absolute and unconditional, without regard to the liability of any other party hereto. This Note shall be deemed to have been executed in, and all rights and obligations hereunder shall be governed by, to the extent permitted by law, the laws of the State of Michigan.

To the extent permitted by law, Borrower hereby waives any plea of jurisdiction or venue on the ground that Borrower is not a resident of Kent County, Michigan, and hereby specifically authorizes any action brought to enforce Borrower's obligations to Lender to be instituted and prosecuted in either the Circuit Court of Kent County, Michigan, or in the United States District Court for the Western District of Michigan at the election of Lender, and Borrower hereby submits to the jurisdiction of such Court.

This Note is executed pursuant to a Construction and Supplemental Finance Agreement of even date herewith between Borrower and Lender, as the same may be amended, modified or altered from time to time (the "**Loan Agreement**") and is secured by a security agreement and the other Loan Documents described in the Loan Agreement. Reference is hereby made to said Loan Agreement and Loan Documents for additional terms relating to the transaction giving rise to this instrument, the security given for this instrument and additional terms and conditions under which this instrument matures, accelerates or may be prepaid.

This Note is recourse to the Borrower. Borrower's liability under this Note is not limited by any security interests provided by Borrower to Lender to secure the indebtedness evidenced under this Note and the other Loan Documents.

BORROWER ACKNOWLEDGES THAT THE RIGHT TO TRIAL BY JURY IS A CONSTITUTIONAL RIGHT, BUT THAT THE SAME MAY BE WAIVED. BORROWER, AFTER CONSULTATION (OR HAVING HAD THE OPPORTUNITY TO CONSULT) WITH COUNSEL OF ITS CHOICE, KNOWINGLY AND VOLUNTARILY, HEREBY WAIVES ANY RIGHT TO TRIAL BY JURY IN THE EVENT OF LITIGATION REGARDING PERFORMANCE OR ENFORCEMENT OF, OR IN ANY WAY RELATED TO THIS NOTE,

THE LOAN AGREEMENT OR ANY MATTER RELATED TO THE LOAN EVIDENCED BY THIS NOTE.


The proceeds of this obligation are being used by Borrower for capital expenditures and to pay costs of issue and are not being used for maintenance costs or other expenditures not permitted by Section 1351a. In issuing this obligation, Borrower represents and warrants to Lender that it has and/or will comply in all material respects with any applicable requirements of the Revised School Code, Michigan Public Act 451 of 1976, as amended, and the Revised Municipal Finance Act, Michigan Public Act 34 of 2001, as amended, and other applicable law. It is hereby certified and recited that all acts, conditions and things required by law, precedent to and in the issuance of this obligation have been done, exist and have happened in regular and due time and form as required by law, and that the total indebtedness of Borrower, including this obligation, does not exceed any constitutional or statutory limitation.

[remainder of page intentionally left blank; signature page follows]

SIGNATURE PAGE TO PROMISSORY NOTE
(SECONDARY CONSTRUCTION LOAN)

BORROWER:

**WEST MICHIGAN ACADEMY OF
ENVIRONMENTAL SCIENCE**, a Michigan non-
profit corporation

By: 
Peter Vandersluis
Its: Board President

Address of Borrower:

4463 Leonard NW
Walker, Michigan 49534

Tax Identification No.: 38-3198590

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13
14

REC'D KENT COUNTY, MI ROD

2015 MAR 27 AM 11:22



20150327-0023849
Mary Hollinrake P:1/16 11:29AM
Kent Cnty MI Rgstr 03/27/2015 SEAL

CONSTRUCTION MORTGAGE
(Senior Loan)

DATED: MARCH 17, 2015

PARTICULAR TERMS - DEFINITIONS

As used herein, the following terms and expressions shall have the respective meanings indicated opposite each of them:

Mortgagor: WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE,
a Michigan nonprofit corporation
Address: 4463 Leonard Street NW
Walker, Michigan 49534

Mortgagee: CAPITAL IMPACT PARTNERS, a non-profit corporation organized
under the laws of the District of Columbia at the direction of the United
States Congress in 12 U.S.C. 3051
Address: 2011 Crystal Drive, Suite 750
Arlington, VA 22202

Notes: Construction Mortgage Notes
Amounts: Six Million and 00/100 Dollars (\$6,000,000.00) & One Million
and 00/100 Dollars (\$1,000,000.00)
Date of Notes: Dated of Even Date Herewith

Loan Agreement: Construction and Supplemental Finance Agreement dated of even date
herewith

Premises: Land, Premises and Improvements situated in the City of Walker, Kent
County, Michigan
See Exhibit "A" attached hereto

THIS MORTGAGE CONSTITUTES A FUTURE ADVANCE MORTGAGE AND SECURES
FUTURE ADVANCES UNDER ACT 348 OF THE PUBLIC ACTS OF 1990, AS AMENDED
(MCLA §565.901, ET SEQ.) UNDER MICHIGAN LAW.

①

THIS CONSTRUCTION MORTGAGE (this “**Mortgage**”), above-dated, by Mortgagor to Mortgagee, and is made with reference to the Notes and Loan Agreement hereinabove referenced, and which shall include all of the foregoing as amended, modified, extended, restated or renewed from time to time and all substitutions, consolidations or rollovers thereof, from time to time all of which may be done without amendment of this Mortgage or the consent of Mortgagor.

DEFINITIONS: Unless defined herein, all capitalized terms shall have the meanings set forth in the Loan Agreement.

WITNESSETH:

To secure the performance of the covenants hereinafter contained, and the repayment of a loan by Mortgagee in an amount up to Seven Million and 00/100 Dollars (\$7,000,000.00), together with interest thereon, payable in accordance with the terms of the Notes executed by Mortgagor evidencing such loan and advances, and all extensions, renewals, amendments and modifications thereof, including any increases in the principal amounts of the Notes to secure future advances and to secure all other Indebtedness (as defined in the Loan Agreement), and in accordance with the terms of the Loan Agreement, the terms, covenants and conditions of which said Notes and Loan Agreement are herein incorporated as covenants and conditions of Mortgagor, with the same force and effect as though such covenants and conditions were fully set forth herein (the covenants of this Mortgage, the Notes, the Loan Agreement and other Loan Documents are hereinafter collectively referred to as the “**Obligations**”), Mortgagor, hereby mortgages and warrants and grants a security interest to Mortgagee, its successors and assigns, in and to the Premises, together with the appurtenances, improvements, the Building, fixtures, tenements, and hereditaments thereunder belonging and which may hereafter attach thereto and all heretofore or hereafter vacated alleys and streets abutting thereto (collectively, the “**Property**”); together with: (a) all building materials, goods and tangible personal property on the Premises, not affixed or incorporated into the Premises and which are owned by Mortgagor (the “**Personal Property**”); (b) all rights and easements (public or private) which benefit the Premises located off the Premises and all easement agreements, license agreements, permits, parking agreements, tunnel agreements, permits or any other agreements with respect to such rights and easements (public or private) (the “**Easements and Agreements**”); (c) all buildings, improvements, machinery, apparatus, equipment, fittings, fixtures and articles of personal property of every kind and nature whatsoever, other than consumable goods, now or hereafter located in or upon said real estate or any part thereof and used or usable in connection with any present or future operation of said Property and now owned or hereafter acquired or leased by Mortgagor, and all additions and accessions thereto now or hereafter attached to or used in connection therewith or with the Property, and all proceeds of hazard insurance of all of the foregoing, including, but without limiting the generality of the foregoing, all heating, lighting, laundry, incinerating and power equipment, engines, pipes, pumps, tanks, motors, conduits, switchboards, plumbing apparatus, electrical apparatus (including, but not limited to, all electrical transformers, switches, switch boxes, equipment boxes, cabinets, all whether used in the operation of the Property or any business operated within or upon the Property), lifting, cleaning, fire-prevention, fire-extinguishing, refrigerating, ventilating, and communications apparatus, air-cooling and air-conditioning apparatus, elevators, escalators, shades, awnings, screens, storm doors and windows, stoves, attached cabinets, partitions, furniture, carpeting, plants and shrubbery, ground maintenance equipment, ducts and compressors and all of the right, title and interest of

Mortgagor in and to any equipment which may be subject to any title retention or security agreement superior in lien to the lien of this Mortgage (the “**Equipment**”); (d) all right, title and interest, if any, of Mortgagor to plans and specifications, engineering drawings, architectural renderings, environmental reports, licenses, governmental permits and approvals, soil test reports, proposals or other material now or thereafter existing in any way relating to the Property (the “**Plans, Licenses and Permits**”); (e) all rents, issues and profits derived under present or future leases, or otherwise, which are hereby specifically assigned, transferred and set over to Mortgagee (the “**Rents and Profits**”); (f) all awards or payments, including any interest thereon, and the right to receive same, which may be made for the account of Mortgagor with respect to the Property as a result of the exercise of the right of eminent domain or condemnation, as hereinafter provided (the “**Awards and Payments**”); (g) all rights of Mortgagor to receive the proceeds arising from or in connection with any federal or state historic tax credits or brownfield credits, and any replacement or similar credits or payments made or to be made in connection with the Project as described in the Loan Agreement, including any payments due Mortgagor in the form of distributions from any member of Mortgagor (the “**Credits Payments**”); (h) all rights of Mortgagor to any oil, gas, mineral and water rights (the “**Natural Resources Rights**”); (i) all rights of Mortgagor under any purchase agreements executed with respect to the Property and the proceeds thereof (the “**Purchase Agreements**”); and (j) proceeds and proceeds of hazard insurance of all of the foregoing described in this paragraph (the “**Proceeds**” and with the Property, Personal Property, Easements and Agreements, Equipment, Plans, Licenses and Permits, Rents and Profits, Awards and Payments, Credits Payments, Natural Resources Rights, Purchase Agreements, are collectively the “**Mortgaged Property**”). It is understood and agreed that all Equipment is part and parcel of said real estate and appropriated to the use of said real estate and, whether affixed or annexed or not, shall for the purpose of this Mortgage be deemed conclusively to be real estate and mortgaged hereby. Mortgagor agrees to execute, acknowledge and deliver, from time to time, such financing statements or other instruments as may be reasonably requested by Mortgagee to confirm, protect and perfect the lien of this Mortgage on any Personal Property or Equipment, under the provisions of the Uniform Commercial Code in effect in Michigan or otherwise, and this Mortgage shall also be considered to be and may be construed as a security agreement with reference to any such Equipment, and upon Mortgagor’s default, Mortgagee shall, in addition to all other remedies herein provided, have the remedies provided for under the Uniform Commercial Code, as amended, in effect in Michigan.

And the said Mortgagor, for itself, its successors and assigns, does covenant and agree to and with the said Mortgagee, its successors and assigns, as follows:

1. **Performance:** Mortgagor will pay, and otherwise perform, all the terms, conditions and covenants of the Obligations.

2. **Title:** At the time of the execution and delivery of this instrument, Mortgagor is well and truly seized of the Mortgaged Property in fee simple, free of all liens and encumbrances whatsoever, except for the Subordinate Mortgage dated of even date herewith from Mortgagor in favor of Mortgagee (as described in the Loan Agreement) and other matters, if any, set forth in the mortgage title insurance policy accepted by Mortgagee and the endorsements thereto issued from time to time and as set forth on **Exhibit “B”** attached hereto (collectively, the “**Permitted Encumbrances**”). Mortgagor will forever warrant and defend the first priority lien position of this

Mortgage against any and all claims whatever, and the lien created hereby is and will be kept a lien having a first priority upon said Mortgaged Property, subject only to the Permitted Encumbrances.

3. **Payment of Taxes and Assessments:** Mortgagor shall pay prior to the date that any penalty or interest for nonpayment would attach, all taxes and assessments that may be levied upon said Mortgaged Property, and shall promptly deliver to Mortgagee receipts showing payment thereof. Mortgagor shall pay when due all water charges and all other amounts which might become a lien upon the Mortgaged Property prior to this Mortgage. Mortgagor shall pay when due all taxes and assessments that may be levied upon or on account of this Mortgage or the Obligations secured hereby or upon the interest or estate in said Mortgaged Property created or represented by this Mortgage, whether levied against Mortgagor or otherwise. In the event payment by Mortgagor of any tax referred to in the foregoing sentence would result in the payment of interest in excess of the rate permitted by law, then Mortgagor shall have no obligation to pay the portion of such tax which would result in the payment of such excess; provided, however, in any such event, at any time after the enactment of the law providing for such tax, Mortgagee, at its election, may declare the entire principal balance of the Obligations secured hereby, together with interest thereon, to be due and payable.

4. **Insurance:** Mortgagor will keep the Mortgaged Property, insured against loss and damage by fire and the perils covered by extended coverage insurance (including public liability insurance), and against such other risks as required by the terms of the Loan Agreement, with proceeds thereof payable to Mortgagee under a standard mortgagee endorsement thereto, and shall contain an agreement by such insurer(s) that such policy(s) shall not be cancelled or materially modified without at least thirty (30) days prior written notice to Mortgagee. In the event of any loss or damage to all or any portion of the Mortgaged Property, at Mortgagee's election, the insurance proceeds shall be used in any one or more of the following ways: (a) apply the same or any part thereof upon the Obligations secured hereby, whether such Obligations are then matured or unmatured; (b) use the same or any part thereof to fulfill any of the covenants contained herein as Mortgagee may determine; (c) use the same or any part thereof to replace or restore the Mortgaged Property to a condition satisfactory to Mortgagee, or (d) release the same to Mortgagor.

Notwithstanding the foregoing, in the absence of an Event of Default beyond any applicable notice and cure period which is not cured at the time of the casualty or damage and at the time insurance proceeds are to be made available to Mortgagee under this provision, and, if requested by Mortgagor in writing, Mortgagee agrees to disburse such insurance proceeds to Mortgagor or, to contractors employed by Mortgagor, less actual costs, fees and expenses, including reasonable attorneys' fees, if any, incurred by Mortgagee in connection with the adjustment of the loss or any action taken by Mortgagee in connection with the adjustment of the loss or incurred by Mortgagee in connection with any of the requirements of this Section 4 (the "**Net Proceeds**"), consistent with customary practices of Mortgagee in the administration of construction loans and as set forth in the Loan Agreement, for the purpose of restoration, repair and replacement ("**Restoration**") of the Mortgaged Property to the condition and character existing prior to such event giving rise to payment of such proceeds, subject to the following:

(a) Mortgagor shall deliver a detailed budget to Mortgagee, approved in writing by Mortgagor's architect or engineer, inclusive of the entire cost of completing the Restoration, on a trade by trade basis;

(b) the Net Proceeds, together with any additional funds deposited by Mortgagor with Mortgagee, are sufficient, as determined by an estimate prepared by an independent appraiser selected by Mortgagee, to pay for the entire cost of the Restoration;

(c) Mortgagor shall commence the Restoration as soon as reasonably practicable, but in no event later than ninety (90) days after such damage or destruction occurs; notwithstanding the foregoing, Mortgagor shall remove debris and otherwise clean and secure the Mortgaged Property, promptly following any such damage or destruction;

(d) Restoration shall be performed in compliance with all applicable governmental codes, ordinances, statutes and requirements (including, without limitation, all applicable Environmental Laws);

(e) From and after the date of the occurrence of the damage or destruction and continuing during the course of the Restoration, Mortgagor shall continue to timely pay all costs of owning, maintaining and operating the Mortgaged Property, including all debt service under the Notes; and

(f) Mortgagor shall comply with the policies and requirements of the Michigan Construction Lien Act and the Restoration will be completed free of any construction liens. Each disbursement of insurance proceeds shall require an endorsement to Mortgagee's title insurance policy insuring the full amount of advances to date.

If at any time the Net Proceeds or the undisbursed balance thereof shall not, in the sole opinion of Mortgagee, be sufficient to pay in full the balance of the costs which are estimated by Mortgagee to be necessary to complete the Restoration, Mortgagor shall deposit additional funds with Mortgagee in the amount of such deficiency (the "**Net Proceeds Deficiency**") before any other disbursement of the Net Proceeds shall be made. The Net Proceeds Deficiency deposited with Mortgagee shall be held by Mortgagee and shall be disbursed for costs actually incurred in connection with the restoration of the same conditions applicable to the disbursement of the Net Proceeds and, until so disbursed, shall constitute additional security for the Indebtedness. Any funds held by Mortgagee pursuant to this Section shall be held in a non-interest bearing account and may be commingled with other funds of Mortgagee.

5. **Default in Taxes:** If default is made in the payment of any taxes, liens, charges, assessments or in making repairs or replacements or in procuring and maintaining insurance and paying the premiums therefor or in paying any governmental charges levied or assessed against the Mortgaged Property, or in keeping or performing any other covenants of Mortgagor herein and same is not cured within any applicable notice or cure period, Mortgagee may, at its option, and without any obligation on its part so to do, pay said taxes and assessments, make such repairs and replacements, effect such insurance, pay such premiums or governmental charges, and perform any other covenant of Mortgagor herein. All amounts expended by Mortgagee hereunder shall be secured hereby and shall be due and payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate.

6. **Property Covenants:** Mortgagor will abstain from and will not suffer the commission of waste on said Mortgaged Property and will keep the buildings, improvements,

fixtures and equipment now or hereafter thereon in good repair and will make replacements thereto as and when the same become necessary. Mortgagor shall promptly notify Mortgagee in writing of the occurrence of any material loss or damage to the Mortgaged Property. Mortgagor shall not materially alter the buildings, improvements, fixtures or equipment now or hereafter upon said Mortgaged Property, or remove the same therefrom, without the written consent of Mortgagee, except for such activities as are directly required to complete the Project as described in the Loan Agreement. Mortgagor will not permit any portion of the Mortgaged Property to be used for any unlawful purposes. Mortgagor will comply promptly with all laws, ordinances, regulations and orders of all public authorities having jurisdiction thereof relating to the Mortgaged Property or the use, occupancy and maintenance thereof, including the Americans with Disabilities Act of 1990, as it may be amended, and Mortgagor shall: (a) permit no change in the general nature of the occupancy of the Premises without Mortgagee's prior written consent; and (b) not initiate or acquiesce in any zoning reclassification without Mortgagee's prior written consent.

7. **Waste:** Failure of Mortgagor to pay any taxes, assessments or governmental charges levied or assessed against the Mortgaged Property, or any part thereof, or any installment of any such tax, assessment or charge, or any premium upon any such tax, assessment or charge, or any premium upon any policy of insurance covering any part of the Mortgaged Property, at the time or times such taxes, assessments, charges, installments thereof or insurance premiums are due and payable, shall constitute waste, and in accordance with the provisions of Act No. 236 of the Public Acts of Michigan for 1961, as amended, shall entitle Mortgagee to exercise the remedies afforded by applicable law. Payment by Mortgagee for and on behalf of Mortgagor of any such delinquent tax or insurance premium properly payable by Mortgagor under the terms of this Mortgage, shall be secured hereby and shall be due and payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate and shall not cure the default herein described nor shall it in any manner impair Mortgagee's right to the appointment of a receiver on account thereof. Upon the happening of any such acts of waste and on proper application made therefore by Mortgagee to a court of competent jurisdiction, Mortgagee shall forthwith be entitled to seek the appointment of a receiver of the Mortgaged Property hereby mortgaged and of the earnings, income, issues and profits thereof, with such powers as the court making such appointment shall confer; Mortgagor hereby irrevocably consents to such appointment.

8. **Reimbursement:** In the event that Mortgagee is made a party to any suit or proceedings by reason of the interest of Mortgagee in the Mortgaged Property, other than for Mortgagee's default, Mortgagor shall reimburse Mortgagee for all costs and expenses, including reasonable attorneys' fees, incurred by Mortgagee in connection therewith. All such amounts incurred by Mortgagee hereunder shall be secured hereby and shall be payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate. Mortgagor hereby assigns to Mortgagee, in their entirety, all judgments, decrees, and awards for injury or damage to the Mortgaged Property and Mortgagor authorizes Mortgagee, at its sole election, to apply the same, or the proceeds thereof, to the Obligations hereby secured in such manner as Mortgagee may elect.

9. **Condemnation:** In the event of the taking of all or any portion of the Mortgaged Property in any proceedings under the power of eminent domain, the entire award rendered in such proceedings shall be paid to Mortgagee, to be applied toward reimbursement of all costs and expenses of Mortgagee in connection with said proceedings, toward the payment of all amounts

payable by Mortgagor to Mortgagee hereunder, and at Mortgagee's election, used in any one or more of the following ways: (a) apply the same or any part thereof upon the Obligations secured hereby, whether such Obligations are then matured or unmatured; (b) use the same or any part thereof to fulfill any of the covenants contained herein as Mortgagee may determine; (c) use the same or any part thereof to replace or restore the Mortgaged Property to a condition satisfactory to Mortgagee; or (d) release the same to Mortgagor.

10. **Rents/Profits:**

(a) As additional security for the payment of the Obligations, insurance premiums, taxes and assessments, at the time and in the manner herein agreed, and for the performance of the covenants and agreements herein contained, pursuant to Act 210 of the Public Acts of Michigan of 1953, as amended, Mortgagor does hereby assign, transfer and set over unto Mortgagee herein, its successors and assigns, all of its right, title and interest to the rents, profits and income under any lease or leases of the Mortgaged Property (including any extensions, amendments or renewals thereof), whether due or to become due, including all such leases in existence or coming into existence during the period this Mortgage is in effect. This assignment of rents shall run with the land and be good and valid as against Mortgagor herein or those claiming by, under or through Mortgagor, from the date of the recording of this instrument. This assignment shall continue to be operative during the foreclosure or any other proceedings taken to enforce this Mortgage. In the event of a sale or foreclosure which shall result in a deficiency, this assignment shall stand as security during the redemption period for the payment of such deficiency. This assignment is given as collateral security only and shall not be construed as obligating Mortgagee to perform any of the covenants or undertakings required to be performed by Mortgagor contained in any such assigned leases. Mortgagor represents and warrants to Mortgagee that it has not assigned, transferred or set over the rents, profits and income under any lease or leases of the Mortgaged Property except in favor of Mortgagee.

(b) Should an Event of Default exist, Mortgagor shall, upon demand therefor made by Mortgagee, deliver and surrender possession of the Mortgaged Property to Mortgagee (if permitted by law) who shall thereafter collect the rents and income therefrom, rent or lease said Mortgaged Property or portion thereof upon such terms and for such time as it may deem best, based upon commercially reasonable terms prevailing at that time, terminate any tenancy (subject to any subordination, attornment and non-disturbance agreement existing between Mortgagee and any tenant of the Mortgaged Property) and maintain proceedings to recover rents or possession of the Mortgaged Property from any tenant or trespasser, and apply the net proceeds of such rent and income to the following purposes:

- (i) preservation of Mortgaged Property;
 - (ii) payment of taxes;
 - (iii) payment of insurance premiums;
 - (iv) payment of installments of interest due under the terms of the Notes;
- or

(v) payment of the outstanding principal balance due under the Notes.

(c) In the event that Mortgagor fails, refuses or neglects to deliver or surrender such possession, Mortgagee shall be entitled to seek the appointment of a receiver of the Mortgaged Property and of the earnings, income, issue and profits thereof, with such powers as the court making such appointment may confer.

(d) The provisions of this Section 10 are not intended to evidence an additional recordable event, as may be prohibited by Act 459 of the Public Acts of Michigan of 1996, but rather are included in this Mortgage for purposes of complying with any applicable requirements of Act 210 of the Public Acts of Michigan of 1953, as amended.

11. **Default:** Should an Event of Default exist beyond any applicable notice and cure period set forth in the Loan Agreement, then Mortgagee may at any time after such Event of Default, and without further notice, declare the principal balances of the Notes secured hereby, together with interest thereon and all other Obligations, to be due and payable immediately. The commencement of proceedings to foreclose this Mortgage shall, in any event, be deemed to have occurred upon such declaration.

12. **Title History:** Should an Event of Default exist, Mortgagee may cause the title insurance policy of the Mortgaged Property to be updated or extended, or may procure new or updated title insurance policies in case none were left or kept on deposit with said Mortgagee, and the money so paid shall be a lien on said Mortgaged Property added to the amount secured by this Mortgage and payable forthwith with interest thereon at the Default Rate.

13. **Acceleration:** If foreclosure proceedings of any mortgage (other than the within Mortgage) or any lien of any kind should be instituted against the Mortgaged Property and such proceedings are not either discontinued or bonded in accordance with statutory procedures so as to remove the lien from the real estate records and by a company satisfactory to Mortgagee or title insured (to the satisfaction of Mortgagee, in its reasonable discretion), by the title insurance company insuring this Mortgage, within thirty (30) days, or if any other proceedings, either voluntary or involuntary, are instituted by or against Mortgagor or its successors in title to enforce payment or liquidation of its outstanding obligations, Mortgagee may, at its option and without notice (notwithstanding any provisions to the contrary in the Loan Agreement), immediately declare its lien and the Obligations which it secures due and payable and institute such proceedings as may be necessary to protect its interest in the Mortgaged Property.

14. **Disposition of Property:**

(a) Power is hereby granted to Mortgagee, if an Event of Default exists, to grant, bargain, sell, release and convey the Mortgaged Property at public auction or venue, and on such sale to execute and deliver to the purchasers, his, her, its or their heirs, successors and assigns, good ample and sufficient deed or deeds of conveyance in law, pursuant to the statute in such case made and provided, and to apply the proceeds of such sale in the manner hereinafter provided.

(b) Upon a foreclosure sale of said Mortgaged Property or any part thereof, the proceeds of such sale shall be applied in the following order:

- (i) To the payment of all costs of the suit or foreclosure, including reasonable attorneys' fees and the cost of title searches and abstracts;
- (ii) To the payment of all other expenses of Mortgagee, including all monies expended by Mortgagee and all other amounts payable by Mortgagor to Mortgagee hereunder, with interest thereon;
- (iii) To the payment of the principal and interest of the Notes secured hereby; and
- (iv) To the payment of the surplus, if any, to Mortgagor or to whosoever shall be entitled thereto.

(c) Upon any foreclosure sale of the Mortgaged Property, the same may be sold either as a whole or in parcels, as Mortgagee may elect, and if in parcels, the same may be divided as Mortgagee may elect, and at the election of Mortgagee may be offered first in parcels and then as a whole, that offer producing the highest price for the entire Mortgaged Property to prevail, any law, statutory or otherwise, to the contrary notwithstanding, and Mortgagor hereby waives the right to require any such sale to be made in parcels or the right to select such parcels.

15. **Future Assurances:** At any time and from time to time, upon reasonable request of Mortgagee, Mortgagor will make, execute and deliver or cause to be made, executed and delivered to Mortgagee and where appropriate will cause to be recorded and/or filed and from time to time thereafter to be re-recorded and/or filed at such time and in such offices and places as shall be reasonably required by Mortgagee, any and all such other and further mortgages, instruments of further assurance, certificates, financing statements, and other documents as may, in the reasonable opinion of Mortgagee or its counsel, be necessary or reasonably desirable in order to effectuate, complete and perfect and to continue and preserve the obligation of Mortgagor under this Mortgage, and the lien of this Mortgage as a lien of the priority herein set forth upon all the Mortgaged Property and Equipment, except at hereinabove stated, whether now owned or hereinafter acquired by Mortgagor and wheresoever located. Upon any failure by Mortgagor so to do, Mortgagee may execute, record, file, re-record and refile any and all such mortgages, instruments, certificates, financing statements, and documents for and in the name of Mortgagor, and Mortgagor hereby irrevocably appoints Mortgagee the agent and attorney-in-fact of Mortgagor so to do so long as such documents do not expand Mortgagor's obligations under this Mortgage, the Loan Agreement or Loan Documents. Any expenses of Mortgagee in connection therewith shall be added to the Obligations of Mortgagor and shall be secured hereby. None of the foregoing additional instruments to be executed by Mortgagor shall increase the obligations or liabilities of Mortgagor hereunder, under the Notes, the Loan Agreement or any other Loan Document.

16. **Cumulative Rights and Remedies:** Each and every of the rights, remedies and benefits provided to Mortgagee herein shall be cumulative and shall not be exclusive of any other of said rights, remedies or benefits, or of any other rights, remedies or benefits allowed by law, and may be exercised either successively or concurrently. Any waiver by Mortgagee of any default hereunder or any Event of Default shall not constitute a waiver of any similar or other default or Event of Default.

17. **Alienation; Due on Transfer:** Mortgagee in making the loan evidenced by the Notes secured by this Mortgage is relying upon the integrity of Mortgagor and its undertaking to maintain the Mortgaged Property. If Mortgagor should sell, transfer, convey, assign or further encumber its interest in the Mortgaged Property, or any part thereof, voluntarily or involuntarily, or should there be a change of the members of Mortgagor, or should there be a change in the ownership or control of any member of Mortgagor, whether by transfer, sale, pledge or assignment, whether voluntarily or involuntarily, Mortgagee shall have the right in its sole option thereafter to declare all sums and the Obligations secured hereby and then unpaid to be due and payable forthwith although the period limited for the payment thereof shall not then have expired, anything contained to the contrary hereinbefore notwithstanding, and thereupon to exercise all of its rights and remedies under this Mortgage.

18. **Binding Effect:** All of the covenants and conditions hereof shall run with the land and shall be binding upon the successors and assigns of Mortgagor, and shall inure to the benefit of the successors and assigns of Mortgagee; any reference herein to "Mortgagee" shall include the successors and assigns of Mortgagee.

19. **Terms:** All nouns, pronouns and relative terms relating to Mortgagor and Mortgagee shall be deemed to be masculine, feminine or neuter, singular or plural, as the context may indicate. If Mortgagor consists of more than one person, their liability hereunder shall be joint and several. The term "**Event of Default**" shall have the meaning attributed to it in the Loan Agreement.

20. **Power of Sale:** WARNING. THIS MORTGAGE CONTAINS A POWER OF SALE, AND, UPON AN EVENT OF DEFAULT, MAY BE FORECLOSED BY ADVERTISEMENT. IN FORECLOSURE BY ADVERTISEMENT, NO HEARING IS INVOLVED AND THE ONLY NOTICE REQUIRED IS TO PUBLISH NOTICE IN A LOCAL NEWSPAPER AND TO POST A COPY OF THE NOTICE ON THE MORTGAGED PROPERTY.

21. **Waiver:** IF THIS MORTGAGE IS FORECLOSED BY ADVERTISEMENT, MORTGAGOR HEREBY VOLUNTARILY INTELLIGENTLY AND KNOWINGLY WAIVES ALL RIGHTS, UNDER THE CONSTITUTION AND LAWS OF THE STATE OF MICHIGAN AND CONSTITUTION AND LAWS OF THE UNITED STATES, TO ALL NOTICE AND TO ANY HEARING INITIATED BY MORTGAGEE IN CONNECTION WITH THE ABOVE MENTIONED FORECLOSURE BY ADVERTISEMENT, EXCEPT AS SET FORTH IN THE MICHIGAN STATUTE PROVIDING FOR FORECLOSURE BY ADVERTISEMENT.

22. **Non-Pledge:** Mortgagor will not, without the prior written consent of Mortgagee, mortgage or pledge as security for any other loans obtained by Mortgagor, the Mortgaged Property. If any such mortgage or pledge is entered into without the prior written consent of Mortgagee, the entire Obligations secured hereby, may, at the option of Mortgagee, be declared immediately due and payable without notice. Further, Mortgagor also shall pay any and all other obligations, liabilities or debts which may become liens, security interest, encumbrances upon or charges against the Mortgaged Property for any repairs or improvements that are now or may hereafter be made thereon, and shall not, without Mortgagee's prior written consent permit any lien, security interest, encumbrance or charge of any kind to accrue and remain outstanding against the Mortgaged

Property or any part thereof, or any improvements thereon, irrespective of whether such lien, security interest, encumbrance or charge is junior to the lien of this Mortgage unless bonded in accordance with applicable statutory provisions so as to remove the same from the real estate records or title insured by the title insurance company insuring the within Mortgage. Notwithstanding the foregoing, if any Personal Property of Mortgagor by way of additions, replacements or substitutions is hereafter purchased and installed, affixed or placed by Mortgagor on the Premises under a security agreement the lien or title of which is superior to the lien created by this Mortgage, all the right, title and interest of Mortgagor in and to any and all such Personal Property, together with the benefit of any deposits or payments made thereon by Mortgagor shall nevertheless be and are hereby assigned to Mortgagee and are covered by the lien of this Mortgage.

23. **Security Agreement and Financing Statements:** Mortgagor (as Debtor) hereby grants to Mortgagee (as Creditor and Secured Party) as security for the payment of the Notes and all other sums secured by this Mortgage, a security interest in all the Equipment and Personal Property and any other Collateral owned by Mortgagor described elsewhere in this Mortgage or in the Loan Agreement.

Mortgagor shall execute any and all such documents, including without limitation, financing statements pursuant to the Uniform Commercial Code of the State of Michigan, as Mortgagee may reasonably request, to perfect, preserve and maintain the priority of the lien created hereby on property which may be deemed personal property or fixtures, and shall pay to Mortgagee on demand any reasonable out-of-pocket expenses incurred by any such Mortgagee in connection with the preparation, execution and filing of documents. Mortgagor hereby authorizes and empowers Mortgagee to execute and file, on Mortgagor's behalf, all financing statements and refilings and continuations thereof as Mortgagee deems necessary or advisable to create, preserve and protect said lien. This Mortgage shall be deemed a security agreement as defined in said Uniform Commercial Code and the remedies for any violation of the covenants, terms and conditions of the agreements herein contained shall be cumulative and (i) as prescribed herein, or (ii) by general law, or (iii) as to such part of the security which is also reflected in said financing statement by the specific statutory consequences now or hereafter enacted and specified in the Uniform Commercial Code, all at Mortgagee's sole election.

24. **Construction Mortgage:** The within Mortgage is a construction mortgage pursuant to Article 9 of the Michigan Uniform Commercial Code and secures the construction loan from Mortgagee to Mortgagor to provide Mortgagor with funds to renovate the Building on the Premises and construct an additional building on the Premises.

25. **Fixture Filing Provisions:** If the security agreement described above covers goods which are or are to become fixtures, then this Mortgage shall be effective as a financing statement filed as a fixture filing from the date of the recording hereof. In connection therewith and for the purposes of Article Nine of the Michigan Uniform Commercial Code, (a) Mortgagor is the "debtor" and is a limited liability company organized under the laws of the State of Michigan, (b) the organization number assigned debtor by the State of Michigan in which debtor is organized is 726989, (c) Mortgagee is the "secured party", (d) information concerning the security interest created hereby may be obtained from Mortgagee at its address set forth on page 1 of this Mortgage, (e) Mortgagor's mailing address is set forth on page 1 hereof; and (f) the financing statement is to be recorded in the real property records for the county in which the Mortgaged Property is located.

26. **Future Advances:** This Mortgage secures the payment of all obligations of Mortgagor to Mortgagee, its successors or assigns, arising out of or in connection with the Obligations, howsoever created, arising or evidenced, whether direct or indirect, absolute or contingent or now or hereafter existing or due or to become due, including without limitation of the generality of the foregoing, future advances.

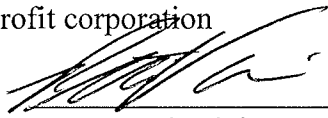
[remainder of page intentionally left blank; signature page follows]

SIGNATURE PAGE TO CONSTRUCTION MORTGAGE
(SENIOR LOAN)

IN WITNESS WHEREOF, this Mortgage is executed the day and year first above written.

MORTGAGOR:

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan nonprofit corporation

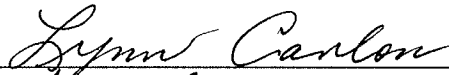
By:  _____

Peter Vandersluis

Its: Board President

STATE OF MICHIGAN)
) ss
COUNTY OF KENT)

The foregoing instrument was executed before me this 9th day of March, 2015, by Peter Vandersluis, the Board President of **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan nonprofit corporation, on behalf of said nonprofit corporation.



LYNN CARLON, Notary Public
State of Michigan, County of OTTAWA
My Commission Expires: 6/7/2016
Acting in the County of KENT

DRAFTED BY AND WHEN RECORDED RETURN TO:

Danielle Graceffa
Dykema Gossett PLLC
400 Renaissance Center
Detroit, Michigan 48243

EXHIBIT "A"

LEGAL DESCRIPTION OF PREMISES

Real estate situated in the City of Walker, County of Kent, State of Michigan, described as follows:

PARCEL A:

The East 1/2 of the Northeast 1/4 of the Southwest 1/4; and also the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the East 50 feet thereof, AND ALSO EXCEPT commencing on the North right-of-way line of Leonard Street (66.00 feet wide) at its intersection with the West right-of-way line of Wilson Avenue (100.00 feet wide) (a/k/a S.T.L. M-11); thence North along the West right-of-way line of Wilson Avenue 20.00 feet; thence Southwesterly to a point on the North right-of-way line of Leonard Street which is 20.00 feet West of the place of beginning; thence East along the North right-of-way line of Leonard Street 20.00 feet to the place of beginning.

PARCEL B:

The Southeast 1/4 of the Southwest 1/4 of Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, AND ALSO EXCEPT the East 50.00 feet thereof.

Tax Item No. 41-13-18-300-018

Commonly known as: 4463 Leonard Street NW, Walker, Michigan 49534

EXHIBIT "B"

PERMITTED ENCUMBRANCES

1. Liens for taxes and assessments which are not yet due and payable.
2. Right of Way in favor of Consumers Power Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 52 MR, page 478.
3. Release of Right of Way in favor of State Highway Commissioner of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 723, page 430.
4. Release of Right of Way in favor of State Highway Commissioner of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 766, page 588.
5. The Subordinate Mortgage from Mortgagor in favor of Mortgagee of even date herewith.
6. Any rights, title interest or claim thereof to that portion of the land taken, used or granted for streets, roads or highways.
7. The following matters as disclosed by survey dated November 18, 2014, last revised January 16, 2015, prepared by Roosien & Associates, being Job No. 141280:
 - a. Overhead lines crossing property and property lines.
 - b. Light poles, transformers, phone risers, hydrant, and concrete water chamber on property.
 - c. Metal framed storage tent and concrete pad encroaches from the North.
 - d. Building encroaches into setback line.

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13
14

RECD KENT COUNTY, MI REG

2015 MAR 27 AM 11:22



20150327-0023850

Mary Hollinrake P:1/15 11:29AM
Kent Cnty MI Rgstr 03/27/2015 SEAL

CONSTRUCTION MORTGAGE
(Subordinate Loan)

THIS CONSTRUCTION MORTGAGE IS SUBJECT AND SUBORDINATE TO THE PROVISIONS OF THAT CERTAIN SENIOR MORTGAGE DESCRIBED IN SECTION 27 HEREOF.

DATED: MARCH 17, 2015

PARTICULAR TERMS - DEFINITIONS

As used herein, the following terms and expressions shall have the respective meanings indicated opposite each of them:

Mortgagor: WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE,
a Michigan nonprofit corporation
Address: 4463 Leonard Street NW
Walker, Michigan 49534

Mortgagee: CAPITAL IMPACT PARTNERS, a non-profit corporation organized
under the laws of the District of Columbia at the direction of the United
States Congress in 12 U.S.C. 3051
Address: 2011 Crystal Drive, Suite 750,
Arlington, VA 22202

Note: Construction Mortgage Note
Amount: Four Hundred Thirty Seven Thousand Five Hundred
and 00/100 Dollars (\$437,500.00)
Date of Note: Dated of Even Date Herewith

Loan Agreement: Construction and Supplemental Finance Agreement dated of even date
herewith

Premises: Land, Premises and Improvements situated in the City of Walker, Kent
County, Michigan
See Exhibit "A" attached hereto

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THIS MORTGAGE CONSTITUTES A FUTURE ADVANCE MORTGAGE AND SECURES FUTURE ADVANCES UNDER ACT 348 OF THE PUBLIC ACTS OF 1990, AS AMENDED (MCLA §565.901, ET SEQ.) UNDER MICHIGAN LAW.

THIS CONSTRUCTION MORTGAGE (SUBORDINATE LOAN) (this "**Mortgage**"), above-dated, by Mortgagor to Mortgagee, and is made with reference to the Note and Loan Agreement hereinabove referenced, and which shall include all of the foregoing as amended, modified, extended, restated or renewed from time to time and all substitutions, consolidations or rollovers thereof, from time to time all of which may be done without amendment of this Mortgage or the consent of Mortgagor.

DEFINITIONS: Unless defined herein, all capitalized terms shall have the meanings set forth in the Loan Agreement.

WITNESSETH:

To secure the performance of the covenants hereinafter contained, and the repayment of a loan by Mortgagee in an amount up to Four Hundred Thirty Seven Thousand Five Hundred and 00/100 Dollars (\$437,500.00), together with interest thereon, payable in accordance with the terms of the Note executed by Mortgagor evidencing such loan and advances, and all extensions, renewals, amendments and modifications thereof, including any increases in the principal amount of the Note to secure future advances and to secure all other Indebtedness (as defined in the Loan Agreement), and in accordance with the terms of the Loan Agreement, the terms, covenants and conditions of which said Note and Loan Agreement are herein incorporated as covenants and conditions of Mortgagor, with the same force and effect as though such covenants and conditions were fully set forth herein (the covenants of this Mortgage, the Note, the Loan Agreement and other Loan Documents are hereinafter collectively referred to as the "**Obligations**"), Mortgagor, hereby mortgages and warrants and grants a security interest to Mortgagee, its successors and assigns, in and to the Premises, together with the appurtenances, improvements, the Building, fixtures, tenements, and hereditaments thereunder belonging and which may hereafter attach thereto and all heretofore or hereafter vacated alleys and streets abutting thereto (collectively, the "**Property**"); together with: (a) all building materials, goods and tangible personal property on the Premises, not affixed or incorporated into the Premises and which are owned by Mortgagor (the "**Personal Property**"); (b) all rights and easements (public or private) which benefit the Premises located off the Premises and all easement agreements, license agreements, permits, parking agreements, tunnel agreements, permits or any other agreements with respect to such rights and easements (public or private) (the "**Easements and Agreements**"); (c) all buildings, improvements, machinery, apparatus, equipment, fittings, fixtures and articles of personal property of every kind and nature whatsoever, other than consumable goods, now or hereafter located in or upon said real estate or any part thereof and used or usable in connection with any present or future operation of said Property and now owned or hereafter acquired or leased by Mortgagor, and all additions and accessions thereto now or hereafter attached to or used in connection therewith or with the Property, and all proceeds of hazard insurance of all of the foregoing, including, but without limiting the generality of the foregoing, all heating, lighting, laundry, incinerating and power equipment, engines, pipes, pumps, tanks, motors, conduits, switchboards, plumbing apparatus, electrical apparatus (including, but not limited to, all electrical transformers, switches, switch boxes, equipment boxes, cabinets, all whether used in the operation of the Property or any business

operated within or upon the Property), lifting, cleaning, fire-prevention, fire-extinguishing, refrigerating, ventilating, and communications apparatus, air-cooling and air-conditioning apparatus, elevators, escalators, shades, awnings, screens, storm doors and windows, stoves, attached cabinets, partitions, furniture, carpeting, plants and shrubbery, ground maintenance equipment, ducts and compressors and all of the right, title and interest of Mortgagor in and to any equipment which may be subject to any title retention or security agreement superior in lien to the lien of this Mortgage (the “**Equipment**”); (d) all right, title and interest, if any, of Mortgagor to plans and specifications, engineering drawings, architectural renderings, environmental reports, licenses, governmental permits and approvals, soil test reports, proposals or other material now or thereafter existing in any way relating to the Property (the “**Plans, Licenses and Permits**”); (e) all rents, issues and profits derived under present or future leases, or otherwise, which are hereby specifically assigned, transferred and set over to Mortgagee (the “**Rents and Profits**”); (f) all awards or payments, including any interest thereon, and the right to receive same, which may be made for the account of Mortgagor with respect to the Property as a result of the exercise of the right of eminent domain or condemnation, as hereinafter provided (the “**Awards and Payments**”); (g) all rights of Mortgagor to receive the proceeds arising from or in connection with any federal or state historic tax credits or brownfield credits, and any replacement or similar credits or payments made or to be made in connection with the Project as described in the Loan Agreement, including any payments due Mortgagor in the form of distributions from any member of Mortgagor (the “**Credits Payments**”); (h) all rights of Mortgagor to any oil, gas, mineral and water rights (the “**Natural Resources Rights**”); (i) all rights of Mortgagor under any purchase agreements executed with respect to the Property and the proceeds thereof (the “**Purchase Agreements**”); and (j) proceeds and proceeds of hazard insurance of all of the foregoing described in this paragraph (the “**Proceeds**” and with the Property, Personal Property, Easements and Agreements, Equipment, Plans, Licenses and Permits, Rents and Profits, Awards and Payments, Credits Payments, Natural Resources Rights, Purchase Agreements, are collectively the “**Mortgaged Property**”). It is understood and agreed that all Equipment is part and parcel of said real estate and appropriated to the use of said real estate and, whether affixed or annexed or not, shall for the purpose of this Mortgage be deemed conclusively to be real estate and mortgaged hereby. Mortgagor agrees to execute, acknowledge and deliver, from time to time, such financing statements or other instruments as may be reasonably requested by Mortgagee to confirm, protect and perfect the lien of this Mortgage on any Personal Property or Equipment, under the provisions of the Uniform Commercial Code in effect in Michigan or otherwise, and this Mortgage shall also be considered to be and may be construed as a security agreement with reference to any such Equipment, and upon Mortgagor’s default, Mortgagee shall, in addition to all other remedies herein provided, have the remedies provided for under the Uniform Commercial Code, as amended, in effect in Michigan.

And the said Mortgagor, for itself, its successors and assigns, does covenant and agree to and with the said Mortgagee, its successors and assigns, as follows:

1. **Performance:** Mortgagor will pay, and otherwise perform, all the terms, conditions and covenants of the Obligations.
2. **Title:** At the time of the execution and delivery of this instrument, Mortgagor is well and truly seized of the Mortgaged Property in fee simple, free of all liens and encumbrances whatsoever, except for the Senior Mortgage from Mortgagor in favor of Mortgagee dated of even

date herewith described in Section 27 of this Mortgage and other matters, if any, set forth in the mortgage title insurance policy accepted by Mortgagee and the endorsements thereto issued from time to time and as set forth on **Exhibit "B"** attached hereto (collectively, the "**Permitted Encumbrances**"). Mortgagor will forever warrant and defend the second priority lien position of this Mortgage against any and all claims whatever, and the lien created hereby is and will be kept a lien having a second priority upon said Mortgaged Property, subject only to the Senior Mortgage and the Permitted Encumbrances.

3. **Payment of Taxes and Assessments:** Mortgagor shall pay prior to the date that any penalty or interest for nonpayment would attach, all taxes and assessments that may be levied upon said Mortgaged Property, and shall promptly deliver to Mortgagee receipts showing payment thereof. Mortgagor shall pay when due all water charges and all other amounts which might become a lien upon the Mortgaged Property prior to this Mortgage. Mortgagor shall pay when due all taxes and assessments that may be levied upon or on account of this Mortgage or the Obligations secured hereby or upon the interest or estate in said Mortgaged Property created or represented by this Mortgage, whether levied against Mortgagor or otherwise. In the event payment by Mortgagor of any tax referred to in the foregoing sentence would result in the payment of interest in excess of the rate permitted by law, then Mortgagor shall have no obligation to pay the portion of such tax which would result in the payment of such excess; provided, however, in any such event, at any time after the enactment of the law providing for such tax, Mortgagee, at its election, may declare the entire principal balance of the Obligations secured hereby, together with interest thereon, to be due and payable.

4. **Insurance:** Mortgagor will keep the Mortgaged Property, insured against loss and damage by fire and the perils covered by extended coverage insurance (including public liability insurance), and against such other risks as required by the terms of the Loan Agreement, with proceeds thereof payable to Mortgagee under a standard mortgagee endorsement thereto, and shall contain an agreement by such insurer(s) that such policy(s) shall not be cancelled or materially modified without at least thirty (30) days prior written notice to Mortgagee. In the event of any loss or damage to all or any portion of the Mortgaged Property, at Mortgagee's election, the insurance proceeds shall be used in any one or more of the following ways: (a) apply the same or any part thereof upon the Obligations secured hereby, whether such Obligations are then matured or unmatured; (b) use the same or any part thereof to fulfill any of the covenants contained herein as Mortgagee may determine; (c) use the same or any part thereof to replace or restore the Mortgaged Property to a condition satisfactory to Mortgagee, or (d) release the same to Mortgagor.

Notwithstanding the foregoing, in the absence of an Event of Default beyond any applicable notice and cure period which is not cured at the time of the casualty or damage and at the time insurance proceeds are to be made available to Mortgagee under this provision, and, if requested by Mortgagor in writing, Mortgagee agrees to disburse such insurance proceeds to Mortgagor or, to contractors employed by Mortgagor, less actual costs, fees and expenses, including reasonable attorneys' fees, if any, incurred by Mortgagee in connection with the adjustment of the loss or any action taken by Mortgagee in connection with the adjustment of the loss or incurred by Mortgagee in connection with any of the requirements of this Section 4 (the "**Net Proceeds**"), consistent with customary practices of Mortgagee in the administration of construction loans and as set forth in the Loan Agreement, for the purpose of restoration, repair and replacement ("**Restoration**") of the

Mortgaged Property to the condition and character existing prior to such event giving rise to payment of such proceeds, subject to the following:

(a) Mortgagor shall deliver a detailed budget to Mortgagee, approved in writing by Mortgagor's architect or engineer, inclusive of the entire cost of completing the Restoration, on a trade by trade basis;

(b) the Net Proceeds, together with any additional funds deposited by Mortgagor with Mortgagee, are sufficient, as determined by an estimate prepared by an independent appraiser selected by Mortgagee, to pay for the entire cost of the Restoration;

(c) Mortgagor shall commence the Restoration as soon as reasonably practicable, but in no event later than ninety (90) days after such damage or destruction occurs; notwithstanding the foregoing, Mortgagor shall remove debris and otherwise clean and secure the Mortgaged Property, promptly following any such damage or destruction;

(d) Restoration shall be performed in compliance with all applicable governmental codes, ordinances, statutes and requirements (including, without limitation, all applicable Environmental Laws);

(e) From and after the date of the occurrence of the damage or destruction and continuing during the course of the Restoration, Mortgagor shall continue to timely pay all costs of owning, maintaining and operating the Mortgaged Property, including all debt service under the Note; and

(f) Mortgagor shall comply with the policies and requirements of the Michigan Construction Lien Act and the Restoration will be completed free of any construction liens. Each disbursement of insurance proceeds shall require an endorsement to Mortgagee's title insurance policy insuring the full amount of advances to date.

If at any time the Net Proceeds or the undisbursed balance thereof shall not, in the sole opinion of Mortgagee, be sufficient to pay in full the balance of the costs which are estimated by Mortgagee to be necessary to complete the Restoration, Mortgagor shall deposit additional funds with Mortgagee in the amount of such deficiency (the "**Net Proceeds Deficiency**") before any other disbursement of the Net Proceeds shall be made. The Net Proceeds Deficiency deposited with Mortgagee shall be held by Mortgagee and shall be disbursed for costs actually incurred in connection with the restoration of the same conditions applicable to the disbursement of the Net Proceeds and, until so disbursed, shall constitute additional security for the Indebtedness. Any funds held by Mortgagee pursuant to this Section shall be held in a non-interest bearing account and may be commingled with other funds of Mortgagee.

5. **Default in Taxes:** If default is made in the payment of any taxes, liens, charges, assessments or in making repairs or replacements or in procuring and maintaining insurance and paying the premiums therefor or in paying any governmental charges levied or assessed against the Mortgaged Property, or in keeping or performing any other covenants of Mortgagor herein and same is not cured within any applicable notice or cure period, Mortgagee may, at its option, and without any obligation on its part so to do, pay said taxes and assessments, make such repairs and

replacements, effect such insurance, pay such premiums or governmental charges, and perform any other covenant of Mortgagor herein. All amounts expended by Mortgagee hereunder shall be secured hereby and shall be due and payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate.

6. **Property Covenants:** Mortgagor will abstain from and will not suffer the commission of waste on said Mortgaged Property and will keep the buildings, improvements, fixtures and equipment now or hereafter thereon in good repair and will make replacements thereto as and when the same become necessary. Mortgagor shall promptly notify Mortgagee in writing of the occurrence of any material loss or damage to the Mortgaged Property. Mortgagor shall not materially alter the buildings, improvements, fixtures or equipment now or hereafter upon said Mortgaged Property, or remove the same therefrom, without the written consent of Mortgagee, except for such activities as are directly required to complete the Project as described in the Loan Agreement. Mortgagor will not permit any portion of the Mortgaged Property to be used for any unlawful purposes. Mortgagor will comply promptly with all laws, ordinances, regulations and orders of all public authorities having jurisdiction thereof relating to the Mortgaged Property or the use, occupancy and maintenance thereof, including the Americans with Disabilities Act of 1990, as it may be amended, and Mortgagor shall: (a) permit no change in the general nature of the occupancy of the Premises without Mortgagee's prior written consent; and (b) not initiate or acquiesce in any zoning reclassification without Mortgagee's prior written consent.

7. **Waste:** Failure of Mortgagor to pay any taxes, assessments or governmental charges levied or assessed against the Mortgaged Property, or any part thereof, or any installment of any such tax, assessment or charge, or any premium upon any such tax, assessment or charge, or any premium upon any policy of insurance covering any part of the Mortgaged Property, at the time or times such taxes, assessments, charges, installments thereof or insurance premiums are due and payable, shall constitute waste, and in accordance with the provisions of Act No. 236 of the Public Acts of Michigan for 1961, as amended, shall entitle Mortgagee to exercise the remedies afforded by applicable law. Payment by Mortgagee for and on behalf of Mortgagor of any such delinquent tax or insurance premium properly payable by Mortgagor under the terms of this Mortgage, shall be secured hereby and shall be due and payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate and shall not cure the default herein described nor shall it in any manner impair Mortgagee's right to the appointment of a receiver on account thereof. Upon the happening of any such acts of waste and on proper application made therefore by Mortgagee to a court of competent jurisdiction, Mortgagee shall forthwith be entitled to seek the appointment of a receiver of the Mortgaged Property hereby mortgaged and of the earnings, income, issues and profits thereof, with such powers as the court making such appointment shall confer; Mortgagor hereby irrevocably consents to such appointment.

8. **Reimbursement:** In the event that Mortgagee is made a party to any suit or proceedings by reason of the interest of Mortgagee in the Mortgaged Property, other than for Mortgagee's default, Mortgagor shall reimburse Mortgagee for all costs and expenses, including reasonable attorneys' fees, incurred by Mortgagee in connection therewith. All such amounts incurred by Mortgagee hereunder shall be secured hereby and shall be payable by Mortgagor to Mortgagee forthwith on demand, with interest thereon at the Default Rate. Mortgagor hereby assigns to Mortgagee, in their entirety, all judgments, decrees, and awards for injury or damage to

the Mortgaged Property and Mortgagor authorizes Mortgagee, at its sole election, to apply the same, or the proceeds thereof, to the Obligations hereby secured in such manner as Mortgagee may elect.

9. **Condemnation:** In the event of the taking of all or any portion of the Mortgaged Property in any proceedings under the power of eminent domain, the entire award rendered in such proceedings shall be paid to Mortgagee, to be applied toward reimbursement of all costs and expenses of Mortgagee in connection with said proceedings, toward the payment of all amounts payable by Mortgagor to Mortgagee hereunder, and at Mortgagee's election, used in any one or more of the following ways: (a) apply the same or any part thereof upon the Obligations secured hereby, whether such Obligations are then matured or unmatured; (b) use the same or any part thereof to fulfill any of the covenants contained herein as Mortgagee may determine; (c) use the same or any part thereof to replace or restore the Mortgaged Property to a condition satisfactory to Mortgagee; or (d) release the same to Mortgagor.

10. **Rents/Profits:**

(a) As additional security for the payment of the Obligations, insurance premiums, taxes and assessments, at the time and in the manner herein agreed, and for the performance of the covenants and agreements herein contained, pursuant to Act 210 of the Public Acts of Michigan of 1953, as amended, Mortgagor does hereby assign, transfer and set over unto Mortgagee herein, its successors and assigns, all of its right, title and interest to the rents, profits and income under any lease or leases of the Mortgaged Property (including any extensions, amendments or renewals thereof), whether due or to become due, including all such leases in existence or coming into existence during the period this Mortgage is in effect. This assignment of rents shall run with the land and be good and valid as against Mortgagor herein or those claiming by, under or through Mortgagor, from the date of the recording of this instrument. This assignment shall continue to be operative during the foreclosure or any other proceedings taken to enforce this Mortgage. In the event of a sale or foreclosure which shall result in a deficiency, this assignment shall stand as security during the redemption period for the payment of such deficiency. This assignment is given as collateral security only and shall not be construed as obligating Mortgagee to perform any of the covenants or undertakings required to be performed by Mortgagor contained in any such assigned leases. Mortgagor represents and warrants to Mortgagee that it has not assigned, transferred or set over the rents, profits and income under any lease or leases of the Mortgaged Property except in favor of Mortgagee.

(b) Should an Event of Default exist, Mortgagor shall, upon demand therefor made by Mortgagee, deliver and surrender possession of the Mortgaged Property to Mortgagee (if permitted by law) who shall thereafter collect the rents and income therefrom, rent or lease said Mortgaged Property or portion thereof upon such terms and for such time as it may deem best, based upon commercially reasonable terms prevailing at that time, terminate any tenancy (subject to any subordination, attornment and non-disturbance agreement existing between Mortgagee and any tenant of the Mortgaged Property) and maintain proceedings to recover rents or possession of the Mortgaged Property from any tenant or trespasser, and apply the net proceeds of such rent and income to the following purposes:

- (i) preservation of Mortgaged Property;

- (ii) payment of taxes;
- (iii) payment of insurance premiums;
- (iv) payment of installments of interest due under the terms of the Note; or
- (v) payment of the outstanding principal balance due under the Note.

(c) In the event that Mortgagor fails, refuses or neglects to deliver or surrender such possession, Mortgagee shall be entitled to seek the appointment of a receiver of the Mortgaged Property and of the earnings, income, issue and profits thereof, with such powers as the court making such appointment may confer.

(d) The provisions of this Section 10 are not intended to evidence an additional recordable event, as may be prohibited by Act 459 of the Public Acts of Michigan of 1996, but rather are included in this Mortgage for purposes of complying with any applicable requirements of Act 210 of the Public Acts of Michigan of 1953, as amended.

11. **Default:** Should an Event of Default exist beyond any applicable notice and cure period set forth in the Loan Agreement, then Mortgagee may at any time after such Event of Default, and without further notice, declare the principal balance of the Note secured hereby, together with interest thereon and all other Obligations, to be due and payable immediately. The commencement of proceedings to foreclose this Mortgage shall, in any event, be deemed to have occurred upon such declaration.

12. **Title History:** Should an Event of Default exist, Mortgagee may cause the title insurance policy of the Mortgaged Property to be updated or extended, or may procure new or updated title insurance policies in case none were left or kept on deposit with said Mortgagee, and the money so paid shall be a lien on said Mortgaged Property added to the amount secured by this Mortgage and payable forthwith with interest thereon at the Default Rate.

13. **Acceleration:** If foreclosure proceedings of any mortgage (other than the within Mortgage) or any lien of any kind should be instituted against the Mortgaged Property and such proceedings are not either discontinued or bonded in accordance with statutory procedures so as to remove the lien from the real estate records and by a company satisfactory to Mortgagee or title insured (to the satisfaction of Mortgagee, in its reasonable discretion), by the title insurance company insuring this Mortgage, within thirty (30) days, or if any other proceedings, either voluntary or involuntary, are instituted by or against Mortgagor or its successors in title to enforce payment or liquidation of its outstanding obligations, Mortgagee may, at its option and without notice (notwithstanding any provisions to the contrary in the Loan Agreement), immediately declare its lien and the Obligations which it secures due and payable and institute such proceedings as may be necessary to protect its interest in the Mortgaged Property.

14. **Disposition of Property:**

(a) Power is hereby granted to Mortgagee, if an Event of Default exists, to grant, bargain, sell, release and convey the Mortgaged Property at public auction or venue, and on such

sale to execute and deliver to the purchasers, his, her, its or their heirs, successors and assigns, good ample and sufficient deed or deeds of conveyance in law, pursuant to the statute in such case made and provided, and to apply the proceeds of such sale in the manner hereinafter provided.

(b) Upon a foreclosure sale of said Mortgaged Property or any part thereof, the proceeds of such sale shall be applied in the following order:

- (i) To the payment of all costs of the suit or foreclosure, including reasonable attorneys' fees and the cost of title searches and abstracts;
- (ii) To the payment of all other expenses of Mortgagee, including all monies expended by Mortgagee and all other amounts payable by Mortgagor to Mortgagee hereunder, with interest thereon;
- (iii) To the payment of the principal and interest of the Note secured hereby; and
- (iv) To the payment of the surplus, if any, to Mortgagor or to whosoever shall be entitled thereto.

(c) Upon any foreclosure sale of the Mortgaged Property, the same may be sold either as a whole or in parcels, as Mortgagee may elect, and if in parcels, the same may be divided as Mortgagee may elect, and at the election of Mortgagee may be offered first in parcels and then as a whole, that offer producing the highest price for the entire Mortgaged Property to prevail, any law, statutory or otherwise, to the contrary notwithstanding, and Mortgagor hereby waives the right to require any such sale to be made in parcels or the right to select such parcels.

15. **Future Assurances:** At any time and from time to time, upon reasonable request of Mortgagee, Mortgagor will make, execute and deliver or cause to be made, executed and delivered to Mortgagee and where appropriate will cause to be recorded and/or filed and from time to time thereafter to be re-recorded and/or filed at such time and in such offices and places as shall be reasonably required by Mortgagee, any and all such other and further mortgages, instruments of further assurance, certificates, financing statements, and other documents as may, in the reasonable opinion of Mortgagee or its counsel, be necessary or reasonably desirable in order to effectuate, complete and perfect and to continue and preserve the obligation of Mortgagor under this Mortgage, and the lien of this Mortgage as a lien of the priority herein set forth upon all the Mortgaged Property and Equipment, except at hereinabove stated, whether now owned or hereinafter acquired by Mortgagor and wheresoever located. Upon any failure by Mortgagor so to do, Mortgagee may execute, record, file, re-record and refile any and all such mortgages, instruments, certificates, financing statements, and documents for and in the name of Mortgagor, and Mortgagor hereby irrevocably appoints Mortgagee the agent and attorney-in-fact of Mortgagor so to do so long as such documents do not expand Mortgagor's obligations under this Mortgage, the Loan Agreement or Loan Documents. Any expenses of Mortgagee in connection therewith shall be added to the Obligations of Mortgagor and shall be secured hereby. None of the foregoing additional instruments to be executed by Mortgagor shall increase the obligations or liabilities of Mortgagor hereunder, under the Note, the Loan Agreement or any other Loan Document.

16. **Cumulative Rights and Remedies:** Each and every of the rights, remedies and benefits provided to Mortgagee herein shall be cumulative and shall not be exclusive of any other of said rights, remedies or benefits, or of any other rights, remedies or benefits allowed by law, and may be exercised either successively or concurrently. Any waiver by Mortgagee of any default hereunder or any Event of Default shall not constitute a waiver of any similar or other default or Event of Default.

17. **Alienation; Due on Transfer:** Mortgagee in making the loan evidenced by the Note secured by this Mortgage is relying upon the integrity of Mortgagor and its undertaking to maintain the Mortgaged Property. If Mortgagor should sell, transfer, convey, assign or further encumber its interest in the Mortgaged Property, or any part thereof, voluntarily or involuntarily, or should there be a change of the members of Mortgagor, or should there be a change in the ownership or control of any member of Mortgagor, whether by transfer, sale, pledge or assignment, whether voluntarily or involuntarily, Mortgagee shall have the right in its sole option thereafter to declare all sums and the Obligations secured hereby and then unpaid to be due and payable forthwith although the period limited for the payment thereof shall not then have expired, anything contained to the contrary hereinbefore notwithstanding, and thereupon to exercise all of its rights and remedies under this Mortgage.

18. **Binding Effect:** All of the covenants and conditions hereof shall run with the land and shall be binding upon the successors and assigns of Mortgagor, and shall inure to the benefit of the successors and assigns of Mortgagee; any reference herein to "Mortgagee" shall include the successors and assigns of Mortgagee.

19. **Terms:** All nouns, pronouns and relative terms relating to Mortgagor and Mortgagee shall be deemed to be masculine, feminine or neuter, singular or plural, as the context may indicate. If Mortgagor consists of more than one person, their liability hereunder shall be joint and several. The term "**Event of Default**" shall have the meaning attributed to it in the Loan Agreement.

20. **Power of Sale:** WARNING. THIS MORTGAGE CONTAINS A POWER OF SALE, AND, UPON AN EVENT OF DEFAULT, MAY BE FORECLOSED BY ADVERTISEMENT. IN FORECLOSURE BY ADVERTISEMENT, NO HEARING IS INVOLVED AND THE ONLY NOTICE REQUIRED IS TO PUBLISH NOTICE IN A LOCAL NEWSPAPER AND TO POST A COPY OF THE NOTICE ON THE MORTGAGED PROPERTY.

21. **Waiver:** IF THIS MORTGAGE IS FORECLOSED BY ADVERTISEMENT, MORTGAGOR HEREBY VOLUNTARILY INTELLIGENTLY AND KNOWINGLY WAIVES ALL RIGHTS, UNDER THE CONSTITUTION AND LAWS OF THE STATE OF MICHIGAN AND CONSTITUTION AND LAWS OF THE UNITED STATES, TO ALL NOTICE AND TO ANY HEARING INITIATED BY MORTGAGEE IN CONNECTION WITH THE ABOVE MENTIONED FORECLOSURE BY ADVERTISEMENT, EXCEPT AS SET FORTH IN THE MICHIGAN STATUTE PROVIDING FOR FORECLOSURE BY ADVERTISEMENT.

22. **Non-Pledge:** Mortgagor will not, without the prior written consent of Mortgagee, mortgage or pledge as security for any other loans obtained by Mortgagor, the Mortgaged Property.

If any such mortgage or pledge is entered into without the prior written consent of Mortgagee, the entire Obligations secured hereby, may, at the option of Mortgagee, be declared immediately due and payable without notice. Further, Mortgagor also shall pay any and all other obligations, liabilities or debts which may become liens, security interest, encumbrances upon or charges against the Mortgaged Property for any repairs or improvements that are now or may hereafter be made thereon, and shall not, without Mortgagee's prior written consent permit any lien, security interest, encumbrance or charge of any kind to accrue and remain outstanding against the Mortgaged Property or any part thereof, or any improvements thereon, irrespective of whether such lien, security interest, encumbrance or charge is junior to the lien of this Mortgage unless bonded in accordance with applicable statutory provisions so as to remove the same from the real estate records or title insured by the title insurance company insuring the within Mortgage. Notwithstanding the foregoing, if any Personal Property of Mortgagor by way of additions, replacements or substitutions is hereafter purchased and installed, affixed or placed by Mortgagor on the Premises under a security agreement the lien or title of which is superior to the lien created by this Mortgage, all the right, title and interest of Mortgagor in and to any and all such Personal Property, together with the benefit of any deposits or payments made thereon by Mortgagor shall nevertheless be and are hereby assigned to Mortgagee and are covered by the lien of this Mortgage.

23. **Security Agreement and Financing Statements:** Mortgagor (as Debtor) hereby grants to Mortgagee (as Creditor and Secured Party) as security for the payment of the Note and all other sums secured by this Mortgage, a security interest in all the Equipment and Personal Property and any other Collateral owned by Mortgagor described elsewhere in this Mortgage or in the Loan Agreement.

Mortgagor shall execute any and all such documents, including without limitation, financing statements pursuant to the Uniform Commercial Code of the State of Michigan, as Mortgagee may reasonably request, to perfect, preserve and maintain the priority of the lien created hereby on property which may be deemed personal property or fixtures, and shall pay to Mortgagee on demand any reasonable out-of-pocket expenses incurred by any such Mortgagee in connection with the preparation, execution and filing of documents. Mortgagor hereby authorizes and empowers Mortgagee to execute and file, on Mortgagor's behalf, all financing statements and refilings and continuations thereof as Mortgagee deems necessary or advisable to create, preserve and protect said lien. This Mortgage shall be deemed a security agreement as defined in said Uniform Commercial Code and the remedies for any violation of the covenants, terms and conditions of the agreements herein contained shall be cumulative and (i) as prescribed herein, or (ii) by general law, or (iii) as to such part of the security which is also reflected in said financing statement by the specific statutory consequences now or hereafter enacted and specified in the Uniform Commercial Code, all at Mortgagee's sole election.

24. **Construction Mortgage:** The within Mortgage is a construction mortgage pursuant to Article 9 of the Michigan Uniform Commercial Code and secures the construction loan from Mortgagee to Mortgagor to provide Mortgagor with funds to renovate the Building on the Premises and construct an additional building on the Premises.

25. **Fixture Filing Provisions:** If the security agreement described above covers goods which are or are to become fixtures, then this Mortgage shall be effective as a financing statement filed as a fixture filing from the date of the recording hereof. In connection therewith and for the

purposes of Article Nine of the Michigan Uniform Commercial Code, (a) Mortgagor is the “debtor” and is a limited liability company organized under the laws of the State of Michigan, (b) the organization number assigned debtor by the State of Michigan in which debtor is organized is 726989, (c) Mortgagee is the “secured party”, (d) information concerning the security interest created hereby may be obtained from Mortgagee at its address set forth on page 1 of this Mortgage, (e) Mortgagor’s mailing address is set forth on page 1 hereof; and (f) the financing statement is to be recorded in the real property records for the county in which the Mortgaged Property is located.

26. **Future Advances:** This Mortgage secures the payment of all obligations of Mortgagor to Mortgagee, its successors or assigns, arising out of or in connection with the Obligations, howsoever created, arising or evidenced, whether direct or indirect, absolute or contingent or now or hereafter existing or due or to become due, including without limitation of the generality of the foregoing, future advances.

27. **Second Mortgage:** Anything contained in this Mortgage to the contrary notwithstanding, this Mortgage is subject to, and only to, a first mortgage executed by Mortgagor in favor of Mortgagee dated of even date herewith, given to secure a promissory note executed by Mortgagor in favor of Mortgagee in the principal amount of Seven Million and 00/100 Dollars (\$7,000,000.00) (the “**Senior Mortgage**”) and the Permitted Encumbrances. Any default by Mortgagor under the Senior Mortgage shall be deemed a default under this Mortgage. This Mortgage, and the rights of the Mortgagee, are subject to the prior rights of the Mortgagee under the Senior Mortgage.

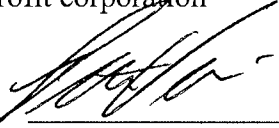
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SIGNATURE PAGE TO CONSTRUCTION MORTGAGE
(SUBORDINATE LOAN)

IN WITNESS WHEREOF, this Mortgage is executed the day and year first above written.


MORTGAGOR:

WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE, a Michigan nonprofit corporation

By: 
Peter Vandersluis
Its: Board President

STATE OF MICHIGAN)
) ss
COUNTY OF KENT)

The foregoing instrument was executed before me this 9th day of March, 2015, by Peter Vandersluis, the Board President of **WEST MICHIGAN ACADEMY OF ENVIRONMENTAL SCIENCE**, a Michigan nonprofit corporation, on behalf of said nonprofit corporation.


LYNN CARLON, Notary Public
State of Michigan, County of OTTAWA
My Commission Expires: 6/7/2016
Acting in the County of KENT

DRAFTED BY AND WHEN
RECORDED RETURN TO:

Danielle Graceffa
Dykema Gossett PLLC
400 Renaissance Center
Detroit, Michigan 48243

EXHIBIT "A"

LEGAL DESCRIPTION OF PREMISES

Real estate situated in the City of Walker, County of Kent, State of Michigan, described as follows:

PARCEL A:

The East 1/2 of the Northeast 1/4 of the Southwest 1/4; and also the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the East 50 feet thereof, AND ALSO EXCEPT commencing on the North right-of-way line of Leonard Street (66.00 feet wide) at its intersection with the West right-of-way line of Wilson Avenue (100.00 feet wide) (a/k/a S.T.L. M-11); thence North along the West right-of-way line of Wilson Avenue 20.00 feet; thence Southwesterly to a point on the North right-of-way line of Leonard Street which is 20.00 feet West of the place of beginning; thence East along the North right-of-way line of Leonard Street 20.00 feet to the place of beginning.

PARCEL B:

The Southeast 1/4 of the Southwest 1/4 of Section 18, Town 7 North, Range 12 West, Kent County, Michigan, EXCEPT the Southeast 1/4 of the Southeast 1/4 of the Southwest 1/4, AND ALSO EXCEPT the East 50.00 feet thereof.

Tax Item No. 41-13-18-300-018

Commonly known as: 4463 Leonard Street NW, Walker, Michigan 49534

EXHIBIT "B"

PERMITTED ENCUMBRANCES

1. Liens for taxes and assessments which are not yet due and payable.
2. Right of Way in favor of Consumers Power Company and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 52 MR, page 478.
3. Release of Right of Way in favor of State Highway Commissioner of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 723, page 430.
4. Release of Right of Way in favor of State Highway Commissioner of the State of Michigan and the Covenants, Conditions and Restrictions contained in instrument recorded in Liber 766, page 588.
5. The Senior Mortgage from Mortgagor in favor of Mortgagee of even date herewith.
6. Any rights, title interest or claim thereof to that portion of the land taken, used or granted for streets, roads or highways.
7. The following matters as disclosed by survey dated November 18, 2014, last revised January 16, 2015, prepared by Roosien & Associates, being Job No. 141280:
 - a. Overhead lines crossing property and property lines.
 - b. Light poles, transformers, phone risers, hydrant, and concrete water chamber on property.
 - c. Metal framed storage tent and concrete pad encroaches from the North.
 - d. Building encroaches into setback line.