34-16-05

MUB NORTHSIDE
ACCESS RAMP

April 25, 2017 Bidding
MUB NORTH SIDE ACCESS RAMP
34-16-05

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INVITATION TO BID
MICHIGAN TECHNOLOGICAL UNIVERSITY
HOUGHTON, MICHIGAN 49931

PROJECT:
MUB Northside Access Ramp
Michigan Technological University Project #34-16-05

PREBID MTG:
A mandatory Pre-Bid Walk-Through for interested General Contractors will be held at 2 PM (eastern time) on Wednesday, May 3, 2017, at the University Memorial Union Building (MUB), North entrance of the building. Others are also welcome to attend.

DUE DATE:
The Owner will receive sealed proposals for the work as herein set forth until 2 PM. local time on Thursday, May 11, 2017, at the offices of:

Ms. Penny Foetisch
Facilities Management
100 Facilities Building - Waterfront
1400 Townsend Drive
Michigan Technological University
Houghton, MI  49931

at which time and place all proposals will be publicly opened and read aloud.

DOCUMENTS:
Bidding documents consisting of proposal forms, plans, specifications, and other pertinent data can be viewed and downloaded from the Facilities Management web site at the following address:  http://www.mtu.edu/facilities/planning/bids/
Please call Project Architect Jake Guter at 906-487-2714 if you have technical questions.

PROPOSAL GUARANTEE:
All bidders submitting bids in excess of $50,000 must provide a certified check or bank draft payable to Michigan Technological University, or a satisfactory Bid Bond executed by the Bidder and surety company, in an amount equal to but not less than five percent (5%) of the maximum proposal amount.

CONTRACT SECURITY:
The successful bidders will be required to furnish a satisfactory performance bond and labor and material payment bond in amounts each of one-hundred percent (100%) of the accepted bid.

EQUAL EMPLOYMENT OPPORTUNITY:
All bidders shall comply with current Federal and State Equal Employment Opportunity requirements.

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer, which includes providing equal opportunity for protected veterans and individuals with disabilities.

This Project is a Prevailing Wage Project under the State of Michigan requirements.

Michigan Technological University reserves the right to reject any or all bids and to waive any informality or irregularity in any bid received.
Ms. Penny Foetisch  
Facilities Management  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI  49931-1295

The Project involves construction of a new cast-in-place concrete ramp at the NE corner of the University Memorial Union Building (MUB), on the exterior of the building. The ramp is approximately 50 ft long, and also includes a pipe and stainless steel cable railing system.

Having carefully read the specifications and drawings dated April 25, 2017 for Michigan Technological University MUB Northside Access Ramp Project, the undersigned agrees to perform the work in accordance with the Contract Documents and the proposed schedule for Project No. 34-16-05.

Firm Name:__________________________________________________________________________

Our **lump sum base bid price** to furnish and install all materials complete is:

$________________________________________  (Bid price in numbers and words)

Bidder acknowledges receipt of the following addenda:

Addendum No. __________________________  Dated: __________________________
Addendum No. __________________________  Dated: __________________________
Addendum No. __________________________  Dated: __________________________

Contractor:______________________________________________________________

Name:_________________________________________________________  Date: ____________  
(Signature)

Name:_________________________________________________________  
(Print)

Title:____________________________________________________________

Contact Information (Phone and email):_____________________________________

Sealed proposals will be received at Facilities Management, Bldg. 44, on the waterfront of Michigan Technological University, Houghton, Michigan until 2:00 PM on **May 11, 2017**.
This Agreement, is authorized and made to be effective as of this ________, 2017 between Michigan Technological University, a Michigan constitutional corporation located in Houghton, Michigan, (the “University”) and _____________, (the “Contractor”), a corporation located in ______________, for contract services to be provided by the Contractor to the University for, and in connection with, the following described project located at the University’s campus in Houghton, Michigan. The Contractor and the Owner, agree as follows:

ARTICLE 1 - THE CONTRACT DOCUMENTS:

The Contract Documents consists of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Specifications, Construction Plans/Drawings, etc. as listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents other than Modifications, appears in Article 6.

ARTICLE 2 - SCOPE OF THE WORK:

The Contractor shall furnish all of the materials and perform all of the Work shown on the Drawings and described in the Specifications for 34-16-05 MUB Northside Access Ramp, prepared by Michigan Technological University Facilities Management and dated April 25, 2017

The Project involves construction of a new cast-in-place concrete ramp at the NE corner of the University Memorial Union Building (MUB), on the exterior of the building. The ramp is approximately 50 ft long, and also includes a pipe and stainless steel cable railing system.

ARTICLE 3 – SCHEDULE

The Work to be performed under this Contract shall begin June 5, 2017 or Date of Notice to Proceed and shall be substantially completed on or before the Completion Date, June 30, 2017

ARTICLE 4 - PROGRESS PAYMENTS:

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Michigan Tech University, 1400 Townsend Dr., Houghton, MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project:</td>
<td>MUB Northside Access Ramp</td>
</tr>
<tr>
<td>Project #:</td>
<td>34-16-05</td>
</tr>
<tr>
<td>Contract for:</td>
<td>General Construction</td>
</tr>
<tr>
<td>Contractor:</td>
<td></td>
</tr>
<tr>
<td>Contract Start Date:</td>
<td>June 5, 2017 or Date of Notice to Proceed</td>
</tr>
<tr>
<td>Contract Completion Date:</td>
<td>June 30, 2017 or Date of Final Payment</td>
</tr>
</tbody>
</table>

34-16-05 / MUB North Side Access Ramp 00 52 00 - 1 DRAFT AGREEMENT
Michigan Tech shall make payments as provided in Articles 1.2.14 of the General Requirements (2015) and 012900 Payment Procedures and conditions set forth and agreed upon herein:

Based upon Applications for Payment submitted to Michigan Tech by the Contractor and Certificates for Payment by Michigan Tech, Michigan Tech shall make payments on the Total Contract Amount to the Contractor as provided below and elsewhere in the Contract Documents.

The period covered by each Application for Payment shall be one month ending on the last day of each month.

Each Application for Payment and Conditional Waiver and Release on Progress Payment shall be based upon schedule of values consistent with format of AIA Documents G702, G703. The schedule of values (G703) shall allocate the entire Total Contract Amount among the various portions of the Work and supported by such data to substantiate its accuracy as Michigan Tech may require. This schedule of values, unless objected to by Michigan Tech, shall be used as a basis for reviewing the Contractor's Application for Payment.

Applications for Payment shall indicate the percentage of completion of each portion of Work as of the end of the period covered by the Application for Payment. The amount of each Application for Payment (progress payment) shall be computed by:

1) Multiply the percentage complete of each portion of the work by the share of the Total Contract Amount allocated to that portion of the Work in the schedule of values, less retainage of ten (10%). Pending final determination of cost to Michigan Tech of changes in the Work, changes for amounts not in the dispute may be included per Section 1.2.8 of the General Requirements. The Total Contract Amount must be adjusted to reflect the changes in the Work by Change Order, then payment shall be allocated as to the completed portion of the Work in the adjusted schedule of values, less retainage of ten (10%).

2) The portion of the Total Contract Amount that is materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by Michigan Tech, suitably stored off the site at a location agreed upon in writing), may be included in the Application for Payment less retainage ten (10%).

3) Upon completion of 50% of the total project work, the retainage will be reduced to five percent (5%) of the amount completed to that point, and will remain at five percent (5%) for the remainder of the project.

4) The amount of the Application for Payment requested shall not include any previous payments made by Michigan Tech.

5) The amount of the Application for Payment requested shall not include any previous amounts that Michigan Tech has withheld or a nullified Application for Payment.
6) Michigan Tech shall review the Application for Payment and if acceptable, sign it; thus it will become a Certificate of Payment.

7) Provided Certificate of Payment is approved by Michigan Tech, Michigan Tech shall make payment to the Contractor not later than thirty (30) days after receipt of the Application for Payment.

ARTICLE 5 - ACCEPTANCE AND FINAL PAYMENTS:

Final Payment, constituting the entire unpaid balance of the Total Contract Amount, shall be made by Michigan Tech to the Contractor when (1) the Contract has been fully performed by the Contractor except for the Contractor’s responsibility to correct nonconforming Work as provided in Subparagraph 1.2.12. of the General Conditions and to satisfy other requirements, if any, which necessarily survive final payment; and (2) a Final Certificate for Payment has been issued by Michigan Tech.

1) The Contractor shall request in writing using the form that is included in the Specification, that Michigan Tech issue a notice of Substantial Completion. Upon receipt of written notice that the Work is ready for inspection and acceptance, Michigan Tech shall promptly inspect the Work.

2) If the Work has been Substantially Completed and accepted, Michigan Tech shall issue upon request by the contractor, a notice of Substantial Completion and a Final Completion Checklist as necessary. Upon completion of the Final Completion Checklist to the satisfaction of Michigan Tech, Michigan Tech shall complete a Certificate of Completion for the Work.

3) When Michigan Tech finds the work is sufficiently complete per the Final Completion Checklist and Contract Documents in their entirety, Michigan Tech shall promptly issue the Certificate of Final Completion that states that the Work provided in this Contract is complete, and that the Final Payment is due the Contractor, as noted in the Certificate of Substantial Completion. Final payment shall be due thirty (30) days after the Contract is fully performed.

ARTICLE 6 - THE CONTRACT DOCUMENTS:

The Contract Documents, together with this Agreement, form the Contract, and they are as fully a part of the Contract as attached:

- Specifications for the MUB Northside Access Ramp dated April 25, 2017 as listed in the Table of Contents
- Drawings for the MUB Northside Access Ramp dated April 25, 2017 as listed on the Cover Sheet.
- Addendums ____________

The Contractor’s signature on this Agreement indicates that the Contractor has read and will comply with each of these documents.

The **Contract Lump Sum** is as follows:
The amount shown below shall be both in words and in figures. In case of discrepancy, the amount shown in words shall govern.

| Contract Lump Sum: | $ |

IN WITNESS, WHEREOF, each of the parties has caused this Contract to be executed by its duly authorized representatives on the date first mentioned above.

FOR THE CONTRACTOR

____________________________________________/___________________
Signature          Date

Name and Title __________________________________________________________

FOR MICHIGAN TECHNOLOGICAL UNIVERSITY

_______________________________________Date______________________
Kerri Sleeman
Executive Director Facilities Management
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Overall Project Schedule for the 34-16-05 / MUB North Side Access Ramp.

1.02 RELATED REQUIREMENTS
   A. Section 01 10 00 - Summary: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.
   B. Section 01 20 00 - Price and Payment Procedures: Applications for payment, Schedule of Values, modifications procedures, closeout procedures.

1.03 SUBMITTALS
   A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
   B. Contractors Schedule: As soon as practical after award of the contract, the contractor shall develop their own project schedule indicating the steps needed to achieve the Owner’s overall Project Schedule. Submit to the Owner for review and approval.
      1. Maintain project schedule and update monthly. Submit updates to Owner with each pay request.

PART 2 SCHEDULE:
   A. Preliminary project schedule is as noted below. As soon as practical, but no later than 10 days after starting the work, the Contractor shall issue their own schedule indicating how the work will be done to meet the Preliminary schedule.
      b. June 30, 2017: Project substantially complete, punch list walkthrough completed.

PART 3 EXECUTION

3.01 MAINTAINING OVERALL PROJECT SCHEDULE
   A. It is critical to the Owner that the overall project schedule be maintained. There is other work being started on campus in July that requires the use of the drive area adjacent to the ramp.

3.03 ATTACHMENTS - NONE

END OF SECTION
1. INSTRUCTION TO BIDDERS

1.1. PREPARATION OF PROPOSALS: All proposals shall include supplying all materials, equipment, and labor, and shall be submitted on the attached proposal form. The forms are to be filled out in ink or typewritten, with the bidder's authorized agent's signature in longhand. Each proposal shall be delivered in an opaque sealed envelope marked with the project name, Bid No., and bidders name.

1.2. BID FORM: No telephonic, telegraphic or digital facsimile (FAX) bid or telephonic, telegraphic or digital facsimile (FAX) modification of a bid will be considered. No bids received after the time fixed for receiving them will be considered. Late bids will be filed unopened.

1.3. BID GUARANTEE: Each proposal for which the base bid exceeds $50,000.00 shall be accompanied by either a certified or cashier's check on an open, solvent bank or a bid bond with an authorized surety company in the amount of 5% of the base bid, payable to Michigan Technological University, as a guarantee of good faith. If the successful bidder fails to furnish satisfactory bonds and insurance as required by the General Conditions within 7 days after notice of award, such guarantee shall be forfeited to the Owner as liquidated damages and the Owner shall be entitled at its sole option to immediately cancel, revoke, withdraw, or rescind its award. The guarantees of the three lowest bidders will be retained until the bond and insurance of the Contractor have been approved by the University. The guarantees of all other bidders will be returned within 10 days after the bid opening.

1.4. REJECTION OR WITHDRAWAL: The Owner reserves the right to accept or reject any or all proposals, in whole or in part, and also herein reserves the right to waive any informalities or irregularities in any or all proposals and to make such award as it deems, in its sole discretion, to be in the best interest of the Owner. No bid may be withdrawn within 60 days after opening date without forfeiting bid security.

1.5. CONTRACT: Upon acceptance of any proposal by the Owner, a purchase order will be issued incorporating the accepted proposal and upon the Contractor furnishing satisfactory proof of compliance with all bond and insurance requirements will constitute the Contract. The Contract shall not be binding upon the Owner until the Contractor has furnished the Owner's Facilities Management Department satisfactory certification of compliance with the insurance and bond requirements under General Conditions and the Owner may withdraw or cancel its purchase order at any time prior to receipt of all such certifications.

1.6. TAXES: The Contractor shall include all applicable Michigan sales and use taxes currently imposed by Legislative enactment and as administered by the Michigan Department of Treasury, all applicable local or state permit, license or inspection fees, and all Federal taxes or fees applicable, and no additional payment over and above the bid amount shall be allowed for the same.

1.7. GENERAL REQUIREMENTS

1.8. DEFINITIONS

UNIVERSITY OR OWNER - Michigan Technological University
EXECUTIVE DIRECTOR OF FACILITIES MANAGEMENT – Kerri A. Sleeman

34-16-05 / MUB North Side
Access Ramp
01 00 00 - 1
04/25/2017

DIRECTOR OF ENGINEERING SERVICES - Gregg Richards
CONTRACTOR - The Bidder whose proposal is accepted by the University.
CONTRACT DOCUMENTS - This document, a purchase order, drawings, and specifications.

1.2. CONFLICT AND OMISSIONS: The intent of the Contract Documents is to provide everything necessary for the proper execution of the work. In case of conflict or ambiguity in the Contract Documents the Contractor shall immediately notify the Director of Engineering Services and the work shall not proceed until a decision has been agreed upon by all parties concerned. Any adjustment or interpretation by the Contractor without such agreement shall be at his own risk and expense. No work stoppage by the Contractor will extend the time for completion.

1.2.1. ROYALTIES, PATENTS, NOTICES, AND FEES: The Contractor shall give all notices and pay all royalties and fees, shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, and shall comply with all laws, ordinances, and codes applicable to any portion of the work.

1.2.2. EXAMINATION OF PREMISES: The Contractor shall become familiar with local and on-site conditions affecting the job and the cost thereof, shall take independent measurements and make an examination and determination of all physical conditions affecting the work, and be responsible for the correctness of same, even if they differ from those anticipated or indicated in the Contract. The Contractor shall be held to have made such examinations prior to bid submission and no allowances will be made in his behalf nor will any additional expenses be recoverable by reason of any error, omission, or misunderstanding on the part of the Contractor even if such actual conditions differ from those anticipated or indicated in the Contract. If any part of the Contractor's work depends for proper results upon existing work or the work of another contractor the Contractor shall examine such work and notify, before commencing work, the Director of Engineering Services of all defects or conditions that will affect the results. Failure to so notify will constitute acceptance of the conditions and render the Contractor responsible and liable for the results of any such defects or conditions which would have been revealed by complete examination and testing.

1.2.3. MOVING MATERIALS: If at any time it becomes necessary for the operation of the University to move materials temporarily located which are to enter into the final construction the Contractor furnishing the material shall, when so directed and without expense to the Owner, move them to another location.

1.2.4. MATERIALS AND WORKMANSHIP: All materials and workmanship shall be first-class in every respect and, unless otherwise specified, all materials and equipment shall be new and of the latest design. Should any disputes arise as to the quality and fitness of workmanship, equipment, materials or items, the decisions shall rest strictly with the University, and shall be based upon the requirements of the Contract Documents. The Contractor shall, if requested by the University, furnish evidence as to kind and quality of materials, at no additional cost to the University.

1.2.5. EMPLOYEES AND SUPERINTENDENCE: The Contractor shall enforce good order among his employees and shall not employ on the work any negligent, disorderly, intemperate or unfit person or any anticipated or indicated in the work assigned. All work shall be performed in a skillful and workmanlike manner. The Contractor, or an authorized
representative, shall be at the site at all times, and shall have the plans and specifications available.

1.2.8. EXTRA WORK AND CHANGES IN WORK: The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract sum being adjusted accordingly. All such work shall be executed under the conditions of the original contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Owner shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or changes shall be made unless in pursuance of a written order from the Owner and no claim for an addition to the Contract sum shall be valid unless as ordered.

When so directed, the Contractor shall promptly submit his itemized estimate and proposal for such extra work or changes, as well as separate unit prices on work for both additions to and deductions from the Contract.

Adjustments in the Contract sum for any such extra work or change shall be determined by one or more of the following methods:

Method Number 1: By an acceptable estimate and lump sum proposal from the Contractor.

Method Number 2: By unit prices stated in the Contract or subsequently agreed upon.

Method Number 3: By actual cost of all labor and materials and a percentage or fixed fee for all other charges, such as overhead, profit, insurance, taxes and bonds. On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

If none of the foregoing methods is agreed upon, the Contractor, upon receipt of an order as hereinbefore stated, shall proceed with the work. In such case and also under Method Number 3, the Contractor shall keep and present in such form as the Owner may direct, a correct account of the cost, together with vouchers. In any case, the Owner shall certify to the amount including the specified allowance for overhead and profit, due the Contractor.

The allowable fee for added work by Contractor's own forces shall not exceed 15% of additional cost and his fee on work performed by Subcontractors shall not exceed 7 1/2% of additional cost. Quotations by Subcontractors at all times shall be subject to these same limitations.

1.2.9. OTHER CONTRACTS: The Owner may let other contracts in connection with the work and the Contractor shall properly connect and coordinate all work with the work of such other contractors. The Owner shall not be liable for any damages or increased cost occasioned by the failure of other contractors to execute their work as may be anticipated by these Contract Documents. No contractor shall commit any act which will interfere with the performance of the work by any other contractor.

1.2.10. INSURANCE: No work connected with this Contract shall be started until the Contractor has submitted evidence, satisfactory to the Owner, depicting insurance coverage in accordance with the following:

1. Worker's Disability Insurance

The Contractor shall procure and shall maintain, during the life of this contract, Worker's Disability Insurance in work on the project under this Contract. In case any such work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Disability Insurance for all of the latter's employees engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Disability Insurance. In case any class of employees engaged in hazardous work on the project under this Contract is not protected under the Worker's Disability Statute, the Contractor shall provide and shall cause each Subcontractor to provide Employer's General Liability Insurance for the protection of all such employees not otherwise protected.

2. General Liability Insurance

The Contractor shall carry, from the beginning of this Contract until completion of the same, general liability in the amount of $1,000,000 for each occurrence and $2,000,000 aggregate.

3. Property Insurance

The Contractor shall carry, from the beginning of this Contract until completion of the same, $100,000 for each property accident other than the property covered by this Contract.

4. Builders' Risk Insurance

The Contractor will assume all risk of loss for the first $100,000 on any single occurrence of damage to property of Owner or any third party, including the subject of this contract. This may be effected by purchase of insurance or by self-insurance, and must be primary and non-contributory. The Owner will assume all risk of loss for property damage in excess of $100,000 for any single occurrence.

5. Worker's Compensation/Employer's Liability

The Contractor shall carry, from the beginning of this Contract until completion of the same, Worker's Compensation Employer's Liability in accordance with Statutory required by the State and $500,000 per accident.

6. Automobile Liability

The Contractor shall carry, from the beginning of this Contract until the completion of the same, $1,000,000 in automobile insurance for each occurrence and the State Required Personal Injury Protection benefits.

Partial payments shall not relieve the Contractor from full responsibility for any claim which may result from any cause, including fire or any other casualty, until completion of the Contract and final payment. Any casualties shall not relieve the Contractor from performing the Contract.

Contractor will indemnify and hold harmless the University from...
and against all claims, judgements, liability and expense of any nature due to bodily injury, personal injury or damage to property arising out of, on account of or in connection with contractors (or any employee, subcontractor or agent of contractor) performance of the work or activity pursuant to the contract.

1.2.11. BONDS: The successful Contractor of a project for which the base bid exceeds $50,000.00 shall furnish in form and with sureties acceptable to the Owner, a performance bond and a labor and material bond, each in the amount of 100% of the Contract sum, as security for the faithful performance of all Work under the Contract, and payment of all charges in connection therewith. The cost of the aforesaid bonds shall be paid by the Contractor and included in the Contract Sum. No work connected with the Project shall be started until the Contractor has placed bonds, in proper form, on file with the University.

1.2.12. NONCOMPLIANCE WITH CONTRACT-TERMINATION: The Owner, at its option, may order suspension of the Work in whole or in part for such time as it deems necessary because of the failure of the Contractor to comply with the contractual requirements. The contract completion date shall not be extended on account of any suspension order by the Owner. In the event the Owner orders an suspension of the work, the Contractor shall not be entitled to any costs or damages resulting from such suspension; the Owner shall not in any manner be liable or responsible for such costs or damages. The rights of the Owner provided in this clause are in addition to any other rights or remedies provided under this Contract or by law.

In addition to all other rights and remedies contained herein, at or law or equity, the Owner may terminate this Contract when any default is not stopped immediately and corrected within a reasonable length of time after notification by the Owner. In the event of such termination the Owner may complete the contracted work and the Contractor and his surety will be liable for any excess cost occasioned by the Owner. In such case the Owner may take possession of and utilize in completing the work such necessary materials and equipment as may be on the Site.

1.2.13. GUARANTEE: The Contractor shall provide a written guarantee warranting all work under this Contract against faulty workmanship and deficient materials, and to make good, at his own expense and promptly upon request by the Owner, all such defective work and all damage to other work caused by such defective work, for 1 year from the date of signing of the Owner's Notice of Completion of Contract Work form. The provisions of this express warranty shall not affect or impair any of the Owner's rights under any other applicable, implied, or expressed warranties.

1.2.14. PAYMENT: Payment for the work will be made in one sum at the completion of the contract except that partial payments aggregating 90% of the value of the completed work may be made at monthly intervals. If the contractor expects to request partial payments he shall submit a schedule of costs and quantities of the various parts of the work aggregating the total contract sum. When applying for partial or full payments, the Contractor shall submit a statement based upon this schedule itemized and supported as the Director of Facilities Management may require and a Sworn Statement and Conditional Waiver and Release on Progress Payment setting forth the amounts due each subcontractor, supplier, and laborer.

The Contract will not be considered complete until the work has been finally accepted by the Director of Facilities Management and the following have been furnished: (1) the required guarantee, and (2) a sworn statement that all payrolls, material bills, and other indebtedness connected with the work have been paid, including such lien waivers as the M may request.

No presence, inspection, supervision, testing, or monitoring by the Owner or by any agent or representative thereof shall relieve the Contractor of responsibility for compliance with the terms of and performance pursuant to this Contract and the Contract Documents; nor shall any such conduct of the Owner or its agents or Representatives constitute or be interpreted as constituting a waiver of any rights whatsoever or serve to stop them from requiring full performance by the Contractor.

1.2.15. NON-DISCRIMINATION CLAUSE: In connection with the performance of work under this Contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, sex, height, weight, or marital status. The Contractor will take affirmative action to assure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, age, sex, height, weight, or marital status. Such action shall include, but not be limited to, the following: employment upgrading; demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, sex, height, weight, or marital status.

3. The Contractor or his collective bargaining representative will send, to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or worker's representative of the Contractor's commitments under this section.

4. The Contractor will comply with all published rules, regulations, directives, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended, which may be in effect prior to the taking of bids for any individual State project.

5. The Contractor will furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each Subcontractor as the Contractor himself, and said Contractor will permit access to his books, records, and accounts by the Michigan Civil Rights Commission, and/or its agent, for purposes of investigation to ascertain compliance with this Contract and with rules, regulations, and orders of the Michigan Civil Rights Commission relevant to Article 6, 1976 PA 453, as amended.

6. In the event that the Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this agreement, the Civil Rights
The Contractor will include, or incorporate by reference, Secure and pay for all permits, fees, and licenses required by the Owner's required use of the facilities and other contractors and (3) monthly, or as directed, to review the progress of work. At the time work is commenced on the project, the Contractor shall give all notices and comply with the rules, regulations, and orders of any public authority bearing on the performance of the work. The University retains full jurisdiction of construction on campus and will make final determination of all variances.

1.2.17. USE OF SERVICES: The Contractor may use the Owner's water and power by contacting Michigan Tech Facilities Management for arrangements.

1.2.18. SCHEDULING: The Contractor shall meet with the Director of Engineering Services as follows: (1) prior to the start of work; (2) to schedule any interruption of University services; and (3) monthly, or as directed, to review the progress of work.

At the time work is commenced on the project, the Contractor shall prepare a progress schedule showing the dates for the commencement and completion of the various stages of construction. This schedule shall be coordinated with the Owner's required use of the facilities and other contractors and shall be arrived at in consultation with the Director of Engineering Services and approved by all affected parties.

The Contractor shall furnish sufficient forces and construction plant and equipment to insure protection and progress of the work in accordance with the schedule.

Any changes in the work schedule are to be approved in advance by the Director of Engineering Services.

1.2.19. TEMPORARY CONSTRUCTION FACILITIES: All temporary construction facilities shall be neatly constructed and arranged on the Site in an orderly manner.

Suitable weather tight storage sheds, with raised floors, of capacity required to contain all materials which might be damaged by storage in the open shall be provided.

Construction equipment and other facilities such as ladders, ramps, etc., shall be strong, substantial, safe, and suitable for the purpose intended and shall comply with all University, Federal, State, and local requirements so as to maintain adequate and safe temporary access to all existing facilities. Temporary walkways, bridges, etc., shall be built with proper handrails, curbs, etc.

The Contractor will assume all risk of loss for any damage or destruction to the Contractor's temporary office, equipment, shanties, protective fence, scaffolding, staging, and all other miscellaneous materials and items owned or rented by the Contractor or any subcontractor used in the performance of this contract.

A temporary dust-proof enclosure of the work area, including existing machinery and equipment, must be erected and maintained throughout the length of the project where required in the various Divisions herein.

1.2.20. CLEANLINESS OF THE WORK: The work and any public or private property occupied by the Contractor shall be kept in a neat and orderly condition at all times. Waste materials, rubbish, and debris shall be removed daily.

At the completion of the work all the Contractor's temporary buildings, equipment, tools, surplus or waste materials, and rubbish of every nature shall be removed from all occupied public and private premises and such premises shall be restored, as nearly as practicable, to the original condition. Such restoration shall be subject to the approval of the Director of Engineering Services.

Debris removed from the site must be disposed of in a licensed landfill as required by the Solid Waste Management Act, 1978 PA 614, as amended, being MCLA 299.402; MSA 13.29(1) and the administrative rules applying to the Act contained in the Michigan Administrative Code R 299.4101. The Contractor shall provide the Director of Engineering Services with written, dated verification that all debris removed has been disposed of in a licensed landfill. Any cost incurred by the Owner as a result of the failure of the Contractor to comply with this paragraph will be a charge against the Contractor.

All exposed surfaces of the work shall be left clean and free from all mud, grease, stains, or other extraneous materials.

The streets and service roads occupied or used by the Contractor shall be continuously kept clean of waste materials and refuse resulting from the work operations. Should the Contractor be negligent in the duties of maintaining proper cleanliness, the Owner will take steps to cause the required cleaning to be done and will deduct the cost thereof from any monies due the Contractor.

The elevators, if used, shall not be overloaded and suitable protection for the walls, floor, and ceiling shall be provided during use. Any damage to the elevators must be repaired to the Facilities Management Manager of Planning, Engineering, and Construction satisfaction.

1.2.21. FIRE PROTECTION DURING CONSTRUCTION: The Contractor shall have on the Site at all times fire protection.
1. The materials, products, and equipment described in the Bidding Documents establish a standard of required function, performance, and quality to be met by any proposed substitution.

2. No substitution directly related to an “or equal” clause or similar language in the contract documents will be considered unless written request for approval has been submitted by the Bidder and has been received by the University at least ten days prior to the date for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance, and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment, or work that incorporation of the substitute would require shall be included. A burden of proof of the merit of the proposed substitute is upon the proposer. The University’s decision of approval or disapproval of a proposed substitution shall be final.

3. If the University approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

After receipt of bids, the University will consider a request for substitution only for the following reasons:

1. Products listed are no longer available.

2. Where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.

3. Where the specified product or method cannot receive necessary approval by a governing authority and the requested substitution can be approved.

4. Where a substantial advantage is offered to the University, in terms of cost, time, energy conservation, or other consideration of merit, after deducting offsetting responsibilities the University may be required to bear. These additional responsibilities may include such considerations as additional compensation to the Architect for redesign and evaluation services, the increased cost of other work by the University or separate contractors, and similar considerations.

5. When the specified product or method cannot be provided in a manner which is compatible with other materials of the work, and where the contractor certifies that the substitution will overcome the incompatibility.

6. When the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.

7. When the specified product or method cannot receive a warranty as required by the Contract Documents and where the Contractor certifies that the proposed substitution receive the required warranty.

1.2.25. SUBCONTRACTS: The Contractor shall, as soon as practicable after the execution of the contract, notify the Owner in writing of the names of proposed subcontractors for the work. If the Contractor submits a list of proposed subcontractors prior to the execution of the contract, the Owner must be notified in writing of any change of subcontractor after the contract is executed. The Contractor will not employ any subcontractor that the Owner may, within a reasonable time, object to as incompetent or unfit.

The Contractor agrees to be fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for persons...
directly employed by him.

Nothing contained in the contract documents shall create any contractual relationship between any subcontractor and the Owner.

Should material or workmanship, or parties furnishing same prove objectionable under the provisions of the contract, or should violations of the contract exist at the building or elsewhere, and continue after the contractor has received from the Owner a reasonable warning, then, upon request of the Owner, such objectionable parties shall be dismissed, removed, and excluded from the building or work. Such work shall be remedied and continued by others satisfactory to the Owner.

1.2.26. RELATIONS OF CONTRACTOR AND SUBCONTRACTOR: The Contractor agrees to bind every subcontractor and every subcontractor agrees to be bound by the terms of the Contract Documents as applicable to his work, unless specifically noted to the contrary in a subcontract approved in writing by the Owner.

1.2.27. UNIVERSITY RULES AND REGULATIONS: The Contractor shall comply with all laws, ordinances, rules, regulations, and orders of the Owner, and be responsible for and shall direct his employees to conduct themselves so as not to interfere with or disrupt the University educational activities. The Contractor, Subcontractors, and their employees and suppliers shall not use or interfere with the Owner's existing accesses, drives, walks, and roads except as specifically indicated or by prior arrangement with the Owner. The Contractor shall confine his activities, equipment, and personnel to the area within the construction limits, except for minor operations as noted and by prior arrangement with the permission of the Owner. Existing areas disturbed outside the scope of the work shall be restored to their original state.

1.2.28. PREVAILING WAGE: Rates of wages and fringe benefits to be paid to each class of mechanics employed by the contractor and all subcontractors, shall be not less than the wage and fringe benefit rates prevailing in the locality in which the work is to be performed. Every Contractor and Subcontractor shall keep an accurate record showing the name and occupation of, and the actual wages and benefits paid to each construction mechanic employed by him in connection with said contract. This record shall be available for reasonable inspection by the Michigan Department of Labor and the University. Contractor responsibilities under the law: Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract. Every contractor and subcontractor shall keep an accurate certified payroll record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection with said contract. This record shall be available for reasonable inspection by the contracting agent or the department. Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees. The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work. The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor. A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and training and the rate is included in the contract. Enforcement: A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the Wage and Hour Division. The department will investigate and attempt to resolve the complaint informally.

Executive Order Number 2003-001 requires that contractors doing business with the State of Michigan be in compliance with state and federal law. A violation of Act 166 of 1965, as amended, the Prevailing Wages on State Projects act or Act 390 of 1978, as amended, the Payment of Wages and Fringe Benefits Act, may result in the debarment of a contractor from being awarded a contract for the provision of goods and services to the State of Michigan for a period of up to eight (8) years.

1.2.29. COMPLIANCE WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS: Notwithstanding any other specific provision herein, contractor (and any subcontractor) shall, at its sole expense, comply with all applicable federal, state, local and other laws, ordinances, rules and regulations in any manner applicable to the performance of the work or contractors' activities in furtherance of or in connection with the work. Contractor will indemnify and hold harmless the University from and against any and all costs, claims, expenses or orders (including any penalties or fines assessed to University) incurred as a result of contractor's failure to comply or contractor's failure to perform any obligation imposed by the contract documents.
01 00 01 SUPPLEMENTARY GENERAL CONDITIONS

PART 1 PROTECTION - Contractor shall properly protect all new and existing work from damage. Proper safety provisions shall be made at all times for the protection of all persons and property. Contractor shall contact "Miss Dig" for all underground construction work as required by Michigan Public Act No. 53, 1974 and amended by P.A. 204, 1975.

PART 2 SHOP DRAWINGS

2.01 The Contractor shall submit for approval a complete list of items that will require shop drawings.

2.02 The Contractor shall check and verify all field measurements and submit; with such promptness as to cause no delay in the Contractor's or any other contractor's work; electronic versions, checked and approved, of all shop or setting drawings and schedules where such submissions are stipulated in the various Divisions herein.

2.03 The University will check, with reasonable promptness, such drawings and schedules only for conformance with design concept and compliance with information given in the Contract Documents. The drawings will be stamped by the University as follows:

"REVIEWED AND RELEASED" Indicates final action by the University and are released subject to meeting the requirements of the Contract Documents.

"REVIEWED AS NOTED & RELEASED" Deficiencies as marked indicate the drawings and schedules are subject to corrections, however deficiencies are such that resubmittal is not required and item is released subject to meeting the requirements of the Contract Documents.

"REVIEWED AS NOTED & RESUBMIT" Deficiencies as marked indicate the drawings and schedules are subject to corrections, however deficiencies are such that resubmittal is required. Item is released for shop drawing work only; item is released for corrections and resubmittal for final approval.

"REJECTED AND RETURNED" Submittal does not meet the requirements of the Contract Documents and is rejected. Resubmittal of item meeting the Contract Document is required.

2.04 The University's approval of such drawings shall not relieve the Contractor from the responsibility for deviations from drawings and specifications unless he has, in accompanying letter, called the University's attention to such deviation at the time of submission and secured written approval. University's approval shall not relieve the Contractor from responsibility for errors in shop drawings and schedules.

34-16-05 / MUB North Side
Access Ramp 01 00 01 - 1 SUPPLEMENTAL GENERAL CONDITIONS
04/25/2017
PART 3  DEFINITIONS

A. Furnish:  This term means procurement or fabrication of materials, equipment or components; or the performance of services to the extent indicated. Where used with respect to materials, equipment, or components, the term shall include delivery to and unloading at the Project site but is not intended to include the installation of the item, either temporary or final.

B. Install:  This term means the placement of materials, equipment, or components including the receiving, unloading, transporting, storage, and installing; and the performance of such testing and finish work as is compatible with the degree of installation specified.

C. Provide:  This term means to Furnish and Install, complete and in place, including all accessories, finishes, tests, and services as required to render the item so specified completely ready for use.

PART 4  AS-BUILT DRAWINGS - Each contractor shall record, legibly and to scale, all field change and deviations from the contract drawings as they occur. This record shall be kept on a set of contract drawings. This set of drawings shall be turned over to the University prior to final payment.

PART 5  OPERATION AND MAINTENANCE MANUALS: The Contractor shall provide complete operation and maintenance instructions, manuals, and other information for all architectural, electrical, mechanical, elevator equipment, and other systems installed and/or provided as part of the Work by the Contractor under the Contract. The Contractor shall furnish three complete sets of manuals bound in suitable quick release three ring binders. The intent of these manuals is that the University is provided with a complete operating and maintenance document for all significant systems, in a convenient, easy to use form.

PART 6  SCHEDULE OF VALUES: Within two weeks after start of job, the contractor shall provide the University with an itemized schedule of values for each division and major subdivision of work. The may be done on AIA form G703.

PART 7  DOCUMENT CLARIFICATION - All inquiries regarding project specifications and drawings shall be made to the Director of Engineering Services.

PART 8  CONTRACT COMPLETION – Construction work shall follow the construction schedule shown in Specification Section 00 60 00. Work on all buildings for this contract is expected to be completed on or before August 6, 2016.

PART 9  EQUAL EMPLOYMENT OPPORTUNITY – In order to qualify for award, bidders submitting bids in excess of $50,000.00 must be certified by the Department of Civil Rights for compliance with State of Michigan Equal Employment Opportunity requirements. (Contract Compliance Team may be contacted at MDCR-CCT@michigan.gov or by phone at (313)456-3823. A copy of the bidder's valid certificate of compliance or awardability shall be submitted by the successful bidder prior to award of contract.

PART 10  ASBESTOS - This is not an asbestos abatement project  The Contractor shall
not start any work in any area that has not been inspected for asbestos by the Owner's Occupational Safety and Health Services, or a qualified representative of the Owner, and found to be safe. If asbestos is found, safety measures as recommended by the Owner's Occupational Safety and Health Services, or a qualified representative of the Owner, shall be implemented by the Owner before work is started. The Contractor is prohibited from using or supplying any asbestos containing materials for this project.

PART 11 SUMMARY OF WORK

11.01 Perform all work indicated in the Contract Documents.

11.02 The Project involves construction of a new cast-in-place concrete ramp at the NE corner of the University Memorial Union Building (MUB), on the exterior of the building. The ramp is approximately 50 ft long, and also includes a pipe and stainless steel cable railing system.

11.03 See Specification Section 01 10 00 Summary for a more detailed description of the work.

END OF SECTION 01000
PART 1 – GENERAL

1.01 SUMMARY
A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.02 SCHEDULE OF VALUES
A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
   1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
      a. Application for Payment forms with continuation sheets.
      b. Submittal schedule.
      c. Items required to be indicated as separate activities in Contractor's construction schedule.
   2. Submit the schedule of values to Michigan Tech at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Specifications table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
   1. Identification: Include the following Project identification on the schedule of values:
      a. Project name and location.
      b. Michigan Tech.
      c. Michigan Tech's project number.
      d. Contractor's name and address.
      e. Date of submittal.
   2. Arrange schedule of values consistent with format of AIA Documents G702, G703.
   3. Provide a breakdown of the Total Contract Amount in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Specifications table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Total Contract Amount.
      a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Total Contract Amount and subcontract amount.
   4. Round amounts to nearest whole dollar; total shall equal the Total Contract Amount.
      a. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
      b. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
   5. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders result in a change in the Total Contract Amount.

1.03 APPLICATIONS FOR PAYMENT
A. Each Application for Payment shall be consistent with previous applications and payments as certified by Michigan Tech and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Michigan Tech and the Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for
Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Michigan Tech will return incomplete applications without action.
1. Entries shall match data on the schedule of values and Contractor’s construction schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders issued before last day of construction period covered by application.

E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Michigan Tech by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
2. Schedule of values.
3. Contractor’s construction schedule (preliminary if not final).
4. Schedule of unit prices.
5. Submittal schedule (preliminary if not final).
6. List of Contractor’s staff assignments.
8. Certificates of insurance and insurance policies.

G. Application for Payment at Substantial Completion: After Michigan Tech issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Total Contract Amount

H. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Total Contract Amount.
4. Completion of the Final Completion Checklist.
5. Evidence that claims have been settled.
6. Final liquidated damages settlement statement.

END OF SECTION 010001
TO OWNER: PROJECT: APPLICATION NO: Distribution to:

FROM CONTRACTOR: VIA ARCHITECT:

**CONTRACT FOR:**

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM $ 0.00
2. Net change by Change Orders $ 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2) $ 0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) $ 0.00
5. RETAINAGE:
   a. 10 % of Completed Work $ 0.00
   b. % of Stored Material $ 0.00
   Total Retainage (Lines 5a + 5b or Column D + E on G703) $ 0.00
   Total in Column I of G703 $ 0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total) $ 0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) $ 0.00
8. CURRENT PAYMENT DUE $ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less 6) $ 0.00

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<td>NET CHANGES by Change Order</td>
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The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACT DATE:

By: __________________________ Date: __________________________

Subscribed and sworn to before me this ___________ day of ___________ , 2009

County of: __________________________ State of: __________________________

Notary Public: __________________________

My Commission expires on: __________________________

**ARCHITECT’S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED . . . . . . . . . . $ __________

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: __________________________ Date: __________________________

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

Users may obtain validation of this document by requesting a completed AIA Document D401 - Certification of Document's Authenticity from the Licensee.
AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing
Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.
Use Column I on Contracts where variable retainage for line items may apply.

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<th>A</th>
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GRAND TOTALS

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity
Substantial Completion Date and Final Completion Checklist:
The Work performed under this Contract as reviewed by the Contractor is substantially complete by the Contractor's knowledge, information, and belief; the condition of the work is sufficiently complete per Contract Documents and the Owner can occupy for intended use.

The Contractor requests that Michigan Tech issue a notice of Substantial Completion for the project noted above.

If necessary, any Remaining Items to be completed and/or corrected are included on the 010010 Final Completion Checklist. The list does not alter the responsibility of the Contractor to complete Work per Contract Documents.

By signing below, the Contractor acknowledges that they will complete and/or correct the Remaining Items as documented on the Final Completion Checklist by the completion date listed on the Project Schedule.

_________________________________________  By  ____________________________  Date
Contractor Signature

_________________________________________  By  ____________________________
Owner Signature

The Date of Commencement of Warranties for all items, as established by the Contract Documents, including those as listed below, is also the date of Substantial Completion Date for the aforementioned project.

_________________________________________  By  ____________________________
Date of Commencement of Warranties
Completion Date
Project: MUB North Side Access Ramp  
Owner: Michigan Technological University  
1400 Townsend Drive  
Houghton, MI 49931  
Project Number: 34-16-05  
Contract for: General Construction  
Contractor:  
Contract Date:  

General Items:

1. Provide specific product warranties as follows:  
   a.  
2. Provide extra material as follows:  
   a.  
3. Provided Guaranty (attached).  
4. Provide Consent of Surety for final payment (attached).  
5. Provide Sworn Statement (attached).  
6. Provide Full Unconditional Waiver of Lien from Contractor and major suppliers (attached).  

List of Remaining Items to be completed and/or corrected:

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<tr>
<th>Space</th>
<th>Items to Complete</th>
<th>Date of Completion</th>
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010012 GUARANTY

The CONTRACTOR, as a condition precedent to final payment, shall execute this Guaranty to the OWNER, guaranteeing for one (1) year from the date noted below, to keep in good order and repair any defect in all the work completed under the Agreement. This includes work which may develop during said period due to improper materials, defective equipment, improper materials workmanship, or arrangements and in any work which may be affected in correcting any repairs or defects. This Guaranty will be binding upon the CONTRACTOR, his subcontractors and/or material suppliers and will be without any expense to the OWNER.

The Date of Commencement for the Guaranty for all items as established by the Contract Documents, is _____________________________

OWNER: ________________________________
Print
Signature
Date

CONTRACTOR: ________________________________
Print
Signature
Date
CONSENT OF SURETY
TO FINAL PAYMENT
AIA Document G707
(Instructions on reverse side)

TO OWNER:
(Name and address)

ARCHITECT'S PROJECT NO.:

ARCHITECT

OWNER

ARCHITECT

CONTRACTOR

SURETY

OTHER

CONTRACT FOR:

PROJECT:
(Name and address)

CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(insert name and address of Surety)

on bond of
(insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of
any of its obligations to
(insert name and address of Owner)

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

CAUTION: You should sign an original AIA document that has this caution printed in red. An
original assures that changes will not be obscured as may occur when documents are reproduced. See Instruction Sheet for Limited License for Reproduction of this document.
A. GENERAL INFORMATION

1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims, on construction projects where the Contractor is required to furnish a bond. By obtaining the Surety's approval of final payment to the Contractor and its agreement that final payment will not relieve the Surety of any of its obligations, the Owner may preserve its rights under the bond.

2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents List to determine the current edition of each document.

4. Limited License for Reproduction

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B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made, without revision to the substance of the document.

C. COMPLETING THE G707 FORM

GENERAL: The bond form is the usual source of required information such as the contract date and the names and addresses of the Surety, Owner, Contractor and Project.

ARCHITECT'S PROJECT NO.: This information is typically supplied by the Architect and entered on the form by the Contractor.

CONTRACT FOR: This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

D. EXECUTION OF THE DOCUMENT

The G707 form requires both the Surety's seal and the signature of the Surety's authorized representative.
STATE OF MICHIGAN

County of ________________________________

___________________________ ss.

___________________________, being duly sworn, deposes and says:
That ________________________________ is the (contractor) (subcontractor) for an improvement to the following described real property situated in County, Michigan, described as follows:

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

(Insert legal description of property)

That the following is a statement of each subcontractor and supplier and laborer with whom the (contractor) (subcontractor) has (contracted) (subcontracted) for performance under the contract with the owner or lessee thereof, and that the amounts due to the persons as of the date hereof are correctly and fully set forth opposite their names, as follows:

<table>
<thead>
<tr>
<th>Name of subcontractor, supplier, or laborer</th>
<th>Type of improvement furnished</th>
<th>Total contract price</th>
<th>Amount already paid</th>
<th>Amount currently owing</th>
<th>Accrued fringe benefits contributions (if applicable)</th>
<th>Balance to complete</th>
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That the contractor has not procured material from, or subcontracted with, any person other than those set forth on the reverse side and owes no money for the improvement other than the sums set forth on the reverse side.

Deponent further says that he or she makes the foregoing statement as the (contractor) (subcontractor) or as __________________________ of the (contractor) (subcontractor) for the purpose of representing to the owner or lessee of the premises described on the reverse side and his or her agents that the property described on the reverse side is free from claims of construction liens, or the possibility of construction liens, except as specifically set forth on the reverse side.

WARNING: AN OWNER OR LESSEE OF THE PROPERTY DESCRIBED ON THE REVERSE SIDE MAY NOT RELY ON THIS SWORN STATEMENT TO AVOID THE CLAIM OF A SUBCONTRACTOR, SUPPLIER, OR LABORER WHO HAS PROVIDED A NOTICE OF FURNISHING TO THE DESIGNEE OR TO THE OWNER OR LESSEE IF THE DESIGNEE IS NOT NAMED OR HAS DIED.

________________________________________
Deponent

Subscribed and sworn to before me this __________ day of ______________________________, 20 _____

________________________________________
Notary Public

________________________________________County, Michigan

My Commission Expires: _______________________
<table>
<thead>
<tr>
<th>Project: MUB North Side Access Ramp</th>
<th>Owner: Michigan Technological University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Number: 34-16-05</td>
<td></td>
</tr>
<tr>
<td>Contract for: General Construction</td>
<td></td>
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</tbody>
</table>

Substantial Completion Date
Final Completion Checklist Date

The Contractor certifies that the Work and all other requirements have been completed in accordance with the Contract for Construction, including, but not limited to:
1. submission and approval of all remaining change order proposals, claims, and Applications for Payment
2. submission of “as-built” plans and specifications, shop drawings, and other record documents
3. completion of all discrepancies: List of Remaining Items noted on the Final Completion Checklist at the time of Substantial Completion:
   a. submission of all final closeout deliverables/document
   b. submission of Guaranty
   c. submission of Consent of Surety for Final Payment
   d. submission of Sworn Statement
   e. submission of Full Unconditional Waiver of Lien

The Contractor further certifies that:
4. no liens have been attached against the Project
5. no suits are pending by reason of Work on the Contract
6. all Workers’ compensation claims are covered by Workers’ Compensation Insurance as required by law
7. all insurance required of the Contractor beyond final payment, if any, is in effect and will not be cancelled or allowed to be expired without notice to the Owner
8. all public liability claims are adequately covered by insurance and that the Contractor shall save, protect, defend, indemnify, and hold the Owner harmless from and against any and all claims which arise as a direct or indirect result of any transaction, event occurrence, or omission related to performance of the Work contemplated under said Contract

Upon execution below, this project will be considered complete. This consideration does not relieve the Contractor from its post-construction responsibilities, including correction of
discrepancies noted during the first year after Substantial Completion, warranty issues, latent defects, and other requirements of the Contract or State law.

Name of Contractor: ________________________________

Notary Public: ________________________________

Personally appeared before me this day of ____________________________ (date) known (or made known) to me to be

the ________________ (title) of ____________________________ (firm), who, being by me duly sworn, subscribed to the foregoing affidavit in my presence.

By: ________________________________

Authorized Representative

My Commission Expires: ________________________________ (date)

Owner ________________________________ Owner Signature ________________________________ Final Completion Date ________________________________

End of Section 010020
### 01 00 22 CONTRACT CHANGE ORDER

<table>
<thead>
<tr>
<th>CONTRACTOR:</th>
<th>CHANGE ORDER No.</th>
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<tr>
<th>PROJECT:</th>
<th>ARCHITECT:</th>
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<tbody>
<tr>
<td>MUB Northside Access Ramp</td>
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<tr>
<td>PROJECT No.: 34-16-05</td>
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<table>
<thead>
<tr>
<th>OWNER: Michigan Technological University</th>
<th>DATE OF ISSUE:</th>
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<tbody>
<tr>
<td>1400 Townsend Dr., Houghton, MI, 49931</td>
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<th>EFFECTIVE DATE:</th>
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### Description:

The Contractor is hereby directed to make the following changes in the Contract Documents.

### Reason for Change Order:

### Attachments: (List documents supporting change and justifying cost and time)

### Change in Contract Price:

<table>
<thead>
<tr>
<th>Original Contract Price: $</th>
<th>Change in Contract Price:</th>
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<tr>
<th>Net changes from previous C. O.'s No. to $</th>
<th>Net changes from previous C. O.'s No. to $</th>
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<th>Contract Price Prior to this Change Order: $</th>
<th>Contract Times prior to this Change Order: (calendar days)</th>
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<th>Net Increase (decrease) of this Change Order: $</th>
<th>Net Increase (decrease) of this Change Order: (calendar days)</th>
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<tr>
<th>Contract Price with all Approved Change Orders: $</th>
<th>Contract Times with all Approved Change Orders: (calendar days)</th>
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### Accepted:

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<th>Contractor</th>
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**Approved:**

(Owner): Michigan Tech University

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PART 1 GENERAL

1.01 PROJECT
   A. Project Name: Chemistry Undergrad Labs Phase 2
   B. Owner's Name: Michigan Technological University.
   C. The Project involves construction of a new cast-in-place concrete ramp at the NE corner of the University Memorial Union Building (MUB), on the exterior of the building. The ramp is approximately 50 ft long, and also includes a pipe and stainless steel cable railing system.

1.02 CONTRACT DESCRIPTION
   A. A single prime contract based on a Stipulated Price.

1.03 DESCRIPTION OF WORK
   A. Scope of demolition and removal work is shown on drawings. Demolition includes but is not limited to; removal of existing cabinets, fume hoods, chalk board, electrical lights & outlets & wiring & conduit removal, removal of ductwork and mechanical equipment, and other miscellaneous items.
   B. Disposal of removal items is by the General Contractor, except for minor items that Michigan Tech Facilities Management may request.
   C. The complete scope of the new work is shown on the drawings.
   D. New work includes Installation of new ceilings, new flooring finish, painting, and coordination installation by others of new cabinets, countertops and fume hoods
   E. New work also includes installation of new outlets, wiring, conduits, light fixtures, power and hookups for equipment, and other miscellaneous electrical work.
   F. New work also includes installation of new mechanical equipment, plumbing work, HVAC ductwork, controls, and connections to equipment and exhaust fans.
   G. Other work includes but is not limited to installation of conduits and boxes for data, as well as wiring and termination of data lines. Final installation of data items (monitors, projectors, etc) shall be by Michigan Tech.
   H. The General Contractor shall be responsible for coordinating the work of this project with the installation of new cabinets by another vendor, who is contracted with the University under a separate contract. The General Contractor shall include in his bid to provide this coordination which shall include review of equipment shop drawings and submittals, coordination of installation of equipment that impacts the work, and coordination of sub-contractors for electrical, mechanical and plumbing connections to the equipment. The General Contractor shall also coordinate the schedule of this project to allow for sufficient time and space for the cabinet contractor to install his items.

1.04 WORK BY OWNER
   A. Michigan Tech will remove all existing planters and plantings prior to the start of construction
   B. Michigan Tech has awarded a separate contract for installation of the new sliding door.
   C. Michigan Tech will be responsible for any new ground cover or plantings.

1.05 OWNER OCCUPANCY
   A. Michigan Tech will be occupying adjacent areas of the building during the entire construction period.
   B. Cooperate with Michigan Tech to minimize conflict and to facilitate Michigan Tech’s operations.

1.06 CONTRACTOR USE OF SITE AND PREMISES
   A. Campus Restrictions: See the Michigan Technological University’s website for additional information on these items.
      1. Firearms are prohibited on the campus of Michigan Technological University
2. The campus is a tobacco, smoke, and vapor free site.

B. Construction Operations: Limited to room being remodeled and immediate adjacent areas as coordinated with Michigan Tech.

C. Arrange use of site and premises to:
   1. Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
      a. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
         1) Schedule deliveries to minimize use of driveways and entrances by construction operations.
         2) Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
   
D. Provide access to and from site as required by law and by Michigan Tech:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

E. Time Restrictions:
   1. Limit conduct of especially noisy work that could be heard in other parts of the building to early morning times if possible.

F. Utility Outages and Shutdown:
   1. Coordinate all required utility shutdowns with Michigan Tech at least 3 business days prior to the shutdown.
   2. Limit disruption of utility services to hours the building is unoccupied.
   3. Prevent accidental disruption of utility services to other facilities.

1.07 WORK SEQUENCE
   A. Coordinate construction schedule and operations with Michigan Tech.

END OF SECTION 011000
PART 1 – GENERAL

1.01 SUMMARY
A. Section includes administrative and procedural requirements for substitutions.
B. Related Requirements:
   1. Section 016000 Product Requirements for requirements for submitting comparable product submittals for products by listed manufacturers.

1.02 DEFINITIONS
A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.03 ACTION SUBMITTALS
A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Substitution Request Form: Use CSI Form 13.1A.
   2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
      a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
      c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
      d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
      e. Samples, where applicable or requested.
      f. Certificates and qualification data, where applicable or requested.
      g. List of similar installations for completed projects with project names and addresses and names and addresses of architects, engineers, and owners.
      h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
      i. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
      j. Cost information, including a proposal of change, if any, in the Contract Sum.
      k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
      l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
   3. Michigan Tech's Action: If necessary, Michigan Tech will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Michigan Tech will notify Contractor of acceptance or rejection of proposed substitution within 10 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Forms of Acceptance: Change Order, Construction Change Directive, or Michigan Tech's
Supplemental Instructions for minor changes in the Work.

b. Use product specified if Michigan Tech does not issue a decision on use of a proposed substitution within time allocated.

1.04 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 – PRODUCTS

2.01 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 10 days prior to time required for preparation and review of related submittals.

1. Conditions: Michigan Tech will consider Contractor's request for substitution when the following conditions are satisfied:
   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Requested substitution will not adversely affect Contractor's construction schedule.
   c. Requested substitution has received necessary approvals of authorities having jurisdiction.
   d. Requested substitution is compatible with other portions of the Work.
   e. Requested substitution has been coordinated with other portions of the Work.
   f. Requested substitution provides specified warranty.
   g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

END OF SECTION 01 2500
**SUBSTITUTION REQUEST**

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<th>Substitution Request Number:</th>
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<th>Article/Paragraph:</th>
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<th>Proposed Substitution:</th>
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<th>Manufacturer:</th>
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History:  
☐ New product  ☐ 1-4 years old  ☐ 5-10 years old  ☐ More than 10 years old

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<th>Differences between proposed substitution and specified product:</th>
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☐ Point-by-point comparative data attached — REQUIRED BY A/E

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<tr>
<th>Reason for not providing specified item:</th>
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**Similar Installation:**

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<th>Project:</th>
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<th>Address:</th>
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<th>Proposed substitution affects other parts of Work:</th>
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<th>Savings to Owner for accepting substitution:</th>
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<th>Proposed substitution changes Contract Time:</th>
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<th>Supporting Data Attached:</th>
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110 S. Union St., Suite 100, Alexandria, VA 22314
SUBSTITUTION REQUEST
(Continued)

The Undersigned certifies:
- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: 
Signed by: 
Firm: 
Address: 
Telephone: 
Attachments: 

A/E’s REVIEW AND RECOMMENDATION
☐ Approve Substitution - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Approve Substitution as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Reject Substitution - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: __________________________ Date: ____________

OWNER’S REVIEW AND ACTION
☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures. Prepare Change Order.
☐ Substitution rejected - Use specified materials.

Signed by: __________________________ Date: ____________

Additional Comments:  ☐ Contractor  ☐ Subcontractor  ☐ Supplier  ☐ Manufacturer  ☐ A/E
PART 1 - GENERAL

1.01 SUMMARY
   A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.02 DEFINITIONS
   B. Action Submittals: Written and graphic information and physical samples that require Michigan Tech’s responsive action.
   C. Informational Submittals: Written and graphic information and physical samples that do not require Michigan Tech’s responsive action. Submittals may be rejected for not complying with requirements.

1.03 ACTION SUBMITTALS
   D. Prior to ordering materials and construction, provide an Action Submittal for items specified throughout the contract documents that include the phrase ‘as approved by Michigan Tech,’ if the exact item as specified cannot be obtained and a similar item must be provided. This is not intended to be a substitution procedure, substitutions must follow requirements of section 012500.

1.04 SUBMITTAL ADMINISTRATIVE REQUIREMENTS
   E. Electronic copies of digital data files of the specified items can be provided by Michigan Tech for Contractor's use in preparing submittals.
   F. Processing Time: Provide submittals as soon as possible after award of contract to insure sufficient lead time for materials in time for the May 2016 construction start date. Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Michigan Tech's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

   1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Michigan Tech will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 7 days for review of each resubmittal.
   G. Submittal form: All submittals shall be submitted electronically to extent possible. For actual samples, provide sample directly to the architect, and include electronic submittal cover page.
   H. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
   2. Name file with submittal number or other unique identifier, including revision identifier.

   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

   3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Michigan Tech.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Architect, containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Construction Manager.
   e. Name of Contractor.
   f. Name of firm or entity that prepared submittal.
   g. Names of subcontractor, manufacturer, and supplier.
   h. Category and type of submittal.
   i. Submittal purpose and description.
   j. Specification Section number and title.
   k. Specification paragraph number or drawing designation and generic name for each of multiple items.
   l. Drawing number and detail references, as appropriate.
   m. Location(s) where product is to be installed, as appropriate.
   n. Related physical samples submitted directly.
   o. Indication of full or partial submittal.
   p. Transmittal number, numbered consecutively.
   q. Submittal and transmittal distribution record.
   r. Other necessary identification.
   s. Remarks.

I. Options: Identify options requiring selection by Michigan Tech.

J. Deviations: Identify deviations from the Contract Documents on submittals.

K. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

L. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

M. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Michigan Tech's action stamp.

PART 2 - PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:
   1. Submit electronic submittals via email as PDF electronic files.
   2. Submit to Architect and Michigan Tech simultaneously.
      a. Michigan Tech will review and forward comments to the Architect
      b. The Architect shall incorporate Michigan Tech’s comments with their own.
      c. Stamped and annotated submittal will be returned to Contractor and Michigan Tech simultaneously.
B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. Mark each copy of each submittal to show which products and options are applicable.
2. Include the following information, as applicable:
   a. Manufacturer’s catalog cuts.
   b. Manufacturer’s product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.
3. Submit Product Data before or concurrent with Samples.
4. Submit Product Data in the following format:
   a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect’s digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:
   a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-
control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Michigan Tech will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit one sets of Samples. Michigan Tech will retain.

b. If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Application for Payment and Schedule of Values: Comply with requirements specified in Section 010001 Payment Procedures.

F. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017000 Closeout Procedures.

G. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

H. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

I. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

2.02 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide
01 3300 SUBMITTAL PROCEDURES

products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Michigan Tech.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017000 Closeout Procedures.

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 MICHIGAN TECH'S ACTION

A. General: Michigan Tech will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Michigan Tech will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Michigan Tech will review each submittal and will not return it, or will return it if it does not comply with requirements. Michigan Tech will forward each submittal to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 3300
PART 1 – GENERAL

1.1 SUMMARY
A. Section includes requirements for temporary facilities, support facilities, storage facilities, and security and protection facilities.

B. Related Requirements:
1. Section 011000 Summary for work restrictions and limitations on utility interruptions.
2. Comply with requirements of Section 017419 - Waste Management, remove from site all materials not to be reused on site.

C. For this project the Contractor may use the existing building utilities as necessary at no charge. Contractor is responsible for making any temporary connections that may be necessary.

D. Storage on site and on Michigan Tech’s campus is extremely limited. Any storage of material for the project is the Contractor’s responsibility, and any cost for storage should be included in the base bid amount.

1.2 USE CHARGES
A. General: Installation and removal of and use charges for temporary facilities shall be included in the Total Contract Amount. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Michigan Tech, testing agencies, and authorities having jurisdiction.

1.3 INFORMATIONAL SUBMITTALS
A. If storage facilities are temporary facilities, the following must be provided and the facilities must adhere to the remainder of this specification, as necessary so stored materials remain free from damage.
1. Site Plan: Coordinate with Michigan Tech regarding location temporary facilities, construction trailers, utility hookups, staging areas, and parking areas for construction personnel.
2. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

B. If storage facilities are rented or other facilities, the facilities must adhere to the remainder of this specification, as necessary so stored materials remain free from damage.

1.4 QUALITY ASSURANCE
A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS
A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Michigan Tech's acceptance, regardless of previously assigned responsibilities.

PART 2 – PRODUCTS

2.1 EQUIPMENT
A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostat control.
1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type
01 5000 TEMPORARY FACILITIES

heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 – EXECUTION

3.1 GENERAL
A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
   1. Protect existing site improvements to remain including curbs, pavement, and utilities.
D. Maintain access for fire-fighting equipment and access to fire hydrants.
E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
   1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.2 TEMPORARY UTILITY INSTALLATION
A. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
C. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
D. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Coordinate with Michigan Tech for any perceived use of electrical service.

3.3 VEHICULAR ACCESS AND PARKING
A. Comply with Michigan Tech regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
B. Coordinate access and haul routes with governing authorities and Michigan Tech.
C. Provide and maintain access to fire hydrants, free of obstructions.
D. Provide means of removing mud from vehicle wheels before entering streets.
E. Coordinate with Michigan Tech Facilities Management and refer to construction plans for designated temporary parking areas to accommodate construction personnel.

3.4 SECURITY
A. Provide security and facilities to protect Work, existing facilities, and Michigan Tech’s operations from unauthorized entry, vandalism, or theft.
B. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
C. Security Enclosure and Lockup: Install temporary enclosure around partially completed
areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

D. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire prevention program.
   1. Prohibit smoking in construction areas.
   2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
   3. Develop and supervise an overall fire-prevention and protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 MOISTURE AND MOLD CONTROL
A. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect materials from water damage and keep porous and organic materials from coming into prolonged contact with concrete.

B. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
   1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
   2. Keep interior spaces reasonably clean and protected from water damage.
   3. Discard or replace water-damaged and wet material.
   4. Discard, replace, or clean stored or installed material that begins to grow mold.
   5. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

C. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
   1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
   2. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

D. Control moisture so stored materials, furniture, and appliances are not damaged in (temporary) storage facilities during time of storage. Contractor will assume full replacement costs without reimbursement.

3.6 BARRIERS
A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for Michigan Tech's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.7 OPERATION, TERMINATION, AND REMOVAL
A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Michigan Tech reserves right to take possession of Project identification signs.

2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017000 Execution and Closeout Requirements.

END OF SECTION 015000
016000 PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:
   1. Section 012500 Substitution Procedures for requests for substitutions.

1.2 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Michigan Tech's Action: If necessary, Michigan Tech will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Michigan Tech will notify Contractor of approval or rejection of proposed comparable product request within 10 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Use product specified if Michigan Tech does not issue a decision on use of a comparable product request within time allocated.

1.4 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of

34-16-05 / MUB North Side  01 60 00 - 1  PRODUCT REQUIREMENTS
Access Ramp  4/25/2017
016000 PRODUCT REQUIREMENTS

construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017000 Closeout Procedures.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Michigan Tech will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish
016000 PRODUCT REQUIREMENTS

salient characteristics of products.

B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
   a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   b. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
   a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
016000 PRODUCT REQUIREMENTS

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.

5. Samples, if requested.

END OF SECTION 016000
PART 1 GENERAL

1.01 RELATED REQUIREMENTS
   A. Section 010008 – Substantial Completion Notice
   B. Section 017010 – Final Cleaning: for final cleaning of each apartment
   C. Section 017419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

1.02 COORDINATION
   A. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
   B. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
   C. Coordinate completion and clean-up of work of separate sections.
   D. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.03 SUBMITTAL OF PROJECT WARRANTIES
   A. Submit written warranties on request of Michigan Tech Facilities Management for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Michigan Tech's rights under warranty.
   B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS
   A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
   B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
   C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 012500 and Section 016000.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Michigan Tech four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance. Provide proper sealant at all joints as necessary.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.
B. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, Telecommunications, etc.): Remove, relocate, and extend existing systems to accommodate project work.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

D. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

G. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

H. Clean existing systems and equipment.

I. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

J. Do not begin new construction in alterations areas before demolition is complete.

K. Comply with all other applicable requirements of this section.
3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.
B. See Alterations article above for additional requirements.
C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.
D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
G. Restore work with new products in accordance with requirements of Contract Documents.
H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.
B. Provide special protection where specified in individual specification sections.
C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
01 7000 EXECUTION AND CLOSEOUT REQUIREMENTS

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.09 ADJUSTING
A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING
A. See Section 01 70 10 for Final Cleaning requirements for the apartments.

3.11 CLOSEOUT PROCEDURES
A. Each phase of the project will go through the closeout procedure when the phase is complete.
B. Notify Michigan Tech when work is considered ready for Substantial Completion, and submit the Substantial Completion Notice to the Owner.
C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Michigan Tech's review.
D. Correct items of work listed in executed Certificates of Substantial Completion and the Final Completion Checklist.
E. Notify Michigan Tech when work is considered finally complete.

END OF SECTION 01 7000
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Final cleaning of Project.

1.02 RELATED REQUIREMENTS
   A. Section 01 10 00 - Summary: Contract descriptions, description of alterations work, work by others, future work, occupancy conditions, use of site and premises, work sequence.
   B. Section 01 70 00 - Execution and Closeout Requirements: Examination, preparation, and general installation procedures; preinstallation meetings; cutting and patching; cleaning and protection; starting of systems; demonstration and instruction; closeout procedures except payment procedures; requirements for alterations work.

PART 2 PRODUCTS: Not Used

PART 3 EXECUTION

3.01 EXAMINATION
   A. Examine project area to verify that it is ready for final cleaning, and that all construction work has been completed.

3.02 FINAL CLEANING
   A. Use cleaning materials that are nonhazardous.
   B. Clean interior window glass, all surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
   C. Steam clean all carpets, mop all floors, and wipe with disinfectant all horizontal and vertical surfaces.
   D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
   E. Clean surfaces and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
   F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

END OF SECTION
PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.
B. Any cost or savings from scrap of any materials or appliances must be incorporated into the contract price.
C. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
D. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
E. Optional Recycling, Salvage, Reuse, or Landfills.
F. Recycling is optional for this project; Contractor is responsible for implementation. Revenue or savings must be reflected in the Contractor's bid price.
G. Methods of trash/waste disposal that are not acceptable are:
   1. Burning or burying on the project site.
   2. Dumping or burying on other property, public or private or other illegal dumping or burying.
   3. Incineration, either on- or off-site.
H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.
I. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
K. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers.
L. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
M. Leave site in clean condition, ready for subsequent work.
N. Clean up spillage and wind-blown debris from public and private lands.

1.02 RELATED REQUIREMENTS

A. Section 015000 Temporary Facilities and Controls: Additional related requirements.
B. Section 024100 Demolition: Additional related requirements.

1.03 DEFINITIONS

A. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
B. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
C. Reuse: To reuse a construction waste material in some manner on the project site.
D. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
E. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

END OF SECTION
SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Concrete formwork.
B. Exterior slabs and walkways on grade.
C. Concrete foundation walls.
D. Concrete reinforcement.
E. Joint devices associated with concrete work.
F. Concrete curing.

1.02 RELATED REQUIREMENTS
A. Section 07 9200 - Joint Sealants: Products and installation for sealants for saw cut joints and isolation joints in slabs.

1.03 REFERENCE STANDARDS
B. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).
C. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).
E. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).
F. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).
M. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.

1.04 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures.
   2. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.
1.05 QUALITY ASSURANCE
   A. Perform work of this section in accordance with ACI 301 and ACI 318.
   B. Concrete Testing Service: Owner will engage a qualified independent testing agency to perform material evaluation tests and to test design concrete mixtures.

PART 2 PRODUCTS

2.01 FORMWORK
   A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
      1. Form Facing for Exposed Finish Concrete: Steel.
      2. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
      3. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT
   A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
      1. Type: Deformed billet-steel bars.
   B. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
   C. Reinforcement Accessories:
      1. Tie Wire: Annealed, minimum 16 gage, 0.0508 inch (1.29 mm).
      2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
      3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches (38 mm) of weathering surfaces.

2.03 CONCRETE MATERIALS
   A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
      1. Acquire all cement for entire project from same source.
      1. Acquire all aggregates for entire project from same source.
   C. Fly Ash: ASTM C618, Class C or F.
   D. Water: Clean and not detrimental to concrete.

2.04 ADMIXTURES
   A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
   B. Air Entrainment Admixture: ASTM C260/C260M.
   C. Retarding Admixture: ASTM C494/C494M Type B.
   D. Water Reducing Admixture: ASTM C494/C494M Type A.

2.05 ACCESSORY MATERIALS
   A. Non-Shrink Cementitious Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
      1. Grout: Comply with ASTM C1107/C1107M.

2.06 BONDING AND JOINTING PRODUCTS
   A. Slab Isolation Joint Filler: 1/2 inch (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) deep sealant pocket after removal.
2.07 CURING MATERIALS
   A. Curing Compound, Non-dissipating: Liquid, membrane-forming, clear, non-yellowing acrylic; complying with ASTM C309.
      2. Gloss: Low.
   B. Water: Potable, not detrimental to concrete.

2.08 CONCRETE MIX DESIGN
   A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
      1. Replace as much Portland cement as possible with fly ash as is consistent with ACI recommendations, except in flatwork which is not to have fly ash.
   B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
   C. Normal Weight Concrete (for concrete footings, walls, and slabs):
      1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 4,000 pounds per square inch (27.6 MPa).
      2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight, except no fly ash in flatwork concrete
      3. Water-Cement Ratio: Maximum 40 percent by weight.

2.09 CONCRETE MIXING
   A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94/C 94M and ASTM 1116/C 1116M

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION
   A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
   B. Verify that forms are clean and free of rust before applying release agent.
   C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS
   A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
   B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

3.04 PLACING CONCRETE
   A. Place concrete in accordance with ACI 304R.
   B. Place concrete slabs in accordance with ACI 302.1R.
   C. Finish level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING
   A. Locate joints as indicated on the drawings.
   B. Anchor joint fillers and devices to prevent movement during concrete placement.
   C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
3.06 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch (6 mm) or more in height.

C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch (6 mm) or more in height. Provide finish as follows:
   1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

E. In areas with drains, maintain slab elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

3.07 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.08 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.

D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.

E. Compressive Strength Tests: ASTM C39/C39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 cu m) or less of each class of concrete placed.

3.9 DEFECTIVE CONCRETE

A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.

B. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.10 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.
SECTION 05 5213
PIPE, TUBE, AND CABLE RAILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Ramp railings and guardrails.

1.02 RELATED REQUIREMENTS
A. Section 03 3000 - Cast-in-Place Concrete: Placement of anchors in concrete.

1.03 REFERENCE STANDARDS
B. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS
A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E985 and applicable local code.
B. Allow for expansion and contraction of members and building movement without damage to connections or members.
C. Dimensions: See drawings for configurations and heights.
D. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

2.02 STEEL PIPE AND TUBE RAILING SYSTEM
A. Steel Tube: ASTM A500/A500M, Grade B cold-formed structural tubing.
B. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.
C. Exposed Fasteners: Flush countersunk stainless steel screws or bolts; consistent with design of railing.
D. Straight Splice Connectors: Steel concealed spigots.

2.03 STAINLESS STEEL CABLE RAILING SYSTEM
A. Stainless Steel Cable: Type 316L 1x19 stainless steel cable, 3/16” diameter.
B. Stainless Steel Fittings: Type 316L stainless steel components manufactured for swageless assembly per manufacturers recommendations.
C. Manufacturer: Feeney Inc; www.feeneyinc.com or approved equal.

2.04 FABRICATION
A. Accurately form components to suit specific project conditions and for proper connection to building structure.
B. Fit and shop assemble components in largest practical sizes for delivery to site.
C. Fabricate pipe and tube components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.
D. Welded Joints:
1. Exterior Components: Continuously seal joined pieces by intermittent welds and plastic filler. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
2. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
3. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
   D. Install cable system within pipe/tube railing per manufacturer’s instructions to eliminate sag.

2.05 FINISH
   A. Clean and prepare hand/guardrail for Powder Coat finishing after fabrication. Touch up any damaged areas after installation.

PART 3 EXECUTION

3.01 EXAMINATION
   A. Verify that field conditions are acceptable and are ready to receive work.

3.02 INSTALLATION
   A. Install in accordance with manufacturer’s instructions.
   B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.
   C. Install railings in compliance with ADA Standards for accessible design at applicable locations.
   D. Anchor railings securely to structure.

3.03 TOLERANCES
   A. Maximum Variation From Plumb: 1/4 inch (6 mm) per floor level, non-cumulative.
   B. Maximum Offset From True Alignment: 1/4 inch (6 mm).
   C. Maximum Out-of-Position: 1/4 inch (6 mm).
   D. Maximum sag of cable: 1/16” between vertical supports.

END OF SECTION
SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Nonsag gunnable joint sealants.
B. Joint backings and accessories.

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.

PART 2 PRODUCTS
2.01 JOINT SEALANT APPLICATIONS
A. Scope:
   1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following.
      a. Joints between concrete slabs and concrete or brick walls.
      b. Joints between concrete walls and existing brick/concrete walls.
B. Exterior Joints: Use non-sag polyurethane sealant, Type 1, unless otherwise indicated.
   1. Control and Expansion Joints in Concrete Paving: Polyurethane "traffic-grade" sealant; Type 1.

2.02 JOINT SEALANTS - GENERAL
2.03 NONSAG JOINT SEALANTS
A. Type 1- Polyurethane Sealant: ASTM C920, Grade NS, Uses T; single or multi-component; non-sag.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Color: To be selected by Architect from manufacturer's standard range.
   3. Service Temperature Range: Minus 40 to 180 degrees F (Minus 40 to 82 degrees C).

2.04 ACCESSORIES
A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
   2. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that joints are ready to receive work.
B. Verify that backing materials are compatible with sealants.
C. Verify that backer rods are of the correct size.

3.02 PREPARATION
A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION
A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
B. Perform installation in accordance with ASTM C1193.
C. Install bond breaker backing tape where backer rod cannot be used.
D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION
SECTION 31 2316
EXCAVATION

PART 1 GENERAL
1.01 SECTION INCLUDES
A. Excavating for structural walls below and above grade, footings, and slabs-on-grade.

PART 3 EXECUTION
3.01 PREPARATION
A. Identify required lines, levels, contours, and datum locations.
B. Locate, identify, and protect utilities that remain and protect from damage.
C. Protect plants, lawns, rock outcroppings, and other features to remain.

3.02 EXCAVATING
A. Excavate to accommodate new structures and construction operations.
B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
C. Slope banks of excavations deeper than 4 feet (1.2 meters) to angle of repose or less until shored.
D. Do not interfere with 45 degree bearing splay of foundations.
E. Hand trim excavations. Remove loose matter.
F. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 2323.
G. Grade top perimeter of excavation to prevent surface water from draining into excavation.
H. Remove excavated material that is unsuitable for re-use from site.
I. Remove excess excavated material from site.

3.03 PROTECTION
A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

END OF SECTION
SECTION 31 2323
FILL

PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Filling, backfilling, and compacting for footings, structural walls, and slabs-on-grade.

1.02 RELATED REQUIREMENTS
   A. Section 03 3000 - Cast-in-Place Concrete.
   B. Section 31 2316 - Excavation: Removal and handling of soil to be re-used.

1.03 REFERENCE STANDARDS
   A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials; 2015.
   C. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.

1.04 QUALITY ASSURANCE
   A. Testing Agency: Owner will engage an Independent firm specializing in performing testing and inspections of the type specified in this section.

1.05 DELIVERY, STORAGE, AND HANDLING
   A. When necessary, store materials on site in advance of need. Coordinate location of stored materials with Owner to maintain adjacent driveways.

PART 2 PRODUCTS
2.01 FILL MATERIALS
   A. General Fill – Satisfactory excavated material or Granular Fill MDOT Class 2: Conforming to State of Michigan Highway Department standard.
   B. Structural Fill – Granular MDOT Class 2: Conforming to State of Michigan Highway Department standard.

2.02 SOURCE QUALITY CONTROL
   A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of soil material.
   B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
   C. If tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION
3.01 EXAMINATION
   A. Identify required lines, levels, contours, and datum locations.

3.02 PREPARATION
   A. Scarify and proof roll subgrade surface to a depth of 6 inches (150 mm) to identify soft spots.
B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING
A. Fill to contours and elevations indicated using unfrozen materials.
B. Fill up to subgrade elevations unless otherwise indicated.
C. Employ a placement method that does not disturb or damage other work.
D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
E. Maintain optimum moisture content of fill materials to attain required compaction density.
F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 8 inches compacted depth.
G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
H. Slope grade away from building minimum 2 inches in 10 feet (50 mm in 3 m), unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
I. Correct areas that are over-excavated.
   1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 100 percent of maximum dry density.
   2. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
J. Compaction Density Unless Otherwise Specified or Indicated:
K. Reshape and re-compact fills subjected to vehicular traffic.

3.04 FILL AT SPECIFIC LOCATIONS
A. At Foundation Walls and Footings:
   1. Use general fill.
   2. Fill at 8” increments maximum.
   3. Compact each lift to 95 percent of maximum dry density.
   4. Do not backfill against unsupported foundation walls.
B. Under slab on grade walkways:
   1. Use Structural Fill.

3.05 FIELD QUALITY CONTROL
A. Owner will engage a qualified independent inspection agent to perform compaction testing.
B. Perform compaction density testing on compacted fill in accordance with ASTM D1556/D1556M, ASTM D2167, or ASTM D6938.
C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.
D. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.06 CLEANING
A. See Section 01 7419 - Construction Waste Management and Disposal, for additional requirements.
B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION
 REQUIREMENTS OF
THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965

The State of Michigan determines prevailing rates pursuant to the Prevailing Wages on State Projects Act, Public Act 166 of 1965, as amended. The purpose of establishing prevailing rates is to provide minimum rates of pay that must be paid to workers on construction projects for which the state or a school district is the contracting agent and which is financed or financially supported by the state. By law, prevailing rates are compiled from the rates contained in collectively bargained agreements which cover the locations of the state projects. The official prevailing rate schedule provides an hourly rate which includes wage and fringe benefit totals for designated construction mechanic classifications. The overtime rates also include wage and fringe benefit totals. Please pay special attention to the overtime and premium pay requirements. Prevailing wage is satisfied when wages plus fringe benefits paid to a worker are equal to or greater than the required rate.

State of Michigan responsibilities under the law:

• The department establishes the prevailing rate for each classification of construction mechanic requested by a contracting agent prior to contracts being let out for bid on a state project.

Contracting agent responsibilities under the law:

• If a contract is not awarded or construction does not start within 90 days of the date of the issuance of rates, a re-determination of rates must be requested by the contracting agent.

• Rates for classifications needed but not provided on the Prevailing Rate Schedule, must be obtained prior to contracts being let out for bid on a state project.

• The contracting agent, by written notice to the contractor and the sureties of the contractor known to the contracting agent, may terminate the contractor's right to proceed with that part of the contract, for which less than the prevailing rates have been or will be paid, and may proceed to complete the contract by separate agreement with another contractor or otherwise, and the original contractor and his sureties shall be liable to the contracting agent for any excess costs occasioned thereby.

Contractor responsibilities under the law:

• Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing rates prescribed in a contract.

• Every contractor and subcontractor shall keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each construction mechanic employed by him in connection including certified payroll, as used in the industry, with said contract. This record shall be available for reasonable inspection by the contracting agent or the department.

• Each contractor or subcontractor is separately liable for the payment of the prevailing rate to its employees.

• The prime contractor is responsible for advising all subcontractors of the requirement to pay the prevailing rate prior to commencement of work.

• The prime contractor is secondarily liable for payment of prevailing rates that are not paid by a subcontractor.

• A construction mechanic shall only be paid the apprentice rate if registered with the United States Department of Labor, Bureau of Apprenticeship and Training and the rate is included in the contract.

Enforcement:
A person who has information of an alleged prevailing wage violation on a state project may file a complaint with the State of Michigan. The department will investigate and attempt to resolve the complaint informally. During the course of an investigation, if the requested records and posting certification are not made available in compliance with Section 5 of Act 166, the investigation will be concluded and a referral to the Office of Attorney General for civil action will be made. The Office of Attorney General will pursue costs and fees associated with a lawsuit if filing is necessary to obtain records.
General Information Regarding Fringe Benefits

Certain fringe benefits may be credited toward the payment of the Prevailing Wage Rate:

- If a fringe benefit is paid directly to a construction mechanic
- If a fringe benefit contribution or payment is made on behalf of a construction mechanic
- If a fringe benefit, which may be provided to a construction mechanic, is pursuant to a written contract or policy
- If a fringe benefit is paid into a fund, for a construction mechanic

When a fringe benefit is not paid by an hourly rate, the hourly credit will be calculated based on the annual value of the fringe benefit divided by 2080 hours per year (52 weeks @ 40 hours per week).

The following is an example of the types of fringe benefits allowed and how an hourly credit is calculated:

<table>
<thead>
<tr>
<th>Fringe Benefit</th>
<th>Hours/Amount</th>
<th>Calculation</th>
<th>Hourly Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacation</td>
<td>40 hours x $14.00 per hour =</td>
<td>$560/2080 = $2.70 / 2080 =</td>
<td>$0.27</td>
</tr>
<tr>
<td>Dental insurance</td>
<td>$31.07 monthly premium x 12 mos. = $372.84 / 2080 =</td>
<td>$1.80 / 2080 = $0.01</td>
<td></td>
</tr>
<tr>
<td>Vision insurance</td>
<td>$5.38 monthly premium x 12 mos. = $64.56 / 2080 =</td>
<td>$0.03 / 2080 = $0.00</td>
<td></td>
</tr>
<tr>
<td>Health insurance</td>
<td>$230.00 monthly premium x 12 mos. = $2,760.00 / 2080 =</td>
<td>$1.33 / 2080 = $0.07</td>
<td></td>
</tr>
<tr>
<td>Life insurance</td>
<td>$27.04 monthly premium x 12 mos. = $324.48 / 2080 =</td>
<td>$0.16 / 2080 = $0.00</td>
<td></td>
</tr>
<tr>
<td>Tuition</td>
<td>$500.00 annual cost / 2080 =</td>
<td>$400 / 2080 = $0.20 / 2080 = $0.00</td>
<td></td>
</tr>
<tr>
<td>Bonus</td>
<td>4 quarterly bonus/year x $250 = $1000.00 / 2080 =</td>
<td>$480 / 2080 = $0.04 / 2080 = $0.00</td>
<td></td>
</tr>
<tr>
<td>401k Employer Contribution</td>
<td>$2000.00 total annual contribution / 2080 =</td>
<td>$960 / 2080 = $0.47 / 2080 = $0.00</td>
<td></td>
</tr>
</tbody>
</table>

Total Hourly Credit: $3.65

Other examples of the types of fringe benefits allowed:
- Sick pay
- Holiday pay
- Accidental Death & Dismemberment insurance premiums

The following are examples of items that will not be credited toward the payment of the Prevailing Wage Rate:

- Legally required payments, such as:
  - Unemployment Insurance payments
  - Workers’ Compensation Insurance payments
  - FICA (Social Security contributions, Medicare contributions)

- Reimbursable expenses, such as:
  - Clothing allowance or reimbursement
  - Uniform allowance or reimbursement
  - Gas allowance or reimbursement
  - Travel time or payment
  - Meals or lodging allowance or reimbursement
  - Per diem allowance or payment

- Other payments to or on behalf of a construction mechanic that are not wages or fringe benefits, such as:
  - Industry advancement funds
  - Financial or material loans
OVERTIME PROVISIONS for MICHIGAN PREVAILING WAGE RATE COMMERCIAL SCHEDULE

1. Overtime is represented as a nine character code. Each character represents a certain period of time after the first 8 hours Monday thru Friday.

<table>
<thead>
<tr>
<th></th>
<th>Monday thru Friday</th>
<th>Saturday</th>
<th>Sunday &amp; Holidays</th>
<th>Four 10s</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 8 Hours</td>
<td></td>
<td>4</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>9th Hour</td>
<td>1</td>
<td>5</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>10th Hour</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 10 hours</td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overtime for Monday thru Friday after 8 hours:
- the 1st character is for time worked in the 9th hour (8.1 - 9 hours)
- the 2nd character is for time worked in the 10th hour (9.1 - 10 hours)
- the 3rd character is for time worked beyond the 10th hour (10.1 and beyond)

Overtime on Saturday:
- the 4th character is for time worked in the first 8 hours on Saturday (0 - 8 hours)
- the 5th character is for time worked in the 9th hour on Saturday (8.1 - 9 hours)
- the 6th character is for time worked in the 10th hour (9.1 - 10 hours)
- the 7th character is for time worked beyond the 10th hour (10.01 and beyond)

Overtime on Sundays & Holidays
- The 8th character is for time worked on Sunday or on a holiday

Four Ten Hour Days
- The 9th character indicates if an optional 4-day 10-hour per day workweek can be worked between Monday and Friday without paying overtime after 8 hours worked, unless otherwise noted in the rate schedule. To utilize a 4 ten workweek, notice is required from the employer to employee prior to the start of work on the project.

2. Overtime Indicators Used in the Overtime Provision:
- H - means TIME AND ONE-HALF due
- X - means TIME AND ONE-HALF due after 40 HOURS worked
- D - means DOUBLE PAY due
- Y - means YES an optional 4-day 10-hour per day workweek can be worked without paying overtime after 8 hours worked
- N - means NO an optional 4-day 10-hour per day workweek cannot be worked without paying overtime after 8 hours worked

3. EXAMPLES:
- HHHHHHHHDN - This example shows that the 1½ rate must be used for time worked after 8 hours Monday thru Friday (characters 1 - 3); for all hours worked on Saturday, 1½ rate is due (characters 4 - 7). Work done on Sundays or holidays must be paid double time (character 8). The N (character 9) indicates that 4 ten-hour days is not an acceptable workweek at regular pay.
- XXXHHHHHDY - This example shows that the 1½ rate must be used for time worked after 40 hours are worked Monday thru Friday (characters 1-3); for hours worked on Saturday, 1½ rate is due (characters 4 – 7). Work done on Sundays or holidays must be paid double time (character 8). The Y (character 9) indicates that 4 ten-hour days is an acceptable alternative workweek.
### UNDERGROUND ENGINEERS

**CLASS I**
- Backfiller Tamper, Backhoe, Batch Plant Operator, Clam-Shell, Concrete Paver (2 drums or larger), Conveyor Loader (Euclid type), Crane (crawler, truck type or pile driving), Dozer, Dragline, Elevating Grader, End Loader, Gradall (and similar type machine), Grader, Power Shovel, Roller (asphalt), Scraper (self propelled or tractor drawn), Side Broom Tractor (type D-4 or larger), Slope Paver, Trencher (over 8' digging capacity), Well Drilling Rig, Mechanic, Slip Form Paver, Hydro Excavator.

**CLASS II**
- Boom Truck (power swing type boom), Crusher, Hoist, Pump (1 or more 6" discharge or larger gas or diesel powered by generator of 300 amps or more, inclusive of generator), Side Boom Tractor (smaller than type D-4 or equivalent), Tractor (pneu-tired, other than backhoe or front end loader), Trencher (8' digging capacity and smaller), Vac Truck.

**CLASS III**
- Air Compressors (600 cfm or larger), Air Compressors (2 or more less than 600 cfm), Boom Truck (non-swinging, non-powered type boom), Concrete Breaker (self-propelled or truck mounted, includes compressor), Concrete Paver (1 drum, ½ yard or larger), Elevator (other than passenger), Maintenance Man, Mechanic Helper, Pump (2 or more 4" up to 6" discharge, gas or diesel powered, excluding submersible pump), Pumppcrete Machine (and similar equipment), Wagon Drill Machine, Welding Machine or Generator (2 or more 300 amp or larger, gas or diesel powered).

**CLASS IV**
- Boiler, Concrete Saw (40HP or over), Curing Machine (self-propelled), Farm Tractor (w/attachment), Finishing Machine (concrete), Firemen, Hydraulic Pipe Pushing Machine, Mulching Equipment, Oiler (2 or more up to 4", exclude submersible), Pumps (2 or more up to 4" discharge if used 3 hrs or more a day-gas or diesel powered, excluding submersible pumps), Roller (other than asphalt), Stump Remover, Vibrating Compaction Equipment (6' wide or over), Trencher (service) Sweeper (Wayne type and similar equipment), Water Wagon, Extend-a-Boom Forklift.

### HAZARDOUS WASTE ABATEMENT ENGINEERS

**CLASS I**
- Backhoe, Batch Plant Operator, Clamshell, Concrete Breaker when attached to hoe, Concrete Cleaning Decontamination Machine Operator, Concrete Pump, Concrete Paver, Crusher, Dozer, Elevating Grader, Endloader, Farm Tractor (90 h.p. and higher), Gradall, Grader, Heavy Equipment Robotics Operator, Hydro Excavator, Loader, Pug Mill, Pumpcrete Machines, Pump Trucks, Roller, Scraper (self-propelled or tractor drawn), Side Boom Tractor, Slip Form Paver, Slope Paver, Trencher, Ultra High Pressure Waterjet Cutting Tool System Operator, Vactors, Vacuum Blastng Machine Operator, Vertical Lifting Hoist, Vibrating Compaction Equipment (self-propelled), and Well Drilling Rig.

**CLASS II**
- Air Compressor, Concrete Breaker when not attached to hoe, Elevator, End Dumps, Equipment Decontamination Operator, Farm Tractor (less than 90 h.p.), Forklift, Generator, Heater, Mulcher, Pigs (Portable Reagent Storage Tanks), Power Screens, Pumps (water), Stationary Compressed Air Plant, Sweeper, Water Wagon and Welding Machine.
Michigan recognizes the Carpenters for any and all work related to weatherization that has historically been the work of the Carpenter. This work shall include, but not be limited to: all work defined under the Federal Weatherization Assistance Program.

The jurisdiction of Carpenters, as to all work that has historically and traditionally been performed consisting of the milling, fashioning, joining, assembling, erecting, fastening or dismantling of all materials of wood, plastic, metal, fiber, cork, or composition and all other substitute materials, as well as the handling, cleaning, erecting, installing and dismantling of all machinery, equipment and all materials used by Carpenters.

The jurisdiction, therefore, extends over the following divisions and subdivisions of the trade: Carpenters and Joiners, Millwrights, Pile Drivers, Bridge, Dock and Wharf Carpenters, Underpinners, Timbermen, and Core-drillers, Shipwrights, Boat Builders, Ship-hand, Stair-Builders, Millmen, Wood and Resilient Floor Decorators, Floor Finishers, Carpet-layers, Shinglers, Siders, Insulators, Acoustic and Drywall Applicators, Sharers and House Movers, Loggers, Lumber and Sawmill Workers, Reed and Rattan Workers, Shingle Weavers, Casket and Coffin Makers, Railroad Carpenters and Car Builders, regardless of material used and all those engaged in the operation of woodworking or other machinery required in fashioning, milling or manufacturing of products used in the trade, and the handling, erecting and installing materials on any of the above divisions or sub-divisions, burning, welding and rigging incidental to the trade. When the term "Carpenter and Joiner" is used, it shall mean all the subdivisions of the trade. The trade autonomy of Carpenters therefore extends over the divisions and subdivisions of the trade, which are set forth as follows:

(a) The framing, erecting and prefabrication of roofs, partitions, floors and other parts of buildings of wood, metal, plastic or other substitutes; application of all metal flashing used for hips, valleys and chimneys; the erection of Stran Steel section or its equal. The building and setting of all forms and centers for brick and masonry. The fabrication and erection of all forms for concrete and decking, the dismantling of same (as per International Agreement) when they are to be re-used on the job or stored for re-use. The cutting and handling of all falsework for fireproofing and slabs. Where power is used in the setting or dismantling of forms, all signaling and handling shall be done by carpenters. The setting of templates for anchor bolts for structural members and for machinery, and the placing, leveling and bracing of these bolts. All framing in connection with the setting or metal columns. The setting of all bulkheads, footing forms and the setting of and fabrication of, screeds and stakes for concrete and mastic floors where the screed is notched or fitted, or made up of more than one member. The making of forms for concrete block, bulkheads, figures, posts, rails, balusters and ornaments, etc.

(b) The handling and erecting of rough material and drywall, the handling, assembling, setting and leveling of all fixtures, display cases, all furniture such as tables, chairs, desks, coat racks, etc., all de-mountable or moveable partitions such as Von wall, E Wall, Steel Case, Herman Miller, Haworth, American Seating, Westinghouse, Lazy Boy, rosewood, etc. All rebuilding, remodeling and setting up of all kinds of partitions, finished lumber, metal and plastic trim to be erected by Carpenters shall be handled from the truck or vehicle delivering same to the job by Carpenters.
Carpenter Craft Jurisdiction

(c) The building and moving of all scaffolding runways and staging where carpenters' tools are used, the building from the ground up of all scaffolds over fourteen (14) feet in height including metal and specially designed scaffolding. The building and construction of all hoists and derricks made of wood; the making of mortar boards, boxes, trestles, all shoring, razing and moving of buildings. Lift type trucks are to be considered a tool of the trade. Metal siding and metal roofing fall within the scope of jurisdiction for the carpenters.

(d) The cutting or framing and fireproofing of the openings for pipes, conduits, ducts, etc., where they pass through floors, partitions, walls, roofs or fixtures composed in whole or in part of wood. The laying out of making and installation of all inserts and sleeves for pipes, ducts, etc., where carpenters' tools and knowledge are required. The making and installing of all wooden meter boards, crippling and backing for fixtures. The welding of studs and other fastenings to receive material being applied by carpenters.

(e) The installation of all grounds, furring or stripping, ceilings and sidewalks, application of all types of shingling and siding, etc.

(f) The installation of all interior and exterior trim or finish of wood, aluminum, kalamein, hollow or extruded metal, plastic, doors, transoms, thresholds, Mullions and windows. The setting of jambs, bucks, window frames of wood or metal where braces or wedges are used. The installation of all wood, metal or other substitutes of casing, molding, chair rail, wainscoting, china closets, base of mop boards, wardrobes, metal partitions as per National Decisions or specific agreements, etc. The complete laying out, fabrication and erection of stairs. The mortising and application of all hardware in connection with our work. The sanding and refinishing of all wood, cork or composition floors to be sanded or scraped, filled, sized and buffed, either by hand or power machines. The assembling and setting of all seats in theaters, halls, churches, schools, auditorium, grandstands and other buildings. All bowling alley work.

(g) The manufacture, fabrication and installation of all screens, storm sash, storm doors and garage doors; the installation of wood, canvas, plastic or metal awnings or eye shades, door shelters, jalousies, etc. The laying of wood, wood block and wood composition in floors.

(h) The installation of all materials used in drywall construction, such as plasterboard, all types of asbestos boards, transite and other composition board. The application of all material which serves as base for acoustic tile, except plaster. All acoustical applications as per National Agreement or specific agreement.

(i) The building and dismantling of all barricades, hand rails, guard rails, partitions and temporary partitions. The erection and dismantling of all temporary housing on construction projects.

(j) The installation of rock wool, cork and other insulation material used for sound or weatherproofing. The removal of caulking and placing of staff bead and brick mold and all Oakum caulking, substitutes, etc., and all caulking in connection with carpentry work.

(k) The installation of all chalk boards/ marker boards.
CARPENTER CRAFT JURISDICTION

(l) The operation of all hand operated winches used to raise wooden structures.

(m) The erection of porcelain enameled panels and siding.

(n) The unloading and distribution of all furnished, prefabricated and built-up sections such as door bucks, window frames, cupboards, cabinets, store fixtures, counters and show cases or comparably finished or prefabricated materials, to the job sites or points of installation as used in the construction, alteration and remodeling industry.

(o) The handling of doors, metal, wood or composite, partitions and other finished bulk materials used for trim from the point of delivery.

(p) All processing of these materials and handling after processing.

(q) The making up of panels and fitting them into walls, all bracing and securing, all removal of panels from the casting including all braces, whalers, hairpins, etc.

(r) The handling and setting of all metal pans and sections from the stock piles of reasonable distance as required by job needs shall be performed by carpenters. The stripping of such metal pans, panels or sections is to be performed by carpenters.

(s) The sharpening of all carpenter hand or power tools, or those used by carpenters.

(t) The layout, fabrication, assembling of and erection and dismantling of all displays made of wood, metal, plastic, composition board or any substitute material; the covering of same with any type of material, the crating and un-crating, the handling from the point of unloading and back to the point of loading of all displays and other materials or components.

(u) The same shall apply to all other necessary component parts used for display purposes such as turntables, platforms, identification towers and fixtures, regardless of how constructed, assembled or erected or dismantled.

(v) The make-up, handling, cutting and sewing of all materials used in buntings, flags, banners, decorative paper, fabrics and similar materials used in the display decorative industry for draperies and back drops. The decorative framing of trucks, trailers and autos used as floats or moving displays. The slatting of walls to hand fabrics and other decorative materials, drilling of all holes to accommodate such installations. Setting up and removal of booths constructed of steel or aluminum tubing as stanchions, railings, etc., handling and placing of furniture, appliances, etc., which are being used to complete the booth at the request of the exhibitor. Fabricating and application of leather, plastic and other like materials used for covering of booths. The handling of all materials, fabricating of same. The loading and unloading, erecting and assembling at the exhibit of show area, also in or out of storage when used in booth decorations.
CARPENTER CRAFT JURISDICTION

(w) A display shall be construed as any exhibit or medium of advertising, open to private or public showing, which is constructed of wood, metal, plastic or any other substitute to accomplish the objectives of advertising or displaying.

(x) Handling, fitting, draping, measuring and installation of fixtures and other hardwares for draperies, all manner of making, measuring, repairing, sizing, hanging and installation of necessary fixtures and hardware for shades and Venetian blinds.

(y) Work consisting of cutting and/or forming of all materials in preparation for installing of floors, walls and ceilings; the installation of all resilient floor and base; wall and ceiling materials to include cork, linoleum, prefabricated, laminated, rubber, asphalt, vinyl, metal, plastic, seamless floors and all other similar materials in sheet, interlocking liquid or tile form; the installation of all artificial turf, the installation, cutting and/or fitting of carpets; installation of padding, matting, linen crash and all preformed resilient floor coverings; the fitting of all devices for the attachment of carpet and other floor, wall and ceiling coverings; track sewing of carpets, drilling of holes for sockets and pins, putting in dowels and slats; and all metal trimmings used; the installation of all underlayments, sealants in preparation of floors, walls and ceilings, the unloading and handling of all materials to be installed and the removal of all materials in preparing floors when contracted for by the employer, shall be done only by employees covered under this Agreement.

(z) The installation of all sink-tops and cabinets, to include all metal trim and covering for same. All cork, linoleum, congo-wall, linewall, veos tile, plexiglass, vinawall tile, composition tile, plastic tile, aluminum tile and rubber in sheets or tile form and the application thereof. All bolta-wall and bolta-wall tile and similar products.

(aa) The handling and placing of all pictures and frames and the assembly of bed frames and accessories. The hanging and placing of all signage.

(bb) The installation of all framework partitions and trim materials for toilets and bathrooms made of wood, metal, plastics or composition materials; fastening of all wooden, plastic or composition cleats to iron or any other material for accessories.

(cc) The erection of cooling towers and tanks.

(dd) The setting, lining, leveling and bracing of all embedded plates, rails and angles. The setting of all stay in place forms.

(ee) Environmental: Clean room, any type of environmental chamber, walk in refrigerated coolers and all refrigerated rooms or buildings.
**Carpenter Craft Jurisdiction**

**Pile Driving and Caisson Drilling**

(ff) All unloading, handling, signaling and driving of piles, whether wood, steel, pipe, beam pile, composite, concrete or molded in place, wood and steel sheeting, cofferdam work, trestle work, dock work, floating derricks, caisson work, foundation work, bridge work, whether old or new, crib work, pipe line work and submarine work. Cutting of all wood, steel or concrete pile, whether by machine or hand; welding and cutting, peeling, and heading of all wood pile, steel sheeting and wood sheeting. The erecting and dismantling of all pile driving rigs, also derricks whether on land or water; also the moving, shoring and underpinning of all buildings. The loading and unloading of all derricks, cranes and pile driving materials. The tending, maintenance and operation of all valves pertaining to the operation of driving of pile. All diving and tending essential to the completion of jurisdictional claims.

All work done in the established yards of the Company and all work not enumerated above, shall be handled and manned as the Employer decides.

The pile driver will unload all material shipped in by rail from the point that the rail car is spotted.

All cleaning and preparation of all piling prior to driving.

The welding and attachment of all boot plates, pile points, splice plates, connectors, rock crosses, driving crosses, driving rigs, point reinforcements and overboots.

The construction, reconstruction, repair, alteration, demolition and partial or complete removal of all marine work including, but not limited to, docks, piers, wharves, quays, jetties, cribs, causeways, breakwaters, lighthouses and permanent buoys, etc. (mixing and placing of concrete excepted).

The driving and pulling of all wood, steel and concrete foundation piles and sheet piling.

The heading, pointing, splicing, cutting and welding of all piles.

The placing of all wales, bolts, studs, lagging, rods and washers including the cutting, drilling, boring or breaking of all holes or openings thereof.

The removal of all materials and/or obstructions of any nature (rip-rap included) that retard or interfere with the driving of piles or with the placing of wales, bolts and rods.
CARPENTER CRAFT JURISDICTION

This is to be subject to the discretion of the contractor who may choose to use blasting specialists or other demolition specialists.

The handling on the job of all materials used in the work.

The manning of all floating equipment (towing equipment excepted) engaged in the work enumerated, including deck engines, except machinery manned by Operating Engineers.

The placing of all rip-rap, fill stone, bedding stone, cover stone and concrete blocks in connection with marine construction. Work normally performed by Employers, such as soil tests, shoring, underpinning of buildings, cribbing, driving of sheet piling, marine divers, tenders, underwater construction workers and similar operations shall continue to be included in the jurisdiction of this Agreement.

All burning, cutting, welding and fabrication of pipe, H-beams, sheet pile (metal or wood), done on the job site or in the yard of the Employer shall be done by pile drivers. The driving of bearing piles, sheet piling with heavy equipment, caissons, pile caps, auger drilling and boring, the setting up for load testing for any type of piling, all layout and spotting for piling, caisson and boring work, all earth retention, ditch boarding, installing tiebacks.

ASBESTOS ABATEMENT CARPENTERS

(gg) All erection and maintenance of barriers and partitions used in the removing of asbestos or any abatement work. The abatement of any materials previously installed by the carpenter such as transite, ceiling and floor tiles. All operating and maintaining of current equipment used in any abatement work.
Official Request #: 563
Requestor: Michigan Technological University
Project Description: MUB North Side Access Ramp
Project Number: 34-16-05

Houghton County
Official 2017 Prevailing Wage Rates for State Funded Projects
Issue Date: 4/21/2017
Contract must be awarded by: 7/20/2017

Page 1 of 26

<table>
<thead>
<tr>
<th>Classification</th>
<th>Last Updated</th>
<th>Straight Time</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
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<tr>
<td>Asbestos, Lead and Mold Abatement Laborer</td>
<td>3/27/2017</td>
<td>$41.25</td>
<td>$55.00</td>
<td>$68.75</td>
<td>H H X X X X Y</td>
</tr>
<tr>
<td>Asbestos, Lead and Mold Abatement, Hazardous Material Handler</td>
<td>3/27/2017</td>
<td>$40.75</td>
<td>$54.25</td>
<td>$67.75</td>
<td>H H X X X X D Y</td>
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<tr>
<td>Boilermaker</td>
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<td>$81.08</td>
<td>$107.45</td>
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Apprentice Rates:
1st 6 months: $40.31, $59.49, $78.67
2nd 6 months: $41.45, $61.21, $80.95
3rd 6 months: $42.57, $62.88, $83.19
4th 6 months: $43.69, $64.57, $85.43
5th 6 months: $44.81, $66.24, $87.67
6th 6 months: $48.63, $72.50, $96.36
7th 6 months: $49.32, $73.01, $96.69
8th 6 months: $51.58, $76.40, $101.21
## Official Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>BR6</th>
<th>BR6TL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bricklayer</strong></td>
<td>Marble, Tile and Terrazzo Finisher</td>
<td>$36.55</td>
<td>$42.71</td>
</tr>
<tr>
<td></td>
<td>Make up day allowed comment</td>
<td>6/2/2014</td>
<td>6/2/2014</td>
</tr>
<tr>
<td></td>
<td>Four 10s allowed Monday-Thurs. Make up days: Friday &amp; Saturday.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bricklayer, stone mason, mosaic worker, plasterer, tuck pointer, pointer, caulk &amp; cleaner</td>
<td>$42.71</td>
<td>$42.71</td>
</tr>
<tr>
<td></td>
<td>Make up day allowed comment</td>
<td>6/2/2014</td>
<td>6/2/2014</td>
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<tr>
<td></td>
<td>Saturday All time over 12 hours pr day - double</td>
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### Apprentice Rates:

<table>
<thead>
<tr>
<th>Hours Range</th>
<th>Last Hourly</th>
<th>Straight Time</th>
<th>Double Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 749</td>
<td>$32.85</td>
<td>$40.24</td>
<td>$47.63</td>
</tr>
<tr>
<td>750 - 1499</td>
<td>$34.09</td>
<td>$42.10</td>
<td>$50.11</td>
</tr>
<tr>
<td>1500 - 2249</td>
<td>$35.32</td>
<td>$43.95</td>
<td>$52.57</td>
</tr>
<tr>
<td>2250 - 2999</td>
<td>$36.55</td>
<td>$45.79</td>
<td>$55.03</td>
</tr>
<tr>
<td>3000 - 3749</td>
<td>$37.78</td>
<td>$47.63</td>
<td>$57.49</td>
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<tr>
<td>3750 - 4499</td>
<td>$39.01</td>
<td>$49.48</td>
<td>$59.95</td>
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<tr>
<td>4500 - 5249</td>
<td>$40.25</td>
<td>$51.34</td>
<td>$62.43</td>
</tr>
<tr>
<td>5250 - 6000</td>
<td>$41.48</td>
<td>$53.19</td>
<td>$64.89</td>
</tr>
</tbody>
</table>

| **Marble, Tile and Terrazzo Layer** | BR6TL | $42.71 | $55.03 |
| Make up day allowed comment | 6/2/2014 | 6/2/2014 |
| Four 10s allowed Monday-Thurs. Make up days: Friday & Saturday. |

---

**Official Request #: 563**  
Requestor: Michigan Technological University  
Project Description: MUB North Side Access Ramp  
Project Number: 34-16-05  
County: Houghton  

**Official Rate Schedule**  
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter</td>
<td>Carpenter, Drywall Taper &amp; Finisher, &amp; Floor</td>
<td>CA1510-C</td>
<td>$42.75 $54.46 $66.17 X X H X H H D Y</td>
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<tr>
<td>Make up day allowed</td>
<td>comment</td>
<td>7/26/2016</td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Apprentice Rates:

| 1st 6 months | $33.38 | $40.41 | $47.43 |
| 2nd 6 months | $34.55 | $42.16 | $49.77 |
| 3rd 6 months | $35.72 | $43.19 | $52.11 |
| 4th 6 months | $36.90 | $45.69 | $54.47 |
| 5th 6 months | $38.07 | $47.44 | $56.81 |
| 6th 6 months | $39.24 | $49.19 | $59.15 |
| 7th 6 months | $40.41 | $50.95 | $61.49 |
| 8th 6 months | $41.58 | $52.71 | $63.83 |

Pile driver | CA1510-P | $42.95 | $54.76 | $66.57 X X H X H H D Y |
| Make up day allowed | comment | 7/26/2016 | |
| Saturday | |

Apprentice Rates:

<p>| 1st 6 months | $33.50 | $40.59 | $47.67 |
| 2nd 6 months | $34.68 | $42.35 | $50.03 |
| 3rd 6 months | $35.86 | $44.13 | $52.39 |
| 4th 6 months | $37.05 | $45.91 | $54.77 |
| 5th 6 months | $38.23 | $47.68 | $57.13 |
| 6th 6 months | $39.41 | $49.45 | $59.49 |
| 7th 6 months | $40.59 | $51.22 | $61.85 |
| 8th 6 months | $41.77 | $52.99 | $64.21 |</p>
<table>
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<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>Double Time Hourly</th>
<th>Overtime Provision</th>
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<tr>
<td>Cement Mason</td>
<td>BR6-CM</td>
<td>$42.71</td>
<td>$55.03</td>
<td>$67.35</td>
<td>H H D X H H D D Y</td>
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</tr>
<tr>
<td>Make up day allowed</td>
<td>comment</td>
<td>6/2/2014</td>
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</tr>
<tr>
<td>Make up days:</td>
<td>Friday and Saturday.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprentice Rates:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 749 hours</td>
<td>$34.09</td>
<td>$42.10</td>
<td>$50.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>750 - 1499 hours</td>
<td>$35.32</td>
<td>$43.95</td>
<td>$52.57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500 - 2249 hours</td>
<td>$36.55</td>
<td>$45.79</td>
<td>$55.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2250 - 2999 hours</td>
<td>$37.78</td>
<td>$47.63</td>
<td>$57.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000 - 3749 hours</td>
<td>$39.01</td>
<td>$49.48</td>
<td>$59.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3750 - 4500 hours</td>
<td>$40.25</td>
<td>$51.34</td>
<td>$62.43</td>
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<td></td>
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</tbody>
</table>

Cement Mason PL16-16  
$33.04 $43.99 $54.93 H H H H H H D Y

Make up day allowed | comment | 8/18/2016 |

Four 10s allowed Monday-Thursday with Friday or Saturday inclement weather make up days. Saturday hours for inclement weather make up shall be paid straight rate unless over 40 hours worked.

Apprentice Rates:  
1st year $25.38 $32.49 $39.61  
2nd year $27.57 $35.78 $43.99  
3rd year $29.76 $39.07 $48.37
### Electrician

**Classification**

<table>
<thead>
<tr>
<th>Name Description</th>
<th>Updated</th>
<th>Last Hourly</th>
<th>Straight Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
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</thead>
<tbody>
<tr>
<td>Sound and Communications Technician</td>
<td>8/26/2016</td>
<td>$36.60</td>
<td>$47.73</td>
<td>$58.85</td>
<td>H H H H H</td>
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<tr>
<td>EC-1070</td>
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<td>$47.73</td>
<td>$58.85</td>
<td>$70.88</td>
<td>Y</td>
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</tbody>
</table>

4 10 hour days allowed M-Th

Make up day allowed comment

8/26/2016

Friday for inclement weather or holidays

### Apprentice Rates:

- **1st Period**
  - $27.70
  - $34.37
  - $41.04

- **2nd Period**
  - $29.93
  - $37.72
  - $45.50

- **3rd Period**
  - $31.04
  - $39.38
  - $47.72

- **4th Period**
  - $32.15
  - $40.43
  - $49.94

- **5th Period**
  - $33.27
  - $42.73
  - $52.18

- **6th Period**
  - $34.38
  - $44.40
  - $54.40

Inside wireman for work above $160,000

**EC-906z2H**

$51.23

$68.06

$84.90

H H H H H D Y

A 4 ten schedule may be worked if 4 consecutive days, M-Th

Make up day allowed comment

8/30/2016

Friday

### Apprentice Rates:

- **2nd period indentured before 10/12/15**
  - $32.77
  - $43.20
  - $53.63

- **3rd period indentured before 10/12/15**
  - $36.26
  - $48.44
  - $60.61

- **4th period indentured before 10/12/15**
  - $39.73
  - $53.64
  - $67.55

- **5th period indentured before 10/12/15**
  - $41.47
  - $56.25
  - $71.03

- **6th period indentured before 10/12/15**
  - $43.21
  - $58.86
  - $74.51

- **1st period indentured after 10/12/15**
  - $25.83
  - $32.79
  - $39.75

- **2nd period indentured after 10/12/15**
  - $27.56
  - $35.39
  - $43.21

- **3rd period indentured after 10/12/15**
  - $31.04
  - $40.60
  - $50.17

- **4th period indentured after 10/12/15**
  - $34.52
  - $45.83
  - $57.13

- **5th period indentured after 10/12/15**
  - $37.99
  - $51.03
  - $64.07

- **6th period indentured after 10/12/15**
  - $41.47
  - $56.25
  - $71.03

---

**Official Request #: 563**

**Requestor:** Michigan Technological University

**Project Description:** MUB North Side Access Ramp

**Project Number:** 34-16-05

**County:** Houghton

---

**Official Rate Schedule**

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Page 5 of 26
### Classification Name Description

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Hourly</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside wireman for work below 160,000</td>
<td>EC-906z2L</td>
<td>$48.94</td>
<td>$64.63</td>
<td>$80.32</td>
<td>H H H H H H H D Y</td>
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</tr>
</tbody>
</table>

A 4 ten schedule may be worked if 4 consecutive days, M-Th

Make up day allowed comment 8/30/2016

Friday

**Apprentice Rates:**

1st period indentured before 10/12/15 $29.30 $38.00 $46.69

2nd period indentured before 10/12/15 $32.77 $43.20 $53.63

3rd period indentured before 10/12/15 $36.26 $48.44 $60.61

4th period indentured before 10/12/15 $39.73 $53.64 $67.55

5th period indentured before 10/12/15 $41.47 $56.25 $71.03

6th period indentured before 10/12/15 $43.21 $58.86 $74.51

1st period indentured after 10/12/15 $25.83 $32.79 $39.75

2nd period indentured after 10/12/15 $27.56 $35.39 $43.21

3rd period indentured after 10/12/15 $31.04 $40.60 $50.17

4th period indentured after 10/12/15 $34.52 $45.83 $57.13

5th period indentured after 10/12/15 $37.99 $51.03 $64.07

6th period indentured after 10/12/15 $41.47 $56.25 $71.03

**Elevator Constructor**

Elevator Constructor Mechanic EL-85 $70.77 $116.32 D D D D D D D Y

4 tens allowed M-TH

4/8/2013

**Apprentice Rates:**

1st year $50.27 $75.32

2nd year $54.83 $84.44

3rd year $57.10 $88.98

4th year $61.66 $98.10
### Classification: Glazier

**Name:** Glazier  
**Description:** GL-826  
**Last Updated:** 6/3/2016  
**Last Straight Time:** $44.78  
**Last Hourly:** $60.87  
**Last Double Overtime:** $76.95  
**Last Overtime Provision:** H H H H H H D Y  

- **4 tens allowed on consecutive days**

### Apprentice Rates:

- **1st 6 months:** $31.91  
- **2nd 6 months:** $33.52  
- **3rd 6 months:** $35.12  
- **4th 6 months:** $36.74  
- **5th 6 months:** $38.35  
- **6th 6 months:** $39.96  
- **7th 6 months:** $41.57  
- **8th 6 months:** $43.17

### Classification: Heat and Frost Insulator

**Name:** Heat and Frost Insulator  
**Description:** as127  
**Last Updated:** 11/3/2014  
**Last Straight Time:** $42.97  
**Last Hourly:** $55.93  
**Last Double Overtime:** $68.89  
**Last Overtime Provision:** H H H D D D Y  

- **Make up day allowed**

### Apprentice Rates:

- **1st year:** $30.01  
- **2nd year:** $32.60  
- **3rd year:** $35.19  
- **4th year:** $37.79

### Classification: Spray Insulation - Qualified Senior Sprayer

**Name:** Spray Insulation - Qualified Senior Sprayer  
**Description:** AS25S  
**Last Updated:** 3/31/2017  
**Last Straight Time:** $29.04  
**Last Hourly:** $42.35  
**Last Overtime Provision:** X X X H H H H N
Classification | Name | Description | Updated | Hourly | Half Time | Double Time | Overtime Provision
--- | --- | --- | --- | --- | --- | --- | ---
Ironworker | | | | | | | |
For work over $10 million: Structural, Ornamental, Machinery Rigger & Reinforcing Ironworker; installation of sheet metal siding

A 4-10 work week allowed Monday thru Thursday. Friday may be used as a make-up day. Hours in excess of 40 must be paid time and one half.

Make up day allowed

**Apprentice Rates:**

<table>
<thead>
<tr>
<th></th>
<th>0 - 1,000 hours</th>
<th>1,001 - 2,000 hours</th>
<th>2,001 - 3,000 hours</th>
<th>3,001 - 4,000 hours</th>
<th>4,001 - 5,000 hours</th>
<th>5,001 - 6,000 hours</th>
<th>6,001 - 7,000 hours</th>
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<tbody>
<tr>
<td>IR-8-A</td>
<td>$25.39</td>
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<td>$39.01</td>
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<tr>
<td>IR-8-B</td>
<td>$46.73</td>
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<td>$64.76</td>
<td>$82.79</td>
<td>$46.73</td>
<td>$64.76</td>
<td>$82.79</td>
</tr>
</tbody>
</table>

For work under $10 Million: Structural, Ornamental, Machinery Rigger & Reinforcing Ironworker; pre-engineered metal buildings

A 4-10 work week allowed Monday thru Thursday. Friday may be used as a make-up day. Hours in excess of 40 must be paid time and one half.

Make up day allowed

**Apprentice Rates:**

<table>
<thead>
<tr>
<th></th>
<th>0-1,000 hours</th>
<th>1,001 - 2,000 hours</th>
<th>2,001 - 3,000 hours</th>
<th>3,001 - 4,000 hours</th>
<th>4,001 - 5,000 hours</th>
<th>5,001 - 6,000 hours</th>
<th>6,001 - 7,000 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$25.39</td>
<td>$37.71</td>
<td>$39.01</td>
<td>$40.31</td>
<td>$41.61</td>
<td>$42.92</td>
<td>$44.22</td>
</tr>
</tbody>
</table>

Official Request #: 563
Requestor: Michigan Technological University
Project Description: MUB North Side Access Ramp
Project Number: 34-16-05
County: Houghton

Official Rate Schedule
Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

Page 8 of 26
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer</td>
<td>Class A Laborer - construction laborer on building and heavy construction work, storm, and sanitary sewers on all construction sites and streets which are not included in the road builder rates, tool crib attendant, civil engineer helper, rodman, oxi-gun operator, propane or acetylene cutting torch operator, motor driven buggies, chipping hammers, tamping machines, green cutting, sand blasters, mason tenders, mortar mixers, marterial mixers, vibrator operators, concrete mixers, laborers with concrete crew, mixer to pour, including pour time from trucks.</td>
<td>L1329-B-A</td>
<td>$33.71</td>
<td>$43.89</td>
<td>$54.07</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

5/4/2016

| | Apprentice Rates: | |
| | 0 - 1,000 hours | $28.62 | $36.25 | $43.89 | |
| | 1,001 - 2,000 hours | $29.64 | $37.79 | $45.93 | |
| | 2,001 - 3,000 hours | $30.66 | $39.31 | $47.97 | |
| | 3,001 - 4,000 hours | $32.69 | $42.36 | $52.03 | |

5/4/2016

| | Class B Laborer - Cement gun nozzleman, blasters, miners, drillers, buster operators, layers of all non-metallic pipe | L1329-B-B | $34.13 | $44.52 | $54.91 | X | X | X | X | X | X | D | Y |

5/4/2016

| | Class C Laborer - caisson worker & airtrack | L1329-B-C | $34.49 | $45.06 | $55.63 | X | X | X | X | X | X | D | Y |

5/4/2016

| | Class E Laborer - digester, tanks & kilns | L1329-B-D | $35.85 | $47.10 | $58.35 | X | X | X | X | X | X | D | Y |

5/4/2016
### Laborer - Hazardous

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A -</td>
<td>performing work in conjunction with site preparation and other preliminary work prior to actual removal, handling, or containment of hazardous waste substances not requiring use of personal protective equipment required by state or federal regulations; or a laborer performing work in conjunction with the removal, handling, or containment of hazardous waste substances when use of personal protective equipment level &quot;D&quot; is required.</td>
<td>$32.91 $46.37 $59.82</td>
</tr>
</tbody>
</table>

**Make up day allowed**

4 10s allowed M-Th or T-F; inclement weather makeup day Friday

**Apprentice Rates:**

<table>
<thead>
<tr>
<th>Work Hours Range</th>
<th>Straight Hourly</th>
<th>Half Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1,000</td>
<td>$27.93</td>
<td>$38.90</td>
<td>$49.86</td>
</tr>
<tr>
<td>1,001-2,000</td>
<td>$28.93</td>
<td>$40.40</td>
<td>$51.86</td>
</tr>
<tr>
<td>2,001-3,000</td>
<td>$29.92</td>
<td>$41.88</td>
<td>$53.84</td>
</tr>
<tr>
<td>3,001-4,000</td>
<td>$31.91</td>
<td>$44.86</td>
<td>$57.82</td>
</tr>
</tbody>
</table>

---

### Laborer - Hazardous

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class B -</td>
<td>performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels &quot;A&quot;, &quot;B&quot; or &quot;C&quot; is required.</td>
<td>$33.91 $47.87 $61.82</td>
</tr>
</tbody>
</table>

**Make up day allowed**

4 10s allowed M-Th or T-F; inclement weather makeup day Friday

**Apprentice Rates:**

<table>
<thead>
<tr>
<th>Work Hours Range</th>
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<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1,000</td>
<td>$28.68</td>
<td>$40.02</td>
<td>$51.36</td>
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<tr>
<td>1,001-2,000</td>
<td>$29.73</td>
<td>$41.60</td>
<td>$53.46</td>
</tr>
<tr>
<td>2,001-3,000</td>
<td>$30.77</td>
<td>$43.16</td>
<td>$55.54</td>
</tr>
<tr>
<td>3,001-4,000</td>
<td>$32.86</td>
<td>$46.29</td>
<td>$59.72</td>
</tr>
<tr>
<td>Classification</td>
<td>Last Updated</td>
<td>Straight Hourly</td>
<td>Time and Half Hourly</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--------------</td>
<td>-----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Laborer Underground - Tunnel, Shaft and Caisson</td>
<td>10/30/2014</td>
<td>$35.67</td>
<td>$47.07</td>
</tr>
<tr>
<td>Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1,000 work hours</td>
<td>$30.52</td>
<td>$39.35</td>
<td>$48.17</td>
</tr>
<tr>
<td>1,001-2,000 work hours</td>
<td>$31.55</td>
<td>$40.90</td>
<td>$50.23</td>
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<tr>
<td>2,001-3,000 work hours</td>
<td>$32.58</td>
<td>$42.44</td>
<td>$52.29</td>
</tr>
<tr>
<td>3,001-4,000 work hours</td>
<td>$34.64</td>
<td>$45.53</td>
<td>$56.41</td>
</tr>
<tr>
<td>Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder</td>
<td>10/30/2014</td>
<td>$35.76</td>
<td>$47.21</td>
</tr>
<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1,000 work hours</td>
<td>$30.58</td>
<td>$39.44</td>
<td>$48.29</td>
</tr>
<tr>
<td>1,001-2,000 work hours</td>
<td>$31.62</td>
<td>$41.00</td>
<td>$50.37</td>
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<tr>
<td>2,001-3,000 work hours</td>
<td>$32.66</td>
<td>$42.56</td>
<td>$52.45</td>
</tr>
<tr>
<td>3,001-4,000 work hours</td>
<td>$34.72</td>
<td>$45.65</td>
<td>$56.57</td>
</tr>
</tbody>
</table>

Official Request #: 563
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<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class III</td>
<td>Air tool operator (jack hammer man, bush hammer man and grinding man), first bottom man, second bottom man, cage tender, car pusher, carrier man, concrete man, concrete form man, concrete repair man, cement invert laborer, cement finisher, concrete shoveler, conveyor man, floor man, gasoline and electric tool operator, gunnite man, grout operator, welder, heading dinky man, inside lock tender, pea gravel operator, pump man, outside lock tender, scaffold man, top signal man, switch man, track man, tugger man, utility man, vibrator man, winch operator, pipe jacking man, wagon drill and air track operator and concrete saw operator (under 40 h.p.).</td>
<td>10/30/2014</td>
<td>$35.86</td>
<td>$47.36</td>
<td>$58.85</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $30.66, $39.56, $48.45
- 1,001-2,000 work hours: $31.70, $41.12, $50.53
- 2,001-3,000 work hours: $32.74, $42.68, $52.61
- 3,001-4,000 work hours: $34.82, $45.80, $56.77

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
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<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class IV</td>
<td>Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.</td>
<td>10/30/2014</td>
<td>$36.02</td>
<td>$47.60</td>
<td>$59.17</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $30.78, $39.74, $48.69
- 1,001-2,000 work hours: $31.83, $41.32, $50.79
- 2,001-3,000 work hours: $32.88, $42.89, $52.89
- 3,001-4,000 work hours: $34.97, $46.02, $57.07
<table>
<thead>
<tr>
<th>Classification Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
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<th>Double Overtime Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class V - Tunnel, shaft and caisson miner, drill runner, keyboard operator, power knife operator, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars)</td>
<td>LAUCT-Z2-5</td>
<td>$36.28</td>
<td>$47.99</td>
<td>$59.69</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $30.98 | $40.04 | $49.09
- 1,001-2,000 work hours: $32.04 | $41.63 | $51.21
- 2,001-3,000 work hours: $33.10 | $43.22 | $53.33
- 3,001-4,000 work hours: $35.22 | $46.40 | $57.57

| Class VI - Dynamite man and powder man. | LAUCT-Z2-6 | $36.59 | $48.45 | $60.31 | X | X | X | X | X | D | Y | 10/30/2014 |

**Apprentice Rates:**

- 0-1,000 work hours: $31.21 | $40.38 | $49.55
- 1,001-2,000 work hours: $32.28 | $41.99 | $51.69
- 2,001-3,000 work hours: $33.36 | $43.61 | $53.85
- 3,001-4,000 work hours: $35.51 | $46.84 | $58.15

| Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones. | LAUCT-Z2-7 | $28.86 | $36.86 | $44.85 | X | X | X | X | X | D | Y | 10/30/2014 |

**Apprentice Rates:**

- 0-1,000 work hours: $25.41 | $31.68 | $37.95
- 1,001-2,000 work hours: $26.10 | $32.72 | $39.33
- 2,001-3,000 work hours: $26.79 | $33.76 | $40.71
- 3,001-4,000 work hours: $28.17 | $35.82 | $43.47

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County: Houghton

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### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017

---

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<th>Straight Time and</th>
<th>a Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Landscape Laborer</strong></td>
<td>Landscape Specialist includes air, gas, and diesel equipment operator, skidsteer (or equivalent), lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs. Sundays paid at time &amp; one half. Holidays paid at double time.</td>
<td>LLAN-Z2-A</td>
<td>10/13/2015</td>
<td>$28.25</td>
<td>$39.04</td>
<td>$49.82</td>
<td>X</td>
</tr>
<tr>
<td>Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, material mover, truck driver on when seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs. Sundays paid at time &amp; one half. Holidays paid at double time.</td>
<td>LLAN-Z2-B</td>
<td>10/13/2015</td>
<td>$24.05</td>
<td>$32.74</td>
<td>$41.42</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Operating Engineer - DIVER</strong></td>
<td>Diver/Wet Tender/Tender/Rov Pilot/Rov Tender</td>
<td>GLF D</td>
<td>4/2/2014</td>
<td>$52.80</td>
<td>$79.20</td>
<td>$105.60</td>
<td>H</td>
</tr>
<tr>
<td><strong>Operating Engineer - Marine Construction</strong></td>
<td>Diver/Wet Tender, Engineer (hydraulic dredge)</td>
<td>GLF-1</td>
<td>1/23/2017</td>
<td>$72.32</td>
<td>$93.82</td>
<td>$115.32</td>
<td>X</td>
</tr>
</tbody>
</table>

**Make up day allowed**  
**Subdivision of county** all Great Lakes, islands therein, & connecting & tributary waters

---

**Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender**

Holiday pay = 2.5 times the straight hourly rate  
**Make up day allowed**  
**Subdivision of county** All Great Lakes, islands therein, & connecting & tributary waters

---

**Official Request #:** 563  
**Requestor:** Michigan Technological University  
**Project Description:** MUB North Side Access Ramp  
**Project Number:** 34-16-05  
**County:** Statewide

---

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### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017

**Page 15 of 26**

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<tr>
<th>Classification</th>
<th>Name</th>
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<th>Updated Hourly</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friction, Lattice Boom or Crane License Certification</td>
<td>GLF-2B</td>
<td>$72.32</td>
<td>$93.82</td>
<td>$115.32</td>
<td>X X H H H H D Y</td>
<td></td>
</tr>
</tbody>
</table>

- **Holiday pay = 2.5 times the straight hourly rate**
- **Make up day allowed:** 1/23/2017

**Subdivision of county:** All Great Lakes, islands, therein, & connecting & tributary waters

### Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs or more), Tug/Launch Operator, Loader, Dozer on Barge, Deck Machinery

| GLF-3 | $66.27 | $84.75 | $103.22 | X X H H H H H D Y |

- **Holiday pay = 2.5 times the straight hourly rate**
- **Make up day allowed:** 1/23/2017

**Subdivision of county:** All Great Lakes, islands therein, & connecting & tributary waters

### Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Off Road Trucks, Deck Hand, Tug Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe 115,000 lbs or less, Assistant Tug Operator

| GLF-4 | $60.07 | $75.45 | $90.82 | X X H H H H H D Y |

- **Holiday pay = 2.5 times the straight hourly rate**
- **Make up day allowed:** 1/23/2017

**Subdivision of county:** All Great Lakes, islands therein, & connecting & tributary waters

### Operating Engineer General Construction and Underground

#### Crane 120' boom & jib

| EN-324UP-120GU | $51.45 | $65.86 | $80.26 | X X H H H H D N |

- **Double time after 12 hours Mon-Sat**

**Comment:** 5/24/2016

#### Crane 140' boom & jib

| EN-324UP-140GU | $51.70 | $66.23 | $80.76 | X X H H H H D N |

- **Double time after 12 hours Mon-Sat**

**Comment:** 5/24/2016

#### Crane with 400' or longer main boom & jib

| EN-324UP-400GU | $54.40 | $70.28 | $86.17 | X X H H H H D N |

- **Double time after 12 hours Mon-Sat**

**Comment:** 5/24/2016

---

**Official Request #: 563**  
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**County:** Houghton

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Official 2017 Prevailing Wage Rates for State Funded Projects

Issue Date: 4/21/2017
Contract must be awarded by: 7/20/2017

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<th>Straight Time and a Half</th>
<th>Double Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A- Regular equipment operator, crane, dozer, front end loader, pumpcrete, squeezecrete, job mechanic, welder, concrete pump, excavator, milling &amp; pulverizing machines, &amp; scraper (self-propelled &amp; tractor drawn).</td>
<td>EN-324UP-AGU</td>
<td>EN-324UP-AGU</td>
<td>$50.95</td>
<td>$65.11</td>
<td>$79.26</td>
</tr>
<tr>
<td>Class B- Air-Trac Drill, boom truck (non-swing), concrete mixers, material hoist and tugger, pumps 6&quot; and over, beltcrete, sweeping machine, trencher, head grease man, winches, well points and freeze systems</td>
<td>EN-324UP-BGU</td>
<td>EN-324UP-BGU</td>
<td>$47.70</td>
<td>$60.23</td>
<td>$72.76</td>
</tr>
<tr>
<td>Class C- Fork Truck, air compressor, conveyer, concrete saw, farm tractor(without attachments), generator, guard post driver, mulching machines, pumps under 6&quot;, welding machines</td>
<td>EN-324UP-CGU</td>
<td>EN-324UP-CGU</td>
<td>$47.12</td>
<td>$59.36</td>
<td>$71.60</td>
</tr>
<tr>
<td>Class D- Oiler, fireman, heater operator, brock concrete breaker, elevators (other than passenger), end dump &amp; skid steer</td>
<td>EN-324UP-DGU</td>
<td>EN-324UP-DGU</td>
<td>$46.18</td>
<td>$57.95</td>
<td>$69.72</td>
</tr>
<tr>
<td>Crane 220' boom &amp; jib</td>
<td>EN-324UP-GU</td>
<td>EN-324UP-GU</td>
<td>$51.95</td>
<td>$66.61</td>
<td>$81.26</td>
</tr>
</tbody>
</table>

Apprentice Rates:
1st 6 months $40.71 $50.62 $60.53
2nd 6 months $42.12 $52.74 $63.35
3rd 6 months $43.54 $54.87 $66.19
4th 6 months $44.96 $57.00 $69.03
5th 6 months $46.37 $59.11 $71.85
6th 6 months $47.79 $61.24 $74.69

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</thead>
<tbody>
<tr>
<td><strong>Mechanic w/ truck &amp; tools</strong></td>
<td>EN-324UP-MGU</td>
<td>5/24/2016</td>
<td>$52.45</td>
<td>$67.36</td>
<td>X X H H H H D N</td>
</tr>
<tr>
<td>Double time after 12 hours Mon-Sat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating Engineer Steel Work</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane 120' boom &amp; jib</td>
<td>EN-324UP-120S</td>
<td>5/24/2016</td>
<td>$51.85</td>
<td>$66.46</td>
<td>X X H H H H D Y</td>
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<tr>
<td>Double time after 12 hours Mon-Sat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crane 140' boom &amp; jib</td>
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<td>7/8/2015</td>
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<td>Mechanic w/ truck &amp; tools</td>
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<td>Oiler &amp; Fireman</td>
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### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017  
**Page 18 of 26**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and Half</th>
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<th>Overtime Provision</th>
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Double time after 12 hours Mon-Sat

**Apprentice Rates:**

- 1st 6 months: $40.99  
- 2nd 6 months: $42.26  
- 3rd 6 months: $43.87  
- 4th 6 months: $45.29  
- 5th 6 months: $46.73  
- 6th 6 months: $48.17

| Painter | PT-1011 | $31.25 | $41.01 | $50.76 | H | H | H | H | H | H | H | D | N |

**Apprentice Rates:**

- 1st 1000 hours: $23.45  
- 2nd 1000 hours: $24.42  
- 3rd 1000 hours: $25.40  
- 4th 1000 hours: $26.37  
- 5th 1000 hours: $27.35  
- 6th 1000 hours: $28.32  
- 7th 1000 hours: $29.30  
- 8th 1000 hours: $30.27

Official Request #: 563  
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Project Description: MUB North Side Access Ramp  
Project Number: 34-16-05  
County: Houghton  

**Official Rate Schedule**

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

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## Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017  
**Page 19 of 26**

### Classification Last Straight Time and Double Overtime Updated Hourly Half Time Provision

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<th>TM247</th>
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<th>$38.20</th>
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<tbody>
<tr>
<td>General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant</td>
<td>4/17/2015</td>
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**Official Request #:** 563  
**Requestor:** Michigan Technological University  
**Project Description:** MUB North Side Access Ramp  
**Project Number:** 34-16-05  
**County:** Statewide

---

**Official Rate Schedule**

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.

---

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<table>
<thead>
<tr>
<th>Classification Description</th>
<th>Name</th>
<th>Hourly</th>
<th>Half Time</th>
<th>Straight Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
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<tbody>
<tr>
<td>Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment</td>
<td>TM247-2</td>
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<td>CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work</td>
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<td>Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated</td>
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<td>Combo Unit driver &amp; Jetter-Vac Operator</td>
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<td>Pipe Bursting &amp; Slip-lining Equipment Operator</td>
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Plasterer

Plasterer PL16UP  

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<th>Double Time</th>
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<tr>
<td>10/23/2012</td>
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**Apprentice Rates:**

- 1st year: $29.67, $38.06, $46.46
- 2nd year: $32.25, $41.94, $51.62
- 3rd year: $34.84, $45.82, $56.80

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Project Number: 34-16-05  
County: Houghton

Official Rate Schedule  
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### Plumber, Pipefitter

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight</th>
<th>Time and Half</th>
<th>Double Overtime Provision</th>
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</thead>
<tbody>
<tr>
<td>Plumber &amp; Pipefitter</td>
<td>PL-111</td>
<td>7/30/09</td>
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</table>

- 4 ten hour days may be worked only Monday-Thursday
- Make up day allowed

#### Apprentice Rates:

| Apprentice 1  | $23.96 | $35.94 | $47.92 |
| Apprentice 2  | $25.44 | $38.16 | $50.88 |
| Apprentice 3  | $35.32 | $52.98 | $70.64 |
| Apprentice 4  | $36.65 | $54.98 | $73.30 |
| Apprentice 5  | $37.99 | $56.98 | $75.98 |
| Apprentice 6  | $39.47 | $59.20 | $78.94 |

### Roofer

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<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>Last Straight</th>
<th>Time and Half</th>
<th>Double Overtime Provision</th>
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<tbody>
<tr>
<td>Commercial Roofer</td>
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</table>

- Make up day allowed

#### Apprentice Rates:

| Apprentice 1  | $20.84 | $25.96 | $31.08 |
| Apprentice 2  | $21.67 | $27.17 | $32.67 |
| Apprentice 3  | $22.48 | $28.37 | $34.26 |
| Apprentice 4  | $23.29 | $29.56 | $35.82 |
| Apprentice 5  | $24.09 | $30.72 | $37.36 |
| Apprentice 6  | $24.90 | $31.91 | $38.93 |

### Sewer Relining

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<th>Name</th>
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<th>Last Straight</th>
<th>Time and Half</th>
<th>Double Overtime Provision</th>
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<tbody>
<tr>
<td>Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV</td>
<td>SR-I</td>
<td>11/24/15</td>
<td>$43.66</td>
<td>$59.01</td>
<td>$74.36</td>
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- H H H H H H D N

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**Official Request #: 563**  
**Requestor: Michigan Technological University**  
**Project Description: MUB North Side Access Ramp**  
**Project Number: 34-16-05**  
**County: Statewide**
### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 4/21/2017  
**Contract must be awarded by:** 7/20/2017  

<table>
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<th>Classification</th>
<th>Description</th>
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<th>Straight Hourly</th>
<th>Half Time</th>
<th>Double Time</th>
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<td>Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.</td>
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**Apprentice Rates:**

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<th>4th 6 months</th>
<th>5th 6 months</th>
<th>6th 6 months</th>
<th>7th 6 months</th>
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**Make up day allowed comment:**

A make up day may be worked due to inclement weather, the make up hours shall be paid at the regular hourly rate of pay.

---

**Official Request #:** 563  
**Requestor:** Michigan Technological University  
**Project Description:** MUB North Side Access Ramp  
**Project Number:** 34-16-05  
**County:** Houghton

---

**Official Rate Schedule**

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## Sprinkler Fitter

<table>
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<th>Description</th>
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**Apprentice Rates:**

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<tbody>
<tr>
<td>Class 1</td>
<td>$23.03</td>
<td>$30.60</td>
<td>$38.16</td>
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<td>Class 2</td>
<td>$24.71</td>
<td>$33.12</td>
<td>$41.52</td>
<td></td>
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<tr>
<td>Class 3</td>
<td>$34.01</td>
<td>$43.26</td>
<td>$52.50</td>
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<tr>
<td>Class 4</td>
<td>$35.69</td>
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<td>$55.86</td>
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<td>Class 5</td>
<td>$37.62</td>
<td>$48.55</td>
<td>$59.47</td>
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<tr>
<td>Class 6</td>
<td>$39.30</td>
<td>$51.07</td>
<td>$62.83</td>
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<tr>
<td>Class 7</td>
<td>$40.99</td>
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<td>Class 8</td>
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<td>Class 9</td>
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<td>$58.64</td>
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</tr>
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<td>Class 10</td>
<td>$46.03</td>
<td>$61.16</td>
<td>$76.29</td>
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</table>

## Truck Driver

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck Driver</td>
<td>of all trucks of 8 cubic yd capacity or over</td>
<td>6/7/2016</td>
<td>$44.10</td>
<td>$48.81</td>
<td>H H H H H H H Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of all trucks of 8 cubic yard capacity or less</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(except dump trucks of 8 cubic yard capacity or over, tandem axle trucks, transit mix and semis, euclid type equipment, double bottoms and low boys)</td>
<td>6/7/2016</td>
<td>$44.00</td>
<td>$48.66</td>
<td>H H H H H H H Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>on euclid type equipment</td>
<td>6/7/2016</td>
<td>$44.25</td>
<td>$49.04</td>
<td>H H H H H H H Y</td>
<td></td>
</tr>
</tbody>
</table>

Official Request #: 563  
Requestor: Michigan Technological University  
Project Description: MUB North Side Access Ramp  
Project Number: 34-16-05  
County: Houghton  

Official Rate Schedule

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight</th>
<th>Time and</th>
<th>Double</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground Laborer Open Cut, Class I</td>
<td>Construction Laborer</td>
<td></td>
<td>$32.75</td>
<td>$42.68</td>
<td>$52.61</td>
<td>X X X X X X D Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/30/2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td>$28.35</td>
<td>$36.08</td>
<td>$43.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-1,000 work hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,001-2,000 work hours</td>
<td></td>
<td>$29.23</td>
<td>$37.40</td>
<td>$45.57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,001-3,000 work hours</td>
<td></td>
<td>$30.11</td>
<td>$38.72</td>
<td>$47.33</td>
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<tr>
<td></td>
<td>3,001-4,000 work hours</td>
<td></td>
<td>$31.87</td>
<td>$41.36</td>
<td>$50.85</td>
<td></td>
</tr>
<tr>
<td>Underground Laborer Open Cut, Class II</td>
<td>Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.</td>
<td></td>
<td>$32.89</td>
<td>$42.89</td>
<td>$52.89</td>
<td>X X X X X X D Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/30/2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td>$28.46</td>
<td>$36.25</td>
<td>$44.03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-1,000 work hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,001-2,000 work hours</td>
<td></td>
<td>$29.34</td>
<td>$37.57</td>
<td>$45.79</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,001-3,000 work hours</td>
<td></td>
<td>$30.23</td>
<td>$38.90</td>
<td>$47.57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3,001-4,000 work hours</td>
<td></td>
<td>$32.00</td>
<td>$41.56</td>
<td>$51.11</td>
<td></td>
</tr>
<tr>
<td>Underground Laborer Open Cut, Class III</td>
<td>Air, gasoline and electric tool operator, vibrator operator, drillers, pump man, tar kettle operator, bracers, rodder, reinforced steel or mesh man (e.g. wire mesh, steel mats, dowel bars, etc.), cement finisher, welder, pipe jacking and boring man, wagon drill and air track operator and concrete saw operator (under 40 h.p.), windlass and tugger man, and directional boring man.</td>
<td></td>
<td>$33.02</td>
<td>$43.09</td>
<td>$53.15</td>
<td>X X X X X X D Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/30/2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td>$28.56</td>
<td>$36.40</td>
<td>$44.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-1,000 work hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,001-2,000 work hours</td>
<td></td>
<td>$29.45</td>
<td>$37.74</td>
<td>$46.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,001-3,000 work hours</td>
<td></td>
<td>$30.34</td>
<td>$39.07</td>
<td>$47.79</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3,001-4,000 work hours</td>
<td></td>
<td>$32.13</td>
<td>$41.76</td>
<td>$51.37</td>
<td></td>
</tr>
</tbody>
</table>

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### Underground Laborer Open Cut, Class IV

- **Name**: LAUC-Z5-4
- **Description**: Trench or excavating grade man.
- **Last Updated**: 10/30/2014
- **Straight Hourly**: $33.07
- **Straight Time and a Half**: $43.16
- **Double Time**: $53.25
- **Overtime Provision**: X X X X X X D Y

**Apprentice Rates:**
- 0-1,000 work hours: $28.59
- 1,001-2,000 work hours: $29.49
- 2,001-3,000 work hours: $30.38
- 3,001-4,000 work hours: $32.17

### Underground Laborer Open Cut, Class V

- **Name**: LAUC-Z5-5
- **Description**: Pipe Layer
- **Last Updated**: 10/30/2014
- **Straight Hourly**: $33.12
- **Straight Time and a Half**: $43.24
- **Double Time**: $53.35
- **Overtime Provision**: X X X X X X D Y

**Apprentice Rates:**
- 0-1,000 work hours: $28.63
- 1,001-2,000 work hours: $29.53
- 2,001-3,000 work hours: $30.43
- 3,001-4,000 work hours: $32.22

### Underground Laborer Open Cut, Class VI

- **Name**: LAUC-Z5-6
- **Description**: Grouting man, top man assistant, audio visual television operations and all other operations in connection with closed circuit television inspection, pipe cleaning and pipe relining work & the installation and repair of water service pipe and appurtenances.
- **Last Updated**: 10/30/2014
- **Straight Hourly**: $30.50
- **Straight Time and a Half**: $39.31
- **Double Time**: $48.11
- **Overtime Provision**: X X X X X X D Y

**Apprentice Rates:**
- 0-1,000 work hours: $26.66
- 1,001-2,000 work hours: $27.43
- 2,001-3,000 work hours: $28.20
- 3,001-4,000 work hours: $29.73

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**Official Request #: 563**

**Requestor:** Michigan Technological University

**Project Description:** MUB North Side Access Ramp

**Project Number:** 34-16-05

**County:** Houghton

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**Official Rate Schedule**

Every contractor and subcontractor shall keep posted on the construction site, in a conspicuous place, a copy of all prevailing wage and fringe benefit rates prescribed in a contract.
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Updated</th>
<th>Straight Hourly</th>
<th>Half Time</th>
<th>a Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground Laborer Open Cut, Class VII</td>
<td>Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes, flagstones etc.</td>
<td>LAUC-Z5-7</td>
<td>$28.61</td>
<td>$36.47</td>
<td>$44.33</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $25.25, $31.44, $37.61
- 1,001-2,000 work hours: $25.92, $32.44, $38.95
- 2,001-3,000 work hours: $26.59, $33.44, $40.29
- 3,001-4,000 work hours: $27.94, $35.47, $42.99

10/30/2014

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