Central Heating Plant
Deaerator Repair

September 30, 2017
Central Heating Plant – Deaerator Repair
41-17-04

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INVITATION TO BID
MICHIGAN TECHNOLOGICAL UNIVERSITY
HOUGHTON, MICHIGAN 49931

PROJECT: Central Heating Plant Deaerator Repair
Michigan Technological University Project #41-17-04

PREBID MTG: All Prime bidders must contact Project Engineer, Larry Hermanson at 906-487-2706 to schedule a mandatory pre-bid site visit. Others are encouraged to attend site visit.

DUE DATE: Until 2:00 P.M. local time on November 03, 2017 the Owner will receive sealed proposals for the work as herein set forth at the offices of:

Ms. Lori Weir
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 will be available on October 23, 2017. These documents can be viewed and downloaded on that date from the Facilities Management web site at the following address: http://www.mtu.edu/facilities/planning/bids/
Please submit technical questions in writing to Project Engineer, Larry Hermanson, at ldherman@mtu.edu.

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. Lori Weir  
Facilities Management  
Michigan Technological University  
1400 Townsend Drive  
Houghton, MI 49931-1295

The Project consists of replacement of deaerator vessel, piping and insulation as outlined in the drawings and specifications.

Having carefully read the specifications and drawings dated September 30, 2017 for Michigan Technological University Central Heating Plant Deaerator Repair, the undersigned agrees to perform the work in accordance with the Contract Documents for Project No. 41-17-04.

Our lump sum base bid price to furnish and install all materials necessary to complete the project is:

$_____________________________________________________________  
(Bid price in numbers and words)

Bidder acknowledges receipt of the following addenda:

Addendum No. ___________________________ Dated: ___________________________

Addendum No. ___________________________ Dated: ___________________________

The undersigned has used the proposal of the following subcontractors to complete his bid and agrees to employ the firms listed below for the work:

________________________________________________________

________________________________________________________

________________________________________________________

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 P.M. on November 03, 2017.

41-17-04 / Deaerator Repair  00 42 00 - 1  BID PROPOSAL FORM
# Owner/Contractor Agreement

<table>
<thead>
<tr>
<th>Owner:</th>
<th>Michigan Tech University, 1400 Townsend Dr., Houghton, MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project:</td>
<td>Central Heating Plant Deaerator Repair</td>
</tr>
<tr>
<td>Project #:</td>
<td>41-17-04</td>
</tr>
<tr>
<td>Contractor:</td>
<td></td>
</tr>
<tr>
<td>Construction Start Date:</td>
<td>November 20, 2017 or Date of Notice to Proceed</td>
</tr>
<tr>
<td>Contract Completion Date:</td>
<td>February 1, 2018 or Date of Final Payment</td>
</tr>
</tbody>
</table>

This Agreement, is authorized and made to be effective as of this <xx day of xx, 2017> between Michigan Technological University, a Michigan constitutional corporation located in Houghton, Michigan, (the “University”) and < >, (the “Contractor”), a corporation located at < >, 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 41-17-04 for the Deaerator Repair Project prepared by Michigan Tech Facilities Management, 1400 Townsend Dr., Houghton, MI, 49931.

The Project consists of replacement of deaerator vessel, piping and insulation as outlined in the drawings and specifications.

**ARTICLE 3 – SCHEDULE**
The Work to be performed under this Contract shall begin November 20, 2017 or Date of Notice to Proceed and shall be substantially completed on or before the Completion Date, February 1, 2018.

ARTICLE 4 - PROGRESS PAYMENTS:

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 issued 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 off-site at a location agreed upon in writing by Michigan Tech for subsequent incorporation in the completed construction may be included in the Application for Payment.
3) Retainage will be 10% of the amount due to the contractor until the completion of the work. Upon issuance of Certificate of Final Completion by the Owner, Contractor may submit for 100% payment.

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 an Application for Payment and Conditional Waiver and Release for the Progress Payment are received 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 must request in writing 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.

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 project dated September 30, 2017 as listed in the Table of Contents
- Drawings for this project dated September 30, 2017 as listed on the Cover Sheet.
- Any Addendum issued prior to the bid date.

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 based on and including the following **Substitutions** and **Alternates**: *(To be determined prior to the contract signing.)*

The amount shown below shall be both in words and in figures. In case of discrepancy, the amount shown in words shall govern.

<table>
<thead>
<tr>
<th>Contract Lump Sum</th>
<th>$ __________</th>
</tr>
</thead>
</table>

IN WITNESS, WHEROF, 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 A. Sleeman
Executive Director of Facilities Management
PART 1 GENERAL

1.01 SECTION INCLUDES
A. Project Schedule

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 PRODUCTS: Not used

PART 3 EXECUTION

3.01 MAINTAINING OVERALL PROJECT SCHEDULE
A. It is critical to the Owner that the overall project schedule be maintained.
010000 - GENERAL REQUIREMENTS

1.1. INSTRUCTION TO BIDDERS

1.1.1. 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.

1.1.2. 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.

1.1.3. 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 compliance with all bond and insurance requirements will constitute a proposal and upon the Contractor furnishing satisfactory proof of forfeiting bid security. No bid may be withdrawn within 60 days after opening date without the Owner deems, in its sole discretion, to be in the best interest of the Owner. All proposals will be returned within 10 days after the bid opening.

1.1.4. 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. 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.

1.1.5. 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 Contractor furnishing 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.

1.1.6. 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.

1.2. GENERAL CONDITIONS

1.2.1. DEFINITIONS

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

1.2.2. 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 among 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.

1.2.3. 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 or account thereof, and shall comply with all laws, ordinances, and codes applicable to any portion of the work.

1.2.4. EXAMINATION OF PREMISES: The Contractor shall become familiar with local and on-site conditions affecting the job and the cost thereof, shall 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 shall 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.

1.2.5. 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.

1.2.6. 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 the kind and quality of materials, at no additional cost to the University.

1.2.7. 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 anyone not skilled 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 change 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 \% 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 time for completion of the Work
shall be extended on account of any such suspension order by the
Owner. In the event the Owner orders a 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, or at
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 shall be liable for any excess
costs occasioned by the Owner. In such case the Owner may
purchase 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
promise warranting all work under this Contract against faulty
workmanship and defective materials, and to make good, at his
own expense and promptly upon request by the Owner, all
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.

Retainage will be 10% of the amount due to the contractor until the
completion of the particular group of buildings being worked on.
Upon issuance of Certificate of Final Completion by the Owner,
Contractor may submit for 100% payment for that group of
buildings. Contractors’ one year warranty for the work for each
group of buildings being worked on will begin when the Substantial
Completion Notice is issued for that group of buildings.

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 Owner 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 insure 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 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; said forms may also
be in effect prior to the taking of

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 Commission may, as part of
its order based upon such findings, certify said findings
to the State Administrative Board of the State of
Michigan, which the Board may order the cancellation of the Contract found to have been violated, and/or declare the contractor ineligible for future contracts with the State and its political and civil subdivisions, departments, officers, and including the governing boards of institutions of higher education, until the contractor complies with said order of the Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Civil Rights Commission to participate in such proceedings.

7. The Contractor will include, or incorporate by reference, the provisions of the foregoing paragraphs "1" thru "6" in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Michigan Civil Rights Commission and will provide in every subcontract or purchase order that said provisions will be binding upon each subcontractor or seller.

1.2.16 PERMITS, FEES AND NOTICES: The Contractor Secure and pay for all permits, fees, and licenses required by State or Local governments necessary for the proper execution and completion of the work. The Contractor shall specifically secure Houghton County permits for Electrical, Mechanical and Plumbing work and schedule work inspections as required for approval. The Contractor shall give all notices and comply with all laws, ordinances, 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. The schedule shall be coordinated with the Owner's required use of the facilities and other contractors construction schedules, 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 machines 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 equipment as required by applicable codes and ordinances and requirements of the Owner's insurance carriers. Prior to start of work, the Contractor shall be knowledgeable and proficient in Hot Work safety and in the Owner's Hot Work policies, procedures and requirements. The Contractor shall faithfully follow the Owner's Hot Work Policy, which regulates any temporary operation involving open flames or producing heat and/or sparks. The Contractor shall designate a Fire Safety Supervisor and Fire Watch
for each Hot Work operation. The Fire Safety Supervisor shall not permit a hot work operation to proceed unless and until the provisions and required precautions checklist of the Owner’s Hot Work permit are adequately addressed. The Fire Watch shall monitor the Hot Work area during and after the hot work operation to take measures to prevent fires and to respond to fires if they start.

During all construction operations in occupied building space, the Contractor shall construct and maintain a one-hour fire resistance separation between the part of the building under construction and the occupied part of the building, per the Life Safety Code NFPA 101, Section 1-3.11, 1997 Edition.

1.2.22. PARKING AND USE OF ROADS: Immediately after the award of the Contract, the Contractor shall consult with the Director of Engineering Services to determine authorized parking and access to the Site, routing of all construction vehicles, and rerouting of other traffic during construction, and shall organize the work in relation thereto.

At the beginning of the field work, the Contractor shall post signs limiting construction parking, if available, to the construction area. Parking for worker’s cars is not guaranteed and is the Contractor’s responsibility.

During construction, when use of roads or sidewalks is restricted by construction work, the Contractor shall erect temporary barricades, post notices and warning lights, and when required during working hours, direct traffic to prevent congestion. The Contractor shall maintain such as long as temporary work requires and then remove from the public areas.

1.2.23. SAFETY PRECAUTIONS: During the progress of the work, the Contractor shall maintain adequate facilities for the protection and safety of all persons and property. All local, state, and federal laws, ordinances, rules, and regulations pertaining to the kind, use, and loading of all apparatus and equipment shall be complied with. Work shall be done to conformance with "General Safety Rules and Regulations for the Construction Industry" published by the Department of Labor, Construction Safety Standards Commission, Lansing, Michigan 48926.

The contractor will immediately report all accidents involving persons and property to the University Public Safety Dept. A copy of the accident report must be filed with the Public Safety Dept.

The contractor shall conduct safety meetings during the progress of work. A copy of the minutes of these meetings must be submitted to the University. Contractor shall acknowledge Owner’s Safety Requirements.

1.2.24. SUBSTITUTIONS:
1. The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, 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 instruct 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:

A. "RETURNED - NOT RELEASED" Deficiencies as marked indicate the drawings and schedules do not meet the requirements of the Contract Documents and shall be redrawn, revised, and resubmitted.

B. "REVIEWED AS NOTED" Deficiencies as marked indicate the drawings and schedules are subject to corrections to meet the requirements of the Contract Documents and are released for shop drawing work only. Drawings are released for shop work only, but are to be corrected and resubmitted for final approval.

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

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.

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: n/a

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 will be done on AIA form G703.

PART 7 DOCUMENT CLARIFICATION - All inquiries regarding project specifications and drawings shall be made to the Project Architect/Engineer listed on the Invitation to Bid.

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 February 1, 2018.

PART 9 EQUAL EMPLOYMENT OPPORTUNITY – All bidders shall comply with current Federal and State Equal Employment Opportunity requirements.

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 consists of replacement of deaerator vessel, piping and insulation as outlined in the drawings and specifications.

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.
01 00 02 PAYMENT PROCEDURES

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. Waivers of Lien: With each Application for Payment, submit waivers of lien as indicated in the Agreement.

G. 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.

H. 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.

I. 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
APPLICATION AND CERTIFICATION FOR PAYMENT

TO OWNER: PROJECT: APPLICATION NO: Distribution to:

FROM CONTRACTOR: VIA ARCHITECT:

PERIOD TO: CONTRACTOR

PROJECT NOS:

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
      (Column D + E on G703)
   b. % of Stored Material $
      (Column F on G703)
      Total Retainage (Lines 5a + 5b or Column D on G703) $ 0.00
6. TOTAL EARNED LESS RETAINAGE $ 0.00
    (Line 4 Less Line 5 Total)
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

CHANGE ORDER SUMMARY

ADDITIONS

DEDUCTIONS

Total changes approved in previous months by Owner

Total approved this Month

TOTALS

NET CHANGES by Change Order

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.

CONTRACTOR:
By: ___________________________ Date: ___________________________

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.

ARCHITECT:

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.

AIA DOCUMENT G702 · APPLICATION AND CERTIFICATION FOR PAYMENT · 1992 EDITION · AIA · ©1992 THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVE., N.W., WASHINGTON, DC 20006-5292

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>ITEM NO.</th>
<th>DESCRIPTION OF WORK</th>
<th>SCHEDULED VALUE</th>
<th>WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)</th>
<th>WORK COMPLETED THIS PERIOD</th>
<th>MATERIALS PRESENTLY STORED (NOT IN D OR E)</th>
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GRAND TOTALS $0.00   $0.00   $0.00   $0.00   $0.00 $0.00 $0.00

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity
CERTIFICATE OF SUBSTANTIAL COMPLETION

Project: Central Heating Plant Deaerator Repair
Owner: Michigan Technological University

Owner: Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931

Project Number: 41-17-04
Contractor: Deaerator Repair
Contract Date:

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 ____________________________________________________.

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 5 PM on the date listed on the Project Schedule for these buildings.

Contractor Signature ____________________________ By ____________________________ Date ____________________________

Owner Signature ____________________________ By ____________________________ Substantial Completion Date ____________________________

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.

Owner Signature ____________________________ By ____________________________ Date of Commencement of Warranties Completion Date ____________________________
Project: Central Heating Plant Deaerator Repair
Owner: Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931

Project Number: 42-27-04
Contractor:

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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The CONTRACTOR, as a condition precedent to final payment for the Central Heating Plant Deaerator Repair, shall execute this Guaranty to the OWNER, guaranteeing for one (1) year from the date of final payment, 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, including those as listed below, is _____________________________

---

**OWNER:**

<table>
<thead>
<tr>
<th>Print</th>
<th>Signature</th>
<th>Date</th>
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</table>

**CONTRACTOR:**

<table>
<thead>
<tr>
<th>Print</th>
<th>Signature</th>
<th>Date</th>
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</table>
**CONSENT OF SURETY TO FINAL PAYMENT**

*AIA Document G707*  
(Instructions on reverse side)

<table>
<thead>
<tr>
<th>TO OWNER:</th>
<th>ARCHITECT'S PROJECT NO.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Name and address)</td>
<td>CONTRACT FOR:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>CONTRACT DATED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Name and address)</td>
<td></td>
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</table>

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the 

(Surety)

on bond of  

(Contractor)

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  

(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:  

(Sa)l

(Printed name and title)

---

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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.

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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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</tbody>
</table>
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: __________________________
My/our contract with _________________________________ to provide _________________________________ for the improvement of the property described as _________________.

Michigan Tech Project #41-17-04, having been fully paid and satisfied, with respect to our rights under the Payment / Lien Bond covering said Project and all of our rights to pursue payment under the Payment/Lien Bond No. issued by <<<name of prime contractor>>> as principal and <<<name of payment bond surety>>> as surety, together with any rights, demands, or causes of action we may have against <<<name of prime contractor>>> or <<<name of payment bond surety>>>, by signing this waiver, all my/our construction lien rights against such property are hereby waived and released.

__________________________
(Printed Name of Lien Claimant)

__________________________
(Signature of lien claimant)

Signed on:___________________ Address:___________________

__________________________

Telephone:___________________

DO NOT SIGN BLANK OR INCOMPLETE FORMS. RETAIN A COPY.

END OF SECTION 010018
Project: Central Heating Plant Deaerator Repair  
Owner: Michigan Technological University  
1400 Townsend Drive  
Houghton, MI  49931  

Project Number: 41-17-04  
Contract for:  
Contract Date:  

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
010020 Certificate of Final Completion

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 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. PROJECT: Central Heating Plant Deaerator Repair PROJECT No.: 41-17-04</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNER: Michigan Technological University 1400 Townsend Dr., Houghton, MI, 49931</td>
<td>ARCHITECT: Michigan Technological University</td>
</tr>
<tr>
<td>DATE OF ISSUE:</td>
<td>EFFECTIVE DATE:</td>
</tr>
</tbody>
</table>

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

**Description:**

**Reason for Change Order:**

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

<table>
<thead>
<tr>
<th>CHANGE IN CONTRACT PRICE:</th>
<th>CHANGE IN CONTRACT TIMES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Contract Price: $</td>
<td>Original Contract Times: <em>(calendar days or dates)</em></td>
</tr>
<tr>
<td>Net changes from previous C. O.’s No. _____ to _____ $</td>
<td>Net changes from previous C. O.’s No. _____ to _____ <em>(calendar days)</em></td>
</tr>
<tr>
<td>Contract Price Prior to this Change Order: $</td>
<td>Contract Times prior to this Change Order: <em>(calendar days or dates)</em></td>
</tr>
<tr>
<td>Net Increase (decrease) of this Change Order: $</td>
<td>Net Increase (decrease) of this Change Order: <em>(calendar days)</em></td>
</tr>
<tr>
<td>Contract Price with all Approved Change Orders: $</td>
<td>Contract Times with all Approved Change Orders: <em>(calendar days or dates)</em></td>
</tr>
</tbody>
</table>

**ACCEPTED:** (Contractor)

By: 
Date:  

**APPROVED:** (Owner): Michigan Tech University

By: 
Date:  

41-17-04 / Deaerator Repair 01 00 22 - 1 CHANGE ORDER
PART 1 GENERAL

1.01 PROJECT
A. Project Name: Central Heating Plant Deaerator Repair
B. Owner's Name: Michigan Technological University.
C. The Project consists of replacement of deaerator vessel, piping and insulation as outlined in the drawings and specifications.

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.
B. Disposal of removed items is by the 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 replacement of deaerator heater section, piping and related items.
E. New work includes insulation of the new deaerator, existing storage tank and associated piping as show on the drawings.

1.04 WORK BY OWNER
A. Michigan Tech has purchased the new deaerator.
B. Michigan Tech has awarded a separate contract for asbestos removal.

1.05 OWNER OCCUPANCY
A. Michigan Tech Central Heating Plant will be in operation during the entire construction period.
B. Cooperate with Michigan Tech to minimize conflict and to facilitate Michigan Tech’s operations.
D. Coordinate hot work and lockout requirements with Michigan Tech Central Heating Plant operations staff.

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 areas immediately adjacent or in front of the buildings being work on.
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. Utility Outages and Shutdown:
   1. Prevent accidental disruption of utility services to other facilities.
   2. Coordinate any necessary shutdown of utilities or equipment with Michigan Tech Central Heating Plant operations staff.

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
012500 SUBSTITUTION PROCEDURES

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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<tr>
<th>Project:</th>
<th>Substitution Request Number:</th>
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<th>From:</th>
<th>Date:</th>
<th>A/E Project Number:</th>
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<th>Contract For:</th>
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<th>Description:</th>
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<tr>
<th>Section:</th>
<th>Page:</th>
<th>Article/Paragraph:</th>
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<th>Proposed Substitution:</th>
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<table>
<thead>
<tr>
<th>Manufacturer:</th>
<th>Address:</th>
<th>ZIP:</th>
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<th>Trade Name:</th>
<th>Address:</th>
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<th>Installer:</th>
<th>Address:</th>
<th>Phone:</th>
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<tr>
<th>History:</th>
<th>☐ New product</th>
<th>☐ 1-4 years old</th>
<th>☐ 5-10 years old</th>
<th>☐ More than 10 years old</th>
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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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<th>Reason for not providing specified item:</th>
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<tr>
<th>Similar Installation:</th>
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<tr>
<th>Project:</th>
<th>Architect:</th>
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<th>Address:</th>
<th>Owner:</th>
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<th>Date Installed:</th>
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<tr>
<th>Proposed substitution affects other parts of Work:</th>
<th>☐ No</th>
<th>☐ Yes; explain</th>
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<tr>
<th>Savings to Owner for accepting substitution:</th>
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<thead>
<tr>
<th>Proposed substitution changes Contract Time:</th>
<th>☐ No</th>
<th>☐ Yes [Add] [Deduct] days</th>
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<tr>
<th>Supporting Data Attached:</th>
<th>☐ Drawings</th>
<th>☐ Product Data</th>
<th>☐ Samples</th>
<th>☐ Tests</th>
<th>☐ Reports</th>
<th>☐ Other</th>
</tr>
</thead>
</table>
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 within one week after award of contract to insure sufficient lead time for materials in time for the 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. Paper Submittals (note electronic submittals are preferred by Michigan Technological University): Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.

2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Michigan Tech.

3. Include the following information for processing and recording action taken:

1) Project name.

2) Date.

3) Destination (To:).

4) Source (From:).

5) Name and address of Architect.

6) Name of Construction Manager.

7) Name of Contractor.

8) Name of firm or entity that prepared submittal.

9) Names of subcontractor, manufacturer, and supplier.

10) Category and type of submittal.
01 3300 SUBMITTAL PROCEDURES

11) Submittal purpose and description.
12) Submittal number shall use Specification Section number followed by a
decimal point and then a sequential number (e.g., 061000.01).
Resubmittals shall include an alphabetic suffix after another decimal point
(e.g., 061000.01.A).
13) Specification paragraph number or drawing designation and generic name
for each of multiple items.
14) Drawing number and detail references, as appropriate.
15) Indication of full or partial submittal.
16) Transmittal number, numbered consecutively.
17) Submittal and transmittal distribution record.
18) Remarks.
19) Signature of transmitter.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and
unless Michigan Tech observes noncompliance with provisions in the Contract
Documents, initial submittal may serve as final submittal.

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.

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.
01 3300 SUBMITTAL PROCEDURES

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.
   b. Four opaque (bond) copies of each submittal. Michigan Tech will return two copy(ies).

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.
1) 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

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

L. 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.
01 3300 SUBMITTAL 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

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

E. 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.

F. 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.

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

H. 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 thermostatic control.
1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type 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. 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. Parking for Contractor and Sub-Contractor vehicles will be available on site, but parking is limited and the Owner reserves the right to restrict the number of vehicles parking on site. Temporary parking permits will need to be obtained from Michigan Tech (there is no charge for these permits) and displayed when the vehicle is on site.

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 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.

3.6 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. 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
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:
016000 PRODUCT REQUIREMENTS

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

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
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that it is compatible with other portions of the Work.

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 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 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.

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
PART 1 GENERAL
1.01 SECTION INCLUDES
   A. Pipe markers.

1.02 REFERENCE STANDARDS

PART 2 PRODUCTS
2.01 IDENTIFICATION APPLICATIONS
   A. Piping: Pipe markers.

2.02 PIPE MARKERS
   A. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.
   B. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

PART 3 EXECUTION
3.01 PREPARATION
   A. Degrease and clean surfaces to receive adhesive for identification materials.

3.02 INSTALLATION
   A. Provide one label for each connection to deaerator.
   B. Install plastic pipe markers in accordance with manufacturer's instructions.
   C. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.
PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Equipment insulation.
   B. Covering.

1.02 REFERENCE STANDARDS
   D. ASTM C592 - Standard Specification for Mineral Fiber Blanket Insulation and Blanket-Type Pipe Insulation (Metal-Mesh Covered) (Industrial Type); 2016.

1.03 SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for equipment scheduled.
   C. Manufacturer's Instructions: Indicate installation procedures that ensure acceptable workmanship and installation standards will be achieved.

1.04 QUALITY ASSURANCE
   A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with not less than three years of documented experience.
   B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum three years of experience.

1.05 DELIVERY, STORAGE, AND HANDLING
   A. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
   B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS
   A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.02 GLASS FIBER, RIGID
   A. Insulation: ASTM C612 or ASTM C592; rigid, noncombustible.
   1. 'K' ('Ksi') Value: 0.25 at 75 degrees F (0.036 at 24 degrees C), when tested in accordance with ASTM C177 or ASTM C518.
3. Maximum Water Vapor Absorption: 5.0 percent by weight.
4. Maximum Density: 8.0 lb/cu ft (128 kg/cu m).

B. Vapor Barrier Jacket:
   1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film.
   2. Moisture Vapor Permeability: 0.02 perm inch (0.029 ng/Pa s m), when tested in accordance with ASTM E96/E96M.

C. Vapor Barrier Lap Adhesive: Compatible with insulation.
D. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.

2.03 JACKETS

A. Canvas Jacket: UL listed 6 oz/sq yd (220 g/sq m) plain weave cotton fabric treated with dilute fire retardant lagging adhesive.
   1. Lagging Adhesive: Compatible with insulation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that equipment has been tested before applying insulation materials.
B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.
B. Apply insulation close to equipment by grooving, scoring, and beveling insulation. Fasten insulation to equipment with studs, pins, clips, adhesive, wires, or bands.
C. Equipment in Mechanical Equipment Rooms or Finished Spaces: Finish with canvas jacket sized for finish painting.
D. Nameplates and ASME Stamps: Bevel and seal insulation around; do not insulate over.
E. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation so it can be easily removed and replaced without damage.

3.03 SCHEDULE

A. Heating Systems:
   1. Boiler Feed Water Storage Tanks: 2” Thick
   2. Deaerators: 2” Thick

END OF SECTION
SECTION 23 0719
HVAC PIPING INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Piping insulation.
B. Jackets and accessories.

1.02 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

1.03 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years of documented experience.
B. Applicator Qualifications: Company specializing in performing the type of work specified in this section with minimum three years of experience.

1.04 DELIVERY, STORAGE, AND HANDLING
A. Accept materials on site, labeled with manufacturer's identification, product density, and thickness.

1.05 FIELD CONDITIONS
A. Maintain ambient conditions required by manufacturers of each product.
B. Maintain temperature before, during, and after installation for minimum of 24 hours.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS
A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.02 GLASS FIBER
A. Insulation: ASTM C547 and ASTM C795; rigid molded, noncombustible.
   1. 'K' ('Ksi') Value: ASTM C177, 0.24 at 75 degrees F (0.035 at 24 degrees C).
   3. Maximum Moisture Absorption: 0.2 percent by volume.
B. Vapor Barrier Jacket: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches (0.029 ng/Pa s m).
C. Vapor Barrier Lap Adhesive: Compatible with insulation.
D. Insulating Cement/Mastic: ASTM C195; hydraulic setting on mineral wool.
E. Indoor Vapor Barrier Finish:
   1. Cloth: Untreated; 9 oz/sq yd (305 g/sq m) weight.
   2. Vinyl emulsion type acrylic, compatible with insulation, black color.

2.03 JACKETS
A. Canvas Jacket: UL listed 6 oz/sq yd (220 g/sq m) plain weave cotton fabric treated with dilute fire retardant lagging adhesive.
   1. Lagging Adhesive: Compatible with insulation.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that piping has been tested before applying insulation materials.
B. Verify that surfaces are clean and dry, with foreign material removed.

3.02 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Install in accordance with NAIMA National Insulation Standards.
C. For hot piping conveying fluids over 140 degrees F (60 degrees C), insulate flanges and unions at equipment.
D. Glass fiber insulated pipes conveying fluids above ambient temperature.
   1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples.
   2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.
E. Inserts and Shields:
   1. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
   2. Insert location: Between support shield and piping and under the finish jacket.
   3. Insert Configuration: Minimum 6 inches (150 mm) long, of same thickness and contour as adjoining insulation; may be factory fabricated.
   4. Insert Material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.
F. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 07 8400.
G. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces (less than 10 feet (3 meters) above finished floor): Finish with canvas jacket and mastic.

3.03 SCHEDULE
A. Heating Systems:
   1. Low Pressure Steam Piping: 2" Thick
   2. Low Pressure Steam Condensate: 2" Thick
   3. High Pressure Steam Piping: 2" Thick
   4. High Pressure Steam Condensate: 2" Thick

END OF SECTION
SECTION 23 2213
STEAM AND CONDENSATE HEATING PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Pipe and pipe fittings.
   B. Pipe hangers and supports.
   C. Steam piping system.
   D. Steam condensate piping system.

1.02 RELATED REQUIREMENTS
   A. Section 23 0553 - Identification for HVAC Piping and Equipment.
   B. Section 23 0719 - HVAC Piping Insulation.

1.03 REFERENCE STANDARDS
   C. ASME B31.9 - Building Services Piping; 2014.
   F. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015 (with March 2016 Errata).

1.04 SUBMITTALS
   A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
   B. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories. Provide manufacturers catalogue information. Indicate valve data and ratings.
   C. Welders Certificate: Include welders certification of compliance with ASME BPVC-IX.

1.05 QUALITY ASSURANCE
   A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
   B. Installer Qualifications: Company specializing in performing the work of this section, with minimum three years of documented experience.
   C. Welder Qualifications: Certified in accordance with ASME BPVC-IX.

1.06 DELIVERY, STORAGE, AND HANDLING
   A. Accept valves on site in shipping containers with labelling in place. Inspect for damage.
   B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
   C. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.01 REGULATORY REQUIREMENTS
   A. Conform to ASME B31.9 and ASME B31.1 code for installation of piping system.
   B. Welding Materials and Procedures: Conform to ASME BPVC-IX and applicable state labor regulations.
2.02 MEDIUM AND HIGH PRESSURE STEAM PIPING (150 PSIG (1034 KPA) MAXIMUM)
   A. Steel Pipe: ASTM A53/A53M, Schedule 80, black.
      1. Fittings: ASME B16.3 malleable iron Class 250, or ASTM A234/A234M wrought steel welding type.
      2. Joints: Threaded, or AWS D1.1/D1.1M welded.

2.03 LOW PRESSURE STEAM PIPING (15 PSIG (103 KPA) MAXIMUM)
   A. Steel Pipe: ASTM A53/A53M, Schedule 40, black.
      1. Fittings: ASME B16.3 malleable iron Class 125, or ASTM A234/A234M wrought steel.
      2. Joints: Threaded, or AWS D1.1/D1.1M welded.

2.04 MEDIUM AND HIGH PRESSURE STEAM CONDENSATE PIPING
   A. Steel Pipe: ASTM A53/A53M, Schedule 80, black.
      1. Fittings: ASME B16.3 malleable iron Class 125, or ASTM A234/A234M wrought steel.
      2. Joints: Threaded, or AWS D1.1/D1.1M welded.

2.05 LOW PRESSURE STEAM CONDENSATE PIPING
   A. Steel Pipe: ASTM A53/A53M, Schedule 80, black.
      1. Fittings: ASME B16.3 malleable iron Class 125, or ASTM A234/A234M wrought steel.
      2. Joints: Threaded, or AWS D1.1/D1.1M welded.

2.06 PIPE HANGERS AND SUPPORTS
   A. Provide hangers and supports that comply with MSS SP-58.
      1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.

2.07 UNIONS, FLANGES, AND COUPLINGS
   A. Flanges for Pipe Over 2 Inches (50 mm):
      1. Ferrous Piping: 150 psig (1034 kPa) forged steel, slip-on.
      2. Gaskets: Spiral wound non-asbestos ASME B1620 150#

PART 3 EXECUTION
3.01 PREPARATION
   A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
   B. Remove scale and dirt on inside and outside before assembly.
   C. Prepare piping connections to equipment with flanges or unions.
   D. Keep open ends of pipe free from scale and dirt. Whenever work is suspended during construction protect open ends with temporary plugs or caps.

3.02 INSTALLATION
   A. Install in accordance with manufacturer's instructions.
   B. Route piping in orderly manner, plumb and parallel to building structure, and maintain gradient.
   C. Install piping to conserve building space and avoid interference with use of space.
   D. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

END OF SECTION
Attachment 1:
Prevailing Wage Rate Schedule
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 \textit{wage and fringe benefit totals} for designated construction mechanic classifications. The overtime rates also include \textit{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.

\textbf{State of Michigan responsibilities under the law:}
- The department establishes the prevailing rate for each classification of construction mechanic \textit{requested by a contracting agent} prior to contracts being let out for bid on a state project.

\textbf{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, \textit{must} be obtained \textit{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.

\textbf{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. 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.
- A construction mechanic \textit{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.

\textbf{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 may be made to the local prosecuting attorney.
**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>Credit Calculation</th>
<th>Hourly Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacation</td>
<td>40 hours X $14.00 per hour = $560/2080 = $2.77</td>
<td>$2.77</td>
</tr>
<tr>
<td>Dental insurance</td>
<td>$31.07/monthly premium X 12 mos. = $372.84/2080 = $1.81</td>
<td>$1.81</td>
</tr>
<tr>
<td>Vision insurance</td>
<td>$5.38/monthly premium X 12 mos. = $64.56/2080 = $0.30</td>
<td>$0.30</td>
</tr>
<tr>
<td>Health insurance</td>
<td>$230.00/monthly premium X 12 mos. = $2,760.00/2080 = $1.33</td>
<td>$1.33</td>
</tr>
<tr>
<td>Life insurance</td>
<td>$27.04/monthly premium X 12 mos. = $324.48/2080 = $1.60</td>
<td>$1.60</td>
</tr>
<tr>
<td>Tuition</td>
<td>$500.00/2080 = $2.42</td>
<td>$2.42</td>
</tr>
<tr>
<td>Bonus</td>
<td>4 quarterly bonus/year x $250 = $1000.00/2080 = $4.80</td>
<td>$4.80</td>
</tr>
<tr>
<td>401k Employer Contribution</td>
<td>$2000.00/2080 = $0.96</td>
<td>$0.96</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></td>
<td></td>
</tr>
<tr>
<td>9th Hour</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th Hour</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>9</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.
### ENGINEERS - CLASSES OF EQUIPMENT LIST

#### 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), Pumpcrete 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 Blasting 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.
Carpenter Craft Jurisdiction

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, assembly, 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 making and erecting of all fixtures, cabinets, shelving, racks, louvers, etc. 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/marketer boards.
Carpenter Craft Jurisdiction

(i) 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.
## Houghton County

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

#### Issue Date: 10/12/2017

#### Contract must be awarded by: 1/10/2018

<table>
<thead>
<tr>
<th>Classification</th>
<th>Last Updated</th>
<th>Straight Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos &amp; Lead Abatement Laborer</td>
<td>9/7/2017</td>
<td>$41.30 $55.23 $69.16 H H X X X X D Y</td>
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</tr>
<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trainee 600 hours + 1 calendar year</td>
<td>$30.22 $33.28 $41.73</td>
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</table>

**comment**

4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days.

<table>
<thead>
<tr>
<th>Asbestos, Lead and Mold Abatement, Hazardous Material Handler</th>
<th>3/27/2017</th>
<th>$40.75 $54.25 $67.75 H H X X X X D Y</th>
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<tr>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trainee 600 hours + 1 calendar year</td>
<td>$30.22 $33.28 $41.73</td>
<td></td>
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</tbody>
</table>

**comment**

Four ten hour days @ straight time allowed Monday-Saturday, must be consecutive calendar days.

<table>
<thead>
<tr>
<th>Boilermaker</th>
<th>2/17/2015</th>
<th>$54.70 $81.08 $107.45 H H H H H H H H D Y</th>
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<tr>
<td>Apprentice Rates:</td>
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</tr>
<tr>
<td>1st 6 months</td>
<td>$40.31 $59.49 $78.67</td>
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<tr>
<td>2nd 6 months</td>
<td>$41.45 $61.21 $80.95</td>
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<tr>
<td>3rd 6 months</td>
<td>$42.57 $62.88 $83.19</td>
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<tr>
<td>4th 6 months</td>
<td>$43.69 $64.57 $85.43</td>
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<td>5th 6 months</td>
<td>$44.81 $66.24 $87.67</td>
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<tr>
<td>6th 6 months</td>
<td>$46.34 $72.50 $96.36</td>
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<tr>
<td>7th 6 months</td>
<td>$49.32 $73.01 $96.69</td>
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<tr>
<td>8th 6 months</td>
<td>$51.58 $76.40 $101.21</td>
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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.

Page 1 of 23
## Official 2017 Prevailing Wage Rates for State Funded Projects
### Issue Date: 10/12/2017

Contract must be awarded by: 1/10/2018

### Classification

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Double Time Provision</th>
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<tbody>
<tr>
<td>BR6</td>
<td>Marble, Tile and Terrazzo Finisher</td>
<td>6/2/2014</td>
<td>$36.55 H H D X H D D Y</td>
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<tr>
<td></td>
<td>comment make up day allowed</td>
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<tr>
<td></td>
<td>Four 10s allowed Monday-Thurs. Make up days: Friday &amp; Saturday.</td>
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<tr>
<td>BR6-2</td>
<td>Bricklayer, stone mason, mosaic worker, plasterer, tuck pointer, pointer,</td>
<td>6/2/2014</td>
<td>$42.71 X X H X H D Y</td>
</tr>
<tr>
<td></td>
<td>caulker &amp; cleaner</td>
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<tr>
<td></td>
<td>Apprentice Rates:</td>
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<tr>
<td></td>
<td>0 - 749 hours</td>
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<td>$32.85 $40.24 $47.63</td>
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<td>750 - 1499 hours</td>
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<td>$34.09 $42.10 $50.11</td>
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<tr>
<td></td>
<td>1500 - 2249 hours</td>
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<td>$35.32 $43.95 $52.57</td>
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<td>2250 - 2999 hours</td>
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<td>$36.55 $45.79 $55.03</td>
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<td>3000 - 3749 hours</td>
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<td>$37.78 $47.63 $57.49</td>
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<td>3750 - 4499 hours</td>
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<td>$39.01 $49.48 $59.95</td>
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<td>4500 - 5249 hours</td>
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<td>5250 - 6000 hours</td>
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<td>Saturday</td>
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<td></td>
<td>All time over 12 hours pr day - double</td>
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<tr>
<td>BR6TL</td>
<td>Marble, Tile and Terrazzo Layer</td>
<td>6/2/2014</td>
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<td>Four 10s allowed Monday-Thurs. Make up days: Friday &amp; Saturday.</td>
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<tr>
<td>CA1510-C</td>
<td>Carpenter, Drywall Taper &amp; Finisher, &amp; Floor Layer</td>
<td>7/5/2017</td>
<td>$43.55 X X H X H D Y</td>
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<td></td>
<td>Apprentice Rates:</td>
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<tr>
<td></td>
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<td>$35.24 $42.95 $50.67</td>
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<tr>
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<td>3rd 6 months</td>
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<td>$36.43 $44.74 $53.05</td>
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<td>4th 6 months</td>
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<td>$37.62 $46.53 $55.43</td>
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<tr>
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<td>$39.99 $50.08 $60.17</td>
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<td>$41.18 $51.87 $62.55</td>
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<tr>
<td></td>
<td>$42.36 $53.64 $64.91</td>
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Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement of
Project Number: 41-17-04
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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<tr>
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<td>make up day allowed</td>
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<td>comment</td>
<td>make up day allowed</td>
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</tbody>
</table>

**CA1510-D**  
Diver  
7/5/2017  
$55.21 $72.91 $90.61 X X H X H H H Y

**Comment:** make up day allowed

**Apprentice Rates:**

- 1st 6 months: $37.47 $45.88 $54.28
- 2nd 6 months: $38.87 $47.98 $57.08
- 3rd 6 months: $40.27 $50.08 $59.88
- 4th 6 months: $41.68 $52.19 $62.70
- 5th 6 months: $43.08 $54.29 $65.50
- 6th 6 months: $44.48 $56.39 $68.30
- 7th 6 months: $45.88 $58.49 $71.10
- 8th 6 months: $47.28 $60.59 $73.90

**CA1510-MW**  
Millwright  
7/5/2017  
$48.68 $62.69 $76.70 X X H X H H H D Y

**Comment:** make up day allowed

**Apprentice Rates:**

- 1st 6 months: $34.17 $41.35 $48.53
- 2nd 6 months: $35.37 $43.15 $50.93
- 3rd 6 months: $36.57 $44.95 $53.33
- 4th 6 months: $37.76 $46.74 $55.71
- 5th 6 months: $38.96 $48.53 $58.11
- 6th 6 months: $40.16 $50.34 $60.51
- 7th 6 months: $41.36 $52.14 $62.91
- 8th 6 months: $42.55 $53.92 $65.29

**CA1510-P**  
Pile driver  
7/5/2017  
$43.75 $55.72 $67.69 X X H X H H H D Y

**Comment:** make up day allowed

**Apprentice Rates:**

- 1st 6 months: $34.17 $41.35 $48.53
- 2nd 6 months: $35.37 $43.15 $50.93
- 3rd 6 months: $36.57 $44.95 $53.33
- 4th 6 months: $37.76 $46.74 $55.71
- 5th 6 months: $38.96 $48.53 $58.11
- 6th 6 months: $40.16 $50.34 $60.51
- 7th 6 months: $41.36 $52.14 $62.91
- 8th 6 months: $42.55 $53.92 $65.29

---

**Official Request #:** 1201  
**Requestor:** Michigan Technological University  
**Project Description:** Central Heating Plant Deaerator Repair/replacement  
**Project Number:** 41-17-04  
**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</th>
<th>Double Time</th>
<th>Overtime Provision</th>
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</table>

**Comment**: make up day allowed

Four 10s allowed Monday-Thurs. Make up days: Friday and Saturday.

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<tbody>
<tr>
<td>Requestor: Michigan Technological University</td>
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<tr>
<td>Project Description: Central Heating Plant Deaerator Repair/replacement of</td>
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<tr>
<td>Project Number: 41-17-04</td>
</tr>
<tr>
<td>County: Houghton</td>
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</table>

**Official Rate Schedule**

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<table>
<thead>
<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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<td>$51.23</td>
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Comment: make up day allowed

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

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<th>Classification</th>
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<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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<td>Journeyman Electrician - Inside wireman for work below $160,000</td>
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<td>Double Time Provision</td>
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<td>$68.89 H H H D D D Y</td>
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**Apprentice Rates:**

- Elevator Constructor Mechanic
  - 1st year: $50.27, $75.32
  - 2nd year: $54.83, $84.44
  - 3rd year: $57.10, $88.98
  - 4th year: $61.66, $98.10

- Glazier
  - 1st 6 months: $31.91, $41.57, $51.21
  - 2nd 6 months: $33.52, $43.98, $54.43
  - 3rd 6 months: $35.12, $46.38, $57.63
  - 4th 6 months: $36.74, $48.81, $60.87
  - 5th 6 months: $38.35, $51.22, $64.09
  - 6th 6 months: $39.96, $53.64, $67.31
  - 7th 6 months: $41.57, $56.05, $70.53
  - 8th 6 months: $43.17, $58.45, $73.73

- Heat and Frost Insulator
  - 1st year: $30.01, $36.49, $42.97
  - 2nd year: $32.60, $40.37, $48.15
  - 3rd year: $35.19, $44.26, $53.33
  - 4th year: $37.79, $48.16, $58.53

---

**Official Request #:** 1201
**Requestor:** Michigan Technological University
**Project Description:** Central Heating Plant Deaerator Repair/replacement of
**Project Number:** 41-17-04
**County:** Houghton

**Official Rate Schedule:**

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### Classification: Spray Insulation

<table>
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<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
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<th>Time and a Half</th>
<th>Double</th>
<th>Overtime</th>
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<td>Qualified Senior Sprayer, application of all products</td>
<td>3/31/2017</td>
<td>$29.04</td>
<td>$42.35</td>
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### Classification: Ironworker

#### IR-8-A

For work over $10 million: Structural, Ornamental, Machinery Rigger & Reinforcing Ironworker; installation of sheet metal siding

**Apprentice Rates:**

- 0 - 1,000 hours: $25.39, $37.75, $50.11
- 1,001 - 2,000 hours: $37.71, $51.22, $64.73
- 2,001 - 3,000 hours: $39.01, $53.17, $67.33
- 3,001 - 4,000 hours: $40.31, $55.12, $69.93
- 4,001 - 5,000 hours: $41.61, $57.07, $72.53
- 5,001 - 6,000 hours: $42.92, $59.04, $75.15
- 6,001 - 7,000 hours: $44.22, $60.98, $77.75

**comment** make up day allowed

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.

#### IR-8-B

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

**Apprentice Rates:**

- 0-1,000 hours: $25.39, $37.75, $50.11
- 1,001 - 2,000 hours: $37.71, $51.22, $64.73
- 2,001 - 3,000 hours: $39.01, $53.17, $67.33
- 3,001 - 4,000 hours: $40.31, $55.12, $69.93
- 4,001 - 5,000 hours: $41.61, $57.07, $72.53
- 5,001 - 6,000 hours: $42.92, $59.04, $75.15
- 6,001 - 7,000 hours: $44.22, $60.98, $77.75

**comment** make up day allowed

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.

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**Official Rate Schedule**

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# Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 10/12/2017

**Contract must be awarded by:** 1/10/2018

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<th>Description</th>
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<th>Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
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<tr>
<td>L1329-B-A</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, oxi-gun operator, propane or acetylene cutting torch operator, motor driven buggies, chipping hammers, tamping machines, green cutting, sand blasters, mason tenders, mortar mixers, materal mixers, vibrator operators, concrete mixers, laborers with concrete crew, mixer to pour, including pour time</td>
<td>5/3/2017</td>
<td>$34.03</td>
<td>$44.35</td>
<td>$54.66</td>
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<tr>
<td>L1329-B-B</td>
<td>Class B Laborer - Cement gun nozzleman, blasters, miners, drillers, buster operators, layers of all non-metallic pipe</td>
<td>5/3/2017</td>
<td>$34.45</td>
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<td>Class D Laborer - Watchmen, Fire Watch and Hole Watch</td>
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**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>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half Hourly</th>
<th>Double Time Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer - Hazardous</td>
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<tr>
<td>LHAZ-Z11-A</td>
<td>11/7/2014</td>
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<tr>
<td>Class A - 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</td>
<td>$46.37</td>
<td>$59.82</td>
<td>H H H H H H D Y</td>
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</tr>
<tr>
<td>Apprentice Rates:</td>
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<tr>
<td>0-1,000 work hours</td>
<td>$27.93</td>
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<td>$31.91</td>
<td>$44.86</td>
<td>$57.82</td>
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<tr>
<td>comment make up day allowed</td>
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<tr>
<td>4 10s allowed M-Th or T-F; inclement weather makeup day Friday</td>
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<td></td>
<td>LHAZ-Z11-B</td>
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<tr>
<td>Class B - 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</td>
<td>$47.87</td>
<td>$61.82</td>
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Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement of
Project Number: 41-17-04
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.
### Official 2017 Prevailing Wage Rates for State Funded Projects

**Issue Date:** 10/12/2017  
**Contract must be awarded by:** 1/10/2018

---

#### Laborer Underground - Open Cut, Class II

<table>
<thead>
<tr>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>LAUC-Z5-2</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 erect.</td>
<td>9/5/2017</td>
<td>$34.09</td>
<td>$44.57</td>
<td>$55.04</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $29.48, $37.65, $45.82
- 1,001-2,000 work hours: $30.40, $39.03, $47.66
- 2,001-3,000 work hours: $31.33, $40.42, $49.52
- 3,001-4,000 work hours: $33.17, $43.18, $53.20

---

#### Laborer Underground - Open Cut, Class III

<table>
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<tr>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>LAUC-Z5-3</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>9/7/2017</td>
<td>$34.22</td>
<td>$44.76</td>
<td>$55.30</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $29.58, $37.80, $46.02
- 1,001-2,000 work hours: $30.51, $39.20, $47.88
- 2,001-3,000 work hours: $31.44, $40.59, $49.74
- 3,001-4,000 work hours: $33.29, $43.36, $53.44

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#### Laborer Underground - Open Cut, Class IV

<table>
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<tr>
<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>
</tr>
</thead>
<tbody>
<tr>
<td>LAUC-Z5-4</td>
<td>Trench or excavating grade man.</td>
<td>9/7/2017</td>
<td>$34.27</td>
<td>$44.84</td>
<td>$55.40</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 0-1,000 work hours: $29.12, $37.24, $45.35
- 1,001-2,000 work hours: $30.55, $39.26, $47.96
- 2,001-3,000 work hours: $31.48, $40.65, $49.82
- 3,001-4,000 work hours: $33.34, $43.44, $53.54

---

**Official Request #:** 1201  
**Requestor:** Michigan Technological University  
**Project Description:** Central Heating Plant Deaerator Repair/replacement of  
**Project Number:** 41-17-04  
**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>Description</th>
<th>Last Updated</th>
<th>Straight Time and Half Hourly</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer Underground - Open Cut, Class V</td>
<td>Pipe Layer</td>
<td>9/7/2017</td>
<td>$34.32 $44.91 $55.50 X X X X X D Y</td>
<td>$46.18</td>
<td>$48.04</td>
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<tr>
<td>Apprentice Rates:</td>
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<tr>
<td>0-1,000 work hours</td>
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<tr>
<td>1,001-2,000 work hours</td>
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<tr>
<td>3,001-4,000 work hours</td>
<td>$33.39</td>
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<tr>
<td>Laborer Underground - Open Cut, Class VI</td>
<td>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 &amp; the installation and repair of water service pipe and appurtenances.</td>
<td>9/7/2017</td>
<td>$31.70 $40.98 $50.26 X X X X X X D Y</td>
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<td>$43.84</td>
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</tr>
<tr>
<td>3,001-4,000 work hours</td>
<td>$30.90</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laborer Underground - 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>9/7/2017</td>
<td>$29.81 $38.15 $46.48 X X X X X X D Y</td>
<td>$39.40</td>
<td>$45.06</td>
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<tr>
<td>0-1,000 work hours</td>
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<tr>
<td>1,001-2,000 work hours</td>
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<td>3,001-4,000 work hours</td>
<td>$29.10</td>
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</table>
### Official Rates

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Updated</th>
<th>Updated Hourly</th>
<th>Updated Half Time</th>
<th>Updated Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laborer Underground - Tunnel, Shaft &amp; Caisson</td>
<td></td>
<td>9/7/2017</td>
<td></td>
<td></td>
<td></td>
<td></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>$36.82</td>
<td>$48.70</td>
<td>$60.57</td>
<td>$60.57</td>
<td>$60.57</td>
<td>X X X X X X D Y</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- **0-1,000 work hours:** $31.52
- **1,001-2,000 work hours:** $32.58
- **2,001-3,000 work hours:** $33.64
- **3,001-4,000 work hours:** $35.76

| Laborer Underground - Tunnel, Shaft & Caisson |                                                                                   | 9/7/2017 |                |                    |                    |                   |
| Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder | $36.91 | $48.83 | $60.75 | $60.75 | $60.75 | X X X X X X D Y |

**Apprentice Rates:**

- **0-1,000 work hours:** $31.58
- **1,001-2,000 work hours:** $32.65
- **2,001-3,000 work hours:** $33.71
- **3,001-4,000 work hours:** $35.84

| Laborer Underground - Tunnel, Shaft & Caisson |                                                                                   | 9/7/2017 |                |                    |                    |                   |
| Class III - 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.). | $37.01 | $48.98 | $60.95 | $60.95 | $60.95 | X X X X X X D Y |

**Apprentice Rates:**

- **0-1,000 work hours:** $31.66
- **1,001-2,000 work hours:** $32.73
- **2,001-3,000 work hours:** $33.80
- **3,001-4,000 work hours:** $35.94
<table>
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<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>Double Time Hourly</th>
<th>Overtime Provision</th>
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</thead>
<tbody>
<tr>
<td>LAUCT-Z2-4</td>
<td>Class IV - Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.</td>
<td>9/7/2017</td>
<td>$37.17</td>
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<td>$61.27</td>
<td>X X X X X X D Y</td>
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<td>$47.98</td>
<td>$59.61</td>
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<tr>
<td>LAUCT-Z2-5</td>
<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>9/7/2017</td>
<td>$37.43</td>
<td>$49.62</td>
<td>$61.79</td>
<td>X X X X X X D Y</td>
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<td>0-1,000 work hours</td>
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<td>$31.97</td>
<td>$41.43</td>
<td>$50.87</td>
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<td>1,001-2,000 work hours</td>
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<td>$33.06</td>
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<td>$47.98</td>
<td>$59.61</td>
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<td>LAUCT-Z2-6</td>
<td>Class VI - Dynamite man and powder man.</td>
<td>9/7/2017</td>
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<td>$50.08</td>
<td>$62.41</td>
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<tr>
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<td>$43.43</td>
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<td>$36.63</td>
<td>$48.41</td>
<td>$60.19</td>
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<tr>
<td>LAUCT-Z2-7</td>
<td>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.</td>
<td>9/7/2017</td>
<td>$30.01</td>
<td>$38.48</td>
<td>$46.95</td>
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<td></td>
<td>0-1,000 work hours</td>
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<td>$26.41</td>
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<td>$34.17</td>
<td>$41.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,001-3,000 work hours</td>
<td></td>
<td>$27.85</td>
<td>$35.25</td>
<td>$42.63</td>
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</tr>
<tr>
<td></td>
<td>3,001-4,000 work hours</td>
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<td>$29.29</td>
<td>$37.41</td>
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Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement of
Project Number: 41-17-04
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</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and a Half Time</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape Laborer</td>
<td>LLAN-Z2-A 10/13/2015</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.</td>
<td>$28.25</td>
<td>$39.04</td>
<td>$49.82</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td>comment Sundays paid at time &amp; one half. Holidays paid at double time.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|                        | LLAN-Z2-B 10/13/2015          | 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 | $24.05      | $32.74          | $41.42               | X           | X                  | X
|                        |                               | comment Sundays paid at time & one half. Holidays paid at double time.       |             |                 |                      |             |                    |
| Operating Engineer - Marine Construction | GLF D 4/2/2014 | Diver/Wet Tender/Tender/Rov Pilot/Rov Tender | $52.80      | $79.20          | $105.60               | H           | H                  | H
| GLF-1 1/23/2017        | Diver/Wet Tender, Engineer (hydraulic dredge) | make up day allowed Holiday pay = 2.5 times the straight hourly rate Subdivision of county all Great Lakes, islands therein, & connecting & tributary waters | $72.32      | $93.82          | $115.32               | X           | X                  |
| GLF-2 1/23/2017        | Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender | make up day allowed Holiday pay = 2.5 times the straight hourly rate Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters | $70.82      | $91.57          | $112.32               | X           | X                  |
| GLF-2B 1/23/2017       | Friction, Lattice Boom or Crane License Certification | make up day allowed Holiday pay = 2.5 times the straight hourly rate Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters | $72.32      | $93.82          | $115.32               | X           | X                  |

Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement of
Project Number: 41-17-04
County: Statewide
<table>
<thead>
<tr>
<th>Classification</th>
<th>Name Description</th>
<th>Last Updated</th>
<th>Last Updated</th>
<th>Straight Hourly</th>
<th>Time and Half Hourly</th>
<th>Double Time Hours</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLF-3</td>
<td>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</td>
<td>1/23/2017</td>
<td>$66.27</td>
<td>$84.75</td>
<td>$103.22</td>
<td>X</td>
<td>X</td>
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<tr>
<td></td>
<td>comment</td>
<td>make up day allowed</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Holiday pay = 2.5 times the straight hourly rate</td>
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<tr>
<td></td>
<td>Subdivision of county</td>
<td>All Great Lakes, islands therein, &amp; connecting &amp; tributary waters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| GLF-4 | 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 | 1/23/2017 | $60.07 | $75.45 | $90.82 | X | X | H | H | H | D | Y |
| | comment | make up day allowed | | | | | | | | | | |
| | Holiday pay = 2.5 times the straight hourly rate | | | | | | | | | | |
| | Subdivision of county | All Great Lakes, islands therein, & connecting & tributary waters | | | | | | | | | | |

Operating Engineer General Construction and Underground

| EN-324UP-120GU | Crane 120' boom & jib | 4/28/2017 | $52.20 | $66.73 | $81.26 | X | X | H | H | H | D | N |
| | comment | Double time after 12 hours Mon-Sat | | | | | | | | | | |

| EN-324UP-140GU | Crane 140' boom & jib | 4/28/2017 | $52.45 | $67.11 | $81.76 | X | X | H | H | H | D | N |
| | comment | Double time after 12 hours Mon-Sat | | | | | | | | | | |

| EN-324UP-400GU | Crane with 400' or longer main boom & jib | 4/28/2017 | $56.24 | $72.75 | $89.25 | X | X | H | H | H | D | N |
| | comment | Double time after 12 hours Mon-Sat | | | | | | | | | | |

Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/Replacement
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County: Houghton

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<th>Time and Half Hourly</th>
<th>Double Overtime Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN-324UP-AGU</td>
<td>Class A- Regular equipment operator, crane, dozer, front end loader, pumpcrete,</td>
<td>4/28/2017</td>
<td>$51.70</td>
<td>$65.98</td>
<td>$80.26</td>
<td>X X H H H H D N</td>
</tr>
<tr>
<td></td>
<td>squeeze crete, job mechanic, welder, concrete pump, excavator, milling &amp; pulverizing machines, &amp; scraper (self-propelled &amp; tractor drawn).</td>
<td></td>
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</tbody>
</table>

**Apprentice Rates:**

<table>
<thead>
<tr>
<th></th>
<th>1st 6 months</th>
<th>2nd 6 months</th>
<th>3rd 6 months</th>
<th>4th 6 months</th>
<th>5th 6 months</th>
<th>6th 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$42.22</td>
<td>$43.64</td>
<td>$45.07</td>
<td>$46.51</td>
<td>$47.93</td>
<td>$49.36</td>
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</tbody>
</table>

**comment**

Double time after 12 hours Mon-Sat

<table>
<thead>
<tr>
<th>EN-324UP-BGU</th>
<th>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</th>
<th>4/28/2017</th>
<th>$48.45</th>
<th>$61.11</th>
<th>$73.76</th>
<th>X X H H H H D N</th>
</tr>
</thead>
</table>

**comment**

Double time after 12 hours Mon-Sat

<table>
<thead>
<tr>
<th>EN-324UP-CGU</th>
<th>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, grease man</th>
<th>4/28/2017</th>
<th>$47.87</th>
<th>$60.24</th>
<th>$72.60</th>
<th>X X H H H H D N</th>
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</thead>
</table>

**comment**

Double time after 12 hours Mon-Sat

<table>
<thead>
<tr>
<th>EN-324UP-DGU</th>
<th>Class D- Oiler, fireman, heater operator, brock concrete breaker, elevators (other than passenger), end dump &amp; skid steer</th>
<th>4/28/2017</th>
<th>$46.93</th>
<th>$58.83</th>
<th>$70.72</th>
<th>X X H H H H D N</th>
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</table>

**comment**

Double time after 12 hours Mon-Sat

<table>
<thead>
<tr>
<th>EN-324UP-MGU</th>
<th>Crane 220' boom &amp; jib</th>
<th>4/28/2017</th>
<th>$52.70</th>
<th>$67.48</th>
<th>$82.26</th>
<th>X X H H H H D N</th>
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</thead>
</table>

**comment**

Double time after 12 hours Mon-Sat

<table>
<thead>
<tr>
<th>EN-324UP-MGU</th>
<th>Mechanic w/ truck &amp; tools</th>
<th>4/28/2017</th>
<th>$53.20</th>
<th>$68.23</th>
<th>$83.26</th>
<th>X X H H H H D N</th>
</tr>
</thead>
</table>

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**Official Request #: 1201**

Requestor: Michigan Technological University

Project Description: Central Heating Plant Deaerator Repair/replacement of

Project Number: 41-17-04

County: Houghton

**Official Rate Schedule**

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<th>Last Updated</th>
<th>Straight Time</th>
<th>Half Time</th>
<th>Double Time</th>
<th>Overtime</th>
<th>Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td></td>
<td>Double time after 12 hours Mon-Sat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Engineer Steel Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-120S</td>
<td>4/28/2017</td>
<td>Crane 120' boom &amp; jib</td>
<td>$52.60</td>
<td>$67.33</td>
<td>$82.06</td>
<td>X X H H H H D Y</td>
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<tr>
<td>comment</td>
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<td>Double time after 12 hours Mon-Sat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-140S</td>
<td>4/28/2017</td>
<td>Crane 140' boom &amp; jib</td>
<td>$52.85</td>
<td>$67.71</td>
<td>$82.56</td>
<td>X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-220S</td>
<td>4/28/2017</td>
<td>Crane 220' boom &amp; jib</td>
<td>$53.10</td>
<td>$68.08</td>
<td>$83.06</td>
<td>X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-300S</td>
<td>4/28/2017</td>
<td>Crane with 300' boom &amp; jib</td>
<td>$54.91</td>
<td>$70.75</td>
<td>$86.59</td>
<td>X X H H H H D Y</td>
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</tr>
<tr>
<td>EN-324UP-400S</td>
<td>4/28/2017</td>
<td>Crane with 400' boom &amp; jib</td>
<td>$56.64</td>
<td>$73.35</td>
<td>$90.05</td>
<td>X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-CWS</td>
<td>4/28/2017</td>
<td>Compressor, Welder &amp; Forklift</td>
<td>$48.85</td>
<td>$61.71</td>
<td>$74.56</td>
<td>X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-MS</td>
<td>4/28/2017</td>
<td>Mechanic w/ truck &amp; tools</td>
<td>$53.60</td>
<td>$68.83</td>
<td>$84.06</td>
<td>X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN-324UP-OFS</td>
<td>4/28/2017</td>
<td>Oilier &amp; Fireman</td>
<td>$47.55</td>
<td>$59.76</td>
<td>$71.96</td>
<td>X X H H H H D Y</td>
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Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement
Project Number: 41-17-04
County: Houghton

Official Rate Schedule
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<table>
<thead>
<tr>
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<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time and a Half</th>
<th>Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EN-324UP-OS</td>
<td>Operator</td>
<td>4/28/2017</td>
<td>$52.10 $66.58 $81.06 X X H H H H D Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1st 6 months</td>
<td>$42.50 $52.63 $62.77</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>2nd 6 months</td>
<td>$43.95 $54.82 $65.67</td>
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<tr>
<td></td>
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<td>3rd 6 months</td>
<td>$45.39 $56.97 $68.55</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>4th 6 months</td>
<td>$46.84 $59.15 $71.45</td>
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<tr>
<td></td>
<td></td>
<td>5th 6 months</td>
<td>$48.29 $61.32 $74.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6th 6 months</td>
<td>$49.74 $63.50 $77.25</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>PT-1011</td>
<td>Painter</td>
<td>7/17/2015</td>
<td>$31.25 $41.01 $50.76 H H H H H D N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1st 1000 hours</td>
<td>$23.45 $29.30 $35.16</td>
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<tr>
<td></td>
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<td>2nd 1000 hours</td>
<td>$24.42 $30.76 $37.10</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3rd 1000 hours</td>
<td>$25.40 $32.23 $39.06</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4th 1000 hours</td>
<td>$26.37 $33.68 $41.00</td>
<td></td>
<td></td>
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<td></td>
<td>5th 1000 hours</td>
<td>$27.35 $35.16 $42.96</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>6th 1000 hours</td>
<td>$28.32 $36.61 $44.90</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>7th 1000 hours</td>
<td>$29.30 $38.08 $46.86</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>8th 1000 hours</td>
<td>$30.27 $39.54 $48.80</td>
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</tbody>
</table>

**Official Request #:** 1201  
**Requestor:** Michigan Technological University  
**Project Description:** Central Heating Plant Deaerator Repair/replacement  
**Project Number:** 41-17-04  
**County:** Houghton  

---

**Official Rate Schedule**  
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<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT-1011B</td>
<td>Bridge Painter (under 30 feet)</td>
<td>8/29/2015</td>
<td>$35.89</td>
<td>$47.97</td>
<td>$60.04</td>
<td>H H H H H H D N</td>
</tr>
</tbody>
</table>

**Apprentice Rates:**

- 1st 1,000 hours: $26.23
- 2nd 1,000 hours: $27.44
- 3rd 1,000 hours: $28.64
- 4th 1,000 hours: $29.85
- 5th 1,000 hours: $31.06
- 6th 1,000 hours: $32.27
- 7th 1,000 hours: $33.48
- 8th 1,000 hours: $34.68

**Apprentice Rates:**

- 1st 1,000 hours: $26.23
- 2nd 1,000 hours: $27.44
- 3rd 1,000 hours: $28.64
- 4th 1,000 hours: $29.85
- 5th 1,000 hours: $31.06
- 6th 1,000 hours: $32.27
- 7th 1,000 hours: $33.48
- 8th 1,000 hours: $34.68

<table>
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<th>Overtime Provision</th>
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<tbody>
<tr>
<td>PT-1011-DF</td>
<td>Drywall Finisher, Soundproofing, &amp; Plural Component Applicator</td>
<td>1/4/2017</td>
<td>$37.67</td>
<td>$50.64</td>
<td>$63.60</td>
<td>H H H H H H D N</td>
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**Apprentice Rates:**

- 1st 1,000 hours: $27.30
- 2nd 1,000 hours: $28.59
- 3rd 1,000 hours: $29.89
- 4th 1,000 hours: $31.19
- 5th 1,000 hours: $32.48
- 6th 1,000 hours: $33.78
- 7th 1,000 hours: $35.08
- 8th 1,000 hours: $36.37

<table>
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<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247</td>
<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>
<td>$28.20</td>
<td>$38.20</td>
<td>H H H H H H</td>
<td>H H N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Updated</th>
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<th>Time and Half Hourly</th>
<th>Double Time Hourly</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247-2</td>
<td>Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment</td>
<td>4/17/2015</td>
<td>$32.70</td>
<td>$44.95</td>
<td>H H H H H H</td>
<td>H H N</td>
</tr>
</tbody>
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County: Statewide

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<th>Straight Time and Half Double Overtime</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM247-3</td>
<td>CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and</td>
<td>4/17/15</td>
<td>4/17/15</td>
<td>$31.45 $43.07 H H H H H H N</td>
<td></td>
</tr>
<tr>
<td>TM247-4</td>
<td>Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated</td>
<td>4/17/15</td>
<td>4/17/15</td>
<td>$33.20 $45.70 H H H H H H N</td>
<td></td>
</tr>
<tr>
<td>TM247-5</td>
<td>Combo Unit driver &amp; Jetter-Vac Operator</td>
<td>4/17/15</td>
<td>4/17/15</td>
<td>$33.20 $45.70 H H H H H H N</td>
<td></td>
</tr>
<tr>
<td>TM247-6</td>
<td>Pipe Bursting &amp; Slip-lining Equipment Operator</td>
<td>4/17/15</td>
<td>4/17/15</td>
<td>$34.20 $47.20 H H H H H H N</td>
<td></td>
</tr>
<tr>
<td>PL16UP</td>
<td>Plasterer</td>
<td>10/23/12</td>
<td>10/23/2012</td>
<td>$38.71 $51.63 $64.54 H H H H H H D N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st year</td>
<td></td>
<td></td>
<td>$29.67 $38.06 $46.46 H H H H H H D N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2nd year</td>
<td></td>
<td></td>
<td>$32.25 $41.94 $51.62 H H H H H H D N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd year</td>
<td></td>
<td></td>
<td>$34.84 $45.82 $56.80 H H H H H H D N</td>
<td></td>
</tr>
</tbody>
</table>

---

**Official Request #: 1201**  
Requestor: Michigan Technological University  
Project Description: Central Heating Plant Deaerator Repair/replacement of  
Project Number: 41-17-04  
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</th>
<th>Description</th>
<th>Last Updated</th>
<th>Straight Time Hourly</th>
<th>Half a Double Time</th>
<th>Overtime Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plumber, Pipefitter, Welder, HVAC &amp; Refrigeration</td>
<td>PL-111</td>
<td>7/30/2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plumber, Pipefitter, Welder, HVAC &amp; Refrigeration</td>
<td>$47.61 $71.42 $95.22 H H H H H H H D Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st 6 months</td>
<td>$23.96 $35.94 $47.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2nd 6 months</td>
<td>$25.44 $38.16 $50.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd 6 months</td>
<td>$35.32 $52.98 $70.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4th 6 months</td>
<td>$36.65 $54.98 $73.30</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>5th 6 months</td>
<td>$37.99 $56.98 $75.98</td>
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<tr>
<td></td>
<td>6th 6 months</td>
<td>$39.47 $59.20 $78.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7th 6 months</td>
<td>$40.80 $61.20 $81.60</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8th 6 months</td>
<td>$42.13 $63.20 $84.26</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>9th 6 months</td>
<td>$43.46 $65.19 $86.92</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>make up day allowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 ten hour days may be worked only Monday-Thursday</td>
<td></td>
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<tr>
<td>Roofer</td>
<td>RO-149-UP</td>
<td>4/17/2015</td>
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<tr>
<td></td>
<td>Commercial Roofer</td>
<td>$28.23 $36.56 $44.88 X X X X X X D Y</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apprentice 1</td>
<td>$20.84 $25.96 $31.08</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Apprentice 2</td>
<td>$21.67 $27.17 $32.67</td>
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<td></td>
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<tr>
<td></td>
<td>Apprentice 3</td>
<td>$22.48 $28.37 $34.26</td>
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<tr>
<td></td>
<td>Apprentice 4</td>
<td>$23.29 $29.56 $35.82</td>
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<tr>
<td></td>
<td>Apprentice 5</td>
<td>$24.09 $30.72 $37.36</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>Apprentice 6</td>
<td>$24.90 $31.91 $38.93</td>
<td></td>
<td></td>
<td></td>
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<td>make up day allowed</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer Relining</td>
<td>SR-I</td>
<td>11/24/2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV</td>
<td>$43.66 $59.01 $74.36 H H H H H H D N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Official Request #: 1201
Requestor: Michigan Technological University
Project Description: Central Heating Plant Deaerator Repair/replacement
Project Number: 41-17-04
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.
**Official Prevailing Wage Rates for State Funded Projects**

**Issue Date:** 10/12/2017  
**Contract must be awarded by:** 1/10/2018

<table>
<thead>
<tr>
<th>Classification</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>SR-II</td>
<td>11/24/2015</td>
<td>$42.13</td>
<td>$56.72</td>
<td>$71.30</td>
<td>H H H H H H D N</td>
</tr>
<tr>
<td>Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Sheet Metal Worker**  
** shm-7-5 20/10/2016**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>$67.30</th>
<th>$81.50</th>
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</thead>
<tbody>
<tr>
<td>Sheet Metal Worker</td>
<td>Apprentice Rates:</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>1st 6 months</td>
<td>$30.67</td>
<td>$37.78</td>
<td>$44.88</td>
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</tr>
<tr>
<td>2nd 6 months</td>
<td>$30.67</td>
<td>$37.78</td>
<td>$44.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd 6 months</td>
<td>$32.77</td>
<td>$40.59</td>
<td>$48.40</td>
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<td>4th 6 months</td>
<td>$34.87</td>
<td>$43.40</td>
<td>$51.92</td>
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<td>5th 6 months</td>
<td>$36.97</td>
<td>$46.21</td>
<td>$55.44</td>
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</tr>
<tr>
<td>6th 6 months</td>
<td>$39.08</td>
<td>$49.03</td>
<td>$58.97</td>
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<tr>
<td>7th 6 months</td>
<td>$41.19</td>
<td>$51.85</td>
<td>$62.50</td>
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</tr>
<tr>
<td>8th 6 months</td>
<td>$43.29</td>
<td>$54.66</td>
<td>$66.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*make up day allowed*  
4 10s allowed as consecutive days, M-Th. 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.

---

**Sprinkler Fitter**  
** SP 669 1/4/2017**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Updated</th>
<th>$68.45</th>
<th>$85.26</th>
<th>H H H D Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprinkler Fitter</td>
<td>Apprentice Rates:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Class 1</td>
<td>$23.03</td>
<td>$30.60</td>
<td>$38.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>$24.71</td>
<td>$33.12</td>
<td>$41.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>$34.01</td>
<td>$43.26</td>
<td>$52.50</td>
<td></td>
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</tr>
<tr>
<td>Class 4</td>
<td>$35.69</td>
<td>$45.78</td>
<td>$55.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 5</td>
<td>$37.62</td>
<td>$48.55</td>
<td>$59.47</td>
<td></td>
<td></td>
</tr>
<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>
<td>$53.60</td>
<td>$66.21</td>
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<tr>
<td>Class 8</td>
<td>$42.67</td>
<td>$56.12</td>
<td>$69.57</td>
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<tr>
<td>Class 9</td>
<td>$44.35</td>
<td>$58.64</td>
<td>$72.93</td>
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<td></td>
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<tr>
<td>Class 10</td>
<td>$46.03</td>
<td>$61.16</td>
<td>$76.29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*make up day allowed*

---

**Official Request #: 1201**

**Requestor:** Michigan Technological University  
**Project Description:** Central Heating Plant Deaerator Repair/Replacement of  
**Project Number:** 41-17-04  
**County:** Houghton

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

**Issue Date:** 10/12/2017  
**Contract must be awarded by:** 1/10/2018  

<table>
<thead>
<tr>
<th>Classification</th>
<th>Last Updated</th>
<th>Straight Time and Half Time Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Truck Driver</strong></td>
<td>6/7/2016</td>
<td></td>
</tr>
<tr>
<td>TM-RB2</td>
<td>of all trucks of 8 cubic yd capacity or over</td>
<td>$44.10</td>
</tr>
<tr>
<td>TM-RB2A</td>
<td>of all trucks of 8 cubic yard capacity or less (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>$44.00</td>
</tr>
<tr>
<td>TM-RB2B</td>
<td>on euclid type equipment</td>
<td>$44.25</td>
</tr>
</tbody>
</table>

---

**Official Request #:** 1201  
**Requestor:** Michigan Technological University  
**Project Description:** Central Heating Plant Deaerator Repair/replacement of  
**Project Number:** 41-17-04  
**County:** Houghton  

---

**Official Rate Schedule**  
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Attachment 2:
Drawings

Sheet 1/4: Plan and General Notes
Sheet 2/4: Piping Details
Sheet 3/4: Pipe Insulation
Sheet 4/4: Steam Line Re-Insulation
Cochrane Deaerator Shop Drawing
Note: Field verify dimensions and quantities prior to bidding.

Coordinating with MIL Plant Operations to maintain safe and access to plant equipment as needed.

The plant will be operated during the entire project.

Scope:
- Install new pipework and piping as indicated
- Insulate the new DA vessel and existing storage tank
- Replace or route existing piping as necessary
- Remove and replace decerator

Removable/Replace existing cowl as necessary to allow removal of decerator.

Existing decerator storage tank.

General Notes:
Note: Field verify dimensions and quantities prior to bidding.

K. Insulate condensate line.

J. and storm collar at roof.

I. Wall, provide flashing.

H. Wall, did you access面部 from through roof?

G. Mount new "1.5" vent as necessary.

F. Vent valve and provide piping.

E. Reinstall existing reflux.

D. Reinstall existing pressure line.

C. High pressure condensate.

B. Remove existing "6" tee.

A. Storage tank.

South Elev.

East Elev.

North Elev.

DEAERATOR REPAIR

PIPING DETAILS

MOC SCALE

2/4 SHEET

30 SEP 17
Note: Field verify quantities and dimensions prior to bidding.

Insulate new and existing piping as noted.

Invert, control valve
Exhlt. 4 Fradecal
Exhlt. Insluilation
No-Inslulation
Stop of

North E elevation.

East E elevation.

South E elevation.
Existing Low Pressure Steam Line.

Note: Dimensions are approximate; field verify quantities prior to bidding.
NOTES:

1. ORDLING TO COMPLY TO ASME-8 1985 EDITION, CLASS 150 WITH OUT RULES STRICKING OUT OTHER WEIGHTS AND DIMENSIONS UNLESS OTHERWISE NOTED.

2. CONDENSING LEAVING COMPLEMENTS VARY 3/8" PLUS OR MINUS.

3. LOCATE TANK ABOVE PUMP AT ELEVATION NECESSARY FOR STEAM HEAT (INCLUDING SAFE ALLOWANCE FOR SPRING PROBLEM) AS APPROVED BY PUMP MANUFACTURER.

4. CONSTRUCTION TO BE IN ACCORDANCE WITH AIA APPRAISED PRESSURE VESSEL CODE LATEST EDITION - SECTION IX.

5. DESIGN PRESSURE - SEE OPTION TABLE.

6. DESIGN TEMPERATURE - 200°F MAX.

7. TEST PRESSURE - 1.5 TIMES DESIGN PRESSURE.

8. HIGH PRESSURE WATER INLET TO BE AT HEIGHTS HIGHER THAN ELEVATION CORRESPONDING TO DESIGN PRESSURE.

9. THE RELIEF VALVE (IF REQUIRED IN THE CONTRACT) IS INTENDED TO PROTECT THE VESSEL FROM EXCESSIVE PRESSURE GENERATING FROM TANK DUALITIES AND THEREFORE ACT AS A SAFETY VALVE. OVERPRESSURE IN THE STEAM SUPPLY SYSTEM MUST BE PREVENTED BY USING OTHER LARGE CAPACITY RELIEF VALVES. IF IN DOUBT, CONSULT COCHRANE DIVISION - DRIER CO.

10. ALL VENTvrobes REQUIRED DO NOT INCLUDE DRAINS.

11. THE FACE OF ALL PLUGS TO PROJECT 5" FROM TANK SURFACE.

12. ALL PLUGS BY OTHERS UNLESS SPECIFIED IN CONTRACT.

13. TANK EXTERIOR CLEANED AND PAINTED BY RED OIL COMPANY.