Division of Finance and Business Operations

Wayne State University

EACPHS Team Based Learning Facility 2015
WSU Project Number 603-249987

REVISED 4/7/15

Prevailing Wage Work

FOR:
Board of Governors
Wayne State University
Detroit, Michigan

Owner's Representative:
Robert Hoekstra, Project Manager
Facilities Planning & Management
Design & Construction Services
5454 Cass
Wayne State University
Detroit, Michigan 48202

Owner's Agent:
Loretta McClary, **Senior Buyer**
WSU – Procurement & Strategic Sourcing
5700 Cass, Suite 4200
Detroit, Michigan 48202
313-577-3731 / 313-577-3747 fax
Ac2843@wayne.edu and copy **ag5343@wayne.edu**

Consultant:
Integrated Architecture
4090 Lake Drive SE
Grand Rapids, MI. 49546

March 26, 2015

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INFORMATION FOR BIDDERS

OWNER:	Board of Governors Wayne State University
PROJECT:	**EACPHS Team Based Learning Facility 2015** Project No. **603-249987**
LOCATION:	Wayne State University Applebaum College of Pharmacy **259 Mack Avenue** Detroit, Michigan 48202
OWNER'S AGENT:	**Loretta McClary**, **Senior Buyer** WSU – Procurement & Strategic Sourcing 5700 Cass, Suite 4200 Detroit, Michigan 48202 **313-577-3731** / 313-577-3747 fax **Ac2843@wayne.edu** & copy **ag5343@wayne.edu**
OWNER'S REPRESENTATIVE:	**Robert Hoekstra** , Project Manager Facilities Planning & Management Design & Construction Services Wayne State University 5454 Cass Avenue Detroit, Michigan 48202
Architect:	**Integrated Architecture** **4090 Lake Drive SE** **Grand Rapids, MI. 49546**

SPECIAL NOTE: Right to reject any and all proposals, either in whole or in part and to waive any irregularities therein is reserved by the Owner.

BIDS ADVERTISED: March 26, 2015

BIDDING: Bidding documents may be obtained by vendors from the University Purchasing Web Site at **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html** beginning **March 26, 2015**. When visiting the Web Site, click on the "**Construction**" link in green. Copies of the RFP will not be available at the pre-proposal meeting.

MANDATORY Pre-Bid Conference: **2:00pm, local time, April 14, 2015** to be held at Wayne State University – **Applebaum College of Pharmacy, 259 Mack Avenue**, **First Floor Conference Room 1130,** Detroit, MI, 48202. Late Arrivals may not be permitted to submit bids.

OPTIONAL Second Walk Through: (if needed) **To be determined at the conclusion of the pre-bid conference, by those in attendance.**

DUE DATE FOR QUESTIONS: Due Date for questions shall be **April 16, 2015 at 12:00 Noon.** All questions must be reduced to writing and emailed to the attention of **Loretta McClary**, **Senior Buyer** at **Ac2843@wayne.edu**, copy to **Robin Watkins**, **Buyer** at: **ag5343@wayne.edu**.

Bids Due: Sealed proposals for lump-sum General Contract will be received at the office of the Procurement & Strategic Sourcing located at 5700 Cass Avenue, Suite 4200, Detroit, MI 48202 on **April 21, 2015,** until 2:00 p.m. (local time).

No public bid opening will be held.

Bid Qualification Meeting: Bidders must be available for bid prequalification meeting the day following the bid opening. The lowest qualified bidder will be contacted and requested to meet with Facilities Planning & Management

at their office located at 5454 Cass Avenue, Detroit, MI 48202. During the prequalification, the Vendor must provide a Project Schedule and a Schedule of Values, including a list of Contractor's suppliers, subcontractors and other qualifications.

An unsigned contract will be given to the successful Contractor at the conclusion of the Pre Award meeting, if all aspects of the bid are in order. The Contractor has 5 business days to return the contract to the Project Manager for University counter signature. The contractor must also submit a Performance Bond as outlined above and a Certificate of Insurance in the same 5 business day period. In the event the Contractor fails to return the documents in this 5 day period, the University reserves the right to award the contract to the next most responsive bidder.

All available information pertaining to this project will be posted to the Purchasing web site at
http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html.
Information that is not posted to the website is not available/not known

INSTRUCTIONS TO BIDDERS

OWNER: Board of Governors
Wayne State University

PROJECT: **EACPHS Team Based Learning Facility 2015**
Project No. **603-249987**

LOCATION: Wayne State University
Applebaum College of Pharmacy
259 Mack Avenue,
Detroit, Michigan 48202

OWNER'S AGENT: **Loretta McClary**, **Senior Buyer**
WSU – Procurement & Strategic Sourcing
5700 Cass, Suite 4200
Detroit, Michigan 48202
313-577-3731 / 313-577-3747 fax
Ac2843@wayne.edu & copy **ag5343@wayne.edu**

1. PROPOSALS

A. The Purchasing Agent will receive sealed Proposals for the work as herein set forth at the place and until the time as stated in the "Information for Bidders", a copy of which is bound herewith in theses specifications. **No public bid opening will be held.**

B. Proposals shall be for a **lump-sum General Contract for the entire work of the Project as provided in the Form of Proposal.**

C. Proposals shall be submitted in duplicate on forms furnished with the Bidding documents. The forms must be fully filled out in ink or typewritten with the signature in longhand, and the completed forms shall be without alterations, interlineations, or erasures. Forms shall contain no recapitulations of the work to be done. Each proposal shall be delivered in an opaque sealed envelope, marked **"PROPOSAL"** AND SHALL BEAR THE NAME OF THE PROJECT AND THE NAME OF THE BIDDER. Proposals submitted by telephone or telegraph will not be accepted. Modifications by telephone or telegraph to previously submitted proposals will not be accepted.

D. (***revised 5-29-2009***) All base bids must be conforming to the detailed specifications and drawings provided by the University, including any Addenda issued. Voluntary Alternates will only be considered if the Contractor has also submitted a conforming base bid. Any stipulation of voluntary alternates or qualifications contrary to the Contract requirements made by the Bidder in or accompanying his proposal as a condition for the acceptance of the Contract will not be considered in the award of the Contract and will cause the rejection of the entire Proposal.

E. **The competency and responsibility of Bidders will be considered in making the award. The Owner does not obligate himself to accept the lowest or any other bids. The Owner reserves the right to reject any and all bids and to waive any informalities in the Proposals**.

2. PROPOSAL GUARANTEE *(revised 3-22-2012)*

A. A certified check or bank draft payable to the Owner, or satisfactory Bid Bond executed by the Bidder and Surety Company, in an amount equal to not less than five percent (5%) of the maximum proposal amount shall be submitted with each Proposal, which amount may be forfeited to the Board of Governors, Wayne State University, if the successful Bidder refuses to enter into a Contract within ninety (90) days from receipt of Proposals.

B. Bond must be issued by a Surety Company with an "A rating as denoted in the AM Best Key Rating Guide"

C. The bid deposit of all bidders except the lowest three will be returned within three (3) days after the bids are opened. After the formal Contract and bonds are approved, the bid deposit will be returned to the lowest three bidders, except when forfeited.

D. Bid bonds shall be accompanied by a Power of Attorney authorizing the signer of the bond to do so on behalf of the Surety Company.

E. Withdrawal of Proposals is prohibited for a period of ninety (90) days after the actual date of opening thereof.

3. CONTRACT SECURITY *(revised 3-22-2012)*

A. The successful Bidder will be required to furnish a Performance Bond and Labor and Material Payment bond in an amount equal to 100% of the contract award amount, and include such cost in the Proposal, complying with the laws of the State of Michigan. The graduated formula no longer applies.

B. Performance Bond and Labor and Material Payment Bond shall be from a surety company acceptable to the Owner and made payable as follows:

(1) A bond for 100% of the contract award amount to the Board of Governors of Wayne State University, and guaranteeing the payment of all subcontractors and all indebtedness incurred for labor, materials, or any cause whatsoever on account of the Contractor in accordance with the laws of the State of Michigan relating to such bonds.

(2) A bond for 100% of the contract award amount to the Board of Governors of Wayne State University to guarantee and insure the completion of work according to the Contract.

C. The only acceptable Performance Bond shall be the AIA A312 – 2010.

D. Bond must be issued by a Surety Company with an “A rating as denoted in the AM Best Key Rating Guide”.

4. BOND CLARIFICATION

For bids below $50,000.00,

A. Bid bond will not be required.
B. Performance Bond will not be required.

5. INSPECTION

A. Before submitting his Proposal, each Bidder shall be held to have visited the site of the proposed work and to have familiarized himself as to all existing conditions affecting the execution of the work in accordance with the Contract Documents. No allowance or extra consideration on behalf of the Contractor will subsequently be made by reason of his failure to observe the Conditions or on behalf of any subcontractor for the same reason.

6. EXPLANATION TO BIDDERS AND ADDENDA

A. Neither the Owner nor Representative nor Purchasing Agent will give verbal answers to any inquiries regarding the meaning of drawings and specifications, and any verbal statement regarding same by any person, previous to the award, shall be unauthoritative.

B. Any explanation desired by Bidders must be requested of the Purchasing Agent in writing, and if explanation is necessary, a reply will be made in the form of an Addendum, a copy of which will be forwarded to each Bidder registered on the Bidders' List maintained by Procurement & Strategic Sourcing.

C. All addenda issued to Bidders prior to date of receipt of Proposals shall become a part of these Specifications, and all proposals are to include the work therein described.

7. INTERPRETATION OF CONTRACT DOCUMENTS

A. If any person contemplating submitting a bid for the proposed Contract is in doubt as to the true meaning of any part of the drawings, specifications, or other Contract Documents, he may submit to the Purchasing Agent, a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the Contract Documents will be made by an addendum duly issued. A copy of such addendum will be mailed and delivered to each registered Bidder. Each proposal submitted shall list all addenda, by numbers, which have been received prior to the time scheduled for receipt of proposal.

8. SUBSTITUTION OF MATERIALS AND EQUIPMENT*

A. Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided that the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

9. TAXES

A. The Bidder shall include in his lump sum proposal and make payment of all Federal, State, County and Municipal taxes, including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered.

10. REQUIREMENTS FOR SIGNING PROPOSALS AND CONTRACTS

A. The following requirements must be observed in the signing of proposals that are submitted:

(1) Proposals that are not signed by individuals making them shall have attached thereto a Power of Attorney, evidencing the authority to sign the Proposal in the name of the person for whom it is signed.

(2) Proposals that are signed for partnership shall be signed by all of the partners or by an Attorney-in-Fact. If signed by an Attorney-in-Fact, there must be attached to the Proposal a Power of Attorney evidencing authority to sign the Proposal, executed by the partners.

(3) Proposals that are signed for a corporation shall have the correct corporate name thereof and the signature of the President or other authorized officer of the corporation, manually written in the line of the Form of Proposal following the words "signed by". If such a proposal is signed by an official other than the President of the Corporation, a certified copy of resolution of the Board of Directors, evidencing the authority of such official to sign the bid, shall be attached to it. Such proposal shall also bear the attesting signature of the Secretary of the Corporation and the impression of the corporate seal.

11. QUALIFICATIONS OF BIDDERS

A. The Owner may request each of the three (3) low bidders to submit information necessary to satisfy the Owner that the Bidder is adequately prepared to fulfill the Contract. Such information may include past performance records, list of available personnel, plant and equipment, description of work that will be done simultaneously with the Owner's Project, financial statement, or any other pertinent information. This information and such other information as may be requested will be used in determining whether a Bidder is qualified to perform the work required and is responsible and reliable.

12. SPECIAL REQUIREMENTS

A. The attention of all Bidders is called to the General Conditions, Supplementary General Conditions, and Special Conditions, of which all are a part of the Specifications covering all work, including Subcontracts, materials, etc. Special attention is called to those portions dealing with Labor Standards, including wages, fringe benefits, Equal Employment Opportunities, and Liquidated Damages.

B. Prior to award of the project, the apparent low bidder will be required to produce a schedule of values which will include the proposed subcontractors for each division of work and whether the subcontractor is signatory or non-signatory. A contract will not be issued to the apparent low bidder until this document is provided. A contractor will have one week to produce this document. If the required document is not received within this time, the bidder will be disqualified.

13. NOTICE OF AWARD/ACCEPTANCE OF BID PROPOSAL *(revised 12-15-2009)*

A. The Proposal shall be deemed as having been accepted when a copy of the Contract (fully executed by both the vendor and the appropriate signatory authority for the University), with any/all Alternates, Addenda, and Pre-Contract Bulletins, as issued by the office or agent of the Owner has been duly received by the Contractor. After signing the Contracts, the Contractor shall then return all copies, plus any required bonds and certificates of insurance, to the office of the Owner's Representative, at 5454 Cass, Wayne State University, Detroit, MI 48202. Construction will begin when the fully-executed contract has been returned to the Contractor.

14. TIME OF STARTING AND COMPLETION

A. It is understood that the work is to be carried through to substantial completion with the utmost speed consistent with good workmanship and to meet the established start and completion dates.

B. The Contractor shall begin work under the Contract without delay, upon receipt of a fully-executed contract from the Owner, and shall substantially complete the project ready for unobstructed occupancy and use of the Owner for the purposes intended within the completion time stated in the Contract.

C. The Contractor shall, immediately upon receipt of fully-executed contract, schedule his work and expedite deliveries of materials and performance of the subcontractors to maintain the necessary pace for start and completion on the aforementioned dates.

15. CONTRACTOR'S PERFORMANCE EVALUATION *(2-2015)*

In an effort to provide continuous process improvement regarding the construction of various university projects, Wayne State University is embarking upon a process of evaluating the contractor's overall performance following the completion of work. At the conclusion of the construction project a subjective evaluation of the Contractor's performance will be prepared by the Project Manager and the supervising Director of Construction. The evaluation instrument that will be used in this process is shown in Section **00440-01 - Contractor's Performance Evaluation**.

16. BIDDING DOCUMENTS

A. Bid specifications are not available at the University, but are available beginning **March 26, 2015** through Wayne State University Procurement & Strategic Sourcing's Website for Advertised Bids: **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html**. The plans for this project can be viewed in advance and/or printed from the above website. Copies of the RFP will not be available at the pre-proposal meeting.

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B. **DOCUMENTS ON FILE *(revised 12-2007)***

(1) *Wayne State University Procurement & Strategic Sourcing's Website.*
All available information pertaining to this project will be posted to the Purchasing web site at **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html**.
Information that is not posted to the website is not available/not known.

(2) Notification of this Bid Opportunity has been sent to *DUNN BLUE (for purchase of Bid Documents only), DODGE REPORTS, REED CONSTRUCTION, CONSTRUCTION NEWS and the CONSTRUCTION ASSOCIATION OF MICHIGAN (CAM).*

(3) Please note: Effective December 1, 2007, bid notices will be sent only to those Vendors registered to receive them via our Bid Opportunities list serve. To register, to **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html**, and click on the "Join our Listserve" link at the top of the page.

NOTICE OF MANDATORY PRE-BID CONFERENCE

PROJECT: **EACPHS Team Based Learning Facility 2015**,

PROJECT NOS.: **WSU PROJECT NO. 603-249987**

It is **MANDATORY** that each Contractor proposing to bid on this work must attend a pre-bid conference at the following location:

Wayne State University
Applebaum College of Pharmacy
259 Mack Avenue,
First Floor Conference Room 1130
Detroit MI 48202

2:00pm, local time, April 14, 2015

The purpose of this conference is to clarify the procedures, scope of work, and to identify any omissions and/or inconsistencies that may impede preparation and submission of representative competitive bids.

An attendance list shall be prepared and minutes of the conference shall be furnished to all those attending.

Any clarifications or corrections that cannot be made at the conference will be by Addendum.

For your convenience a map of the University and appropriate parking lots can be downloaded and printed from: **http://campusmap.wayne.edu/**. Guest parking in any of the University student and guest lots is **$7.00**. A detailed list of Cash & Coin operated lots can be viewed at **http://purchasing.wayne.edu/cash_and_credit_card_lots.php**. Cash lots dispense change in quarters. Due to time constraints, Vendors are encouraged to avoid parking at meters on the street (especially blue "handicapped" meters).

All available information pertaining to this project will be posted to the Purchasing web site at **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_bid.html**.
Information that is not posted to the website is not available/not known.

AGENDA

I. Welcome and Introductions
   A. Wayne State University Representatives
   B. Vendor Representatives
   C. Sign in Sheet- be sure to include your fax number and email address (LEGIBLY) on the sign in sheet.

II. Brief Overview of Wayne State University
   A. Purpose and Intent of RFP.
   B. Detailed review of the RFP and the requirements for a qualified response.
   C. Review of all pertinent dates and forms that are REQUIRED for a qualified response.

III. Vendor Questions/Concerns/Issues
   A. Questions that can be answered directly by the appropriate person in this meeting will be answered and both question and answer will be recorded in the minutes of the meeting.
   B. Questions that need to be researched will be answered and a nature of clarification will be emailed to the appropriate ListServ. See **http://www.forms.purchasing.wayne.edu/Adv_bid/Adv_Bid_Listserve.html** for a list of ListServ Bid Lists.
   C. Minutes will be emailed to all participants of the meeting within a reasonable amount of time. (be sure to include your email address/addresses on the sign in sheet)
   D. Questions and concerns that come up after this meeting are to be addressed to **Loretta McClary**, Procurement & Strategic Sourcing. Discussion with other University members is seriously discouraged and could lead to disqualification from further consideration. All questions and answers will be recorded and emailed to all participants of the RFP.
   E. Due date for questions is **April 16, 2015, 12:00 noon**.

IV. Proposal Due Date- **April 21, 2015, 2:00 p.m.**

V. Final Comments

VI. Adjourn

VENDOR NAME_____

GENERAL CONTRACT - PROPOSAL FORM *(revised 1 - 2011)* -- Revised 4/7/15

Please Note – Vendors must Pre-qualify themselves when responding to this bid opportunity. Our Prequalification questions can be found on page 4 of this section.

OWNER:	Board of Governors Wayne State University
PROJECT:	**EACPHS Team Based Learning Facility 2015**
PROJECT NO.:	WSU PROJECT NO. **603-249987**
PROJECT TYPE:	**General, Mechanical, Electrical Work**
PURCHASING AGENT:	**Loretta McClary**, **Senior Buyer** WSU – Procurement & Strategic Sourcing 5700 Cass, Suite 4200 Detroit, Michigan 48202 **313-577-3731**/ 313-577-3747 fax **Ac2843@wayne.edu** & copy **ag5343@wayne.edu**
OWNER'S REPRESENTATIVE:	**Robert Hoekstra** , Project Manager Design & Construction Services Facilities Planning & Management Wayne State University 5454 Cass Avenue Detroit, Michigan 48202
TO:	Board of Governors Wayne State University Detroit, Michigan

BASE PROPOSAL:

The undersigned agrees to enter into an Agreement to complete the entire work of the **EACPHS Team Based Learning Facility 2015** project (WSU Project No. **603-249987**) in accordance with the Bidding Documents for the following amounts:

_____ $ _____ Dollars

ALTERNATES: The following alternates to the base proposal(s) are required to be offered by the respective bidder. The undersigned agrees that the following amounts will be added to or deducted from the base bid as indicated, for each alternate which is accepted.

ALTERNATE NO. 1: Provides for purchase and installation of an operable partition unit. (See drawings)
The undersigned agrees to enter into an agreement to complete the Alternate # 1 work of the **EACPHS Team Based Learning Facility Project** (WSU Project No. **603-249987**) and to provide all labor and material associated with the work in accordance with the Bidding Documents for the following amounts:

(select one) ADD _____ $ _____ Dollars

or

DEDUCT _____ $ _____ Dollars

LAWN REPLACEMENT:

The undersigned agrees that, in the event of existing lawn or landscaping damage, due to the Contractor's work, that has not been properly addressed and repaired to the satisfaction of the University, the University may repair/replace the lawn and/or landscaping, and that the expense will be at a **unit cost of $10.00 per square yard for lawn, and landscaping at a rate of 1.5 times the cost of said repairs**, the full cost of which shall be reimbursed by the contractor.

CONTRACT CHANGE ORDERS: ***(revised 4-01-2011)***

The undersigned agrees to the following pricing formula and rates for changes in the contract work:

1. For subcontract work, Contractor's markup for handling, overhead, profit and bonding on subcontractors sell price, shall not exceed **5%.**

   1.1. For subcontract work that is provided on a time and material basis, the subcontractor shall be permitted a single markup for handling, overhead, profit and bonding of 5%. When a markup is identified in the subcontractor's hourly labor rate, additional markup on labor is not permitted.

   1.1.1 For changes that are based upon a lump sum value, subcontractor shall provide all labor and material back-ups to ensure that duplicative charges are avoided and authorized mark-ups for OH&P can be confirmed

2. For work by his own organization, Contractor's markup for job* and general overhead, profit and bonding shall not exceed **5%** of the net labor** and material costs.

Within 14 days of the project's contract execution Contractor shall provide to the Owner; Subcontractor's hourly labor rate breakdown details. This requirement shall extend to the lowest level of subcontractor participation.

* Job and general overhead includes supervision and executive expenses; use charges on small tools, scaffolding, blocking, shores, appliances, etc., and other miscellaneous job expenses.

** Net labor cost is the sum of the base wages, fringe benefits established by governing trade organizations, applicable payroll taxes, and increased expense for contractor's liability insurance (Workman's Compensation, P.L. and P.D.).

TIME OF COMPLETION:

(revised 4-01-2011)
The Contract is expected to be fully executed on or about 25 calendar days after successful bidder qualification and recommendation of award. The undersigned agrees to start construction **immediately after** receipt of a fully executed contract, and to complete the work as follows:

Substantial Completion will be completed no later than **July 27, 2015.**

LIQUIDATED DAMAGES:

It is understood and agreed that, if project is not completed within the time specified in the contract plus any extension of time allowed pursuant thereto, the actual damages sustained by the Owner because of any such delay, will be uncertain and difficult to ascertain, and it is agreed that the reasonable foreseeable value of the use of said project by Owner would be the sum of **$500.00, Five Hundred Dollars per day**, and therefore the contractor shall pay as liquidated damages to the Owner the sum of **$500.00, Five Hundred Dollars per day** for each day's delay in substantially completing said project beyond the time specified in the Contract and any extensions of time allowed thereunder.

TAXES:

The undersigned acknowledges that prices stated above include all applicable taxes of whatever character or description. Michigan State Sales Tax is applicable to the work.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive informalities or irregularities therein.

ADDENDA:

The undersigned affirms that the cost of all work covered by the following Addenda are included in the lump sum price of this proposal.

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

CONTRACTOR'S PREQUALIFICATION STATEMENT & QUESTIONNAIRE:

Our Minimum Requirements for Construction Bids are:

WSU considers this project: General, Mechanical, Electrical Work.

Criteria	Small Project bid less than $50,000	Medium Project bid between $50,001 and $250,000	Large Project bid between $250,001 and $2 million	Very Large Project bid greater than $2 million
EMR Rating (Experience Modification Rating)	1.0 or Less	1.0 or Less	1.0 or Less	1.0 or Less
Bondable Vendor	N.A.	Required	Required	Required
Length of Time in Construction Business	2 Years	3 Years	5 Years	5 Years
Demonstrated Experience in Projects Similar in Scope and Price in the last 3 years	1 or more	1 or more	2 or more	3 or more
Unsuccessful Projects on Campus in last 3 years	None Allowed	None Allowed	None Allowed	None Allowed
Failure to comply with Prevailing Wage and/or Project Labor requirements	None Allowed	None Allowed	None Allowed	None Allowed
Withdrawn University Bid (with or without Bond forfeiture) within the last 3 years **	1 or less	1 or less	1 or less	1 or less
Company currently not in Chapter 11 of the US Bankruptcy Code	1 Year	2 Years	3 Years	3 Years

** Withdrawal of a bid is subject to the University suspension policy, for a period up to one year.

Contractors must complete the following information to determine their eligibility to participate in this bid. This information is required with your Bid to the University

Failure to complete this form in its entirety will result in your bid being disqualified.

Check one of the following on the makeup of your company:

_____ Corporation _____ Individual

_____ Partnership _____ Joint Venture

_____ Other (Explain)

_____

_____

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1. How many years has your organization been in business as a contractor? _____
2. How many years has your organization been in business under its present business name? _____
3. List states in which your organization is legally qualified to do business. _____

_____

4. Provide the Name and Address of your Liability Insurance Carrier. _____

_____

5. What is your current EMR Rating? _____
   The minimum requirement is an EMR Rating of 1.0 or less for all projects. Bidders with a rating higher than 1.0 understand that their bid may be disqualified, at the sole discretion of the University.
6. What percentage of work performed on projects are by company employees; excluding any hired subcontracting and outsourced relationships, for the bid submitted? _____ %
7. What percentage of work performed on your companies behalf are by subcontracted business relationships; disallowing 1099 contracting work forces, for the bid submitted? _____ %
8. Have you ever failed to complete any work awarded to you? If so, attach a separate sheet of explanation. Include the name of the Project, the customer, the dates of the work, and the amount of the contract?

_____

9. Have you withdrawn a bid after a University bid opening and/or refused to enter into a contract with the University upon notification of award within the last 3 years? If so, state the Project Name and Number, and the date of bid submission below.

_____

10. Has any officer or partner of your organization ever been an officer or partner of another organization that failed to complete a construction contract? If so, attach a separate sheet of explanation.

_____

11. List the construction experience of the principals and superintendents of your company.

Name: _____ Title: _____

_____

_____

Name: _____ Title: _____

_____

_____

Name: _____ Title: _____

_____

_____

12. List the construction Projects, and approximate dates, when you performed work similar in Scope to this project.

Project: _____ Owner: _____

Contract Amount: _____ Date Completed: _____

Project: _____ Owner: _____

Contract Amount: _____ Date Completed: _____

Project: _____ Owner: _____

Contract Amount:_____ Date Completed: _____

13. List the construction Projects, and approximate dates, when you performed work similar in Dollar Amount to this project.

Project:_____ Owner:_____

Contract Amount: _____ Date Completed: _____

Project: _____ Owner: _____

Contract Amount: _____ Date Completed: _____

Project: _____ Owner: _____

Contract Amount: _____ Date Completed: _____

14. Is your Company "bondable"? Yes _____ No _____

15. What is your present bonding capacity? $ _____

16. Who is your bonding agent?

NAME: _____

ADDRESS: _____

PHONE: (_____) _____

CONTACT: _____

17. Does your company agree to provide financial reports to the University upon request? Failure to agree may result in disqualification of your bid. Yes _____ No _____

18. Does your company agree that all of the Terms and Conditions of this RFP and Vendor's Response Proposal become part of any ensuing agreement? Yes _____ No _____

19. Does your company agree to execute a contract containing the clauses shown in Section 00500 "Agreement Between Contractor and Owner for Construction"? Yes _____ No_____

If "No", clearly note any exceptions to any information contained in the contract documents and include with your proposal.

20. Did your company quote based upon **Prevailing Wage Rates**? Yes _____ No_____

Note: Contractors submitting proposals for this project may, at the discretion of the University, be required to submit references including contact information to be used to assist in the post bid evaluation process for the subject project

ACKNOWLEDGEMENT OF MINIMUM QUALIFICATIONS:

The undersigned has read and understands the minimum qualifications for University construction projects, and has completed the Prequalification section completely and accurately. The undersigned understands that a contractor, who fails to meet the minimum qualifications **in the category identified for this project, will be disqualified from consideration for the project**.

ACCEPTANCE OF PROPOSAL:

The undersigned agrees to execute a Contract, being the Wayne State University standard form titled "Agreement Between Contractor and Owner for Construction" (see section 00500 of the bid documents), provided that we are notified of the acceptance of our Proposal within sixty (60) days of the date set for the opening thereof.

The undersigned below understands that the bid will be disqualified if the Prequalification information above is not completed in its entirety.

NAME OF COMPANY: _____

OFFICE ADDRESS: _____

PHONE NUMBER: _____ DATE_____

FAX NUMBER: _____

SIGNED BY: _____
Signature

_____
(Please print or type name here)

TITLE _____

EMAIL ADDRESS: _____@_____

PREVAILING WAGE RATE SCHEDULE *(revised 4-05-2010)*

A. See also Page 00100-4 Section 12.B

B. Wayne State University requires all project contractors, including subcontractors, who provide labor on University projects to compensate at a rate no less than prevailing wage rates.

C. The rates of wages and fringe benefits to be paid to each class of laborers and mechanics by each VENDOR and subcontractor(s) (if any) shall be not less than the wage and fringe benefit rates prevailing in Wayne County, Michigan, as determined by the United States Secretary of Labor. Individually contracted labor commonly referred to as "1099 Workers" and subcontractors using 1099 workers are not acceptable for work related to this project.

D. To maintain compliance with State of Michigan Ordinances, Certified Payroll must be provided for each of the contractor's or subcontractor's payroll periods for work performed on this project. Certified Payroll should accompany all Pay Applications. Failure to provide certified payroll will constitute breach of contract, and pay applications will be returned unpaid, and remain so until satisfactory supporting documents are provided.

A Prevailing Wage Rate Schedule has been issued from the State of Michigan that is enclosed in this section

Additional information can be found on the University Procurement & Strategic Sourcing's web site at the following URL address:

http://purchasing.wayne.edu/vendors/wage-rates.php

If you have any questions, or require rates for additional classifications, please contact:

Michigan Department of Consumer & Industry Services,
Bureau of Safety and Regulation, Wage and Hour Division,
7150 Harris Drive,
P.O. Box 30476,
Lansing, Michigan 48909-7976

http://www.michigan.gov/dleg/0,1607,7-154-27673_27706---,00.html

F. **Wayne State University's Prevailing Wage Requirements:**

When compensation will be paid under prevailing wage requirements, the University shall require the following:

A. The contractor shall obtain and keep posted on the work site, in a conspicuous place, a copy of all current prevailing wage and fringe benefit rates.

B. The contractor shall obtain and keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each laborer and mechanic employed in connection with this contract.

C. The contractor shall submit a completed certified payroll document [U.S. Department of Labor Form WH 347] verifying and confirming the prevailing wage and benefits rates for all employees and subcontractors for each payroll period for work performed on this project. The contractor shall include copies of pay stubs for all employee or contract labor payments related to Wayne State University work. The certified payroll form can be downloaded from the Department of Labor website at **http://www.dol.gov/whd/forms/wh347.pdf**.

D. A properly executed sworn statement is required from all tiers of contractors, sub-contractors and suppliers which provide services or product of $1,000.00 or greater. Sworn statements must accompany applications for payment. All listed parties on a sworn statement and as a subcontractor must submit Partial or Full Conditional Waivers for the amounts invoiced on the payment application. A copy of the acceptable WSU Sworn Statement and Waiver will be provided to the awarded contractor.

E. Apprentices for a skilled trade must provide proof of participation in a Certified Apprenticeship Program and the level of hours completed in the program.

F. Daily project sign-in sheets and field reports for the project must be turned in weekly.

Note: Contractor invoices WILL NOT be processed until all listed certified payroll documents are received.

G. If the VENDOR or subcontractor fails to pay the prevailing rates of wages and fringe benefits and does not cure such failure within 10 days after notice to do so by the UNIVERSITY, the UNIVERSITY shall have the right, at its option, to do any or all of the following:

1. Withhold all or any portion of payments due the VENDOR as may be considered necessary by the UNIVERSITY to pay laborers and mechanics the difference between the rates of wages and fringe benefits required by this contract and the actual wages and fringe benefits paid;

2. Terminate this contract and proceed to complete the contract by separate agreement with another vendor or otherwise, in which case the VENDOR and its sureties shall be liable to the UNIVERSITY for any excess costs incurred by the UNIVERSITY.

3. Propose to the Director of Purchasing that the Vendor be considered for Debarment in accordance with the University's Debarment Policy, found on our website at **http://purchasing.wayne.edu/docs/appm28.pdf**

   Terms identical or substantially similar to this section of this RFP shall be included in any contract or subcontract pertaining to this project.

H. The current applicable prevailing wage rates as identified by the State of Michigan Department of Consumer & Industry Services, Bureau of Safety and Regulation, Wage and Hour Division are attached. Refer to item C above if additional information is required.

I. Prior to award of the project, the apparent low bidder will be required to produce a schedule of values which will include the proposed subcontractors for each division of work and whether the subcontractor is signatory or non-signatory. A letter of intent or **contract will not** be issued to the apparent low bidder until this document is provided. The apparent low bidder will have one week to produce this document. If the required document is not received within this time, the bidder will be disqualified, and the next low bidder will be required to provide this schedule of values.

SEE ATTACHED STATE PREVAILING WAGE INFORMATION

State of Michigan

WHPWRequest@michigan.gov

Official Request #: 384
Requestor: Wayne State University
Project Description: EACPHS Team Based Learning Facility Room 4545 - Renovate, Upgrade Furnishings, A/V, Media & Electric
Project Number: 603-249987

Wayne County

Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015
Contract must be awarded by: 6/22/2015
Page 1 of 33

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Asbestos & Lead Abatement Laborer						
Asbestos & Lead Abatement Laborer 4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive	MLDC	10/1/2014	$40.25	$53.64	$67.03	H H H X X X X D Y
Asbestos & Lead Abatement, Hazardous Material Handler						
Asbestos and Lead Abatement, Hazardous Material Handler 4 ten hour days @ straight time allowed Monday-Saturday, must be consecutive	AS207	10/1/2014	$40.25	$53.58	$66.90	H H H X X X X D Y
Boilermaker						
Boilermaker	BO169	2/17/2015	$54.70	$81.08	$107.45	H H H H H H H D Y

Apprentice Rates:

1st 6 months	$40.31	$59.49	$78.67
2nd 6 months	$41.45	$61.21	$80.95
3rd 6 months	$42.57	$62.88	$83.19
4th 6 months	$43.69	$64.57	$85.43
5th 6 months	$44.81	$66.24	$87.67
6th 6 months	$48.63	$72.50	$96.36
7th 6 months	$49.32	$73.01	$96.69
8th 6 months	$51.58	$76.40	$101.21

Official 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 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Bricklayer							
Bricklayer, stone mason, pointer, cleaner,		BR1	10/15/2014	$52.43	$78.65	$104.86	H H D H D D D D Y
Make up day allowed comment							
Saturday for 5 day 8 hour week Friday for 4 day 10 hour week 4 10s allowed M-TH							
	Apprentice Rates:						
	First 6 months			$31.87	$47.81	$63.74	
	2nd 6 months			$33.72	$50.60	$67.44	
	3rd 6 months			$35.57	$53.37	$71.14	
	4th 6 months			$37.42	$56.14	$74.84	
	5th 6 months			$39.27	$58.92	$78.54	
	6th 6 months			$41.12	$61.70	$82.24	
	7th 6 months			$42.97	$64.46	$85.94	
	8th 6 months			$44.82	$67.24	$89.64	
Carpenter							
Diver		CA 687 D	6/25/2014	$64.65	$93.14	$121.63	X X H X X H H D Y
Four 10s allowed M-Sat; double time due when over 12 hours worked per day							
Make up day allowed comment							
Saturday							

Official Request #: 384
Requestor: Wayne State University
Project Description: EACPHS Team Based Learning Facility Room 4545 -

Project Number: 603-249987
County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Carpet and Resilient Floor Layer, (does not include installation of prefabricated formica & parquet flooring which is to be paid carpenter rate)	CA1045	6/12/2014	$49.21	$70.18	$91.14	X X H X X X X D Y
Apprentice Rates:						
1st 6 months			$24.23	$32.71	$41.18	
2nd 6 months			$28.25	$38.73	$49.22	
3rd 6 months			$30.35	$41.88	$53.42	
4th 6 months			$32.44	$45.02	$57.60	
5th 6 months			$34.54	$48.17	$61.80	
6th 6 months			$36.63	$51.31	$65.98	
7th 6 months			$38.74	$54.48	$70.20	
8th 6 months			$40.82	$57.59	$74.36	
Carpenter four 10s allowed Mon-Sat; double time due when over 12 hours worked per day *Make up day allowed comment* Saturdays	CA687Z1	6/24/2014	$55.24	$79.04	$102.84	X X H X X H H D Y
Apprentice Rates:						
1st year			$33.82	$46.92	$60.00	
3rd 6 months			$36.21	$50.49	$64.78	
4th 6 months			$38.58	$54.05	$69.52	
5th 6 months			$40.97	$57.64	$74.30	
6th 6 months			$43.33	$61.17	$79.02	
7th 6 months			$45.72	$64.77	$83.80	
8th 6 months			$48.09	$68.32	$88.54	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Piledriver Four 10s allowed Monday-Saturday; double time due when over 12 hours worked per day *Make up day allowed comment* Saturday	CA687Z1P	6/24/2014	$55.24	$79.04	$102.84	X X H X X H H D Y
Apprentice Rates:						
1st 6 months			$33.82	$46.92	$60.00	
2nd 6 months			$38.58	$54.05	$69.52	
3rd 6 months			$43.33	$61.17	$79.02	
4th 6 months			$48.09	$68.32	$88.54	
Cement Mason						
Cement Mason	br1cm	10/15/2014	$50.05	$71.17	$92.28	X X H H H H H D N
Apprentice Rates:						
1st 6 months			$29.13	$39.45	$49.77	
2nd 6 months			$31.20	$42.54	$53.87	
3rd 6 months			$35.31	$48.67	$62.01	
4th 6 months			$39.46	$54.85	$70.23	
5th 6 months			$41.52	$57.91	$74.30	
6th 6 months			$45.67	$64.10	$82.52	
Cement Mason	CE514	11/10/2011	$46.30	$64.89	$83.48	H H D H H H H D N
Apprentice Rates:						
1st 6 months			$26.77	$36.07	$45.36	
2nd 6 months			$28.68	$38.91	$49.13	
3rd 6 months			$32.50	$44.59	$56.66	
4th 6 months			$36.32	$50.26	$64.19	
5th 6 months			$38.24	$53.11	$67.98	
6th 6 months			$42.06	$58.79	$75.51	

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County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

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Contract must be awarded by: 6/22/2015

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Drywall						
Drywall Taper	PT-22-D	9/5/2014	$44.41	$57.66	$70.91	H H D H D D D D Y
Four 10s allowed Monday-Thursday						
Make up day allowed comment						
Friday make-up day for bad weather or holidays						
	Apprentice Rates:					
	First 3 months		$31.16	$37.79	$44.41	
	Second 3 months		$33.81	$41.76	$49.71	
	Second 6 months		$36.46	$45.73	$55.01	
	Third 6 months		$39.11	$49.71	$60.31	
	4th 6 months		$40.43	$51.69	$62.95	
Electrician						
Inside Wireman	EC-58-IW	10/2/2014	$58.91	$77.39	$95.87	H H H H H H H D N
	Apprentice Rates:					
	0-1000 hours		$36.73	$44.12	$51.51	
	1000-2000 hours		$38.58	$46.89	$55.21	
	2000-3500 hours		$40.43	$49.67	$58.91	
	3500-5000 hours		$42.27	$52.44	$62.59	
	5000-6500 hours		$45.97	$57.98	$69.99	
	6500-8000 hours		$49.67	$63.53	$77.39	
Sound and Communication Installer/Technician	EC-58-SC	10/2/2014	$37.48	$50.29	$63.09	H H H H H H H D N
	Apprentice Rates:					
	Period 1		$24.67	$31.07	$37.47	
	Period 2		$25.95	$32.99	$40.03	
	Period 3		$27.24	$34.93	$42.61	
	Period 4		$28.51	$36.83	$45.15	
	Period 5		$29.79	$38.75	$47.71	
	Period 6		$31.07	$40.67	$50.27	

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Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Elevator Constructor						
Elevator Constructor Elevator Constructor *Make up day allowed*	EL 36	8/7/2007	$56.46		$94.99	D D D D D D D D Y
Apprentice Rates:						
1st Year Apprentice			$37.74		$58.93	
2nd Year Apprentice			$41.90		$66.94	
3rd Year Apprentice			$43.98		$70.95	
4th Year Apprentice			$48.14		$78.96	
Glazier						
Glazier If a four 10 hour day workweek is scheduled, four 10s must be consecutive, M-F.	GL-357	10/2/2014	$47.35	$65.97	$84.58	H H H H H H H D Y
Apprentice Rates:						
1st 6 months			$32.45	$43.62	$54.78	
2nd 6 months			$33.94	$45.85	$57.76	
3rd 6 months			$36.92	$50.33	$63.72	
4th 6 months			$38.41	$52.56	$66.70	
5th 6 months			$39.90	$54.79	$69.68	
6th 6 months			$41.39	$57.03	$72.66	
7th 6 months			$42.88	$59.27	$75.64	
8th 6 months			$45.86	$63.73	$81.60	
Heat and Frost Insulator						
Spray Insulation	AS25S	3/5/2007	$20.14	$29.14		H H H H H H H H N

Official Request #: 384
Requestor: Wayne State University
Project Description: EACPHS Team Based Learning Facility Room 4545 -

Project Number: 603-249987
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 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015
Contract must be awarded by: 6/22/2015

Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Heat and Frost Insulator and Asbestos Worker							
Heat and Frost Insulators and Asbestos Workers		AS25	1/29/2014	$60.25	$76.00	$91.74	H H H H H H H D Y
Four 10s must be worked for a minimum of 2 weeks consecutively, Monday thru Thursday. All hours worked in excess of 10 will be paid at double time. All hours worked on the fifth day,							
	comment						
Four 10s must be worked for a minimum of 2 consecutive weeks. OVERTIME is different on a four 10 week. OT is 2x for hours beyond 10. All hours on fifth day, M-F require time and one half. Sat first 8 hours, 1.5, all hours after 8 require double time.							
	Apprentice Rates:						
	1st Year			$46.08	$54.74	$63.40	
	2nd Year			$49.23	$59.46	$69.70	
	3rd Year			$50.80	$61.82	$72.84	
	4th Year			$53.95	$66.54	$79.14	
Ironworker							
Fence, Sound Barrier & Guardrail erection/installation and Exterior Signage work Four ten hour work days may be worked during Monday-Saturday.		IR-25-F1	2/24/2015	$34.65	$46.65	$58.65	X X H X X X H D Y
	Apprentice Rates:						
	60% Level			$24.25	$31.45	$38.65	
	65% Level			$25.55	$33.35	$41.15	
	70% Level			$26.86	$35.26	$43.66	
	75% Level			$28.15	$37.15	$46.15	
	80% Level			$29.45	$39.05	$48.65	
	85% Level			$30.75	$40.95	$51.15	

Official Request #: 384
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Project Description: EACPHS Team Based Learning Facility Room 4545 -

Project Number: 603-249987
County: Wayne

Official Rate Schedule
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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015

Contract must be awarded by: 6/22/2015

Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Siding, Glazing, Curtain Wall 4 tens may be worked Monday thru Thursday @ straight time. *Make up day allowed comment* Friday	IR-25-GZ2	9/4/2014	$46.41	$58.07	$69.73	X X H H H H D D Y
Apprentice Rates:						
Level 1			$29.48	$36.09	$42.68	
Level 2			$31.59	$38.83	$46.05	
Level 3			$33.71	$41.58	$49.44	
Level 4			$35.83	$44.33	$52.82	
Level 5			$37.94	$47.07	$56.20	
Level 6			$40.06	$49.82	$59.58	
Pre-engineered Metal Work *Make up day allowed comment* 4 tens allowed M-Th with Saturday make up day	IR-25-PE-Z1	6/3/2014	$45.24	$55.53	$65.81	X X H X X X X D Y
Apprentice Rates:						
1st Year			$26.11	$31.58	$37.06	
3rd 6 month period			$28.23	$34.46	$40.68	
4th 6 month period			$30.36	$37.35	$44.33	
5th 6 month period			$32.48	$40.21	$47.95	
6th 6 month period			$34.61	$43.99	$53.37	
Reinforced Iron Work *Make up day allowed*	IR-25-RF	9/3/2014	$55.36	$82.91	$110.45	H H D H D D D D N
Apprentice Rates:						
Level 1			$36.01	$53.89	$71.75	
Level 2			$38.38	$57.43	$76.49	
Level 3			$40.74	$60.98	$81.21	
Level 4			$43.28	$64.78	$86.29	
Level 5			$45.81	$68.59	$91.35	
Level 6			$48.35	$72.39	$96.43	

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County: Wayne

Official Rate Schedule

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Issue Date: 3/24/2015
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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Rigging Work	IR-25-RIG	9/3/2014	$61.33	$91.67	$122.00	H H H H H H H D N
Apprentice Rates:						
Level 1& 2			$36.63	$54.59	$72.55	
Level 3			$39.46	$58.84	$78.21	
Level 4			$42.28	$63.07	$83.85	
Level 5			$45.11	$67.31	$89.51	
Level 6			$47.94	$71.56	$95.17	
Decking 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time. *Make up day allowed comment* Friday for 4 tens M-Th Saturday for 5 eights M-F	IR-25-SD	9/4/2014	$53.29	$79.63	$105.96	X X H H H H H D D Y
Structural, ornamental, welder and pre-cast 4 tens may be worked Monday thru Thursday @ straight time. If bad weather, Friday may be a make up day. If holiday celebrated on a Monday, 4 10s may be worked Tuesday thru Friday. Work in excess of 12 hours per day must be paid @ double time. *Make up day allowed*	IR-25-STR	9/3/2014	$61.46	$91.84	$122.21	H H H H H H H D D Y
Apprentice Rates:						
Levels 1 & 2			$36.05	$54.01	$71.97	
Level 3			$38.88	$58.26	$77.63	
Level 4			$41.70	$62.49	$83.27	
Level 5			$44.53	$66.73	$88.93	
Level 6			$47.36	$70.98	$94.59	
Level 7			$50.18	$75.20	$100.23	
Level 8			$53.01	$79.46	$105.89	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Industrial Door erection & construction *Make up day allowed comment* Friday for bad weather when 4 tens scheduled for M-Th. If holiday celebrated on M, 4 tens may be worked T-F. Work in excess of 12 hours per day must be paid @ double time.	IR-25-STR-D	9/4/2014	$42.02	$62.68	$83.33	H H H H H H D D Y

Laborer

Construction Laborer, Demolition Laborer, Mason Tender,Carpenter Tender, Drywall Handler, Concrete Laborer, Cement Finisher Tender, Concrete Chute, and Concrete Bucket Handler If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 *Make up day allowed comment* Saturday	L33401-A-CC	7/15/2013	$43.54	$61.94	$80.33	H H H H H H H D Y
Apprentice Rates:						
0-1,000 work hours			$37.60	$53.03	$68.45	
1,001 - 2,000 work hours			$38.79	$54.81	$70.83	
2,001 - 3,000 work hours			$39.98	$56.60	$73.21	
3,001 - 4,000 work hours			$42.35	$60.15	$77.95	
Signal Man (on sewer & caisson work), Air, Electric or Gasoline Tool Operator, Concrete Vibrator Operator, Acetylene Torch & Air Hammer Operator; Scaffold Builder, Caisson Worker If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 *Make up day allowed comment* Saturday	L33401-B-SB	7/16/2013	$43.80	$62.33	$80.85	H H H H H H H D Y

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County: Wayne

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Furnace Battery Heater Tender, Burning Bar & Oxy-Acetylene Gun	L33401-D-HH	7/16/2013	$44.04	$62.69	$81.33	H H H H H H H D Y
If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.						
Make up day allowed comment						
Saturday						
Expediter Man, Top Man and/or Bottom Man (Blast Furnace Work or Battery Work)	L33401-E-EX	7/16/2013	$44.79	$63.81	$82.83	H H H H H H H D Y
If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.						
Make up day allowed comment						
Saturday						
Cleaner/Sweeper Laborer; Furniture Laborer	L33401-F-CL	7/16/2013	$38.09	$53.76	$69.43	H H H H H H H D Y
If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8 hours of work on Saturdays @ straight time.						
Make up day allowed comment						
Saturday						
Lansing Burner, Blaster & Powder Man; Air, Electric or Gasoline Tool Operator (Blast Furance Work or Battery Work)	L334C	7/16/2013	$44.29	$63.06	$81.83	X X H X H H H D Y
Make up day allowed comment						
Saturday						

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plasterer Tender, Plastering Machine Operator	LPT-1	10/25/2013	$43.54	$61.94	$80.33	X X H H H H H D Y

If conditions beyond the employer/employee's control prevent one or more hours of working during Mon-Fri, the employer may choose to work up to 10 hour straight time weekdays. Work may be scheduled up to 10 hours per Mon-Fri for the purpose of reaching 40 hours @ straight time. Make up days may also include 8

Make up day allowed comment

Saturday

Apprentice Rates:			
0 - 1,000 hours	$37.60	$53.03	$68.45
1,001 - 2,000 hours	$38.79	$54.81	$70.83
2,001 - 3,000 hours	$39.98	$56.60	$73.21
3,001 - 4,000 hours	$42.35	$60.15	$77.95

Laborer - Hazardous

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 "D" is required.	LHAZ-Z1-A	11/7/2014	$43.54	$61.94	$80.33	H H H H H H H D Y

Make up day allowed comment

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

Apprentice Rates:			
0-1,000 work hours	$37.60	$53.03	$68.45
1,001-2,000 work hours	$38.79	$54.81	$70.83
2,001-3,000 work hours	$39.98	$56.60	$73.21
3,001-4,000 work hours	$42.35	$60.15	$77.95

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class B performing work in conjunction with the removal, handling, or containment of hazardous waste substances when the use of personal protective equipment levels "A", "B" or "C" is required.	LHAZ-Z1-B	11/7/2014	$44.54	$63.44	$82.33	H H H H H H H D Y
Make up day allowed comment						
4 10s allowed M-Th or T-F; inclement weather makeup day Friday						
Apprentice Rates:						
0-1,000 work hours			$38.36	$54.17	$69.97	
1,001-2,000 work hours			$39.59	$56.01	$72.43	
2,001-3,000 work hours			$40.83	$57.87	$74.91	
3,001-4,000 work hours			$43.30	$61.58	$79.85	
Laborer Underground - Tunnel, Shaft & Caisson						
Class I - Tunnel, shaft and caisson laborer, dump man, shanty man, hog house tender, testing man (on gas), and watchman.	LAUCT-Z1-1	9/6/2013	$37.87	$48.66	$59.44	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.05	$41.43	$49.80	
1,001-2,000 work hours			$34.02	$42.88	$51.74	
2,001-3,000 work hours			$34.98	$44.32	$53.66	
3,001-4,000 work hours			$36.91	$47.21	$57.52	
Class II - Manhole, headwall, catch basin builder, bricklayer tender, mortar man, material mixer, fence erector, and guard rail builder.	LAUCT-Z1-2	9/6/2013	$37.98	$48.82	$59.66	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.14	$41.56	$49.98	
1,001-2,000 work hours			$34.10	$43.00	$51.90	
2,001-3,000 work hours			$35.07	$44.45	$53.84	
3,001-4,000 work hours			$37.01	$47.37	$57.72	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
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.).	LAUCT-Z1-3	9/6/2013	$38.04	$48.91	$59.78	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.18	$41.62	$50.06	
	1,001-2,000 work hours			$34.15	$43.07	$52.00	
	2,001-3,000 work hours			$35.12	$44.53	$53.94	
	3,001-4,000 work hours			$37.07	$47.45	$57.84	
Class IV	Tunnel, shaft and caisson mucker, bracer man, liner plate man, long haul dinky driver and well point man.	LAUCT-Z1-4	9/6/2013	$38.22	$49.18	$60.14	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.32	$41.83	$50.34	
	1,001-2,000 work hours			$34.30	$43.30	$52.30	
	2,001-3,000 work hours			$35.28	$44.77	$54.26	
	3,001-4,000 work hours			$37.24	$47.71	$58.18	

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Classification Name Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
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)	LAUCT-Z1-5	9/6/2013	$38.47	$49.56	$60.64	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.50	$42.10	$50.70	
1,001-2,000 work hours			$34.50	$43.60	$52.70	
2,001-3,000 work hours			$35.49	$45.09	$54.68	
3,001-4,000 work hours			$37.48	$48.07	$58.66	
Class VI - Dynamite man and powder man.	LAUCT-Z1-6	9/6/2013	$38.80	$50.05	$61.30	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.75	$42.47	$51.20	
1,001-2,000 work hours			$34.76	$43.99	$53.22	
2,001-3,000 work hours			$35.77	$45.51	$55.24	
3,001-4,000 work hours			$37.79	$48.53	$59.28	
Class VII - Restoration laborer, seeding, sodding, planting, cutting, mulching and topsoil grading and the restoration of property such as replacing mail boxes, wood chips, planter boxes and flagstones.	LAUCT-Z1-7	9/6/2013	$32.08	$39.97	$47.86	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$28.71	$34.91	$41.12	
1,001-2,000 work hours			$29.38	$35.92	$42.46	
2,001-3,000 work hours			$30.06	$36.94	$43.82	
3,001-4,000 work hours			$31.41	$38.97	$46.52	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Landscape Laborer						
Landscape Specialist includes air, gas, and diesel equipment operator, skidsteer (or equivalent), lawn sprinkler installer on landscaping work where seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintenance of landscape projects occurs. Sundays paid at time & one half. Holidays paid at double time.	LLAN-Z1-A	6/26/2014	$28.58	$39.49	$50.39	X X H X X X H D Y
Skilled Landscape Laborer: small power tool operator, lawn sprinkler installers' tender, material mover, truck driver when seeding, sodding, planting, cutting, trimming, backfilling, rough grading or maintaining of landscape projects occurs Sundays paid at time & one half. Holidays paid at double time.	LLAN-Z1-B	6/26/2014	$24.36	$33.16	$41.95	X X H X X X H D Y
Marble Finisher						
Marble Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-MF	10/20/2014	$43.48	$54.29	$65.10	H H D H D D D D Y
Apprentice Rates:						
Level 1			$19.04	$25.12	$31.20	
Level 2			$20.24	$26.92	$33.60	
Level 3			$27.01	$33.96	$40.90	
Level 4			$28.47	$36.14	$43.82	
Level 5			$29.99	$37.84	$45.70	
Level 6			$31.61	$39.86	$48.10	
Level 7			$33.30	$41.59	$49.87	
Level 8			$34.79	$43.48	$52.17	

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Marble Mason						
Marble Mason A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-MM	10/17/2014	$50.29	$64.51	$78.72	H H D H D D D D Y
Apprentice Rates:						
Level 1			$25.14	$32.65	$40.15	
Level 2			$28.20	$36.49	$44.78	
Level 3			$33.41	$41.97	$50.53	
Level 4			$36.15	$45.66	$55.17	
Level 5			$38.42	$48.17	$57.92	
Level 6			$42.07	$53.56	$65.05	
Level 7			$42.74	$54.38	$66.02	
Level 8			$43.67	$55.78	$67.88	
Operating Engineer						
Crane with boom & jib or leads 120' or longer *comment* Double time after 12 hours M-F	EN-324-A120	6/12/2014	$57.11	$74.62	$92.13	X X H H D D D D Y
Crane with boom & jib or leads 140' or longer Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A140	6/12/2014	$57.93	$75.85	$93.77	X X H H D D D D Y
Crane with boom & jib or leads 220' or longer Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A220	6/12/2014	$58.23	$76.30	$94.37	X X H H D D D D Y
Crane with boom & jib or leads 300' or longer Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A300	6/12/2014	$59.73	$78.55	$97.37	X X H H D D D D Y

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Crane with boom & jib or leads 400' or longer	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-A400	6/12/2014	$61.23	$80.80	$100.37	X X H H D D D D Y
Compressor or welding machine	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-CW	6/12/2014	$46.26	$58.35	$70.43	X X H H D D D D Y
Forklift, lull, extend-a-boom forklift	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-FL	6/12/2014	$53.57	$69.31	$85.05	X X H H D D D D Y
Fireman or oiler	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-FO	6/12/2014	$45.23	$56.80	$68.37	X X H H D D D D Y
Regular crane, job mechanic, concrete pump with boom	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-RC	6/12/2014	$56.25	$73.33	$90.41	X X H H D D D D Y
Regular engineer, hydro-excavator, remote controlled concrete breaker	Work in excess of 12 per day M-F shall be paid at double time.	EN-324-RE	6/12/2014	$55.28	$71.88	$88.47	X X H H D D D D Y

Apprentice Rates:			
0-999 hours	$44.32	$55.94	$67.55
1,000-1,999 hours	$45.99	$58.45	$70.89
2,000-2,999 hours	$47.64	$60.92	$74.19
3,000-3,999 hours	$49.30	$63.41	$77.51
4,000-4,999 hours	$50.96	$65.90	$80.83
5,000-5,999 hours	$52.62	$68.39	$84.15

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Operating Engineer - DIVER							
Diver/Wet Tender/Tender/Rov Pilot/Rov Tender		GLF D	4/2/2014	$52.80	$79.20	$105.60	H H H H H H H D N
Operating Engineer - Marine Construction							
Diver/Wet Tender, Engineer (hydraulic dredge)		GLF-1	2/12/2014	$65.00	$84.85	$104.70	X X H H H H H D Y
	Make up day allowed						
	Subdivision of county all Great Lakes, islands therein, & connecting & tributary waters						
Crane/Backhoe Operator, 70 ton or over Tug Operator, Mechanic/Welder, Assistant Engineer (hydraulic dredge), Leverman (hydraulic dredge), Diver Tender		GLF-2	2/12/2014	$63.50	$82.60	$101.70	X X H H H H H D Y
Holiday pay = $120.80 per hour, wages &							
	Make up day allowed						
	Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters						
Friction, Lattice Boom or Crane License Certification		GLF-2B	2/12/2014	$64.50	$84.10	$103.70	X X H H H H H D Y
Holiday pay = $123.30							
	Make up day allowed						
	Subdivision of county All Great Lakes, islands, therein, & connecting & tributary waters						
Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs or more), Tug/Launch Operator, Loader, Dozer on Barge, Deck Machinery		GLF-3	2/12/2014	$59.30	$76.30	$93.30	X X H H H H H D Y
Holiday pay = $110.30 per hour, wages &							
	Make up day allowed						
	Subdivision of county All Great Lakes, islands therein, & connecting & tributary waters						

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Deck Equipment Operator, (Machineryman/Fireman), (4 equipment units or more), Off Road Trucks, Deck Hand, Tug Engineer, & Crane Maintenance 50 ton capacity and under or Backhoe 115,000 lbs or less, Assistant Tug Operator	GLF-4	2/12/2014	$53.60	$67.75	$81.90	X X H H H H H D Y
Holiday pay = $96.05 per hour, wages & fringes *Make up day allowed*						
Subdivision of county	All Great Lakes, islands therein, & connecting & tributary waters					
Operating Engineer Steel Work						
Forklift, 1 Drum Hoist *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-ef	9/5/2014	$58.16	$76.37	$94.58	H H D H H H D D Y
Crane w/ 120' boom or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW120	9/5/2014	$60.86	$80.42	$99.98	H H D H H H D D Y
Crane w/ 120' boom or longer w/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW120-OY	9/5/2014	$61.86	$81.92	$101.98	H H D H H H D D
Crane w/ 140' boom or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW140	9/5/2014	$62.04	$82.19	$102.34	H H D H H H D D Y
Crane w/ 140' boom or longer W/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW140-OY	9/5/2014	$63.04	$83.69	$104.34	H H D H H H D D
Boom & Jib 220' or longer *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW220	9/5/2014	$62.31	$82.60	$102.88	H H D H H H D D Y
Crane w/ 220' boom or longer w/ Oiler *Make up day allowed comment* 4 10s allowed M-Th with Friday makeup day because of bad weather	EN-324-SW220-OY	9/5/2014	$63.31	$84.10	$104.88	H H D H H H D D

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Boom & Jib 300' or longer	EN-324-SW300	9/5/2014	$63.81	$84.85	$105.88	H H D H H H D D Y
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Crane w/ 300' boom or longer w/ Oiler	EN-324-SW300-OY	9/5/2014	$64.81	$86.35	$107.88	H H D H H H D
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Boom & Jib 400' or longer	EN-324-SW400	9/5/2014	$65.31	$87.10	$108.88	H H D H H H D D Y
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Crane w/ 400' boom or longer w/ Oiler	EN-324-SW400-OY	9/5/2014	$66.31	$88.60	$110.88	H H D H H H D
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Crane Operator, Job Mechanic, 3 Drum Hoist & Excavator	EN-324-SWCO	9/5/2014	$60.50	$79.88	$99.26	H H D H H H D D Y
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Apprentice Rates:						
0-999 hours			$47.87	$61.43	$75.00	
1,000-1,999 hours			$49.81	$64.35	$78.88	
2,000-2,999 hours			$51.74	$67.24	$82.74	
3,000-3,999 hours			$53.68	$70.15	$86.62	
4,000-4,999 hours			$55.62	$73.07	$90.50	
5,000 hours			$57.56	$75.97	$94.38	
Crane Operator w/ Oiler	EN-324-SWCO-OY	9/5/2014	$61.50	$81.38	$101.26	H H D H H H D
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						
Compressor or Welder Operator	EN-324-SWCW	9/5/2014	$53.15	$68.86	$84.56	H H D H H H D D Y
Make up day allowed comment						
4 10s allowed M-Th with Friday makeup day because of bad weather						

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Hoisting Operator, 2 Drum Hoist, & Rubber Tire Backhoe	EN-324-SWHO	9/5/2014	$59.86	$78.92	$97.98	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Oiler	EN-324-SWO	9/5/2014	$51.64	$66.59	$81.54	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Tower Crane & Derrick where work is 50' or more above first level	EN-324-SWTD50	9/5/2014	$61.59	$81.52	$101.44	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Tower Crane & Derrick 50' or more w/ Oiler where work station is 50' or more above first	EN-324-SWTD50-O	9/5/2014	$62.59	$83.02	$103.44	H H D H H H D D Y
Make up day allowed comment 4 10s allowed M-Th with Friday makeup day because of bad weather						
Operating Engineer Underground						
Class I Equipment	EN-324A1-UC1	10/14/2014	$51.74	$66.98	$82.22	H H H H H H H D Y
Apprentice Rates:						
0-999 hours			$41.79	$52.45	$63.12	
1,000-1,999 hours			$43.32	$54.75	$66.18	
2,000-2,999 hours			$44.84	$57.03	$69.22	
3,000-3,999 hours			$46.36	$59.31	$72.26	
4,000-4,999 hours			$47.89	$61.61	$75.32	
5,000-5,999 hours			$49.41	$63.89	$78.36	
Class II Equipment	EN-324A1-UC2	10/14/2014	$47.01	$59.89	$72.76	H H H H H H H D Y
Class III Equipment	EN-324A1-UC3	10/14/2014	$46.28	$58.79	$71.30	H H H H H H H D Y

Official Request #: 384
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Project Description: EACPHS Team Based Learning Facility Room 4545 -

Project Number: 603-249987
County: Wayne

Official Rate Schedule

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Official 2015 Prevailing Wage Rates for State Funded Projects

Issue Date: 3/24/2015

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class IV Equipment		EN-324A1-UC4	10/14/2014	$45.71	$57.94	$70.16	H H H H H H H D Y
Master Mechanic		EN-324A1-UMM	10/14/2014	$51.99	$67.81	$83.63	H H H H H H H D Y
Painter							
Painter (8 hours of repaint work performed on Sunday shall be paid time & one half rate)		PT-22-P	10/8/2014	$42.82	$55.63	$68.43	H H D H D D D D Y
Four 10s allowed Monday-Thursday with Friday makeup day if job down due to weather, holiday or other conditions beyond the control of the employer.							
Make up day allowed comment							
Fridays for bad weather or holidays							
	Apprentice Rates:						
	First 6 months			$30.02	$36.43	$42.83	
	Second 6 months			$33.86	$42.19	$50.51	
	Third 6 months			$35.14	$44.11	$53.07	
	Fourth 6 months			$36.42	$46.03	$55.63	
	Fifth 6 months			$37.70	$47.95	$58.19	
	Final 6 months			$38.98	$49.87	$60.75	
Pipe and Manhole Rehab							
General Laborer for rehab work or normal cleaning and cctv work-top man, scaffold man, CCTV assistant, jetter-vac assistant		TM247	10/15/2012	$27.20	$36.70		H H H H H H H H N
Tap cutter/CCTV Tech/Grout Equipment Operator: unit driver and operator of CCTV; grouting equipment and tap cutting equipment		TM247-2	10/15/2012	$31.70	$43.45		H H H H H H H H N

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
CCTV Technician/Combo Unit Operator: unit driver and operator of cctv unit or combo unit in connection with normal cleaning and televising work		TM247-3	10/15/2012	$30.45	$41.57		H H H H H H H H N
Boiler Operator: unit driver and operator of steam/water heater units and all ancillary equipment associated		TM247-4	10/15/2012	$32.20	$44.20		H H H H H H H H N
Combo Unit driver & Jetter-Vac Operator		TM247-5	10/15/2012	$32.20	$44.20		H H H H H H H H N
Pipe Bursting & Slip-lining Equipment Operator		TM247-6	10/15/2012	$33.20	$45.70		H H H H H H H H N
Pipefitter							
Pipefitter		PF-636	6/30/2014	$66.73	$87.93	$105.13	H H D H D D D D Y

comment

Four 10s allowed during the week preceding, following and/or the week of a holiday.

Apprentice Rates:			
1st & 2nd periods	$26.93	$35.28	$42.28
3rd period	$28.93	$38.28	$46.28
4th period	$30.18	$40.16	$48.78
5th period	$31.43	$42.03	$51.28
6th period	$32.68	$43.90	$53.78
7th period	$33.93	$45.78	$56.28
8th period	$34.93	$47.28	$58.28
9th period	$35.93	$48.78	$60.28
10th period	$37.36	$50.92	$63.14

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plasterer							
Plasterer		BR1P	11/1/2012	$45.04	$67.56	$90.08	H H H H H H H D N
Make up day allowed comment							
Saturday							
	Apprentice Rates:						
	1st 6 months			$32.11	$48.17	$64.22	
	2nd 6 months			$33.40	$50.10	$66.80	
	3rd 6 months			$34.69	$52.04	$69.38	
	4th 6 months			$37.28	$55.92	$74.56	
	5th 6 months			$39.87	$59.81	$79.74	
	6th 6 months			$42.45	$63.68	$84.90	
Plasterer		PL67	9/8/2010	$44.72	$60.11	$75.50	H H H X D D D D N
	Apprentice Rates:						
	1st 6 months			$29.33	$37.02	$44.72	
	2nd 6 months			$30.87	$39.34	$47.80	
	3rd 6 months			$32.41	$41.64	$50.88	
	4th 6 months			$35.49	$46.26	$57.04	
	5th 6 months			$38.56	$51.16	$63.76	
	6th 6 months			$41.64	$55.49	$69.34	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Plumber						
Plumber	PL-98	7/18/2013	$64.45	$84.87	$101.29	H H D H D D D D Y
comment						
4 tens allowed M-Th or T-F; OT of time and one half required on 11th & 12th hour of any ten hour days						
Apprentice Rates:						
Period 1			$19.93	$26.43	$32.93	
Period 2			$23.90	$31.40	$38.90	
Period 3			$30.60	$39.19	$47.77	
Period 4			$31.23	$40.13	$49.03	
Period 5			$32.39	$41.87	$51.35	
Period 6			$33.54	$43.59	$53.65	
Period 7			$34.69	$45.32	$55.95	
Period 8			$35.86	$47.07	$58.29	
Period 9			$37.01	$48.80	$60.59	
Period 10			$38.16	$50.53	$62.89	
Roofer						
Commercial Roofer Straight time is not to exceed ten (10) hours per day or forty (40) hours per week.	RO-149-WOM	8/18/2008	$48.46	$62.29	$76.62	H H D H H H D D N
Make up day allowed						
Apprentice Rates:						
Apprentice 1			$32.62	$39.86	$48.04	
Apprentice 2			$36.80	$44.80	$53.30	
Apprentice 3			$38.22	$46.93	$56.14	
Apprentice 4			$39.25	$48.48	$58.20	
Apprentice 5			$40.47	$50.30	$60.64	
Apprentice 6			$41.87	$52.40	$63.44	
Sewer Relining						
Class I-Operator of audio visual CCTV system including remote in-ground cutter and other equipment used in conjunction with CCTV	SR-I	11/3/2014	$42.76	$57.75	$72.74	H H H H H H H D N

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Class II-Operator of hot water heaters and circulation system; water jetters; and vacuum and mechanical debris removal systems and those assisting.		SR-II	11/3/2014	$41.23	$55.46	$69.68	H H H H H H H D N
Sheet Metal Worker							
Sheet Metal Worker A 4 10 schedule may be worked, 4 consecutive days Monday thru Friday.		SHM-80	9/9/2014	$61.83	$78.74	$95.65	H H D X H H H D Y
	Apprentice Rates:						
	1st & 2nd Periods Indentured after 6-1-11			$39.18	$46.79	$54.40	
	3rd & 4th Periods Indentured after 6-1-11			$40.88	$49.34	$57.80	
	5th & 6th Periods Indentured after 6-1-11			$42.56	$51.86	$61.16	
	7th & 8th Periods Indentured after 6-1-11			$44.25	$54.40	$64.54	
	9th & 10th Periods Indentured before 6-1-11			$51.92	$64.44	$76.96	
Siding and decking *Make up day allowed*		SHM-80-SD	1/13/2014	$42.07	$54.28	$66.48	H H H H H H H D Y

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Sprinkler Fitter						
Sprinkler Fitter 4 ten hour days allowed Monday-Friday Double time pay due after 12 hours worked M-F	SP 704	12/19/2014	$64.92	$86.15	$107.38	H H D H D D D D Y
Apprentice Rates:						
1st Period			$28.29	$36.78	$45.27	
2nd Period			$41.57	$51.12	$60.68	
3rd Period			$43.69	$54.30	$64.92	
4th Period			$45.81	$57.48	$69.16	
5th Period			$47.94	$60.68	$73.42	
6th Period			$50.06	$63.86	$77.66	
7th Period			$52.18	$67.04	$81.90	
8th Period			$54.30	$70.22	$86.14	
9th Period			$56.43	$73.42	$90.40	
10th Period			$58.55	$76.60	$94.64	
Terrazzo						
Terrazzo Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TRF	10/17/2014	$43.97	$55.03	$66.08	H H D H D D D D Y
Apprentice Rates:						
Level 1			$19.04	$25.12	$31.20	
Level 2			$20.24	$26.92	$33.60	
Level 3			$27.01	$33.96	$40.90	
Level 4			$28.47	$36.14	$43.82	
Level 5			$29.99	$37.84	$45.70	
Level 6			$31.61	$39.86	$48.10	
Level 7			$33.30	$41.59	$49.87	
Level 8			$34.79	$43.48	$52.17	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Terrazzo Worker A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TRW	10/17/2014	$49.73	$63.67	$77.60	H H D H D D D Y
Apprentice Rates:						
Level 1			$25.14	$32.65	$40.15	
Level 2			$28.20	$36.49	$44.78	
Level 3			$33.41	$41.97	$50.53	
Level 4			$36.15	$45.66	$55.17	
Level 5			$38.42	$48.17	$57.92	
Level 6			$42.07	$53.56	$65.05	
Level 7			$42.74	$54.38	$66.02	
Level 8			$43.67	$55.78	$67.88	
Tile						
Tile Finisher A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TF	10/17/2014	$43.50	$54.32	$65.14	H H D H D D D Y
Apprentice Rates:						
Level 1			$19.04	$25.12	$31.20	
Level 2			$20.24	$26.92	$33.60	
Level 3			$27.01	$33.96	$40.90	
Level 4			$28.47	$36.14	$43.82	
Level 5			$29.99	$37.84	$45.70	
Level 6			$31.61	$39.86	$48.10	
Level 7			$33.30	$41.59	$49.87	
Level 8			$34.79	$43.48	$52.17	

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Tile Layer A 4 ten workweek may be worked Monday thru Thursday or Tuesday thru Friday.	BR1-TL	10/17/2014	$49.68	$63.59	$77.50	H H D H D D D Y
Apprentice Rates:						
Level 1			$25.14	$32.65	$40.15	
Level 2			$28.20	$36.49	$44.78	
Level 3			$33.41	$41.97	$50.53	
Level 4			$36.15	$45.66	$55.17	
Level 5			$38.42	$48.17	$57.92	
Level 6			$42.07	$53.56	$65.05	
Level 7			$42.74	$54.38	$66.02	
Level 8			$43.67	$55.78	$67.88	
Truck Driver						
on 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)	TM-RB1	8/8/2013	$41.92	$37.85		H H H H H H H H Y
of all trucks of 8 cubic yard capacity or over	TM-RB1A	8/8/2013	$41.30	$38.00		H H H H H H H H Y
on euclid type equipment *Make up day allowed*	TM-RB1B	8/8/2013	$41.45	$38.23		H H H H H H H H Y

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Classification Name / Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class I						
Construction Laborer	LAUC-Z1-1	9/5/2013	$37.72	$48.43	$59.14	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$32.94	$41.26	$49.58	
1,001-2,000 work hours			$33.90	$42.70	$51.50	
2,001-3,000 work hours			$34.85	$44.13	$53.40	
3,001-4,000 work hours			$36.76	$46.99	$57.22	
Underground Laborer Open Cut, Class II						
Mortar and material mixer, concrete form man, signal man, well point man, manhole, headwall and catch basin builder, guard rail builders, headwall, seawall, breakwall, dock builder and fence erector.	LAUC-Z1-2	10/25/2013	$37.83	$48.60	$59.36	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.02	$41.38	$49.74	
1,001-2,000 work hours			$33.98	$42.82	$51.66	
2,001-3,000 work hours			$34.95	$44.27	$53.60	
3,001-4,000 work hours			$36.87	$47.15	$57.44	
Underground Laborer Open Cut, Class III						
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.	LAUC-Z1-3	9/5/2013	$37.88	$48.67	$59.46	X X X X X X X D Y
Apprentice Rates:						
0-1,000 work hours			$33.06	$41.44	$49.82	
1,001-2,000 work hours			$34.02	$42.88	$51.74	
2,001-3,000 work hours			$34.99	$44.33	$53.68	
3,001-4,000 work hours			$36.92	$47.23	$57.54	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, Class IV							
	Trench or excavating grade man.	LAUC-Z1-4	9/5/2013	$37.96	$48.79	$59.62	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.12	$41.53	$49.94	
	1,001-2,000 work hours			$34.09	$42.99	$51.88	
	2,001-3,000 work hours			$35.06	$44.44	$53.82	
	3,001-4,000 work hours			$36.99	$47.33	$57.68	
Underground Laborer Open Cut, Class V							
	Pipe Layer	LAUC-Z1-5	9/5/2013	$38.02	$48.88	$59.74	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$33.16	$41.59	$50.02	
	1,001-2,000 work hours			$34.14	$43.06	$51.98	
	2,001-3,000 work hours			$35.11	$44.51	$53.92	
	3,001-4,000 work hours			$37.05	$47.43	$57.80	
Underground Laborer Open Cut, Class VI							
	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 and the installation and repair of water service pipe and appurtenances.	LAUC-Z1-6	9/5/2013	$35.47	$45.06	$54.64	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$31.25	$38.73	$46.20	
	1,001-2,000 work hours			$32.10	$40.00	$47.90	
	2,001-3,000 work hours			$32.94	$41.26	$49.58	
	3,001-4,000 work hours			$34.63	$43.79	$52.96	

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Classification Name	Description		Last Updated	Straight Hourly	Time and a Half	Double Time	Overtime Provision
Underground Laborer Open Cut, 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, flagstones etc.	LAUC-Z1-7	9/5/2013	$32.09	$39.99	$47.88	X X X X X X X D Y
	Apprentice Rates:						
	0-1,000 work hours			$28.72	$34.93	$41.14	
	1,001-2,000 work hours			$29.39	$35.93	$42.48	
	2,001-3,000 work hours			$30.07	$36.95	$43.84	
	3,001-4,000 work hours			$31.42	$38.98	$46.54	

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WAYNE STATE UNIVERSITY
PAYMENT PACKAGE DOCUMENT REQUIREMENTS *(Revised 5-06-2011)*:

Review and comply with Section 410 of Bid Front End Documents.
Review and comply with Article 15 of the Supplemental General Conditions.

AIA DOCUMENT G702 & G703 – (or facsimile thereof) Payment Application Checklist:

- o Correct Project Name – Found on your contract.
- o Correct Project Number – Found on your contract.
- o Purchase Order Number – Required prior to beginning work.
- o Correct Application Number. (i.e. 1, 2, 3, etc.)
- o Correct Period Reporting Dates – Applications support docs must be sequential and within application range.
- o Approved & Executed Change Orders must be listed. (Cannot invoice for unapproved changes.)
- o Schedule of values percentages and amounts match the approved Pencil Copy Review – Signed by the Architect, Contractor, and University Project Manager.
- o Correct Dates – Back dating not accepted.
- o Signed and Notarized.

SWORN STATEMENT – Checklist:

- o List all contractors, sub-contractors, suppliers… ≥ $1000.00
- o Contractor's Sworn Statement amounts must coincide with Column "C" of the schedule of values document. Any unassigned or uncommitted value of contract shall be shown on an entry "Contractor – Unassigned" followed by the amount necessary to cause the „contracted to date" column of the sworn statement to equate with the schedule of value column totals.
- o Current Date – Back dating not accepted.
- o Signed and Notarized.
  A Sworn Statement is required from every Sub Contractor on the job with a material purchase or sub-subcontract of $1,000 or more. (all the way down to the bottom tier)

DEPT. of LABOR FORM WH-347 – Certified Payroll Checklist:
(Union and Non-Union)

- o For every contractor & sub-contractors work, for each week within the application for payment reporting period. (For every „boot" on the floor representing the weeks within the application period)
- o Wayne State University Project Number – Found on your contract.
- o List ALL workers who have worked on the project site.
- o Make sure workers addresses are listed.
- o NO Social Security Numbers, if present they MUST be blackened out or listed in XXX-XX-1234 format.
- o Work classifications based on the job specific Prevailing Wage Schedule descriptions. If you require rates for additional classifications, contact the Michigan Department of Consumer & Industry Services. (Refer to Section 410 of Bid Front End Documents.)
  http://www.cis.state.mi.us/bwuc/bsr/wh/revised_rates/whc_tbl.htm
- o Apprenticeship program status – proof of enrolled program and current completion required for any workers paid at Apprenticeship rates.
- o Rate of Pay verified against the Prevailing Wage Schedule with an hourly costs breakdown of fringes paid. (Refer to attachment for State of Michigan instructions and example)
- o Authorized signatures on affidavit.

APPLICATION PACKAGE SUPPORTING DOCUMENTATION –
Must accompany all package reporting periods: (Union and Non-Union)

- o Copies of Pay Stubs may be required for each Certified Payroll period reported – (Social Security Numbers MUST be blackened out or listed in XXX-XX-1234 format. Pay stubs need to reflect claimed participation of fringes like Medical, Dental, Retirement or 1099 classification.)
- o Proof of Ownership for any „Owner Operator" (Sole Proprietor) contractors not claiming their time under prevailing wage act. – (Must list their hours and dates worked on the WH-347 Form and enter EXEMPT on the income brackets.). The Owner Operator must provide copies of "DBA" registration form confirming status as exempt from prevailing wage requirements.
- o Proof of Stored Materials – (Detailed Bill of Sale, certificate of insurance or endorsement page specifically insuring the stored materials, pictures, when large value. WSU reserves the right to on site verification of material. Stored material must be separated from ordinary inventory and labeled for WSU project.

- o Partial Unconditional Waivers – Must release the accumulated amount paid for work and be immediately provided, or provided with the subsequent application for payment. Waivers shall be provided for contractors, sub-contractors, and suppliers listed on the Sworn Statements. (This is required at all tiers)
- o Full Unconditional Waivers – Prime Contractor must deliver fully executed Full Unconditional Waiver upon receipt of final payment. Full Unconditional waivers may be required of sub-contractors and suppliers in advance of final Contractor payment on bonded projects This requirement shall be determined on a project-by-project basis. Full Unconditional waivers shall be required in advance of or at the time of final payment on all non-bonded projects from all subcontractors and suppliers listed on Sworn Statements, or who have provided a notice of furnishing.
- o Partial Conditional Waivers – The Contractor shall provide a Partial Conditional Waivers covering the entire amount of the application for payment. For non-bonded Projects – A partial conditional waiver from all subcontractors must accompany any application for payment within which a subcontractor draw is included.
- o Sworn Statements – Required for all Sub Contractors, and Sub-subcontractors (etc.) with any contracts or purchases exceeding $1,000.

FINAL PAYMENT EXCHANGE – Checklist:

- o Clear and concise As-Built drawings.
- o Operation and Maintenance Manuals.
- o Required training must be completed (if applicable).
- o Warranty of work in accordance with project documents.
- o Certificate of Substantial Completion.
- o Full Unconditional Waiver

The Project Manager may provide additional requirements as may apply to individual jobs

Revised 5-6-2011

Contractor Performance Evaluation

In an effort to provide continuous process improvement regarding the construction of various university projects, Wayne State University is embarking upon a process of evaluating the contractor's overall performance following the completion of work. At the conclusion of the construction project a subjective evaluation of the Contractor's performance will be prepared by the Project Manager and the supervising Director of Construction. The evaluation instrument that will be used in this process is presented below:

Contractor Evaluation Sheet

Contractor Name : _____ Project Name: _____

Contractor's PM:_____ PM Name:_____

Superintendent:_____ Project Number:_____ PO#:_____

Designer:_____

EVALUATION SCORING: 1 = Unacceptable, 2 = Less than Satisfactory, 3 = Satisfactory or Neutral, 4 = Good, 5 = Excellent

Note: Comments are REQUIRED if any score is less than 3. Write comments on the back of the evaluation.

		Score					Weight	Total
Field Management								
1)	Work Planning / Schedule:	1	2	3	4	5	8	
2)	Compliance with Construction Documents:	1	2	3	4	5	8	
3)	Safety Plan & Compliance:	1	2	3	4	5	5	
4)	Compliance with WSU procedures:	1	2	3	4	5	7	
5)	Effectiveness of Project Supervision:	1	2	3	4	5	8	
6)	Project Cleanliness:	1	2	3	4	5	3	
7)	Punch List Performance:	1	2	3	4	5	5	
8)	Contractor Coordination with WSU Vendors:	1	2	3	4	5	3	
9)	Construction Quality:	1	2	3	4	5	8	
Administrative Management								
10)	Responsiveness:	1	2	3	4	5	4	
11)	Contractor communication:	1	2	3	4	5	4	
12)	Contractor Professionalism:	1	2	3	4	5	3	
13)	Subcontractor Professionalism:	1	2	3	4	5	3	
14)	Compliance with Contract Requirements:	1	2	3	4	5	3	
15)	Submittal\RFI Process:	1	2	3	4	5	4	
16)	Close-out - Accuracy of Documents	1	2	3	4	5	7	
Invoice and Change Management								
17)	Change Management	1	2	3	4	5	7	
18)	Applications for Payment	1	2	3	4	5	6	
19)	Timely payment of Subs/Suppliers:	1	2	3	4	5	4	
							Total 100	**Total**
20)	Level of Self-Performance:	Low		Med		High		
21)	Would you work with this Contractor again?			Yes		No		
22)	Would you work with this team again?			Yes		No		
One year follow up								
23)	Warranty Support:	1	2	3	4	5		

Evaluator

Signature_____ Date:_____

Title:

Name:

Please Print Rev. 2-17-2015 RGP

We are providing the evaluation instrument at this time to allow the bidder's to review and understand the criterion that the University's project management team will use to evaluate the successful bidder's performance at the conclusion of the project. It is the intent of the university to utilize the results of this evaluation to determine if it will continue to conduct business with the Contractor in future bidding opportunities.

The scoring range is between 100 to 500 points, with 100 being low and 500 being high. Each question has an associated 'weight' factor, and the higher the weight; the greater the importance of satisfactory performance on the final score. At the conclusion of the project, and after the Project Manager and the supervising Director has prepared their independent evaluation, the University's project representative will meet with the Contractor to review the results. Acceptable contractor performance is essential to avoid having the University decline future work with the Contractor. An appeals process is available for Contractor disagreement with evaluation scores.

Contractors engaged in work are encouraged to maintain an open and regular dialog with the Design and Construction Department over the course of the construction project to ensure that the final evaluation is an accurate representation of the Contractor's performance.

WAYNE STATE UNIVERSITY

AGREEMENT BETWEEN THE UNIVERSITY AND CONTRACTOR FOR CONSTRUCTION SERVICES (rev 6-2013)

Executed as of the _____ day of _____, 2014 by and between:

The Board of Governors, Wayne State University
Detroit, Michigan 48202
(The University)

and

CONTRACTOR'S_NAME
CONTRACTOR'S_ADDRESS

regarding

EACPHS Team Based Learning Facility 2015
259 Mack Avenue
WSU Project No. 603-249987

In consideration of the mutual covenants and conditions contained herein, the Parties agree as follows:

Article 1 - Scope of Work

1.1 This Agreement provides for **Renovation of room 4545 to include upgraded furnishings, A/V, media hardware and electrical availability**, located at **259 Mack Avenue**. The documents listed in Article 4 fully define the scope of work.

1.2 The Contractor shall furnish all the labor, materials, equipment, services, and supervision to perform all the work shown on the drawings and specifications listed in Article 18, including any addenda issued during the bid phase, and approved change orders issued during the construction phase.

1.3 The Contractor shall notify the University in writing within five (5) calendar days when the Contractor discovers any condition that will affect the contract amount or the completion date.

Article 2 - Time of Completion

2.1 The work to be performed under this Agreement shall commence upon the Contractor's receipt of a fully-executed Agreement, and substantial completion shall be achieved by **July 27, 2015**.

Article 3 - The Contract Sum

3.1 The University shall pay the Contractor a "lump sum/not-to-exceed (pick one)" amount of $$$$$$$ ("Amount in words 00" /100 dollars) for the performance of all work associated with the Contractor's Base Bid "and Alternates (List)".

3.2 The University may, at its sole discretion, during the life of the contract, award the following alternates at the amounts indicated: "(If section 3.2 is not used, delete all text and enter_Deleted"

Description	Amount
Alternate #1	
Alternate #2	
Alternate #3	

3.3 In the event additional work becomes necessary, the following unit prices will apply:
(If section 3.3 is not used, delete all text and enter_Deleted)

Work Item	Unit Price
1.	
2.	
3.	

Article 4 - The Contract Documents

4.1 The Contract Documents shall consist of this Agreement, the drawings and specifications as listed in Article 18, the General Conditions of the Contract for Construction as defined by AIA Document A201 1970 Edition, except as otherwise provided herein, and Wayne State University's Supplementary General Conditions 1997 Edition.

4.2 For any inconsistencies found among or between these Contract Documents, the language contained in this Agreement shall prevail over all other documents and the Supplementary General Conditions shall prevail over the General Conditions. In the event of a conflict between the Drawings and Specifications, the requirement for the higher quantity and/or higher quality shall prevail.

Article 5 – Examination of Premises

5.1 The Contractor acknowledges that the University provided the opportunity for a thorough examination of the project site and its surroundings and that the Contractor knows of no conditions preventing accomplishment

of the full scope of work within the time and for the amount specified in this Agreement.

5.2 The University will deny all claims for additional time and/or cost for conditions that could have been reasonably discovered during such an examination.

Article 6 - The Architect/Engineer

6.1 The Architect/Engineer for this project is:
"(List the Architect and Engineer separately if appropriate)"

Integrated Architecture
4090 Lake Drive SE
Grand Rapids, MI. 49546
(Architect Phone No / Fax No)

6.2 The University will appoint a Project Manager who will be the University's point of contact for all matters of contract administration including, but not limited to, interpretation of documents, defining the scope of work, approving work schedules, and approving contract payments.

Article 7 - Additional Work

7.1 The University reserves the right to let other Agreements in connection with this work. The Contractor will afford other Contractors or the University's own workforce reasonable opportunity for the delivery and storage of their material and for the performance of their work and shall properly connect and coordinate its work with theirs.

7.2 If any part of the Contractor's work depends for proper execution or results upon the work of another Contractor or the University's own workforce, the Contractor shall inspect and promptly report to the University's Project Manager any defects in such work that render it unsuitable for such proper execution and results. The Contractor's failure to so inspect and report shall constitute an acceptance of the work of others as fit and proper for reception of the Contractor's work and as a waiver of any claim or defense against the University or other contractor which relies in whole or in part upon the contention that such work was unsuitable for proper execution and resolution.

Article 8 – Dispute Resolution

8.1 Jurisdiction over all claims, disputes, and other matters in question arising out of or relating to this contract or the breach thereof, shall rest in the Court of Claims of the State of Michigan. No provision of this agreement may be construed as Wayne State University's consent to submit any claim, dispute or other matter in question for dispute resolution pursuant to any arbitration or mediation process, whether or not provisions for dispute resolution are included in a document which has been incorporated by reference into this agreement. Specifically, all references to Arbitration contained in the General Conditions are superceded by this Article.

8.2 In any claim or dispute by the Contractor against the University, which cannot be resolved by negotiation, the Contractor shall submit the dispute in writing for an administrative decision by the University's Vice President for Finance and Administration, within 30 days of the end of negotiations. Any decision of the Vice President shall be made within 45 days of receipt from the Contractor and is final unless it is challenged by the Contractor by filing a lawsuit in the Court of Claims of the State of Michigan within one year of the issuance of the decision. The Contractor agrees that appeal to the Vice President is a condition precedent to filing suit in the Michigan Court of Claims.

8.3 For purposes of this section, the "end of negotiations" shall be deemed to have occurred when:

8.3.1 Either party informs the other that pursuant to this section, negotiations are at an impasse; or

8.3.2 The Contractor submits the dispute in writing to the Vice President.

8.4 Unless otherwise agreed by the University in writing, and notwithstanding any other rights or obligations of either of the parties under any Contract Documents or Agreement, the Contractor shall continue with the performance of its services and duties during the pendency of any negotiations or proceedings to resolve any claim or dispute, and the University shall continue to make payments in accordance with the Contract Documents; however, the University shall not be required or obligated to make payments on or against any such claims or disputes during the pendency of any proceeding to resolve such claims or disputes.

Article 9 - Termination for Convenience

9.1 Upon thirty days written notice to the Contractor, the University may, without cause and without prejudice to any other right or remedy of the University, elect to terminate the contract. In such case, the Contractor shall only be paid (without duplication of any items), using a Close out Change Order, for the following:

9.1.1 For completed and acceptable work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

9.1.2 For expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted work, including fair and reasonable sums for overhead and profit on such expenses.

9.2 The Contractor shall not be paid on account of loss of anticipated profits or revenue, delay or disruption, or other economic loss arising out of or resulting from such termination. For purposes of this section, "fair and reasonable sums for overhead and profit" shall be determined by reference to Michigan law, without reference to principles used for such determinations in arbitration.

Article 10 - Progress Payments

10.1 On or before the 20th day of each month, the Contractor shall submit a written application for payment, using form AIA G702, to the Architect/Engineer and the University's Project Manager for review. The Architect/Engineer shall have ten (10) calendar days to accept or reject the Contractor's application for payment. Acceptable applications for payment shall then be submitted to the University for Payment of authorized amount(s) within thirty (30) calendar days of receipt by the University's Project Manager.

10.2 The application for payment shall contain a full schedule of values organized and sorted by subcontractor, by Construction Specifications Institute standard work categories, or in another format acceptable to the University.

10.3 Monthly progress payments shall show the percentage of work installed as of the date of the application, less amount previously installed and the amount due for the application period. The Contractor shall deduct a 10% retainage from the balance due for each progress payment and indicate the net amount due on each application.

10.4 When 50% of the work associated with this Agreement is installed, the Contractor shall not deduct additional retainage from the balance due from the University. When substantial completion is achieved and acknowledged by the Architect/Engineer, the Contractor and the University in writing, the University shall remit to the Contractor all but 2% of the retainage. The remaining 2% shall be retained by the University until the final payment is authorized and remitted to the Contractor.

Article 11 - Acceptance and Final Payments

11.1 Final payment shall be due thirty (30) days after the completion of the work, including all punch list items, provided the work is fully completed and the Agreement fully performed.

11.2 Upon receipt of written notice that the work is ready for final inspection and acceptance, the Architect/Engineer shall promptly inspect the work. When the Architect/Engineer concludes that the work is acceptable and the Agreement to be fully performed, the Architect/Engineer shall promptly issue a final certificate with an original signature, stating that the work provided is complete and acceptable and that the entire remaining balance found to be due the Contractor shall be remitted by the University once the final

application for payment is received.

11.3 If, after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Architect/Engineer so certifies, the University shall, upon certificate of the Architect/Engineer, and without terminating the Contract, make payments of the balance due for that portion of the work fully completed and accepted. Such payments shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Article 12 - Non-Discrimination

12.1 The Contractor agrees that it will not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to hire, tenure, terms, conditions or privileges of employment or any matter directly or indirectly related to employment, because of race, color, religion, sex, age, national origin, or ancestry. Breach of this covenant may be regarded as material breach of this Agreement.

12.2 The Contractor further agrees that it will, in all subcontracts relating to the performance of the work under this Agreement, provide in its subcontracts that the subcontractor will not discriminate against any employee or applicant for employment, to be employed in the performance of such contract, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment because of race, sex, age, color, religion, national origin or ancestry. Breach of this covenant may also be regarded as a material breach of this Agreement.

Article 13 – Laborers and Mechanics

13.1 All laborers and mechanics must be covered by Worker's Compensation and Employer's Liability Insurance as required by Federal and Michigan law. The Contractor shall also require all of its Subcontractors to maintain this insurance coverage.

13.2 The Contractor acknowledges and shall abide by the University's prohibition on use of 1099 independent contractors and owner / operator business entities. The Contractor shall ensure that all classifications of laborers and construction mechanics performing Work on the Project job site are employees of the Contractor or any Trade Contractor for any tier thereof, and that each worker is covered by workers compensation insurance.

Article 14 - Prevailing Wages

14.1 The Contractor and each subcontractor shall pay to each class of mechanics and laborers not less than the wage and fringe benefit rates prevailing in the Detroit Metropolitan Area, as determined by the United States Department of Labor. The Contractor shall post on site, in a conspicuous place, a copy of all applicable wage and benefit rates, and shall provide the University with a copy of the applicable wage and benefit rates.

14.2 The Contractor and each subcontractor shall keep an accurate record showing the name and occupation of and the actual benefits and wages paid to each laborer and mechanic employed in connection with this contract. The Contractor and each subcontractor shall make certified payroll records available to the University's representatives upon request.

14.3 If a Contractor or subcontractor fails to pay the prevailing rates of wages and fringe benefits and does not cure such failure within ten (10) days after notice to do so by the University, the University shall have the right, at its option, to do any or all of the following:

14.3.1 Withhold all or any portion of payments due the Contractor as may be considered necessary by the University to pay laborers and mechanics the difference between the rates of wages and fringe benefits required by this Agreement and the actual wage and fringe benefits paid.

14.3.2 Terminate part or all of this Agreement or any subagreement and proceed to complete the

Agreement or subagreement by separate agreement with another Contractor or otherwise, in which case the Contractor and its sureties shall be liable to the University for any excess costs incurred by the University.

14.4 The Contractor shall include terms identical or substantially similar to this section in any Agreement or subagreement pertaining to the project.

Article 15 - Save Harmless (Revised 2-2015)

15.1 To the fullest extent permitted by law, the Contractor shall hold harmless, defend, and indemnify the Board of Governors of Wayne State University, the University, the Architect and Architect's Consultants, and officers, employees, representatives and agents of each of them, from and against any and all claims or losses arising out of or alleged to be resulting from, or relating to (1) the failure of the Contractor to perform its obligations under the Contract or the performance of its obligation in a willful or negligent manner; (2) the inaccuracy of any representation or warranty by the Contractor given in accordance with or contained in the Contract Documents; and (3) any claim of damage or loss by any subcontractor, or supplier, or laborer against the University , the Architect or the Architect's consultants arising out of any alleged act or omission of the Contractor or any other subcontractor, or anyone directly or indirectly employed by the Contractor or any subcontractor.

The Contractor shall also be liable for and hereby agrees to pay, reimburse, fully indemnify and hold the University, the Architect and Architect's Consultants, harmless from and against all costs and expenses of every nature (including attorney fees and expenses incident thereto) incurred by the University in collecting the amounts due from the Contractor, or otherwise enforcing its rights, under the indemnification described in this Article.

Article 16 - Liquidated Damages

16.1 It is understood and agreed that, if the project is not completed within the time specified in the Agreement plus any extension of time allowed pursuant thereto, the actual damages sustained by the University because of any such delay will be uncertain and difficult to ascertain, and it is agreed that the reasonable foreseeable value of the use of said project by the University would be the sum of **$500.00, Five Hundred Dollars** per day. Therefore, the Contractor shall pay as liquidated damages to the University the sum of **$500.00, Five Hundred Dollars** per day for each day's delay in substantially completing said project beyond the time specified in this Agreement and any extensions of time allowed thereunder.

"ENTER N/A FOR ABOVE AMOUNT IF NO LIQUIDATED DAMAGES"

Article 17- Interpretation

17.1 This Agreement shall be interpreted and construed according to the laws of the State of Michigan.

17.2 If one part of this Agreement is found to be void by legal or legislative action, the remainder of the contract remains in full effect.

Article 18 - Drawings and Specifications

18.1 The Technical Specifications and the Project Manual dated **March 26, 2015,** and the following List of Drawings represents the scope of work as defined in the Contract Documents from Article 4.

DRAWINGS

Drawing No.:	Description	dated

IN WITNESS WHEREOF the parties to these presents have hereunto set their hands as of the day and year first written above.

Signed, sealed and delivered
in the presence of:

CONTRACTOR'S NAME GOES HERE

By_____
signature

_____
Please print name here

_____
Date signed

_____
Title

_____
Witness

THE BOARD OF GOVERNORS of
WAYNE STATE UNIVERSITY

By_____
Richard J. Nork, Vice President for
Finance and Facilities

_____
Date signed

Form Contract Approved by OGC 06/13 – LG
File_reference_here

FORM OF GUARANTEE

PROJECT: EACPHS Team Based Learning Facility 2015

OWNER: BOARD OF GOVERNORS, WAYNE STATE UNIVERSITY

CONTRACTOR: _____

DATE: _____

Know all men by these presents that, in consideration of my (our) having been awarded the Contract or Subcontract for complete furnishing and installation of:

EACPHS Team Based Learning Facility 2015 (**603-249987**)

For: **Board of Governors, Wayne State University**

In conformity with drawings and specifications prepared by Architect or Engineer, **Integrated Architecture**, and known as the buildings indicated above, I (we) do hereby agree that, should I (we) be notified that the said work has proved faulty, etc., that I (we) will return to the buildings within three (3) working days of the receipt of such notice, and will furnish the necessary labor and material to repair such work to the satisfaction of the Owner and without cost to the Owner.

The Agreement shall remain in full force and effect **for a one year period (DATE TBD)**

WITNESS:

signed:_____
Subcontractor

by:_____

address:_____

city/state/zip:_____

signed:_____
General Contractor

by:_____

(THIS FORM TO BE FILED IN DUPLICATE.)

GENERAL CONDITIONS (Revised 10-2009)

A. Although AIA Document A201 - Twelfth Edition (April 1970) - "General Conditions of the Contract for Construction" is not bound herein, it forms a part of these construction documents.

B. A reference copy of AIA Document A201 - Twelfth Edition (April 1970) - "General Conditions of the Contract for Construction" is on file at the following location:

Wayne State University
Finance & Facilities Management
Procurement & Strategic Sourcing
Academic / Administrative Services Building
5700 Cass Avenue
Detroit Michigan 48202

SUPPLEMENTARY GENERAL CONDITIONS

OF

THE CONTRACT FOR CONSTRUCTION

Facilities Planning & Management - Design & Construction Services

Wayne State University

WSU SUPPLEMENTARY GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

NOTE: The following items related to A.I.A. General Conditions, A.I.A. Document A-201 - Twelfth Edition (April 1970), by specific number being amended to. These items, as amendments, shall have precedence over the article being amended.

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.5 The Agreement

The Agreement executed by the Contractor and the Owner.

1.2 EXECUTION, CORRELATION, INTENT, AND INTERPRETATIONS

1.2.6 "General Conditions and "Supplementary General Conditions" apply with equal force to all Contractors, Subcontractors work, and extra work required under this Contract.

1.2.7 Precedence of Drawings and Specifications.
The Agreement has precedence over WSU Supplementary General Conditions.

WSU Supplementary General Conditions have precedence over A.I.A. A-201 General Conditions of the Contract.

Specifications have precedence over drawings. Full-size drawings have precedence over scale drawings. Large-scale plans and details have precedence over small-scale plans and details. Figured dimensions have precedence over plans and elevations.

ARTICLE 2 - ARCHITECT

2.1 DEFINITION

2.1.1.1 The term Architect or Architect/Engineer as used in these specifications refers to Facilities Planning and Management - Design Services, and/or Consulting Architect/Engineer.

2.2 ADMINISTRATION OF THE CONTRACT

2.2.16 The Architect will assign Field Representatives to make periodic visits to the project for the purpose of assisting the Architect in carrying out his field responsibilities at the site. The duties, responsibilities and limitations of authority of any such Field Representative shall be as follows:

a. Explain Contract Documents: Assist the Contractor via the Contractor's Superintendent to understand the intent of the Contract Documents.

b. Observations: Conduct on-site observations and spot checks of the work in progress as a basis for determining conformance of the work, material, and equipment with the Contract Documents.

c. Additional Information: Obtain from the Architect, additional details or information, if and when required, at the job site for proper execution of the work.

d. Modifications: Consider and evaluate suggestions or modifications that may be submitted by the Contractor and report them with recommendations to the Architect for final decision.

e. Construction Schedule and Completion: Be alert to the completion, and report same to the Architect. When the construction work has been completed in accordance with the Contract Documents, advise the Architect that the work is ready for general inspection

and acceptance.

f. Job Conferences: Attend and report to the Architect on all required conferences held at the job site.

g. Observe Tests: See that tests which are required by the Contract Documents are actually conducted; observe, record and report to the Architect all details relative to the test procedures; and advise the architect's office in advance of the schedules of tests.

h. Inspection by Others: If inspectors, representing local, state or federal agencies having jurisdiction over the project, visit the job site, accompany such inspectors during their trips through the project, record the outcome of these inspections, and report same to the Architect's office.

i. Shop Drawings: Do not permit the installation of any materials and equipment for which shop drawings are required unless such drawings have been duly approved and issued by the Architect.

j. Contractor's Requisitions for Payment: Review and make recommendations to the Architect for disposition.

k. List of Items for Correction: After substantial completion, make a list of items for correction before final inspection and check each item as it is corrected.

l. Owner's Occupancy of the Building: If the Owner occupies (to any degree) the building prior to actual completion of the work by the Contractor, be especially alert to possibilities of claims for damage to completed work prior to the acceptance of the building.

m. Owner Existing Operation: In the case of additions to or Demolitions of an existing facility, which must be maintained as an operational unit, be alert to conditions on the job site which may have an effect on the Owner's existing operation.

n. Limitations of Authority: Do not become involved in any of the following areas of responsibility unless specific exceptions are established by written instructions issued by the Architect.

aa. Do not authorize deviations from the Contract Documents.

bb. Avoid conducting any test personally.

cc. Do not enter into the area of responsibility of the Contractor's field superintendent.

dd. Do not expedite job for Contractor unless so instructed by the Architect.

ee. Do not advise on or issue directions relative to any aspect of the building technique or sequence unless a specific technique or sequence is called for in the Specifications or by written instructions from the Architect.

ff. Do not approve shop drawings or samples.

gg. Do not authorize or advise the Owner to occupy the Project, in whole or in part, prior to the final acceptance of the building.

hh. Do not issue a Certificate for Payment.

ARTICLE 3 - OWNER

3.5 OWNER'S RIGHT TO DO WORK

3.5.1 The Owner may exercise his right, which is hereby acknowledged by the Contractor, to let independent of the Contract for the work herein specified, any other work on the premises even if of like character and trades, and the Owner shall not be liable for any damage, loss or expense

incurred by the Contractor through the fault of any other Contractor so employed by the Owner. The Contractor acknowledges the necessity of work by others, to be performed at approximately the same time as the work hereunder, and agrees to perform his work in full cooperation with the work of such other trades and/or Contractors, partially or entirely completed, by such other trades and/or Contractors, or by the Owner, when, in the opinion of the Architect, such access or use is necessary for the performance and completion of any portion or all of the work of others or of any work on the site.

3.6 OWNER'S ACCESS AND PARTIAL OCCUPANCY

3.6.1 The Owner shall have access to the work at all times, and at his election, may from time to time (prior to the stipulated contract completion date) occupy any of the units or parts of the project as the work in connection therewith is complete to such a degree as will, in the opinion of the Owner, permit their temporary or permanent use. The Owner will, prior to any such partial occupancy, give notice to the Contractor thereof and such occupancy shall be upon the following terms:

a. Such occupancy shall not constitute an acceptance of work not performed in accordance with the Contract nor shall such occupancy relieve the Contractor of liability to perform any work by the Contract by not complete at the time of occupancy.

b. Except as otherwise provided by an agreement at the time of such partial occupancy, the Contractor shall be relieved of all maintenance costs on units or parts so occupied.

c. The Contractor shall not be responsible for wear and tear or damage resulting from partial occupancy.

d. The Owner shall assume risk of loss with respect to any unit or part so occupied.

e. The Contractor shall, if required by the Owner, furnish heat, light, water, or other such services to the units or parts occupied and the Owner shall make proper remuneration therefore to the Contractor.

3.6.2 The Contractor agrees that the Owner shall have the right, after seven (7) days' written notice to the Contractor, to place and install as much equipment and machinery during the progress of the work as is possible before the completion of the various parts of the work; and further agrees that such placing and installation of equipment shall not in any way evidence the completion of the work or any portion thereof, nor signify the Owner's acceptance of the work or any portion thereof. Should the Owner place or install such equipment and machinery with his own forces he shall be responsible for any damage to work of the Contractor caused by the Owner's work or workmen. Should the Owner have such placement or installation performed by another Contractor, then the Owner shall require said Contractor to be responsible for all such damage caused by his work, his workers, or his subcontractors.

ARTICLE 4 - CONTRACTOR

4.4 LABOR AND MATERIALS

4.4.3 All materials shall be so delivered, stored and handled to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Packaged materials shall be delivered and stored in original packages until ready for use. Packages or materials showing evidence of water or other damage shall be rejected. All materials shall be of the respective qualities specified herein.

4.4.4 The Contractor shall be responsible for the proper care and protection of all his materials, equipment, etc., delivered at the site. Building materials, equipment, etc., may be stored on the premises subject to the approval of the Architect.

4.4.5 To insure timely availability of critical materials in case of national emergency, the Contractor may order his subcontractors to proceed with fabrication of the same earlier than required by normal sequence of construction. In the event storage facilities are not available on the site or at the source of fabrication, the Owner will endeavor to provide such storage space as may be available to care for same. Where this is necessary, the Contractor shall be paid for all stored material on the Owner's property or on the properties approved by the Owner upon approval of certified

invoices. It shall be the Contractor's obligation to pay for all handling costs and damage to this material. The Contractor shall protect this property against damage.

4.6 TAXES

4.6.1 The Bidder shall include in his proposal and make payment of all Federal, State, County and Municipal taxes including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered.

4.7 PERMITS, FEES AND NOTICES

4.7.3 The Contractor shall pay highway or DPW fees for damages to sidewalks, streets, or other public property or to any public utilities.

4.7.4 Permits and licenses of a temporary nature necessary for the execution of the work shall be secured and paid for by the Contractor.

4.7.5 **Except for the General Building Permit (which is not required), the Contractor shall secure and pay for all other required permits, including the following:**

Electrical - State of Michigan
Plumbing - State of Michigan
Mechanical - State of Michigan
Elevator- City of Detroit

4.7.6 The Contractor shall secure certificates of inspection and of occupancy that may be required by authorities having jurisdiction over the work. These certificates shall be delivered to the Architect upon completion of the work.

4.9 SUPERINTENDENT

4.9.2 The Contractor shall give sufficient supervision to the work, using his best skill and attention. He shall carefully study and compare all drawings, specifications, and other instructions, and shall at once report to the Architect any error, inconsistency, or omission which he may discover, but he shall not be held responsible for their existence or discovery.

4.9.3 The Contractor's superintendent shall periodically inspect the entire project to make certain that all of the stipulations of all of the articles of the General Conditions are being observed.

4.12 DRAWINGS AND SPECIFICATIONS AT THE SITE

4.12.1.1 Refer to Paragraph 4.12.1, of A.I.A. General Conditions of the Contract for Construction. Modify the last sentence of this paragraph to read:

> "The Drawings, marked to record all changes made during construction, shall be incorporated in the Contractor's 'Informational Package'."

4.12.2 As a basic and interim step for the fulfillment of the "Informational Package", accurate records of all non-structural underground and concealed work shall be kept, including, but not limited to, all piping, conduit, equipment, and drainage and tunnel work. In addition, such records shall be available for review during various steps of the project.

4.13 SHOP DRAWINGS AND SAMPLES

4.13.9 Immediately before and as a condition of substantial completion, the Contractor shall provide the Owner an "Informational Package" and instructional sessions on the operation, maintenance, and

service of the facility. The "Informational Package" shall include:

1. One (1) set of transparency (sepia) of the approved shop drawings and descriptive material submitted during construction. Any shop documents unobtainable in sepia shall be supplied in three (3) sets.

2. One (1) set of transparency (sepia) of constructional shop drawings with all installation revisions incorporated to reflect the as-built condition. Examples of constructional shop drawings are dimensioned conduit, piping and ductwork layout drawings.

3. Three (3) sets of instructional manuals on the installation, operation, maintenance and service of equipment and systems, including parts lists.

Examples of Specific Information Required:

1. Electrical

   a. Conduit layout of light, power, and special systems, indicating dimensionally the locations and size of runs; circuit grouping and conductor size and number in conduit runs.
   b. System description and elementary diagrams, connection and interconnection diagrams, and device internal diagrams.

2. Mechanical

   a. Piping and ductwork layout indicating dimensionally the location and size of the runs.

   b. Description and diagrams of control systems.

Following the submittal of the "Informational Package", the Contractor shall schedule and provide, at the Owner's convenience, instructional sessions for Owner's personnel to acquaint them with the operation, maintenance, and service of the system.

3. Elevators

   a. Elementary diagrams and description of sequence of operation of the system control components, connection and interconnection diagrams, and device internal diagrams.

ARTICLE 5 - SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

5.2.3 Delete Article 5.2.3 in its entirety.

5.2.4 Delete Article 5.2.4 in its entirety.

ARTICLE 7 - MISCELLANEOUS PROVISIONS *(Revised 6-13-2011)*

7.5 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.5.1 The successful Bidder will be required to furnish a Performance Bond and Labor and Material Payment bond in an amount equal to 100% of the contract award amount, and include such cost in the Proposal, complying with the laws of the State of Michigan. The graduated formula no longer applies.

A. Performance Bond and Labor and Material Payment Bond shall be from a surety company acceptable to the Owner and made payable as follows:

(1) A Labor and Material Payment bond for 100% of the contract award amount to the Board of Governors of Wayne State University, and guaranteeing the payment of all subcontractors and all indebtedness incurred for labor, materials, or any cause whatsoever on account of the Contractor in accordance with the laws of the State of Michigan relating to such bonds.

(2) A Performance bond for 100% of the contract award amount to the Board of Governors of Wayne State University to guarantee and insure the completion of work according to the Contract.

B. The only acceptable Performance Bond shall be the AIA A312 – 2010.

C. The Contractor shall include with his bid evidence of his ability to obtain a Performance Bond in the amount of 100% of the bid amount, and in accordance with the terms and conditions outlined in this section, Such evidence shall be project specific and shall be submitted on a form provided by the Surety or Agent thereof.

7.7 ROYALTIES AND PATENTS

7.7.1 Indemnification and Hold Harmless (***Revised 2-2015***).
To the fullest extent permitted by law, the Contractor shall hold harmless, defend, and indemnify the Board of Governors of Wayne State University, the University, the Architect and Architect's Consultants, and officers, employees, representatives and agents of each of them, from and against any and all claims or losses arising out of or alleged to be resulting from, or relating to (1) the failure of the Contractor to perform its obligations under the Contract or the performance of its obligation in a willful or negligent manner; (2) the inaccuracy of any representation or warranty by the Contractor given in accordance with or contained in the Contract Documents; and (3) any claim of damage or loss by any subcontractor, or supplier, or laborer against the University , the Architect or the Architect's consultants arising out of any alleged act or omission of the Contractor or any other subcontractor, or anyone directly or indirectly employed by the Contractor or any subcontractor.

The Contractor shall also be liable for and hereby agrees to pay, reimburse, fully indemnify and hold the University, the Architect and Architect's Consultants, harmless from and against all costs and expenses of every nature (including attorney fees and expenses incident thereto) incurred by the University in collecting the amounts due from the Contractor, or otherwise enforcing its rights, under the indemnification described in this Article.

7.9 INTEREST

7.9.1 Delete Article 7.9 in its entirety.

ARTICLE 8 - TIME

8.1 DEFINITIONS

8.1.3 The Date of Substantial Completion of the Work is the Date certified by the Architect when construction of the entire work is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the Work for the use for which it is intended. It is the beginning date for the guarantees on all the Project Work.

8.3.5 LIQUIDATED DAMAGES

It is understood that if said Contract is not completed within the time specified in the Contract plus any extension of time thereto, the Contractor shall pay Liquidated Damages to the Owner as set forth in Article 11 of the Agreement between Contractor and Owner for Construction.

ARTICLE 9 - PAYMENT AND COMPLETION

9.3 PROGRESS PAYMENTS

9.3.1 On or before the 20th day of each month, the Contractor shall submit to the Architect on the

Owner's Standard Form, a written application for payment showing the proportionate value of the work installed to date from which shall be deducted, a reserve of 10% and all previous payments, and the balance of the amount as approved by the Architect shall be due and payable to the Contractor on or about the 15th day of the succeeding month.

9.3.2.2 No payments will be made because of materials or equipment stored off the site, except as provided for in Subparagraph 4.4.5 of the Supplementary General Conditions or other special cases the Owner may approve.

9.6 FAILURE OF PAYMENT

9.6.1 Delete Article 9.6 in its entirety.

ARTICLE 11 - INSURANCE *(Revised 2-06-2015)*

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.2 The insurance required by Subparagraph 11.1.1 shall be written for not less than any limits of liability specified herein, or required by law, whichever is greater, and shall include contractual liability insurance as applicable to the Contractor's obligations under Paragraph 4.18.

During the life of the Contract, the Contractor shall maintain the following types of insurance:

A. General Requirements

Type of Insurance	**Minimum Requirement**
1. Commercial General Liability (CGL) Contractor shall maintain commercial general liability (CGL) CGL insurance shall be written on Insurance Services form CG 00 01 (or substitute form providing equivalent coverage) and shall cover liability arising from premises, operation, independent contractors, products-completed operation, and personal injury, contractual liability broad form property damage liability, products and completed operations coverage and X,C,U (explosion, collapse, underground) hazards.	$1,000,000 combined single limit per occurrence $2,000,000 aggregate Umbrella Liability per occurrence and in the annual aggregate of $5,000,000.
2. Commercial Automobile Liability (CSL) (including hired and non-owned vehicles)	$1,000,000 combined single limit
3. Workers' Compensation (Employers' Liability)	Statutory-Michigan $500,000
4. Professional Liability insurance This limit shall be dedicated to the risks of Professional Liability and it shall not be combined with limits of any other coverages such as Environmental/Pollution General Liability, or Umbrella Liability unless otherwise approved by the Owner. Coverage shall be for the benefit of the Contracting or Design- Build entity, its principles, Employees, affiliates, agents, and partners-whether joint or several. It is presumed that this insurance will be Claims Made, and therefore must have a Retro-active date prior to the performance of any work for the Owner, whether or not such work is under contract or purchase order. This insurance will be placed with an insurer licensed to do business in the State of Michigan and rated no less that A X; by AM Best	**$250,000** Per Occurrence and in the Aggregate annually.

B. Maximum Acceptable Deductibles

Type of Insurance	Maximum Deductible
Comprehensive General Liability	$5,000
Fire Legal Liability	$5,000
Comprehensive Automobile Liability	-0-
Workers' Compensation	-0-
Property - All Risk	$ 500

11.1.3 The Board of Governors, Wayne State University, shall be named as an additional insured but only with respect to accidents arising out of the performance of said contract. The contractor shall prepare a certificate of insurance which shall name the "Office of Risk Management; 5700 Cass Avenue" as the Wayne State University certificate holder.

11.1.3.1 The Contractor shall either 1) require each of his Subcontractors to procure and to maintain during the life of his subcontract, Subcontractors' Comprehensive General Liability, Automobile Liability and Property Damage Liability Insurance of the type and in the same amounts as specified in the Subparagraph, or 2) insure the activity of his subcontractors in his own policy.

11.2 OWNER'S LIABILITY INSURANCE

Delete Article 11.2 in its entirety.

11.3 PROPERTY INSURANCE

Delete Article 11.3 in its entirety and replace with the following:

11.3.1 The Contractor shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the Owner, the Contractor, Subcontractors, and sub-subcontractors in the work and shall insure against the perils of Fire, Extended Coverage, Vandalism, and Malicious Mischief.

11.3.2 The Owner and Contractor waive all rights against each other for damages caused by fires or other perils to the extent covered by insurance provided under Subparagraph 11.3.1. The Contractor shall require similar waivers by Subcontractors and sub-subcontractors in accordance with Clause 5.3.1.5.

11.3.3 Insurance must be issued by an insurance company with an "A rating as denoted in the AM Best Key Rating Guide".

ARTICLE 12 - CHANGES IN THE WORK

12.1 CHANGE ORDERS

12.1.8 Percentage markups in pricing under Subparagraphs 12.1.3.1, 12.1.3.3, and 1.2.4 shall be as limited in the Contract Documents. Unit price of Subparagraph 12.1.3.2 shall represent total unit cost to the Owner and shall include the Contractor's markup for overhead and profit.

ARTICLE 14 - TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the work is stopped for a period of thirty days under any order of any court or other public authority having jurisdiction, or as a result of any act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the contract or a subcontractor or their agents or employees or other persons performing any of the Work under a contract with the contractor, then the contractor may, upon seven days' written notice to the Owner and the Architect, terminate the contract and recover from the Owner payment for all Work

executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment, and machinery, including reasonable profit and damages.

ARTICLE 15 - ADDITIONAL CONDITIONS

15.1 SUBSTITUTION OF MATERIALS AND EQUIPMENT

15.1.1 Whenever a material, article, or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors, which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance, and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

15.2 NON-DISCRIMINATION PROVISION AND WAGE AND HOUR ACT

15.2.1 During the performance of this contract, the Contractor agrees as follows:

15.2.1.1 The Contractor shall not discriminate against any employee or applicant for employment because of sex, race, creed, color, age, or national origin. The Contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their sex, race, age, creed, color, or national origin.

15.2.1.2 Such action shall include but not be limited to, the following: employment; upgrading; demotion; or transfer; recruitment or recruitment advertising; layoff or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

15.2.1.3 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 sex, race, creed, color, age or national origin.

15.2.1.4 The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of October 27, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

15.2.1.5 The Contractor will comply with all provisions of the Executive Order No. 11246 of October 27, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor or other government agency or authority having jurisdiction.

15.2.1.6 The Contractor will furnish all information and reports required by Executive Order No. 11246 of October 27, 1965, and by the rules, regulations, and orders of the Secretary of Labor or other government agency or authority having jurisdiction, and will permit access to his books, records, and accounts by the administrative agency and the Secretary of Labor for the purposes of investigation to ascertain compliance with such rules, regulations and orders.

15.2.1.7 In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract, or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part, and the Contractor may be declared ineligible for further University contracts or federally-assisted contracts in accordance with procedure authorized in Executive Order No. 11246 of October 27, 1965, or by rule, regulation, or order of the Secretary of Labor or other government agency or authority having jurisdiction.

15.2.1.8 The Contractor will include in the provisions of Subparagraph 15.2.1.1 through 15.2.1.8 in every subcontract or purchase order unless exempted by rules, regulations or orders of the President's Committee on Equal Employment Opportunity issued pursuant to Section 204 of Executive Order

No. 11246 of September 14, 1965, so that provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

15.3 COMPLIANCE WITH COPELAND ANTI-KICKBACK ACT AND REGULATIONS

15.3.1 The Contractor shall comply with the Copeland Anti-Kickback Act and Regulations of the Secretary of Labor (29CFR, Part 3) which are herein incorporated by reference.

15.4 PREVAILING WAGES

15.4.1 Contractors and subcontractors shall pay all mechanics and laborers, including apprentices and trainees, no less than the wage and fringe benefit rates prevailing in the locality in which the work is performed. Wage and fringe benefit rates are determined by the Federal Government Department of Labor.

15.4.2 Classifications not provided in the schedule shall be determined prior to the award of the contract and shall be no less than the wage and fringe benefit rates determined by the Federal Department of Labor.

15.4.3 Contractors and subcontractors shall adhere to the ratios of apprentices to journey workers as determined by the Federal Department of Labor.

15.4.4 Contractors and subcontractors shall keep a copy of the prescribed wage and benefit rates posted at the construction site in a conspicuous place.

15.4.5 Contractors and subcontractors shall keep an accurate record of the name, occupation, and the actual benefits paid to each mechanic or laborer for the contract. This record shall be made available for reasonable inspection by the Federal Department of Labor and the Owner.

DRAWINGS

The Technical Specifications dated **April 6, 2015** and the following List of Drawings represent the scope of work as defined in the Contract Documents from Article 4.

DRAWINGS

Drawing No.:	**Description**
	SHEET INDEX
I 1.1	**INDEX SHEET & LOCATION MAP**
I 1.2	**CODE COMPLIANCE**
	ARCHITECTURAL
A 1.4	**FOURTH FLOOR PLAN & REFLECTED CEILING PLAN & SPECIFICATIONS**
A8.1	**INTERIOR ELEVATIONS**
	FINISHES
F 2.0	**FOURTH FLOOR FINISH PLAN & SPECIFICATIONS**
	MECHANICAL
M 0.1	**HVAC LEGENDS, GENERAL NOTES & O.A. CALCULATIONS**
M 1.4	**FOURTH FLOOR DEMOLITION & NEW HVAC SHEET METAL PLAN**
	ELECTRICAL
E 1.4	**FOURTH FLOOR LIGHTING, POWER AND DATA PLANS**

GENERAL REQUIREMENTS

GENERAL

A. **CONTRACTOR'S RESPONSIBILITY**

It is not the responsibility of the Architect/Engineer or Owner's Representative to notify the Contractor or subcontractors when to commence, to cease, or to resume work; nor in any way to superintend so as to relieve the Contractor of responsibility or of any consequences of neglect or carelessness by him or his subordinates. All material and labor shall be furnished at times best suited for all Contractors and subcontractors concerned, so that the combined work of all shall be properly and fully completed on the date fixed by the Contract.

The Contractor shall be responsible for all items contained in both the specifications and on the drawings for all trades. He shall be responsible for the proper division of labor according to current labor union agreements regardless of the division of responsibility implied in the contract documents.

B. **CODES AND STANDARDS**

Reference to standard specifications for workmanship, apparatus, equipment and materials shall conform to the requirements of latest specifications of the organization referenced, i.e., American Society for Testing Materials (ASTM), Underwriters Laboratories, Inc. (UL), American National Standards Institute, Inc. (ANSI), and others so listed in the Technical Specifications.

C. **PERMITS, FEES AND NOTICES**

See Supplementary General Conditions.

D. **MEASUREMENTS**

Before proceeding with each Work Item, Contractor shall locate, mark and measure any quantity or each item and report quantities to Engineer. If measured quantities exceed Engineer’s estimate, Contractor shall obtain written authorization to proceed from Owner before executing Work required for that Work Item.

Measurement of quantities for individual Work Items will be performed by Contractor and reviewed by Engineer. Coordinate measurements with inspection as required in Section “Coordination.”

Cost of Work included in Work Item for quantities as indicated in Contract Documents shall be included in Base Bid.

1. Additions to or deductions from lump sum price for quantities of each Work Item added to or deducted from Work respectively shall be at unit prices indicated in Bid Form and shall constitute payment or deductions in full for all material, equipment, labor, supervision and incidentals necessary to complete Work.

E. **CONTRACTOR'S MEASUREMENTS**

Before ordering material, preparing Shop Drawings, or doing any work, each Contractor shall verify, at the building, all dimensions which may affect his work. He assumes full responsibility for the accuracy of his figures. No allowance for additional compensation will be considered for minor discrepancies between dimensions on the drawings and actual field dimensions.

F. **CONTINUITY OF SERVICE *(Revised 3-26-2012)***

Continuity of all existing services in the building shall be maintained throughout the construction period. Where it is necessary to tie into the existing electrical service, water or waste systems, it shall be done as directed by the Architect/Engineer. This Contract shall also provide temporary lines or bypasses that may be required to maintain continuous service in the building. All utility shutdowns must be approved by the Owners Representative / Project Manager, not less than **7 business days** prior to the event, so that proper notification can be posted.

G. **SUBMITTALS**

All submittals (except Shop Drawings) and samples required by the Specifications shall be submitted in triplicate unless otherwise specified for a particular item under an individual Specification Section.

Each sample shall be clearly identified on a tag attached, showing the name of the Project Consultant, the project number and title, the names of the Contractor, manufacturer (and supplier if same is not the manufacturer), the brand name or number identification, pattern, color, or finish designation and the location in the work.

Each submittal shall be covered by a transmittal letter, properly identified with the project title and number and a brief description of the item being submitted.

Contractor shall be responsible for all costs of packing, shipping and incidental expenses connected with delivery of the samples to the Project Consultant or other designated address.

If the initial sample is not approved, prepare and submit additional sets until approval is obtained.

Materials supplied or installed which do not conform to the appearance, quality, profile, texture or other determinant of the approval samples will be rejected, and shall be replaced with satisfactory materials at the Contractor's expense.

H. GENERAL/STANDARD ELECTRONIC EQUIPMENT AND INFRASTRUCTURE REQUIREMENTS *(Revised 11-2008)*

1. Compliance with WSU Standards for Communications Infrastructure

   A. All applicable work, products, materials and methods shall comply with the latest version of the "WSU Standards for Communications Infrastructure" except as where noted.

   B. This document is available at the following website/URL: **http://networks.wayne.edu/WSU-Communications-Standards.pdf**

2. Automation System Program Code

   A. All automation system uncompiled and compiled program codes, source codes, custom modules, graphical user interface screen shots and any other automation system programming data and material (Program Code) shall be provided to the UNIVERSITY in hard copy and on CD Rom in an unencrypted format acceptable to the UNIVERSITY.

   B. Copyright for the Program Code shall be assigned to the UNIVERSITY for purposes of system maintenance.

PROTECTION OF OCCUPANCY *(Revised 3-2006)*

A. **FIRE PRECAUTIONS**

Take necessary actions to eliminate possible fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds, and other property.
During the construction, provide the type and quantity of fire extinguishers and fire hose to meet safety and fire prevention practices by National Fire Protection Association (NFPA) Codes and Standards (available at http://www.nfpa.org/)

In the event that construction includes "hot work", the contractor shall provide the Owner's Representative with a copy of their hot work policy, procedures, or permit program. No hot work activity (temporary maintenance, renovation, or construction by operation of a gas or electrically powered equipment which produces flames, sparks or heat that is sufficient to start a fire or ignite combustible materials) shall be performed until such documents are provided. During such operations, all highly combustible or flammable

materials shall be removed from the immediate working area, and if removal is impossible, same shall be protected with flame retardant shield.

Not more than one-half day's supply of flammable liquids such as gasoline, spray paint and paint solvent shall be brought into the building at any one time. Flammable liquids having a flash point of 100 degrees F. or below which must be brought into the building shall be confined in an Underwriters Laboratories (UL) labeled safety cans. The bulk supply of flammables shall be stored at least 75 feet from the building and other combustible materials. Spigots on drums containing flammable liquids are prohibited on the project site. Drums shall be equipped with approved vented pumps, and be grounded and bonded.

Only a reasonable working supply of combustible building materials shall be located inside the building.

All oil-soaked rags, papers, and other similar combustible materials shall be removed from the building at the close of each day's work, or more often if necessary, and placed in metal containers, with self-closing lids.

Materials and equipment stored in cardboard cartons, wood crates or other combustible containers shall be stored in an orderly manner and accessibly located, fire-fighting equipment of approved types shall be placed in the immediate vicinity of any materials or equipment stored in this type of crate or carton.

No gasoline, benzene, or like flammable materials shall be poured into sewers, manholes, or traps.

All rubbish shall be removed from the site and legally disposed of. Burning of rubbish, waste materials or trash on the site shall not be permitted.

The contractor shall be responsible for the conduct of employees relative to smoking and all smoking shall be in the area designated by the Architect/Engineer.

B. **GENERAL SAFETY AND BUILDING PRECAUTIONS**

Provide and maintain in good repair barricades, railings, etc., as required by law for the protection of the Public. All exposed material shall be smoothly dressed.

At dangerous points throughout the work environment provide and maintain colored lights or flags in addition to above guardrails.

Isolate Owner's occupied areas from areas where demolition and alteration work will be done, with temporary, dustproof, weatherproof, and fireproof enclosures as conditions may require and as directed by the Architect/Engineer.

Cover and protect furniture, equipment and fixtures to remain from soiling, dust, dirt, or damage when demolition work is performed in rooms or areas from which such items have not been removed.

Protect openings made in the existing roofs, floors, and other construction with weatherproof coverings, barricades, and temporary fire rated partitions to prevent accidents.

Repair any damage done to existing work caused by the construction and removal of temporary partitions, coverings, and barricades.

The Contractor will be held responsible for all breakage or other damage to glass up to the time the work is completed.

Provide protection for existing buildings, interior and exterior, finishes, walls, drives, landscaping, lawns (see below), etc. All damages shall be restored to match existing conditions to the satisfaction of the Architect/Engineer.

The Contractor and Owner will define the anticipated area of lawn damage at the project Pre-Construction Meeting. Whether the lawn is sparse or fully developed, any lawn damaged due to the Contractor's work will be replaced with sod by the University. The University's unit cost of $10.00 per square yard and landscaping at a rate of 1.5 times the cost of the sod repairs, the full cost of which will be assessed against the Contractor. At the completion of the project, a deductive Change Order reflecting this cost will be issued.

The Contractor is to include an allowance in his bid for this corrective work.

C. **INTERFERENCE WITH OWNER'S OPERATIONS**

The Owner will be utilizing the Building Facilities to carry on his normal business operation during construction. The Contractor shall schedule performance of the work necessary to complete the project in such a way as to interfere as little as possible with the operation during construction. The Contractor shall schedule performance of the work necessary to complete the project in such a way as to interfere as little as possible with the operation of the Owner.

Work which will interfere with the Owner's occupancy, including interruptions to the Owner's mechanical and electrical services, and essentially noisy operations (such as jackhammering) shall be scheduled in advance. The schedule of alterations shall be approved by the Architect/Engineer and the work shall be done in accordance with the approved schedule.

It is understood that the work is to be carried through to completion with the utmost speed consistent with good workmanship and to meet the construction schedule.

The Contractor shall begin work under the Contract without delay upon receipt of the fully-executed contract and shall substantially complete the project ready for unobstructed occupancy and use of the Owner for the purposes intended within the completion time stated in the contract.

The Contractor shall, immediately upon award of contract, schedule his work and expedite deliveries of materials and performance of subcontractors to maintain the necessary pace to meet the construction schedule.

CONTRACTOR'S REPRESENTATION AND COORDINATION

A. **FIELD SUPERINTENDENT**

Contractor shall assign a full time project manager/superintendent for the duration of the project. This person shall be experienced and qualified in all phases of the work and shall be present at the site during Contractor’s working hours. The project manager shall have Contractor’s full authority to represent Contractor in all routine operations including payment, changes to the work, and scheduling. Contractor shall not re-assign this individual without prior written permission of the Owner.

B. **MEETINGS**

When directed by the Architect/Engineer, meetings shall be held for the purpose of coordinating and expediting the work. The invited contractors or subcontractors will be required to have qualified representatives at these meetings, empowered to act in their behalf.

C. **COORDINATION**

The Contractor shall also provide a staff adequate to coordinate and expedite the work properly and shall at all times maintain competent supervision of its own work and that of its subcontractors to insure compliance with contract requirements.

The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the Contractor.

D. **CONSTRUCTION SCHEDULE**

The Construction Schedule shall be prepared after the award of contract. Soon after, a pre-construction meeting is held with the Owner and the Architect/Engineer to determine the areas to which the Contractor will be allowed access at any one time.

The Contractor is alerted to the fact that areas in which he will be working will be occupied by students and employees of the University as well as the general public. The Contractor's access, to and from the project site, will be confined to limited areas so as not to unduly disrupt the normal activities of the University.

TEMPORARY FACILITIES

A. **GENERAL**

The following temporary facilities descriptions represent standard conditions. Verify accuracy with Architect/Engineer at time of bids.

B. **CONTRACTOR'S OFFICE**

Provide field offices as required. Locate temporary field offices on site where directed by Architect/Engineer.

Appearance and location of field offices shall be approved by the Architect/Engineer.

Provide for all other administrative facilities and storage off the Owner's property.

C. **STORAGE OF MATERIALS**

All materials shall be stored in areas designated by the Architect/Engineer. All stored materials shall be arranged for the minimum disruption to occupants and to allow full access to and throughout the building. Materials stored outdoors shall be neat and orderly and covered to prevent damage or vandalism.

D. **PARKING**

1. **GENERAL**

University parking regulations will be strictly enforced.

Maintain Owner's parking areas free of dirt and debris resulting from operations under the contract.

2. **STANDING AND UNLOADING/LOADING VEHICLES**

All Contractors are to call Wayne State University Public Safety at 577-2222, and give at least 24 hours advance notice that they have vehicles that must be at the job site.

Vehicles will be permitted at the project site only as long as the vehicles are needed for loading/unloading, and must be immediately moved upon completion.

All unauthorized and/or unattended standing vehicles will be subject to ticketing and removal by University Police. Towed vehicles may be reclaimed by calling 577-2222, and paying any assessed charges.

3. COMPLIMENTARY PARKING

There is no complimentary parking for Contractor's employee vehicles.

4. **WAYNE STATE UNIVERSITY PUBLIC/STUDENT PARKING AREAS**

Public Parking, on a first-come first-served basis is available. Contact the office of the One Card System, at 313.577.9513 for information on availability of parking on a contractual basis.

E. **TOILET FACILITIES**

The Owner's designated existing toilet facilities may be used by workers on the project. Contractor shall maintain such facilities in a neat and sanitary condition.

F. **TELEPHONE USE**

If required, the Contractor shall provide and pay for a temporary telephone within the building for his use and that of his subcontractors.

No use of the Owner's telephone (except pay telephones) will be permitted.

G. **ACCESS DEVICES**

The Contractor shall furnish and maintain temporary hoists, ladders, railings, scaffolds, runways, and the like as required for safe, normal access to the permanent construction until the permanent facilities are complete. Each trade shall furnish such additional means of access as may be required for the progress and completion of the work. Such temporary access devices shall meet all applicable local, state, and federal codes and regulations.

H. **HEAT AND VENTILATION**

Provide cold weather protection and temporary heat and ventilation as required during construction to protect the work from freezing and frost damage.

Provide adequate ventilation as required to maintain reasonable interior building air conditions and temperatures, to prevent accumulation of excess moisture, and to remove construction fumes.

Tarpaulins and other materials used for temporary enclosures. Coverings and protection shall be flameproofed.

I. **WATER SERVICE**

Sources of water are available at the site. The Owner will pay for reasonable amounts of water used for construction purposes.

The Contractor shall provide, at the earliest possible date, temporary connections to the water supply sources and maintain adequate distribution for all construction requirements. The Contractor shall protect sources against damage.

Methods of conveying this water shall be approved by the Architect/Engineer and shall not interfere with the Owner's operations.

J. **ELECTRICAL SERVICES**

All charges for reasonable amounts of electrical power energy used for temporary lighting and power required for this work will be paid by the Owner.

The Contractor shall provide and maintain any temporary electrical lighting and power required for this work. At the completion of the work, all such temporary electrical facilities shall be removed and disposed of by the Contractor.

Temporary lighting and power shall comply with the regulations and requirements of the National Electrical Code

INSPECTIONS AND TESTS

The Architect/Engineer shall at all times have access to the work wherever it is in preparation or in progress and the Contractor shall provide proper facilities for such access and for observation.

No failure of the Architect/Engineer, during the progress of the work, to discover or reject materials or work not in accordance with the Contract Specifications and Drawings shall be deemed an acceptance thereof nor a waiver of defects therein. Likewise, no acceptance or waiver shall be inferred or implied due to payments made to contractor or by partial or entire occupancy of the work, or installation of materials that are not strictly in accordance with the Contract Specifications and Drawings.

Where tests are specifically called for in the Specifications, the Owner shall pay all costs of such tests and engineering services unless otherwise stated in the contract.

Where tests are not specifically called for in the Specifications, but are required by the Architect/Engineer or Consultant, the Owner shall pay all costs of such tests and engineering services unless the tests reveal that the workmanship or materials used by the Contractor are not in conformity with the Drawings, Specifications, and/or approved shop drawings. In such event, the Contractor shall pay for the tests, shall remove all work and materials so failing to conform and replace with work and materials that are in full conformity.

CLEAN-UP

The Contractor shall at all times keep the Owner's premises and the adjoining premises, driveways and streets clean of rubbish caused by the Contractor's operations and at the completion of the work shall remove all the rubbish, all of his tools, equipment, temporary work and surplus materials, from and about the premises, and shall leave the work clean and ready for use. If the contractor does not attend to such cleaning immediately upon request, the Architect/Engineer may cause such cleaning to be done by others and charge the cost of same to the Contractor.

The Contractor will be responsible for all damage from fire that originates in, or is propagated by, accumulations of rubbish or debris.

All rubbish and debris shall be disposed of off the Owner's property in an approved sanitary landfill site. No open burning of debris or rubbish will be permitted. Job site shall be left neat and clean at the completion of each day's operation.

PROJECT CLOSE-OUT

A. **RECORD DRAWINGS**

At beginning of job, provide one copy of Working Drawings, and record changes, between Working Drawings and "As Builts", including changes made by Addenda, Change Orders, Shop Drawings, etc. These shall be kept up to date. Update to indicate make of all mechanical and electrical equipment and fixtures installed. Keep these Record Prints in good condition and available for inspection by the Architect/Engineer.

Upon completion of the job, turn over to the Architect/Engineer Record Prints of Working Drawings showing all job changes.

B. **OPERATING AND MAINTENANCE DATA**

Prepare and furnish to the Architect/Engineer three (3) bound copies of "Operating and Maintenance Manual" on all equipment installed under this Contract.

Manual shall include copies of all Manufacturers' "Operating and Service Instructions", including Parts List, Control Diagrams, Description of Control Systems, Operating, Electrical Wiring, and any other information needed to understand, operate and maintain the equipment. The names and addresses of all subcontractors shall be included. These instructions shall be custom-prepared for this job -- catalog cuts will **not** be accepted. Equipment shall be cross-referenced to Section of Specifications and to location shown and scheduled on drawings.

Include Test-Adjust-Balance Report in the Manual.

C. **FINAL INSPECTION**

Secure final inspections from the State of Michigan as soon as the work is completed and immediately submit such Certificates to the Architect/Engineer.

D. **GUARANTEES (See Sections 00510 and 01781)**

Guarantees on material and labor from the General Contractor and his subcontractors shall be as required in Sections 00510 and 01781.

E. **SWORN STATEMENT AND WAIVER OF LIENS *(revised 4-11-2012)***

Prior to final payment, the General Contractor shall provide a Contractor's Sworn Statement and Full Unconditional Waivers of Liens from all subcontractors for material and labor and from all suppliers who provide materials exceeding $1,000. Sworn Statements and signed waivers from all Subcontractors must accompany Pay Applications or they will be returned for such documentation prior to approval.

ASBESTOS HAZARD

A. The contractor shall not start any work in any area that has not been inspected for asbestos by the Owner's Industrial Hygiene Department, or a qualified representative of the Owner and approval is given for work to be done. If asbestos is found, safety measures as recommended by the Owner's Industrial Hygiene Department, or a qualified representative of the Owner, shall be completed, or approval given for work to be done before work is started. The contractor shall not perform any asbestos removal or containment work under the contract.

KEYS

A. The Owner shall provide the contractor keys on loan to have access to the various spaces in order to complete the contract. Contractor will sign for and be responsible for each key on loan, returnable to Owner upon completion of the contract. In case of any lost keys, the Owner will backcharge the contract $250.00 for each core change. In the event that a Contractor wants access to a secured area, he shall give the Owner a minimum 48-hour notice.

SUMMARY OF WORK

SUMMARY OF WORK

PROJECT: EACPHS Team Based Learning Facility 2015

WSU PROJECT NO.: 603-249987

PROJECT MANAGER: Robert Hoekstra

1. EXAMINATION

   The Contractor shall visit the site and become familiar with conditions under which he will be working. Also meet with the project manager and review site access, storage areas, etc.

2. Description of Work – Project includes **Project scope entails reconfiguration of ceiling diffusers and grid, installation of wall pockets and support mechanism for (Alternate 1) folding partition. Required electrical lighting and receptacle installations and requirement to move existing card readers. Patch and paint as required**.

3. The building is located at

   Wayne State University
   Applebaum College of Pharmacy
   259 Mack Avenue
   Detroit, Michigan 48202

Bidding & Permits
20 March 2015
IA Project: #20140911

EACPHS – Team Based Learning Facility 603-249987

Wayne State University

Detroit, Michigan

Integrated Architecture
4090 Lake Drive SE
Grand Rapids, MI 49546
616.574.0220 P
616.574.0953 F
www.intarch.com

SPECIFICATIONS

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ARCHITECTURAL

FINISHES

MECHANICAL

ELECTRICAL

END OF DRAWING/SHEET INDEX

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
1. Work covered by the Contract Documents.
2. Type of the Contract.
3. Work phases.
4. Work under other contracts.
5. Products ordered in advance.
6. Owner-furnished products.
7. Use of premises.
8. Owner's occupancy requirements.
9. Work restrictions.
10. Specification formats and conventions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: EACPHS Team Based Learning Facility / 603-249987.
1. Project Location: Detroit, Michigan

B. Owner: Wayne State University; 259 Mack Avenue; Detroit, Michigan, 48201
1. Owner's Representative: Ms. Erinn Rooks.

C. Architect: Integrated Architecture, L.L.C; 4090 Lake Drive, Grand Rapids, Michigan, 49546
1. Architect’s Representative: Michael VanSchelven.

D. The Work consists of the following:
1. Modifications to an existing classroom that involves the addition of an operable partition to an existing 2,064 sf room, dividing the room into two rooms, one 1,330 sf and the other 760 sf. Marker boards and monitors will be added to the walls. Modifications will be made to the electrical, data, lighting, and HVAC systems of the room to support the room division. A pair of cross corridor double egress doors will be added at one location in the corridor near the classroom being modified.

1.4 TYPE OF CONTRACT

A. Project will be constructed under single lump sum contract.

1.5 WORK UNDER OTHER CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.6 WORK RESTRICTIONS

A Site access and construction staging shall be through designated routes as designated by the Construction Manager and as shown on the drawings.

B Dig Requirements: Contractors are to contact Miss Dig for location of public utilities.

C Excavations, drilling or boring that is done within 6 feet of any utility marking are to be hand dug until marked utility is located and visually identified so that mechanical excavation can be commenced without damage to marked utility.

D Utility Damage: Any contractor causing damage to underground utilities shall be responsible for all costs required to repair or replace the damaged utility.

E Utility tie-ins: Owner shall be notified at least one week in advance.

F Construction signs: Only one sign will be permitted on the site for the contractor. No other project, design firm, or subcontractor signs will be permitted. No other signs advertising company names will be permitted.

G Lawn and Site Protection: To extent possible, do not use lawn areas during construction project. When lawns are used, immediate repair is required. Delay of repair until end of project will not be permitted. After use, lawn and ruts are to be filled in with specified topsoil and re-seeded, to match surrounding conditions. No parking under trees no scheduled to be removed.

1.7 EQUAL OPPORTUNITY EMPLOYMENT REQUIREMENTS

A. There shall be no discrimination against any individual because of race, religion, color, national origin, age or sex. Take affirmative action to insure that applicants for employment and employees during employment are treated without regard to their race, religion, color, national origin, age, or sex. Such action shall include, but not be limited to, employment, upgrading, demotion or transfer; recruitment advertising, solicitations or advertisements for employees; layoff or termination; rates or pay or other forms of compensation; and selection for training and apprenticeship.

B. Comply with all laws and all published rules, regulations, reporting requirements, directives, and orders of the Michigan Civil Rights Commission relevant to 1976 PA 453, as amended.

1.8 SUMMARY OF WORK

A. The Contract encompasses the furnishing of all labor, materials, services, equipment, bonds, and insurance to complete the project as shown on the drawings and specifications.

B. Any premium time necessary to complete the Project as scheduled shall be included in the Contractor’s base bid.

C. Right-to-Know: Contractor to have on hand MSD sheets on all substances used on project.

1.9 USE OF PREMISES

A. General: Each Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Each Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   1. Limits: Confine constructions operations to area within contract limits.
   2. Owner Occupancy: Allow for Owner occupancy of Project site.
   3. Driveways 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.
      a. Schedule deliveries to minimize use of driveways and entrances.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.10 WORK RESTRICTIONS

A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify Construction Manager and Owner not less than seven working days in advance of proposed utility interruptions.
   2. Do not proceed with utility interruptions without Owner's written permission.

B. All contractors are required to remove litter and debris from site daily.

1.11 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
   1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
   2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
   1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
   2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
      a. The words "shall", "shall be", or "shall comply with", depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1:
   1. Base Bid: Provide and install operable partition as described on Drawing A1.4 and Specification Section 102226 “Operable Partitions”.
   2. Alternate: Deduct the purchase and installation of the operable partition only.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:
1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
2. Divisions 02 through 49 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 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 facsimile of form provided in Section 012501.
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 modifications 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 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. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 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 Architect's Supplemental Instructions for minor changes in the Work.

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

1.5 QUALITY ASSURANCE

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

1.6 PROCEDURES

A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

b. Substitution request is fully documented and properly submitted.

c. Requested substitution will not adversely affect Contractor's construction schedule.

d. Requested substitution has received necessary approvals of authorities having jurisdiction.

e. Requested substitution is compatible with other portions of the Work.

f. Requested substitution has been coordinated with other portions of the Work.

g. Requested substitution provides specified warranty.

h. 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: Architect will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
   b. Requested substitution does not require extensive revisions to the Contract Documents.
   c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   d. Substitution request is fully documented and properly submitted.
   e. Requested substitution will not adversely affect Contractor's construction schedule.
   f. Requested substitution has received necessary approvals of authorities having jurisdiction.
   g. Requested substitution is compatible with other portions of the Work.
   h. Requested substitution has been coordinated with other portions of the Work.
   i. Requested substitution provides specified warranty.
   j. 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase)

Project: _____ Substitution Request Number: _____
_____ From: _____
To: _____ Date: _____
_____ A/E Project Number: _____
Re: _____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No.: _____
Installer: _____ Address: _____ Phone: _____
History: ☐ New product ☐ 1-4 years old ☐ 5-10 years old ☐ More than 10 years old
Differences between proposed substitution and specified product: _____
_____

☐ Point-by-point comparative data attached — REQUIRED BY A/E

Reason for not providing specified item: _____
_____

Similar Installation:
Project: _____ Architect: _____
Address: _____ Owner: _____
_____ Date Installed: _____
Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

Savings to Owner for accepting substitution: _____ ($ _____).
Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST

(After the Bidding/Negotiating Phase — Continued)

The Undersigned certifies:

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

Submitted by: _____
Signed by: _____
Firm: _____
Address: _____
_____
Telephone: _____

Attachments: ☐

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____ Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E
☐ Other:

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections include the following:
1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within 10 working days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times,

and activity relationship. Use available total float before requesting an extension of the Contract Time.

6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.

D. Bulletins:

1. Change Orders will generally be preceded by issuance of Bulletins.
2. Bulletins are documents (written and/or graphic) which describes proposed Change in the Work and which is issued to Contractor for purpose of obtaining his proposal for change(s) of Contract Sum and/or Contract Time should such proposed Change in the Work be authorized by Change Order.
3. Contractor shall submit his proposal on or before due date stated on Bulletin. If no due date is stated, it shall be 2 weeks (14 calendar days) following date of issue.
4. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
5. Submit Labor Rate Backup Sheet (included at the end of this Section) for each specific trade at the time when first change is executed for that trade.
6. If no quotation is received by due date for Bulletin which is presumed to add to Contract Sum, proposed Change in the Work will be considered to be "No Cost" change, or cost estimate of Architect will be used, and Contractor shall, upon written instruction from Architect, proceed to execute the Change in the Work with no change of Contract Sum, or at cost figure estimated by Architect."

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:
1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
1. Correlate 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. Submittals Schedule.
c. Contractor's Construction Schedule.
2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual 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. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
a. Related Specification Section or Division.
b. Description of the Work.
c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier.
f. Change Orders (numbers) that affect value.
g. Dollar value.

1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
6. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
   a. 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.
7. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect 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: Progress payments shall be submitted to Architect by the 15th day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets 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. Architect 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 and Construction Change Directives issued before last day of construction period covered by application.

E. Transmittal: Submit signed and notarized original copies of each Application for Payment to Architect 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 Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
   1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
   2. When an application shows completion of an item, submit final or full waivers.
   3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
   4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

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. Products list.
5. Schedule of unit prices.
6. Submittals Schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.
10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
11. Initial progress report.
12. Report of preconstruction conference.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds.
15. Data needed to acquire Owner's insurance.

H. Application for Payment at Substantial Completion: After issuing 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 Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: 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 Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
1. Coordination Drawings.
2. Administrative and supervisory personnel.
3. Project meetings.
4. Requests for Interpretation (RFIs).

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

C. Related Sections include the following:
1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.

2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b. Indicate required installation sequences.
c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
2. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
3. Number of Copies: Submit number of copies required by Architect for each submittal. Architect will return one copy.
a. Submit five copies where Coordination Drawings are required for operation and maintenance manuals. Architect will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Drawing.
4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

B. Key Personnel Names: Within 10 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
1. Include special personnel required for coordination of operations with other contractors.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing and long-lead items.
   d. Designation of key personnel and their duties.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for RFIs.
   g. Procedures for testing and inspecting.
   h. Procedures for processing Applications for Payment.
   i. Distribution of the Contract Documents.
   j. Submittal procedures.
   k. Preparation of Record Documents.
   l. Use of the premises.
   m. Work restrictions.
   n. Owner's occupancy requirements.
   o. Responsibility for temporary facilities and controls.
   p. Construction waste management and recycling.
   q. Parking availability.
   r. Office, work, and storage areas.
   s. Equipment deliveries and priorities.
   t. First aid.
   u. Security.
   v. Progress cleaning.
   w. Working hours.
3. Minutes: Record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   a. The Contract Documents.
   b. Options.
   c. Related RFIs.
   d. Related Change Orders.
   e. Purchases.
   f. Deliveries.
   g. Submittals.
   h. Review of mockups.
   i. Possible conflicts.
   j. Compatibility problems.
   k. Time schedules.
   l. Weather limitations.
   m. Manufacturer's written recommendations.
   n. Warranty requirements.
   o. Compatibility of materials.

p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
1) Review schedule for next period.
b. Review present and future needs of each entity present, including the following:
1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) RFIs.
16) Status of proposal requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.
20) Documentation of information for payment requests.
3. Minutes: Record the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present within 24 hours of the meeting conclusion.
a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
   1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
      a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
      c. Review present and future needs of each contractor present, including the following:
         1) Interface requirements.
         2) Sequence of operations.
         3) Status of submittals.
         4) Deliveries.
         5) Off-site fabrication.
         6) Access.
         7) Site utilization.
         8) Temporary facilities and controls.
         9) Work hours.
         10) Hazards and risks.
         11) Progress cleaning.
         12) Quality and work standards.
         13) Change Orders.
   3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.8 REQUESTS FOR INTERPRETATION (RFIs)

A. The Contractor may, after exercising due diligence to locate required information, request from the Architect clarification or interpretation of the requirements of the contract documents. The Architect shall, with reasonable promptness, respond to such Contractor's requests for clarification or interpretation. However, if the information requested by the Contractor is apparent from field observations, is contained in the contract documents or is reasonably inferable from them, the Contractor shall be responsible to the Owner for all costs charged by the Architect to the Owner for the additional services required to provide such information.

B. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
   1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
   2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

C. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
   1. Project name.
   2. Date.

3. Name of Contractor.
4. Name of Architect.
5. RFI number, numbered sequentially.
6. Specification Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
    a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

D. Hard-Copy RFIs: CSI Form 13.2A.
1. Identify each page of attachments with the RFI number and sequential page number.

E. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.

F. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Architect's actions on submittals.
    f. Incomplete RFIs or RFIs with numerous errors.
2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

G. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

H. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Software log with not less than the following:
1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. Material location reports.
6. Field condition reports.
7. Special reports.

B. Related Sections include the following:
1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
4. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
1. Predecessor Activity: An activity that precedes another activity in the network.
2. Successor Activity: An activity that follows another activity in the network.

B. Event: The starting or ending point of an activity.

C. Float: The measure of leeway in starting and completing an activity.
1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

D. Major Area: A story of construction, a separate building, or a similar significant construction element.

E. Milestone: A key or critical point in time for reference or measurement.

1.4 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
1. Scheduled date for first submittal.
2. Specification Section number and title.

3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect's final release or approval.

B. Preliminary Construction Schedule: Submit two opaque copies.
1. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.

C. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period.
1. Submit an electronic copy of schedule, using software indicated, on CD-R, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.

D. Daily Construction Reports: Submit two copies at weekly intervals.

E. Material Location Reports: Submit two copies at weekly intervals.

F. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

G. Special Reports: Submit two copies at time of unusual event.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including phasing, work stages, area separations and partial Owner occupancy.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for completion and startup procedures.
9. Review and finalize list of construction activities to be included in schedule.
10. Review submittal requirements and procedures.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
   2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
      a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.
   3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
   1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
   2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
      a. Aluminum Storefronts.
   3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
   4. Startup and Testing Time: Include not less than 2 business days for startup and testing.
   5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
   1. Phasing: Arrange list of activities on schedule by phase.
   2. Work under More Than One Contract: Include a separate activity for each contract.
   3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
   4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
   5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
   6. Work Restrictions: Show the effect of the following items on the schedule:
      a. Coordination with existing construction.
      b. Limitations of continued occupancies.
      c. Uninterruptible services.
      d. Partial occupancy before Substantial Completion.

e. Use of premises restrictions.
f. Seasonal variations.
g. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Startup and placement into final use and operation.
8. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Structural completion.
   b. Permanent space enclosure.
   c. Completion of mechanical installation.
   d. Completion of electrical installation.
   e. Substantial Completion.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
   1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
   1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.5 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial Completions and occupancies.
19. Substantial Completions authorized.

B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation on CSI Form 13.2A. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their

assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

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

B. Related Requirements:
1. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
2. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
4. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager’s responsive action.

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and Construction Manager’s responsive action. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings upon request and endorsement of **CAD/Electronic Media Letter of Release found in Section 013303.**
a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
b. The following digital data files will be furnished for each appropriate discipline:
1) Base plans (floor plans).
2) Reflected ceiling plans.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect'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 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect 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 15 days for review of each resubmittal.

D. 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 Architect.
   4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner**,** containing the following information:
      a. Project name.
      b. Date.
      c. Name and address of Architect.
      d. Name of Contractor.
      e. Name of firm or entity that prepared submittal.
      f. Names of subcontractor, manufacturer, and supplier.
      g. Category and type of submittal.
      h. Submittal purpose and description.
      i. Specification Section number and title.
      j. Specification paragraph number or drawing designation and generic name for each of multiple items.
      k. Drawing number and detail references, as appropriate.
      l. Location(s) where product is to be installed, as appropriate.
      m. Related physical samples submitted directly.
      n. Indication of full or partial submittal.
      o. Transmittal number.
      p. Submittal and transmittal distribution record.
      q. Other necessary identification.
      r. Remarks.
   5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
      a. Project name.
      b. Number and title of appropriate Specification Section.
      c. Manufacturer name.
      d. Product name.

E. Options: Identify options requiring selection by Architect.

F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals. Provide complete documentation of the variance including specified item criteria, recommended criteria, and reasons for proposed deviation. Identify any deviations from the Contract Documents on all submittals.

G. 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 and Construction Manager’s action stamp.

H. 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.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:
1. Post electronic submittals as PDF electronic files directly to Project Web site specifically established for Project.
   a. Architect through Construction Manager will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
   b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. 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.
4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:
   a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
3. Submit Shop Drawings in the following format:
    a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect through Construction Manager 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 three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
        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. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Submit product schedule in the following format:
    a. PDF electronic file.

F. Coordination Drawings Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination”.

G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation”.

H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures”.

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements".

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures".

K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data".

L. Schedule of Tests and Inspections: Comply with requirements specified in Section 014000 "Quality Requirements".

M. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

N. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

O. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

P. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

Q. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals. Provide complete documentation of the variance to include specified item criteria, recommended criteria, and reasons for proposed deviation. Identify deviations from the Contract Documents on submittals.

2.2 DELEGATED-DESIGN SERVICES

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

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file 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

3.1 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 and Construction Manager.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures".

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

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

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

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

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

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

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

END OF SECTION 013300

SUBMITTAL AFFIDAVIT

EACPHS Team Based Learning Facility / 603-249987
IA Project Number 20140911

Contractor: _____

Address: _____

_____

City, State & ZIP _____

The contractor hereby acknowledges that all submittals for the above referenced project are submitted to Integrated Architecture (the Architect) or its consultants for general review of conformance with information given and the design concept expressed in the contract documents. Review of these and all future submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities and installation or performance of equipment or systems, all of which remain the responsibility of the contractor. The architects review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the architect, of any construction means, methods, techniques, sequences or procedures. The architect's review of a specific item shall not indicate approval of an assembly of which the item is a component.

It is understood that the contractor will provide professional design services or certifications by an engineer licensed in the state the project is located in related to systems, materials or equipment, where the architect has specified appropriate performance and design criteria that such services must satisfy. The architect will review shop drawings and other submittals related to the work designed or certified by the design professional retained by the contractor that bear such professionals seal and signature when submitted to the architect. The architect does not review the adequacy, accuracy and completeness of the services, certifications, coordination with adjacent systems and approvals performed or provided by such design professionals.

These reviews shall not relieve the contractor of the obligations in AIA A201 sections 3.3, 3.5 & 3.12. The contractor warrants that materials and equipment furnished for the project will be consistent with industry standards and new unless required otherwise and will provide the stipulated warranties regardless of the submittals.

Shop drawings, product data, samples and similar submittals are not considered part of the Contract Documents.

Accepted by,
(Corporate Officer)

Signature	Date
Printed Name	Title

SUBMITTAL COVER SHEET

EACPHS - Team Based Learning Facility / 603-249987

IA Project Number 20140911

Specification Reference: _____ **Submittal #:** [ ]

Submittal Description: _____

Cont. / Mfr. / Supplier: _____

Specified Warranty: _____

Provided Warranty: _____

(Insert review stamp / comments below.)

Contractor / Manufacturer / Supplier:	**Construction Manager / General Contractor:**
Comments:	*Comments:*
Consultant / Engineer:	**Integrated Architecture:**
Comments:	*Comments:*

These submittals are reviewed only for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. Review of these submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities and installation or performance of equipment or systems, which are the Contractor's responsibility.

Integrated Architecture

4090 Lake Drive Grand Rapids Michigan 49546 tel 616.574.0220 fax 616.574.0953 www.intarch.com

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
   1. Division 01 Section "Sustainable Design Requirements" for additional LEED requirements.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include the following:
   1. Division 01 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
   2. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.

D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.

E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.

G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter". It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.

K. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. If drawings and/or specifications establish different or conflicting requirements, comply with the most stringent of the two. Refer uncertainties and requirements that are different, but apparently equal, to Architect through CM for a decision before proceeding, utilizing the Request for Information (RFI) process.

B. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. If drawings and/or specifications establish different or conflicting requirements comply with the most stringent of the two. Refer uncertainties and requirements that are different, but apparently equal, to Architect through the CM for a decision before proceeding, utilizing the Request for Information (RFI) process.

C. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect through the Construction Manager for a decision before proceeding, utilizing the Request for Information (RFI) process.

1.5 SUBMITTALS

A. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
   1. Specification Section number and title.
   2. Description of test and inspection.
   3. Identification of applicable standards.
   4. Identification of test and inspection methods.
   5. Number of tests and inspections required.
   6. Time schedule or time span for tests and inspections.
   7. Entity responsible for performing tests and inspections.
   8. Requirements for obtaining samples.
   9. Unique characteristics of each quality-control service.

B. Reports: Prepare and submit certified written reports that include the following:
   1. Date of issue.
   2. Project title and number.

3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirement for specialists shall not supersede building codes and regulations governing the Work.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
a. Provide test specimens representative of proposed products and construction.
b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.

d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect or Construction Manager.
2. Notify Architect and Construction Manager seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's and Construction Manager's approval of mockups before starting work, fabrication, or construction.
a. Allow seven days for initial review and each re-review of each mockup.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.
7. Mockups shall include:
a. Masonry
b. Sheet metal fascia/soffit for eaves and rakes.

K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 02 through 49.

1.7 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
4. Testing and Balancing: the Contractor will provide for final balancing of HVAC systems. Should this balancing indicate that the HVAC systems do not perform in accordance with the ratings specified in the specifications, the Contractor shall make the required modifications at no added cost to Owner, including cost of additional balancing required to verify that design values are met. If systems have been installed in accordance with the drawings and specifications and the equipment performs in accordance with design requirements, the architect/engineer shall perform the redesign required at not added cost to the Owner, and shall be responsible for the cost of construction modifications required such as changes in or additions to ductwork, dampers, piping, valves, circuit setters and other accessories, and the additional balancing required to verify that the systems as designed perform to design requirements. Testing shall include toilet and bath exhausts.
5. The Owner reserves the right to conduct independent testing to verify field conditions.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
6. The Owner reserves the right to conduct independent testing to verify field conditions.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures".

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect, Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for commencement of the Work.
1. Distribution: Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
   1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
   2. Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
   3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with copy to Contractor and to authorities having jurisdiction.
   4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
   5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
   6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:
   1. Date test or inspection was conducted.
   2. Description of the Work tested or inspected.
   3. Date test or inspection results were transmitted to Architect.
   4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
   1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
   2. Comply with the Contract Document requirements for Division 01 Section "Cutting and Patching".

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in Conditions of Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in Conditions of Contract.

C. "Directed": command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within construction industry that control performance of Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for intended use.

I. "Project Site": Space available for performing construction activities. Extent of Project site is shown on Drawings and may or may not be identical with description of land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless Contract Documents include more stringent requirements, applicable construction industry standards have same force and effect as if bound or copied directly into Contract Documents to extent referenced. Such standards are made part of Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of Contract Documents, unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with Contract Documents.
   1. Where copies of standards are needed to perform required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean recognized name of entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of U.S."

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean recognized name of entities in following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of date of Contract Documents.

BOCA	BOCA International, Inc. (See ICC)	
CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	
ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council (Formerly: CABO - Council of American Building Officials) www.iccsafe.org	(703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
NES	National Evaluation Service (See ICC-ES)	

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean recognized name of entities in following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of date of Contract Documents.

CE	Army Corps of Engineers www.usace.army.mil	
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-6816
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense www.dodssp.daps.mil	(215) 697-6257
DOE	Department of Energy www.eren.doe.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration	(202) 366-4000

	www.faa.gov	
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111 (202) 501-1888
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Building Service (See GSA)	
PHS	Office of Public Health and Science http://phs.os.dhhs.gov	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

D. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean recognized name of entities in following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of date of Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections include following:
1. Division 1 Section "Summary" for division of responsibilities for temporary facilities and controls.
2. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
3. Division 1 Section "Execution Requirements" for progress cleaning requirements.
4. Divisions 2 through 34 Sections for temporary heat, ventilation, and humidity requirements for products in those Sections.
5. Division 31 Section "Dewatering" for disposal of ground water at Project site.
6. Division 31 Section "Termite Control" for pest control.
7. Division 32 Section "Hot-Mix Asphalt Paving" for construction and maintenance of asphalt paving for temporary roads and paved areas.
8. Division 32 Section "Cement Concrete Pavement" for construction and maintenance of cement concrete pavement for temporary roads and paved areas.

1.3 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

1.4 USE CHARGES

A. General: Cost or use charges for temporary facilities shall be included in Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer service use charges for sewer usage by all entities for construction operations.

C. Water Service: Pay water service use charges for water used by all entities for construction operations.

D. Electric Power Service: Pay electric power service use charges for electricity used by all entities for construction operations.

E. Sewer, Water, and Electric Power Service: Use charges are specified in Division 1 Section "Summary of Multiple Contracts."

1.5 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

1.6 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.

1.7 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pavement: Comply with Division 2 Section "Hot-Mix Asphalt Paving."

B. Chain-Link Fencing: Minimum 2-inch , 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.

C. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."

D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

E. Paint: Comply with requirements in Division 9 painting Sections.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading. Coordinate with Owner’s Representative for location of field office and temporary construction yard.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
   1. Store combustible materials apart from building.

2.3 EQUIPMENT

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

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, 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 testing agency acceptable to authorities having jurisdiction, and marked for intended use.
   3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of Work. Relocate and modify facilities as required by progress of 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.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Use of Owner’s permanent facilities will not be permitted.

E. 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 harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

G. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

I. Telephone Service: Provide temporary telephone service for use by all construction personnel. Install one telephone line(s) for such purpose.
1. Post list of important telephone numbers near the jobsite and readily accessible by all personal onsite.
   a. Police and fire departments.
   b. Ambulance service.
   c. Contractor's home office.
   d. Architect's office.
   e. Engineers' offices.
   f. Owner's office.
   g. Principal subcontractors' field office, home office(s) and 24 emergency lines.
2. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

J. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail directly to Project Superintendent onsite. Electronic mail will be a primary means of communication between project team members including the Architect, Engineer, Owner, and Contractor(s).

K. Digital Photographic Documentation: Provide digital camera for GC use capable of adequate quality images for documentation and work in progress coordination photos.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with following:
1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas in same location as permanent roads and paved areas. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 2 Section "Earthwork."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Provide temporary parking areas for construction personnel.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

F. Project Identification and Temporary Signs: Provide Project identification and other signs. Install signs where indicated to inform public and individuals seeking entrance to Project. Unauthorized signs are not permitted.
1. Provide temporary, directional signs for construction personnel and visitors.
2. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements and Section "Construction Waste Management" for recycling options.

H. 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.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section "Summary."

B. Stormwater Control: Comply with authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

C. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

D. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in manner that will prevent people and animals from easily entering site except by entrance gates.
1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel.

E. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

G. Covered Walkway: Erect structurally adequate, protective, covered walkway for passage of individuals along adjacent public street(s). Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction and requirements indicated on Drawings.
1. Construct covered walkways using scaffold or shoring framing.
2. Provide wood-plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
3. Extend back wall beyond structure to complete enclosure fence.
4. Paint and maintain in manner approved by Owner and Architect.

H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

I. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and tenants from fumes and noise.
1. Construct dustproof partitions with 2 layers of 3-mil polyethylene sheet on each side. Cover floor with 2 layers of 3-mil polyethylene sheet, extending sheets 18 inches up sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
   a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.
2. Insulate partitions to provide noise protection to occupied areas.
3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
4. Protect air-handling equipment.
5. Weather strip openings.
6. Provide walk-off mats at each entrance through temporary partition.

J. 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.
1. Prohibit smoking in interior of new building.

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.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 OPERATION, TERMINATION, AND REMOVAL

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

B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of 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. Owner reserves right to take possession of Project identification signs.
2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This 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; product substitutions; and comparable products.

B. Related Sections include following:
1. Division 1 Section "References" for applicable industry standards for products specified.
2. Division 1 Section "Closeout Procedures" for submitting warranties for Contract closeout.
3. Divisions 2 through 34 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into Work, whether purchased for Project or taken from previously purchased stock. Term "product" includes 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 Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as product substitution, to have 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. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by Contract Documents and proposed by Contractor.

1.4 SUBMITTALS

A. Product List: Submit list, in tabular from, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and Submittals Schedule.
2. Form: Tabulate information for each product under following column headings:
a. Specification Section number and title.
b. Generic name used in Contract Documents.
c. Proprietary name, model number, and similar designations.
d. Manufacturer's name and address.
e. Supplier's name and address.
f. Installer's name and address.
g. Projected delivery date or time span of delivery period.
h. Identification of items that require early submittal approval for scheduled delivery date.
3. Initial Submittal: Within 30 days after date of commencement of Work, submit 3 copies of initial product list. Include written explanation for omissions of data and for variations from Contract requirements.

a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.

4. Completed List: Within 60 days after date of commencement of Work, submit 3 copies of completed product list. Include written explanation for omissions of data and for variations from Contract requirements.

5. Architect's Action: Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include list of unacceptable product selections and brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute waiver of requirement to comply with Contract Documents.

B. 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 following, as applicable:

a. Statement indicating why specified material or product cannot be provided.

b. Coordination information, including list of changes or modifications needed to other parts of 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 Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

g. Material test reports from qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

h. Research/evaluation reports evidencing compliance with building code in effect for Project, from model code organization acceptable to authorities having jurisdiction.

i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for Work, including effect on overall Contract Time. If specified product or method of construction cannot be provided within Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.

j. Cost information, including proposal of change, if any, in Contract Sum.

k. Contractor's certification that proposed substitution complies with requirements in Contract Documents 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. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

a. Form of Acceptance: Change Order.

b. Use product specified if Architect cannot make decision on use of proposed substitution within time allocated.

C. Comparable Product 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. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
b. Use product specified if Architect cannot make decision on use of comparable product request within time allocated.

D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of 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 ensure compliance with Contract Documents and to ensure 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 manner that will not endanger Project structure.
3. Store products that are subject to damage by elements, under cover in weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of Contract Documents.
1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by or incorporated into Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

B. Special Warranties: Prepare written document that contains appropriate terms and identification, ready for execution. Submit draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Refer to Divisions 2 through 34 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for 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 right to limit selection to products with warranties not in conflict with requirements of Contract Documents.
4. Where products are accompanied by term "as selected," Architect will make selection.
5. Where products are accompanied by term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in Specifications establish "salient characteristics" of products.
7. Or Equal: Where products are specified by name and accompanied by term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:
1. Product: Where Specifications name single product and manufacturer, provide named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name single manufacturer or source, provide product by named manufacturer or source that complies with requirements.
3. Products: Where Specifications include list of names of both products and manufacturers, provide one of products listed that complies with requirements.
4. Manufacturers: Where Specifications include list of manufacturers' names, provide product by one of manufacturers listed that complies with requirements.
5. Available Products: Where Specifications include list of names of both products and manufacturers, provide one of products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
6. Available Manufacturers: Where Specifications include list of manufacturers, provide product by one of manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on specific product or system, provide specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
8. Basis-of-Design Product: Where Specifications name product and include list of manufacturers, provide specified product or comparable product by one of other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by other named manufacturers.
9. Visual Matching Specification: Where Specifications require matching an established Sample, select product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether proposed product matches.

a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.

10. Visual Selection Specification: Where Specifications include phrase "as selected from manufacturer's colors, patterns and textures" or similar phrase, select product that complies with other specified requirements.
    a. Standard Range: Where Specifications include phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
    b. Full Range: Where Specifications include phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. Timing: Architect will consider requests for substitution if received within 60 days after Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

B. Conditions: Architect will consider Contractor's request for substitution when following conditions are satisfied. If following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Requested substitution offers Owner substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to Contract Documents.
3. Requested substitution is consistent with Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of Work.
8. Requested substitution has been coordinated with other portions of Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

A. Conditions: Architect will consider Contractor's request for comparable product when following conditions are satisfied. If following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Evidence that proposed product does not require extensive revisions to Contract Documents that it is consistent with Contract Documents and will produce indicated results, and that it is compatible with other portions of Work.
2. Detailed comparison of significant qualities of proposed product with those named in 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes general procedural requirements governing execution of Work including, but not limited to following:
1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of Owner-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of Work.

B. Related Sections include following:
1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.

1.3 SUBMITTALS

A. Qualification Data: For professional engineer.

B. Certificates: Submit certificate signed by professional engineer certifying that location and elevation of improvements comply with requirements.

C. Landfill Receipts: Submit copy of receipts issued by landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify existence and location of mechanical and electrical systems and other construction affecting Work.
1. Before construction, verify location and points of connection of utility services.

B. Existing Utilities: existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify existence and location of underground utilities and other construction affecting Work.
1. Before construction, verify location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where written report listing conditions detrimental to performance of Work is required by other Sections, include following:
   a. Description of Work.
   b. List of detrimental conditions, including substrates.
   c. List of unacceptable installation tolerances.
   d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit Work properly. Recheck measurements before installing each product. Where portions of Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of need for clarification of Contract Documents, submit request for information to Architect. Include detailed description of problem encountered, together with recommendations for changing Contract Documents. Submit requests on CSI Form 13.2A, "Request for Interpretation."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out Work, verify layout information shown on Drawings, in relation to property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage professional engineer to lay out Work using accepted surveying practices.
1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check location, level and plumb, of every major element as Work progresses.
5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning Work. Preserve and protect permanent benchmarks and control points during construction operations.
1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report need to relocate permanent benchmarks or control points to Architect and before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on original survey control points.

C. Benchmarks: Establish and maintain minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

A. General: Locate Work and components of Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 8 feet in spaces without suspended ceiling.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at time and under conditions that will ensure best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of Work.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.

3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction forces.

B. Coordination: Coordinate construction and operations of Work with work performed by Owner's construction forces.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of Work. Adjust construction schedule based on mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of Work depend on Owner's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to level of cleanliness necessary for proper execution of Work.
1. Remove liquid spills promptly.
2. Where dust would impair proper execution of Work, broom-clean or vacuum entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural considerations for following:
   1. Recycling nonhazardous demolition and construction waste.
   2. Disposing of nonhazardous demolition and construction waste.

B. Related Sections include following:
   1. Division 1 Section "Summary" for coordination of responsibilities for waste management.
   2. Division 1 Section "Temporary Facilities and Controls" for environmental-protection measures during construction, and location of waste containers at Project site.
   3. Division 1 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site and off-island of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

1.4 PERFORMANCE GOALS

A. Salvage/Recycle Goals: Owner's goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible. Contractor should consider recycling both Demolition and Construction Wastes to improve the environment but to also save costs of landfill tipping fees. Recyclable items including following materials:
   1. Demolition Waste:
      a. Structural and miscellaneous steel.
      b. Metal studs.
      c. Piping.
      d. Electrical conduit.
      e. Copper wiring.
      f. Lighting fixtures.
      g. Lamps.
      h. Ballasts.
      i. Electrical devices.
   2. Construction Waste:
      a. Metals.

b. Piping.
c. Electrical conduit.
d. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of following uncontaminated packaging materials:
1) Paper.
2) Cardboard.
3) Boxes.
4) Wood crates.
5) Plastic pails and beverage containers.

1.5 SUBMITTALS

A. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them.

B. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, following:
1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to following:
1. General:
a. Recycling Concepts, 5015 52nd Street, Grand Rapids, MI 49512 – 616-942-8888, Contact: Tim White. Website: recyclingconceptsinc.com.
b. Pitsch Companies, 675 Richmond NW, Grand Rapids, MI 49504 – 616-363-4895, Contact: Gene Gutting.
2. Concrete and Masonry Waste:
a. Averill Recycling, Inc., Flint, MI 810-767-3450.
b. Pitch Companies: North Park Street between West River Drive and the Grand River near U.S. 131 Expressway. Contact Pitsch Companies for times and requirements prior to shipment. Phone (616) 363-4895.
3. Asphalt Waste: Arrange disposal of asphalt with local asphalt plant.
4. Metals:
a. East Jordan Auto Parts, East Jordan, MI – 231-536-2322.
b. Integrity Iron & Metal Co., Traverse City, MI 231-946-3499.

5. Wood which is clean, unpainted, non-treated and non-engineered wood products:
   a. McBain Power Station, McBain, MI 989-654-9044.
   b. Re-Use Company, Grawn, MI 231-276-6330.
6. Wood Pallets:
   a. Kamps Pallet recycling, 2900 Peach Ridge, NW, Walker, MI 616-453-9676.
   b. Cannonsburg Wood Products, 10251 Northland Drive, Rockford, MI 800-866-4840.
7. Cardboard: Grade OCC – corrugated cardboard:
   a. Waste Management, Traverse City, MI 800-968-4142.
8. Plastics:
   a. Waste Management, Traverse City, MI 800-968-4142.

C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall be shared equally by Owner and Contractor.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to maximum extent practical.
1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off ground and protect from weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.2 RECYCLING DEMOLITION WASTE

A. Metals: Separate metals by type.
1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

B. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

C. Plumbing Fixtures: Separate by type and size.

D. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

E. Lighting Fixtures: Separate lamps by type and protect from breakage.

F. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

G. Conduit: Reduce conduit to straight lengths and store by type and size.

3.3 RECYCLING CONSTRUCTION WASTE

A. Packaging:
1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in dry location.
2. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

3. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
4. Empty plastic containers to be recycled through local county recycle program or local recycler.

3.4 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, following:
1. Inspection procedures.
2. Warranties.
3. Final cleaning.

B. Related Sections include following:
1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
3. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
4. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
5. Division 1 Section “Demonstration and Training” for requirements for instructing Owner’s Personnel.
6. Divisions 2 through 34 Sections for specific closeout and special cleaning requirements for Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete following. List items below that are incomplete in request.
1. Prepare list of items to be completed and corrected (punch list), value of items on list, and reasons why Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed inspection will form basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete following:
   1. Submit final Application for Payment according to Division 1 Section "Payment Procedures."
   2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of list shall state that each item has been completed or otherwise resolved for acceptance.
   3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit pest-control final inspection report and warranty.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.

B. Inspection: Submit written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside limits of construction. Use CSI Form 14.1A.
   1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
   2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   3. Include following information at top of each page:
      a. Project name.
      b. Date.
      c. Name of Architect.
      d. Name of Contractor.
      e. Page number.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify product or installation. Provide typed description of product or installation, including name of product and name, address, and telephone number of Installer.
3. Identify each binder on front and spine with typed or printed title "WARRANTIES," Project name, and name of Contractor.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for portion of Project:
   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
   c. Rake grounds that are neither planted nor paved to smooth, even-textured surface.
   d. Remove tools, construction equipment, machinery, and surplus material from Project site.
   e. Remove snow and ice to provide safe access to building.
   f. Clean exposed exterior and interior hard-surfaced finishes to dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
   g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
   h. Sweep concrete floors broom clean in unoccupied spaces.
   i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
   j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
   k. Remove labels that are not permanent.
   l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Replace parts subject to unusual operating conditions.
o. Clean plumbing fixtures to sanitary condition, free of stains, including stains resulting from water exposure.
p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
q. Clean ducts, blowers, and coils if units were operated without filters during construction.
r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
s. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including following:
   1. Operation and maintenance documentation directory.
   2. Emergency manuals.
   3. Operation manuals for systems, subsystems, and equipment.
   4. Maintenance manuals for care and maintenance of products, materials, and finishes systems and equipment.

B. Related Sections include following:
   1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
   2. Division 1 Section "Closeout Procedures" for submitting operation and maintenance manuals.
   3. Division 1 Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
   4. Divisions 2 through 34 Sections for specific operation and maintenance manual requirements for Work in those Sections.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: portion of system with characteristics similar to system.

1.4 SUBMITTALS

A. Initial Submittal: Submit 2 draft copies of each manual at least 15 days before requesting inspection for Substantial Completion. Include complete operation and maintenance directory. Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.

B. Final Submittal: Submit one copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.
   1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include section in directory for each of following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include table of contents for each emergency, operation, and maintenance manual.

E. Identification: In documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in Contract Documents. If no designation exists, assign designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into separate section for each system and subsystem, and separate section for each piece of equipment not part of system. Each manual shall contain following materials, in order listed:
1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve. Include following information:
1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name, address, and telephone number of Contractor.
6. Name and address of Architect.
7. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to content of volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
   a. If two or more binders are necessary to accommodate data of system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
   a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
   b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into separate section for each of following:
   1. Type of emergency.
   2. Emergency instructions.
   3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
   1. Fire.
   2. Flood.
   3. Gas leak.
   4. Water leak.
   5. Power failure.
   6. Water outage.
   7. System, subsystem, or equipment failure.
   8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include following, as applicable:
   1. Instructions on stopping.
   2. Shutdown instructions for each type of emergency.
   3. Operating instructions for conditions outside normal operating limits.
   4. Required sequences for electric or electronic systems.
   5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and following information:
   1. System, subsystem, and equipment descriptions.
   2. Performance and design criteria if Contractor is delegated design responsibility.
   3. Operating standards.
   4. Operating procedures.
   5. Operating logs.
   6. Wiring diagrams.
   7. Control diagrams.
   8. Piped system diagrams.
   9. Precautions against improper use.
   10. License requirements including inspection and renewal dates.

B. Descriptions: Include following:
   1. Product name and model number.
   2. Manufacturer's name.
   3. Equipment identification with serial number of each component.
   4. Equipment function.
   5. Operating characteristics.

6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include following, as applicable:
1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include following, as applicable:
1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and following:
1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard printed maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training videotape, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of system.
1. Engage factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of system.

2. Prepare separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
1. Do not use original Project Record Documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."

G. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including following:
   1. Record Drawings.
   2. Record Specifications.
   3. Record Product Data.

B. Related Sections include following:
   1. Division 1 Section "Closeout Procedures" for general closeout procedures.
   2. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
   3. Divisions 2 through 34 Sections for specific requirements for Project Record Documents of Work in those Sections.

1.3 SUBMITTALS

A. Record Drawings: Comply with following:
   1. Number of Copies: Submit one set of marked-up Record Prints.

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one copy of each Product Data submittal.
   1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
   1. Preparation: Mark Record Prints to show actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare marked-up Record Prints.
      a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
      b. Accurately record information in an understandable drawing technique.
      c. Record data as soon as possible after obtaining it. Record and check markup before enclosing concealed installations.
   2. Content: Types of items requiring marking include, but are not limited to, following:
      a. Dimensional changes to Drawings.
      b. Revisions to details shown on Drawings.
      c. Depths of foundations below first floor.
      d. Locations and depths of underground utilities.
      e. Revisions to routing of piping and conduits.
      f. Revisions to electrical circuitry.

g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order or Construction Change Directive.
k. Changes made following Architect's written orders.
l. Details not on original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on Work that is shown only schematically.

3. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when Change Order is issued as result of accepting an alternate, substitution, or other modification.
2. Consult Architect for proper scale and scope of detailing and notations required to record actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

C. Format: Identify and date each Record Drawing; include designation "PROJECT RECORD DRAWING" in prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:
a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record name of manufacturer, supplier, Installer, and other information necessary to provide record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Include significant changes in product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in field office apart from Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including following:
   1. Demonstration of operation of systems, subsystems, and equipment.
   2. Training in operation and maintenance of systems, subsystems, and equipment.

B. Related Sections include following:
   1. Division 1 Section "Project Management and Coordination" for requirements for preinstruction conferences.
   2. Divisions 2 through 34 Sections for specific requirements for demonstration and training for products in those Sections.

1.3 SUBMITTALS

A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
   1. At completion of training, submit one complete training manual(s) for Owner's use.

B. Qualification Data: For facilitator instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: firm or individual experienced in training or educating maintenance personnel in training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with record of successful learning performance.

B. Instructor Qualifications: factory-authorized service representative, complying with requirements in Division 1 Section "Quality Requirements," experienced in operation and maintenance procedures and training.

C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, following:
   1. Inspect and discuss locations and other facilities required for instruction.
   2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
   3. Review required content of instruction.
   4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of system, as required by individual Specification Sections, and as follows:
1. Electrical service and distribution, including transformers switchboards panelboards and motor controls.
2. Lighting equipment and controls.

B. Training Modules: Develop learning objective and teaching outline for each module. Include description of specific skills and knowledge that participant is expected to master. For each module, include instruction for following:
1. Basis of System Design, Operational Requirements, and Criteria: Include following:
   a. System, subsystem, and equipment descriptions.
   b. Performance and design criteria if Contractor is delegated design responsibility.
   c. Operating standards.
   d. Regulatory requirements.
   e. Equipment function.
   f. Operating characteristics.
   g. Limiting conditions.
   h. Performance curves.
2. Documentation: Review following items in detail:
   a. Emergency manuals.
   b. Operations manuals.
   c. Maintenance manuals.
   d. Project Record Documents.
   e. Identification systems.
   f. Warranties and bonds.
   g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include following, as applicable:
   a. Instructions on meaning of warnings, trouble indications, and error messages.
   b. Instructions on stopping.
   c. Shutdown instructions for each type of emergency.
   d. Operating instructions for conditions outside of normal operating limits.
   e. Sequences for electric or electronic systems.
   f. Special operating instructions and procedures.
4. Operations: Include following, as applicable:
   a. Startup procedures.
   b. Equipment or system break-in procedures.
   c. Routine and normal operating instructions.
   d. Regulation and control procedures.
   e. Control sequences.
   f. Safety procedures.
   g. Instructions on stopping.
   h. Normal shutdown instructions.
   i. Operating procedures for emergencies.
   j. Operating procedures for system, subsystem, or equipment failure.
   k. Seasonal and weekend operating instructions.
   l. Required sequences for electric or electronic systems.
   m. Special operating instructions and procedures.
5. Adjustments: Include following:
   a. Alignments.

b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Include following:
   a. Diagnostic instructions.
   b. Test and inspection procedures.
7. Maintenance: Include following:
   a. Inspection procedures.
   b. Types of cleaning agents to be used and methods of cleaning.
   c. List of cleaning agents and methods of cleaning detrimental to product.
   d. Procedures for routine cleaning
   e. Procedures for preventive maintenance.
   f. Procedures for routine maintenance.
   g. Instruction on use of special tools.
8. Repairs: Include following:
   a. Diagnosis instructions.
   b. Repair instructions.
   c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
   d. Instructions for identifying parts and components.
   e. Review of spare parts needed for operation and maintenance.

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into combined training manual.

B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

A. Facilitator: Engage qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.

B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of system.
   1. Owner will furnish Contractor with names and positions of participants.

C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
   1. Schedule training with Owner, through Architect, with at least seven days' advance notice.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

SECTION 102226 - OPERABLE PARTITIONS (ALTERNATE #1)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Manually operated, paired, acoustical panel partitions.

1.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design operable panel partitions, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:
1. Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E 90, determined by ASTM E 413, and rated for not less than the STC indicated.
2. Noise-Reduction Requirements: Operable panel partition assembly, identical to partition tested for STC, tested for sound-absorption performance according to ASTM C 423, and rated for not less than the NRC indicated.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
1. For installed products indicated to comply with design loads, include structural analysis data for attachments, signed and sealed by the qualified professional engineer responsible for their preparation.
2. Indicate storage and operating clearances. Indicate location and installation requirements for hardware and track, blocking, and direction of travel.

C. Samples for Verification: For each type of exposed material, finish, covering, or facing indicated, prepared on Samples of size indicated below:
1. Textile: Full width by not less than 36-inch- (914-mm-) long section of fabric from dye lot to be used for the Work, with specified treatments applied. Show complete pattern repeat.
2. Panel Edge Material: Not less than 3 inches (75 mm) long.

D. Operation and Maintenance Data: For operable panel partitions to include in maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
1. Panel Facing Material: Manufacturers standard size unit, not less than 3 inches square.
2. Seals, hardware, track, carriers, and other operating components.
3. COM Facing Material: Memo-sized wallcovering sample.

E. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Fire-Test-Response Characteristics: Provide panels with finishes meeting one of the following as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
1. Surface-Burning Characteristics: As determined by testing per ASTM E 84.
a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2. Fire Growth Contribution: Meeting acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265.

C. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protectively package and sequence panels in order for installation. Clearly mark packages and panels with numbering system used on Shop Drawings. Do not use permanent markings on panels.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of operable panel partition openings by field measurements before fabrication.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of operable panel partitions that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Faulty operation of operable panel partitions.
b. Deterioration of metals, metal finishes, and other materials beyond normal wear.
2. Warranty Period: Five years from date of Substantial Completion.

1.8 EXTRA MATERIALS

A. Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Panel Finish-Facing Material: Furnish full width in quantity to cover both sides of two panels when installed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Frame: Steel sheet, 18 gauge (1.21mm) painted nominal minimum thickness for uncoated steel.

B. Panel Skin: ½" impact resistant gypsum board class "A" rated material.

2.2 OPERABLE ACOUSTICAL PANELS

A. Operable Acoustical Panels: Operable acoustical panel partition system, including panels, seals, finish facing, suspension system, operators, and accessories.
1. Basis of Design Product: Hufcor, Paired Panel, 632.
2. Additional Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Moderfold.
b. Panelfold Inc.

B. Panel Operation: Manually operated, paired panels.

C. Panel Construction: Provide top reinforcement as required to support panel from suspension components and provide reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.

D. Dimensions: Fabricate operable acoustical panel partitions to form an assembled system of dimensions indicated and verified by field measurements.
   1. Panel Width: Use maximum number of 48-inch wide panels plus expandable closure.

E. STC: Not less than 50 minimum.

F. Panel Weight: 10 lb/sq. ft. (50 kg/sq. m) maximum.

G. Panel Thickness: 4 inches (75 mm) nominal.

H. Panel Closure: Expandable closure.

2.3 SEALS

A. General: Provide types of seals indicated that produce operable panel partitions complying with acoustical performance requirements and the following:
   1. Seals made from materials and in profiles that minimize sound leakage.
   2. Seals fitting tight at contact surfaces and sealing continuously between adjacent panels and between operable panel partition perimeter and adjacent surfaces, when operable panel partition is extended and closed.

B. Vertical Seals: Deep-nesting, interlocking astragals mounted on each edge of panel, with continuous PVC acoustical seal.

C. Horizontal Top Seals:
   1. PVC-faced, mechanical, retractable, constant-force-contact seal exerting uniform constant pressure on track when extended.

D. Horizontal Bottom Seals: PVC-faced, automatic operable, retractable, constant-force-contact seal exerting uniform constant pressure on floor when extended, ensuring horizontal and vertical sealing and resisting panel movement.
   1. Automatic Operated for Acoustical Panels: Extension and retraction of bottom seal by automatic built-in operating mechanism, without the use of tools with operating range not less than 2 inches (50 mm) between retracted seal and floor finish.

2.4 FINISH FACING

A. General: Provide finish facings for panels that comply with indicated fire-test-response characteristics and that are factory applied to operable panel partitions with appropriate backing, using mildew-resistant nonstaining adhesive as recommended by facing manufacturer's written instructions.
   1. Apply one-piece, seamless facings free of air bubbles, wrinkles, blisters, and other defects, with edges tightly butted, and with invisible seams complying with Shop Drawings for location, and with no gaps or overlaps. Horizontal seams are not permitted. Tightly secure and conceal raw and selvage edges of facing for finished appearance.
   2. Where facings with directional or repeating patterns or directional weave are indicated, mark facing top and attach facing in same direction.
   3. Match facing pattern 72 inches (1830 mm) above finished floor.
   4. Color/Pattern: See Interior Finish Drawings.

B. Panel Face Material: See Interior Finish Drawings.

C. Cap-Trimmed Edges: Protective perimeter-edge trim with tight hairline joints concealing edges of panel and finish facing, finished as follows:
   1. Steel, Painted: Finished with manufacturer's standard trim colors as selected by Architect.

2.5 SUSPENSION SYSTEMS

A. Suspension Tracks: #17 steel suspension system with adjustable steel hanger rods for overhead support, designed for type of operation, size, and weight of operable panel partition indicated. Size track to support partition operation and storage without damage to suspension system, operable panel partitions, or

adjacent construction. Limit track deflection to no more than 0.10 inch (2.54 mm) between bracket supports. Provide a continuous system of track sections and accessories to accommodate configuration and layout indicated for partition operation and storage.

1. Panel Guide: Aluminum; finished with factory-applied, decorative, protective finish.
2. Head Closure Trim: As required for acoustical performance; with factory-applied, decorative, protective finish.

B. Carriers: Trolley system as required for configuration type, size, and weight of partition and for easy operation; with ball-bearing wheels.

1. Multidirectional Carriers: Capable of negotiating 90-degree L and T intersections without track switches.

C. Track Intersections, Switches, and Accessories: As required for type of operation, storage, track configuration, and layout indicated for operable panel partitions, and compatible with partition assembly specified. Fabricate track intersections and switches from steel or aluminum.

1. L Intersections: Allowing panels to change 90 degrees in direction of travel.
2. T Intersections: Allowing panels to pass through or change 90 degrees to another direction of

D. Aluminum Finish: Mill finish or manufacturer's standard, factory-applied, decorative finish unless otherwise indicated.

E. Steel Finish: Manufacturer's standard, factory-applied, corrosion-resistant, protective coating unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable panel partitions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with ASTM E 557 except as otherwise required by operable panel partition manufacturer's written installation instructions.

B. Install operable panel partitions and accessories after other finishing operations, including painting, have been completed.

C. Install panels from marked packages in numbered sequence indicated on Shop Drawings.

D. Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.

E. Broken, cracked, deformed, or unmatched gasketing or gasketing with gaps at butted ends is not acceptable.

3.3 ADJUSTING

A. Adjust operable panel partitions to operate smoothly, without warping or binding. Lubricate hardware and other moving parts.

3.4 FIELD QUALITY CONTROL

A. Light-Leakage Test: Illuminate one side of partition installation and observe vertical joints and top and bottom seals for voids; adjust partitions for acceptable fit.

B. NIC Testing: Owner will engage a qualified testing agency to perform tests and inspections.

C. Repair or replace operable panel partitions that do not comply with requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of repaired, replaced, or additional work with specified requirements.

E. Prepare test and inspection reports.

3.5 CLEANING

A. Clean soiled surfaces of operable panel partitions to remove dust, loose fibers, fingerprints, adhesives, and other foreign materials according to manufacturer's written instructions.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.

END OF SECTION 102226

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Balancing Air Systems:
      a. Constant-volume air systems.

1.2 DEFINITIONS

A. AABC: Associated Air Balance Council.

B. NEBB: National Environmental Balancing Bureau.

C. TAB: Testing, adjusting, and balancing.

D. TABB: Testing, Adjusting, and Balancing Bureau.

E. TAB Specialist: An entity engaged to perform TAB Work.

1.3 ACTION SUBMITTALS

1.4 INFORMATIONAL SUBMITTALS

A. Strategies and Procedures Plan: Within 30 days of Contractor's Notice to Proceed, submit TAB strategies and step-by-step procedures as specified in "Preparation" Article.

B. Certified TAB reports.

1.5 QUALITY ASSURANCE

A. TAB Contractor Qualifications: Engage a TAB entity certified by AABC NEBB or TABB.

B. Certify TAB field data reports and perform the following:
   1. Review field data reports to validate accuracy of data and to prepare certified TAB reports.
   2. Certify that the TAB team complied with the approved TAB plan and the procedures specified and referenced in this Specification.

C. TAB Report Forms: Use standard TAB contractor's forms approved by Architect / Owner.

D. Instrumentation Type, Quantity, Accuracy, and Calibration: As described in ASHRAE 111, Section 5, "Instrumentation."

E. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."

F. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.

B. Examine systems for installed balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are accessible.

C. Examine the approved submittals for HVAC systems and equipment.

D. Examine design data including HVAC system descriptions, statements of design assumptions for environmental conditions and systems' output, and statements of philosophies and assumptions about HVAC system and equipment controls.

E. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.

F. Examine terminal units, such as variable-air-volume boxes, and verify that they are accessible and their controls are connected and functioning.

G. Examine strainers. Verify that startup screens are replaced by permanent screens with indicated perforations.

H. Examine three-way valves for proper installation for their intended function of diverting or mixing fluid flows.

I. Examine heat-transfer coils for correct piping connections and for clean and straight fins.

J. Report deficiencies discovered before and during performance of TAB procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values.

3.2 PREPARATION

A. Prepare a TAB plan that includes strategies and step-by-step procedures.

B. Complete system-readiness checks and prepare reports. Verify the following:
1. Permanent electrical-power wiring is complete.
2. Automatic temperature-control systems are operational.
3. Equipment and duct access doors are securely closed.
4. Balance, smoke, and fire dampers are open.
5. Isolating and balancing valves are open and control valves are operational.
6. Ceilings are installed in critical areas where air-pattern adjustments are required and access to balancing devices is provided.
7. Windows and doors can be closed so indicated conditions for system operations can be met.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. Perform testing and balancing procedures on each system according to the procedures contained in AABC's "National Standards for Total System Balance", NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems", SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing", and in this Section.
1. Comply with requirements in ASHRAE 62.1, Section 7.2.2 - "Air Balancing."

B. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures.
   1. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts.
   2. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish according to Section 230713 "Duct Insulation," Section 230716 "HVAC Equipment Insulation," Section 230719 "HVAC Piping Insulation."

C. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.

D. Take and report testing and balancing measurements in inch-pound (IP) units.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. Prepare test reports . Obtain manufacturer's outlet factors and recommended testing procedures. Crosscheck the summation of required outlet volumes with required fan volumes.

B. Prepare schematic diagrams of systems' "as-built" duct layouts.

C. Determine the best locations in main and branch ducts for accurate duct-airflow measurements.

D. Check dampers for proper position to achieve desired airflow path.

E. Check for airflow blockages.

F. Check for proper sealing of air-handling components.

G. Verify that air duct system is sealed.

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

A. Adjust fans to deliver total indicated airflows within the maximum allowable fan speed listed by fan manufacturer.
   1. Measure total airflow.
      a. Where sufficient space in ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow.
   2. Measure fan static pressures as follows to determine actual static pressure:
      a. Measure outlet static pressure as far downstream from the fan as practical and upstream from restrictions in ducts such as elbows and transitions.
      b. Measure static pressure directly at the fan outlet or through the flexible connection.
      c. Measure inlet static pressure of single-inlet fans in the inlet duct as near the fan as possible, upstream from the flexible connection, and downstream from duct restrictions.
      d. Measure inlet static pressure of double-inlet fans through the wall of the plenum that houses the fan.
   3. Measure static pressure across each component that makes up an air-handling unit, rooftop unit, and other air-handling and -treating equipment.
      a. Report the cleanliness status of filters and the time static pressures are measured.
   4. Measure static pressures entering and leaving other devices, such as sound traps, heat-recovery equipment, and air washers, under final balanced conditions.
   5. Review Record Documents to determine variations in design static pressures versus actual static pressures. Calculate actual system-effect factors. Recommend adjustments to accommodate actual conditions.
   6. Obtain approval from Owner / Construction Manager for adjustment of fan speed higher or lower than indicated speed. Comply with requirements in Sections for air-handling units for adjustment of fans, belts, and pulley sizes to achieve indicated air-handling-unit performance.
   7. Do not make fan-speed adjustments that result in motor overload. Consult equipment manufacturers about fan-speed safety factors. Modulate dampers and measure fan-motor

amperage to ensure that no overload will occur. Measure amperage in full-cooling, full-heating, economizer, and any other operating mode to determine the maximum required brake horsepower.

B. Adjust volume dampers for main duct, submain ducts, and major branch ducts to indicated airflows within specified tolerances.
   1. Measure airflow of submain and branch ducts.
      a. Where sufficient space in submain and branch ducts is unavailable for Pitot-tube traverse measurements, measure airflow at terminal outlets and inlets and calculate the total airflow for that zone.
   2. Measure static pressure at a point downstream from the balancing damper, and adjust volume dampers until the proper static pressure is achieved.
   3. Remeasure each submain and branch duct after all have been adjusted. Continue to adjust submain and branch ducts to indicated airflows within specified tolerances.

C. Measure air outlets and inlets without making adjustments.
   1. Measure terminal outlets using a direct-reading hood or outlet manufacturer's written instructions and calculating factors.

D. Adjust air outlets and inlets for each space to indicated airflows within specified tolerances of indicated values. Make adjustments using branch volume dampers rather than extractors and the dampers at air terminals.
   1. Adjust each outlet in same room or space to within specified tolerances of indicated quantities without generating noise levels above the limitations prescribed by the Contract Documents.
   2. Adjust patterns of adjustable outlets for proper distribution without drafts.

3.6 PROCEDURES FOR TESTING, ADJUSTING, AND BALANCING EXISTING SYSTEMS

A. Perform a preconstruction inspection of existing equipment that is to remain and be reused.
   1. Measure and record the operating speed, airflow, and static pressure of each fan.
   2. Measure motor voltage and amperage. Compare the values to motor nameplate information.
   3. Check the refrigerant charge.
   4. Check the condition of filters.
   5. Check the condition of coils.
   6. Check the operation of the drain pan and condensate-drain trap.
   7. Check bearings and other lubricated parts for proper lubrication.
   8. Report on the operating condition of the equipment and the results of the measurements taken. Report deficiencies.

B. Before performing testing and balancing of existing systems, inspect existing equipment that is to remain and be reused to verify that existing equipment has been cleaned and refurbished. Verify the following:
   1. New filters are installed.
   2. Coils are clean and fins combed.
   3. Drain pans are clean.
   4. Fans are clean.
   5. Bearings and other parts are properly lubricated.
   6. Deficiencies noted in the preconstruction report are corrected.

C. Perform testing and balancing of existing systems to the extent that existing systems are affected by the renovation work.
   1. Compare the indicated airflow of the renovated work to the measured fan airflows, and determine the new fan speed and the face velocity of filters and coils.
   2. Verify that the indicated airflows of the renovated work result in filter and coil face velocities and fan speeds that are within the acceptable limits defined by equipment manufacturer.
   3. If calculations increase or decrease the air flow rates and water flow rates by more than 5 percent, make equipment adjustments to achieve the calculated rates. If increase or decrease is 5 percent or less, equipment adjustments are not required.
   4. Balance each air outlet.

3.7 TOLERANCES

A. Set HVAC system's air flow rates and water flow rates within the following tolerances:

1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
2. Air Outlets and Inlets: Plus or minus 10 percent.

3.8 REPORTING

A. Initial Construction-Phase Report: Based on examination of the Contract Documents as specified in "Examination" Article, prepare a report on the adequacy of design for systems' balancing devices. Recommend changes and additions to systems' balancing devices to facilitate proper performance measuring and balancing. Recommend changes and additions to HVAC systems and general construction to allow access for performance measuring and balancing devices.

B. Status Reports: Prepare as required by General Contractor / Construction Manager progress reports to describe completed procedures, procedures in progress, and scheduled procedures. Include a list of deficiencies and problems found in systems being tested and balanced. Prepare a separate report for each system and each building floor for systems serving multiple floors.

3.9 FINAL REPORT

A. General: Prepare a certified written report; tabulate and divide the report into separate sections for tested systems and balanced systems.
   1. Include a certification sheet at the front of the report's binder, signed and sealed by the certified testing and balancing engineer.
   2. Include a list of instruments used for procedures, along with proof of calibration.

B. Final Report Contents: In addition to certified field-report data, include the following:
   1. Pump curves.
   2. Fan curves.
   3. Manufacturers' test data.
   4. Field test reports prepared by system and equipment installers.
   5. Other information relative to equipment performance; do not include Shop Drawings and product data.

C. General Report Data: In addition to form titles and entries, include the following data:
   1. Title page.
   2. Name and address of the TAB contractor.
   3. Project name.
   4. Project location.
   5. Architect's name and address.
   6. Engineer's name and address.
   7. Contractor's name and address.
   8. Report date.
   9. Signature of TAB supervisor who certifies the report.
   10. Table of Contents with the total number of pages defined for each section of the report. Number each page in the report.
   11. Summary of contents including the following:
      a. Indicated versus final performance.
      b. Notable characteristics of systems.
      c. Description of system operation sequence if it varies from the Contract Documents.
   12. Nomenclature sheets for each item of equipment.
   13. Data for terminal units, including manufacturer's name, type, size, and fittings.
   14. Notes to explain why certain final data in the body of reports vary from indicated values.
   15. Test conditions for fans and pump performance forms including the following:
      a. Settings for outdoor-, return-, and exhaust-air dampers.
      b. Conditions of filters.
      c. Cooling coil, wet- and dry-bulb conditions.
      d. Face and bypass damper settings at coils.
      e. Fan drive settings including settings and percentage of maximum pitch diameter.
      f. VFD settings for variable-air-volume systems.
      g. Settings for supply-air, static-pressure controller.
      h. Other system operating conditions that affect performance.

D. System Diagrams: Include schematic layouts of air and hydronic distribution systems. Present each system with single-line diagram and include the following:
   1. Quantities of outdoor, supply, return, and exhaust airflows.
   2. Water and steam flow rates.
   3. Duct, outlet, and inlet sizes.
   4. Pipe and valve sizes and locations.
   5. Terminal units.
   6. Balancing stations.
   7. Position of balancing devices.

3.10 ADDITIONAL TESTS

A. Within 90 days of completing TAB, perform additional TAB to verify that balanced conditions are being maintained throughout and to correct unusual conditions.

B. Seasonal Periods: If initial TAB procedures were not performed during near-peak summer and winter conditions, perform additional TAB during near-peak summer and winter conditions.

END OF SECTION 230593

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 MATERIALS

A. Single-wall rectangular ducts and fittings.

B. Double-wall rectangular ducts and fittings.

C. Single-wall round ducts and fittings.

D. Sheet Metal Materials:
1. Galvanized sheet steel.

E. Sealant Materials:
1. Two-part tape sealing system.
2. Water-based joint and seam sealant.
3. Solvent-based joint and seam sealant.

1.2 DUCT CLEANING

A. Clean new and existing duct system(s) before testing, adjusting, and balancing.

B. Clean the following items:
1. Air outlets and inlets.
2. Coils and related components (VAV Boxes).
3. Return-air ducts, dampers, actuators, and turning vanes.
4. Exhaust-air ducts, dampers, actuators, and turning vanes.

1.3 DUCT SCHEDULE

A. All ducts shall be galvanized steel, sheet metal gauge to meet SMACNA Guidelines for duct work construction under 2” static pressure.

END OF SECTION 233113