



**Building a Better Illinois**

# PROJECT MANUAL

**CDB #805-030-017**

**RENOVATE RESIDENCE HALLS**

**ILLINOIS MATH AND SCIENCE ACADEMY**

**ILLINOIS BOARD OF HIGHER EDUCATION**

**AURORA (KANE), ILLINOIS**

**BUILDING NOS. CPD 01, CPD 02, CPD 03, CPD 04, CPD 05, CPD 06, CPD 07**

**CONTRACT: GENERAL, HEATING, PLUMBING, ELECTRICAL**

State of Illinois

## CAPITAL DEVELOPMENT BOARD

**USING AGENCY: ILLINOIS BOARD OF HIGHER EDUCATION**

**BY: STR PARTNERS  
350 W. ONTARIO ST.  
CHICAGO, IL 60654**

**DATE: NOVEMBER 15, 2013**

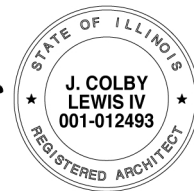
License Expiration Date: NOVEMBER 30, 2014

Signature:

SIGNED DEC. 5, 2013



EXPIRES NOV. 30, 2015



Date Signed: DECEMBER 5, 2013



PROJECT MANUAL  
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State of Illinois  
CAPITAL DEVELOPMENT BOARD

Architect of Record  
STR Partners, LLC  
350 W. Ontario Street  
Chicago, IL 60654  
T: 312.242.1444

PROJECT MANUAL FOR

CDB-805-030-017

Renovate Residence Halls  
Illinois Math and Science Academy  
1500 Sullivan Road  
Aurora, IL 60506

DATE: November 15, 2013

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SPECIFIER:

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END 00 01 10.



BIDDING & CONTRACT REQUIREMENTS  
**00 01 15 - Drawings, Schedules and Details**

All Drawings dated: November 15, 2013

- G1.0 Title Sheet and Location Plans
- G2.0 Site Phasing Plan
  
- AD1.0 1<sup>st</sup> Floor Demolition Plan
- AD1.1 2<sup>nd</sup> Floor Demolition Plan
- AD1.2 Demolition Elevations
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- P1.1 First Floor Plumbing Plan
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END 00 01 15.





BIDDING & CONTRACT REQUIREMENTS  
**00 11 13 - Advertisement for Bids**

The State of Illinois, Capital Development Board (CDB) will receive sealed bids for:

CDB PROJECT #: 805-030-017  
TITLE: Renovate Residence Halls  
LOCATION: Illinois Math and Science Academy  
1500 Sullivan Rd, Aurora, IL 60506  
USING AGENCY: Illinois Board of Higher Education  
COUNTY: Kane County

PROJECT DESCRIPTION: Renovation of seven residence halls at the Illinois Math and Science Academy including the removal and replacement of the following building components: PTAC units, vinyl siding, windows, exterior doors, aluminum fascias, gutters and downspouts.

<u>TRADE</u>	<u>COST RANGE</u>	<u>BID DATE/TIME</u>
GENERAL	under \$5,000,000.00	January 15, 2014 at 11:00 AM
HEATING	under \$1,500,000.00	January 8, 2014 at 11:00 AM
PLUMBING	under \$200,000.00	January 8, 2014 at 11:00 AM
ELECTRICAL	under \$150,000.00	January 8, 2014 at 11:00 AM

BID LOCATION:

ILLINOIS CAPITAL DEVELOPMENT BOARD  
100 WEST RANDOLPH STREET  
SUITE 14-600, 14TH FLOOR  
JAMES R. THOMPSON CENTER  
CHICAGO, IL 60601

Minority & Female Business Subcontractor/Supplier Participation is applicable.

Obtain Plans From:

STR Partners  
350 W. Ontario St.  
Chicago, IL 60654  
T: 312.242.4644

Refundable Plan Deposit: \$200.00 per hard copy set of drawings and project manual (CD available upon request at non-refundable \$25.00)

Pre-Bid Meeting: December 18, 2013 at 10:00 AM.  
Location: Illinois Math and Science Academy,  
1500 Sullivan Road  
Aurora, IL 60506

INFORMATION TO BIDDERS:

1. Bidders must be prequalified with CDB; allow 45 days for application processing. For an application and a copy of CDB's Standard Documents for Construction (applicable to this project), visit CDB's Website [www.cdb.state.il.us](http://www.cdb.state.il.us) or phone 217/782-6152 (TDD 217/524-4449).

2. All contractors and subcontractors are required to pay prevailing wages as determined by the Illinois Department of Labor.
3. Progress payments will normally be issued by the Illinois Comptroller within 30 business days after CDB receives and approves an Invoice-Voucher.
4. Contact the A/E for the location of plan rooms where documents are on file.
5. **Bidders are advised to review Article 01 11 01, Supplement to SDC, for any revisions to the Standard Documents for Construction.**
6. **The Disclosure Form(s) and Standard Certifications must be included with bid at time of submittal. Failure to do so will result in rejection of bid. You are also required to submit disclosure forms and standard certifications for subcontractors whose contracts will be valued over \$50,000 within 20 days of execution of your contract with CDB or execution of the contract between you and your subcontractor, whichever is later.**
7. **MBE/FBE firms must be certified or registered with CMS as either an MBE or FBE prior to bidding.**

CAPITAL DEVELOPMENT BOARD

Jim Underwood  
Executive Director

John Nalis  
Project Manager  
312.814.1603  
john.nalis@illinois.gov

BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

**NAME OF FIRM:** \_\_\_\_\_

**CDB FIRM ID NO:** \_\_\_\_\_

FOR GENERAL WORK

**BID FOR:** CDB PROJECT NUMBER: 805-030-017

**PROJECT TITLE:** Renovate Residence Halls – Illinois Math and Science Academy

**BID TO:** State of Illinois, Capital Development Board

THE BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDA: (Failure to acknowledge may cause bid rejection.)

NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO \_\_\_\_\_, DATED \_\_\_\_\_

NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO \_\_\_\_\_, DATED \_\_\_\_\_

EACH BID SHALL INCLUDE:

- A. THE BID FORMS, INCLUDING THE PC-2 FORM AND THE MBE/FBE FORM (00 41 05).
- B. BID SECURITY
- C. PRODUCT SUBSTITUTION FORM (at Bidder's option)
- D. DISCLOSURE(S), STANDARD CERTIFICATIONS, & BD. OF ELECTIONS CERTIFICATE

**BASE BID:** THE BIDDER AGREES TO PERFORM ALL WORK FOR THE ABOVE TRADE, EXCLUSIVE OF ALTERNATE BIDS, FOR THE SUM OF:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

**ALTERNATE BID NO. G-1:** ADD TO THE BASE BID THE SUM OF:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)



BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

**This project includes multiple buildings. CDB intends to award the entire scope of work to one bidder. In accordance with 30 ILCS 500/30-30, the bidder shall provide pricing for each building:**

1. CDB Building No. CPD 01  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
2. CDB Building No. CPD 02  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
3. CDB Building No. CPD 03  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
4. CDB Building No. CPD 04  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
5. CDB Building No. CPD 05  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
6. CDB Building No. CPD 06  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
7. CDB Building No. CPD 07  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)

Note: Any qualifying or conditional statements included on the bid form or attached to the bid form may result in rejection of the bid unless rescinded by the bidder.

PRODUCT SUBSTITUTION FORM ATTACHED:

**State Required Ethical Standards Governing Contract Procurement: Certifications and Disclosures**

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. The bidder indicates that each certification is made and understood, and that each disclosure requirement has been understood and completed.

BIDDING & CONTRACT REQUIREMENTS  
**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

THE BIDDER AGREES TO:

1. Hold this bid open for 90 calendar days after bid opening date or as required in the project manual.
2. Enter into and execute a contract with CDB if awarded on the basis of this bid.
3. Comply with the Contract Documents with respect to all bonds, insurance, work requirements and schedule.
4. Conform to the goals established for the utilization of minority and female workers and subcontractors/suppliers as included in the Contract Documents.
5. Pay CDB a Construction Administration Fee, as specified in Project Manual Section 01 11 00, which is included in the Base Bid price.
6. Comply with the provisions in Article 00 72 60, Alternative Dispute Resolution, of the SDC.
7. Complete the work in accordance with the contract time as specified in Project Manual Section 01 11 00.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue Bonds required by the Bid Documents for this work if this bid is accepted by CDB.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E-3 and 720 ILCS 5/33E-4.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. The Bidder is not delinquent in the payment of any debt to the state per 30 ILCS 210/5. Bidder has listed all known subcontractors and suppliers on the bid form in the space provided on the bid form.
- A. The Bidder certifies that it is aware of the requirements of Public Act 95-635, 820 ILCS 130/5.5, and that, if awarded a contract, it is or will be in full compliance with the law prior to beginning work, including the requirement to file with CDB a written substance abuse plan which meets or exceeds the requirements of the Act.
- B. The Bidder certifies that it is aware of the requirements of Public Act 97-0590 which was effective August 26, 2011. This Public Act requires a fee of \$15 to cover expenses related to the administration of the Minority Contractor Opportunity Initiative. Any Vendor awarded a contract of \$1,000 or more from this solicitation is required to pay a fee of \$15. The Comptroller shall deduct the fee from the first check issued to the Vendor under the contract and deposit the fee in the Comptroller's Administrative Fund.
- C. Apprenticeship and Training Certification  
In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract.

The bidder shall include with this bid package the official Certificate of Registration or a verification letter from the US Department of Labor (USDOL) certified group program sponsor for the USDOL certified apprenticeship and training program of which the bidder is a member for each of the types of work or crafts that will be performed with the bidder's forces and for each of the types of work or crafts that will be performed by the subcontractor(s) (if the subcontractor is participating in an approved program at the time of bid).

BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all subcontracts.

- H. The Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). In accordance with the Statute, the bidder must sign an affidavit certifying compliance with the requirement.





BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

**AFFIDAVIT**

STATE OF ILLINOS

COUNTY OF KANE

CDB Project No. 805-030-017

CDB Contract No.

Before me this day personally appeared \_\_\_\_\_, who, being duly sworn, deposes and says:  
(Print Name)

Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). I am duly authorized to make this affidavit.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Bidder Name

\_\_\_\_\_  
Address

Illinois Office Location:

\_\_\_\_\_  
\_\_\_\_\_, Illinois

I, \_\_\_\_\_, a Notary Public of the County and State aforesaid, hereby certify that \_\_\_\_\_ personally known to me to be the affiant in the foregoing affidavit, personally appeared before me this day and having been by me duly sworn deposes and says that the facts set forth in the above affidavit are true and correct.

Witness my hand and official seal this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission expires:

\_\_\_ / \_\_\_ / \_\_\_\_\_.



**BIDDING & CONTRACT REQUIREMENTS**

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

**I. STANDARD BUSINESS TERMS AND CONDITIONS**

1. **AVAILABILITY OF APPROPRIATION (30 ILCS 500/20-60):** This contract is contingent upon and subject to the availability of funds. The State, at its sole option, may terminate or suspend this contract, in whole or in part, without penalty or further payment being required, if (1) the Illinois General Assembly or the federal funding source fails to make an appropriation sufficient to pay such obligation, or if funds needed are insufficient for any reason, (2) the Governor decreases the Department's funding by reserving some or all of the Department's appropriation(s) pursuant to power delegated to the Governor by the Illinois General Assembly; or (3) the Department determines, in its sole discretion or as directed by the Office of the Governor, that a reduction is necessary or advisable based upon actual or projected budgetary considerations. Contractor will be notified in writing of the failure of appropriation or of a reduction or decrease.
2. **AUDIT/RETENTION OF RECORDS (30 ILCS 500/20-65):** Vendor and its subcontractors shall maintain books and records relating to the performance of the contract or subcontract and necessary to support amounts charged to the State under the contract or subcontract. Books and records, including information stored in databases or other computer systems, shall be maintained by the Vendor for a period of three years from the later of the date of final payment under the contract or completion of the contract, and by the subcontractor for a period of three years from the later of final payment under the term or completion of the subcontract. If federal funds are used to pay contract costs, the Vendor and its subcontractors must retain its records for five years. Books and records required to be maintained under this section shall be available for review or audit by representatives of: the procuring Agency, the Auditor General, the Executive Inspector General, the Chief Procurement Officer, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours. Vendor and its subcontractors shall cooperate fully with any such audit and with any investigation conducted by any of these entities. Failure to maintain books and records required by this section shall establish a presumption in favor of the State for the recovery of any funds paid by the State under the contract for which adequate books and records are not available to support the purported disbursement. The Vendor or subcontractors shall not impose a charge for audit or examination of the Vendor's books and records.
3. **TIME IS OF THE ESSENCE:** Time is of the essence with respect to Vendor's performance of this contract. Vendor shall continue to perform its obligations while any dispute concerning the contract is being resolved unless otherwise directed by the State.
4. **NO WAIVER OF RIGHTS:** Except as specifically waived in writing, failure by a Party to exercise or enforce a right does not waive that Party's right to exercise or enforce that or other rights in the future.
5. **FORCE MAJEURE:** Failure by either Party to perform its duties and obligations will be excused by unforeseeable circumstances beyond its reasonable control and not due to its negligence including acts of nature, acts of terrorism, riots, labor disputes, fire, flood, explosion, and governmental prohibition. The non-declaring Party may cancel the contract without penalty if performance does not resume within 30 days of the declaration.
6. **CONFIDENTIAL INFORMATION:** Each Party, including its agents and subcontractors, to this contract may have or gain access to confidential data or information owned or maintained by the other Party in the course of carrying out its responsibilities under this contract. Vendor shall presume all information received from the State or to which it gains access pursuant to this contract is confidential. Vendor information, unless clearly marked as confidential and exempt from disclosure under the Illinois Freedom of Information Act, shall be considered public. No confidential data collected, maintained, or used in the course of performance of the contract shall be disseminated except as authorized by law and with the written consent of the disclosing Party, either during the period of the contract or thereafter. The receiving Party must return any and all data collected, maintained, created or used in the course of the performance of the contract, in whatever form it is maintained, promptly at the end of the contract, or earlier at the request of the disclosing Party, or notify the disclosing Party in writing of its destruction. The foregoing obligations shall not apply to confidential data or information lawfully in the receiving Party's possession prior to its acquisition from the disclosing Party; received in good faith from a third-party not subject to any confidentiality obligation to the disclosing Party; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving Party; or is independently developed by the receiving Party without the use or benefit of the disclosing Party's confidential information.

**BIDDING & CONTRACT REQUIREMENTS**  
**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

7. **USE AND OWNERSHIP:** All work performed or supplies created by Vendor under this contract, whether written documents or data, goods or deliverables of any kind, shall be deemed work-for-hire under copyright law and all intellectual property and other laws, and the State of Illinois is granted sole and exclusive ownership to all such work, unless otherwise agreed in writing. Vendor hereby assigns to the State all right, title, and interest in and to such work including any related intellectual property rights, and/or waives any and all claims that Vendor may have to such work including any so-called "moral rights" in connection with the work. Vendor acknowledges the State may use the work product for any purpose. Confidential data or information contained in such work shall be subject to confidentiality provisions of this contract.
8. **INDEPENDENT CONTRACTOR:** Vendor shall act as an independent contractor and not an agent or employee of, or joint venturer with the State. All payments by the State shall be made on that basis.
9. **SOLICITATION AND EMPLOYMENT:** Vendor shall not employ any person employed by the State during the term of this contract to perform any work under this contract. Vendor shall give notice immediately to the Agency's director if Vendor solicits or intends to solicit State employees to perform any work under this contract.
10. **COMPLIANCE WITH THE LAW:** The Vendor, its employees, agents, and subcontractors shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations, orders, federal circulars and all license and permit requirements in the performance of this contract. Vendor shall be in compliance with applicable tax requirements and shall be current in payment of such taxes. Vendor shall obtain at its own expense, all licenses and permissions necessary for the performance of this contract.
11. **BACKGROUND CHECK:** Whenever the State deems it reasonably necessary for security reasons, the State may conduct, at its expense, criminal and driver history background checks of Vendor's and subcontractors officers, employees or agents. Vendor or subcontractor shall reassess immediately any such individual who, in the opinion of the State, does not pass the background checks.
12. **APPLICABLE LAW:** This contract shall be construed in accordance with and is subject to the laws and rules of the State of Illinois. The Department of Human Rights' Equal Opportunity requirements (44 Ill. Adm. Code 750) are incorporated by reference. Any claim against the State arising out of this contract must be filed exclusively with the Illinois Court of Claims (705 ILCS 505/1). The State shall not enter into binding arbitration to resolve any contract dispute. The State of Illinois does not waive sovereign immunity by entering into this contract. The official text of cited statutes is incorporated by reference (An unofficial version can be viewed at <http://www.ilga.gov/legislation/ilcs/ilcs.asp>). In compliance with the Illinois and federal Constitutions, the Illinois Human Rights Act, the U. S. Civil Rights Act, and Section 504 of the federal Rehabilitation Act and other applicable laws and rules the State does not unlawfully discriminate in employment, contracts, or any other activity.
13. **ANTI-TRUST ASSIGNMENT:** If Vendor does not pursue any claim or cause of action it has arising under federal or state antitrust laws relating to the subject matter of the contract, then upon request of the Illinois Attorney General, Vendor shall assign to the State rights, title and interest in and to the claim or cause of action.
14. **CONTRACTUAL AUTHORITY:** The Agency that signs for the State of Illinois shall be the only State entity responsible for performance and payment under the contract. When the Chief Procurement Officer or authorized designee signs in addition to an Agency, they do so as approving officer and shall have no liability to Vendor. When the Chief Procurement officer or authorized designee signs a master contract on behalf of State agencies, only the Agency that places an order with the Vendor shall have any liability to Vendor for that order.
15. **NOTICES:** Notices and other communications provided for herein shall be given in writing by registered or certified mail, return receipt requested, by receipted hand delivery, by courier (UPS, Federal Express or other similar and reliable carrier), by e-mail, or by fax showing the date and time of successful receipt. Notices shall be sent to the individuals who signed the contract using the contact information following the signatures. Each such notice shall be deemed to have been provided at the time it is actually received. By giving notice, either Party may change the contact information.
16. **MODIFICATIONS AND SURVIVAL:** Amendments, modifications and waivers must be in writing and signed by authorized representatives of the Parties. Any provision of this contract officially declared void, unenforceable, or against public policy, shall be ignored and the remaining provisions shall be interpreted, as far as possible, to give effect to the Parties' intent. All provisions that by their nature would be expected to survive, shall survive termination. In the event of a

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conflict between the State's and the Vendor's terms, conditions and attachments, the State's terms, conditions and attachments shall prevail.

17. **PERFORMANCE RECORD / SUSPENSION:** Upon request of the State, Vendor shall meet to discuss performance or provide contract performance updates to help ensure proper performance of the contract. The State may consider Vendor's performance under this contract and compliance with law and rule to determine whether to continue the contract, suspend Vendor from doing future business with the State for a specified period of time, or to determine whether Vendor can be considered responsible on specific future contract opportunities.

18. **FREEDOM OF INFORMATION ACT:** This contract and all related public records maintained by, provided to or required to be provided to the State are subject to the Illinois Freedom of Information Act notwithstanding any provision to the contrary that may be found in this contract.

**STANDARD CERTIFICATIONS**

Vendor acknowledges and agrees that compliance with this subsection in its entirety for the term of the contract and any renewals is a material requirement and condition of this contract. By executing this contract Vendor certifies compliance with this subsection in its entirety, and is under a continuing obligation to remain in compliance and report any non-compliance.

This subsection, in its entirety, applies to subcontractors used on this contract. Vendor shall include these Standard Certifications in any subcontract used in the performance of the contract.

If this contract extends over multiple fiscal years, including the initial term and all renewals, Vendor and its subcontractors shall confirm compliance with this section in the manner and format determined by the State by the date specified by the State and in no event later than July 1 of each year that this contract remains in effect.

If the Parties determine that any certification in this section is not applicable to this contract it may be stricken without affecting the remaining subsections.

1. As part of each certification, Vendor acknowledges and agrees that should Vendor or its subcontractors provide false information, or fail to be or remain in compliance with the Standard Certification requirements, one or more of the following sanctions will apply:

- the contract may be void by operation of law,
- the State may void the contract, and
- the Vendor and its subcontractors may be subject to one or more of the following: suspension, debarment, denial of payment, civil fine, or criminal penalty.

Identifying a sanction or failing to identify a sanction in relation to any of the specific certifications does not waive imposition of other sanctions or preclude application of sanctions not specifically identified.

2. Vendor certifies it and its employees will comply with applicable provisions of the United States Civil Rights Act, Section 504 of the Federal Rehabilitation Act, the Americans with Disabilities Act, and applicable rules in performance of this contract.

3. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies he/she is not in default on an educational loan. 5 ILCS 385/3.

4. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies it he/she has not received (i) an early retirement incentive prior to 1993 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code or (ii) an early retirement incentive on or after 2002 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code. 30 ILCS 105/15a; 40 ILCS 5/14-108.3; 40 ILCS 5/16-133.

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5. Vendor certifies that it is a legal entity authorized to do business in Illinois prior to submission of a bid, offer, or proposal. 30 ILCS 500/1-15.80, 20-43.
6. To the extent there was a current Vendor providing the services covered by this contract and the employees of that Vendor who provided those services are covered by a collective bargaining agreement, Vendor certifies (i) that it will offer to assume the collective bargaining obligations of the prior employer, including any existing collective bargaining agreement with the bargaining representative of any existing collective bargaining unit or units performing substantially similar work to the services covered by the contract subject to its bid or offer; and (ii) that it shall offer employment to all employees currently employed in any existing bargaining unit who perform substantially similar work to the work that will be performed pursuant to this contract. This does not apply to heating, air conditioning, plumbing and electrical service contracts. 30 ILCS 500/25-80.
7. Vendor certifies it has neither been convicted of bribing or attempting to bribe an officer or employee of the State of Illinois or any other State, nor made an admission of guilt of such conduct that is a matter of record. 30 ILCS 500/50-5.
8. If Vendor has been convicted of a felony, Vendor certifies at least five years have passed after the date of completion of the sentence for such felony, unless no person held responsible by a prosecutor's office for the facts upon which the conviction was based continues to have any involvement with the business. 30 ILCS 500/50-10.
9. If Vendor or any officer, director, partner, or other managerial agent of Vendor has been convicted of a felony under the Sarbanes-Oxley Act of 2002, or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953, Vendor certifies at least five years have passed since the date of the conviction. Vendor further certifies that it is not barred from being awarded a contract and acknowledges that the State shall declare the contract void if this certification is false. 30 ILCS 500/50-10.5.
10. Vendor certifies it is not barred from having a contract with the State based upon violating the prohibitions related to either submitting/writing specifications or providing assistance to an employee of the State of Illinois by reviewing, drafting, directing, or preparing any invitation for bids, a request for proposal, or request of information, or similar assistance (except as part of a public request for such information). 30 ILCS 500/50-10.5(e), amended by Pub. Act No. 97-0895 (August 3, 2012)
11. Vendor certifies that it and its affiliates are not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Vendor and its affiliates acknowledge the State may declare the contract void if this certification is false or if Vendor or an affiliate later becomes delinquent and has not entered into a deferred payment plan to pay off the debt. 30 ILCS 500/50-11, 50-60.
12. Vendor certifies that it and all affiliates shall collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with provisions of the Illinois Use Tax Act and acknowledges that failure to comply may result in the contract being declared void. 30 ILCS 500/50-12.
13. Vendor certifies that it has not been found by a court or the Pollution Control Board to have committed a willful or knowing violation of the Environmental Protection Act within the last five years, and is therefore not barred from being awarded a contract. 30 ILCS 500/50-14.
14. Vendor certifies it has neither paid any money or valuable thing to induce any person to refrain from bidding on a State contract, nor accepted any money or other valuable thing, or acted upon the promise of same, for not bidding on a State contract. 30 ILCS 500/50-25.
15. Vendor certifies it is not in violation of the "Revolving Door" provisions of the Illinois Procurement Code. 30 ILCS 500/50-30.
16. Vendor certifies that it has not retained a person or entity to attempt to influence the outcome of a procurement decision for compensation contingent in whole or in part upon the decision or procurement. 30 ILCS 500/50-38.

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17. Vendor certifies that if it has hired a person required to register under the Lobbyist Registration Act to assist in obtaining any State contract, that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State. 30 ILCS 500/50-38.
18. Vendor certifies it will report to the Illinois Attorney General and the Chief Procurement Officer any suspected collusion or other anti-competitive practice among any bidders, offerors, contractors, proposers, or employees of the State. 30 ILCS 500/50-40, 50-45, 50-50.
19. Vendor certifies steel products used or supplied in the performance of a contract for public works shall be manufactured or produced in the United States, unless the executive head of the procuring Agency/University grants an exception. 30 ILCS 565.
20. Drug Free Workplace
  - 20.1. If Vendor employs 25 or more employees and this contract is worth more than \$5,000, Vendor certifies it will provide a drug free workplace pursuant to the Drug Free Workplace Act.
  - 20.2. If Vendor is an individual and this contract is worth more than \$5000, Vendor certifies it shall not engage in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance during the performance of the contract. 30 ILCS 580.
21. Vendor certifies that neither Vendor nor any substantially owned affiliate is participating or shall participate in an international boycott in violation of the U.S. Export Administration Act of 1979 or the applicable regulations of the United States. Department of Commerce. 30 ILCS 582.
22. Vendor certifies it has not been convicted of the offense of bid rigging or bid rotating or any similar offense of any state or of the United States. 720 ILCS 5/33 E-3, E-4.
23. Vendor certifies it complies with the Illinois Department of Human Rights Act and rules applicable to public contracts, which include providing equal employment opportunity, refraining from unlawful discrimination, and having written sexual harassment policies. 775 ILCS 5/2-105.
24. Vendor certifies it does not pay dues to or reimburse or subsidize payments by its employees for any dues or fees to any "discriminatory club." 775 ILCS 25/2.
25. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been or will be produced in whole or in part by forced labor or indentured labor under penal sanction. 30 ILCS 583.
26. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been produced in whole or in part by the labor of any child under the age of 12. 30 ILCS 584.
27. Vendor certifies that any violation of the Lead Poisoning Prevention Act, as it applies to owners of residential buildings, has been mitigated. 410 ILCS 45.
28. Vendor warrants and certifies that it and, to the best of its knowledge, its subcontractors have and will comply with Executive Order No. 1 (2007). The Order generally prohibits Vendors and subcontractors from hiring the then-serving Governor's family members to lobby procurement activities of the State, or any other unit of government in Illinois including local governments if that procurement may result in a contract valued at over \$25,000. This prohibition also applies to hiring for that same purpose any former State employee who had procurement authority at any time during the one-year period preceding the procurement lobbying activity.
29. Vendor certifies that information technology, including electronic information, software, systems and equipment, developed or provided under this contract comply with the applicable requirements of the Illinois Information Technology Accessibility Act Standards as published at ([www.dhs.state.il.us/iitaa](http://www.dhs.state.il.us/iitaa)). 30 ILCS 587.

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30. Vendor certifies that it has read, understands, and is in compliance with the registration requirements of the Elections Code (10 ILCS 5/9-35) and the restrictions on making political contributions and related requirements of the Illinois Procurement Code. 30 ILCS 500/20-160 and 50-37. Vendor will not make a political contribution that will violate these requirements.

In accordance with section 20-160 of the Illinois Procurement Code, Vendor certifies as applicable:

Vendor is not required to register as a business entity with the State Board of Elections.

or

Vendor has registered with the State Board of Elections. As a registered business entity, Vendor acknowledges a continuing duty to update the registration as required by the Act.

31. Vendor certifies that if it is awarded a contract through the use of the preference required by the Procurement of Domestic Products Act, then it shall provide products pursuant to the contract or a subcontract that are manufactured in the United States. 30 ILCS 517.

32. A person (other than an individual acting as a sole proprietor) must be a duly constituted legal entity and authorized to do business in Illinois prior to submitting a bid or offer. 30 ILCS 500/20-43. If you do not meet these criteria, then your bid or offer will be disqualified.

Vendor must make one of the following four certifications by checking the appropriate box. If C or D is checked, then Vendor must attach to this form the requested documentation.

- A. Vendor certifies it is an individual acting as a sole proprietor and is therefore not subject to the requirements of section 20-43 of the Procurement Code.

- B. Vendor certifies that it is a legal entity, and was authorized to do business in Illinois as of the date for submitting this bid or offer. The State may require Vendor to provide evidence of compliance before award.

- C. Vendor certifies it is a legal entity, and is a foreign corporation performing activities that do not constitute transacting business in Illinois as defined by Illinois Business Corporations Act (805 ILCS 5/13.75). A vendor claiming exemption under the Act must include a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

- D. Vendor certifies it is a legal entity, and is an entity otherwise recognized under Illinois law as eligible for a specific form of exemption similar to those found in the Illinois Business Corporation Act (805 ILCS 5/13.75). A vendor claiming exemption under a specific law must provide a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.



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Name of Certifying Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

BIDDING & CONTRACT REQUIREMENTS

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J. Disclosures and Conflicts of Interest

- A. The disclosures hereinafter made by the bidder and its' subcontractors, as applicable, are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form. The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by a separate form. The forms must be included with each bid.

**STATE OF ILLINOIS**  
**FINANCIAL DISCLOSURES AND CONFLICTS OF INTEREST**

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August 2013

Financial Disclosures and Conflicts of Interest forms (“forms”) must be accurately completed and submitted by the vendor, any parent entity(ies) and any subcontractors. There are **nine** steps to this form and each must be completed as instructed in the step heading, unless otherwise provided. A bid, offer, or proposal that does not include this form shall be considered non-responsive. The Agency/University will consider this form when evaluating the bid, offer, or proposal or awarding the contract.

The requirement of disclosure of financial interests and conflicts of interest is a continuing obligation. If circumstances change and the previously submitted form is no longer accurate, disclosing entities must provide an updated form. Separate forms are required for the vendor, any parent entity(ies) and any subcontractors.

Subcontractor forms must be provided with a copy of the subcontract, if required, within 15 days after execution of the State contract or after execution of the subcontract, whichever is later, for all subcontracts with an annual value of more than \$50,000.

**This disclosure is submitted for:**

- Vendor
- Vendor’s Parent Entity(ies) (100% ownership)
- Subcontractor(s) >\$50,000
- Subcontractor’s Parent Entity(ies) > \$50,000

Project Name	
Illinois Procurement Bulletin Number / CDB Project No.	
Contract Number	
Vendor Name	
Doing Business As (DBA)	
Disclosing Entity	
Disclosing Entity’s Parent Entity	
Subcontractor	
Instrument of Ownership or Beneficial Interest	<p><b>PLEASE CIRCLE ONE:</b>  <b>Sole Proprietorship</b>  <b>Corporate Stock (C-Corporation, Professional Corporation, Service Corporation)</b>  <b>Limited Liability Company Membership Agreement (Series LLC, Low-Profit Limited Liability Partnership)</b>  <b>Partnership Agreement (General Partnership, Limited Partnership, Limited Liability Partnership, Limited Liability Limited Partnership)</b>  <b>Not-For-Profit Corporation</b>  <b>Other</b>  <b>Trust Agreement (Beneficiary)</b>  <input type="checkbox"/> If you selected Other, please describe:</p>

**STEP 1****SUPPORTING DOCUMENTATION SUBMITTAL**

(All vendors complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

You must select one of the six options below and select the documentation you are submitting. You must provide the documentation the applicable section requires with this form.

 Option 1 – Publicly Traded Entities

- 1.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 1.B.  Attach a copy of the Federal 10-K, and skip to Step 3.

 Option 2 – Privately Held Entities with more than 200 Shareholders

- 2.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 2.B.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership share in excess of 5% and attach the information Federal 10-K reporting companies are required to report under 17 CFR 229.401.

 Option 3 – All other Privately Held Entities, not including Sole Proprietorships

- 3.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

 Option 4 – Foreign Entities

- 4.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 4.B.  Attach a copy of the Securities Exchange Commission Form 20-F or 40-F and skip to Step 3.

 Option 5 – Not-for-Profit Entities

- Complete Step 2, Option B.

 Option 6 – Sole Proprietorships

- Skip to Step 3.

**STEP 2****DISCLOSURE OF FINANCIAL INTEREST OR BOARD OF DIRECTORS**

(All vendors, except sole proprietorships, must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Complete **either** Option A (for all entities other than not-for-profits) or Option B (for not-for-profits). Additional rows may be inserted into the tables or an attachment may be provided if needed.

**OPTION A – Ownership Share and Distributive Income**

**Ownership Share** – If you selected Option 1.A., 2.A., 2.B., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of ownership if said percentage exceeds 5%, or the dollar value of their ownership if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

<b>TABLE – X</b>			
<b>Name</b>	<b>Address</b>	<b>Percentage of Ownership</b>	<b>\$ Value of Ownership</b>

**Distributive Income** – If you selected Option 1.A., 2.A., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of the disclosing vendor's total distributive income if said percentage exceeds 5% of the total distributive income of the disclosing entity, or the dollar value of their distributive income if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

<b>TABLE – Y</b>			
<b>Name</b>	<b>Address</b>	<b>% of Distributive Income</b>	<b>\$ Value of Distributive Income</b>

Please certify that the following statements are true.

I have disclosed all individuals or entities that hold an ownership interest of greater than 5% or greater than \$106,447.20.

Yes  No

I have disclosed all individuals or entities that were entitled to receive distributive income in an amount greater than \$106,447.20 or greater than 5% of the total distributive income of the disclosing entity.

Yes  No

**OPTION B – Disclosure of Board of Directors (Not-for-Profits)**

If you selected Option 5 in Step 1, list members of your board of directors. Please include an attachment if necessary.

TABLE – Z	
Name	Address

**STEP 3**  
**DISCLOSURE OF LOBBYIST OR AGENT**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Yes  No. Is your company represented by or do you employ a lobbyist required to register under the Lobbyist Registration Act (lobbyist must be registered pursuant to the Act with the Secretary of State) or other agent who is not identified through Step 2, Option A above and who has communicated, is communicating, or may communicate with any State/Public University officer or employee concerning the bid or offer? If yes, please identify each lobbyist and agent, including the name and address below.

If you have a lobbyist that does not meet the criteria, then you do not have to disclose the lobbyist’s information.

Name	Address	Relationship to Disclosing Entity

Describe all costs/fees/compensation/reimbursements related to the assistance provided by each representative lobbyist or other agent to obtain an Agency/University contract: \_\_\_\_\_

**STEP 4**

**PROHIBITED CONFLICTS OF INTEREST**

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 4 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above. **Please provide the name of the person for which responses are provided:** \_\_\_\_\_

- 1. Do you hold or are you the spouse or minor child who holds an elective office in the State of Illinois or hold a seat in the General Assembly?  Yes  No
- 2. Have you, your spouse, or minor child been appointed to or employed in any offices or agencies of State government and receive compensation for such employment in excess of 60% (\$106,447.20) of the salary of the Governor?  Yes  No
- 3. Are you or are you the spouse or minor child of an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority?  Yes  No
- 4. Have you, your spouse, or an immediate family member who lives in your residence currently or who lived in your residence within the last 12 months been appointed as a member of a board, commission, authority, or task force authorized or created by State law or by executive order of the Governor?  Yes  No
- 5. If you answered yes to any question in 1-4 above, please answer the following: Do you, your spouse, or minor child receive from the vendor more than 7.5% of the vendor's total distributable income or an amount of distributable income in excess of the salary of the Governor (\$177,412.00)?  Yes  No
- 6. If you answered yes to any question in 1-4 above, please answer the following: Is there a combined interest of self with spouse or minor child more than 15% (\$354,824.00) in the aggregate of the vendor's distributable income or an amount of distributable income in excess of two times the salary of the Governor?  Yes  No

**STEP 5**

**POTENTIAL CONFLICTS OF INTEREST RELATING TO PERSONAL RELATIONSHIPS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 5 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above.

**Please provide the name of the person for which responses are provided:** \_\_\_\_\_

- 1. Do you currently have, or in the previous 3 years have you had State employment, including contractual employment of services?  Yes  No
- 2. Has your spouse, father, mother, son, or daughter, had State employment, including contractual employment for services, in the previous 2 years?  Yes  No

3. Do you hold currently or have you held in the previous 3 years elective office of the State of Illinois, the government of the United States, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois?  Yes  No
4. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding elective office currently or in the previous 2 years?  Yes  No
5. Do you hold or have you held in the previous 3 years any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of expenses incurred in the discharge of that?  Yes  No
6. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding appointive office currently or in the previous 2 years?  Yes  No
7. Do you currently have or in the previous 3 years had employment as or by any registered lobbyist of the State government?  Yes  No
8. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) that is or was a registered lobbyist?  Yes  No
9. Do you currently have or in the previous 3 years had compensated employment by any registered election or re-election committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No
10. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) who is or was a compensated employee of any registered election or reelection committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No

## STEP 6

### EXPLANATION OF AFFIRMATIVE RESPONSES

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you answered "Yes" in Step 4 or Step 5, please provide on an additional page a detailed explanation that includes, but is not limited to the name, salary, State agency or university, and position title of each individual.



**STEP 7**  
**POTENTIAL CONFLICTS OF INTEREST**  
**RELATING TO DEBARMENT & LEGAL PROCEEDINGS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This step must be completed for each person disclosed in Step 2, Option A, Step 3, and for each entity and sole proprietor disclosed in Step 1.

**Please provide the name of the person or entity for which responses are provided:**

1. Within the previous ten years, have you had debarment from contracting with any governmental entity?  Yes  No
2. Within the previous ten years, have you had any professional licensure discipline?  Yes  No
3. Within the previous ten years, have you had any bankruptcies?  Yes  No
4. Within the previous ten years, have you had any adverse civil judgments and administrative findings?  Yes  No
5. Within the previous ten years, have you had any criminal felony convictions?  Yes  No

If you answered "Yes", please provide a detailed explanation that includes, but is not limited to the name, State agency or university, and position title of each individual.

**STEP 8**  
**DISCLOSURE OF CURRENT AND PENDING CONTRACTS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you selected Option 1, 2, 3, 4, or 6 in Step 1, do you have any contracts, pending contracts, bids, proposals, or other ongoing procurement relationships with units of State of Illinois government?  Yes  No.

If "Yes", please specify below. Attach an additional page in the same format as provided below, if desired.

Agency/University	Project Title	Status	Value	Contract Reference/P.O./Illinois Procurement Bulletin #

Please explain the procurement relationship:

**STEP 9**  
**SIGN THE DISCLOSURE**

(All vendors must complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This disclosure is signed, and made under penalty of perjury for all for-profit entities, by an authorized officer or employee on behalf of the bidder or offeror pursuant to Sections 50-13 and 50-35 of the Illinois Procurement Code. This disclosure information is submitted on behalf of:

Name of Disclosing Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

K. Subcontractor Requirements

A. Delinquent Debt and listing of all Subcontractors per SDC Section 00 21 50.2C

In accordance with State policy, Contractors must list all known subcontractors and suppliers who will be employed on this project. Attach additional sheets if necessary.

B. Requirements for Subcontractors over \$50,000

Pursuant to requirements under 30 ILCS 500/20-120(a), the contract shall state whether the services of a subcontractor will or may be used. Furthermore, the contract shall include names and addresses of all known subcontractors with subcontracts with an annual value of more than \$50,000 and the expected amount of money each will receive under the contract. Financial and Conflict of Interest disclosures and standard certifications of each subcontractor over \$50,000 must be submitted to CDB by the contractor within 20 days of the execution of a contract with CDB or 20 days of the execution of the subcontract, whichever is later.

**Please check the applicable option:**

The services of a subcontractor will or may be used: YES \_\_\_\_\_ NO \_\_\_\_\_

**If YES, then list known subcontractors. List total value for subcontractors over \$50,000:**  
(use additional sheets if necessary)

	Name of Subcontractor	ADDRESS	Subcontract Over \$50,000 (Yes/No)	Total Expected Value for Subcontractors over \$50,000	CDB ID NO.	TIN (FEIN or SSN)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

**CONTRACTOR (show Company name and DBA):** \_\_\_\_\_

Signature \_\_\_\_\_

Printed Name: \_\_\_\_\_ FEIN #: \_\_\_\_\_

Title: \_\_\_\_\_ Date \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

For Corporations only: Attest By: \_\_\_\_\_ (Corporate Secretary)

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**L. Disclosure of Business Operations with Government of Iran**  
**30 ILCS 500/50-36**

*Each bid, offer, or proposal submitted for a State contract, other than a small purchase defined in Section 20-20 [of the Illinois Procurement Code], shall include a disclosure of whether or not the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran and :*

*(1) more than 10% of the company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral – extraction products or services to the Government of Iran or a project or consortium created exclusively by that Government; and the company has failed to take substantial action; or*

*(2) the company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12- month period that directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.*

*A bid, offer, or proposal that does not include this disclosure shall not be considered responsive. We may consider this disclosure when evaluating the bid, offer, or proposal or awarding the contract.*

**You must check one of the following items and if item 2 is checked you must also make the necessary disclosure.**

1.     \_\_\_ There are no business operations that must be disclosed to comply with the above cited law.
  
2.     \_\_\_ The following business operations are disclosed to comply with the above cited law:

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\_\_\_\_\_  
**Name of Company**

\_\_\_\_\_  
**Signature**

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**NAME OF FIRM:** \_\_\_\_\_

**CDB FIRM ID NO:** \_\_\_\_\_

**FOR HEATING WORK**

**BID FOR:** CDB PROJECT NUMBER: 805-030-017

**PROJECT TITLE:** Renovate Residence Halls – Illinois Math and Science Academy

**BID TO:** State of Illinois, Capital Development Board

**THE BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDA: (Failure to acknowledge may cause bid rejection.)**

NO. \_\_\_\_\_, DATED \_\_\_\_\_ NO. \_\_\_\_\_, DATED \_\_\_\_\_ NO. \_\_\_\_\_, DATED \_\_\_\_\_

NO. \_\_\_\_\_, DATED \_\_\_\_\_ NO. \_\_\_\_\_, DATED \_\_\_\_\_ NO. \_\_\_\_\_, DATED \_\_\_\_\_

**EACH BID SHALL INCLUDE:**

- A. THE BID FORMS, INCLUDING THE PC-2 FORM AND THE MBE/FBE FORM (00 41 05).
- B. BID SECURITY
- C. PRODUCT SUBSTITUTION FORM (at Bidder's option)
- D. DISCLOSURE(S), STANDARD CERTIFICATIONS, & BD. OF ELECTIONS CERTIFICATE

**BASE BID:** THE BIDDER AGREES TO PERFORM ALL WORK FOR THE ABOVE TRADE, EXCLUSIVE OF ALTERNATE BIDS, FOR THE SUM OF:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)



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**This project includes multiple buildings. CDB intends to award the entire scope of work to one bidder. In accordance with 30 ILCS 500/30-30, the bidder shall provide pricing for each building:**

1. CDB Building No. CPD 01  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
2. CDB Building No. CPD 02  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
3. CDB Building No. CPD 03  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
4. CDB Building No. CPD 04  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
5. CDB Building No. CPD 05  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
6. CDB Building No. CPD 06  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
7. CDB Building No. CPD 07  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)

Note: Any qualifying or conditional statements included on the bid form or attached to the bid form may result in rejection of the bid unless rescinded by the bidder.

PRODUCT SUBSTITUTION FORM ATTACHED:

**State Required Ethical Standards Governing Contract Procurement: Certifications and Disclosures**

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. The bidder indicates that each certification is made and understood, and that each disclosure requirement has been understood and completed.

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C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

THE BIDDER AGREES TO:

1. Hold this bid open for 90 calendar days after bid opening date or as required in the project manual.
2. Enter into and execute a contract with CDB if awarded on the basis of this bid.
3. Comply with the Contract Documents with respect to all bonds, insurance, work requirements and schedule.
4. Conform to the goals established for the utilization of minority and female workers and subcontractors/suppliers as included in the Contract Documents.
5. Pay CDB a Construction Administration Fee, as specified in Project Manual Section 01 11 00, which is included in the Base Bid price.
6. Comply with the provisions in Article 00 72 60, Alternative Dispute Resolution, of the SDC.
7. Complete the work in accordance with the contract time as specified in Project Manual Section 01 11 00.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue Bonds required by the Bid Documents for this work if this bid is accepted by CDB.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E-3 and 720 ILCS 5/33E-4.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. The Bidder is not delinquent in the payment of any debt to the state per 30 ILCS 210/5. Bidder has listed all known subcontractors and suppliers on the bid form in the space provided on the bid form.
- D. The Bidder certifies that it is aware of the requirements of Public Act 95-635, 820 ILCS 130/5.5, and that, if awarded a contract, it is or will be in full compliance with the law prior to beginning work, including the requirement to file with CDB a written substance abuse plan which meets or exceeds the requirements of the Act.
- E. The Bidder certifies that it is aware of the requirements of Public Act 97-0590 which was effective August 26, 2011. This Public Act requires a fee of \$15 to cover expenses related to the administration of the Minority Contractor Opportunity Initiative. Any Vendor awarded a contract of \$1,000 or more from this solicitation is required to pay a fee of \$15. The Comptroller shall deduct the fee from the first check issued to the Vendor under the contract and deposit the fee in the Comptroller's Administrative Fund.
- F. Apprenticeship and Training Certification  
In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract.

The bidder shall include with this bid package the official Certificate of Registration or a verification letter from the US Department of Labor (USDOL) certified group program sponsor for the USDOL certified apprenticeship and training program of which the bidder is a member for each of the types of work or crafts that will be performed with the bidder's forces and for each of the types of work or crafts that will be performed by the subcontractor(s) (if the subcontractor is participating in an approved program at the time of bid).



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The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all subcontracts.

- H. The Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). In accordance with the Statute, the bidder must sign an affidavit certifying compliance with the requirement.



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**AFFIDAVIT**

STATE OF ILLINOS

COUNTY OF KANE

CDB Project No. 805-030-017

CDB Contract No.

Before me this day personally appeared \_\_\_\_\_, who, being duly sworn, deposes and says:  
(Print Name)

Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). I am duly authorized to make this affidavit.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Bidder Name

\_\_\_\_\_  
Address

Illinois Office Location:

\_\_\_\_\_  
\_\_\_\_\_, Illinois

I, \_\_\_\_\_, a Notary Public of the County and State aforesaid, hereby certify that \_\_\_\_\_ personally known to me to be the affiant in the foregoing affidavit, personally appeared before me this day and having been by me duly sworn deposes and says that the facts set forth in the above affidavit are true and correct.

Witness my hand and official seal this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission expires:

\_\_\_ / \_\_\_ / \_\_\_\_\_.



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**I. STANDARD BUSINESS TERMS AND CONDITIONS**

1. **AVAILABILITY OF APPROPRIATION (30 ILCS 500/20-60):** This contract is contingent upon and subject to the availability of funds. The State, at its sole option, may terminate or suspend this contract, in whole or in part, without penalty or further payment being required, if (1) the Illinois General Assembly or the federal funding source fails to make an appropriation sufficient to pay such obligation, or if funds needed are insufficient for any reason, (2) the Governor decreases the Department's funding by reserving some or all of the Department's appropriation(s) pursuant to power delegated to the Governor by the Illinois General Assembly; or (3) the Department determines, in its sole discretion or as directed by the Office of the Governor, that a reduction is necessary or advisable based upon actual or projected budgetary considerations. Contractor will be notified in writing of the failure of appropriation or of a reduction or decrease.
2. **AUDIT/RETENTION OF RECORDS (30 ILCS 500/20-65):** Vendor and its subcontractors shall maintain books and records relating to the performance of the contract or subcontract and necessary to support amounts charged to the State under the contract or subcontract. Books and records, including information stored in databases or other computer systems, shall be maintained by the Vendor for a period of three years from the later of the date of final payment under the contract or completion of the contract, and by the subcontractor for a period of three years from the later of final payment under the term or completion of the subcontract. If federal funds are used to pay contract costs, the Vendor and its subcontractors must retain its records for five years. Books and records required to be maintained under this section shall be available for review or audit by representatives of: the procuring Agency, the Auditor General, the Executive Inspector General, the Chief Procurement Officer, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours. Vendor and its subcontractors shall cooperate fully with any such audit and with any investigation conducted by any of these entities. Failure to maintain books and records required by this section shall establish a presumption in favor of the State for the recovery of any funds paid by the State under the contract for which adequate books and records are not available to support the purported disbursement. The Vendor or subcontractors shall not impose a charge for audit or examination of the Vendor's books and records.
3. **TIME IS OF THE ESSENCE:** Time is of the essence with respect to Vendor's performance of this contract. Vendor shall continue to perform its obligations while any dispute concerning the contract is being resolved unless otherwise directed by the State.
4. **NO WAIVER OF RIGHTS:** Except as specifically waived in writing, failure by a Party to exercise or enforce a right does not waive that Party's right to exercise or enforce that or other rights in the future.
5. **FORCE MAJEURE:** Failure by either Party to perform its duties and obligations will be excused by unforeseeable circumstances beyond its reasonable control and not due to its negligence including acts of nature, acts of terrorism, riots, labor disputes, fire, flood, explosion, and governmental prohibition. The non-declaring Party may cancel the contract without penalty if performance does not resume within 30 days of the declaration.
6. **CONFIDENTIAL INFORMATION:** Each Party, including its agents and subcontractors, to this contract may have or gain access to confidential data or information owned or maintained by the other Party in the course of carrying out its responsibilities under this contract. Vendor shall presume all information received from the State or to which it gains access pursuant to this contract is confidential. Vendor information, unless clearly marked as confidential and exempt from disclosure under the Illinois Freedom of Information Act, shall be considered public. No confidential data collected, maintained, or used in the course of performance of the contract shall be disseminated except as authorized by law and with the written consent of the disclosing Party, either during the period of the contract or thereafter. The receiving Party must return any and all data collected, maintained, created or used in the course of the performance of the contract, in whatever form it is maintained, promptly at the end of the contract, or earlier at the request of the disclosing Party, or notify the disclosing Party in writing of its destruction. The foregoing obligations shall not apply to confidential data or information lawfully in the receiving Party's possession prior to its acquisition from the disclosing Party; received in good faith from a third-party not subject to any confidentiality obligation to the disclosing Party; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving Party; or is independently developed by the receiving Party without the use or benefit of the disclosing Party's confidential information.

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7. **USE AND OWNERSHIP:** All work performed or supplies created by Vendor under this contract, whether written documents or data, goods or deliverables of any kind, shall be deemed work-for-hire under copyright law and all intellectual property and other laws, and the State of Illinois is granted sole and exclusive ownership to all such work, unless otherwise agreed in writing. Vendor hereby assigns to the State all right, title, and interest in and to such work including any related intellectual property rights, and/or waives any and all claims that Vendor may have to such work including any so-called "moral rights" in connection with the work. Vendor acknowledges the State may use the work product for any purpose. Confidential data or information contained in such work shall be subject to confidentiality provisions of this contract.
8. **INDEPENDENT CONTRACTOR:** Vendor shall act as an independent contractor and not an agent or employee of, or joint venturer with the State. All payments by the State shall be made on that basis.
9. **SOLICITATION AND EMPLOYMENT:** Vendor shall not employ any person employed by the State during the term of this contract to perform any work under this contract. Vendor shall give notice immediately to the Agency's director if Vendor solicits or intends to solicit State employees to perform any work under this contract.
10. **COMPLIANCE WITH THE LAW:** The Vendor, its employees, agents, and subcontractors shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations, orders, federal circulars and all license and permit requirements in the performance of this contract. Vendor shall be in compliance with applicable tax requirements and shall be current in payment of such taxes. Vendor shall obtain at its own expense, all licenses and permissions necessary for the performance of this contract.
11. **BACKGROUND CHECK:** Whenever the State deems it reasonably necessary for security reasons, the State may conduct, at its expense, criminal and driver history background checks of Vendor's and subcontractors officers, employees or agents. Vendor or subcontractor shall reassign immediately any such individual who, in the opinion of the State, does not pass the background checks.
12. **APPLICABLE LAW:** This contract shall be construed in accordance with and is subject to the laws and rules of the State of Illinois. The Department of Human Rights' Equal Opportunity requirements (44 Ill. Adm. Code 750) are incorporated by reference. Any claim against the State arising out of this contract must be filed exclusively with the Illinois Court of Claims (705 ILCS 505/1). The State shall not enter into binding arbitration to resolve any contract dispute. The State of Illinois does not waive sovereign immunity by entering into this contract. The official text of cited statutes is incorporated by reference (An unofficial version can be viewed at <http://www.ilga.gov/legislation/ilcs/ilcs.asp>). In compliance with the Illinois and federal Constitutions, the Illinois Human Rights Act, the U. S. Civil Rights Act, and Section 504 of the federal Rehabilitation Act and other applicable laws and rules the State does not unlawfully discriminate in employment, contracts, or any other activity.
13. **ANTI-TRUST ASSIGNMENT:** If Vendor does not pursue any claim or cause of action it has arising under federal or state antitrust laws relating to the subject matter of the contract, then upon request of the Illinois Attorney General, Vendor shall assign to the State rights, title and interest in and to the claim or cause of action.
14. **CONTRACTUAL AUTHORITY:** The Agency that signs for the State of Illinois shall be the only State entity responsible for performance and payment under the contract. When the Chief Procurement Officer or authorized designee signs in addition to an Agency, they do so as approving officer and shall have no liability to Vendor. When the Chief Procurement officer or authorized designee signs a master contract on behalf of State agencies, only the Agency that places an order with the Vendor shall have any liability to Vendor for that order.
15. **NOTICES:** Notices and other communications provided for herein shall be given in writing by registered or certified mail, return receipt requested, by receipted hand delivery, by courier (UPS, Federal Express or other similar and reliable carrier), by e-mail, or by fax showing the date and time of successful receipt. Notices shall be sent to the individuals who signed the contract using the contact information following the signatures. Each such notice shall be deemed to have been provided at the time it is actually received. By giving notice, either Party may change the contact information.
16. **MODIFICATIONS AND SURVIVAL:** Amendments, modifications and waivers must be in writing and signed by authorized representatives of the Parties. Any provision of this contract officially declared void, unenforceable, or against public policy, shall be ignored and the remaining provisions shall be interpreted, as far as possible, to give effect to the Parties' intent. All provisions that by their nature would be expected to survive, shall survive termination. In the event of a

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conflict between the State's and the Vendor's terms, conditions and attachments, the State's terms, conditions and attachments shall prevail.

17. **PERFORMANCE RECORD / SUSPENSION:** Upon request of the State, Vendor shall meet to discuss performance or provide contract performance updates to help ensure proper performance of the contract. The State may consider Vendor's performance under this contract and compliance with law and rule to determine whether to continue the contract, suspend Vendor from doing future business with the State for a specified period of time, or to determine whether Vendor can be considered responsible on specific future contract opportunities.

18. **FREEDOM OF INFORMATION ACT:** This contract and all related public records maintained by, provided to or required to be provided to the State are subject to the Illinois Freedom of Information Act notwithstanding any provision to the contrary that may be found in this contract.

**STANDARD CERTIFICATIONS**

Vendor acknowledges and agrees that compliance with this subsection in its entirety for the term of the contract and any renewals is a material requirement and condition of this contract. By executing this contract Vendor certifies compliance with this subsection in its entirety, and is under a continuing obligation to remain in compliance and report any non-compliance.

This subsection, in its entirety, applies to subcontractors used on this contract. Vendor shall include these Standard Certifications in any subcontract used in the performance of the contract.

If this contract extends over multiple fiscal years, including the initial term and all renewals, Vendor and its subcontractors shall confirm compliance with this section in the manner and format determined by the State by the date specified by the State and in no event later than July 1 of each year that this contract remains in effect.

If the Parties determine that any certification in this section is not applicable to this contract it may be stricken without affecting the remaining subsections.

1. As part of each certification, Vendor acknowledges and agrees that should Vendor or its subcontractors provide false information, or fail to be or remain in compliance with the Standard Certification requirements, one or more of the following sanctions will apply:

- the contract may be void by operation of law,
- the State may void the contract, and
- the Vendor and its subcontractors may be subject to one or more of the following: suspension, debarment, denial of payment, civil fine, or criminal penalty.

Identifying a sanction or failing to identify a sanction in relation to any of the specific certifications does not waive imposition of other sanctions or preclude application of sanctions not specifically identified.

2. Vendor certifies it and its employees will comply with applicable provisions of the United States Civil Rights Act, Section 504 of the Federal Rehabilitation Act, the Americans with Disabilities Act, and applicable rules in performance of this contract.

3. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies he/she is not in default on an educational loan. 5 ILCS 385/3.

4. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies it he/she has not received (i) an early retirement incentive prior to 1993 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code or (ii) an early retirement incentive on or after 2002 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code. 30 ILCS 105/15a; 40 ILCS 5/14-108.3; 40 ILCS 5/16-133.

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5. Vendor certifies that it is a legal entity authorized to do business in Illinois prior to submission of a bid, offer, or proposal. 30 ILCS 500/1-15.80, 20-43.
6. To the extent there was a current Vendor providing the services covered by this contract and the employees of that Vendor who provided those services are covered by a collective bargaining agreement, Vendor certifies (i) that it will offer to assume the collective bargaining obligations of the prior employer, including any existing collective bargaining agreement with the bargaining representative of any existing collective bargaining unit or units performing substantially similar work to the services covered by the contract subject to its bid or offer; and (ii) that it shall offer employment to all employees currently employed in any existing bargaining unit who perform substantially similar work to the work that will be performed pursuant to this contract. This does not apply to heating, air conditioning, plumbing and electrical service contracts. 30 ILCS 500/25-80.
7. Vendor certifies it has neither been convicted of bribing or attempting to bribe an officer or employee of the State of Illinois or any other State, nor made an admission of guilt of such conduct that is a matter of record. 30 ILCS 500/50-5.
8. If Vendor has been convicted of a felony, Vendor certifies at least five years have passed after the date of completion of the sentence for such felony, unless no person held responsible by a prosecutor's office for the facts upon which the conviction was based continues to have any involvement with the business. 30 ILCS 500/50-10.
9. If Vendor or any officer, director, partner, or other managerial agent of Vendor has been convicted of a felony under the Sarbanes-Oxley Act of 2002, or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953, Vendor certifies at least five years have passed since the date of the conviction. Vendor further certifies that it is not barred from being awarded a contract and acknowledges that the State shall declare the contract void if this certification is false. 30 ILCS 500/50-10.5.
10. Vendor certifies it is not barred from having a contract with the State based upon violating the prohibitions related to either submitting/writing specifications or providing assistance to an employee of the State of Illinois by reviewing, drafting, directing, or preparing any invitation for bids, a request for proposal, or request of information, or similar assistance (except as part of a public request for such information). 30 ILCS 500/50-10.5(e), amended by Pub. Act No. 97-0895 (August 3, 2012)
11. Vendor certifies that it and its affiliates are not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Vendor and its affiliates acknowledge the State may declare the contract void if this certification is false or if Vendor or an affiliate later becomes delinquent and has not entered into a deferred payment plan to pay off the debt. 30 ILCS 500/50-11, 50-60.
12. Vendor certifies that it and all affiliates shall collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with provisions of the Illinois Use Tax Act and acknowledges that failure to comply may result in the contract being declared void. 30 ILCS 500/50-12.
13. Vendor certifies that it has not been found by a court or the Pollution Control Board to have committed a willful or knowing violation of the Environmental Protection Act within the last five years, and is therefore not barred from being awarded a contract. 30 ILCS 500/50-14.
14. Vendor certifies it has neither paid any money or valuable thing to induce any person to refrain from bidding on a State contract, nor accepted any money or other valuable thing, or acted upon the promise of same, for not bidding on a State contract. 30 ILCS 500/50-25.
15. Vendor certifies it is not in violation of the "Revolving Door" provisions of the Illinois Procurement Code. 30 ILCS 500/50-30.
16. Vendor certifies that it has not retained a person or entity to attempt to influence the outcome of a procurement decision for compensation contingent in whole or in part upon the decision or procurement. 30 ILCS 500/50-38.



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17. Vendor certifies that if it has hired a person required to register under the Lobbyist Registration Act to assist in obtaining any State contract, that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State. 30 ILCS 500/50-38.
18. Vendor certifies it will report to the Illinois Attorney General and the Chief Procurement Officer any suspected collusion or other anti-competitive practice among any bidders, offerors, contractors, proposers, or employees of the State. 30 ILCS 500/50-40, 50-45, 50-50.
19. Vendor certifies steel products used or supplied in the performance of a contract for public works shall be manufactured or produced in the United States, unless the executive head of the procuring Agency/University grants an exception. 30 ILCS 565.
20. Drug Free Workplace
  - 20.1. If Vendor employs 25 or more employees and this contract is worth more than \$5,000, Vendor certifies it will provide a drug free workplace pursuant to the Drug Free Workplace Act.
  - 20.2. If Vendor is an individual and this contract is worth more than \$5000, Vendor certifies it shall not engage in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance during the performance of the contract. 30 ILCS 580.
21. Vendor certifies that neither Vendor nor any substantially owned affiliate is participating or shall participate in an international boycott in violation of the U.S. Export Administration Act of 1979 or the applicable regulations of the United States. Department of Commerce. 30 ILCS 582.
22. Vendor certifies it has not been convicted of the offense of bid rigging or bid rotating or any similar offense of any state or of the United States. 720 ILCS 5/33 E-3, E-4.
23. Vendor certifies it complies with the Illinois Department of Human Rights Act and rules applicable to public contracts, which include providing equal employment opportunity, refraining from unlawful discrimination, and having written sexual harassment policies. 775 ILCS 5/2-105.
24. Vendor certifies it does not pay dues to or reimburse or subsidize payments by its employees for any dues or fees to any "discriminatory club." 775 ILCS 25/2.
25. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been or will be produced in whole or in part by forced labor or indentured labor under penal sanction. 30 ILCS 583.
26. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been produced in whole or in part by the labor of any child under the age of 12. 30 ILCS 584.
27. Vendor certifies that any violation of the Lead Poisoning Prevention Act, as it applies to owners of residential buildings, has been mitigated. 410 ILCS 45.
28. Vendor warrants and certifies that it and, to the best of its knowledge, its subcontractors have and will comply with Executive Order No. 1 (2007). The Order generally prohibits Vendors and subcontractors from hiring the then-serving Governor's family members to lobby procurement activities of the State, or any other unit of government in Illinois including local governments if that procurement may result in a contract valued at over \$25,000. This prohibition also applies to hiring for that same purpose any former State employee who had procurement authority at any time during the one-year period preceding the procurement lobbying activity.
29. Vendor certifies that information technology, including electronic information, software, systems and equipment, developed or provided under this contract comply with the applicable requirements of the Illinois Information Technology Accessibility Act Standards as published at ([www.dhs.state.il.us/iitaa](http://www.dhs.state.il.us/iitaa)). 30 ILCS 587.

**BIDDING & CONTRACT REQUIREMENTS**  
**Document 00 41 00 - Bid Form**

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30. Vendor certifies that it has read, understands, and is in compliance with the registration requirements of the Elections Code (10 ILCS 5/9-35) and the restrictions on making political contributions and related requirements of the Illinois Procurement Code. 30 ILCS 500/20-160 and 50-37. Vendor will not make a political contribution that will violate these requirements.

In accordance with section 20-160 of the Illinois Procurement Code, Vendor certifies as applicable:

- Vendor is not required to register as a business entity with the State Board of Elections.
- or
- Vendor has registered with the State Board of Elections. As a registered business entity, Vendor acknowledges a continuing duty to update the registration as required by the Act.

31. Vendor certifies that if it is awarded a contract through the use of the preference required by the Procurement of Domestic Products Act, then it shall provide products pursuant to the contract or a subcontract that are manufactured in the United States. 30 ILCS 517.

32. A person (other than an individual acting as a sole proprietor) must be a duly constituted legal entity and authorized to do business in Illinois prior to submitting a bid or offer. 30 ILCS 500/20-43. If you do not meet these criteria, then your bid or offer will be disqualified.

Vendor must make one of the following four certifications by checking the appropriate box. If C or D is checked, then Vendor must attach to this form the requested documentation.

- A. Vendor certifies it is an individual acting as a sole proprietor and is therefore not subject to the requirements of section 20-43 of the Procurement Code.

- B. Vendor certifies that it is a legal entity, and was authorized to do business in Illinois as of the date for submitting this bid or offer. The State may require Vendor to provide evidence of compliance before award.

- C. Vendor certifies it is a legal entity, and is a foreign corporation performing activities that do not constitute transacting business in Illinois as defined by Illinois Business Corporations Act (805 ILCS 5/13.75). A vendor claiming exemption under the Act must include a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

- D. Vendor certifies it is a legal entity, and is an entity otherwise recognized under Illinois law as eligible for a specific form of exemption similar to those found in the Illinois Business Corporation Act (805 ILCS 5/13.75). A vendor claiming exemption under a specific law must provide a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

BIDDING & CONTRACT REQUIREMENTS  
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Name of Certifying Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

BIDDING & CONTRACT REQUIREMENTS

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J. Disclosures and Conflicts of Interest

- A. The disclosures hereinafter made by the bidder and its' subcontractors, as applicable, are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form. The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by a separate form. The forms must be included with each bid.

**STATE OF ILLINOIS**  
**FINANCIAL DISCLOSURES AND CONFLICTS OF INTEREST**

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August 2013

Financial Disclosures and Conflicts of Interest forms (“forms”) must be accurately completed and submitted by the vendor, any parent entity(ies) and any subcontractors. There are **nine** steps to this form and each must be completed as instructed in the step heading, unless otherwise provided. A bid, offer, or proposal that does not include this form shall be considered non-responsive. The Agency/University will consider this form when evaluating the bid, offer, or proposal or awarding the contract.

The requirement of disclosure of financial interests and conflicts of interest is a continuing obligation. If circumstances change and the previously submitted form is no longer accurate, disclosing entities must provide an updated form. Separate forms are required for the vendor, any parent entity(ies) and any subcontractors.

Subcontractor forms must be provided with a copy of the subcontract, if required, within 15 days after execution of the State contract or after execution of the subcontract, whichever is later, for all subcontracts with an annual value of more than \$50,000.

**This disclosure is submitted for:**

- Vendor
- Vendor’s Parent Entity(ies) (100% ownership)
- Subcontractor(s) >\$50,000
- Subcontractor’s Parent Entity(ies) > \$50,000

Project Name	
Illinois Procurement Bulletin Number / CDB Project No.	
Contract Number	
Vendor Name	
Doing Business As (DBA)	
Disclosing Entity	
Disclosing Entity’s Parent Entity	
Subcontractor	
Instrument of Ownership or Beneficial Interest	<p><b>PLEASE CIRCLE ONE:</b>  <b>Sole Proprietorship</b>  <b>Corporate Stock (C-Corporation, Professional Corporation, Service Corporation)</b>  <b>Limited Liability Company Membership Agreement (Series LLC, Low-Profit Limited Liability Partnership)</b>  <b>Partnership Agreement (General Partnership, Limited Partnership, Limited Liability Partnership, Limited Liability Limited Partnership)</b>  <b>Not-For-Profit Corporation</b>  <b>Other</b>  <b>Trust Agreement (Beneficiary)</b>  <input type="checkbox"/> If you selected Other, please describe:</p>

**STEP 1****SUPPORTING DOCUMENTATION SUBMITTAL**

(All vendors complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

You must select one of the six options below and select the documentation you are submitting. You must provide the documentation the applicable section requires with this form.

 Option 1 – Publicly Traded Entities

- 1.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 1.B.  Attach a copy of the Federal 10-K, and skip to Step 3.

 Option 2 – Privately Held Entities with more than 200 Shareholders

- 2.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 2.B.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership share in excess of 5% and attach the information Federal 10-K reporting companies are required to report under 17 CFR 229.401.

 Option 3 – All other Privately Held Entities, not including Sole Proprietorships

- 3.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

 Option 4 – Foreign Entities

- 4.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 4.B.  Attach a copy of the Securities Exchange Commission Form 20-F or 40-F and skip to Step 3.

 Option 5 – Not-for-Profit Entities

- Complete Step 2, Option B.

 Option 6 – Sole Proprietorships

- Skip to Step 3.

**STEP 2****DISCLOSURE OF FINANCIAL INTEREST OR BOARD OF DIRECTORS**

(All vendors, except sole proprietorships, must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Complete **either** Option A (for all entities other than not-for-profits) or Option B (for not-for-profits). Additional rows may be inserted into the tables or an attachment may be provided if needed.

**OPTION A – Ownership Share and Distributive Income**

**Ownership Share** – If you selected Option 1.A., 2.A., 2.B., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of ownership if said percentage exceeds 5%, or the dollar value of their ownership if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

<b>TABLE – X</b>			
<b>Name</b>	<b>Address</b>	<b>Percentage of Ownership</b>	<b>\$ Value of Ownership</b>

**Distributive Income** – If you selected Option 1.A., 2.A., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of the disclosing vendor's total distributive income if said percentage exceeds 5% of the total distributive income of the disclosing entity, or the dollar value of their distributive income if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

<b>TABLE – Y</b>			
<b>Name</b>	<b>Address</b>	<b>% of Distributive Income</b>	<b>\$ Value of Distributive Income</b>

Please certify that the following statements are true.

I have disclosed all individuals or entities that hold an ownership interest of greater than 5% or greater than \$106,447.20.

Yes  No

I have disclosed all individuals or entities that were entitled to receive distributive income in an amount greater than \$106,447.20 or greater than 5% of the total distributive income of the disclosing entity.

Yes  No

**OPTION B – Disclosure of Board of Directors (Not-for-Profits)**

If you selected Option 5 in Step 1, list members of your board of directors. Please include an attachment if necessary.

TABLE – Z	
Name	Address

**STEP 3**  
**DISCLOSURE OF LOBBYIST OR AGENT**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Yes  No. Is your company represented by or do you employ a lobbyist required to register under the Lobbyist Registration Act (lobbyist must be registered pursuant to the Act with the Secretary of State) or other agent who is not identified through Step 2, Option A above and who has communicated, is communicating, or may communicate with any State/Public University officer or employee concerning the bid or offer? If yes, please identify each lobbyist and agent, including the name and address below.

If you have a lobbyist that does not meet the criteria, then you do not have to disclose the lobbyist’s information.

Name	Address	Relationship to Disclosing Entity

Describe all costs/fees/compensation/reimbursements related to the assistance provided by each representative lobbyist or other agent to obtain an Agency/University contract: \_\_\_\_\_



**STEP 4**

**PROHIBITED CONFLICTS OF INTEREST**

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 4 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above. **Please provide the name of the person for which responses are provided:** \_\_\_\_\_

- 1. Do you hold or are you the spouse or minor child who holds an elective office in the State of Illinois or hold a seat in the General Assembly?  Yes  No
- 2. Have you, your spouse, or minor child been appointed to or employed in any offices or agencies of State government and receive compensation for such employment in excess of 60% (\$106,447.20) of the salary of the Governor?  Yes  No
- 3. Are you or are you the spouse or minor child of an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority?  Yes  No
- 4. Have you, your spouse, or an immediate family member who lives in your residence currently or who lived in your residence within the last 12 months been appointed as a member of a board, commission, authority, or task force authorized or created by State law or by executive order of the Governor?  Yes  No
- 5. If you answered yes to any question in 1-4 above, please answer the following: Do you, your spouse, or minor child receive from the vendor more than 7.5% of the vendor's total distributable income or an amount of distributable income in excess of the salary of the Governor (\$177,412.00)?  Yes  No
- 6. If you answered yes to any question in 1-4 above, please answer the following: Is there a combined interest of self with spouse or minor child more than 15% (\$354,824.00) in the aggregate of the vendor's distributable income or an amount of distributable income in excess of two times the salary of the Governor?  Yes  No

**STEP 5**

**POTENTIAL CONFLICTS OF INTEREST RELATING TO PERSONAL RELATIONSHIPS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 5 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above.

**Please provide the name of the person for which responses are provided:** \_\_\_\_\_

- 1. Do you currently have, or in the previous 3 years have you had State employment, including contractual employment of services?  Yes  No
- 2. Has your spouse, father, mother, son, or daughter, had State employment, including contractual employment for services, in the previous 2 years?  Yes  No

3. Do you hold currently or have you held in the previous 3 years elective office of the State of Illinois, the government of the United States, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois?  Yes  No
4. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding elective office currently or in the previous 2 years?  Yes  No
5. Do you hold or have you held in the previous 3 years any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of expenses incurred in the discharge of that?  Yes  No
6. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding appointive office currently or in the previous 2 years?  Yes  No
7. Do you currently have or in the previous 3 years had employment as or by any registered lobbyist of the State government?  Yes  No
8. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) that is or was a registered lobbyist?  Yes  No
9. Do you currently have or in the previous 3 years had compensated employment by any registered election or re-election committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No
10. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) who is or was a compensated employee of any registered election or reelection committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No

## STEP 6

### EXPLANATION OF AFFIRMATIVE RESPONSES

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you answered "Yes" in Step 4 or Step 5, please provide on an additional page a detailed explanation that includes, but is not limited to the name, salary, State agency or university, and position title of each individual.

**STEP 7**  
**POTENTIAL CONFLICTS OF INTEREST**  
**RELATING TO DEBARMENT & LEGAL PROCEEDINGS**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

This step must be completed for each person disclosed in Step 2, Option A, Step 3, and for each entity and sole proprietor disclosed in Step 1.

**Please provide the name of the person or entity for which responses are provided:**

- 6. Within the previous ten years, have you had debarment from contracting with any governmental entity?  Yes  No
- 7. Within the previous ten years, have you had any professional licensure discipline?  Yes  No
- 8. Within the previous ten years, have you had any bankruptcies?  Yes  No
- 9. Within the previous ten years, have you had any adverse civil judgments and administrative findings?  Yes  No
- 10. Within the previous ten years, have you had any criminal felony convictions?  Yes  No

If you answered "Yes", please provide a detailed explanation that includes, but is not limited to the name, State agency or university, and position title of each individual.

**STEP 8**  
**DISCLOSURE OF CURRENT AND PENDING CONTRACTS**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you selected Option 1, 2, 3, 4, or 6 in Step 1, do you have any contracts, pending contracts, bids, proposals, or other ongoing procurement relationships with units of State of Illinois government?  Yes  No.

If "Yes", please specify below. Attach an additional page in the same format as provided below, if desired.

Agency/University	Project Title	Status	Value	Contract Reference/P.O./Illinois Procurement Bulletin #

Please explain the procurement relationship:

**STEP 9**  
**SIGN THE DISCLOSURE**

(All vendors must complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This disclosure is signed, and made under penalty of perjury for all for-profit entities, by an authorized officer or employee on behalf of the bidder or offeror pursuant to Sections 50-13 and 50-35 of the Illinois Procurement Code. This disclosure information is submitted on behalf of:

Name of Disclosing Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

K. Subcontractor Requirements

A. Delinquent Debt and listing of all Subcontractors per SDC Section 00 21 50.2C

In accordance with State policy, Contractors must list all known subcontractors and suppliers who will be employed on this project. Attach additional sheets if necessary.

B. Requirements for Subcontractors over \$50,000

Pursuant to requirements under 30 ILCS 500/20-120(a), the contract shall state whether the services of a subcontractor will or may be used. Furthermore, the contract shall include names and addresses of all known subcontractors with subcontracts with an annual value of more than \$50,000 and the expected amount of money each will receive under the contract. Financial and Conflict of Interest disclosures and standard certifications of each subcontractor over \$50,000 must be submitted to CDB by the contractor within 20 days of the execution of a contract with CDB or 20 days of the execution of the subcontract, whichever is later.

**Please check the applicable option:**

The services of a subcontractor will or may be used: YES \_\_\_\_\_ NO \_\_\_\_\_

**If YES, then list known subcontractors. List total value for subcontractors over \$50,000:**  
(use additional sheets if necessary)

	Name of Subcontractor	ADDRESS	Subcontract Over \$50,000 (Yes/No)	Total Expected Value for Subcontractors over \$50,000	CDB ID NO.	TIN (FEIN or SSN)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

**CONTRACTOR (show Company name and DBA):** \_\_\_\_\_

Signature \_\_\_\_\_

Printed Name: \_\_\_\_\_ FEIN #: \_\_\_\_\_

Title: \_\_\_\_\_ Date \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

For Corporations only: Attest By: \_\_\_\_\_ (Corporate Secretary)

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**L. Disclosure of Business Operations with Government of Iran**  
**30 ILCS 500/50-36**

*Each bid, offer, or proposal submitted for a State contract, other than a small purchase defined in Section 20-20 [of the Illinois Procurement Code], shall include a disclosure of whether or not the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran and :*

*(1) more than 10% of the company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral – extraction products or services to the Government of Iran or a project or consortium created exclusively by that Government; and the company has failed to take substantial action; or*

*(2) the company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12- month period that directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.*

*A bid, offer, or proposal that does not include this disclosure shall not be considered responsive. We may consider this disclosure when evaluating the bid, offer, or proposal or awarding the contract.*

**You must check one of the following items and if item 2 is checked you must also make the necessary disclosure.**

1.         There are no business operations that must be disclosed to comply with the above cited law.
  
2.         The following business operations are disclosed to comply with the above cited law:

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\_\_\_\_\_  
**Name of Company**

\_\_\_\_\_  
**Signature**

BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

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**NAME OF FIRM:** \_\_\_\_\_

CDB FIRM ID NO: \_\_\_\_\_

FOR PLUMBING WORK

BID FOR: CDB PROJECT NUMBER: 805-030-017

PROJECT TITLE: Renovate Residence Halls – Illinois Math and Science Academy

BID TO: State of Illinois, Capital Development Board

THE BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDA: (Failure to acknowledge may cause bid rejection.)

NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_

NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_\_, DATED \_\_\_\_\_

EACH BID SHALL INCLUDE:

- A. THE BID FORMS, INCLUDING THE PC-2 FORM AND THE MBE/FBE FORM (00 41 05).
- B. BID SECURITY
- C. PRODUCT SUBSTITUTION FORM (at Bidder's option)
- D. DISCLOSURE(S), STANDARD CERTIFICATIONS, & BD. OF ELECTIONS CERTIFICATE

BASE BID: THE BIDDER AGREES TO PERFORM ALL WORK FOR THE ABOVE TRADE,  
EXCLUSIVE OF ALTERNATE BIDS, FOR THE SUM OF:

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_)





BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

**RETURN WITH BID**

**This project includes multiple buildings. CDB intends to award the entire scope of work to one bidder. In accordance with 30 ILCS 500/30-30, the bidder shall provide pricing for each building:**

1. CDB Building No. CPD 01  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
2. CDB Building No. CPD 02  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
3. CDB Building No. CPD 03  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
4. CDB Building No. CPD 04  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
5. CDB Building No. CPD 05  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
6. CDB Building No. CPD 06  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
7. CDB Building No. CPD 07  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)

Note: Any qualifying or conditional statements included on the bid form or attached to the bid form may result in rejection of the bid unless rescinded by the bidder.

PRODUCT SUBSTITUTION FORM ATTACHED:

**State Required Ethical Standards Governing Contract Procurement: Certifications and Disclosures**

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. The bidder indicates that each certification is made and understood, and that each disclosure requirement has been understood and completed.

BIDDING & CONTRACT REQUIREMENTS  
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C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

THE BIDDER AGREES TO:

1. Hold this bid open for 90 calendar days after bid opening date or as required in the project manual.
2. Enter into and execute a contract with CDB if awarded on the basis of this bid.
3. Comply with the Contract Documents with respect to all bonds, insurance, work requirements and schedule.
4. Conform to the goals established for the utilization of minority and female workers and subcontractors/suppliers as included in the Contract Documents.
5. Pay CDB a Construction Administration Fee, as specified in Project Manual Section 01 11 00, which is included in the Base Bid price.
6. Comply with the provisions in Article 00 72 60, Alternative Dispute Resolution, of the SDC.
7. Complete the work in accordance with the contract time as specified in Project Manual Section 01 11 00.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue Bonds required by the Bid Documents for this work if this bid is accepted by CDB.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E-3 and 720 ILCS 5/33E-4.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. The Bidder is not delinquent in the payment of any debt to the state per 30 ILCS 210/5. Bidder has listed all known subcontractors and suppliers on the bid form in the space provided on the bid form.
- G. The Bidder certifies that it is aware of the requirements of Public Act 95-635, 820 ILCS 130/5.5, and that, if awarded a contract, it is or will be in full compliance with the law prior to beginning work, including the requirement to file with CDB a written substance abuse plan which meets or exceeds the requirements of the Act.
- H. The Bidder certifies that it is aware of the requirements of Public Act 97-0590 which was effective August 26, 2011. This Public Act requires a fee of \$15 to cover expenses related to the administration of the Minority Contractor Opportunity Initiative. Any Vendor awarded a contract of \$1,000 or more from this solicitation is required to pay a fee of \$15. The Comptroller shall deduct the fee from the first check issued to the Vendor under the contract and deposit the fee in the Comptroller's Administrative Fund.
- I. Apprenticeship and Training Certification  
In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract.

The bidder shall include with this bid package the official Certificate of Registration or a verification letter from the US Department of Labor (USDOL) certified group program sponsor for the USDOL certified apprenticeship and training program of which the bidder is a member for each of the types of work or crafts that will be performed with the bidder's forces and for each of the types of work or crafts that will be performed by the subcontractor(s) (if the subcontractor is participating in an approved program at the time of bid).

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The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all subcontracts.

- H. The Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). In accordance with the Statute, the bidder must sign an affidavit certifying compliance with the requirement.



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**AFFIDAVIT**

STATE OF ILLINOS

COUNTY OF KANE

CDB Project No. 805-030-017

CDB Contract No.

Before me this day personally appeared \_\_\_\_\_, who, being duly sworn, deposes and says:  
(Print Name)

Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). I am duly authorized to make this affidavit.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Bidder Name

\_\_\_\_\_  
Address

Illinois Office Location:

\_\_\_\_\_  
\_\_\_\_\_, Illinois

I, \_\_\_\_\_, a Notary Public of the County and State aforesaid, hereby certify that \_\_\_\_\_ personally known to me to be the affiant in the foregoing affidavit, personally appeared before me this day and having been by me duly sworn deposes and says that the facts set forth in the above affidavit are true and correct.

Witness my hand and official seal this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission expires:

\_\_\_\_ / \_\_\_\_ / \_\_\_\_\_.



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**I. STANDARD BUSINESS TERMS AND CONDITIONS**

1. **AVAILABILITY OF APPROPRIATION (30 ILCS 500/20-60):** This contract is contingent upon and subject to the availability of funds. The State, at its sole option, may terminate or suspend this contract, in whole or in part, without penalty or further payment being required, if (1) the Illinois General Assembly or the federal funding source fails to make an appropriation sufficient to pay such obligation, or if funds needed are insufficient for any reason, (2) the Governor decreases the Department's funding by reserving some or all of the Department's appropriation(s) pursuant to power delegated to the Governor by the Illinois General Assembly; or (3) the Department determines, in its sole discretion or as directed by the Office of the Governor, that a reduction is necessary or advisable based upon actual or projected budgetary considerations. Contractor will be notified in writing of the failure of appropriation or of a reduction or decrease.
2. **AUDIT/RETENTION OF RECORDS (30 ILCS 500/20-65):** Vendor and its subcontractors shall maintain books and records relating to the performance of the contract or subcontract and necessary to support amounts charged to the State under the contract or subcontract. Books and records, including information stored in databases or other computer systems, shall be maintained by the Vendor for a period of three years from the later of the date of final payment under the contract or completion of the contract, and by the subcontractor for a period of three years from the later of final payment under the term or completion of the subcontract. If federal funds are used to pay contract costs, the Vendor and its subcontractors must retain its records for five years. Books and records required to be maintained under this section shall be available for review or audit by representatives of: the procuring Agency, the Auditor General, the Executive Inspector General, the Chief Procurement Officer, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours. Vendor and its subcontractors shall cooperate fully with any such audit and with any investigation conducted by any of these entities. Failure to maintain books and records required by this section shall establish a presumption in favor of the State for the recovery of any funds paid by the State under the contract for which adequate books and records are not available to support the purported disbursement. The Vendor or subcontractors shall not impose a charge for audit or examination of the Vendor's books and records.
3. **TIME IS OF THE ESSENCE:** Time is of the essence with respect to Vendor's performance of this contract. Vendor shall continue to perform its obligations while any dispute concerning the contract is being resolved unless otherwise directed by the State.
4. **NO WAIVER OF RIGHTS:** Except as specifically waived in writing, failure by a Party to exercise or enforce a right does not waive that Party's right to exercise or enforce that or other rights in the future.
5. **FORCE MAJEURE:** Failure by either Party to perform its duties and obligations will be excused by unforeseeable circumstances beyond its reasonable control and not due to its negligence including acts of nature, acts of terrorism, riots, labor disputes, fire, flood, explosion, and governmental prohibition. The non-declaring Party may cancel the contract without penalty if performance does not resume within 30 days of the declaration.
6. **CONFIDENTIAL INFORMATION:** Each Party, including its agents and subcontractors, to this contract may have or gain access to confidential data or information owned or maintained by the other Party in the course of carrying out its responsibilities under this contract. Vendor shall presume all information received from the State or to which it gains access pursuant to this contract is confidential. Vendor information, unless clearly marked as confidential and exempt from disclosure under the Illinois Freedom of Information Act, shall be considered public. No confidential data collected, maintained, or used in the course of performance of the contract shall be disseminated except as authorized by law and with the written consent of the disclosing Party, either during the period of the contract or thereafter. The receiving Party must return any and all data collected, maintained, created or used in the course of the performance of the contract, in whatever form it is maintained, promptly at the end of the contract, or earlier at the request of the disclosing Party, or notify the disclosing Party in writing of its destruction. The foregoing obligations shall not apply to confidential data or information lawfully in the receiving Party's possession prior to its acquisition from the disclosing Party; received in good faith from a third-party not subject to any confidentiality obligation to the disclosing Party; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving Party; or is independently developed by the receiving Party without the use or benefit of the disclosing Party's confidential information.

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7. **USE AND OWNERSHIP:** All work performed or supplies created by Vendor under this contract, whether written documents or data, goods or deliverables of any kind, shall be deemed work-for-hire under copyright law and all intellectual property and other laws, and the State of Illinois is granted sole and exclusive ownership to all such work, unless otherwise agreed in writing. Vendor hereby assigns to the State all right, title, and interest in and to such work including any related intellectual property rights, and/or waives any and all claims that Vendor may have to such work including any so-called "moral rights" in connection with the work. Vendor acknowledges the State may use the work product for any purpose. Confidential data or information contained in such work shall be subject to confidentiality provisions of this contract.
8. **INDEPENDENT CONTRACTOR:** Vendor shall act as an independent contractor and not an agent or employee of, or joint venturer with the State. All payments by the State shall be made on that basis.
9. **SOLICITATION AND EMPLOYMENT:** Vendor shall not employ any person employed by the State during the term of this contract to perform any work under this contract. Vendor shall give notice immediately to the Agency's director if Vendor solicits or intends to solicit State employees to perform any work under this contract.
10. **COMPLIANCE WITH THE LAW:** The Vendor, its employees, agents, and subcontractors shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations, orders, federal circulars and all license and permit requirements in the performance of this contract. Vendor shall be in compliance with applicable tax requirements and shall be current in payment of such taxes. Vendor shall obtain at its own expense, all licenses and permissions necessary for the performance of this contract.
11. **BACKGROUND CHECK:** Whenever the State deems it reasonably necessary for security reasons, the State may conduct, at its expense, criminal and driver history background checks of Vendor's and subcontractors officers, employees or agents. Vendor or subcontractor shall reassign immediately any such individual who, in the opinion of the State, does not pass the background checks.
12. **APPLICABLE LAW:** This contract shall be construed in accordance with and is subject to the laws and rules of the State of Illinois. The Department of Human Rights' Equal Opportunity requirements (44 Ill. Adm. Code 750) are incorporated by reference. Any claim against the State arising out of this contract must be filed exclusively with the Illinois Court of Claims (705 ILCS 505/1). The State shall not enter into binding arbitration to resolve any contract dispute. The State of Illinois does not waive sovereign immunity by entering into this contract. The official text of cited statutes is incorporated by reference (An unofficial version can be viewed at <http://www.ilga.gov/legislation/ilcs/ilcs.asp>). In compliance with the Illinois and federal Constitutions, the Illinois Human Rights Act, the U. S. Civil Rights Act, and Section 504 of the federal Rehabilitation Act and other applicable laws and rules the State does not unlawfully discriminate in employment, contracts, or any other activity.
13. **ANTI-TRUST ASSIGNMENT:** If Vendor does not pursue any claim or cause of action it has arising under federal or state antitrust laws relating to the subject matter of the contract, then upon request of the Illinois Attorney General, Vendor shall assign to the State rights, title and interest in and to the claim or cause of action.
14. **CONTRACTUAL AUTHORITY:** The Agency that signs for the State of Illinois shall be the only State entity responsible for performance and payment under the contract. When the Chief Procurement Officer or authorized designee signs in addition to an Agency, they do so as approving officer and shall have no liability to Vendor. When the Chief Procurement officer or authorized designee signs a master contract on behalf of State agencies, only the Agency that places an order with the Vendor shall have any liability to Vendor for that order.
15. **NOTICES:** Notices and other communications provided for herein shall be given in writing by registered or certified mail, return receipt requested, by receipted hand delivery, by courier (UPS, Federal Express or other similar and reliable carrier), by e-mail, or by fax showing the date and time of successful receipt. Notices shall be sent to the individuals who signed the contract using the contact information following the signatures. Each such notice shall be deemed to have been provided at the time it is actually received. By giving notice, either Party may change the contact information.
16. **MODIFICATIONS AND SURVIVAL:** Amendments, modifications and waivers must be in writing and signed by authorized representatives of the Parties. Any provision of this contract officially declared void, unenforceable, or against public policy, shall be ignored and the remaining provisions shall be interpreted, as far as possible, to give effect to the Parties' intent. All provisions that by their nature would be expected to survive, shall survive termination. In the event of a



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conflict between the State's and the Vendor's terms, conditions and attachments, the State's terms, conditions and attachments shall prevail.

17. **PERFORMANCE RECORD / SUSPENSION:** Upon request of the State, Vendor shall meet to discuss performance or provide contract performance updates to help ensure proper performance of the contract. The State may consider Vendor's performance under this contract and compliance with law and rule to determine whether to continue the contract, suspend Vendor from doing future business with the State for a specified period of time, or to determine whether Vendor can be considered responsible on specific future contract opportunities.

18. **FREEDOM OF INFORMATION ACT:** This contract and all related public records maintained by, provided to or required to be provided to the State are subject to the Illinois Freedom of Information Act notwithstanding any provision to the contrary that may be found in this contract.

**STANDARD CERTIFICATIONS**

Vendor acknowledges and agrees that compliance with this subsection in its entirety for the term of the contract and any renewals is a material requirement and condition of this contract. By executing this contract Vendor certifies compliance with this subsection in its entirety, and is under a continuing obligation to remain in compliance and report any non-compliance.

This subsection, in its entirety, applies to subcontractors used on this contract. Vendor shall include these Standard Certifications in any subcontract used in the performance of the contract.

If this contract extends over multiple fiscal years, including the initial term and all renewals, Vendor and its subcontractors shall confirm compliance with this section in the manner and format determined by the State by the date specified by the State and in no event later than July 1 of each year that this contract remains in effect.

If the Parties determine that any certification in this section is not applicable to this contract it may be stricken without affecting the remaining subsections.

1. As part of each certification, Vendor acknowledges and agrees that should Vendor or its subcontractors provide false information, or fail to be or remain in compliance with the Standard Certification requirements, one or more of the following sanctions will apply:

- the contract may be void by operation of law,
- the State may void the contract, and
- the Vendor and its subcontractors may be subject to one or more of the following: suspension, debarment, denial of payment, civil fine, or criminal penalty.

Identifying a sanction or failing to identify a sanction in relation to any of the specific certifications does not waive imposition of other sanctions or preclude application of sanctions not specifically identified.

2. Vendor certifies it and its employees will comply with applicable provisions of the United States Civil Rights Act, Section 504 of the Federal Rehabilitation Act, the Americans with Disabilities Act, and applicable rules in performance of this contract.

3. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies he/she is not in default on an educational loan. 5 ILCS 385/3.

4. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies it he/she has not received (i) an early retirement incentive prior to 1993 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code or (ii) an early retirement incentive on or after 2002 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code. 30 ILCS 105/15a; 40 ILCS 5/14-108.3; 40 ILCS 5/16-133.

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5. Vendor certifies that it is a legal entity authorized to do business in Illinois prior to submission of a bid, offer, or proposal. 30 ILCS 500/1-15.80, 20-43.
6. To the extent there was a current Vendor providing the services covered by this contract and the employees of that Vendor who provided those services are covered by a collective bargaining agreement, Vendor certifies (i) that it will offer to assume the collective bargaining obligations of the prior employer, including any existing collective bargaining agreement with the bargaining representative of any existing collective bargaining unit or units performing substantially similar work to the services covered by the contract subject to its bid or offer; and (ii) that it shall offer employment to all employees currently employed in any existing bargaining unit who perform substantially similar work to the work that will be performed pursuant to this contract. This does not apply to heating, air conditioning, plumbing and electrical service contracts. 30 ILCS 500/25-80.
7. Vendor certifies it has neither been convicted of bribing or attempting to bribe an officer or employee of the State of Illinois or any other State, nor made an admission of guilt of such conduct that is a matter of record. 30 ILCS 500/50-5.
8. If Vendor has been convicted of a felony, Vendor certifies at least five years have passed after the date of completion of the sentence for such felony, unless no person held responsible by a prosecutor's office for the facts upon which the conviction was based continues to have any involvement with the business. 30 ILCS 500/50-10.
9. If Vendor or any officer, director, partner, or other managerial agent of Vendor has been convicted of a felony under the Sarbanes-Oxley Act of 2002, or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953, Vendor certifies at least five years have passed since the date of the conviction. Vendor further certifies that it is not barred from being awarded a contract and acknowledges that the State shall declare the contract void if this certification is false. 30 ILCS 500/50-10.5.
10. Vendor certifies it is not barred from having a contract with the State based upon violating the prohibitions related to either submitting/writing specifications or providing assistance to an employee of the State of Illinois by reviewing, drafting, directing, or preparing any invitation for bids, a request for proposal, or request of information, or similar assistance (except as part of a public request for such information). 30 ILCS 500/50-10.5(e), amended by Pub. Act No. 97-0895 (August 3, 2012)
11. Vendor certifies that it and its affiliates are not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Vendor and its affiliates acknowledge the State may declare the contract void if this certification is false or if Vendor or an affiliate later becomes delinquent and has not entered into a deferred payment plan to pay off the debt. 30 ILCS 500/50-11, 50-60.
12. Vendor certifies that it and all affiliates shall collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with provisions of the Illinois Use Tax Act and acknowledges that failure to comply may result in the contract being declared void. 30 ILCS 500/50-12.
13. Vendor certifies that it has not been found by a court or the Pollution Control Board to have committed a willful or knowing violation of the Environmental Protection Act within the last five years, and is therefore not barred from being awarded a contract. 30 ILCS 500/50-14.
14. Vendor certifies it has neither paid any money or valuable thing to induce any person to refrain from bidding on a State contract, nor accepted any money or other valuable thing, or acted upon the promise of same, for not bidding on a State contract. 30 ILCS 500/50-25.
15. Vendor certifies it is not in violation of the "Revolving Door" provisions of the Illinois Procurement Code. 30 ILCS 500/50-30.
16. Vendor certifies that it has not retained a person or entity to attempt to influence the outcome of a procurement decision for compensation contingent in whole or in part upon the decision or procurement. 30 ILCS 500/50-38.

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17. Vendor certifies that if it has hired a person required to register under the Lobbyist Registration Act to assist in obtaining any State contract, that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State. 30 ILCS 500/50-38.
18. Vendor certifies it will report to the Illinois Attorney General and the Chief Procurement Officer any suspected collusion or other anti-competitive practice among any bidders, offerors, contractors, proposers, or employees of the State. 30 ILCS 500/50-40, 50-45, 50-50.
19. Vendor certifies steel products used or supplied in the performance of a contract for public works shall be manufactured or produced in the United States, unless the executive head of the procuring Agency/University grants an exception. 30 ILCS 565.
20. Drug Free Workplace
  - 20.1. If Vendor employs 25 or more employees and this contract is worth more than \$5,000, Vendor certifies it will provide a drug free workplace pursuant to the Drug Free Workplace Act.
  - 20.2. If Vendor is an individual and this contract is worth more than \$5000, Vendor certifies it shall not engage in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance during the performance of the contract. 30 ILCS 580.
21. Vendor certifies that neither Vendor nor any substantially owned affiliate is participating or shall participate in an international boycott in violation of the U.S. Export Administration Act of 1979 or the applicable regulations of the United States. Department of Commerce. 30 ILCS 582.
22. Vendor certifies it has not been convicted of the offense of bid rigging or bid rotating or any similar offense of any state or of the United States. 720 ILCS 5/33 E-3, E-4.
23. Vendor certifies it complies with the Illinois Department of Human Rights Act and rules applicable to public contracts, which include providing equal employment opportunity, refraining from unlawful discrimination, and having written sexual harassment policies. 775 ILCS 5/2-105.
24. Vendor certifies it does not pay dues to or reimburse or subsidize payments by its employees for any dues or fees to any "discriminatory club." 775 ILCS 25/2.
25. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been or will be produced in whole or in part by forced labor or indentured labor under penal sanction. 30 ILCS 583.
26. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been produced in whole or in part by the labor of any child under the age of 12. 30 ILCS 584.
27. Vendor certifies that any violation of the Lead Poisoning Prevention Act, as it applies to owners of residential buildings, has been mitigated. 410 ILCS 45.
28. Vendor warrants and certifies that it and, to the best of its knowledge, its subcontractors have and will comply with Executive Order No. 1 (2007). The Order generally prohibits Vendors and subcontractors from hiring the then-serving Governor's family members to lobby procurement activities of the State, or any other unit of government in Illinois including local governments if that procurement may result in a contract valued at over \$25,000. This prohibition also applies to hiring for that same purpose any former State employee who had procurement authority at any time during the one-year period preceding the procurement lobbying activity.
29. Vendor certifies that information technology, including electronic information, software, systems and equipment, developed or provided under this contract comply with the applicable requirements of the Illinois Information Technology Accessibility Act Standards as published at ([www.dhs.state.il.us/iitaa](http://www.dhs.state.il.us/iitaa)). 30 ILCS 587.

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30. Vendor certifies that it has read, understands, and is in compliance with the registration requirements of the Elections Code (10 ILCS 5/9-35) and the restrictions on making political contributions and related requirements of the Illinois Procurement Code. 30 ILCS 500/20-160 and 50-37. Vendor will not make a political contribution that will violate these requirements.

In accordance with section 20-160 of the Illinois Procurement Code, Vendor certifies as applicable:

Vendor is not required to register as a business entity with the State Board of Elections.

or

Vendor has registered with the State Board of Elections. As a registered business entity, Vendor acknowledges a continuing duty to update the registration as required by the Act.

31. Vendor certifies that if it is awarded a contract through the use of the preference required by the Procurement of Domestic Products Act, then it shall provide products pursuant to the contract or a subcontract that are manufactured in the United States. 30 ILCS 517.

32. A person (other than an individual acting as a sole proprietor) must be a duly constituted legal entity and authorized to do business in Illinois prior to submitting a bid or offer. 30 ILCS 500/20-43. If you do not meet these criteria, then your bid or offer will be disqualified.

Vendor must make one of the following four certifications by checking the appropriate box. If C or D is checked, then Vendor must attach to this form the requested documentation.

- A. Vendor certifies it is an individual acting as a sole proprietor and is therefore not subject to the requirements of section 20-43 of the Procurement Code.

- B. Vendor certifies that it is a legal entity, and was authorized to do business in Illinois as of the date for submitting this bid or offer. The State may require Vendor to provide evidence of compliance before award.

- C. Vendor certifies it is a legal entity, and is a foreign corporation performing activities that do not constitute transacting business in Illinois as defined by Illinois Business Corporations Act (805 ILCS 5/13.75). A vendor claiming exemption under the Act must include a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

- D. Vendor certifies it is a legal entity, and is an entity otherwise recognized under Illinois law as eligible for a specific form of exemption similar to those found in the Illinois Business Corporation Act (805 ILCS 5/13.75). A vendor claiming exemption under a specific law must provide a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

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Name of Certifying Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

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J. Disclosures and Conflicts of Interest

- A. The disclosures hereinafter made by the bidder and its' subcontractors, as applicable, are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form. The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by a separate form. The forms must be included with each bid.

**STATE OF ILLINOIS**  
**FINANCIAL DISCLOSURES AND CONFLICTS OF INTEREST**

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August 2013

Financial Disclosures and Conflicts of Interest forms (“forms”) must be accurately completed and submitted by the vendor, any parent entity(ies) and any subcontractors. There are **nine** steps to this form and each must be completed as instructed in the step heading, unless otherwise provided. A bid, offer, or proposal that does not include this form shall be considered non-responsive. The Agency/University will consider this form when evaluating the bid, offer, or proposal or awarding the contract.

The requirement of disclosure of financial interests and conflicts of interest is a continuing obligation. If circumstances change and the previously submitted form is no longer accurate, disclosing entities must provide an updated form. Separate forms are required for the vendor, any parent entity(ies) and any subcontractors.

Subcontractor forms must be provided with a copy of the subcontract, if required, within 15 days after execution of the State contract or after execution of the subcontract, whichever is later, for all subcontracts with an annual value of more than \$50,000.

**This disclosure is submitted for:**

- Vendor
- Vendor’s Parent Entity(ies) (100% ownership)
- Subcontractor(s) >\$50,000
- Subcontractor’s Parent Entity(ies) > \$50,000

Project Name	
Illinois Procurement Bulletin Number / CDB Project No.	
Contract Number	
Vendor Name	
Doing Business As (DBA)	
Disclosing Entity	
Disclosing Entity’s Parent Entity	
Subcontractor	
Instrument of Ownership or Beneficial Interest	<p><b>PLEASE CIRCLE ONE:</b></p> <p>Sole Proprietorship</p> <p>Corporate Stock (C-Corporation, Professional Corporation, Service Corporation)</p> <p>Limited Liability Company Membership Agreement (Series LLC, Low-Profit Limited Liability Partnership)</p> <p>Partnership Agreement (General Partnership, Limited Partnership, Limited Liability Partnership, Limited Liability Limited Partnership)</p> <p>Not-For-Profit Corporation</p> <p>Other</p> <p>Trust Agreement (Beneficiary)</p> <p><input type="checkbox"/> If you selected Other, please describe:</p>

## STEP 1

### SUPPORTING DOCUMENTATION SUBMITTAL

(All vendors complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

You must select one of the six options below and select the documentation you are submitting. You must provide the documentation the applicable section requires with this form.

Option 1 – Publicly Traded Entities

- 1.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 1.B.  Attach a copy of the Federal 10-K, and skip to Step 3.

Option 2 – Privately Held Entities with more than 200 Shareholders

- 2.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 2.B.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership share in excess of 5% and attach the information Federal 10-K reporting companies are required to report under 17 CFR 229.401.

Option 3 – All other Privately Held Entities, not including Sole Proprietorships

- 3.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

Option 4 – Foreign Entities

- 4.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 4.B.  Attach a copy of the Securities Exchange Commission Form 20-F or 40-F and skip to Step 3.

Option 5 – Not-for-Profit Entities

- Complete Step 2, Option B.

Option 6 – Sole Proprietorships

- Skip to Step 3.



**STEP 2**

**DISCLOSURE OF FINANCIAL INTEREST OR BOARD OF DIRECTORS**

(All vendors, except sole proprietorships, must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Complete **either** Option A (for all entities other than not-for-profits) or Option B (for not-for-profits). Additional rows may be inserted into the tables or an attachment may be provided if needed.

**OPTION A – Ownership Share and Distributive Income**

**Ownership Share** – If you selected Option 1.A., 2.A., 2.B., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of ownership if said percentage exceeds 5%, or the dollar value of their ownership if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

TABLE – X			
Name	Address	Percentage of Ownership	\$ Value of Ownership

**Distributive Income** – If you selected Option 1.A., 2.A., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of the disclosing vendor’s total distributive income if said percentage exceeds 5% of the total distributive income of the disclosing entity, or the dollar value of their distributive income if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

TABLE – Y			
Name	Address	% of Distributive Income	\$ Value of Distributive Income

Please certify that the following statements are true.

I have disclosed all individuals or entities that hold an ownership interest of greater than 5% or greater than \$106,447.20.

Yes  No

I have disclosed all individuals or entities that were entitled to receive distributive income in an amount greater than \$106,447.20 or greater than 5% of the total distributive income of the disclosing entity.

Yes  No

**OPTION B – Disclosure of Board of Directors (Not-for-Profits)**

If you selected Option 5 in Step 1, list members of your board of directors. Please include an attachment if necessary.

TABLE – Z	
Name	Address

**STEP 3**  
**DISCLOSURE OF LOBBYIST OR AGENT**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Yes  No. Is your company represented by or do you employ a lobbyist required to register under the Lobbyist Registration Act (lobbyist must be registered pursuant to the Act with the Secretary of State) or other agent who is not identified through Step 2, Option A above and who has communicated, is communicating, or may communicate with any State/Public University officer or employee concerning the bid or offer? If yes, please identify each lobbyist and agent, including the name and address below.

If you have a lobbyist that does not meet the criteria, then you do not have to disclose the lobbyist’s information.

Name	Address	Relationship to Disclosing Entity

Describe all costs/fees/compensation/reimbursements related to the assistance provided by each representative lobbyist or other agent to obtain an Agency/University contract: \_\_\_\_\_

**STEP 4****PROHIBITED CONFLICTS OF INTEREST**

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 4 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above. **Please provide the name of the person for which responses are provided:** \_\_\_\_\_

1. Do you hold or are you the spouse or minor child who holds an elective office in the State of Illinois or hold a seat in the General Assembly?  Yes  No
2. Have you, your spouse, or minor child been appointed to or employed in any offices or agencies of State government and receive compensation for such employment in excess of 60% (\$106,447.20) of the salary of the Governor?  Yes  No
3. Are you or are you the spouse or minor child of an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority?  Yes  No
4. Have you, your spouse, or an immediate family member who lives in your residence currently or who lived in your residence within the last 12 months been appointed as a member of a board, commission, authority, or task force authorized or created by State law or by executive order of the Governor?  Yes  No
5. If you answered yes to any question in 1-4 above, please answer the following: Do you, your spouse, or minor child receive from the vendor more than 7.5% of the vendor's total distributable income or an amount of distributable income in excess of the salary of the Governor (\$177,412.00)?  Yes  No
6. If you answered yes to any question in 1-4 above, please answer the following: Is there a combined interest of self with spouse or minor child more than 15% (\$354,824.00) in the aggregate of the vendor's distributable income or an amount of distributable income in excess of two times the salary of the Governor?  Yes  No

**STEP 5****POTENTIAL CONFLICTS OF INTEREST RELATING TO PERSONAL RELATIONSHIPS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 5 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above.

**Please provide the name of the person for which responses are provided:** \_\_\_\_\_

1. Do you currently have, or in the previous 3 years have you had State employment, including contractual employment of services?  Yes  No
2. Has your spouse, father, mother, son, or daughter, had State employment, including contractual employment for services, in the previous 2 years?  Yes  No

3. Do you hold currently or have you held in the previous 3 years elective office of the State of Illinois, the government of the United States, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois?  Yes  No
4. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding elective office currently or in the previous 2 years?  Yes  No
5. Do you hold or have you held in the previous 3 years any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of expenses incurred in the discharge of that?  Yes  No
6. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding appointive office currently or in the previous 2 years?  Yes  No
7. Do you currently have or in the previous 3 years had employment as or by any registered lobbyist of the State government?  Yes  No
8. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) that is or was a registered lobbyist?  Yes  No
9. Do you currently have or in the previous 3 years had compensated employment by any registered election or re-election committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No
10. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) who is or was a compensated employee of any registered election or reelection committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No

## STEP 6

### EXPLANATION OF AFFIRMATIVE RESPONSES

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you answered "Yes" in Step 4 or Step 5, please provide on an additional page a detailed explanation that includes, but is not limited to the name, salary, State agency or university, and position title of each individual.

**STEP 7**  
**POTENTIAL CONFLICTS OF INTEREST**  
**RELATING TO DEBARMENT & LEGAL PROCEEDINGS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This step must be completed for each person disclosed in Step 2, Option A, Step 3, and for each entity and sole proprietor disclosed in Step 1.

**Please provide the name of the person or entity for which responses are provided:**

11. Within the previous ten years, have you had debarment from contracting with any governmental entity?  Yes  No
12. Within the previous ten years, have you had any professional licensure discipline?  Yes  No
13. Within the previous ten years, have you had any bankruptcies?  Yes  No
14. Within the previous ten years, have you had any adverse civil judgments and administrative findings?  Yes  No
15. Within the previous ten years, have you had any criminal felony convictions?  Yes  No

If you answered "Yes", please provide a detailed explanation that includes, but is not limited to the name, State agency or university, and position title of each individual.

**STEP 8**  
**DISCLOSURE OF CURRENT AND PENDING CONTRACTS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you selected Option 1, 2, 3, 4, or 6 in Step 1, do you have any contracts, pending contracts, bids, proposals, or other ongoing procurement relationships with units of State of Illinois government?  Yes  No.

If "Yes", please specify below. Attach an additional page in the same format as provided below, if desired.

Agency/University	Project Title	Status	Value	Contract Reference/P.O./Illinois Procurement Bulletin #

Please explain the procurement relationship:

**STEP 9**  
**SIGN THE DISCLOSURE**

(All vendors must complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This disclosure is signed, and made under penalty of perjury for all for-profit entities, by an authorized officer or employee on behalf of the bidder or offeror pursuant to Sections 50-13 and 50-35 of the Illinois Procurement Code. This disclosure information is submitted on behalf of:

Name of Disclosing Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

K. Subcontractor Requirements

A. Delinquent Debt and listing of all Subcontractors per SDC Section 00 21 50.2C

In accordance with State policy, Contractors must list all known subcontractors and suppliers who will be employed on this project. Attach additional sheets if necessary.

B. Requirements for Subcontractors over \$50,000

Pursuant to requirements under 30 ILCS 500/20-120(a), the contract shall state whether the services of a subcontractor will or may be used. Furthermore, the contract shall include names and addresses of all known subcontractors with subcontracts with an annual value of more than \$50,000 and the expected amount of money each will receive under the contract. Financial and Conflict of Interest disclosures and standard certifications of each subcontractor over \$50,000 must be submitted to CDB by the contractor within 20 days of the execution of a contract with CDB or 20 days of the execution of the subcontract, whichever is later.

**Please check the applicable option:**

The services of a subcontractor will or may be used: YES \_\_\_\_\_ NO \_\_\_\_\_

**If YES, then list known subcontractors. List total value for subcontractors over \$50,000:**  
(use additional sheets if necessary)

	Name of Subcontractor	ADDRESS	Subcontract Over \$50,000 (Yes/No)	Total Expected Value for Subcontractors over \$50,000	CDB ID NO.	TIN (FEIN or SSN)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

**CONTRACTOR (show Company name and DBA):** \_\_\_\_\_

Signature \_\_\_\_\_

Printed Name: \_\_\_\_\_ FEIN #: \_\_\_\_\_

Title: \_\_\_\_\_ Date \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

For Corporations only: Attest By: \_\_\_\_\_ (Corporate Secretary)

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**L. Disclosure of Business Operations with Government of Iran**  
**30 ILCS 500/50-36**

*Each bid, offer, or proposal submitted for a State contract, other than a small purchase defined in Section 20-20 [of the Illinois Procurement Code], shall include a disclosure of whether or not the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran and :*

*(1) more than 10% of the company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral – extraction products or services to the Government of Iran or a project or consortium created exclusively by that Government; and the company has failed to take substantial action; or*

*(2) the company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12- month period that directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.*

*A bid, offer, or proposal that does not include this disclosure shall not be considered responsive. We may consider this disclosure when evaluating the bid, offer, or proposal or awarding the contract.*

**You must check one of the following items and if item 2 is checked you must also make the necessary disclosure.**

1.         There are no business operations that must be disclosed to comply with the above cited law.
  
2.         The following business operations are disclosed to comply with the above cited law:

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\_\_\_\_\_  
**Name of Company**

\_\_\_\_\_  
**Signature**



BIDDING & CONTRACT REQUIREMENTS

**Document 00 41 00 - Bid Form**

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**NAME OF FIRM:** \_\_\_\_\_

CDB FIRM ID NO: \_\_\_\_\_

FOR ELECTRICAL WORK

BID FOR: CDB PROJECT NUMBER: 805-030-017

PROJECT TITLE: Renovate Residence Halls - Illinois Math and Science Academy

BID TO: State of Illinois, Capital Development Board

THE BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDA: (Failure to acknowledge may cause bid rejection.)

NO.\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_, DATED \_\_\_\_\_

NO.\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_, DATED \_\_\_\_\_ NO.\_\_\_\_, DATED \_\_\_\_\_

EACH BID SHALL INCLUDE:

- A. THE BID FORMS, INCLUDING THE PC-2 FORM AND THE MBE/FBE FORM (00 41 05).
- B. BID SECURITY
- C. PRODUCT SUBSTITUTION FORM (at Bidder's option)
- D. DISCLOSURE(S), STANDARD CERTIFICATIONS, & BD. OF ELECTIONS CERTIFICATE

BASE BID: THE BIDDER AGREES TO PERFORM ALL WORK FOR THE ABOVE TRADE,  
EXCLUSIVE OF ALTERNATE BIDS, FOR THE SUM OF:

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_)



BIDDING & CONTRACT REQUIREMENTS

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**This project includes multiple buildings. CDB intends to award the entire scope of work to one bidder. In accordance with 30 ILCS 500/30-30, the bidder shall provide pricing for each building:**

1. CDB Building No. CPD 01  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
2. CDB Building No. CPD 02  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
3. CDB Building No. CPD 03  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
4. CDB Building No. CPD 04  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
5. CDB Building No. CPD 05  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
6. CDB Building No. CPD 06  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)
7. CDB Building No. CPD 07  
Base Bid: \_\_\_\_\_  
Alternate Bid No. \_\_\_\_\_ (if applicable)

Note: Any qualifying or conditional statements included on the bid form or attached to the bid form may result in rejection of the bid unless rescinded by the bidder.

PRODUCT SUBSTITUTION FORM ATTACHED:

**State Required Ethical Standards Governing Contract Procurement: Certifications and Disclosures**

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. The bidder indicates that each certification is made and understood, and that each disclosure requirement has been understood and completed.

BIDDING & CONTRACT REQUIREMENTS  
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C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for the chief procurement officer to void the contract, or subcontract, and may result in the suspension or debarment of the bidder or subcontractor.

THE BIDDER AGREES TO:

1. Hold this bid open for 90 calendar days after bid opening date or as required in the project manual.
2. Enter into and execute a contract with CDB if awarded on the basis of this bid.
3. Comply with the Contract Documents with respect to all bonds, insurance, work requirements and schedule.
4. Conform to the goals established for the utilization of minority and female workers and subcontractors/suppliers as included in the Contract Documents.
5. Pay CDB a Construction Administration Fee, as specified in Project Manual Section 01 11 00, which is included in the Base Bid price.
6. Comply with the provisions in Article 00 72 60, Alternative Dispute Resolution, of the SDC.
7. Complete the work in accordance with the contract time as specified in Project Manual Section 01 11 00.

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue Bonds required by the Bid Documents for this work if this bid is accepted by CDB.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E-3 and 720 ILCS 5/33E-4.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. The Bidder is not delinquent in the payment of any debt to the state per 30 ILCS 210/5. Bidder has listed all known subcontractors and suppliers on the bid form in the space provided on the bid form.
- J. The Bidder certifies that it is aware of the requirements of Public Act 95-635, 820 ILCS 130/5.5, and that, if awarded a contract, it is or will be in full compliance with the law prior to beginning work, including the requirement to file with CDB a written substance abuse plan which meets or exceeds the requirements of the Act.
- K. The Bidder certifies that it is aware of the requirements of Public Act 97-0590 which was effective August 26, 2011. This Public Act requires a fee of \$15 to cover expenses related to the administration of the Minority Contractor Opportunity Initiative. Any Vendor awarded a contract of \$1,000 or more from this solicitation is required to pay a fee of \$15. The Comptroller shall deduct the fee from the first check issued to the Vendor under the contract and deposit the fee in the Comptroller's Administrative Fund.
- L. Apprenticeship and Training Certification  
In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract.

The bidder shall include with this bid package the official Certificate of Registration or a verification letter from the US Department of Labor (USDOL) certified group program sponsor for the USDOL certified apprenticeship and training program of which the bidder is a member for each of the types of work or crafts that will be performed with the bidder's forces and for each of the types of work or crafts that will be performed by the subcontractor(s) (if the subcontractor is participating in an approved program at the time of bid).

BIDDING & CONTRACT REQUIREMENTS

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The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all subcontracts.

- H. The Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). In accordance with the Statute, the bidder must sign an affidavit certifying compliance with the requirement.



BIDDING & CONTRACT REQUIREMENTS

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**AFFIDAVIT**

STATE OF ILLINOS

COUNTY OF KANE

CDB Project No. 805-030-017

CDB Contract No.

Before me this day personally appeared \_\_\_\_\_, who, being duly sworn, deposes and says:  
(Print Name)

Bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract in accordance with 30 ILCS 500/30-22(8). I am duly authorized to make this affidavit.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Bidder Name

\_\_\_\_\_  
Address

Illinois Office Location:

\_\_\_\_\_  
\_\_\_\_\_, Illinois

I, \_\_\_\_\_, a Notary Public of the County and State aforesaid, hereby certify that \_\_\_\_\_ personally known to me to be the affiant in the foregoing affidavit, personally appeared before me this day and having been by me duly sworn deposes and says that the facts set forth in the above affidavit are true and correct.

Witness my hand and official seal this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

(SEAL)

\_\_\_\_\_  
Notary Public

My Commission expires:

\_\_\_ / \_\_\_ / \_\_\_\_\_.





**BIDDING & CONTRACT REQUIREMENTS**

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**I. STANDARD BUSINESS TERMS AND CONDITIONS**

1. **AVAILABILITY OF APPROPRIATION (30 ILCS 500/20-60):** This contract is contingent upon and subject to the availability of funds. The State, at its sole option, may terminate or suspend this contract, in whole or in part, without penalty or further payment being required, if (1) the Illinois General Assembly or the federal funding source fails to make an appropriation sufficient to pay such obligation, or if funds needed are insufficient for any reason, (2) the Governor decreases the Department's funding by reserving some or all of the Department's appropriation(s) pursuant to power delegated to the Governor by the Illinois General Assembly; or (3) the Department determines, in its sole discretion or as directed by the Office of the Governor, that a reduction is necessary or advisable based upon actual or projected budgetary considerations. Contractor will be notified in writing of the failure of appropriation or of a reduction or decrease.
2. **AUDIT/RETENTION OF RECORDS (30 ILCS 500/20-65):** Vendor and its subcontractors shall maintain books and records relating to the performance of the contract or subcontract and necessary to support amounts charged to the State under the contract or subcontract. Books and records, including information stored in databases or other computer systems, shall be maintained by the Vendor for a period of three years from the later of the date of final payment under the contract or completion of the contract, and by the subcontractor for a period of three years from the later of final payment under the term or completion of the subcontract. If federal funds are used to pay contract costs, the Vendor and its subcontractors must retain its records for five years. Books and records required to be maintained under this section shall be available for review or audit by representatives of: the procuring Agency, the Auditor General, the Executive Inspector General, the Chief Procurement Officer, State of Illinois internal auditors or other governmental entities with monitoring authority, upon reasonable notice and during normal business hours. Vendor and its subcontractors shall cooperate fully with any such audit and with any investigation conducted by any of these entities. Failure to maintain books and records required by this section shall establish a presumption in favor of the State for the recovery of any funds paid by the State under the contract for which adequate books and records are not available to support the purported disbursement. The Vendor or subcontractors shall not impose a charge for audit or examination of the Vendor's books and records.
3. **TIME IS OF THE ESSENCE:** Time is of the essence with respect to Vendor's performance of this contract. Vendor shall continue to perform its obligations while any dispute concerning the contract is being resolved unless otherwise directed by the State.
4. **NO WAIVER OF RIGHTS:** Except as specifically waived in writing, failure by a Party to exercise or enforce a right does not waive that Party's right to exercise or enforce that or other rights in the future.
5. **FORCE MAJEURE:** Failure by either Party to perform its duties and obligations will be excused by unforeseeable circumstances beyond its reasonable control and not due to its negligence including acts of nature, acts of terrorism, riots, labor disputes, fire, flood, explosion, and governmental prohibition. The non-declaring Party may cancel the contract without penalty if performance does not resume within 30 days of the declaration.
6. **CONFIDENTIAL INFORMATION:** Each Party, including its agents and subcontractors, to this contract may have or gain access to confidential data or information owned or maintained by the other Party in the course of carrying out its responsibilities under this contract. Vendor shall presume all information received from the State or to which it gains access pursuant to this contract is confidential. Vendor information, unless clearly marked as confidential and exempt from disclosure under the Illinois Freedom of Information Act, shall be considered public. No confidential data collected, maintained, or used in the course of performance of the contract shall be disseminated except as authorized by law and with the written consent of the disclosing Party, either during the period of the contract or thereafter. The receiving Party must return any and all data collected, maintained, created or used in the course of the performance of the contract, in whatever form it is maintained, promptly at the end of the contract, or earlier at the request of the disclosing Party, or notify the disclosing Party in writing of its destruction. The foregoing obligations shall not apply to confidential data or information lawfully in the receiving Party's possession prior to its acquisition from the disclosing Party; received in good faith from a third-party not subject to any confidentiality obligation to the disclosing Party; now is or later becomes publicly known through no breach of confidentiality obligation by the receiving Party; or is independently developed by the receiving Party without the use or benefit of the disclosing Party's confidential information.

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7. **USE AND OWNERSHIP:** All work performed or supplies created by Vendor under this contract, whether written documents or data, goods or deliverables of any kind, shall be deemed work-for-hire under copyright law and all intellectual property and other laws, and the State of Illinois is granted sole and exclusive ownership to all such work, unless otherwise agreed in writing. Vendor hereby assigns to the State all right, title, and interest in and to such work including any related intellectual property rights, and/or waives any and all claims that Vendor may have to such work including any so-called "moral rights" in connection with the work. Vendor acknowledges the State may use the work product for any purpose. Confidential data or information contained in such work shall be subject to confidentiality provisions of this contract.
8. **INDEPENDENT CONTRACTOR:** Vendor shall act as an independent contractor and not an agent or employee of, or joint venturer with the State. All payments by the State shall be made on that basis.
9. **SOLICITATION AND EMPLOYMENT:** Vendor shall not employ any person employed by the State during the term of this contract to perform any work under this contract. Vendor shall give notice immediately to the Agency's director if Vendor solicits or intends to solicit State employees to perform any work under this contract.
10. **COMPLIANCE WITH THE LAW:** The Vendor, its employees, agents, and subcontractors shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations, orders, federal circulars and all license and permit requirements in the performance of this contract. Vendor shall be in compliance with applicable tax requirements and shall be current in payment of such taxes. Vendor shall obtain at its own expense, all licenses and permissions necessary for the performance of this contract.
11. **BACKGROUND CHECK:** Whenever the State deems it reasonably necessary for security reasons, the State may conduct, at its expense, criminal and driver history background checks of Vendor's and subcontractors officers, employees or agents. Vendor or subcontractor shall reassess immediately any such individual who, in the opinion of the State, does not pass the background checks.
12. **APPLICABLE LAW:** This contract shall be construed in accordance with and is subject to the laws and rules of the State of Illinois. The Department of Human Rights' Equal Opportunity requirements (44 Ill. Adm. Code 750) are incorporated by reference. Any claim against the State arising out of this contract must be filed exclusively with the Illinois Court of Claims (705 ILCS 505/1). The State shall not enter into binding arbitration to resolve any contract dispute. The State of Illinois does not waive sovereign immunity by entering into this contract. The official text of cited statutes is incorporated by reference (An unofficial version can be viewed at <http://www.ilga.gov/legislation/ilcs/ilcs.asp>). In compliance with the Illinois and federal Constitutions, the Illinois Human Rights Act, the U. S. Civil Rights Act, and Section 504 of the federal Rehabilitation Act and other applicable laws and rules the State does not unlawfully discriminate in employment, contracts, or any other activity.
13. **ANTI-TRUST ASSIGNMENT:** If Vendor does not pursue any claim or cause of action it has arising under federal or state antitrust laws relating to the subject matter of the contract, then upon request of the Illinois Attorney General, Vendor shall assign to the State rights, title and interest in and to the claim or cause of action.
14. **CONTRACTUAL AUTHORITY:** The Agency that signs for the State of Illinois shall be the only State entity responsible for performance and payment under the contract. When the Chief Procurement Officer or authorized designee signs in addition to an Agency, they do so as approving officer and shall have no liability to Vendor. When the Chief Procurement officer or authorized designee signs a master contract on behalf of State agencies, only the Agency that places an order with the Vendor shall have any liability to Vendor for that order.
15. **NOTICES:** Notices and other communications provided for herein shall be given in writing by registered or certified mail, return receipt requested, by receipted hand delivery, by courier (UPS, Federal Express or other similar and reliable carrier), by e-mail, or by fax showing the date and time of successful receipt. Notices shall be sent to the individuals who signed the contract using the contact information following the signatures. Each such notice shall be deemed to have been provided at the time it is actually received. By giving notice, either Party may change the contact information.
16. **MODIFICATIONS AND SURVIVAL:** Amendments, modifications and waivers must be in writing and signed by authorized representatives of the Parties. Any provision of this contract officially declared void, unenforceable, or against public policy, shall be ignored and the remaining provisions shall be interpreted, as far as possible, to give effect to the Parties' intent. All provisions that by their nature would be expected to survive, shall survive termination. In the event of a

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conflict between the State's and the Vendor's terms, conditions and attachments, the State's terms, conditions and attachments shall prevail.

17. PERFORMANCE RECORD / SUSPENSION: Upon request of the State, Vendor shall meet to discuss performance or provide contract performance updates to help ensure proper performance of the contract. The State may consider Vendor's performance under this contract and compliance with law and rule to determine whether to continue the contract, suspend Vendor from doing future business with the State for a specified period of time, or to determine whether Vendor can be considered responsible on specific future contract opportunities.

18. FREEDOM OF INFORMATION ACT: This contract and all related public records maintained by, provided to or required to be provided to the State are subject to the Illinois Freedom of Information Act notwithstanding any provision to the contrary that may be found in this contract.

**STANDARD CERTIFICATIONS**

Vendor acknowledges and agrees that compliance with this subsection in its entirety for the term of the contract and any renewals is a material requirement and condition of this contract. By executing this contract Vendor certifies compliance with this subsection in its entirety, and is under a continuing obligation to remain in compliance and report any non-compliance.

This subsection, in its entirety, applies to subcontractors used on this contract. Vendor shall include these Standard Certifications in any subcontract used in the performance of the contract.

If this contract extends over multiple fiscal years, including the initial term and all renewals, Vendor and its subcontractors shall confirm compliance with this section in the manner and format determined by the State by the date specified by the State and in no event later than July 1 of each year that this contract remains in effect.

If the Parties determine that any certification in this section is not applicable to this contract it may be stricken without affecting the remaining subsections.

1. As part of each certification, Vendor acknowledges and agrees that should Vendor or its subcontractors provide false information, or fail to be or remain in compliance with the Standard Certification requirements, one or more of the following sanctions will apply:

- the contract may be void by operation of law,
- the State may void the contract, and
- the Vendor and its subcontractors may be subject to one or more of the following: suspension, debarment, denial of payment, civil fine, or criminal penalty.

Identifying a sanction or failing to identify a sanction in relation to any of the specific certifications does not waive imposition of other sanctions or preclude application of sanctions not specifically identified.

2. Vendor certifies it and its employees will comply with applicable provisions of the United States Civil Rights Act, Section 504 of the Federal Rehabilitation Act, the Americans with Disabilities Act, and applicable rules in performance of this contract.

3. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies he/she is not in default on an educational loan. 5 ILCS 385/3.

4. Vendor, if an individual, sole proprietor, partner or an individual as member of a LLC, certifies it he/she has not received (i) an early retirement incentive prior to 1993 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code or (ii) an early retirement incentive on or after 2002 under Section 14-108.3 or 16-133.3 of the Illinois Pension Code. 30 ILCS 105/15a; 40 ILCS 5/14-108.3; 40 ILCS 5/16-133.

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5. Vendor certifies that it is a legal entity authorized to do business in Illinois prior to submission of a bid, offer, or proposal. 30 ILCS 500/1-15.80, 20-43.
6. To the extent there was a current Vendor providing the services covered by this contract and the employees of that Vendor who provided those services are covered by a collective bargaining agreement, Vendor certifies (i) that it will offer to assume the collective bargaining obligations of the prior employer, including any existing collective bargaining agreement with the bargaining representative of any existing collective bargaining unit or units performing substantially similar work to the services covered by the contract subject to its bid or offer; and (ii) that it shall offer employment to all employees currently employed in any existing bargaining unit who perform substantially similar work to the work that will be performed pursuant to this contract. This does not apply to heating, air conditioning, plumbing and electrical service contracts. 30 ILCS 500/25-80.
7. Vendor certifies it has neither been convicted of bribing or attempting to bribe an officer or employee of the State of Illinois or any other State, nor made an admission of guilt of such conduct that is a matter of record. 30 ILCS 500/50-5.
8. If Vendor has been convicted of a felony, Vendor certifies at least five years have passed after the date of completion of the sentence for such felony, unless no person held responsible by a prosecutor's office for the facts upon which the conviction was based continues to have any involvement with the business. 30 ILCS 500/50-10.
9. If Vendor or any officer, director, partner, or other managerial agent of Vendor has been convicted of a felony under the Sarbanes-Oxley Act of 2002, or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953, Vendor certifies at least five years have passed since the date of the conviction. Vendor further certifies that it is not barred from being awarded a contract and acknowledges that the State shall declare the contract void if this certification is false. 30 ILCS 500/50-10.5.
10. Vendor certifies it is not barred from having a contract with the State based upon violating the prohibitions related to either submitting/writing specifications or providing assistance to an employee of the State of Illinois by reviewing, drafting, directing, or preparing any invitation for bids, a request for proposal, or request of information, or similar assistance (except as part of a public request for such information). 30 ILCS 500/50-10.5(e), amended by Pub. Act No. 97-0895 (August 3, 2012)
11. Vendor certifies that it and its affiliates are not delinquent in the payment of any debt to the State (or if delinquent has entered into a deferred payment plan to pay the debt), and Vendor and its affiliates acknowledge the State may declare the contract void if this certification is false or if Vendor or an affiliate later becomes delinquent and has not entered into a deferred payment plan to pay off the debt. 30 ILCS 500/50-11, 50-60.
12. Vendor certifies that it and all affiliates shall collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with provisions of the Illinois Use Tax Act and acknowledges that failure to comply may result in the contract being declared void. 30 ILCS 500/50-12.
13. Vendor certifies that it has not been found by a court or the Pollution Control Board to have committed a willful or knowing violation of the Environmental Protection Act within the last five years, and is therefore not barred from being awarded a contract. 30 ILCS 500/50-14.
14. Vendor certifies it has neither paid any money or valuable thing to induce any person to refrain from bidding on a State contract, nor accepted any money or other valuable thing, or acted upon the promise of same, for not bidding on a State contract. 30 ILCS 500/50-25.
15. Vendor certifies it is not in violation of the "Revolving Door" provisions of the Illinois Procurement Code. 30 ILCS 500/50-30.
16. Vendor certifies that it has not retained a person or entity to attempt to influence the outcome of a procurement decision for compensation contingent in whole or in part upon the decision or procurement. 30 ILCS 500/50-38.

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17. Vendor certifies that if it has hired a person required to register under the Lobbyist Registration Act to assist in obtaining any State contract, that none of the lobbyist's costs, fees, compensation, reimbursements, or other remuneration were billed to the State. 30 ILCS 500/50-38.
18. Vendor certifies it will report to the Illinois Attorney General and the Chief Procurement Officer any suspected collusion or other anti-competitive practice among any bidders, offerors, contractors, proposers, or employees of the State. 30 ILCS 500/50-40, 50-45, 50-50.
19. Vendor certifies steel products used or supplied in the performance of a contract for public works shall be manufactured or produced in the United States, unless the executive head of the procuring Agency/University grants an exception. 30 ILCS 565.
20. Drug Free Workplace
  - 20.1. If Vendor employs 25 or more employees and this contract is worth more than \$5,000, Vendor certifies it will provide a drug free workplace pursuant to the Drug Free Workplace Act.
  - 20.2. If Vendor is an individual and this contract is worth more than \$5000, Vendor certifies it shall not engage in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance during the performance of the contract. 30 ILCS 580.
21. Vendor certifies that neither Vendor nor any substantially owned affiliate is participating or shall participate in an international boycott in violation of the U.S. Export Administration Act of 1979 or the applicable regulations of the United States. Department of Commerce. 30 ILCS 582.
22. Vendor certifies it has not been convicted of the offense of bid rigging or bid rotating or any similar offense of any state or of the United States. 720 ILCS 5/33 E-3, E-4.
23. Vendor certifies it complies with the Illinois Department of Human Rights Act and rules applicable to public contracts, which include providing equal employment opportunity, refraining from unlawful discrimination, and having written sexual harassment policies. 775 ILCS 5/2-105.
24. Vendor certifies it does not pay dues to or reimburse or subsidize payments by its employees for any dues or fees to any "discriminatory club." 775 ILCS 25/2.
25. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been or will be produced in whole or in part by forced labor or indentured labor under penal sanction. 30 ILCS 583.
26. Vendor certifies that no foreign-made equipment, materials, or supplies furnished to the State under the contract have been produced in whole or in part by the labor of any child under the age of 12. 30 ILCS 584.
27. Vendor certifies that any violation of the Lead Poisoning Prevention Act, as it applies to owners of residential buildings, has been mitigated. 410 ILCS 45.
28. Vendor warrants and certifies that it and, to the best of its knowledge, its subcontractors have and will comply with Executive Order No. 1 (2007). The Order generally prohibits Vendors and subcontractors from hiring the then-serving Governor's family members to lobby procurement activities of the State, or any other unit of government in Illinois including local governments if that procurement may result in a contract valued at over \$25,000. This prohibition also applies to hiring for that same purpose any former State employee who had procurement authority at any time during the one-year period preceding the procurement lobbying activity.
29. Vendor certifies that information technology, including electronic information, software, systems and equipment, developed or provided under this contract comply with the applicable requirements of the Illinois Information Technology Accessibility Act Standards as published at ([www.dhs.state.il.us/iitaa](http://www.dhs.state.il.us/iitaa)). 30 ILCS 587.

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30. Vendor certifies that it has read, understands, and is in compliance with the registration requirements of the Elections Code (10 ILCS 5/9-35) and the restrictions on making political contributions and related requirements of the Illinois Procurement Code. 30 ILCS 500/20-160 and 50-37. Vendor will not make a political contribution that will violate these requirements.

In accordance with section 20-160 of the Illinois Procurement Code, Vendor certifies as applicable:

Vendor is not required to register as a business entity with the State Board of Elections.

or

Vendor has registered with the State Board of Elections. As a registered business entity, Vendor acknowledges a continuing duty to update the registration as required by the Act.

31. Vendor certifies that if it is awarded a contract through the use of the preference required by the Procurement of Domestic Products Act, then it shall provide products pursuant to the contract or a subcontract that are manufactured in the United States. 30 ILCS 517.

32. A person (other than an individual acting as a sole proprietor) must be a duly constituted legal entity and authorized to do business in Illinois prior to submitting a bid or offer. 30 ILCS 500/20-43. If you do not meet these criteria, then your bid or offer will be disqualified.

Vendor must make one of the following four certifications by checking the appropriate box. If C or D is checked, then Vendor must attach to this form the requested documentation.

- A. Vendor certifies it is an individual acting as a sole proprietor and is therefore not subject to the requirements of section 20-43 of the Procurement Code.

- B. Vendor certifies that it is a legal entity, and was authorized to do business in Illinois as of the date for submitting this bid or offer. The State may require Vendor to provide evidence of compliance before award.

- C. Vendor certifies it is a legal entity, and is a foreign corporation performing activities that do not constitute transacting business in Illinois as defined by Illinois Business Corporations Act (805 ILCS 5/13.75). A vendor claiming exemption under the Act must include a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

- D. Vendor certifies it is a legal entity, and is an entity otherwise recognized under Illinois law as eligible for a specific form of exemption similar to those found in the Illinois Business Corporation Act (805 ILCS 5/13.75). A vendor claiming exemption under a specific law must provide a detailed explanation of the legal basis for the claim with its bid or offer and must provide additional detail upon request. If Vendor fails to provide the mandatory documentation with the bid or offer, or does not provide additional detail upon request within the timeframe specified in said request, then the State may deem the Vendor as being non-responsive or not responsible and may disqualify the Vendor.

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Name of Certifying Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:

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J. Disclosures and Conflicts of Interest

- A. The disclosures hereinafter made by the bidder and its' subcontractors, as applicable, are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The bidder further certifies that the Department has received the disclosure forms for each bid.

The chief procurement officer may void the bid, contract, or subcontract, respectively, if it is later determined that the bidder or subcontractor rendered a false or erroneous disclosure. A contractor or subcontractor may be suspended or debarred for violations of the Procurement Code. Furthermore, the chief procurement officer may void the contract and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than \$25,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act, filed with the Procurement Policy Board, and shall be incorporated as a material term of the contract. Furthermore, pursuant to Section 5-5, the Procurement Policy Board may review a proposal, bid, or contract and issue a recommendation to void a contract or reject a proposal or bid based on any violation of the Procurement Code or the existence of a conflict of interest as provided in subsections (b) and (d) of Section 50-35.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form. The current annual salary of the Governor is \$177,412.00.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by a separate form. The forms must be included with each bid.



**STATE OF ILLINOIS**  
**FINANCIAL DISCLOSURES AND CONFLICTS OF INTEREST**

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August 2013

Financial Disclosures and Conflicts of Interest forms (“forms”) must be accurately completed and submitted by the vendor, any parent entity(ies) and any subcontractors. There are **nine** steps to this form and each must be completed as instructed in the step heading, unless otherwise provided. A bid, offer, or proposal that does not include this form shall be considered non-responsive. The Agency/University will consider this form when evaluating the bid, offer, or proposal or awarding the contract.

The requirement of disclosure of financial interests and conflicts of interest is a continuing obligation. If circumstances change and the previously submitted form is no longer accurate, disclosing entities must provide an updated form. Separate forms are required for the vendor, any parent entity(ies) and any subcontractors.

Subcontractor forms must be provided with a copy of the subcontract, if required, within 15 days after execution of the State contract or after execution of the subcontract, whichever is later, for all subcontracts with an annual value of more than \$50,000.

**This disclosure is submitted for:**

- Vendor
- Vendor’s Parent Entity(ies) (100% ownership)
- Subcontractor(s) >\$50,000
- Subcontractor’s Parent Entity(ies) > \$50,000

Project Name	
Illinois Procurement Bulletin Number / CDB Project No.	
Contract Number	
Vendor Name	
Doing Business As (DBA)	
Disclosing Entity	
Disclosing Entity’s Parent Entity	
Subcontractor	
Instrument of Ownership or Beneficial Interest	<p><b>PLEASE CIRCLE ONE:</b>  <b>Sole Proprietorship</b>  <b>Corporate Stock (C-Corporation, Professional Corporation, Service Corporation)</b>  <b>Limited Liability Company Membership Agreement (Series LLC, Low-Profit Limited Liability Partnership)</b>  <b>Partnership Agreement (General Partnership, Limited Partnership, Limited Liability Partnership, Limited Liability Limited Partnership)</b>  <b>Not-For-Profit Corporation</b>  <b>Other</b>  <b>Trust Agreement (Beneficiary)</b>  <input type="checkbox"/> If you selected Other, please describe:</p>

**STEP 1****SUPPORTING DOCUMENTATION SUBMITTAL**

(All vendors complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

You must select one of the six options below and select the documentation you are submitting. You must provide the documentation the applicable section requires with this form.

 Option 1 – Publicly Traded Entities

- 1.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 1.B.  Attach a copy of the Federal 10-K, and skip to Step 3.

 Option 2 – Privately Held Entities with more than 200 Shareholders

- 2.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 2.B.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership share in excess of 5% and attach the information Federal 10-K reporting companies are required to report under 17 CFR 229.401.

 Option 3 – All other Privately Held Entities, not including Sole Proprietorships

- 3.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

 Option 4 – Foreign Entities

- 4.A.  Complete Step 2, Option A for each qualifying individual or entity holding any ownership or distributive income share in excess of 5% or an amount greater than 60% (\$106,447.20) of the annual salary of the Governor.

OR

- 4.B.  Attach a copy of the Securities Exchange Commission Form 20-F or 40-F and skip to Step 3.

 Option 5 – Not-for-Profit Entities

- Complete Step 2, Option B.

 Option 6 – Sole Proprietorships

- Skip to Step 3.

**STEP 2**

**DISCLOSURE OF FINANCIAL INTEREST OR BOARD OF DIRECTORS**

(All vendors, except sole proprietorships, must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Complete **either** Option A (for all entities other than not-for-profits) or Option B (for not-for-profits). Additional rows may be inserted into the tables or an attachment may be provided if needed.

**OPTION A – Ownership Share and Distributive Income**

**Ownership Share** – If you selected Option 1.A., 2.A., 2.B., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of ownership if said percentage exceeds 5%, or the dollar value of their ownership if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

TABLE – X			
Name	Address	Percentage of Ownership	\$ Value of Ownership

**Distributive Income** – If you selected Option 1.A., 2.A., 3.A., or 4.A. in Step 1, provide the name and address of each individual and their percentage of the disclosing vendor’s total distributive income if said percentage exceeds 5% of the total distributive income of the disclosing entity, or the dollar value of their distributive income if said dollar value exceeds \$106,447.20.

Check here if including an attachment with requested information in a format substantially similar to the format below.

TABLE – Y			
Name	Address	% of Distributive Income	\$ Value of Distributive Income

Please certify that the following statements are true.

I have disclosed all individuals or entities that hold an ownership interest of greater than 5% or greater than \$106,447.20.

Yes  No

I have disclosed all individuals or entities that were entitled to receive distributive income in an amount greater than \$106,447.20 or greater than 5% of the total distributive income of the disclosing entity.

Yes  No

**OPTION B – Disclosure of Board of Directors (Not-for-Profits)**

If you selected Option 5 in Step 1, list members of your board of directors. Please include an attachment if necessary.

TABLE – Z	
Name	Address

**STEP 3**  
**DISCLOSURE OF LOBBYIST OR AGENT**  
 (Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Yes  No. Is your company represented by or do you employ a lobbyist required to register under the Lobbyist Registration Act (lobbyist must be registered pursuant to the Act with the Secretary of State) or other agent who is not identified through Step 2, Option A above and who has communicated, is communicating, or may communicate with any State/Public University officer or employee concerning the bid or offer? If yes, please identify each lobbyist and agent, including the name and address below.

If you have a lobbyist that does not meet the criteria, then you do not have to disclose the lobbyist’s information.

Name	Address	Relationship to Disclosing Entity

Describe all costs/fees/compensation/reimbursements related to the assistance provided by each representative lobbyist or other agent to obtain an Agency/University contract: \_\_\_\_\_

**STEP 4****PROHIBITED CONFLICTS OF INTEREST**

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 4 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above. **Please provide the name of the person for which responses are provided:** \_\_\_\_\_

1. Do you hold or are you the spouse or minor child who holds an elective office in the State of Illinois or hold a seat in the General Assembly?  Yes  No
2. Have you, your spouse, or minor child been appointed to or employed in any offices or agencies of State government and receive compensation for such employment in excess of 60% (\$106,447.20) of the salary of the Governor?  Yes  No
3. Are you or are you the spouse or minor child of an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority?  Yes  No
4. Have you, your spouse, or an immediate family member who lives in your residence currently or who lived in your residence within the last 12 months been appointed as a member of a board, commission, authority, or task force authorized or created by State law or by executive order of the Governor?  Yes  No
5. If you answered yes to any question in 1-4 above, please answer the following: Do you, your spouse, or minor child receive from the vendor more than 7.5% of the vendor's total distributable income or an amount of distributable income in excess of the salary of the Governor (\$177,412.00)?  Yes  No
6. If you answered yes to any question in 1-4 above, please answer the following: Is there a combined interest of self with spouse or minor child more than 15% (\$354,824.00) in the aggregate of the vendor's distributable income or an amount of distributable income in excess of two times the salary of the Governor?  Yes  No

**STEP 5****POTENTIAL CONFLICTS OF INTEREST RELATING TO PERSONAL RELATIONSHIPS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

Step 5 must be completed for each person disclosed in Step 2, Option A and for sole proprietors identified in Step 1, Option 6 above.

**Please provide the name of the person for which responses are provided:** \_\_\_\_\_

1. Do you currently have, or in the previous 3 years have you had State employment, including contractual employment of services?  Yes  No
2. Has your spouse, father, mother, son, or daughter, had State employment, including contractual employment for services, in the previous 2 years?  Yes  No

3. Do you hold currently or have you held in the previous 3 years elective office of the State of Illinois, the government of the United States, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois?  Yes  No
4. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding elective office currently or in the previous 2 years?  Yes  No
5. Do you hold or have you held in the previous 3 years any appointive government office of the State of Illinois, the United States of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois, which office entitles the holder to compensation in excess of expenses incurred in the discharge of that?  Yes  No
6. Do you have a relationship to anyone (spouse, father, mother, son, or daughter) holding appointive office currently or in the previous 2 years?  Yes  No
7. Do you currently have or in the previous 3 years had employment as or by any registered lobbyist of the State government?  Yes  No
8. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) that is or was a registered lobbyist?  Yes  No
9. Do you currently have or in the previous 3 years had compensated employment by any registered election or re-election committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No
10. Do you currently have or in the previous 2 years had a relationship to anyone (spouse, father, mother, son, or daughter) who is or was a compensated employee of any registered election or reelection committee registered with the Secretary of State or any county clerk in the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections?  Yes  No

## STEP 6

### EXPLANATION OF AFFIRMATIVE RESPONSES

(All vendors must complete regardless of annual bid, offer, or contract value)  
 (Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you answered "Yes" in Step 4 or Step 5, please provide on an additional page a detailed explanation that includes, but is not limited to the name, salary, State agency or university, and position title of each individual.

**STEP 7**  
**POTENTIAL CONFLICTS OF INTEREST**  
**RELATING TO DEBARMENT & LEGAL PROCEEDINGS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This step must be completed for each person disclosed in Step 2, Option A, Step 3, and for each entity and sole proprietor disclosed in Step 1.

**Please provide the name of the person or entity for which responses are provided:**

16. Within the previous ten years, have you had debarment from contracting with any governmental entity?  Yes  No
17. Within the previous ten years, have you had any professional licensure discipline?  Yes  No
18. Within the previous ten years, have you had any bankruptcies?  Yes  No
19. Within the previous ten years, have you had any adverse civil judgments and administrative findings?  Yes  No
20. Within the previous ten years, have you had any criminal felony convictions?  Yes  No

If you answered "Yes", please provide a detailed explanation that includes, but is not limited to the name, State agency or university, and position title of each individual.

**STEP 8**  
**DISCLOSURE OF CURRENT AND PENDING CONTRACTS**

(Complete only if bid, offer, or contract has an annual value over \$25,000)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

If you selected Option 1, 2, 3, 4, or 6 in Step 1, do you have any contracts, pending contracts, bids, proposals, or other ongoing procurement relationships with units of State of Illinois government?  Yes  No.

If "Yes", please specify below. Attach an additional page in the same format as provided below, if desired.

Agency/University	Project Title	Status	Value	Contract Reference/P.O./Illinois Procurement Bulletin #

Please explain the procurement relationship:

**STEP 9**  
**SIGN THE DISCLOSURE**

(All vendors must complete regardless of annual bid, offer, or contract value)  
(Subcontractors with subcontract annual value of more than \$50,000 must complete)

This disclosure is signed, and made under penalty of perjury for all for-profit entities, by an authorized officer or employee on behalf of the bidder or offeror pursuant to Sections 50-13 and 50-35 of the Illinois Procurement Code. This disclosure information is submitted on behalf of:

Name of Disclosing Entity:

**Signature:** \_\_\_\_\_

Date:

Printed Name:

Title:

Phone Number:

Email Address:



K. Subcontractor Requirements

A. Delinquent Debt and listing of all Subcontractors per SDC Section 00 21 50.2C

In accordance with State policy, Contractors must list all known subcontractors and suppliers who will be employed on this project. Attach additional sheets if necessary.

B. Requirements for Subcontractors over \$50,000

Pursuant to requirements under 30 ILCS 500/20-120(a), the contract shall state whether the services of a subcontractor will or may be used. Furthermore, the contract shall include names and addresses of all known subcontractors with subcontracts with an annual value of more than \$50,000 and the expected amount of money each will receive under the contract. Financial and Conflict of Interest disclosures and standard certifications of each subcontractor over \$50,000 must be submitted to CDB by the contractor within 20 days of the execution of a contract with CDB or 20 days of the execution of the subcontract, whichever is later.

**Please check the applicable option:**

The services of a subcontractor will or may be used: YES \_\_\_\_\_ NO \_\_\_\_\_

**If YES, then list known subcontractors. List total value for subcontractors over \$50,000:**  
(use additional sheets if necessary)

	Name of Subcontractor	ADDRESS	Subcontract Over \$50,000 (Yes/No)	Total Expected Value for Subcontractors over \$50,000	CDB ID NO.	TIN (FEIN or SSN)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

**CONTRACTOR (show Company name and DBA):** \_\_\_\_\_

Signature \_\_\_\_\_

Printed Name: \_\_\_\_\_ FEIN #: \_\_\_\_\_

Title: \_\_\_\_\_ Date \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

For Corporations only: Attest By: \_\_\_\_\_ (Corporate Secretary)

RETURN WITH BID

**L. Disclosure of Business Operations with Government of Iran  
30 ILCS 500/50-36**

*Each bid, offer, or proposal submitted for a State contract, other than a small purchase defined in Section 20-20 [of the Illinois Procurement Code], shall include a disclosure of whether or not the bidder, offeror, or proposing entity, or any of its corporate parents or subsidiaries, within the 24 months before submission of the bid, offer, or proposal had business operations that involved contracts with or provision of supplies or services to the Government of Iran, companies in which the Government of Iran has any direct or indirect equity share, consortiums or projects commissioned by the Government of Iran and :*

*(1) more than 10% of the company's revenues produced in or assets located in Iran involve oil-related activities or mineral-extraction activities; less than 75% of the company's revenues produced in or assets located in Iran involve contracts with or provision of oil-related or mineral – extraction products or services to the Government of Iran or a project or consortium created exclusively by that Government; and the company has failed to take substantial action; or*

*(2) the company has, on or after August 5, 1996, made an investment of \$20 million or more, or any combination of investments of at least \$10 million each that in the aggregate equals or exceeds \$20 million in any 12- month period that directly or significantly contributes to the enhancement of Iran's ability to develop petroleum resources of Iran.*

*A bid, offer, or proposal that does not include this disclosure shall not be considered responsive. We may consider this disclosure when evaluating the bid, offer, or proposal or awarding the contract.*

**You must check one of the following items and if item 2 is checked you must also make the necessary disclosure.**

1.  There are no business operations that must be disclosed to comply with the above cited law.

2.  The following business operations are disclosed to comply with the above cited law:

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\_\_\_\_\_  
**Name of Company**

\_\_\_\_\_  
**Signature**

**BIDDER'S EMPLOYEE UTILIZATION FORM**

Workforce hiring goals listed below are applicable to this contract. The bidder's workforce projection shall include all subcontract work under the contract.

Failure to complete the PC-2 form may result in bid rejection.

CDB's acceptance of the Bidder's PC-2 projection is a condition of contract award. CDB will notify the bidder if the projection is unacceptable. The bidder shall be given the opportunity to negotiate an acceptable projection with the CDB. Failure to reach an acceptable workforce projection may result in rejection of the contract award.

**GOALS**

The following workforce hiring goals are in effect for each trade. These goals represent a minimum of **total** workforce hours.

Minority / Female Utilization

**Percent**

Sheetmetal	25%
Equipment operators	12%
Mechanics	20%
Ironworkers/Boilermakers	20%
Carpenters	25%
Acoustical Tilers	20%
Ceramic Tile Setters	15%
Brick Masons/Tuckpointers	15%
Cement Masons	20%
Lathers (Metal/Wood)	15%
Tapers	20%
Plasters	15%
Painters	20%
Glaziers	15%
Roofers	25%
Metal Deck Roofers	15%
Pipefitters	25%
Plumbers	25%
Insulators	20%
Temperature Control	20%
Laborers	33%
Electricians	25%
Fencing, Guard Rails	20%
Landscaping	25%
Truck Drivers	20%
Air Test & Balancing	20%
Sandblast/Waterproofing/Caulkers	15%
Asbestos Workers	30%
Terrazzo	12%
Carpet	15%

**INSTRUCTIONS**

for

Project: **805-030-017** Phase: **1**

Trade: **General**

Project the total number of employees to be used in the performance of the contract work by your firm and your subcontractors. Include within the projections, separate numbers for Journeyman and Apprentices by the letters "J" and "A".  
(See next page)

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
Email Address

**RETURN WITH BID**

**BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 04-Bid Form-DHR Form PC-2

CDB Project Number  
**805-030-017**

CDB Contract No.	
Contractor I.D.	
FOR CDB OFFICE USE ONLY	

Contract/Trade Bid  
**General**

FEP Tech  
**Jeanifer L Kimbrough**

Monitored/Non-Monitored  
**Monitored**

TRADE CATEGORIES	Trade Codes	African American				Hispanic				Native American				Asian				Caucasian				
		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		
		J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	
Sheet Metal	3																					
Equipment Operators	4																					
Elevator Mechanics	5																					
Ironworker/BoilerMakers	6																					
Carpenters	7																					
Acoustical Tilers	8																					
Ceramic Tilesetters	9																					
Brick Mason/Tuckpointers	10																					
Cement Masons	11																					
Lather - Metal/Wood	12																					
Tapers	13																					
Plasterers	14																					
Painters	15																					
Glaziers	16																					
Roofers	17																					
Metal Deck Roofers	18																					
Pipefitter/Sprinkler Fitters	19																					
Plumbers	20																					
Insulators	21																					
Temperature Control	22																					
Laborers	23																					
Electricians	24																					
Fencing/Guard Rails	25																					
Landscaping	26																					
Well Drilling	27																					
Truck Drivers	28																					
Air Test & Balancing	29																					
SndBlst/Wtrprfng Caulkers	30																					
Asbestos Workers	31																					
Terrazzo	32																					
Carpet	33																					
<b>TOTALS</b>																						

**NOTE:**Bidder's failure to complete DHR Form PC-2 may result in rejection of the bid. Bidder shall set forth a total projection of the total workforce to be allocated for this contract. Approval of the workforce hiring projection is a post-award requirement.

**BIDDER'S EMPLOYEE UTILIZATION FORM**

Workforce hiring goals listed below are applicable to this contract. The bidder's workforce projection shall include all subcontract work under the contract.

Failure to complete the PC-2 form may result in bid rejection.

CDB's acceptance of the Bidder's PC-2 projection is a condition of contract award. CDB will notify the bidder if the projection is unacceptable. The bidder shall be given the opportunity to negotiate an acceptable projection with the CDB. Failure to reach an acceptable workforce projection may result in rejection of the contract award.

**GOALS**

The following workforce hiring goals are in effect for each trade. These goals represent a minimum of **total** workforce hours.

Minority / Female Utilization

**Percent**

Sheetmetal	25%
Equipment operators	12%
Mechanics	20%
Ironworkers/Boilermakers	20%
Carpenters	25%
Acoustical Tilers	20%
Ceramic Tile Setters	15%
Brick Masons/Tuckpointers	15%
Cement Masons	20%
Lathers (Metal/Wood)	15%
Tapers	20%
Plasters	15%
Painters	20%
Glaziers	15%
Roofers	25%
Metal Deck Roofers	15%
Pipefitters	25%
Plumbers	25%
Insulators	20%
Temperature Control	20%
Laborers	33%
Electricians	25%
Fencing, Guard Rails	20%
Landscaping	25%
Truck Drivers	20%
Air Test & Balancing	20%
Sandblast/Waterproofing/Caulkers	15%
Asbestos Workers	30%
Terrazzo	12%
Carpet	15%

**INSTRUCTIONS**

for

Project: **805-030-017** Phase: **1**

Trade: **Heating & Air Conditioning**

Project the total number of employees to be used in the performance of the contract work by your firm and your subcontractors. Include within the projections, separate numbers for Journeyman and Apprentices by the letters "J" and "A".  
(See next page)

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
Email Address

**RETURN WITH BID**

**BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 04-Bid Form-DHR Form PC-2

CDB Project Number  
**805-030-017**

CDB Contract No.	
Contractor I.D.	
<b>FOR CDB OFFICE USE ONLY</b>	

Contract/Trade Bid **Heating & Air Conditioning** FEP Tech **Jeanifer L Kimbrough** Monitored/Non-Monitored **Monitored**

TRADE CATEGORIES	Trade Codes	African American				Hispanic				Native American				Asian				Caucasian				
		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		
		J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	
Sheet Metal	3																					
Equipment Operators	4																					
Elevator Mechanics	5																					
Ironworker/BoilerMakers	6																					
Carpenters	7																					
Acoustical Tilers	8																					
Ceramic Tilesetters	9																					
Brick Mason/Tuckpointers	10																					
Cement Masons	11																					
Lather - Metal/Wood	12																					
Tapers	13																					
Plasterers	14																					
Painters	15																					
Glaziers	16																					
Roofers	17																					
Metal Deck Roofers	18																					
Pipefitter/Sprinkler Fitters	19																					
Plumbers	20																					
Insulators	21																					
Temperature Control	22																					
Laborers	23																					
Electricians	24																					
Fencing/Guard Rails	25																					
Landscaping	26																					
Well Drilling	27																					
Truck Drivers	28																					
Air Test & Balancing	29																					
SndBlst/Wtrprfng.Caulkers	30																					
Asbestos Workers	31																					
Terrazzo	32																					
Carpet	33																					
<b>TOTALS</b>																						

**NOTE:** Bidder's failure to complete DHR Form PC-2 may result in rejection of the bid. Bidder shall set forth a total projection of the total workforce to be allocated for this contract. Approval of the workforce hiring projection is a post-award requirement.

**BIDDER'S EMPLOYEE UTILIZATION FORM**

No minority or female workforce hiring goals have been established for this contract. However, the bidder agrees to make a good faith effort to employ females and minorities in the various job categories under this contract.

Failure to complete the PC-2 form may result in bid rejection.

CDB's acceptance of the Bidder's PC-2 projection is a condition of contract award. CDB will notify the bidder if the projection is unacceptable. The bidder shall be given the opportunity to negotiate an acceptable projection with the CDB. Failure to reach an acceptable workforce projection may result in rejection of the contract award.

**GOALS**

The following workforce hiring goals are in effect for each trade. These goals represent a minimum of **total** workforce hours.

Minority / Female Utilization

**Percent**

Sheetmetal	25%
Equipment operators	12%
Mechanics	20%
Ironworkers/Boilermakers	20%
Carpenters	25%
Acoustical Tilers	20%
Ceramic Tile Setters	15%
Brick Masons/Tuckpointers	15%
Cement Masons	20%
Lathers (Metal/Wood)	15%
Tapers	20%
Plasters	15%
Painters	20%
Glaziers	15%
Roofers	25%
Metal Deck Roofers	15%
Pipefitters	25%
Plumbers	25%
Insulators	20%
Temperature Control	20%
Laborers	33%
Electricians	25%
Fencing, Guard Rails	20%
Landscaping	25%
Truck Drivers	20%
Air Test & Balancing	20%
Sandblast/Waterproofing/Caulkers	15%
Asbestos Workers	30%
Terrazzo	12%
Carpet	15%

**INSTRUCTIONS**

for

Project: **805-030-017** Phase: **1**

Trade: **Plumbing**

Project the total number of employees to be used in the performance of the contract work by your firm and your subcontractors. Include within the projections, separate numbers for Journeyman and Apprentices by the letters "J" and "A".  
(See next page)

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
Email Address

**RETURN WITH BID**

**BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 04-Bid Form-DHR Form PC-2

CDB Project Number  
**805-030-017**

CDB Contract No.	
Contractor I.D.	
<b>FOR CDB OFFICE USE ONLY</b>	

Contract/Trade Bid **Plumbing** FEP Tech **Jeanifer L Kimbrough** Monitored/Non-Monitored **Monitored**

TRADE CATEGORIES	Trade Codes	African American				Hispanic				Native American				Asian				Caucasian				
		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		
		J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	
Sheet Metal	3																					
Equipment Operators	4																					
Elevator Mechanics	5																					
Ironworker/BoilerMakers	6																					
Carpenters	7																					
Acoustical Tilers	8																					
Ceramic Tilesetters	9																					
Brick Mason/Tuckpointers	10																					
Cement Masons	11																					
Lather - Metal/Wood	12																					
Tapers	13																					
Plasterers	14																					
Painters	15																					
Glaziers	16																					
Roofers	17																					
Metal Deck Roofers	18																					
Pipefitter/Sprinkler Fitters	19																					
Plumbers	20																					
Insulators	21																					
Temperature Control	22																					
Laborers	23																					
Electricians	24																					
Fencing/Guard Rails	25																					
Landscaping	26																					
Well Drilling	27																					
Truck Drivers	28																					
Air Test & Balancing	29																					
SndBlst/Wtrprfng.Caulkers	30																					
Asbestos Workers	31																					
Terrazzo	32																					
Carpet	33																					
<b>TOTALS</b>																						

**NOTE:** Bidder's failure to complete DHR Form PC-2 may result in rejection of the bid. Bidder shall set forth a total projection of the total workforce to be allocated for this contract. Approval of the workforce hiring projection is a post-award requirement.



**BIDDER'S EMPLOYEE UTILIZATION FORM**

No minority or female workforce hiring goals have been established for this contract. However, the bidder agrees to make a good faith effort to employ females and minorities in the various job categories under this contract.

Failure to complete the PC-2 form may result in bid rejection.

CDB's acceptance of the Bidder's PC-2 projection is a condition of contract award. CDB will notify the bidder if the projection is unacceptable. The bidder shall be given the opportunity to negotiate an acceptable projection with the CDB. Failure to reach an acceptable workforce projection may result in rejection of the contract award.

**GOALS**

The following workforce hiring goals are in effect for each trade. These goals represent a minimum of **total** workforce hours.

Minority / Female Utilization

**Percent**

Sheetmetal	25%
Equipment operators	12%
Mechanics	20%
Ironworkers/Boilermakers	20%
Carpenters	25%
Acoustical Tilers	20%
Ceramic Tile Setters	15%
Brick Masons/Tuckpointers	15%
Cement Masons	20%
Lathers (Metal/Wood)	15%
Tapers	20%
Plasters	15%
Painters	20%
Glaziers	15%
Roofers	25%
Metal Deck Roofers	15%
Pipefitters	25%
Plumbers	25%
Insulators	20%
Temperature Control	20%
Laborers	33%
Electricians	25%
Fencing, Guard Rails	20%
Landscaping	25%
Truck Drivers	20%
Air Test & Balancing	20%
Sandblast/Waterproofing/Caulkers	15%
Asbestos Workers	30%
Terrazzo	12%
Carpet	15%

**INSTRUCTIONS**

for

Project: **805-030-017** Phase: **1**

Trade: **Electrical**

Project the total number of employees to be used in the performance of the contract work by your firm and your subcontractors. Include within the projections, separate numbers for Journeyman and Apprentices by the letters "J" and "A".  
(See next page)

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Firm Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Fax Number

\_\_\_\_\_  
Email Address

**RETURN WITH BID**

**BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 04-Bid Form-DHR Form PC-2

CDB Project Number  
**805-030-017**

CDB Contract No.	
Contractor I.D.	
<b>FOR CDB OFFICE USE ONLY</b>	

Contract/Trade Bid

FEP Tech

Monitored/Non-Monitored

**Electrical**

**Jeanifer L Kimbrough**

**Monitored**

TRADE CATEGORIES	Trade Codes	African American				Hispanic				Native American				Asian				Caucasian				
		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		
		J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	
Sheet Metal	3																					
Equipment Operators	4																					
Elevator Mechanics	5																					
Ironworker/BoilerMakers	6																					
Carpenters	7																					
Acoustical Tilers	8																					
Ceramic Tilesetters	9																					
Brick Mason/Tuckpointers	10																					
Cement Masons	11																					
Lather - Metal/Wood	12																					
Tapers	13																					
Plasterers	14																					
Painters	15																					
Glaziers	16																					
Roofers	17																					
Metal Deck Roofers	18																					
Pipefitter/Sprinkler Fitters	19																					
Plumbers	20																					
Insulators	21																					
Temperature Control	22																					
Laborers	23																					
Electricians	24																					
Fencing/Guard Rails	25																					
Landscaping	26																					
Well Drilling	27																					
Truck Drivers	28																					
Air Test & Balancing	29																					
SndBlst/Wtrprfng. Caulkers	30																					
Asbestos Workers	31																					
Terrazzo	32																					
Carpet	33																					
<b>TOTALS</b>																						

**NOTE:** Bidder's failure to complete DHR Form PC-2 may result in rejection of the bid. Bidder shall set forth a total projection of the total workforce to be allocated for this contract. Approval of the workforce hiring projection is a post-award requirement.

**RETURN WITH BID**

**Name of Bidder:** \_\_\_\_\_

**CDB PROJECT NO.**

**DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 05 - Minority/Female Business Enterprise Program Requirements

**CONTRACT REQUIREMENTS FOR MINORITY/FEMALE BUSINESS PARTICIPATION**

**GOALS:** The MBE/FBE goal for this GENERAL contract is 18% (13% MBE & 5% FBE) percent of the amount of the contract awarded by CDB. The contract award is defined as the Base Bid plus any or all alternates.

**INSTRUCTIONS:** When Goals are established, the Bidder shall include below the names of certified minority/female owned business enterprises which will perform at least the percentage of the work specified in the Goals statement (see above) and the proposed dollar value of subcontract (percentage values are not acceptable). Firms cannot be identified after the bid opening. Failure to identify firms will result in rejection of bid. If the Bidder needs assistance in identifying subcontractors or suppliers, contact CDB’s FEP Unit prior to submitting the bid and assistance will be provided in accordance with the MBE/FBE requirements in the Standard Documents for Construction. Efforts to comply with these requirements will be considered in evaluating whether the bid is responsive. If the percentage of the work (Base Bid plus all Alternates) is less than the specified goals, bidder is required to submit within 7 (seven) calendar days after the bid opening written evidence of its good faith efforts to achieve the goals.

**BIDDER’S MBE/FBE SUBCONTRACTOR/SUPPLIER FIRMS, INCLUDING ADDRESS AND TELEPHONE NUMBER, TO BE UTILIZED IN REGARD TO THIS CONTRACT (Include base bid below and each alternate on next page(s)): Note: A firm can only be designated as an MBE or FBE, but not both. Firms must be certified or registered with CMS as an MBE/FBE prior to bid opening.**  
(Attach additional sheet if necessary)

**BASE BID:**

	Name of MBE/FBE Firm Address City State Zip	Proposed \$ Value of Subcontract	Telephone Number	MBE/FBE Denotation And Certifying Agency
1.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
2.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
3.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
4.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
5.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
6.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
7.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
8.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS

**RETURN WITH BID**

**ALTERNATE BID No. G-1**

	Name of MBE/FBE Firm Address City State Zip	Proposed \$ Value of Subcontract	Telephone Number	MBE/FBE Denotation And Certifying Agency
1.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
2.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
3.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS

**Written evidence of good faith efforts to achieve the goals in order to support a change/waiver of goals request must be submitted within 7 (seven) calendar days after the bid opening. (Not required when participation goals have been met or are not applicable)**

The Bidder represents to CDB that, to the best of its knowledge and belief:

1. Each of the subcontractors and suppliers listed qualifies under the provisions and definitions of the Minority/Female Business Enterprise Program Act as either a minority/female owned business.
2. The subcontract(s) which will be executed by the Bidder for the first level subcontractors and suppliers if the bidder is awarded this contract by CDB will meet or exceed the specified MBE/FBE goals, and will comply with all provisions of the Minority/Female Business Enterprise Program Act.

**Bidder agrees to the contractual requirements specified in CDB's Standard Documents for Construction in regard to the Minority/Female Business Enterprise Program Act.**

\_\_\_\_\_  
Signature, Title

\_\_\_\_\_  
Date

**SIGNATURE IS REQUIRED**

## RETURN WITH BID

**Name of Bidder:** \_\_\_\_\_

**CDB PROJECT NO.**

DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS

Document 00 41 05 - Minority/Female Business Enterprise Program Requirements

**CONTRACT REQUIREMENTS FOR MINORITY/FEMALE BUSINESS PARTICIPATION**

**GOALS:** The MBE/FBE goal for this HEATING contract is 18% (13% MBE & 5% FBE) percent of the amount of the contract awarded by CDB. The contract award is defined as the Base Bid plus any or all alternates.

**INSTRUCTIONS:** When Goals are established, the Bidder shall include below the names of certified minority/female owned business enterprises which will perform at least the percentage of the work specified in the Goals statement (see above) and the proposed dollar value of subcontract (percentage values are not acceptable). Firms cannot be identified after the bid opening. Failure to identify firms will result in rejection of bid. If the Bidder needs assistance in identifying subcontractors or suppliers, contact CDB's FEP Unit prior to submitting the bid and assistance will be provided in accordance with the MBE/FBE requirements in the Standard Documents for Construction. Efforts to comply with these requirements will be considered in evaluating whether the bid is responsive. If the percentage of the work (Base Bid plus all Alternates) is less than the specified goals, bidder is required to submit within 7 (seven) calendar days after the bid opening written evidence of its good faith efforts to achieve the goals.

**BIDDER'S MBE/FBE SUBCONTRACTOR/SUPPLIER FIRMS, INCLUDING ADDRESS AND TELEPHONE NUMBER, TO BE UTILIZED IN REGARD TO THIS CONTRACT (Include base bid below and each alternate on next page(s)): Note: A firm can only be designated as an MBE or FBE, but not both. Firms must be certified or registered with CMS as an MBE/FBE prior to bid opening.**

(Attach additional sheet if necessary)

**BASE BID:**

	Name of MBE/FBE Firm Address City State Zip	Proposed \$ Value of Subcontract	Telephone Number	MBE/FBE Denotation And Certifying Agency
1.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
2.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
3.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
4.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
5.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
6.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
7.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
8.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS

## RETURN WITH BID

**Written evidence of good faith efforts to achieve the goals in order to support a change/waiver of goals request must be submitted within 7 (seven) calendar days after the bid opening. (Not required when participation goals have been met or are not applicable)**

The Bidder represents to CDB that, to the best of its knowledge and belief:

1. Each of the subcontractors and suppliers listed qualifies under the provisions and definitions of the Minority/Female Business Enterprise Program Act as either a minority/female owned business.
2. The subcontract(s) which will be executed by the Bidder for the first level subcontractors and suppliers if the bidder is awarded this contract by CDB will meet or exceed the specified MBE/FBE goals, and will comply with all provisions of the Minority/Female Business Enterprise Program Act.

**Bidder agrees to the contractual requirements specified in CDB's Standard Documents for Construction in regard to the Minority/Female Business Enterprise Program Act.**

\_\_\_\_\_  
Signature, Title

\_\_\_\_\_  
Date

**SIGNATURE IS REQUIRED**

**RETURN WITH BID**

**Name of Bidder:** \_\_\_\_\_

**CDB PROJECT NO.**

**DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 05 - Minority/Female Business Enterprise Program Requirements

**CONTRACT REQUIREMENTS FOR MINORITY/FEMALE BUSINESS PARTICIPATION**

**GOALS:** The MBE/FBE goal for this PLUMBING contract is 0% percent of the amount of the contract awarded by CDB. The contract award is defined as the Base Bid plus any or all alternates.

**INSTRUCTIONS:** When Goals are established, the Bidder shall include below the names of certified minority/female owned business enterprises which will perform at least the percentage of the work specified in the Goals statement (see above) and the proposed dollar value of subcontract (percentage values are not acceptable). Firms cannot be identified after the bid opening. Failure to identify firms will result in rejection of bid. If the Bidder needs assistance in identifying subcontractors or suppliers, contact CDB’s FEP Unit prior to submitting the bid and assistance will be provided in accordance with the MBE/FBE requirements in the Standard Documents for Construction. Efforts to comply with these requirements will be considered in evaluating whether the bid is responsive. If the percentage of the work (Base Bid plus all Alternates) is less than the specified goals, bidder is required to submit within 7 (seven) calendar days after the bid opening written evidence of its good faith efforts to achieve the goals.

**BIDDER’S MBE/FBE SUBCONTRACTOR/SUPPLIER FIRMS, INCLUDING ADDRESS AND TELEPHONE NUMBER, TO BE UTILIZED IN REGARD TO THIS CONTRACT (Include base bid below and each alternate on next page(s)):** Note: A firm can only be designated as an MBE or FBE, but not both. Firms must be certified or registered with CMS as an MBE/FBE prior to bid opening.  
(Attach additional sheet if necessary)

**BASE BID:**

	Name of MBE/FBE Firm Address City State Zip	Proposed \$ Value of Subcontract	Telephone Number	MBE/FBE Denotation And Certifying Agency
1.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
2.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
3.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
4.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
5.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
6.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
7.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
8.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS

## RETURN WITH BID

**Written evidence of good faith efforts to achieve the goals in order to support a change/waiver of goals request must be submitted within 7 (seven) calendar days after the bid opening. (Not required when participation goals have been met or are not applicable)**

The Bidder represents to CDB that, to the best of its knowledge and belief:

1. Each of the subcontractors and suppliers listed qualifies under the provisions and definitions of the Minority/Female Business Enterprise Program Act as either a minority/female owned business.
2. The subcontract(s) which will be executed by the Bidder for the first level subcontractors and suppliers if the bidder is awarded this contract by CDB will meet or exceed the specified MBE/FBE goals, and will comply with all provisions of the Minority/Female Business Enterprise Program Act.

**Bidder agrees to the contractual requirements specified in CDB's Standard Documents for Construction in regard to the Minority/Female Business Enterprise Program Act.**

\_\_\_\_\_  
Signature, Title

\_\_\_\_\_  
Date

**SIGNATURE IS REQUIRED**



**RETURN WITH BID**

**Name of Bidder:** \_\_\_\_\_

**CDB PROJECT NO.**

**DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS**

Document 00 41 05 - Minority/Female Business Enterprise Program Requirements

**CONTRACT REQUIREMENTS FOR MINORITY/FEMALE BUSINESS PARTICIPATION**

**GOALS:** The MBE/FBE goal for this ELECTRICAL contract is 0% percent of the amount of the contract awarded by CDB. The contract award is defined as the Base Bid plus any or all alternates.

**INSTRUCTIONS:** When Goals are established, the Bidder shall include below the names of certified minority/female owned business enterprises which will perform at least the percentage of the work specified in the Goals statement (see above) and the proposed dollar value of subcontract (percentage values are not acceptable). Firms cannot be identified after the bid opening. Failure to identify firms will result in rejection of bid. If the Bidder needs assistance in identifying subcontractors or suppliers, contact CDB's FEP Unit prior to submitting the bid and assistance will be provided in accordance with the MBE/FBE requirements in the Standard Documents for Construction. Efforts to comply with these requirements will be considered in evaluating whether the bid is responsive. If the percentage of the work (Base Bid plus all Alternates) is less than the specified goals, bidder is required to submit within 7 (seven) calendar days after the bid opening written evidence of its good faith efforts to achieve the goals.

**BIDDER'S MBE/FBE SUBCONTRACTOR/SUPPLIER FIRMS, INCLUDING ADDRESS AND TELEPHONE NUMBER, TO BE UTILIZED IN REGARD TO THIS CONTRACT (Include base bid below and each alternate on next page(s)): Note: A firm can only be designated as an MBE or FBE, but not both. Firms must be certified or registered with CMS as an MBE/FBE prior to bid opening.**  
(Attach additional sheet if necessary)

**BASE BID:**

	Name of MBE/FBE Firm Address City State Zip	Proposed \$ Value of Subcontract	Telephone Number	MBE/FBE Denotation And Certifying Agency
1.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
2.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
3.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
4.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
5.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
6.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
7.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS
8.				<input type="checkbox"/> MBE <input type="checkbox"/> FBE <input type="checkbox"/> Certified by CMS

## RETURN WITH BID

**Written evidence of good faith efforts to achieve the goals in order to support a change/waiver of goals request must be submitted within 7 (seven) calendar days after the bid opening. (Not required when participation goals have been met or are not applicable)**

The Bidder represents to CDB that, to the best of its knowledge and belief:

1. Each of the subcontractors and suppliers listed qualifies under the provisions and definitions of the Minority/Female Business Enterprise Program Act as either a minority/female owned business.
2. The subcontract(s) which will be executed by the Bidder for the first level subcontractors and suppliers if the bidder is awarded this contract by CDB will meet or exceed the specified MBE/FBE goals, and will comply with all provisions of the Minority/Female Business Enterprise Program Act.

**Bidder agrees to the contractual requirements specified in CDB's Standard Documents for Construction in regard to the Minority/Female Business Enterprise Program Act.**

\_\_\_\_\_  
Signature, Title

\_\_\_\_\_  
Date

**SIGNATURE IS REQUIRED**

**RETURN WITH BID**

State of Illinois  
CAPITAL DEVELOPMENT BOARD

BIDDING & CONTRACT REQUIREMENTS  
**Document 00 41 06 - Bid Bond**

as Principal, and \_\_\_\_\_  
a corporation of the State of \_\_\_\_\_  
as Surety, are held and firmly bound unto the State of Illinois, acting by and through the Capital  
Development Board, as Obligee, in the amount of ten percent (10%) of the amount of the base bid for the  
payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors  
and assigns, jointly and severally, to this agreement.

Principal has submitted to Obligee a bid to enter into a written contract, for

CDB Project Number: \_\_\_\_\_ Division of Work: \_\_\_\_\_  
in accordance with bidding documents for the project, which contract is by reference made a part hereof  
and is hereinafter referred to as "the Contract".

THE CONDITION OF THIS OBLIGATION is that if Principal, upon acceptance by Obligee of its bid within the  
period of time specified for acceptance, shall comply with all post award requirements as required by the  
terms of the bid within the time specified after date of the Notice of Award, or in the event of the failure to  
comply with all post award requirements, if Principal shall pay Obligee (1) for all costs of procuring the  
work which exceeds the amount of its bid, or (2) shall pay Obligee the amount of this bond as liquidated  
damages in the event Principal is a sole bidder and after an attempt to secure other bids by readvertising  
none can be obtained, then this obligation shall be null and void; otherwise it shall remain in full force and  
effect.

Surety hereby agrees that its obligation shall not be impaired by any extensions of time for  
Obligee's acceptance or compliance with post award requirements. Surety hereby waives notice  
of such extensions.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
CONTRACTOR SURETY

BY \_\_\_\_\_ BY \_\_\_\_\_  
SIGNATURE OFFICER OF THE SURETY

Title \_\_\_\_\_ Title \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
CORPORATE SECRETARY (Corporations only)

\_\_\_\_\_  
JURAT (Notary's Statement Authenticating Signature)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, a Notary Public in and for said county, do hereby certify  
that

**(Insert Name of Attorney-In-Fact for SURETY)**

who is personally known to me to be the same person whose name is subscribed to the foregoing  
instrument on behalf of SURETY, appeared before me this day in person and acknowledged  
respectively, that he/she signed, sealed, and delivered said instrument as his/her free and  
voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal \_\_\_\_\_ DAY OF \_\_\_\_\_ A.D. 20  
this \_\_\_\_\_

My commission expires \_\_\_\_\_

Notary Signature \_\_\_\_\_



**RETURN WITH BID**

BIDDING & CONTRACT REQUIREMENTS  
**Document 00 41 07 Product Substitution Form**

The Bidder should include this form with the Bid Forms if a material substitution is offered at that time. See Article 00 43 25 of the Standard Documents for Construction.

The Base Bid and Alternate Bids include only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being deducted from the Base Bid or Alternate Bids.

NOTE: CDB WILL NOT ACCEPT SUBSTITUTIONS FOR SPECIFIED MEMBRANE ROOF SYSTEM(S).

Bidder understands that acceptance of any proposed substitution is at CDB's option. Approval or rejection of any substitutions listed below will be indicated prior to executing the Contract.

MANUFACTURER'S NAME AND PRODUCT

DEDUCT

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

EVALUATION. Contract award will be made in accord with the Standard Documents for Construction. Only the lowest responsible bidder's Proposed Product Substitution Form will be evaluated.

BIDDER'S NAME: \_\_\_\_\_

TRADE: \_\_\_\_\_



BIDDING & CONTRACT REQUIREMENTS  
**00 43 43 - Prevailing Wage Act**

1. PREVAILING WAGE ACT

1.1 Pursuant to Illinois Compiled Statutes 820 ILCS 130/0.01 et seq., these specifications list on the following pages, the Illinois Department of Labor prevailing rate of wages for the county where the contract is being performed and for each craft or type of worker needed to execute the contract.

2. PROJECT LABOR AGREEMENT

2.1 Because of the size, duration, and important public purpose to be served by the Project, it is in the public interest to have the Project completed in the most timely, efficient, and orderly manner possible and without labor disputes or disruptions of any kind which might interfere with or delay the Project. Accordingly, the Contractor is required to enter into a Project Labor Agreement with the trade unions which have traditionally performed and have trade and geographic jurisdiction over such work. The Project Labor Agreement will be provided by CDB and executed by each Contractor and Trade Union within 20 days following the Authorization to Proceed (ATP) with a copy provided to CDB. The agreement shall provide for, at a minimum, the following:

- a.. Contracting or subcontracting work to only those firms, persons, companies or entities that have, or agree to be bound by and operate under, for the life of the Project, current collective bargaining agreements with applicable trade unions.
- b. No lockout, strikes, picketing or other work stoppage of any nature.
- c. Trade unions agree to use their best efforts to prevent any acts described in paragraph 2, or those of a similar nature of effect, or, in the event such an act takes place, to cause an immediate cessation thereof.
- d. The right to discharge or discipline an employee who violates the provisions of the agreement.
- e. Coverage for the life of the Project.
- f. Incorporation of the agreement into subcontracts.
- g. Procedures for resolving disputes related to the agreement.

2.2 Submission of the executed Project Labor Agreement shall be a post- ATP requirement.

END 00 43 43

# Kane County Prevailing Wage for November 2013

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====
ASBESTOS ABT-GEN		ALL		37.100	37.600	1.5	1.5	2.0	12.97	9.930	0.000	0.500
ASBESTOS ABT-MEC		BLD		35.100	37.600	1.5	1.5	2.0	11.17	10.76	0.000	0.720
BOILERMAKER		BLD		43.450	47.360	2.0	2.0	2.0	6.970	14.66	0.000	0.350
BRICK MASON		BLD		41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000	1.040
CARPENTER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.76	0.000	0.630
CEMENT MASON		ALL		41.550	43.550	2.0	1.5	2.0	9.500	15.87	0.000	0.500
CERAMIC TILE FNSHER		BLD		34.810	0.000	2.0	1.5	2.0	10.20	7.830	0.000	0.640
COMMUNICATION TECH	N	BLD		36.360	38.460	1.5	1.5	2.0	12.27	10.25	0.000	0.640
COMMUNICATION TECH	S	BLD		37.650	39.750	1.5	1.5	2.0	10.03	10.44	0.000	1.320
ELECTRIC PWR EQMT OP		ALL		36.610	49.750	1.5	1.5	2.0	5.000	11.35	0.000	0.270
ELECTRIC PWR GRNDMAN		ALL		28.310	49.750	1.5	1.5	2.0	5.000	8.780	0.000	0.210
ELECTRIC PWR LINEMAN		ALL		43.830	49.750	1.5	1.5	2.0	5.000	13.58	0.000	0.330
ELECTRIC PWR TRK DRV		ALL		29.310	49.750	1.5	1.5	2.0	5.000	9.090	0.000	0.220
ELECTRICIAN	N	ALL		43.080	47.380	1.5	1.5	2.0	12.06	11.41	0.000	0.540
ELECTRICIAN	S	BLD		44.730	49.210	1.5	1.5	2.0	10.02	12.52	0.000	1.570
ELEVATOR CONSTRUCTOR		BLD		49.080	55.215	2.0	2.0	2.0	11.88	12.71	3.930	0.600
FENCE ERECTOR		ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
GLAZIER		BLD		39.500	41.000	1.5	2.0	2.0	11.99	14.30	0.000	0.840
HT/FROST INSULATOR		BLD		46.950	49.450	1.5	1.5	2.0	11.17	11.96	0.000	0.720
IRON WORKER		ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
LABORER		ALL		37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500
LATHER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.76	0.000	0.630
MACHINIST		BLD		43.920	46.420	1.5	1.5	2.0	6.760	8.950	1.850	0.000
MARBLE FINISHERS		ALL		30.520	0.000	1.5	1.5	2.0	9.700	12.55	0.000	0.590
MARBLE MASON		BLD		40.780	44.860	1.5	1.5	2.0	9.700	12.71	0.000	0.740
MATERIAL TESTER I		ALL		27.000	0.000	1.5	1.5	2.0	12.97	9.930	0.000	0.500
MATERIALS TESTER II		ALL		32.000	0.000	1.5	1.5	2.0	12.97	9.930	0.000	0.500
MILLWRIGHT		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.76	0.000	0.630
OPERATING ENGINEER		BLD	1	46.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	2	44.800	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	3	42.250	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	4	40.500	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	5	49.850	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	6	47.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	7	49.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	1	44.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	2	43.750	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	3	41.700	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	4	40.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	5	39.100	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	6	47.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	7	45.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
ORNAMNTL IRON WORKER		ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
PAINTER		ALL		40.980	42.980	1.5	1.5	1.5	10.00	8.200	0.000	1.350
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.76	0.000	0.630
PIPEFITTER		BLD		41.200	43.200	1.5	1.5	2.0	9.750	17.09	0.000	1.710
PLASTERER		BLD		41.250	43.730	1.5	1.5	2.0	11.10	11.69	0.000	0.550



PLUMBER	BLD	41.200	43.200	1.5	1.5	2.0	9.750	17.09	0.000	1.710
ROOFER	BLD	38.950	41.950	1.5	1.5	2.0	8.280	9.190	0.000	0.430
SHEETMETAL WORKER	BLD	42.800	44.800	1.5	1.5	2.0	10.34	12.35	0.000	0.820
SIGN HANGER	BLD	26.070	27.570	1.5	1.5	2.0	3.800	3.550	0.000	0.000
SPRINKLER FITTER	BLD	49.200	51.200	1.5	1.5	2.0	10.75	8.850	0.000	0.450
STEEL ERECTOR	ALL	44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
STONE MASON	BLD	41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000	1.040
SURVEY WORKER	ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500
TERRAZZO FINISHER	BLD	36.040	0.000	1.5	1.5	2.0	10.20	9.900	0.000	0.540
TERRAZZO MASON	BLD	39.880	42.880	1.5	1.5	2.0	10.20	11.25	0.000	0.700
TILE MASON	BLD	41.840	45.840	2.0	1.5	2.0	10.20	9.560	0.000	0.880
TRAFFIC SAFETY WRKR	HWY	28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000	0.000
TRUCK DRIVER	ALL 1	32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCK POINTER	BLD	41.950	42.950	1.5	1.5	2.0	8.180	11.78	0.000	0.630

**Legend:** RG (Region)

TYP (Trade Type - All, Highway, Building, Floating, Oil &amp; Chip, Rivers)

C (Class)

Base (Base Wage Rate)

FRMAN (Foreman Rate)

M-F&gt;8 (OT required for any hour greater than 8 worked each day, Mon through Fri.)

OSA (Overtime (OT) is required for every hour worked on Saturday)

OSH (Overtime is required for every hour worked on Sunday and Holidays)

H/W (Health &amp; Welfare Insurance)

Pensn (Pension)

Vac (Vacation)

Trng (Training)

**Explanations****KANE COUNTY**

ELECTRICIANS AND COMMUNICATIONS TECHNICIAN (NORTH) - Townships of Burlington, Campton, Dundee, Elgin, Hampshire, Plato, Rutland, St. Charles (except the West half of Sec. 26, all of Secs. 27, 33, and 34, South half of Sec. 28, West half of Sec. 35), Virgil and Valley View CCC and Elgin Mental Health Center.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

**EXPLANATION OF CLASSES**

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the

removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

#### CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

#### COMMUNICATIONS TECHNICIAN

Construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video), telephone, security systems, fire alarm systems that are a component of a multiplex system and share a common cable, and data inside wire, interconnect, terminal equipment, central offices, PABX and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

#### MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if

damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

**MATERIAL TESTER I:** Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

**MATERIAL TESTER II:** Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

#### OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine;

Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

#### OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding

Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man

operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

#### TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

#### Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

#### LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the

classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

Illinois Capital Development Board

**PROJECT LABOR AGREEMENT**

This Project Labor Agreement ("PLA" or "Agreement") is entered into this 13<sup>th</sup> day of February, 2013, by and between the Illinois Capital Development Board ("CDB" or "Board") in its proprietary capacity, and each relevant Illinois AFL-CIO Building Trades signatory hereto as determined by the Illinois AFL-CIO Statewide Project Labor Agreement Committee on behalf of each of its affiliated members (individually and collectively, the "Unions"). This PLA shall apply to Construction Work (as defined herein) to be performed by CDB's Prime Contractor(s) and all Subcontractors of whatever tier ("Subcontractor" or "Subcontractors") on Project No. 805-030-017, Illinois Math and Science Academy, Renovate Resident Halls, Aurora, Kane County, Illinois (hereinafter, the "Project").

**ARTICLE 1 - INTENT AND PURPOSES**

- 1.1 This PLA is entered into in accordance with the Project Labor Agreement Act ("Act", 30 ILCS 571). It is mutually understood and agreed that the terms and conditions of this PLA are intended to promote the public interest in obtaining timely and economical completion of the Project by encouraging productive and efficient construction operations; by establishing a spirit of harmony and cooperation among the parties; and by providing for peaceful and prompt settlement of any and all labor grievances or jurisdictional disputes of any kind without strikes, lockouts, slowdowns, delays, or other disruptions to the prosecution of the work. The parties acknowledge the obligations of the Contractors and Subcontractors to comply with the provisions of the Act. The parties will work with the Contractors and Subcontractors within the parameters of other statutory and regulatory requirements to implement the Act's goals and objectives.
- 1.2 As a condition of the award of the contract for performance of work on the Project, CDB's Prime Contractor(s) and all its Subcontractors shall execute a "Contractor Letter of Assent", in the form attached hereto as Exhibit A, prior to commencing Construction Work on the Project. The Prime Contractor(s) shall submit their Subcontractor's Contractor Letter of Assent to the Board prior to the Subcontractor's performance of Construction Work on the Project. Upon request copies of the applicable collective bargaining agreements will be provided by the appropriate signatory labor organization consistent with this Agreement and at the pre-job conference referenced in Article III, Section 3.1.
- 1.3 Each Union affiliate and separate local representing workers engaged in Construction Work on the Project in accordance with this PLA are bound to this agreement by the Illinois AFL-CIO Statewide Project Labor Agreement Committee which is the central committee established with full authority to negotiate and sign PLAs with the State on behalf of all respective crafts. Upon their signing the Contractor Letter of Assent, the Prime Contractor(s), each Subcontractor, and the individual Unions shall thereafter be deemed a party to this PLA. No party signatory to this PLA shall contract or subcontract, nor permit any other person, firm, company, or entity to contract or subcontract for the performance of Construction Work for the Project to any person, firm, company, or entity that does not agree in writing to become bound for the term of this Project by the terms of this PLA prior to commencing such work and to the applicable area-wide collective bargaining agreement(s) with the Union(s) signatory hereto.



- 1.4 It is understood that the Prime Contractor(s) and each Subcontractor will be considered and accepted by the Unions as separate employers for the purposes of collective bargaining, and it is further agreed that the employees working under this PLA shall constitute a bargaining unit separate and distinct from all others. The parties hereto also agree that this PLA shall be applicable solely with respect to this Project, and shall have no bearing on the interpretation of any other collective bargaining agreement or as to the recognition of any bargaining unit other than for the specific purposes of this Project.
- 1.5 In the event of a variance or conflict, whether explicit or implicit, between the terms and conditions of this PLA and the provisions of any other applicable national, area, or local collective bargaining agreement, the terms and conditions of this PLA shall supersede and control. For any work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, the National Agreement of the International Union of Elevator Constructors, and for any instrument calibration work and loop checking performed under the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, the preceding sentence shall apply only with respect to Articles I, II, V, VI, and VII.
- 1.6 Subject to the provisions of paragraph 1.5 of this Article, it is the parties' intent to respect the provisions of any other collective bargaining agreements that may now or hereafter pertain, whether between the Prime Contractor and one or more of the Unions or between a Subcontractor and one or more of the Unions. Accordingly, except and to the extent of any contrary provision set forth in this PLA, the Prime Contractor(s) and all Subcontractors agrees to be bound and abide by the terms of the following in order of precedence: (a) the applicable collective bargaining agreement between the Prime Contractor and one or more of the Unions made signatory hereto; (b) the applicable collective bargaining agreement between a Subcontractor and one or more of the Unions made signatory hereto; or (c) the current applicable area collective bargaining agreement for the relevant Union that is the agreement certified by the Illinois Department of Labor for purposes of establishing the Prevailing Wage applicable to the Project. The Union will provide copies of the applicable collective bargaining agreements pursuant to part (c) of the preceding sentence to the Prime Contractor. Assignments by the Contractors or Subcontractors amongst the trades shall be consistent with area practices; in the event of unresolved disagreements as to the propriety of such assignments, the provisions of Article VI shall apply.
- 1.7 Subject to the limitations of paragraphs 1.4 to 1.6 of this Article, the terms of each applicable collective bargaining agreement as determined in accordance with paragraph 1.6 are incorporated herein by reference, and the terms of this PLA shall be deemed incorporated into such other applicable collective bargaining agreements only for purposes of their application to the Project.
- 1.8 To the extent necessary to comply with the requirements of any fringe benefit fund to which the Prime Contractor or Subcontractor is required to contribute under the terms of an applicable collective bargaining agreement pursuant to the preceding paragraph, the Prime Contractor or Subcontractor shall execute all "Participation Agreements" as may be reasonably required by the Union to accomplish such purpose; provided, however, that such Participation Agreements shall, when applicable to the Prime Contractor or Subcontractor solely as a result of this PLA, be amended as reasonably necessary to reflect such fact. Upon written notice in the form of a lien of a Contractor's or Subcontractor's delinquency from any applicable fringe benefit fund, CDB will withhold from the Contractor's periodic pay request an amount sufficient to extinguish any delinquency obligation of the Contractor or Subcontractor

arising out of the Project.

- 1.9 In the event that the applicable collective bargaining agreement between a Prime Contractor and the Union or between the Subcontractor and the Union expires prior to the completion of this Project, the expired applicable contract's terms will be maintained until a new applicable collective bargaining agreement is ratified. The wages and fringe benefits included in any new applicable collective bargaining agreement will apply on and after the effective date of the newly negotiated collective bargaining agreement, except to the extent wage and fringe benefit retroactivity is specifically agreed upon by the relevant bargaining parties.

## **ARTICLE II — APPLICABILITY, RECOGNITION, AND COMMITMENTS**

- 2.1 The term Construction Work as used herein shall include all "construction, demolition, rehabilitation, renovation, or repair" work performed by a "laborer or mechanic" at the "site of the work" for the purpose of "building" the specific structures and improvements that constitute the Project. Terms appearing within quotation marks in the preceding sentence shall have the meaning ascribed to them pursuant to 29 CFR Part 5 and Illinois labor laws.
- 2.2 By executing the Letters of Assent, Prime Contractor(s) and all its Subcontractors recognizes the Unions signatory to this PLA as the sole and exclusive bargaining representatives for their craft employees employed on the job-site for this Project. Unions who are signatory to this PLA will have recognition on the Project for their craft.
- 2.3 The Prime Contractor and all its Subcontractors retains and shall be permitted to exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this PLA or by the terms and conditions of the applicable collective bargaining agreement.
- 2.4 Except to the extent contrary to an express provision of the relevant collective bargaining agreement, equipment or materials used in the Project may be pre-assembled or prefabricated, and there shall be no refusal by the Union to handle, transport, install, or connect such equipment or materials. Equipment or materials delivered to the job-site will be unloaded and handled promptly without regard to potential jurisdictional disputes; any such disputes shall be handled in accordance with the provisions of this PLA.
- 2.5 The parties are mutually committed to promoting a safe working environment for all personnel at the job-site. It shall be the responsibility of each employer to which this PLA applies to provide and maintain safe working conditions for its employees, and to comply with all applicable federal, state, and local health and safety laws and regulations.
- 2.6 The use or furnishing of alcohol or drugs and the conduct of any other illegal activity at the job-site is strictly prohibited. The parties shall take every practical measure consistent with the terms of applicable collective bargaining agreements to ensure that the job-site is free of alcohol and drugs.
- 2.7 All parties to this PLA agree that they will not discriminate against any employee based on race, creed, religion, color, national origin, Union activity, age, gender or sexual orientation and shall comply with all applicable federal, state, and local laws.
- 2.8 In accordance with the Act and to promote diversity in employment, CDB will establish, in cooperation with other parties, the apprenticeship hours which are to be performed by minorities and females on the Project. CDB shall consider the total hours to be performed

by these underrepresented groups, as a percentage of the workforce, and create aspirational goals for each Project, based on the level of underutilization for the service area of the Project. Pursuant to the Project Labor Agreement Act (30 ILCS571) CDB shall provide a quarterly report to the Illinois Department of Labor regarding the racial and gender composition of the workforce on the Project.

Consistent with the Project Labor Agreement Act (30 ILCS571) the parties agree that all Prime Contractors and Subcontractors working on the Project shall be encouraged to utilize the maximum number of apprentices as permitted under the terms of the applicable collective bargaining agreements.

The Unions shall assist the Prime Contractors and each Subcontractor in efforts to satisfy the aspirational goals. The application of this section shall be consistent with all local Union collective bargaining agreements, and the hiring hall rules and regulations established for the hiring of personnel, as well as the apprenticeship standards set forth by each individual Union.

- 2.9 The parties hereto agree that engineering/architectural/surveying consultants' materials testing employees are subject to the terms of this PLA for Construction Work performed for a Contractor or Subcontractor on this Project. These workers shall be fully expected to objectively and responsibly perform their duties and obligations owed to the Board without regard to the potential Union affiliation of such employees or of other employees on the Project.

### **ARTICLE III - ADMINISTRATION OF AGREEMENT**

- 3.1 In order to assure that all parties have a clear understanding of the PLA, and to promote harmony, at the request of the Unions a post-award pre-job conference will be held among the Prime Contractor(s), all Subcontractors and Union representatives prior to the start of any Construction Work on the Project. No later than the conclusion of such pre-job conference, the parties shall, among other matters, provide to one another contact information for their respective representatives (including name, address, phone number, facsimile number, e-mail). Nothing herein shall be construed to limit the right of the Board to discuss or explain the purpose and intent of this PLA with prospective bidders or other interested parties prior to or following its award of the job.
- 3.2 Representatives of the Prime Contractor and the Unions shall meet as often as reasonably necessary following award until completion of the Project to assure the effective implementation of this PLA.
- 3.3 Any notice contemplated under Article VI and VII of this Agreement to a signatory labor organization shall be made in writing to the Local Union with copies to the local Union's International Representative.

### **ARTICLE IV - HOURS OF WORK AND GENERAL CONDITIONS**

- 4.1 The standard work day and work week for Construction Work on the Project shall be consistent with the respective collective bargaining agreements. In the event Project site or other job conditions dictate a change in the established starting time and/or a staggered lunch period for portions of the Project or for specific crafts, the CDB, the Prime Contractor, relevant Subcontractors and business managers of the specific crafts involved shall confer and mutually agree to such changes as appropriate. If proposed work schedule changes

cannot be mutually agreed upon between the parties, the hours fixed at the time of the pre-job meeting shall prevail.

- 4.2 Shift work may be established and directed by the Prime Contractor or relevant Subcontractor as reasonably necessary or appropriate to fulfill the terms of its contract with the Board. If used, shift hours, rates and conditions shall be as provided in the applicable collective bargaining agreement.
- 4.3 The parties agree that chronic and/or unexcused absenteeism is undesirable and must be controlled in accordance with procedures established by the applicable collective bargaining agreement. Any employee disciplined for absenteeism in accordance with such procedures shall be suspended from all work on the Project for not less than the maximum period permitted under the applicable collective bargaining agreement.
- 4.4 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, employment begins and ends at the Project site; employees shall be at their place of work at the starting time; and employees shall remain at their place of work until quitting time.
- 4.5 Except as may be otherwise expressly provided by the applicable collective bargaining agreement, there shall be no limit on production by workmen, no restrictions on the full use of tools or equipment, and no restrictions on efficient use of manpower or techniques of construction other than as may be required by safety regulations.
- 4.6 The parties recognize that specialized or unusual equipment may be installed on the Project. In such cases, the Union recognizes the right of the Prime Contractor or Subcontractor to involve the equipment supplier or vendor's personnel in supervising the setting up of the equipment, making modifications and final alignment, and performing similar activities that may be reasonably necessary prior to and during the start-up procedure in order to protect factory warranties. The Prime Contractor or Subcontractor shall notify the Union representatives in advance of any work at the job-site by such vendor personnel in order to promote a harmonious relationship between the equipment vendor's personnel and other Project employees.
- 4.7 For the purpose of promoting full and effective implementation of this PLA, authorized Union representatives shall have access to the Project job-site during scheduled work hours. Such access shall be conditioned upon adherence to all reasonable visitor and security rules of general applicability that may be established for the Project site at the pre-job conference or from time to time thereafter.

**ARTICLE V — GRIEVANCE PROCEDURES FOR DISPUTES ARISING UNDER A PARTICULAR COLLECTIVE BARGAINING AGREEMENT**

- 5.1 In the event a dispute arises under a particular collective bargaining agreement specifically not including jurisdictional disputes referenced in Article VI below, said dispute shall be resolved by the Grievance/Arbitration procedure of the applicable collective bargaining agreement. The resulting determination from this process shall be final and binding on all parties bound to its process.
- 5.2 Employers covered under this Agreement shall have the right to discharge or discipline any employee who violates the provisions of this Agreement. Such discharge or discipline by a contractor or subcontractor shall be subject to Grievance/Arbitration procedure of the applicable collective bargaining agreement only as to the fact of such violation of this agreement. If such fact is established, the penalty imposed shall not be disturbed. Work at the Project site

shall continue without disruption or hindrance of any kind as a result of a Grievance/Arbitration procedure under this Article.

- 5.3 In the event there is a deadlock in the foregoing procedure, the parties agree that the matter shall be submitted to arbitration for the selection and decision of an Arbitrator governed under paragraph 6.8.

#### **ARTICLE VI —DISPUTES: GENERAL PRINCIPLES**

- 6.1 This Agreement is entered into to prevent strikes, lost time, lockouts and to facilitate the peaceful adjustment of jurisdictional disputes in the building and construction industry and to prevent waste and unnecessary avoidable delays and expense, and for the further purpose of at all times securing for the employer sufficient skilled workers.
- 6.2 A panel of Permanent Arbitrators are attached as Exhibit (B) to this agreement. By mutual agreement between CDB and the Unions, the parties can open this section of the agreement as needed to make changes to the list of permanent arbitrators.
- 6.3 The PLA Jurisdictional Dispute Resolution Process ("Process") sets forth the procedures below to resolve jurisdictional disputes between and among Contractors, Subcontractors, and Unions engaged in the building and construction industry. Further, the Process will be followed for any grievance or dispute arising out of the interpretation or application of this PLA by the parties except for the prohibition on attorneys contained in 6.11. All decisions made through the Process are final and binding upon all parties.

#### **DISPUTE PROCESS**

- 6.4 Administrative functions under the Process shall be performed through the offices of the President and/or Secretary-Treasurer of the Illinois AFL-CIO, or their designated representative, called the Administrator. In no event shall any officer, employee, agent, attorney, or other representative of the Illinois AFL-CIO be subject to any subpoena to appear or testify at any jurisdictional dispute hearing.
- 6.5 There shall be no abandonment of work during any case participating in this Process or in violation of the arbitration decision. All parties to this Process release the Illinois AFL-CIO from any liability arising from its action or inaction and covenant not to sue the Illinois AFL-CIO, nor its officers, employees, agents or attorneys.
- 6.6 In the event of a dispute relating to trade or work jurisdiction, all parties, including the employers, Contractors or Subcontractors, agree that a final and binding resolution of the dispute shall be resolved as follows:
- (a) Representatives of the affected trades and the Contractor or Subcontractor shall meet on the job-site within two (2) business days after receiving written notice in an effort to resolve the dispute. (In the event there is a dispute between local Unions affiliated with the same International Union, the decision of the General President, or his/her designee, as the internal jurisdictional authority of that International Union, shall constitute a final and binding decision and determination as to the jurisdiction of work.)
  - (b) If no settlement is achieved subsequent to the preceding Paragraph, the matter shall be referred to the local area Building & Construction Trades Council, which shall meet with

the affected trades within two (2) business days subsequent to receiving written notice. In the event the parties do not wish to avail themselves of the local Building & Construction Trades Council, the parties may elect to invoke the services of their respective International Representatives with no extension of the time limitations. An agreement reached at this Step shall be final and binding upon all parties.

(c) If no settlement agreement is reached during the proceedings contemplated by Paragraphs "a" or "b" above, the matter shall be immediately referred to the Illinois Jurisdictional Dispute Process for final and binding resolution of said dispute. Said referral submission shall be in writing and served upon the Illinois AFL-CIO, or the Administrator, pursuant to paragraph 6.4 of this agreement. The Administrator shall, within three (3) days, provide for the selection of an available Arbitrator to hear said dispute within this time period. Upon good cause shown and determined by the Administrator, an additional three (3) day extension for said hearing shall be granted at the sole discretion of the Administrator. Only upon mutual agreement of all parties may the Administrator extend the hearing for a period in excess of the time frames contemplated under this Paragraph. Business days are defined as Monday through Friday, excluding contract holidays.

6.7 The primary concern of the Process shall be the adjustment of jurisdictional disputes arising out of the Project. A sufficient number of Arbitrators shall be selected from list of approved Arbitrators as referenced Sec. 6.2 and shall be assigned per Sec. 6.8. Decisions shall be only for the Project and shall become effective immediately upon issuance and complied with by all parties. The authority of the Arbitrator shall be restricted and limited specifically to the terms and provisions of Article VI and generally to this Agreement as a whole.

6.8 The Arbitrator chosen shall be randomly selected based on the list of Arbitrators in Sec. 6.2 and geographical location of the jurisdictional dispute and upon his/her availability, and ability to conduct a Hearing within two (2) business days of said notice. The Arbitrator may issue a "bench" decision immediately following the Hearing or he/she may elect to only issue a written decision, said decision must be issued within two (2) business days subsequent to the completion of the Hearing. Copies of all notices, pleadings, supporting memoranda, decisions, etc. shall be provided to all disputing parties and the Illinois State Federation of Labor.

Any written decision shall be in accordance with this Process and shall be final and binding upon all parties to the dispute and may be a "short form" decision. Fees and costs of the arbitrator shall be divided evenly between the contesting parties except that any party wishing a full opinion and decision beyond the short form decision shall bear the reasonable fees and costs of such full opinion. The decision of the Arbitrator shall be final and binding upon the parties hereto, their members, and affiliates.

In cases of jurisdictional disputes or other disputes between a signatory labor organization and another labor organization, both of which is an affiliate or member of the same International Union, the matter or dispute shall be settled in the manner set forth by their International Constitution and/or as determined by the International Union's General President whose decision shall be final and binding upon all parties. In no event shall there be an abandonment of work.

6.9 In rendering a decision, the Arbitrator shall determine:

(a) First, whether a previous agreement of record or applicable agreement, including a disclaimer agreement, between National or International Unions to the dispute or agreements between

local Unions involved in the dispute, governs;

- (b) Only if the Arbitrator finds that the dispute is not covered by an appropriate or applicable agreement of record or agreement between the crafts to the dispute, he shall then consider the established trade practice in the industry and prevailing practice in the locality. Where there is a previous decision of record governing the case, the Arbitrator shall give equal weight to such decision of record, unless the prevailing practice in the locality in the past ten years favors one craft. In that case, the Arbitrator shall base his decision on the prevailing practice in the locality. Except, that if the Arbitrator finds that a craft has improperly obtained the prevailing practice in the locality through raiding, the undercutting of wages or by the use of vertical agreements, the Arbitrator shall rely on the decision of record and established trade practice in the industry rather than the prevailing practice in the locality; and,
- (c) Only if none of the above criteria is found to exist, the Arbitrator shall then consider that because efficiency, cost or continuity and good management are essential to the well being of the industry, the interests of the consumer or the past practices of the employer shall not be ignored.

6.10 The Arbitrator shall set forth the basis for his/her decision and shall explain his/her findings regarding the applicability of the above criteria. If lower ranked criteria are relied upon, the Arbitrator shall explain why the higher-ranked criteria were not deemed applicable. The Arbitrator's decision shall only apply to the Project. Agreements of Record, for other PLA projects, are applicable only to those parties signatory to such agreements. Decisions of Record are those that were either attested to by the former Impartial Jurisdictional Disputes Board or adopted by the National Arbitration Panel.

6.11 All interested parties, as determined by the Arbitrator, shall be entitled to make presentations to the Arbitrator. Any interested labor organization affiliated to the PLA Committee and party present at the Hearing, whether making a presentation or not, by such presence shall be deemed to accept the jurisdiction of the Arbitrator and to agree to be bound by its decision. In addition to the representative of the local labor organization, a representative of the labor organization's International Union may appear on behalf of the parties. Each party is responsible for arranging for its witnesses. In the event an Arbitrator's subpoena is required, the party requiring said subpoena shall prepare the subpoena for the Arbitrator to execute. Service of the subpoena upon any witness shall be the responsibility of the issuing party. Attorneys shall not be permitted to attend or participate in any portion of a Hearing. The parties are encouraged to determine, prior to Hearing, documentary evidence which may be presented to the Arbitrator on a joint basis.

6.12 The Order of Presentation in all Hearings before an Arbitrator shall be

- I. Identification and Stipulation of the Parties
- II. Unions(s) claiming the disputed work presents its case
- III. Union(s) assigned the disputed work presents its case
- IV. Employer assigning the disputed work presents its case
- V. Evidence from other interested parties (i.e., general contractor, project manager, owner)
- VI. Rebuttal by Union(s) claiming the disputed work
- VII. Additional submissions permitted and requested by Arbitrator
- VIII. Closing arguments by the parties

6.13 All parties bound to the provisions of this Process hereby release the Illinois AFL-CIO and CDB, their respective officers, agents, employees or designated representatives,

specifically including any Arbitrator participating in said Process, from any and all liability or claim, of whatsoever nature, and specifically incorporating the protections provided in the Illinois Arbitration Act, as amended from time to time.

- 6.14 Neither the Process, as an arbitration panel, nor its Administrator, shall have any authority to undertake any action to enforce its decision(s). Rather, it shall be the responsibility of the prevailing party to seek appropriate enforcement of a decision, including findings, orders or awards of the Arbitrator or Administrator determining non-compliance with a prior award or decision.
- 6.15 If at any time there is a question as to the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process, the primary responsibility for any determination of the arbitrability of a dispute and the jurisdiction of the Arbitrator shall be borne by the party requesting the Arbitrator to hear the underlying jurisdictional dispute. The affected party or parties may proceed before the Arbitrator even in the absence or one or more stipulated parties with the issue of jurisdiction as an additional item to be decided by the Arbitrator. The Administrator may participate in proceedings seeking a declaration or determination that the underlying dispute is subject to the jurisdiction and process of the Illinois Jurisdictional Dispute Resolution Process. In any such proceedings, the non-prevailing party and/or the party challenging the jurisdiction of the Illinois Jurisdictional Dispute Resolution Process shall bear all the costs, expenses and attorneys' fees incurred by the Illinois Jurisdictional Dispute Resolution Process and/or its Administrator in establishing its jurisdiction.

#### **ARTICLE VII - WORK STOPPAGES AND LOCKOUTS**

- 7.1 During the term of this PLA, no Union or any of its members, officers, stewards, employees, agents or representatives shall instigate, support, sanction, maintain, or participate in any strike, picketing, walkout, work stoppage, slow down or other activity that interferes with the routine and timely prosecution of work at the Project site or at any other contractor's or supplier's facility that is necessary to performance of work at the Project site. Hand billing at the Project site during the designated lunch period and before commencement or following conclusion of the established standard workday shall not, in itself, be deemed an activity that interferes with the routine and timely prosecution of work on the Project.
- 7.2 Should any activity prohibited by paragraph 7.1 of this Article occur, the Union shall undertake all steps reasonably necessary to promptly end such prohibited activities.
- (a) No Union complying with its obligations under this Article shall be liable for acts of employees for which it has no responsibility or for the unauthorized acts of employees it represents. Any employee who participates or encourages any activity prohibited by paragraph 7.1 shall be immediately suspended from all work on the Project for a period equal to the greater of (a) 60 days; or (b) the maximum disciplinary period allowed under the applicable collective bargaining agreement for engaging in comparable unauthorized or prohibited activity.
- (b) Neither the PLA Committee nor its affiliates shall be liable for acts of employees for which it has no responsibility. The principal officer or officers of the PLA Committee will immediately instruct, order and use the best efforts of his office to cause the affiliated Union or Unions to cease any violations of this Article. The PLA Committee in its compliance with this obligation shall not be liable for acts of its affiliates. The principal officer or officers of any involved affiliate will immediately instruct, order or use the best effort of his office to cause



the employees the Union represents to cease any violations of this Article. A Union complying with this obligation shall not be liable for unauthorized acts of employees it represents. The failure of the Contractor to exercise its rights in any instance shall not be deemed a waiver of its rights in any other instance. During the term of this PLA, the Prime Contractor and its Subcontractors shall not engage in any lockout at the Project site of employees covered by this Agreement.

- 7.3 Upon notification of violations of this Article, the principal officer or officers of the local area Building and Construction Trades Council, and the Illinois AFL-CIO Statewide Project Labor Agreement Committee as appropriate, will immediately instruct, order and use their best efforts to cause the affiliated Union or Unions to cease any violations of this Article. A Trades Council and the Committee otherwise in compliance with the obligations under this paragraph shall not be liable for unauthorized acts of its affiliates.
- 7.4 In the event that activities in violation of this Article are not immediately halted through the efforts of the parties, any aggrieved party may invoke the special arbitration provisions set forth in paragraph 7.5 of this Article.
- 7.5 Upon written notice to the other involved parties by the most expeditious means available, any aggrieved party may institute the following special arbitration procedure when a breach of this Article is alleged:
- (a) The party invoking this procedure shall notify the individual designated as the Permanent Arbitrator pursuant to paragraph 6.8 of the nature of the alleged violation; such notice shall be by the most expeditious means possible. The initiating party may also furnish such additional factual information as may be reasonably necessary for the Permanent Arbitrator to understand the relevant circumstances. Copies of any written materials provided to the arbitrator shall also be contemporaneously provided by the most expeditious means possible to the party alleged to be in violation and to all other involved parties.
  - (b) Upon receipt of said notice the Permanent Arbitrator shall set and hold a hearing within twenty-four (24) hours if it is contended the violation is ongoing, but not before twenty-four (24) hours after the written notice to all parties involved as required above.
  - (c) The Permanent Arbitrator shall notify the parties by facsimile or any other effective written means, of the place and time chosen by the Permanent Arbitrator for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Permanent Arbitrator.
  - (d) The sole issue at the hearing shall be whether a violation of this Article has, in fact, occurred. An Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Permanent Arbitrator may order cessation of the violation of this Article, and such Award shall be served on all parties by hand or registered mail upon issuance.
  - (e) Such Award may be enforced by any court of competent jurisdiction upon the filing of the Award and such other relevant documents as may be required. Facsimile or other hardcopy written notice of the filing of such enforcement proceedings shall be given to the other relevant parties. In a proceeding to obtain a temporary order enforcing the Permanent

Arbitrator's Award as issued under this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Permanent Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by registered mail.

- 7.6 Individuals found to have violated the provisions of this Article are subject to immediate termination. In addition, CDB reserves the right to terminate this PLA as to any party found to have violated the provisions of this Article.
- 7.7 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by parties to whom they accrue.
- 7.8 The fees and expenses of the Permanent Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.

#### **ARTICLE VIII — TERMS OF AGREEMENT**

- 8.1 If any Article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 8.2 This Agreement shall be in full force as of and from the date of the Authorization to Proceed until the Project contract is closed.
- 8.3 This PLA may not be changed or modified except by the subsequent written agreement of the parties. All parties represent that they have the full legal authority to enter into this PLA. This PLA may be executed by the parties in one or more counterparts.
- 8.4 Any liability arising out of this PLA shall be severable and not joint. CDB shall not be liable to any person or other party for any violation of this PLA by any other party, and no Contractor or Union shall be liable for any violation of this PLA by any other Contractor or Union.
- 8.5 The failure or refusal of a party to exercise its rights hereunder in one or more instances shall not be deemed a waiver of any such rights in respect of a separate instance of the same or similar nature.

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Exhibit A - Contractor Letter of Assent

(Date)\_\_\_\_\_

To All Parties:

In accordance with the terms and conditions of the contract(s) for Construction Work on Project No. 805-030-017, this Letter of Assent hereby confirms that the undersigned Prime Contractor or Subcontractor agrees to be bound by the terms and conditions of the Project Labor Agreement established and entered into by the Illinois Capital Development Board in connection with said Project.

It is the understanding and intent of the undersigned party that this Project Labor Agreement shall pertain only to the identified Project. In the event it is necessary for the undersigned party to become signatory to a collective bargaining agreement to which it is not otherwise a party in order that it may lawfully make certain required contributions to applicable fringe benefit funds, the undersigned party hereby expressly conditions its acceptance of and limits its participation in such collective bargaining agreement to its work on the Project.

\_\_\_\_\_  
(Authorized Company Officer)

\_\_\_\_\_  
(Company)



DIVISION 1 - GENERAL REQUIREMENTS  
**01 11 00 – Project Summary**

1. **STANDARD DOCUMENTS FOR CONSTRUCTION:** CDB's 2009 edition of the Standard Documents for Construction (SDC) and the Supplement to Standard Documents for Construction (Section 01 11 01) shall apply to this project.
2. **GENERAL PROJECT INFORMATION:**
  - A. **DESCRIPTION:** Renovation of seven residence halls at the Illinois Math and Science Academy including the removal and replacement of the following building components: PTAC units, vinyl siding, windows, exterior doors, aluminum fascias, gutters and downspouts.
  - B. **EXISTING CONDITIONS:** The residence halls will be operating and functioning during the time of construction. Two of the seven residence halls will be occupied with students during the duration of construction (see drawing sheet G2.0 for the construction phasing plan organized around maintaining two occupiable residence halls during construction).
3. **SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS PROJECTS ACT**
  - A. Effective January 1, 2008, contractors and subcontractors on CDB projects must submit a substance abuse plan to CDB as part of the post award process to the extent they are not party to a collective bargaining agreement which addresses substance abuse.
  - B. The plan must, at a minimum, meet the requirements set forth in Public Act 95-635. The text of this act is available on CDB's website.
  - C. Add to SDC section 00 51 40 Post Award Requirements: "I. A completed Substance Abuse Prevention Certification form (available in the Reference Library on CDB's website) and Contractor's substance abuse plan, if applicable. "
4. **APPRENTICESHIP TRAINING REQUIREMENT**
  - A. Effective June 1, 2004, all bidders and all their subcontractors must be participants in apprenticeship and training programs that are both approved by and registered with the U.S. Departments of Labor's Bureau of Apprenticeship and Training. The program(s) must be in the same trade(s) in which the firm performs work.
  - B. A statement to the above effect has been added to the Representations and Certifications section of the Bid Form (00 41 00). Bidders must be a member of an approved apprenticeship program prior to beginning work on the project.
  - C. CDB, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and each of its subcontractors. Unless otherwise directed in writing by CDB, applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor.
  - D. In order to fulfill this requirement, it shall not be necessary that an applicable

program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

- E. For information on how to participate in or set up a program, contractors may call David Wyatt at the U.S. Department of Labor (312/596-5508) or check the USDOL website: [www.doleta.gov/atels\\_bat/](http://www.doleta.gov/atels_bat/).

5. **DELINQUENT DEBT**

- A. The State of Illinois has instituted a policy to ensure that no vendor, or potential state vendor, receives a state contract if that vendor owes a delinquent debt to any state agency.
- B. "Delinquent debt" is any cumulative amount of money totaling \$1,000 owed to state agencies that are at least 90 days past due. This includes taxes or payments of any kind.
- C. This policy not only covers individuals, businesses or entities that seek to enter into a state contract, but any subcontractor employed by that individual, business or entity at the time a state contract is sought.
- D. The policy also can be retroactive following a contract award. If a contract is awarded to a vendor, and during the term of the contract the vendor or a subcontractor incurs a delinquent debt with the state, CDB will notify the vendor. At its discretion, the agency *can* give the vendor or subcontractor 30 days to pay the delinquent debt. If the debt is not paid during this grace period, the contract or subcontract will be cancelled.
- E. Bidders are required to list all subcontractors that the vendor knows will be employed as part of a state contract, along with all applicable Federal Employee Identification Numbers or Social Security Numbers on the bid form.
- F. Before awarding a contract, CDB will check the bidder and listed subcontractors and suppliers against the delinquent debt list in the Comptroller's Office to determine if the bidder is eligible for a contract award. If a delinquent debt is found during the check with the Comptroller's Office, the contract award will be denied.

6. **CONTRACT TIME:** Refer to Articles 00 72 10 and 01 32 00 of the Standard Documents for Construction.

SPECIAL NOTICE - DEADLINE FOR COMPLETION. Contractor shall commence work immediately upon receipt of the Authorization to Proceed. No construction may begin prior to June 2, 2014. Partial Substantial Completion for buildings 1504 and 1505 shall be complete in accord with the contract no later than July 7, 2014. Project Substantial completion shall be complete in accord with the contract no later than August 8, 2014. The contractor shall complete all work in accord with the contract (Final Acceptance) within 45 consecutive calendar days from the date of Substantial Completion.

7. **CONTRACT(S).** Construct project under separate work contracts, under the terms of which CDB will assign the other contracts to the coordinating contractor, identified as the General contractor. Refer to Article 00 72 20 of the Standard Documents for Construction:
1. General.
  2. Heating.
  3. Plumbing.
  4. Electrical.
8. **PRE-BID CONFERENCE.** The pre-bid meeting will be held December 18, 2013 at 10:00 AM. The location of the pre-bid meeting will be held at the Illinois Math and Science Academy, 1500 Sullivan Road, Aurora, IL 60506. Bidders are strongly urged to attend this meeting. See SDC 00 21 10 and 00 25 00.
9. **CONSTRUCTION ADMINISTRATION FEE:** A construction administration fee is applicable to the following contracts in accordance with Article 00 21 40 of the Standard Documents for Construction:
1. General \$136,500.00
  2. Heating \$43,100.00
  3. Plumbing \$4,800.00
  4. Electrical \$3,400.00
10. **BID SECURITY:** Bid security must be submitted with each bid equal to 10% of the base bid and must be in the form of a CDB bid bond, certified check, cashier's check or bank draft. Refer to Article 00 43 13 of the Standard Documents for Construction.
11. **BIDDER'S EMPLOYEE UTILIZATION FORM, DHR PC-2**
- A. **Requirement.** All bidders shall complete Table A of the DHR Form PC-2. The bidder shall complete the appropriate DHR Form PC-2 per Para. 00 43 48.1 of the SDC and as identified by trade category. Failure to complete may result in rejection of the bid per Para. 00 43 48.1 of the SDC.
  - B. **Projections.** Workforce projections, as identified by completing Table A, shall be those for the specific project being bid. Workforce projections shall include the bidder's subcontractor(s) workforce. The bidder, if awarded a contract, shall be responsible for ensuring the subcontractor(s) meet minority/female workforce goals.
  - C. **No Goal Contracts.** For those trade categories designated as "no goals", the bidder shall complete the DHR Form PC-2 as indicated in Paragraph A above. CDB encourages the bidder to utilize minority/female tradespersons on "no goals" designated contracts.

12. **BUSINESS ENTERPRISE FOR MINORITIES, FEMALES AND PERSONS WITH DISABILITIES ACT:**

- A. This project has goals for participation by minority and female owned businesses as first and second tier (level) subcontractors or suppliers in accord with the Business Enterprise for Minorities, Females, and Persons with Disabilities Act. Only MBE/FBE firms certified or registered with the Illinois Department of Central Management Services are acceptable. NOTE: MBE/FBE goals are in addition to those specified for workforce projections (DHR Form PC-2 Form).

MBE/FBE GOALS FOR THIS PROJECT. Each bidder shall name, on the Bid Form provided (00 41 05), the MBE/FBE owned subcontractors and suppliers it intends to use to meet the specified goals:

- |                     |                       |
|---------------------|-----------------------|
| 1. General Contract | 18% (13% MBE, 5% FBE) |
| 2. Heating          | 18% (13% MBE, 5% FBE) |
| 3. Plumbing         | 0%                    |
| 4. Electrical       | 0%                    |

If the goals are not met, the bidder shall submit within 7(seven) calendar days after the bid opening documentation of its good faith efforts to achieve the goals (See Article 00 43 39.8 of the SDC). Failure to submit such documentation, or to use good faith efforts, shall result in rejection of the bid.

- B. Bidders may request assistance in locating MBE/FBE businesses from the Capital Development Board, Fair Employment Practices section.
- C. The awarded contractor is required to submit, accordance with Article 005140, a completed Document 00665 for each of the MBE/FBE subcontractors/suppliers who will be utilized to meet the goals.
- D. MBE/FBE business named on the Bid form (004105) and the form 00665, as well as dollar amounts, must match.

13. **BUILDERS RISK INSURANCE, DESIGNATED PURCHASER.** Coordinating contractor shall purchase and maintain builder's risk insurance in accord with Article 00 73 19 of the Standard Documents for Construction.

14. **BUY ILLINOIS PROGRAM.** The Buy Illinois Program encourages contractors to incorporate products manufactured, fabricated or assembled in the State of Illinois. It is a voluntary program; there is no incentive provision affecting the award of the contract nor is there a required percent of the contract that must be Illinois products

- A. Illinois products will be indicated in the project manual with (IL) preceding the item in the specification paragraph. Typically, only specifications that are prescriptive, those listing three or more manufacturers, will be in the program. Contractors should consider these products when procuring the materials and equipment for the project. If the contractor is aware of an Illinois product not listed, the contractor is encouraged to advise the A/E prior to bidding or offer a product substitution with the bid. CDB will verify that the product meets the



definition of an Illinois product and add it to CDB's Buy Illinois product directory.

- B. Contractors should provide the total value of Illinois products on the Contractor's Schedule of Values (CSV) in the space provided. The individual items included in the total should be identified by putting (IL) in front of their descriptions on the CSV.
- C. Where material is specified by standards and/codes and not by a list of acceptable manufacturers, contractors are still encouraged to purchase Illinois products. However, the contractor should not include these materials in the computation of the total dollars for Illinois products on the CSV.

**15. USE OF ILLINOIS LABOR**

- A. 30 ILCS 570 mandates that during a period of excessive unemployment at least 90% of the total labor hours on State construction projects must be performed by persons who have resided in Illinois for at least thirty (30) days and intend to become or remain Illinois residents,. (30 ILCS 570/3). 'A period of excessive unemployment' means any month immediately following 2 consecutive calendar months during which the level of unemployment in the State of Illinois has exceeded 5% as measured by the United States Bureau of Labor Statistics in its monthly publication of employment and unemployment figures. (30 ILCS 570/1)
- B. Contractors are required to incorporate the above provisions into all subcontracts for subcontractors who will have workers at the project site.
- C. To verify that this requirement is being met, contractors must submit Certified Payroll forms for themselves and their subcontractors each month for the duration of the contract/subcontract.
  - 1. The Certified Payroll form(s) must include the name and address of each worker on the project site during the time period covered by the form.
  - 2. For subcontractors, the contractor will include the beginning and ending dates of the subcontract on the Certified Payroll form.
  - 3. If Certified Payroll forms are not submitted timely, payment may be reduced or withheld until Certified Payroll submittals are brought up to date.

16. **DURATION OF BIDS.** The bidders shall hold their bids open for 90 calendar days after the bid opening in lieu of the sixty 60 calendar days required by Para. 00 51 10.3 of the Standard Documents for Construction.

17. **VALUE MANAGEMENT.** The value management program is applicable to this project.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 11 01 – Supplement to SDC and SDC-CM**

The Standard Documents for Construction and Standard Documents for Construction for Projects with a Construction Manager are hereby changed. The following articles replace those in the 2006 and 2009 editions. All other articles remain applicable.

**00 21 50 WORK WITH OWN STAFF**

**.2 Subcontractors and Suppliers**

**C. Subcontract/Supplier Disclosure.** The Contractor shall submit with his/her bid the names and CDB issued identification (ID) numbers (prequalification ID number or registration ID number), if known, of all first tier subcontractors and suppliers with a subcontract value greater than \$50,000 to be utilized by the Contractor in the performance of this contract and any lower tier subcontractor/supplier with a subcontract value greater than \$50,000 and where the subcontractor/supplier is either named in the specifications or is one over whom the Contractor retains the right to approve and/or make payments for work. The subcontract shall include reference for compliance with Illinois Procurement Code 30 ILCS 500/20-120. Financial and Conflict of Interest disclosures and standard certifications for each subcontractor over \$50,000 must be submitted to CDB by the contractor within 20 days of the execution of a contract with CDB or 20 days of the execution of the subcontract, whichever is later. The Contractor shall promptly notify the State in writing of any additional or substitute subcontractors meeting the above criteria hired during the term of this contract (names, addresses, expected contract amount and CDB ID nos.). Upon request by the CPO, the Contractor shall provide CDB a copy of each subcontractor's subcontract. No work can be performed by these subcontractors until the Certifications and Disclosures have been reviewed and approved by the State Purchasing Officer.

**00 43 39 MINORITY AND FEMALE BUSINESS ENTERPRISE PARTICIPATION**

- .1 Certification.** CDB will only accept Minority and Female Business Enterprise (MBE/FBE) firms certified by the Illinois Department of Central Management Services (CMS) as a MBE or FBE; or a MBE/FBE that has been certified by an agency recognized by CMS and is registered with CMS as MBE/FBE. In each case, the MBE/FBE's certification/registration with CMS shall be in good standing prior to the bid opening.
- .2 Designated Projects.** CDB may designate projects with "MBE/FBE Participation Goals." See the bid form and Section **01 11 00** of the project manual for applicable goals for first and second tier (level) subcontractors and supplier MBE/FBE participation.
- .3 Bid Form.** Each bidder shall name, on the bid form provided, the minority and female owned businesses it intends to use to meet the specified goals. If the specified goals are not met, the bidder shall submit with its bid a request for change/waiver of MBE/FBE goals or, within 7 (seven) calendar days of the bid opening, submit documentation of its good faith efforts to achieve the goals.
- .4 MBE/FBE Bidder.** If the bidder is a minority or female owned business, indicate by stating "Bidder is an MBE/FBE firm" on the applicable page of the bid form. CDB encourages MBE/FBE prime bidders to use MBE/FBE subcontractors/suppliers.

- .5 Joint Venture.** If the bidder is a joint venture, the percentage of ownership held by the MBE/FBE joint venturer may be used to meet the MBE/FBE goal for the contract.
- .6 Subcontracts.** Subcontracting of work to a lower tier non-MBE/FBE firm which would reduce the proceeds received by the subcontracting MBE/FBE firm below the specified goal is prohibited. CDB may, in such cases, reject the bid or terminate the contract. Refer to Paragraph [00 51 20.2.A.10](#)).
- .7 Request for Assistance.** If the bidder needs assistance in locating subcontractors or suppliers to meet the goals, bidder shall contact CDB's Fair Employment Practices Division prior to the submittal of the bid.
- .8 Submittal of good faith documentation or change waiver request. Include with the package:**
- A. All information indicating why the specified goal cannot be met.
  - B. A list of all MBE/FBE firms contacted and the dates they were contacted, including documentation from those firms.
  - C. Copies of all bid solicitation letters to MBE/FBE firms. Letters shall contain, as a minimum:
    - 1) Project Title and Location
    - 2) Classification of Work Items for Which Quotations are Requested
    - 3) Date, Time, and Place Quotations are Due
    - 4) Returnable Acknowledgment of the Solicitation
  - D. Evidence, such as a log, of telephone contact including time and date of call, telephone number, and name of the person called.
  - E. All other evidence of good faith efforts made by the bidder to secure eligible MBE/FBE firms to meet the specified goal. Evidence may include documentation that states the following:
    - 1) A reasonable number of MBE/FBE firms were contacted.
    - 2) The work selected by the bidder for allocation to MBE/FBE firms was selected in order to increase the likelihood of achieving the specified goal.
    - 3) The bidder negotiated, in good faith, with the potential MBE/FBE firms by not imposing any conditions which are not similarly imposed on all other subcontractors and suppliers, or by denying benefits ordinarily conferred on subcontractors or suppliers for the type of work for which bids were solicited.
    - 4) The services of the referral agencies were used by the bidder in efforts to achieve the specified goal.
    - 5) The bidder attended CDB pre-bid meeting for the project.
  - F. Other relevant information in support of the change/waiver request.
- .9 Replacement of MBE/FBE Subcontractor or Supplier.** If it can be demonstrated that the MBE/FBE subcontractor or supplier cannot perform the work, or if a MBE/FBE loses its CMS certification/registration after the bid opening, then the Contractor shall make a good faith effort to replace, in-kind, the MBE/FBE. The contractor shall identify the replacement MBE/FBE or provide evidence of good faith effort to find a replacement on the Contractor's letterhead and submit with documented evidence of cause to CDB's Office of Fair Employment Practice. CDB will review submittal and may, at its sole discretion, authorize the replacement or approve the good faith effort.

**.10 Calculation of MBE/FBE Participation as a Material Supplier or Subcontractor**

- A. MBE/FBE as a material supplier: A 100 percent goal credit is allowed for the cost of materials or purchases from a MBE/FBE regular dealer.
- B. MBE/FBE as a subcontractor: A 100 percent goal credit is allowed for the work of the subcontract performed by the MBE/FBE's own forces (performing, managing and supervising the work), including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the MBE/FBE subcontractor from the prime Contractor or its affiliates. Work that a MBE/FBE subcontractor in turn subcontracts to a non-MBE/FBE does not count toward the MBE/FBE goal.

## **00 45 00 CERTIFICATIONS OF COMPLIANCE WITH APPLICABLE LAWS**

**.14 Recertification.** If the contract extends over multiple years, vendor (A/E or Contractor) and its subcontractors will sign and submit to CDB Contracts the required Compliance Form (available in the Reference Library on CDB's website: [www.cdb.state.il.us](http://www.cdb.state.il.us)) by April 1 of each subsequent year after the contract is signed. Failure to do so may result in voiding the contract by operation of law or rendering the contract voidable at the option of the State without additional compensation. Violations of certain provisions may also be deemed a civil or criminal offense.

## **00 51 20 ACCEPTANCE AND REJECTION OF BIDS**

**.1 CDB's Rights.** When, in its opinion, it is in the best interest of the state, CDB reserves the right to:

- A. Accept any bid
- B. Reject any or all bids
- C. Waive technical deficiencies and irregularities
- D. Allow bidder to remedy technical deficiencies or irregularities within a stated time
- E. Rescind any notice of award if CDB determines the notice of award was issued in error
- F. Rescind any notice of award when it is in the best interest of the state
- G. Rebid any contract

### **.2 Bid Rejection.**

A. Bids will be rejected for the following material deficiencies:

- 1) Failure to be prequalified with CDB no later than the close of business the day before the bid opening (Article [00 21 05](#)) or being determined non-responsible after bid opening.
- 2) Submission of a bid late (Paragraph [00 51 10.1](#)).
- 3) Failure to submit bid and/or bid modifications to appropriate bid opening office.
- 4) Submission of a bid in a manner that reveals the bid price prior to the bid opening (example: by fax). (Paragraph [00 42 10.4](#)).
- 5) Use of a bid envelope, which is received by CDB unsealed, or marked in a manner that does not reasonably identify the project and/or contract for which it is intended (Paragraph [00 42 10.3](#)).
- 6) Omission of a base bid price, alternate bid price or unit price (Paragraph [00 42 10.1](#)).
- 7) Submission of a bid price that cannot be determined.
- 8) Deletion of original signatures to the extent that an intent to be bound by the bid is not apparent.

- 9) When CDB does not accept the unit price(s), when those prices are an integral part of the base bid, all bids for that contract will be rejected.
  - 10) Failure to attend a mandatory pre-bid meeting.
  - 11) Bids not in substantial conformance with the bidding documents and whose non-conformance is determined to be material and unresponsive.
  - 12) Failure to submit a completed CDB form 00 41 05 (Minority/Female Business Participation).
  - 13) Failure to use good faith efforts to achieve minority/female business participation goals.
  - 14) Failure to submit Bidder Disclosure(s) form and Certifications with bid.
- B. The following technical deficiencies may be remedied by the bidder within seven calendar days. Failure to remedy the bid within seven calendar days shall result in rejection of the bid. These technical deficiencies are:
- 1) Failure to use a revised bid form when bid forms have been changed by addenda.
  - 2) Failure to acknowledge an addendum, however adjustment of the bid amount will not be allowed.
  - 3) Failure to provide USDOL Apprenticeship and Training Certification for bidder and all known subcontractors.
  - 4) Failure to submit bidder's Certificate of Registration in an approved apprenticeship and training program.
  - 5) Failure to supply subcontractor and/or supplier names and Taxpayer Identification Numbers as required.
  - 6) Submission of a bid bond not on CDB's form (Paragraphs [00 43 13.1](#) and [00 43 13.2](#)).
  - 7) Submission of a bid security in a form other than a bid bond, certified check, cashier's check or bank draft (Paragraph [00 43 13.1](#)).
  - 8) Omission of the signature of the officer of the surety or any other required signatures except the signature in Paragraph [00 51 20.2.A.8](#)), submission of those signatures in pencil or submission of a non-original signature.
  - 9) Replacement of a bid security from an unacceptable surety with one from a surety acceptable to CDB (Paragraph [00 43 13.4](#)).
  - 10) Failure to furnish and/or complete the DHR PC-2 form.
  - 11) When applicable, failure to submit documentation of good faith efforts to meet MBE/FBE goals.
  - 12) Failure to submit a signed affidavit stating that the bidder will maintain an Illinois office as the primary place of employment for persons employed in the construction authorized by the contract.

13) Failure to submit Certificate of Registration with State Board of Elections in accord with 30 ILCS 500/20-160.

14) Failure to submit Disclosure of Business Operations with Government of Iran form in accord with 30 ILCS 500/50-36.

C. CDB at its sole discretion and without conferring any rights on any bidder may waive bid technical deficiencies or irregularities that are not in conformance with the bidding documents but whose non-conformance is non-material or minor.

D. Submittal of conditions or qualifying statements contrary to CDB's contract terms is not acceptable and, unless rescinded, the bid shall be rejected.

### **00 51 28 MBE/FBE BUSINESS CERTIFICATION, POST REQUIREMENTS**

**.1 Post-Award submittal .** See Article 005140. The contract awardee shall submit CDB's MBE/FBE Subcontractor Supplier Certification form, Document 00665 (available in the Reference Library on CDB's website), for each of the MBE/FBE subcontractor(s) and/or supplier(s) being utilized to meet the designated participation goals as specified on the bid form and in Section 01 11 00 of the project manual. The form must be signed by the MBE/FBE subcontractor or supplier and shall be submitted to CDB's FEP section.

Completion of the 00665 form is not required if the Contractor is an MBE or FBE firm. MBE/FBE prime contractors are encouraged to utilize MBE/FBE subcontractors/suppliers. If goals are split (separate MBE and FBE goals), then an MBE or FBE firm must supply 00665 forms for the subcontractor firm(s) utilized to meet the FBE or MBE goal, respectively.

**.2 Listed Firms.** The 00665 certification form shall be completed and submitted for each MBE/FBE firm listed on the bid form.

**.3 Compliance.** The MBE/FBE participation goal dollar value is based upon the total contract sum (including awarded alternates). The participation goal percentage amount(s) shall meet or exceed the goal(s) as specified on the bid form (and in Section 01 11 00 of the project manual), or in an approved change/waiver request (refer to Article 00 43 39 herein).

**.4 Voluntary.** Contractors are encouraged to utilize MBE/FBE subcontractors/suppliers for those projects that are not designated for MBE/FBE participation and complete the 00665 certification form for each MBE/FBE firm. MBE/FBE subcontractors/suppliers may be added at any time during the project.

**.5 Subcontracts/Supplier agreements.** Copies of subcontracts or supplier agreements (to correspond with each 00665 form) are required to be submitted within ten (10) days of the Notice of Award.

### **00 51 40 POST AWARD REQUIREMENTS**

**.1 Contractor's Duty to Comply.** The Contractor may not proceed with the work until the following post award requirements are met. These requirements are part of the contract and failure to comply with these requirements shall constitute a breach of the contract. CDB shall issue Authorization to Proceed upon successful completion of these post award requirements.

- .2 Submittals.** Within ten (10) calendar days from the date of the notice of award letter, the Contractor shall furnish, on CDB forms, the following:
- A. Contract executed by the Contractor;
  - B. Performance Bond;
  - C. Labor and Material Payment Bond;
  - D. Certificates of Insurance;
  - E. Builder's Risk Insurance Policy (if applicable);
  - F. MBE/FBE Subcontractor Supplier Certifications, Form 00665 and MBE/FBE Subcontractor/Supplier agreements (if applicable);
  - G. Completed substance Abuse Prevention Certification form and Contractor's substance abuse plan (if applicable),
  - H. DHR PC-2 accepted by FEP Technician; and
- .3 Cancellation of Award.** All post award requirements are mandatory. Noncompliance shall be cause for CDB to cancel the notice of award and make a claim against the bid security.
- .4 Post Award Extensions.** CDB may extend the time limitations for good cause. No extension shall operate as a waiver of post award requirements, nor shall it extend the contract completion date.
- .5 Delays.** Any delays to the commencement of the work due to the Contractor's failure to meet the post award requirements shall be the responsibility of the Contractor and its surety. Contractor and its surety shall be responsible for the costs of any such delays.

## **00 51 45 MBE/FBE BUSINESS POST-AWARD SUBCONTRACTS/SUPPLIER AGREEMENTS**

- .1 General.** Contract awardee shall submit MBE/FBE subcontracts, or supplier agreements within ten (10) days of the Notice of Award.

Submittal is not required if the Contractor is an MBE or FBE firm. If the MBE/FBE prime contractor utilizes MBE/FBE subcontractors, it shall submit copies of subcontracts or agreements for same.

## **00 73 17 BONDS, GENERAL**

### **.4 Discretion to Adjust Criteria**

**5) Sureties that do not have an A.M. Best rating may apply for acceptance to provide bonds up to 50% of their statutory allowed limit or \$500,000, whichever is less, if they meet the following criteria and obtain the Director's approval based on the information requested below.**

#### **Criteria**

- 1. The company must be an Illinois Domiciled company.**
- 2. The company must be licensed to write surety in the State of Illinois.**
- 3. The company has been writing contract surety in Illinois for a minimum of two years.**
- 4. The company is currently and has been a member of the Surety and Fidelity Association of American (SFAA) for the two most recent years.**
- 5. The company must have a Risk-Based Capital ration of 250% or greater.**
- 6. The company must be able to demonstrate the underwriting expertise for contract surety.**



**01 29 73.1 SCHEDULE OF VALUES**

- F. Provide CDB prequalification/registration ID numbers on the CSV form for subcontractors/suppliers described in [00 21 50.2C](#).
- G. Identify work performed by MBE/FBE subcontractors and suppliers on the CSV form.
- H. Revise and resubmit CSV for approval if any substitution or replacement of subcontractors or suppliers occurs.
- I. Revise and resubmit CSV for approval if any change in the contract amount of subcontractors or suppliers other than a change resulting from a change order occurs.

**01 29 76 PROGRESS PAYMENT PROCEDURES**

**.5 Payments to Subcontractors and Suppliers.**

- D. Subcontractors (as described in [00 21 50.2C](#).) who have not obtained a CDB ID number and/or have not submitted the required Disclosures and Certifications may have their payment amounts withheld by CDB in addition to any other remedy provided by this contract or by law. No work can be performed by these subcontractors until the Certifications and Disclosure documents have been reviewed and approved by the State Purchasing Officer.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 23 00 - Alternate Bids**

1. GENERAL

1.1 REQUIREMENTS INCLUDE:

- A. Designated Contractor: Provide Alternate Bid prices in Bid Form for specified alternate work.
- B. Each Contractor coordinate all related and required work necessary to perform work specified in alternate bids, when accepted and awarded.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Standard Documents for Construction, Article 00 43 23
- B. Bid Forms Document, 00 41 00
- C. Joint Sealants, 07 92 00
- D. Fiberglass Windows, 08 54 13
- E. Glazing, 08 80 00

2. DESCRIPTION OF ALTERNATE BIDS

2.1 General Contract

- A. Alternate Bid No. G-1: At each building, provide alternate window designs, as described on drawings sheet A10.0, at the 2<sup>nd</sup> floor windows above the main entries and at the double-height corner windows located in the Student Lounge spaces. In addition, at the alternate window design over the main entries, provide a custom screen printed image at each location (2 windows per building x 7 buildings = 14 windows). There will be a total of 7 unique images, one image for each building.

1. Pertinent work specified elsewhere

- a. Fiberglass Windows, 08 54 13
- b. Glazing, 08 80 00
- c. Joint Sealants, 07 92 00

END 01 23 00



DIVISION 1 - GENERAL REQUIREMENTS  
**01 31 00 - Coordination**

(A/E: This section is for the purpose of specifying requirements over and above those stated in Article 01 31 00 of the Standard Documents. The following paragraphs are suggestions.)

- 1.1 The basic requirements for coordination are specified in Article 01 31 00 of the Standard Documents for Construction.
- 1.2 The coordinating contractor shall be responsible for general coordination of assigned contractors work. Assigned contractors shall be responsible for the coordination of work effort of their own forces.
- 1.3 At all equipment where electrical power is required, the electrical contractor shall provide conduit and wire required from the power source to the input terminals of the equipment. When specified, the electrical contractor shall provide the electrical disconnect to the equipment.
- 1.4 At all equipment where control wiring is required to interconnect various items, such wire and conduit shall be the responsibility of the contractor providing the equipment.
- 1.5 All wiring, including conduit, boxes & fittings, for control systems shall be the responsibility of the contractor providing the system.
- 1.6 All wiring for low voltage data and communication systems shall be the responsibility of the contractor providing the system.
- 1.7 All openings in floor, wall or ceiling shall be coordinated with the coordinating contractor. All openings shall be appropriately sealed by the General contractor to maintain fire ratings.
- 1.8 Operation of equipment or systems shall be the responsibility of the installing contractor until acceptance by CDB.

END 01 31 00



DIVISION 1 - GENERAL REQUIREMENTS  
**01 32 00 - Construction Schedule**  
Non-CPM Option

1. General

1.1 REQUIREMENTS INCLUDE:

- A. The contractor shall prepare and maintain a detailed project schedule as described below.
- B. The project schedule shall be the contractor's working schedule; used to execute the work and record and report actual progress. It shall show how the contractor plans to complete the work within the contract time and meet any contractually specified intermediate milestone dates.

1.2 RELATED REQUIREMENTS

A. Specified Elsewhere:

- 1. SDC 01 29 00 - Payment
- 2. 00 72 20 - Assignment
- 3. 01 11 00 - Project Summary
- 4. 01 31 20 - Project Meetings
- 5. 01 33 23 - Shop Drawings, Product Data and Samples
- 6. 01 29 73 - Schedule of Values

1.3 FORM OF SCHEDULE

- A. The project schedule shall be in the form a linear bar graph.
- B. The schedule shall provide sufficient detail and clarity so that the contractor can plan and control the work and CDB and the A/E can readily monitor and follow the progress of all portions of the work. The critical activities must be clearly shown. The degree of detail must be satisfactory to the A/E and CDB.

1.4 CONTENTS OF SCHEDULE

- A. The schedule must be inclusive of all installation tasks of the work.
- B. Submittal and approval of shop drawings and material samples as well as delivery dates of major equipment shall be included in the project schedule.
- C. Activity duration shall be in whole working days.
- D. There should be at least one activity for each specification section.

1.5 UPDATING

- A. The project schedule shall be updated monthly.

- B. Actual activity completion dates shall be reported and recorded on the schedule.
- C. Progress on uncompleted activities shall be reported.
- D. Projected completion dates and activities shall be reviewed and revised if necessary.

1.6 REPORTS AND SUBMITTALS

- A. Within 30 days of the Authorization to Proceed, the contractor shall submit the project schedule to the A/E and CDB.
- B. Five (5) days prior to the pay/progress meeting, the contractor shall submit the current updated schedule to the A/E and CDB.
- C. The schedule shall be presented on 11 by 17 sheets. Each sheet shall be clearly titled. Intermediate milestones shall be clearly indicated.
- D. A management narrative report indicating the progress of the work, any revisions since last reporting period, any lost time required to be made up and the contractors' plan to maintain the schedule and meet the milestone dates and contract completion will accompany the updated schedule. The report will identify any potential delays and problem areas and their impact on project completion.

1.7 REVIEWS

- A. The A/E and CDB shall review and may comment on the schedule at the pay/progress meeting. They may also attend the update meetings. The contractor(s) shall revise the schedule as directed by the A/E for compliance with the requirements herein.
- B. Payment and reduction of retainage may be denied by CDB for failure to submit a proper schedule and maintaining work progress according to the project schedule.
- C. Neither the A/E's nor CDB's review and/or comments shall indicate approval/disapproval of the schedule. Since the schedule is dependent on the contractors' proprietary information and commitments, the A/E and CDB can not and will not warrant the schedule to be correct and sufficient to meet the required contract dates.

END 01 32 00.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 33 23 - Shop Drawings, Product Data & Samples**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

- A. Each Contractor make submittals to Architect. Architect shall maintain a master list of submittals.

1.2 Coordinating Contractor:

- A. Review Assigned Contractors' submittals within 5 business days.
1. Verify field dimensions.
  2. Verify compliance with Contract requirements.
- B. Certify review.
- C. Transmit reviewed submittals to Architect/Engineer.

1.3 DEFINITIONS

- A. Shop drawings: Shop drawings are original drawings prepared by Contractor, subcontractor, sub-subcontractor, supplier or distributor, which illustrate some portion of the work, showing fabrication, layout, setting or erection details.
1. Prepared by qualified detailer.
  2. Identify details by reference to sheet and detail numbers shown on contract drawings.
  3. Maximum sheet size: 36" x 24"
  4. Reproductions for submittals: Reproducible transparency, full size reproducible transparencies which do not require any special equipment for reproduction and copying are to specified in lieu of reproducible transparency, with one blueprint.
  5. Submit 3 copies.
- B. Product data:
1. Manufacturer's standard schematic drawings, edited to fit this project.
  2. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
    - a. Clearly mark each copy to identify pertinent materials, products or models.
    - b. Show dimensions and clearances.
    - c. Show wiring diagrams and controls.
- C. Samples: Physical samples to illustrate materials, equipment or workmanship. Approved samples establish standards by which complete work is judged. Maintain at site as directed. Protect until no longer needed.

1. Office samples: Of sufficient size to clearly illustrate:
  - a. Functional characteristics of product or material.
  - b. Full range of color samples.
  - c. After review, samples may be used on construction of project.
2. Field samples and mock-ups:
  - a. Erect at project site at location approved by Architect/ Engineer.
  - b. Construct each sample or mock-up complete, including work of all crafts required in finished work.
  - c. All Mock-up can be installed as in-place work and can become a part of the final work if approved by the Architect. Stand alone, self-supporting mock-ups will not be required.

#### 1.4 SCHEDULE SUBMITTAL

- A. Submit schedule of all exhibits to Architect/Engineer within 7 business days after preconstruction meeting.
  1. Prepare schedule in bar chart format. Include:
    - a. Exhibit identification.
    - b. Specification section and page number.
    - c. Date of submittal to Architect/Engineer.
    - d. Latest date for final approval.
    - e. Fabrication time.
    - f. Date of installation.
  2. Architect/Engineer will review and comment on exhibit schedule and will advise the contractor as to which submittals require longer review durations.

Submit number of copies of shop drawings, product data and samples which contractor requires for distribution plus 1 copy which will be retained by Architect/Engineer.

- B. Accompany submittals with transmittal letter, in duplicate, containing:
  1. Date.
  2. Project title and number.
  3. Contractor's name and address.
  4. The number of shop drawings, product data and samples submitted.
  5. Notification of deviations from Contract.
  6. Other pertinent data.
- C. Submittals shall include:
  1. Date and revision dates.
  2. Project title and number.
  3. Names of: (\*)

- a. Architect/Engineer.
  - b. Subcontractor.
  - c. Sub-subcontractor.
  - d. Supplier.
  - e. Manufacturer.
  - f. Separate detailer when pertinent.
4. Identification of product or material.
  5. Relation to adjacent structure or material.
  6. Field dimensions, clearly identified as such.
  7. Specification section and page number.
  8. Specified standards, such as ASTM number or ANSI.
  9. A blank space, 3" x 3", for Architect/Engineer's stamp.
  10. Identification of previously approved deviation(s) from contract documents.
  11. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract.
  12. Space for Contractor's approval stamp.

#### 1.5 RESUBMISSION REQUIREMENTS

- A. Resubmit all shop drawings, product data, and samples as requested by the contractor and/or A/E.

#### 1.6 RESPONSIBILITIES

- A. Review shop drawings, product data and samples prior to submission to the next level of authority.
- B. Verify:
  1. Field dimensions.
  2. Field construction criteria.
  3. Catalog numbers and similar data.
- C. Coordinate each submittal with requirements of:
  1. The work.
  2. The contract documents.
  3. The work of other contractors.
- D. Contractor's responsibility for errors, omissions or deviation from contract documents in submittals is not relieved by Architect/Engineer's review of submittals.
- E. Prior to submission, notify Architect/Engineer and CDB in writing of all proposed deviations in submittals from contract requirements. Substitution of materials or equipment may only be approved by change order.
- F. Do not begin any work which requires submittals without Architect/Engineer's approval.

G. After Architect/Engineer's review, make response required by A/E's stamp and distribute copies. Indicate by transmittal that copy of approved data has been delivered to installer.

H. When the other contracts are assigned to the Coordinating Contractor:

1. Assigned contractors send their submittals to Coordinating Contractor.
2. Coordinating Contractor reviews and initials assigned contractors' submittals for compliance with scope, coordination and integration with the work of all other contractors.
3. Coordinating Contractor transmits his reviewed copies of assigned contractors' submittals to Architect/Engineer.
4. Coordinating Contractor retains copy of submittals after review by Architect/Engineer and distributes copies to submitting contractor and to other contractors for coordination and integration.
5. Coordinating Contractor: Enforce resubmission requirements.

1.7 ARCHITECT/ENGINEER'S DUTIES

A. Review submittals within 14 calendar days.

1. Review for:
  - a. Design concept of project.
  - b. Compliance with contract documents.
2. Review all requests for proposed deviations. Obtain CDB's concurrence and respond to Contractor's request.
3. Affix stamp, date and initials or signature certifying to review of submittal, and with instructions for contractor response.
4. Return submittals to sender for response or distribution.

B. Schedule 01 33 23:

SPECIFICATION SECTION	DESCRIPTION
02 41 19 SELECTIVE DEMOLITION	SCHEDULE OF SELECTIVE DEMOLITION ACTIVITIES
02 41 19 SELECTIVE DEMOLITION	PREDEMOLITION PHOTOGRAPHS
02 41 19 SELECTIVE DEMOLITION	LANDFILL RECORDS
03 01 30 CLEANING CAST IN PLACE CONCRETE	PRODUCT DATA
05 50 00 METAL FABRICATIONS	WELDING CERTIFICATES
05 50 00 METAL FABRICATIONS	PAINT COMPATIBILITY CERTIFICATES
05 50 00 METAL FABRICATIONS	SHOP DRAWINGS
06 10 53 MISCELLANEOUS ROUGH CARPENTRY	EVALUATION REPORTS
06 16 13 INSULATING SHEATHING	PRODUCT DATA

06 16 13 INSULATING SHEATHING	EVAULATION REPORTS
06 16 13 INSULATING SHEATHING	PRODUCT CERTIFICATIONS
06 16 13 INSULATING SHEATHING	EXTENDED WARRANTY
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	PRODUCT DATA
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	SHOP DRAWINGS
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	SAMPLES
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	QUALIFICATION DATA (INSTALLER AND FABRICATOR)
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	PRODUCT CERTIFICATIONS
06 40 23 INTERIOR ARCHITECTURAL WOODWORK	AWI QUALITY CERTIFICATES
07 21 00 THERMAL INSULATION	PRODUCT DATA
07 21 00 THERMAL INSULATION	MANUFACTURERS CERTIFICATES
07 46 33 VINYL SIDING AND FASCIA	PRODUCT DATA
07 46 33 VINYL SIDING AND FASCIA	SAMPLES
07 46 33 VINYL SIDING AND FASCIA	INSTALLER QUALIFICATIONS
07 46 33 VINYL SIDING AND FASCIA	EXTENDED WARRANTY
07 62 00 SHEET METAL FLASHING AND TRIM	PRODUCT DATA
07 62 00 SHEET METAL FLASHING AND TRIM	SAMPLES
07 62 00 SHEET METAL FLASHING AND TRIM	INSTALLER QUALIFICATIONS
07 71 23 GUTTERS AND DOWNSPOUTS	PRODUCT DATA
07 71 23 GUTTERS AND DOWNSPOUTS	SAMPLES
07 71 23 GUTTERS AND DOWNSPOUTS	SHOP DRAWINGS
07 71 23 GUTTERS AND DOWNSPOUTS	PRODUCT CERTIFICATES
07 71 23 GUTTERS AND DOWNSPOUTS	INSTALLER QUALIFICATIONS
07 92 00 JOINT SEALANTS	PRODUCT DATA
07 92 00 JOINT SEALANTS	SAMPLES
07 92 00 JOINT SEALANTS	JOINT SEALANT SCHEDULE
07 92 00 JOINT SEALANTS	QUALIFICATION DATA
07 92 00 JOINT SEALANTS	PRODUCT CERTIFICATIONS
07 92 00 JOINT SEALANTS	SWRI CERTIFICATION
07 92 00 JOINT SEALANTS	PRODUCT TEST REPORTS
07 92 00 JOINT SEALANTS	PRECONSTRUCTION COMPATIBILITY AND ADHESHION TEST REPORTS
07 92 00 JOINT SEALANTS	PRECONSTRUCTION FIELD-ADHESION TEST REPORTS
08 11 13 HOLLOW METAL DOORS AND FRAMES	PRODUCT DATA
08 11 13 HOLLOW METAL DOORS AND FRAMES	OPENING SCHEDULE
08 11 13 HOLLOW METAL DOORS AND FRAMES	SHOP DRAWINGS

08 11 13 HOLLOW METAL DOORS AND FRAMES	PRODUCT TEST REPORTS
08 54 13 FIBERGLASS WINDOWS	PRODUCT DATA
08 54 13 FIBERGLASS WINDOWS	SHOP DRAWINGS
08 54 13 FIBERGLASS WINDOWS	SAMPLES
08 54 13 FIBERGLASS WINDOWS	PRODUCT TEST REPORTS
08 71 00 DOOR HARDWARE	PRODUCT DATA
08 71 00 DOOR HARDWARE	DOOR HARDWARE SCHEDULE
08 71 00 DOOR HARDWARE	RISER AND WIRING DIAGRAMS
08 71 00 DOOR HARDWARE	KEY SCHEDULE
08 71 00 DOOR HARDWARE	SUPPLIER AND INSTALLER QUALIFICATION DATA
08 71 00 DOOR HARDWARE	PRODUCT CERTIFICATES
08 71 00 DOOR HARDWARE	PRODUCT TEST REPORTS
08 80 00 GLAZING	PRODUCT DATA
08 80 00 GLAZING	SAMPLES
08 80 00 GLAZING	PRODUCT CERTIFICATES
08 80 00 GLAZING	PRODUCT TEST REPORTS
08 91 19 FIXED LOUVERS	PRODUCT DATA
08 91 19 FIXED LOUVERS	PRODUCT TEST REPORTS
08 91 19 FIXED LOUVERS	SAMPLES
08 91 19 FIXED LOUVERS	SHOP DRAWINGS
09 29 00 GYPSUM WALL BOARD	PRODUCT DATA
09 65 13 RESILIENT WALL BASE AND ACCESSORIES	PRODUCT DATA
09 65 13 RESILIENT WALL BASE AND ACCESSORIES	SAMPLES
09 65 13 RESILIENT WALL BASE AND ACCESSORIES	PRODUCT SCHEDULE
09 91 13 EXTERIOR PAINTING	PRODUCT DATA
09 91 13 EXTERIOR PAINTING	SAMPLES
09 91 13 EXTERIOR PAINTING	PRODUCT LIST
09 91 23 INTERIOR PAINTING	PRODUCT DATA
09 91 23 INTERIOR PAINTING	SAMPLES
09 91 23 INTERIOR PAINTING	PRODUCT LIST
12 24 13 WINDOW SHADES	PRODUCT DATA
12 24 13 WINDOW SHADES	SAMPLES
260519 LOW-VOLTAGE ELECTRICAL POWER	PRODUCT DATA
CONDUCTORS AND CABLES	
260533 RACEWAYS AND BOXES	PRODUCT DATA
265600 EXTERIOR LIGHTING	INSTALLATION INSTRUCTION
265600 EXTERIOR LIGHTING	O & M DATA
265600 EXTERIOR LIGHTING	SHOP DRAWINGS

265600 EXTERIOR LIGHTING	WARRANTY
220500 COMMON WORK RESULTS FOR PLUMBING	ITEMS 1-26
220513 COMMON MOTOR REQUIREMENTS FOR PLUMBING	SINGLE PHASE SINGLE SPEED MOTORS, TWO SPEED MOTORS
220514 PLUMBING SPECIALTIES	DATA ON DIMENSIONS, CAPACITIES, MATERIALS, RATINGS, CERTIFICATION, WEIGHTS, MANUFACTURER'S INSTALLATION REQUIREMENTS, PERFORMANCE LIMITATIONS APPROPRIATE ID.
220523 GENERAL DUTY VALVES FOR PLUMBING PIPING	WATER SYSTEM VALVES
220523 GENERAL DUTY VALVES FOR PLUMBING PIPING	SPECIALTY VALVES
220523 GENERAL DUTY VALVES FOR PLUMBING PIPING	VALVE ACCESSORIES
220523 GENERAL DUTY VALVES FOR PLUMBING PIPING	SCHEDULE OF ALL VALVES
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	STRUCTURAL SUPPORTS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	PIPE HANGERS AND SUPPORTS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	PIPE HANGER RODS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	BEAM CLAMPS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	CONCRETE INSERTS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	ANCHORS
220529 HANGERS AND SUPPORTS FOR PLUMBING PIPING	EQUIPMENT STANDS
220700 PLUMBING INSULATION	INSULATION
220700 PLUMBING INSULATION	COVERS AND JACKETS
220700 PLUMBING INSULATION	INSULATION INSERTS AND PIPE SHIELDS
220700 PLUMBING INSULATION	ACCESSORIES
221100 FACILITY WATER DISTRIBUTION	DOMESTIC WATER
221100 FACILITY WATER DISTRIBUTION	DIELECTRIC UNIONS AND FLANGES
221100 FACILITY WATER DISTRIBUTION	UNIONS AND FLANGES
221100 FACILITY WATER DISTRIBUTION	PIPING SYSTEM LEAK TESTS
221100 FACILITY WATER DISTRIBUTION	SCHEDULE
221100 FACILITY WATER DISTRIBUTION	STATEMENT FROM MANUFACTURER THAT PIPES MEETS ASTM OR AWWA SPECIFICATION
223000 PLUMBING EQUIPMENT	INLINE CLOSE COUPLED CENTRIFUGAL PUMPS
223000 PLUMBING EQUIPMENT	INLINE SYSTEM LUBRICATED CENTRIFUGAL PUMPS
223000 PLUMBING EQUIPMENT	DATA ON DIMENSIONS, CAPACITIES, MATERIALS, RATINGS, CERTIFICATION, WEIGHTS, MANUFACTURER'S INSTALLATION REQUIREMENTS, PERFORMANCE LIMITATIONS APPROPRIATE ID.

230513 COMMON MOTOR REQUIREMENTS FOR HVAC	PRODUCT DATA
230513 COMMON MOTOR REQUIREMENTS FOR HVAC	MANUFACTURER'S INSTALLATION INSTRUCTIONS
230513 COMMON MOTOR REQUIREMENTS FOR HVAC	OPERATION DATA
230513 COMMON MOTOR REQUIREMENTS FOR HVAC	MAINTENANCE DATA
230519 METERS AND GAGES FOR HVAC PIPING	PRODUCT DATA
230519 METERS AND GAGES FOR HVAC PIPING	PROJECT RECORD DOCUMENTS
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	LIST
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	CHART AND SCHEDULE
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	PRODUCT DATA
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	MANUFACTURERS INSTALLATION INSTRUCTIONS
230553 IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	PROJECT RECORD DOCUMENTS
230593 TESTING ADJUSTING AND BALANCING	QUALIFICATIONS
230593 TESTING ADJUSTING AND BALANCING	TAB PLAN
230719 HVAC PIPING INSULATION	PRODUCT DATA
230719 HVAC PIPING INSULATION	MANUFACTURER'S INSTRUCTIONS
232113 HYDRONIC PIPING	PRODUCT DATA
232113 HYDRONIC PIPING	MANUFACTURER'S INSTALLATION INSTRUCTIONS
232113 HYDRONIC PIPING	PROJECT RECORD DOCUMENTS
232113 HYDRONIC PIPING	MAINTENANCE DATA
238113 PACKAGED TERMINAL AIR CONDITIONERS	PRODUCT DATA
238113 PACKAGED TERMINAL AIR CONDITIONERS	MANUFACTURER'S INSTALLATION INSTRUCTIONS

END 01 33 23



DIVISION 1 - GENERAL REQUIREMENTS  
**01 35 16 - Remodeling Project**

**Procedures**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Each Contractor:

1. Coordinate work of employees and subcontractors.
2. Schedule elements of remodeling and renovation work to expedite completion.
3. Schedule noisy or hazardous work to avoid problems with Using Agency's operations.
4. In addition to demolition, cut, move or remove existing construction to provide access or to allow remodeling and new work to proceed.
  - a. Repair or remove hazardous or unsanitary conditions.
  - b. Remove abandoned piping, conduit and wiring.
  - c. Remove unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.
  - d. Clean surfaces. Remove surface finishes to install new work and finishes.
5. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a neat transition to adjacent new construction.
6. Note or record existing project conditions before beginning work to minimize later disputes.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 32 00 - Construction Schedules.
2. 01 51 00 - Temporary Utilities.
3. 01 54 00 - Construction Aids
4. 01 73 29 - Cutting & Patching
5. 01 74 13 - Construction Cleaning
6. 01 74 23 - Final Cleaning.

1.3 SEQUENCE AND SCHEDULES

A. Submit separate detailed subschedule for alterations work, coordinated with Construction Schedule. Show:

1. Each stage of work; occupancy dates of areas.
2. Date of Substantial Completion for each area of alteration work.
3. Crafts and subcontractors employed in each stage.

#### 1.4 ALTERATIONS, CUTTING AND PROTECTION

- A. Cut finish surfaces such as masonry, tile, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division.
- B. Protect existing and new work from weather and temperature extremes.
  - 1. Maintain existing interior work above 60 degrees F.
  - 2. Provide weather protection, waterproofing, heat and humidity control to prevent damage to remaining existing work and to new work.

### 2. PRODUCTS

#### 2.1 MATERIALS FOR PATCHING, EXTENDING AND MATCHING (\*)

- A. Ensure that work is complete:
  - 1. Provide same materials or types of construction as that in existing structure, to patch, extend or match existing work.

### 3. EXECUTION

#### 3.1 REMOVE EXISTING CONSTRUCTION

- A. Temporary Removals:
  - 1. Remove, Recondition and Reinstall: exterior lighting at specified on the electrical drawings.
  - 2. Remove and Reinstall in original location: exterior mounted low voltage and electrical items as specified on the Electrical drawings.
- B. Remove and dispose of: windows, PTAC units, vinyl siding, fascias, gutters, downspouts, rigid insulation, exterior doors, window treatments
- C. Remove and return to owner: door hardware

3.2 PERFORMANCE. Patch and extend existing work using skilled craftsmen capable of matching existing quality of workmanship. For patched or extended work, provide quality equal to that specified for new work.

#### 3.3 DAMAGED SURFACES

- A. Patch and replace all portions of existing finished surfaces found to be damaged, lifted, discolored or showing other imperfections, with matching material.
  - 1. Provide adequate support prior to patching the finish.
  - 2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
  - 3. When existing surface cannot be matched contact the Architect for direction.

#### 3.4 TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or finishes flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance as closely as possible.
  - 1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

### 3.5 CLEANING

- A. Perform construction cleaning as specified in 01 74 13.
  - 1. Clean User occupied areas daily.
  - 2. Clean all spillage, overspray or heavy dust collections in User occupied areas immediately.
- B. At completion of work of each craft, clean area and make surfaces ready for work of successive crafts.
- C. At completion of alterations work in each area, provide final cleaning in accord with 01 74 23 and return space to a condition suitable for use of User.

END 01 35 16.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 41 00 - Regulatory Requirements**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

- A. Each Contractor comply with all laws, rules and regulations governing the work.
1. When Contractor observes that contract documents are at variance with specified codes, notify Architect/Engineer in writing immediately. Architect/Engineer will process changes in accord with General Conditions.
  2. When Contractor performs any work knowing or having reason to know that the work is contrary to such laws, rules and regulations and fails to so notify the Architect/Engineer, Contractor shall pay all costs arising therefrom. However, it will not be the Contractor's primary responsibility to make certain that the contract documents are in accord with such laws, rules and regulations.

1.2 DEFINITIONS & ABBREVIATIONS

A. Definitions:

1. Dates: Reference Codes, Regulations and Standards are the issue current at date of bidding documents unless otherwise specified.
2. Codes: Codes are rules, regulations or statutory requirements of government agencies.
3. Standards: Standards are requirements set by authorities, custom or general consent and established as accepted criteria.

B. Abbreviations:

1. ADA Americans with Disabilities Act.
2. AGCI Associated General Contractors in Illinois.
3. ANSI American National Standards Institute.
4. ASHRAE American Society of Heating, Refrigeration and Air-Conditioning Engineers.
5. ASTM American Society for Testing and Materials.
6. CDB Capital Development Board.
7. IDOL Illinois Department of Labor.
8. IDPH Illinois Department of Public Health.
9. IEPA Illinois Environmental Protection Agency.
10. IDPR Illinois Department of Professional Regulation.
11. ISBE Illinois State Board of Education.
12. ISPE Illinois Society of Professional Engineers.
13. NFPA National Fire Protection Association.
14. OSFM Office of State Fire Marshal.
15. UL Underwriters Laboratories, Inc.
16. IBC International Building Code

### 1.3 QUALITY ASSURANCE

- A. Architect/Engineer has designed the project with full knowledge of code requirements and has copies of all specified codes available for Contractor's inspection.
- B. Contractor:
  - 1. Ensure that copies of specified codes and standards are readily available to Contractor's personnel. Copies are available at Contractor's expense from source or publisher.
  - 2. Ensure that Contractor's personnel are familiar with workmanship and installation requirements of specified codes and standards.

### 1.4 REGULATORY REQUIREMENTS

- A. Source and requirements:
  - 1. CDB:
    - a. Illinois Accessibility Code
    - b. Illinois Energy Conservation Code
  - 2. FED:
    - a. CPSC: Architectural Glazing Materials, as amended 1981.
    - b. DHEW:
      - 1.) Title V: Handicapped Accessibility.
      - 2.) Title IX: Regulations Prohibiting Sex Discrimination in Education.
    - c. ADA 1990
  - 3. State of Illinois:
    - a. Illinois Steel Products Procurement Act, as amended (30 ILCS 565/1 et seq.).
    - b. Illinois Procurement Code, as amended (30 ILCS 500/1 et. seq.)
  - 4. IDOL: Safety Glazing Materials Act, as amended, with interpretive statement (430 ILCS 60/1 et seq.).
  - 5. IDPH:
    - a. Illinois State Plumbing Code.
    - a. Illinois Asbestos Abatement Act (105 ILCS 105/1 et. seq.).

- b. Rules and Regulations for the Asbestos Abatement Act - Title 77, ch. I, subch. p. Part 855.
  - 6. STANDARDS:
    - a. ANSI No. C-2, National Electrical Safety Code,
    - b. ASHRAE No. 62, Standard for Natural and Mechanical Ventilation
    - c. ASHRAE No. 15, Safety Code for Mechanical Refrigeration.
  - 7. NFPA: National Fire Codes
    - a. NFPA 70-2014 Edition, National Electrical Code
    - b. NFPA 72-2013 Edition, National Fire Alarm Code
    - c. NFPA 101-2012 Edition, Life Safety Code
  - 8. ISBE:
    - a. 2009 International Building Code (IBC)
- B. The Architect/Engineer or CDB may reference other codes or standards throughout the Project Manual when deemed appropriate for proper compliance with regulatory requirements.

END 01 41 00.





DIVISION 1 - GENERAL REQUIREMENTS  
**01 51 00 - Temporary Utilities**

1. GENERAL

1.1 REQUIREMENTS INCLUDE. Designated contractor provide and maintain specified temporary utilities during construction period.

A. General Contractor Provide:

1. Toilets.
2. Dumpsters

B. Each Contractor:

1. All utilities required in excess of those specified, or exceed capacity of existing or permanent system.
2. Hoses and fittings from temporary standpipes or water service connection.
3. Drinking water for own forces.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 11 00 - Project Summary.

B. Furnished by others:

1. Using Agency will authorize use of existing facilities or services for temporary use.
  - a. Electrical power service.
  - b. Water service.
2. Using Agency will pay all costs of consumables used for construction purposes for utilities it furnishes.
3. Each Contractor requiring Using Agency furnished services provide and pay for extension or modification of services to perform the work, and for restoration of services at completion of work.

1.3 DESCRIPTION OF TEMPORARY UTILITY SYSTEMS

A. Toilets:

1. Provide temporary toilet facilities for use of all workmen and authorized parties throughout construction period.
2. Provide a minimum number of enclosed combination toilet and urinal units for construction personnel:
  - a. One for every 20 employees, or fraction thereof.

1.4 REQUIREMENTS OF REGULATORY AGENCIES

- A. Only on CDB's prior written authorization, obtain:
  - 1. Permits and inspections required by local building authorities.

#### 1.5 USE OF PERMANENT SYSTEMS FOR CONSTRUCTION PURPOSES

- A. Obtain CDB's prior written authorization for system to be used. Request for authorization shall indicate:
  - 1. Reason for use.
  - 2. Conditions of use.
  - 3. Parts of system to be used.
  - 4. Modifications necessary.
  - 5. Isolation of elements not authorized for use.
  - 6. Approval of installing contractor; (and equipment manufacturer where extended warranties are involved.)
- B. Modifications necessary shall be at contractor's expense, since use of permanent systems is for contractor's benefit.
- C. Upon completion of need to use permanent system, or when directed by A/E restore permanent system to specified condition prior to substantial completion.
  - 1. Provide all new filters in heating and ventilating systems.
  - 2. Replace all burned out or defective lamps.
  - 3. Repair or restore all damaged parts or components.
  - 4. Clean all ducts and coils.
  - 5. Rebalance the heating/ventilating systems as required by A/E.
- D. CDB's authorization for use of permanent systems will not relieve Contractors' responsibility for warranties in accordance with the General Conditions.
- E. NOTE: The above does not prohibit installing contractor from normal test and check out of system.

#### 1.6 USE OF USING AGENCY'S EXISTING SYSTEMS

- A. Make written arrangements with Using Agency's representative.
- B. The General Contractor shall modify, supplement and extend system to meet temporary utility requirements for project, subject to approval of Architect/Engineer and Using Agency.
- C. Limitations:
  - 1. Do not overload systems. When project requirements exceed system capacity, provide separate system to meet needs.
  - 2. Prevent interference with Using Agency's normal use of system.
- D. Maintain strict supervision of use of temporary facilities.

1. Enforce conformance with Using Agency's regulations.
  2. Use only designated facilities, systems or portions thereof.
- E. Upon completion of need to use existing systems, or when directed by Architect/Engineer, restore existing systems to specified permanent condition.
2. PRODUCTS
- 2.1 MATERIALS. May be new or used, but shall be adequate for purposes used, shall not create unsafe or unsanitary conditions, nor violate applicable codes.
3. EXECUTION
- 3.1 INSTALLATION
- A. Heating and Ventilating: Locate units to meet project progress, and as approved by Architect/Engineer. Avoid interference with:
1. Work or traffic areas.
  2. Materials handling or storage areas.
  3. Stairwells, access ramps and ladders.
- B. Electrical:
1. Do not run branch circuits on floor or on ground.
  2. Verify proper operation of all safety devices.
- C. Water service:
1. Do not run piping on floor or on ground.
  2. Provide drip pan under each water service connection located within building.
  3. Provide insulation, or other means, to prevent pipes from freezing.
  4. When necessary to maintain pressure, provide temporary pumps, tanks and compressors.
- D. Toilets:
1. Service regularly.
- 3.2 REMOVAL
- A. Upon CDB's prior written authorization, completely remove temporary materials and equipment.
- B. Repair all damage caused by temporary utilities' installation. Restore to original conditions.
- 3.3 MAINTENANCE
- A. Maintenance of permanent system when used for construction purposes:

1. Permanent systems shall be maintained by installing contractor so as to prevent any damage thereto.

END 01 51 00.

DIVISION 1 - GENERAL REQUIREMENTS  
**01 51 50 - Use of Existing Facilities**

(\*A/E: This section is designed for use on projects at existing facilities. It only applies to the Contractor's use of existing facilities. Prepare this section in consultation with the Using Agency Representative. Edit carefully.)

1. GENERAL

- 1.1 The project will be constructed at an occupied facility. These requirements supplement the Standard Documents for Construction and other sections of the Project Manual.
- 1.2 The Using Agency will occupy area(s) for purpose of housing students attending summer school programs.
- 1.3 REQUIREMENTS INCLUDE: the General Contractor to provide, regulate and maintain:
  - A. Scheduling
  - B. Entrances
  - C. Construction aids
  - D. Fences
  - E. Parking areas
  - F. Traffic regulation
  - G. Construction Cleaning
  - H. Storage
  - I. Close-out

1.4 RELATED REQUIREMENTS

- A. Specified elsewhere:
  - 1. 01 54 00 Construction Aids
  - 2. 01 55 00 Parking
  - 3. 01 56 00 Barriers and Enclosures
  - 4. 01 66 00 Storage and Protection
  - 5. 01 74 00 Construction Cleaning
  - 6. 01 74 23 Final Cleaning

2. EXECUTION

2.1 SCHEDULING

- A. Schedule the work to allow the User Agency to occupy 2 Residence Halls and their surrounding sites during the duration of construction. See drawings sheet G2.0 for a detailed construction phasing plan. Submit separate detailed subschedule showing:
  - 1. Each stage of work; occupancy dates of areas.
  - 2. Date of Substantial Completion for each area of work.

B. Schedule early completion of designated area(s) for Using Agency's usage prior to substantial completion of entire project:  
1. Residence Halls 1506 and 1507

C. Schedule noisy or hazardous work to avoid problems with Using Agency's operations.

## 2.2 SECURITY AND SITE REGULATIONS

A. Confer with the Using Agency's representative and obtain full knowledge of all site rules and regulations affecting work.

B. Provide control of all persons and vehicles entering and leaving project site. Reasonable proof of identification and signature to the visitor's log shall be required of the visitors by the contractor's site superintendent.

## 2.3 CONSTRUCTION AIDS Except as noted, Coordinating Contractor provide and maintain construction aids and equipment for common use and to facilitate execution of the work.

A. All stairs in existing, unoccupied, building may be used by construction personnel:

B. Do not use elevators in existing building.

## 2.4 TEMPORARY ENCLOSURES AND BARRIERS - Coordinating Contractor:

A. Provide temporary enclosures to separate work areas from existing building and from areas occupied by Using Agency.

B. Provide and maintain suitable barriers to prevent unauthorized entry, and to protect the work.

C. See Drawing sheet G2.0 for the site barriers required.

## 2.5 TEMPORARY UTILITIES

A. Using Agency will authorize use of existing facilities or services:

1. Electrical power service.
2. Water service.

B. Make written arrangements with Using Agency's representative.

C. Prevent interference with Using Agency's normal use of system.

D. The Coordinating Contractor shall modify, supplement and extend systems to meet temporary utility requirements for project, subject to approval of Architect/Engineer and Using Agency. Modifications shall be at contractor's expense.

- E. Using Agency will pay all costs of consumables (except toll calls) used for construction purposes for utilities it furnishes.
- F. Contractor requiring facilities or services beyond those available from the User shall provide and pay for extension or modification of services to perform the work, and for restoration of services at completion of work.

## 2.6 ACCESS ROADS & PARKING AREAS

- A. Designated existing on-site streets and driveways may be used for construction traffic. Maintain existing condition.
- B. Designated areas of existing parking facilities may be used for parking of construction personnel's private vehicles and of contractor's lightweight (not exceeding a B plate) vehicles.
- C. Maintain roads, walks and parking areas in a sound, clean condition. Restore to original condition upon work completion prior to Final Acceptance.
- D. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Using Agency's operations or construction operations.

## 2.7 TRAFFIC REGULATION: Coordinating Contractor provide traffic control and directional signs, mounted on barricades or standard posts:

- A. At each change of direction of a roadway and at parking areas.
- B. Provide qualified and suitably equipped flaggers when construction operations encroach on traffic lanes, as required for traffic regulation.

## 2.8 CONSTRUCTION CLEANING

- A. Each Contractor provide cleaning and disposal of waste materials, debris and rubbish during construction.
- B. Coordinating Contractor supervise and coordinate cleaning operations of all Assigned Contractors.
- C. Coordinating Contractor provide covered containers for deposit of waste materials, debris and rubbish.

## 2.9 STORAGE Make arrangements with Using Agency's Representative for any on-site storage of materials and equipment to be installed in project. Protection and security for stored materials and equipment is solely contractor's responsibility.

## 2.10 CLOSEOUT

- A. Upon completion of need to use existing user-provided facilities, or when directed by Architect/Engineer, restore each to original or specified condition.

- B. At completion of work in each area, provide final cleaning and return space to a condition suitable for use of User.

END 01 51 50



DIVISION 1 - GENERAL REQUIREMENTS  
**01 54 00 - Construction Aids**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Coordinating Contractor: Provide and maintain construction aids and equipment for common use and to facilitate execution of the work:

1. Chutes.
2. Cranes.
3. Hoists.
4. Platforms.
5. Railings.
6. Ramps.

B. Each Contractor: Provide and maintain for his own forces all other construction aids required to complete his work.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 56 00 - Barriers.

2. PRODUCTS

2.1 MATERIALS. Materials may be new or used. Comply with specified codes and standards.

2.2 CONSTRUCTION AIDS

A. All stairs in existing unoccupied building may be used by construction personnel.

B. Do not use elevators in existing building.

2.3 TEMPORARY ENCLOSURES

A. Provide temporary weather-tight enclosure of exterior walls for successive areas of building as work progresses, to provide acceptable working conditions, provide weather protection for materials, allow for effective construction heating, and to prevent entry of unauthorized persons.

B. Provide temporary enclosures to separate work areas from existing areas occupied by Using Agency.

1. Temporary partition and ceiling enclosures.

- a. Close joints between sheet materials and seal edges and intersections with existing surfaces to prevent penetration of dust, fumes or moisture.
- b. In locations where fire protection is required, paint both sides of partitions with noncombustible paint.

3. EXECUTION

3.1 PREPARATION. Consult with Architect/Engineer, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the work.

3.2 REMOVAL

A. Remove temporary materials, equipment and services.

1. When construction needs can be met by authorized use of permanent construction or when authorized by the A/E.

B. Clean and repair damage caused by installation or use of temporary facilities.

C. Restore facilities used for temporary purposes to original condition.

END 01 54 00.

DIVISION 1 - GENERAL REQUIREMENTS  
**01 55 00 - Access Roads, Parking Areas & Parking Control**

1. GENERAL

1.1 REQUIREMENTS MODIFY ARTICLE 01 55 00 OF THE STANDARD DOCUMENTS FOR CONSTRUCTION.

A. Coordinating Contractor:

1. Maintain vehicular access to site and within site.
2. Remove temporary equipment and facilities when no longer required.
3. Restore grounds to original conditions.

1.2 ROADS AND PARKING AREAS

- A. Provide access for emergency vehicles. Maintain driveways a minimum of 15 feet wide between and around combustible materials in storage and mobilization areas.
- B. Keep fire hydrants and water control valves free from obstruction or damage and accessible for use.

1.3 TRAFFIC CONTROL

- A. Provide and operate traffic control and directional signals in all areas under Coordinating Contractor's control.
- B. Provide traffic control in accord with appropriate articles in the IDOT Standard Specifications for Road and Bridge Construction, Section 700, and National Manual on Uniform Traffic Control Devices including the Illinois Supplement.
- C. Construction Parking Control. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, using agency's operations or other construction operations.

2. EXECUTION

2.1 MAINTENANCE

- A. Maintain roads, walks and parking areas in a sound, clean condition. Provide adequate drainage for an uninterrupted access to the construction site to the satisfaction of the A/E. Repair or replace all damages during progress of construction work.

2.2 REMOVAL

- A. Completely remove temporary materials or construction when access needs can be met by use of permanent construction or when directed by Architect/Engineer.

B. Restore areas to original conditions at completion of work as directed by A/E.

END 01 55 00.

DIVISION 1 - GENERAL REQUIREMENTS  
**01 56 00 - Barriers**

1. GENERAL

1.1 Work Includes:

A. Base Bid:

1. Coordinating Contractor provide fencing

a. Open mesh fence.

1.) See sheet G2.0 for location of fencing perimeters and required relocation for construction phasing.

2.) Fence shall be constructed of 6'-0" high chain link fencing. Space posts not to exceed 10'-0" on centers. Posts shall be of following nominal pipe dimensions: terminal, corner, and gatepost 2-1/2", line posts 2". Chain link fence shall be not less than #13 gage, 2" mesh, and in one width. Posts, fence and accessories shall be galvanized and as follows:

a.) Shall be set in the earth a depth of 30" with soil firmly compacted around post.

b.) Chain link fencing shall be free from barbs, icicles or other projections resulting from galvanizing process. Fence having such defects will be replaced even if it has been installed.

c.) Gates shall be fabricated of steel pipe with welded corners, and bracing as required. Provide all gate hardware of a strength and quality to perform satisfactorily until barricade is removed upon Substantial Completion of the Work. Each gate shall have a chain and padlock. At Substantial Completion of the Work, remove barricade from Project site, backfill and compact fence footing holes. Existing surface paving that is cut into or removed shall be patched and sealed to match surrounding areas.

d.) Remove and/or relocate fencing, fabric and barricades or other security and protection facilities as rapidly as required in order to provide for progress of the Work.

2. Maintain fences and barriers during entire construction period. Relocate as construction progresses.

End 01 56 00



DIVISION 1 - GENERAL REQUIREMENTS  
**01 66 00 - Storage & Protection**

.1 GENERAL

A. REQUIREMENTS INCLUDE

1. Coordinating Contractor make arrangements with Using Agency's Representative for storage of materials and equipment to be installed in project. Protection and security for stored materials and equipment, on and off site is solely contractor's responsibility.

B. OFF-SITE AUTHORIZATION. Payment for materials/equipment stored off-site will be permitted only on CDB's prior written authorization, per Standard Documents for Construction.

.2 PRODUCTS

A. PROTECTIVE MATERIALS

1. For duration of storage period, provide materials which will provide proper protection against the elements or other harmful environmental conditions.

3. EXECUTION

A. LOCATION.

1. Where authorized by Using Agency.

2. Coordinating Contractor will resolve conflicts in storage requirements of all contractors.

B. PREPARATION. Fill and grade sites for temporary storage sheds to provide drainage.

C. INSTALLATION

1. Construct storage sheds on adequate foundations, with connections for utilities.

- a. Raise portable buildings, when used.
- b. Provide steps, landings or ramps at entrances.

2. Mount fire extinguishers in prominent locations with clear access to use.

3. Mount identifying signs adjacent to entrance doors, in conspicuous locations.

D. MAINTENANCE AND CLEANING

1. Provide continuous maintenance for all temporary structures.

E. REMOVAL

1. Remove all temporary storage sheds, contents and utilities, at completion of construction activities, or as directed by the Architect/Engineer.
2. Remove foundations, debris; grade to indicated elevations and clean area.  
(\*Coordinate with 01 74 23.)

END 01 66 00



DIVISION 1 - GENERAL REQUIREMENTS  
**01 73 29 - Cutting & Patching**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Each Contractor:

1. Execute cutting, filling or patching of work to:
  - a. Install specified work.
  - b. Remove samples of installed work specified for testing.
  - c. Remove and replace defective work.
2. In addition, upon written instructions of Architect/Engineer or CDB:
  - a. Uncover work to provide for observation of covered work.
  - b. Remove samples of installed materials for testing.
  - c. Remove work to provide for alteration of existing work.
3. Do not cut or alter work of another contractor without written consent of Architect/Engineer.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 35 16 Remodelling Project Procedures

1.3 SUBMITTALS

- A. Prior to cutting which affects structural members or work of another contractor, submit written notice to Architect/Engineer requesting consent to proceed with cutting, including:
1. Project identification.
  2. Description of affected work.
  3. Necessity for cutting.
  4. Effect on other work, on structural integrity of project.
  5. Description of proposed work. Designate:
    - a. Scope of cutting and patching.
    - b. Contractor to execute the work.
    - c. Products proposed to be used.
    - d. Extent of refinishing.
  6. Alternatives to cutting and patching.
  7. Designation of party responsible for cost of cutting and patching.
- B. Prior to cutting and patching done on instruction of Architect/ Engineer, submit cost estimate.

- C. When conditions of work, or schedule, indicate change of materials or methods, submit recommendation to Architect/Engineer, including:
  - 1. Condition indicating change.
  - 2. Recommendation for alternative materials or methods.
  - 3. Submittals specified for substitutions.
- D. Submit written notice to Architect/Engineer, designating time work will be uncovered, to provide for observation.

#### 1.4 PAYMENT FOR COSTS

- A. Costs caused by ill-timed or defective work, or work not conforming to contract documents, including costs for additional services of Architect/Engineer: Party responsible for ill-timed, rejected or non-conforming work.
- B. Work done on instructions of Architect/Engineer (by change order), other than defective or non-conforming work: CDB.

### 2. PRODUCTS

- 1.1 MATERIALS. For replacement of work removed: Comply with specifications for type of work to be performed.

### 3. EXECUTION

#### 1.1 INSPECTION

- A. Inspect existing conditions of work, including elements subject to movement or damage during:
  - 1. Cutting and patching.
  - 2. Removal of siding, fascias, windows and exterior doors.
- B. After uncovering work, inspect conditions affecting installation of new products.

#### 1.2 PREPARATION

- A. Prior to cutting:
  - 1. Provide protection for other portions of the project.
  - 2. Provide protection from elements.

#### 1.3 PERFORMANCE

- A. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.
- B. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

- A. Restore work which has been cut or removed; install new products to provide completed work in accord with contract documents.
- B. Refinish entire surfaces to provide an even finish.
  - 1. Continuous surfaces: To nearest intersection(s).
  - 2. Assembly: Entire refinishing.

END 01 73 29.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 74 13 - Construction Cleaning**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

- A. Coordinating Contractor: Supervise and coordinate cleaning operations of all assigned Contractors.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

- 1. 01 35 16 - Remodeling Project Procedures: cleaning Using Agency occupied spaces.
- 2. Individual Specification Sections: specific cleaning for product or work.

2. EXECUTION

2.1 CLEANING

- A. All interior and exterior areas of the Residence Halls are to be maintained and cleaned during construction by the Coordinating Contractor.

B.

2.2 DISPOSAL

- A. Coordination Contractor to provide and maintain dumpsters for disposal of all materials.

END 01 74 13.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 74 23 - Final Cleaning**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

A. Coordinating Contractor: Provide final cleaning:

1. At completion of work, or at such other times as directed by the Architect/Engineer, remove all waste, debris, rubbish, tools, equipment, machinery and surplus materials. Clean all sight exposed surfaces; leave work clean and ready for occupancy.

B. Coordinating Contractor:

1. Supervise and coordinate the cleaning operations of all Assigned Contractors.
2. At project completion, leave project clean, ready for occupancy.

1.2 RELATED REQUIREMENTS

A. Specified elsewhere:

1. 01 74 13 - Construction Cleaning.

.2 EXECUTION

2.1 FINAL CLEANING

A. Employ professional cleaners for final cleaning.

B. Remove grease, dust, dirt, stains, labels, fingerprints, protection and other foreign materials from all sight-exposed interior and exterior finished surfaces; polish surfaces so designated to specified finish.

1. In preparation for substantial completion or occupancy, conduct final inspection of all sight-exposed interior and exterior surfaces, and of concealed spaces to ensure performance.

C. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.

D. Coordinating Contractor soft broom clean all exposed concrete surfaces clean; other paved areas with soft or stiff broom as directed. Rake clean other surfaces on grounds.

E. Coordinating Contractor sweep and mop clean all flooring.

F. Coordinating Contractor vacuum clean all carpet.

- G. Coordinating Contractor maintain finally cleaned areas until project, or designated portion thereof, is accepted by CDB.

END 01 74 23.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 78 23 - Operating & Maintenance Data**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

- A. Each Contractor provide Operating and Maintenance Data in accordance with Article 01 78 23 of the Standard Documents for Construction and the Project Manual.

2. REQUIRED SUBMITTALS

2.1 General Contractor

A. Section 08 71 00, Door Hardware

- 1. Product data
- 2. Operating characteristics, limiting condition
- 3. Performance curves, engineering data
- 4. As-installed control diagrams
- 5. As-installed color coding charts and diagrams
- 6. Parts nomenclature and numbers
- 7. Operating procedures, start-up procedures
- 8. Manufacturer's instructions for maintenance, and service and care
- 9. Service manual
- 10. Shop drawings
- 11. Spare parts
- 12. Warranties & bonds
- 13. Troubleshooting procedures
- 14. Safety requirements, operating cautions
- 15. Overall system diagrams for use by operations and maintenance personnel

B. Section 06 16 13, Insulating Sheathing

- 1. Product data
- 2. Warranties & bonds

C. Section 07 46 33, Vinyl Siding and Fascia

- 1. Product data
- 2. Manufacturer's instructions for maintenance, and service and care
- 3. Shop drawings
- 4. Spare parts
- 5. Warranties & bonds

D. Section 07 92 00, Joint Sealants

- 1. Product data
- 2. Manufacturer's instructions for maintenance, and service and care

E. Section 08 00 00, Glazing

- 1. Product data
- 2. Performance curves, engineering data
- 3. Manufacturer's instructions for maintenance, and service and care

- 4. Warranties & bonds
- F. Section 08 54 13, Fiberglass Windows
  - 1. Product data
  - 2. Operating characteristics, limiting condition
  - 3. Performance curves, engineering data
  - 4. Parts nomenclature and numbers
  - 5. Operating procedures, start-up procedures
  - 6. Manufacturer's instructions for maintenance, and service and care
  - 7. Service manual
  - 8. Shop drawings
  - 9. Warranties & bonds
  - 10. Troubleshooting procedures
  - 11. Safety requirements, operating cautions
- G. Section 12 24 13, Roller Window Shades
  - 1. Product data
  - 2. Operating characteristics, limiting condition
  - 3. Manufacturer's instructions for maintenance, and service and care
  - 4. Service manual
  - 5. Warranties & bonds
- 2.2 Heating Contractor
  - A. Section 23 05 19, Meters and Gauges for HVAC Piping-Flow Meters
    - 1. Product data
    - 2. Operating characteristics, limiting condition
    - 3. Performance curves, engineering data
    - 4. As-installed control diagrams
    - 5. Parts nomenclature and numbers
    - 6. Manufacturer's instructions for maintenance, and service and care
    - 7. Service manual
    - 8. Shop drawings
    - 9. Warranties & bonds
    - 10. Troubleshooting procedures
    - 11. Safety requirements, operating cautions
    - 12. Overall system diagrams for use by operations and maintenance personnel
  - B. Section 23 05 53, Identification for HVAC Piping and Equipment
    - 1. Product data
    - 2. Shop drawings
  - C. Section 23 81 13, Packaged Terminal Air Units
    - 1. Product data
    - 2. Operating characteristics, limiting condition
    - 3. Performance curves, engineering data
    - 4. As-installed control diagrams
    - 5. As-installed color coding charts and diagrams
    - 6. Parts nomenclature and numbers
    - 7. Operating procedures, start-up procedures
    - 8. Manufacturer's instructions for maintenance, and service and care
    - 9. Service manual
    - 10. Shop drawings

11. Warranties & bonds
12. Troubleshooting procedures
13. Safety requirements, operating cautions
14. Overall system diagrams for use by operations and maintenance personnel

2.3 Electrical Contractor

A. Section 26 56 00, Exterior Lighting

1. Product data
2. Operating characteristics, limiting condition
3. As-installed control diagrams
4. Parts nomenclature and numbers
5. Manufacturer's instructions for maintenance, and service and care
6. Service manual
7. Warranties & bonds
8. Troubleshooting procedures

END 01 78 23.



DIVISION 1 - GENERAL REQUIREMENTS  
**01 78 36 - Extended Warranties & Bonds**

1. GENERAL

1.1 REQUIREMENTS INCLUDE

- A. Each Contractor shall warrant their work in accordance with the Standard Documents for Construction. In addition, the following extended Warranties and Bonds shall be provided as specified.

2. EXTENDED WARRANTIES AND BONDS

2.1 General Contractor

- A. Section 08 54 13, Fiberglass Windows, for durations indicated below:
  - 1. Materials: 20 years
  - 2. Glazing: 20 years
  - 3. Exterior finish: 10 years
  - 4. Workmanship: 2 years
- B. Section 08 71 00, Door Hardware, for materials and workmanship durations indicated below:
  - 1. Closers: 10 years (mechanical), 2 years (electrified)
  - 2. Exit Devices: 3 years (mechanical), 1 year (electrified)
  - 3. Locksets: 3 years
  - 4. Continuous Hinges: lifetime warranty

2.1 Heating Contractor

- A. Section 23 81 13, Packaged Terminal Air Conditions, 5 year refrigeration circuit including compressor parts only

2.2 Electrical Contractor

- A. Section

END 01 78 36



1. GENERAL

1.1 WORK INCLUDES

A. General Contractor:

1. Demolition and removal of windows, interior window sills, siding, fascia, metal soffits, window shades, exterior hollow metal doors and sidelites, gutters and downspouts.
2. Removal and protection of exterior building signage to be reinstalled.

B. Heating Contractor:

1. Demolition and removal of PTAC units, associated wall sleeves and louvers.

C. Electrical Contractor:

1. Demolition and removal of exterior light fixtures.
2. Removal and protection of exterior low voltage, security and electrical items to be reinstalled.

1.2 RELATED WORK:

- A. Section 01 35 16 Remodeling Project Procedures
- B. Section 01 73 29 Cutting and Patching
- C. Section 01 74 13 Construction Cleaning

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

## 1.5 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished.
  2. Review structural load limitations of existing structure.
  3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  5. Review areas where existing construction is to remain and requires protection.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property , for environmental protection , for dust control and , for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
  2. Interruption of utility services. Indicate how long utility services will be interrupted.
  3. Coordination for shutoff, capping, and continuation of utility services.
  4. Use of elevator and stairs.
  5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Pre-demolition Photographs: Submit before Work begins.

## 1.7 CLOSEOUT SUBMITTALS

- A. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.



## 1.8 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify the Architect.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

## 2.PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## 3.EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Architect. Architect does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

F. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, and templates.

1. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Comply with requirements for existing services/systems interruptions specified in Section 01100 "Summary."

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.
2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.

### 3.3 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining

construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

#### 3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.5 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END 02 41 19

DIVISION 3 - CONCRETE  
**030130 Cleaning Cast-In-Place Concrete**

1. GENERAL

1.1 WORK INCLUDES

- A. General contractor:
  - 1. Application of a heavy duty concrete degreaser and stripper on areas of exposed concrete foundation wall.

1.2. RELATED WORK

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

1.3 REFERENCES

- A. ACI 515.1R - Guide to the Use of Waterproofing, Dampproofing, Protective, and Decorative Barrier Systems for Concrete.

1.4 SUBMITTALS

- A. Comply with Section 01 33 23 Shop Drawings, Product Data and Samples
- B. Submit manufacturer's product data and application instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Keep product from freezing.
- D. Avoid direct contact with this product as it may cause mild-to-moderate irritation of the eyes and/or skin.
- E. Protect materials during handling and application to prevent damage or contamination.
- F. Use product full strength from the container.
- G. Dispose of material according to all local, state and federal regulations.

## 1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply if the temperature of the concrete is less than 35 °F (2° C) or above 130° F (57° C).

## 2. PRODUCTS

### 2.1 MANUFACTURER

- A. W. R. MEADOWS®, INC., PO Box 338, Hampshire, Illinois 60140-0338
  - a. ULTRITE DEGREASER
- B. PROSOCO, 3741 Greenway Circle, Lawrence, KS 66046
  - a. CURE AND SEAL
- C. DIEDRICH TECHNOLOGIES, INC., 7373 S. 6<sup>th</sup> St., Oak Creek, WI 53154
  - a. 960 HEAVY DUTY CONCRETE CLEANER

## 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces to receive concrete degreaser. Notify architect if surfaces are not acceptable. Do not begin application until unacceptable conditions have been corrected.

### 3.2 SURFACE PREPARATION

- A. Protect adjacent surfaces not designated to receive concrete degreaser.
- B. Follow ACI Guide 515.1R (Section 3.4.2) for severe oil and grease stains.

### 3.3 APPLICATION

- A. Apply concrete degreaser according to manufacturer's instructions ensuring that all coverage rates are followed.
- B. Apply concrete degreaser full strength from the container to the entire surface to be cleaned.
- C. Allow concrete degreaser to soak in and soften the coating or stain.
- D. Apply additional concrete degreaser to prevent the surface from drying.

- E. Thoroughly scrub the treated area with a stiff bristle broom or mechanical scrubber.
- F. Rinse the area with large amounts of clean water.
- G. Continue to rinse with water until there is no visible trace of the product on the concrete.
- H. Test patch the dry concrete prior to painting or applying a subsequent surface treatment.
- I. Clean the concrete with additional degreaser if stain or coating has not been completely removed.

#### 3.4 CLEANUP

- A. Dispose of material according to local, state, and federal regulations.
- B. Clean all tools and equipment with water.

END OF 030130





1. GENERAL

1.1 WORK INCLUDES

A. General Contractor:

1. Non-structural steel post supports at courtyard downspouts.

1.2 Related Sections:

1. Section 09 91 13 Exterior Painting

1.3 REFERENCES

A. American Welding Society (AWS) D1.1/D1.1M Structural Welding Code-Steel

B. American Society for Testing and Materials (ASTM):

1. ASTM A 36 Standard Specification for Carbon Structural Steel
2. ASTM A 123 Standard Specification for Zinc Coatings (Hot-Dip Galvanized) on Iron and Steel Products
3. ASTM A 563 Standard Specification for Carbon and Alloy Steel Nuts
4. ASTM A 780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
5. ASTM E 488 Standard Test Methods for Strength of Anchors in Concrete Elements
6. ASTM F 1554 Standard Specification for Anchor Bolts
7. ASTM F 2329 Standard Specification for Zinc Coating

C. American Society of Mechanical Engineers (ASME) B18.22.1 Washers

D. NAAMM Metal Finishes Manual for Architectural and Metal Products

1.4 ACTION SUBMITTALS

A. Product Data: For the following:

1. Paint products
2. Grout

B. Shop Drawings: Show fabrication and installation details for metal fabrications

1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

## 1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

## 1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls, soffits and other construction contiguous with metal fabrications by field measurements before fabrication.

## 1.8 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. 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.

## 2. PRODUCTS

### 2.1 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated.
  - 1. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling,

opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

## 2.3 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Tubing: ASTM A 500, cold-formed steel tubing.

## 2.4 FASTENERS

- A. General: Unless otherwise indicated, provide zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
- B. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
  1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- C. Plain Washers: Round, ASME B18.22.1.
  1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- D. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- E. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

## 2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- C. Injectable Mortar: Hybrid adhesive mortar for installation of fastening steel post base plates into concrete flatwork.
  1. Products: Hilti HIT-HY 150 MAX Injectable Mortar, or equal.

## 2.6 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- E. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- G. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

## 2.7 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish metal fabrications after assembly.
- C. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

## 2.8 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
  - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
  - 2. See '09 91 13 Exterior Painting' section for primer and finish painting over galvanized substrates.

## 3. EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- D. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- E. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:

### 3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

### 3.3 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF 09 91 13

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES  
**06 10 53 – Miscellaneous Rough Carpentry**

1. GENERAL

1.1 WORK INCLUDES

A. General Contractor provide:

1. Miscellaneous rough carpentry required for providing level and plumb installations of new vinyl siding, windows, exterior doors and PTAC units.

1.2 REFERENCES

A. US Department of Commerce (DOC): DOC PS 2 - Performance Standard for American Softwood Lumber

B. American Wood Protection Agency (AWPA):

1. AWPA U1 Standard Specification for Treated Wood
2. AWPA M4 Standard for the Care of Preservative-Treated Wood Products

C. American Society for Testing and Materials (ASTM):

1. ASTM A 153 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
2. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
3. ASTM D 2898 Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
4. ASTM D 3201 Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products
5. ASTM F 1667 Standard Specification for Driven Fasteners: Nails, Spikes, and Staples

D. American Society of Mechanical Engineers (ASME) ASME B18.6.1 Wood Screws

E. NES-NER 272 Power-Driven Staples and Nails

### 1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
  - 2. NHLA: National Hardwood Lumber Association.
  - 3. NLGA: National Lumber Grades Authority.
  - 4. SPIB: The Southern Pine Inspection Bureau.
  - 5. WCLIB: West Coast Lumber Inspection Bureau.
  - 6. WWPA: Western Wood Products Association.

### 1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
  - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.



4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
1. Preservative-treated wood.
  2. Fire-retardant-treated wood.
  3. Power-driven fasteners.
  4. Powder-actuated fasteners.
  5. Expansion anchors.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

## 2. PRODUCTS

### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings.

## 2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
  - 1. Use treatment that does not promote corrosion of metal fasteners.
  - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
  - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.

- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Application: Treat items indicated on Drawings, and the following:
  - 1. Concealed blocking.

#### 2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:
  - 1. Mixed southern pine; SPIB.
  - 2. Western woods; WCLIB or WWPA.
  - 3. Northern species; NLGA.
  - 4. Eastern softwoods; NeLMA.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:
  - 1. Mixed southern pine, No. 2 grade; SPIB.
  - 2. Eastern softwoods, No. 2 Common grade; NELMA.
  - 3. Northern species, No. 2 Common grade; NLGA.
  - 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

#### 2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.

### 3. EXECUTION

#### 3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  1. Use inorganic boron for items that are continuously protected from liquid water.
  2. Use copper naphthenate for items not continuously protected from liquid water.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  1. NES NER-272 for power-driven fasteners.

2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

### 3.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

### 3.3 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

End of 06 10 53



DIVISION 6 – WOOD, PLASTICS AND COMPOSITES  
**06 16 13 – Insulating Sheathing**

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Insulating wall sheathing with integral water-resistive barrier and air barrier.
  - 2. Self Adhering Seam and Flashing Tape

1.2 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
  - 1. ASME B18.6.1 - Wood Screws (Inch Series)
- B. ASTM International (ASTM):
  - 1. ASTM A153/A153M - Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
  - 2. ASTM C1289 - Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
  - 3. ASTM D779 - Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method
  - 4. ASTM D1621 - Test Method for Compressive Properties Of Rigid Cellular Plastics
  - 5. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
  - 6. ASTM E96/E 96M - Test Methods for Water Vapor Transmission of Materials
  - 7. ASTM E331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
  - 8. ASTM E2357 - Test Method for Determining Air Leakage of Air Barrier Assemblies
  - 9. ASTM F1667 - Specification for Driven Fasteners: Nails, Spikes, and Staples
  - 10. ASTM G154 - Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials
- C. US Department of Commerce (DOC):
  - 1. DOC PS 2 - Performance Standard for Wood-Based Structural Panels
- D. International Code Council (ICC):
  - 1. ICC IBC - International Building Code
- E. ICC Evaluation Service, Inc. (ICC-ES):
  - 1. ICC-ES AC12 - Acceptance Criteria For Foam Plastic Insulation

2. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers
3. ICC-ES AC116 - Acceptance Criteria for Nails and Spikes
4. ICC-ES AC148 - Acceptance Criteria For Flexible Flashing Materials
5. ICC-ES AC201 - Acceptance Criteria for Staples
6. ICC-ES AC269 - Acceptance Criteria for Racking Shear Evaluation of Proprietary Sheathing Materials attached to Light-Frame Wall Construction or Code-Complying Sheathing Attached to Light-Framed Walls with Proprietary Fasteners
7. ICC-ES AC310 - Acceptance Criteria for Water-Resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-Resistive Barriers
8. ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections
9. ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction

### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of sheathing product specified.

### 1.4 PERFORMANCE REQUIREMENTS

- A. Air-Barrier Assembly Air Leakage: Less than 0.04 cmf/sq. ft. at 1.57 lbs/sq. ft. (0.2 L/s x sq. m. at 75 Pa), per ASTM E2375
- B. Water-Vapor Permeance Factor: Minimum 12 perms (689 ng/Pa x s x sq. m.)
- C. Weather Exposure: Manufacturer warranty applies for maximum allowable exposure period of 180 days.

### 1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape.
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with ICC-ES AC269 and ICC-ES AC310.

### 1.6 CLOSEOUT SUBMITTALS

- A. Warranty: Executed copy of manufacturer special warranties.

### 1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Provide wood products from manufacturer certified by SFI, FSC, or comparable sustainable forestry program acceptable to Architect.



- B. Provide wall sheathing products meeting requirements for water-resistive barrier in accordance with ICC-ES AC310.
- C. Provide wall sheathing products meeting requirements of ICC-ES AC269.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

## 2. PRODUCTS

### 2.1 MATERIALS

- A. Oriented Strand Board: DOC PS 2, made with binder containing no added urea formaldehyde.
- B. Rigid Foam Plastic Insulating Board: Rigid polyisocyanurate foam core complying with ASTM C1289 Type II, Class 2, and ICC-ES AC12, with coated glass fiber facers on both sides, with the following characteristics:
  - 1. Nominal Density: 2.0 pcf (32 kg/cu. m).
  - 2. Compressive Strength, ASTM D1621: Not less than 20 psi (150 kPa).
  - 3. Vapor Permeance, ASTM E96/E96M: Less than 1.0 perm.
  - 4. Edge Configuration: Square finished.

### 2.2 COMPOSITE INSULATING WALL SHEATHING

- A. Composite Insulating Wall Sheathing: Oriented-strand-board Exposure 1 sheathing 7/16 inch thick, with factory-laminated water-resistive barrier exterior facer, and with rigid foam plastic insulating board laminated to interior face.
  - 1. Span Rating and Performance Category of Sheathing Layer: Not less than 24/16; 7/16 Performance Category.
  - 2. Thickness: 1 inch
  - 3. Thermal Resistivity (R Value): 3.6 deg F x h x sq. ft./Btu x in. at 75 deg F (25 K x m/W at 24 deg C).
  - 4. Edge Profile: Square edge.
  - 5. Exterior Facer: Medium-density, phenolic-impregnated polymer-modified sheet material meeting requirements for ASTM D779 Grade D weather-resistive barrier in accordance with ICC AC38 and AC310, with fastener spacing symbols on exterior facer for 16-inch on center spacing, with the following characteristics
    - a. Water Resistance of Coatings, ASTM D2247: Pass 14 day exposure test.
    - b. Moisture Vapor Transmission, ASTM E96: Not less than 12 perms.
    - c. Water Penetration, ASTM E331: Pass at 2.86 lbf/sq. ft. (137 Pa).
    - d. Wind Driven Rain, TAS-100: Pass.
    - e. Accelerated Weathering, ASTM G154: Pass.

## 2.3 FASTENERS

- A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
  - 1. Corrosion Resistance: Hot-dip zinc coating, ASTM A153/A 153M
- B. Nails, Brads, and Staples: ICC AC116 and ICC AC201.
- C. Power-Driven Fasteners: ICC-ES-1539 or NER-272.
- D. Wood Screws: ASME B18.6.1.

## 2.4 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIAL

- A. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC AC148.
  - 1. Thickness: 0.012 inch (0.3 mm).

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Examine framing spacing and alignment to determine if work is ready to receive sheathing. Proceed with sheathing work once conditions meet requirements.

### 3.2 SHEATHING INSTALLATION

- A. Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
- B. Air and Moisture Barrier: Coordinate sheathing installation with flashing and joint sealant installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.
- C. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
- D. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs.
- E. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
  - 1. ICC-ES ESR-1539 or ICC-NES NER-272 for power-driven fasteners.
- F. Retain one of two subparagraphs below as applicable to Project.

1. IBC: Table 2304.9.1 Fastening Schedule.
- G. Apply seam tape at all panel seams, penetrations, and facer defects or cracks to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.

END OF 06 16 13



DIVISION 6 – WOOD, PLASTICS AND COMPOSITES  
**06 40 23 - Interior Architectural Woodwork**

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Interior corner trim at windows
  - 2. Plastic-laminate window sills.

1.2 RELATED WORK:

- A. Section 06 10 53 "Miscellaneous Rough Carpentry"
- B. Section 09 91 23 "Interior Painting"

1.3 REFERENCES

- A. Architectural Woodwork Institute (AWI) Architectural Woodwork Standards
- B. American Hardboard Association (AHA) A135.4 Standard for Basic Hardboard
- C. Hardwood Plywood and Veneer Association (HPVA) HP-1 Standards
- D. National Electrical Manufacturers Association (NEMA) LD-3 High Pressure Decorative Laminates Standards
- E. American National Standards Institute (ANSI) 208.1 Particleboard Standard
- F. American Society of Testing and Materials (ASTM) ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials

1.4 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
  - 1. Show details full size.

2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.

C. Samples for Verification:

1. Finish lumber
  - a. 12” long sample of assembled corner finished with specified finish paint on 1 side and 1 edge.
2. Plastic laminates sills
  - a. 12” long section of the typical laminate sill using the materials as specified.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer or fabricator.
- B. Product Certificates: For each type of product, signed by product manufacturer.
- C. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

## 1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.
- B. Installer Qualifications: Fabricator of products.
- C. Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production of interior architectural woodwork with sequence-matched wood veneers and transparent-finished wood doors that are required to be of same species as woodwork.
- D. Quality Standard: ‘Premium’ per AWI's "Architectural Woodwork Quality Standards".
  1. Provide AWI Quality Certification Program labels and certificates indicating that woodwork, including installation, complies with requirements of grades specified.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
  2. Mock-Up Locations

- a. Provide a mock-up at one typical residence hall room window with corner window trim and plastic laminate sill. See drawing sheet A1.0 for mock-up location.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

## 1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.
  - 2. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

## 1.10 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

## 2. PRODUCTS

### 2.1 MATERIALS

- A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

### 2.2 INTERIOR CORNER TRIM WITH OPAQUE FINISH

- A. Grade: 'Premium Grade' matching AWI Premium Grade standards

- B. Wood Species: Any closed-grain hardwood.
- C. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- D. Paint specification and color to be coordination with the 09 91 23 Interior Painting section and the Paint Schedule on drawing sheet A11.0.

### 2.3 PLASTIC-LAMINATE SILLS

- A. Grade: Premium.
- B. High-Pressure Decorative Laminate Grade: HGS.
- C. Manufacturers
  - 1. Formica Corporation.
  - 2. Nevamar Company, LLC; Decorative Products Div.
  - 3. Wilsonart International; Div. of Premark International, Inc.
- D. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
  - 1. Wilsonart – Pepperdust D327-60
- E. Edge Treatment: Rigid PVC extrusions, through color with satin finish, 3 mm thick at doors and drawer fronts, 1 mm thick elsewhere.
  - 1. Provide extruded PVC edging at all edges and exposed ends of window sills.
- F. Core Material: Particleboard made with exterior glue or medium-density fiberboard made with exterior glue.
- G. Backer Sheet: Provide plastic-laminate backer sheet, Grade BKL, on underside of countertop substrate.

### 2.4 MISCELLANEOUS MATERIALS

- A. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.
- B. Adhesives, General: Adhesives shall not contain urea formaldehyde.
- C. Adhesive for Bonding Plastic Laminate: Unpigmented contact cement.
  - 1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.



## 2.5 FABRICATION, GENERAL

- A. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- B. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- C. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
  - 1. Edges of Solid-Wood (Lumber) Members 3/4 Inch Thick or Less: 1/16 inch.
- D. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
  - 1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
  - 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

## 2.6 SHOP FINISHING

- A. Grade: Provide finishes of same grades as items to be finished.
- B. Refer to Division 9 painting Sections for finishing opaque-finished architectural woodwork.
- C. Shop Priming: Shop apply the prime coat including backpriming, if any, for items specified to be field finished. Refer to Division 9 painting Sections for material and application requirements.
- D. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
  - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative panels.

### 3. EXECUTION

#### 3.1 PREPARATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

#### 3.2 INSTALLATION

- A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.
  - 1. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.
  - 2. Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches.
- F. Window Sills: Install as one full length piece with no joints at each window. At corner conditions with a wrapping sills, provide mitered corners with seams matching AWI Premium standard for joint tolerances.
  - 1. Install sills with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  - 2. Secure sills to wall framing or blocking with concealed fasteners.
- G. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

### 3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF 06 40 23



DIVISION 7 – THERMAL AND MOISTURE PROTECTION  
**07 46 33 Vinyl Siding**

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Vinyl Siding.
  - 2. Vinyl Carpentry Soffits
  - 3. Vinyl Carpentry Accessories and Trim

1.2 RELATED SECTIONS

- A. Section 06 10 53 – Miscellaneous Rough Carpentry
- B. Section 06 16 13 – Insulating Sheathing
- C. Section 07 62 00 – Sheet Metal Flashing & Trim
- D. Section 07 92 00 - Joint Sealers.
- E. Section 08 11 13 – Hollow Metal Doors and Frames
- F. Section 08 54 13 – Fiberglass Windows
- G. Section 08 91 19 – Fixed Louvers

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM D 3679 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding.
  - 2. ASTM D 4477 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Soffit.
  - 3. ASTM D 5206 - Standard Windload Resistance Test.
  - 4. ASTM E 84 - Standard test Method for Surface Burning Characteristics of Building Materials.
  - 5. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
  - 6. ASTM D7254 – Standard Specification for Polypropylene (PP) Siding

1.4 DESIGN/PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Code compliance in accordance with the following:
  - 1. IBC and IRC
  - 2. ICC Evaluation Service

3. CCMC
- B. PVC Fire Resistance: Provide vinyl siding products that meet or exceed the following ratings:
  1. Flame Spread Index < 25, smoke development rating <450, per ASTM E 84.
  2. Fire endurance classification of 1 hour, per ASTM E 119 in a wall assembly.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  1. Preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, minimum size 12 inches (300 mm) long, representing actual product, color, and patterns.
- D. Submit Installer's qualifications
- E. Submit Manufacturer's standard warranty

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Provide installer with not less than 10 years of experience with products specified.
- B. Mock-Up: Provide an in-place mock-up as noted on sheet A1.0.
  1. Mock-up may become part of final work if approved by the architect.
  2. Mock-up should include all trims, accessories and sealant required for the final installation.
  3. Mock-up will also include the installation of fiberglass windows and insulating sheathing board. Coordinate with the window and sheathing installers prior to beginning work on the mock-up.
  4. As directed by the A/E, reinstall and adjust mock-up area as necessary to produce acceptable work.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Refer to manufacturer's installation instructions for specific storage and handling requirements.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. CertainTeed Corporation, Siding Products Group, P.O. Box 860, Valley Forge, Pennsylvania 19482.
  - 1. Product: Monogram 46 D4
- B. Mitten, 5A-225 Henry St, Brantford, ON Canada N3S 7R4
  - 1. Product: Sentry Double 4”
- C. Georgia Pacific Vinyl Siding and Accessories, BlueLinx, 4300 Wildwood Pkwy, Atlanta, GA 30339
  - 1. Product: Compass Double 4”

### 2.2 MATERIALS

- A. Vinyl Siding, Soffit and Components: Provide products made of extruded polyvinyl chloride as specified in this section and manufactured to comply with requirements of ASTM D 3679.
  - 1. Provide elongated nailing slots on nailing flanges to allow for movement.
  - 2. Factory-notch ends of horizontal panels to form overlapping joints.
  - 3. Provide products that meet weathering requirements of ASTM D 3679.

### 2.3 Polymer Shingle Siding

- A. Monogram 46 D4:
  - 1. Design: Double 4 inch (102 mm) clapboard; rough cedar finish with STUdfinder Installation System.
  - 2. Nail Hem: RigidForm 220 Technology Roll Over Nail Hem.
  - 3. Lock: CertiLock self aligning post formed positive lock.
  - 4. Width: 8 inch (203 mm).
  - 5. Length: 12 feet 6 inches (3.81 m) plus or minus .025 inch (6 mm).
  - 6. Average Thickness: 0.046 inch (1.17 mm).
  - 7. Panel Projection: 3/4 inch (19 mm).
  - 8. Panel Exposure: 4 inch (102 mm) plus or minus .062 inch (1.57 mm).
  - 9. Maximum Warp (per 2 panels): 0.250 inch (6 mm).
  - 10. Color S-1: General Siding Color
    - a. Natural Clay.
  - 11. Color S-2: Accent Color
    - a. Terra Cotta

## 2.4 VINYL CARPENTRY SOFFITS

### A. Typical Soffits

1. Product: CertainTeed Triple 3-1/3 inch (85 mm) InvisiVent soffit Invisibly Vented.
2. Design: Triple 3-1/3 inch (85 mm) invisibly vented; matte finish.
3. Width: 10 inches (254 mm) plus or minus .062 inch (1.57 mm).
4. Length: 12 feet (3.66 m) plus or minus .025 inch (6 mm).
5. Ventilation: >10.0" N.F.A. /sq. ft.
6. Average Thickness: 0.044 inch (1.1 mm).
7. Exposure: 3-1/3 inches (84.66 mm) single nailing hem.
8. Maximum Warp (per 2 panels): 0.250 inch (6 mm).
9. Color shall be as follows:
  - a. Colonial White.

## 2.5 VINYL CARPENTRY ACCESSORIES

### A. Standard Accessories:

1. Outside Corner post: 3 1/3" face, 10 feet (3.05 m), 12 feet (3.66 m), and 20 feet (6.10 m) lengths.
2. Inside Corner post: 1 1/2" face, 10 feet (3.05 m) length
3. J-Channel: 1/2" wide, 12 feet, 6 inches (3.81 m) length.
4. Lineal trim: 3 1/2" face, 20 feet (6.10 m) length.
5. Dual undersill trim: 3/4" face, 12 feet 6 inches (3.81 m) length.
6. 2-1/2 inch (64 mm) Metal Starter Strip. (No Color)
7. 2-1/4 inch (57 mm) Vinyl Starter Strip. (No Color)
8. Color
  - a. Typical accessory color: Colonial White
  - b. Outside Corner post colors at corners of S-2 siding: Terra Cotta

## 2.6 FASTENERS

- A. A. Provide galvanized or other corrosion-resistant nails as recommended by manufacturer of siding products.

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.



- B. Do not begin installation until unacceptable conditions have been corrected.

### 3.3 INSTALLATION

- A. Install products in accordance with the latest printed instructions of the manufacturer.
- B. Installer should have current 5-Star Contractor or Master Craftsman credentials.
- C. Install products with all components true and plumb.
- D. For Vinyl Siding: Nail horizontal panels by placing nail in center of slot. Nail vertical panels by placing first nail at top of top slot and remaining nails in center of slots. Drive nails straight, leaving 1/16 inch (1.6 mm) space between nail head and flange of panel.
- E. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches.
- F. Stagger lap joints in horizontal siding in uniform pattern as successive courses of siding are installed.
- G. Install J-channel and flashing to accommodate successive courses of vertical siding. Install wood shims at building corners to bring cut edges of vertical siding out to correct plane.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

### 3.5 CLEANING

- A. At completion of work, remove debris caused by siding installation from project site.

END OF 07 46 33



DIVISION 07 – THERMAL AND MOISTURE PROTECTION  
07 62 00 Sheet Metal Flashing and Trim

PART 1 - GENERAL

1.1 WORK INCLUDED

A. General Contractor provide:

1. Sheet metal flashings and drip edges
2. Sheet metal trims

1.2 RELATED WORK

A. Section 06 10 53 – Miscellaneous Rough Carpentry

B. Section 07 46 33 – Vinyl Siding and Fascia

C. Section 07 71 23 – Gutters and Downspouts

D. Section 07 92 00 – Joint Sealants

1.3 REFERENCES

A. Perform fabrication and installation in accordance with the Sheet Metal and Air-Conditioning Contractor's National Association (SMACNA) manual, Latest Edition.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

A. Prefinished aluminum:

1. Base sheet shall be 20 gauge Aluminum Association specification sheet conforming to ASTM B209 standards with H14 temper.
2. Finish shall consist of primer on both sides, minimum 0.25-mil thickness, followed by a 70% Kynar 500® resin premium fluoropolymer (PVDF) coating on one side to achieve a 1.0 mil (+/- 0.1-mil) dry-film thickness.
3. Color : White

B. Stainless steel: 20 gauge sheet, conforming to ASTM A167 and ASTM A240, AISI Type 304 alloy.

## 2.2 JOINTING MATERIALS

### A. Solder conforming to ASTM B32(82), Alloy Grade 50A.

1. Composition: 50% block tin and 50% pig lead.
2. Surface cleaner/flux:
  - a. Galvanized: Raw muriatic acid.
  - b. Stainless steel: M-A Flux.

### B. Rivets:

1. 1/8-inch diameter, minimum. Length as required to properly engage sheet metal.
2. Galvanized steel, aluminum or copper: pop rivets to match the sheet metal being joined.
3. Stainless steel: stainless steel with stainless mandrels.
4. Prefinished metal: color of rivets to match the sheet metal being joined.
5. Seal heads of exposed rivet heads with solder or sealant.

### C. Sheet metal stitch screws:

1. Self-drilling sheet metal screws, 10-16 x 3/4 inch Hex Washer Head, TEKS/1 with pilot point (use EPDM or neoprene sealing washers with exposed fasteners).
2. Cadmium plated where unexposed or color to match the sheet metal being joined.

### D. Tape caulk:

1. For use in "loose-locked" joints, described below, 1/8-inch by 1-1/2 inch, minimum, butyl tape sealant:
  - a. GS-7500, by General Sealants, City of Industry, CA.
  - b. SikaLastomer 95 (953D), by Sika Corporation, Kansas City, MO.
2. For use in "solid" joints, described below, 3/32-inch by 1-1/2 inch, butyl tape sealant:
  - a. SikaLastomer 95 (951Y), by Sika Corporation, Kansas City, MO.

## 2.3 CONCEALED FLASHING

### A. 45-mil EPDM non-reinforced single-ply membrane and 3-inch wide butyl-rubber seam tape.

## 2.4 ACCEPTABLE FASTENERS

### A. Sheet metal to wood nailers, concealed fasteners to be covered with roofing plies: 11 gauge, 1-1/2 inch length, annular ring-shanked roofing nails with hot-dipped galvanized coating and 3/8-inch, minimum, head.

1. Stormguard R-103-A, by W.H. Maze Company, Peru, IL.
2. Stronghold R103-A, by Independent Nail, Taunton, MA.

### B. Sheet metal to wood blocking:

1. Concealed fasteners: #12 minimum pan-head stainless steel wood screw, 1-1/4 inch minimum length.
2. Exposed fasteners: #12 minimum hex-head stainless steel wood screw, 1-1/4 inch minimum length, with neoprene washer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION AND PREPARATION

#### A. Verify that:

1. Substrate is properly installed prior to installing the sheet metal flashings.
2. Conditions are satisfactory for proper installation of the Work. Do not begin work until all unsatisfactory conditions have been corrected.

#### B. Samples: Prior to fabricating sheet metal components, provide field-installed samples for review by the Owner and Consultant:

1. At drip edges/fascia/joint covers/vented soffit panels, provide samples showing:
  - a. Field-verified dimensions, including continuous cleat;
  - b. Inside and/or outside corner fabrication;
  - c. Section jointing procedure.

### 3.2 SHEET METAL JOINTING

#### A. Solid joints (prefinished galvanized steel or aluminum sheet metal):

1. Lap sheet metal sections two (2) inches, minimum.
2. Install butyl tape caulk between sections.
3. Fasten with pop-rivets on two (2) inch maximum centers.

#### B. Solid joints (stainless steel sheet metal):

1. Prior to riveting, pretin all surfaces to be joined on both sides at least 2-1/2 inches. Install rivets in two rows, not more than two (2) inches apart, staggered.
  - a. Clean surface of all foreign materials and contaminants and apply flux prior to soldering.
  - b. Solder from "wet" side (i.e., inside gutter) allowing solder to flow into joint and rivets. Solder over the heads of all rivets.
  - c. Solder flat, or down-hand, whenever possible.
  - d. Keep container of water handy to cool the joint as you solder; stainless holds heat for a long time.
  - e. Rinse copiously with water after it reaches ambient temperatures.

#### C. Loose-locked joints:

1. Fabricate in sections a maximum of ten (10) feet in length.
2. Install sheet metal sections with a 1/2-inch, minimum, gap between sections.

3. Notch the bottom hems two (2) inches back from the end, on the face of each section, to accommodate the batten plate.
4. Install butyl tape caulk between sections and batten plate.
5. Hook the batten plate onto the exterior continuous cleat and the adjacent sheet metal flashing sections.
6. Fasten on the roof side, to the underlying wood blocking, with a minimum of two fasteners.

D. Lapped joints:

1. Fabricate in sections a maximum of ten (10) feet in length.
2. Lap sheet metal sections two (2) inches, minimum.
3. At lap, notch the bottom hem of one section two (2) inches back from the end, to accommodate the adjacent section.
4. Hook the overlying sheet metal flashing onto the adjacent sheet metal flashing section, creating a two (2) inch minimum lap.

### 3.3 SHEET METAL FABRICATION AND INSTALLATION

A. General fabrication requirements:

1. Finish all joints neatly with lines trimmed true and sharp.
2. All sheet metal flashings and trim shall be fabricated in accordance with the dimensions given in the Construction Drawings, and/or as field-measured and verified by the Contractor prior to fabrication.
3. Face dimensions greater than eight (8) inches shall be fabricated with a 1/2-inch stiffening 'V'-groove in the center.

B. General installation procedures:

1. Install and attach as shown on the Construction Drawings.
2. All finish flashings, where applicable, must be fully engaged and continuously crimped onto the underlying cleat.
3. All points where the sheet metal flashing ends or transitions into a different flashing detail shall be flashed with a field-formed sheet metal closure. The use of mastic or excessive caulking shall not be acceptable.

C. Drip edges:

1. Hem bottom edge one (1) inch if engaging continuous cleat or one-half (1/2) inch if only acting as drip.
2. Fabricate with a five (5) inch, minimum, wide flange onto roof surface.
3. At installation, join all sections and corners using the applicable solid joint procedure described above.

### 3.4 ADJUSTING & CLEANING

#### A. Clean-up:

1. Clean sheet metal surfaces of all grease, marks and stains. Touch-up scratches or nicks in the finish with rust-inhibitive touch-up paint.
2. Immediately upon completion of sheet metal work, roof membrane and flashing surfaces shall be cleaned of all scrap sheet metal and debris.

#### B. Repair of deficiencies:

1. Installation or details noted as deficient during Final Review must be repaired and corrected by Contractor, and made ready for review, within five (5) working days.

END OF SECTION





SECTION 07 – THERMAL AND MOISTURE PROTECTION  
**07 71 23 Gutters and Downspouts**

PART 1 GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Gutters and Downspouts.
  - 2. Related Accessories.

1.2 RELATED SECTIONS

- A. Section 07 46 33 – Vinyl Siding
- B. Section 07 62 00 - Sheet Metal Flashing and Trim.
- C. Section 07 92 00 - Joint Sealers
- D. Section 08 54 13 – Fiberglass windows

1.3 REFERENCES

- A. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- B. SMACNA - Architectural Sheet Metal Manual.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Conform to applicable code for size and method of rain water discharge.
- B. American Architectural Manufacturers Association (AAMA) Specification 1405.1 "Specification for Aluminum Raincarrying Systems".

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's catalog data, detail sheets, and specifications.
- C. Shop Drawings: Prepared specifically for this project; showing all profiles and dimensions of metal gutters, downspouts, accessories, fastening details and connections and interface with other products.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples,

minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Manufacturers warranties.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with a minimum of ten years experience manufacturing products in this section shall provide all products listed.
- B. Installer Qualifications: Products listed in this section shall be installed by a single organization with at least five years experience successfully installing insulation on projects of similar type and scope as specified in this section.
- C. Perform Work in accordance with SMACNA Manual.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products to prevent twisting, bending, and abrasion, and to provide ventilation. Slope stored materials to drain.
- C. During storage prevent contact with materials capable of causing discoloration, staining, or other damage.

## 1.8 PROJECT CONDITIONS

- A. Coordinate installation with installation of adjacent roofing, siding and related materials

## PART 2 PRODUCTS

### 2.1 GUTTERS

- A. Material
  - 1. Aluminum Coil Stock: Formed and coated aluminum coil stock; 3105 H24 aluminum. Prefinished on both sides of coil.
- B. K-Style Gutter Fabrication:
  - 1. Gutter Size: 6 inches.
  - 2. Length: Continuous.
  - 3. Aluminum Thickness: 0.032
  - 4. Texture: smooth

### C. Gutter Corner Fabrication

1. Provide mitered corners welded and sealed. Corners shall extend a minimum of 12 inches from the corner in each direction. Lap joint and sealant where connecting to continuous gutter.

2. Match material, shape and finish of gutter.

## 2.2 DOWNSPOUTS

- A. Downspouts: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
1. Thickness:
    - a. 0.032 inches
  2. Size:
    - a. 3 inches by 4 inches (76 mm by 102 mm).
  3. Texture
    - a. Corrugated

## 2.3 ACCESSORIES

- A. Endcaps: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch (0.69 mm).
- B. Inside and Outside Mitre: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch (0.69 mm).
- C. Gutter Hangers and Anchors:
1. Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.063 inch (1.60 mm). Provide types required to suit project requirements.
  2. Hidden type hangers
  3. Spacing: 36" o.c.
- D. Downspout Anchors: Aluminum. Provide types required to suit project requirements.
- E. Downpout Support
1. Exposed strap
  2. Color: match downspout color.
- F. Elbows: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
1. Thickness:
    - a. 0.019 inch (0.48 mm).

2. Size: To match downspouts.
- G. Gutter Guard:
  1. Size:
    - a. Aluminum mesh, 6 inch (152 mm) by 3 foot (914 mm).
- H. Gutter Screen:
  1. Size:
    - a. Aluminum screen, white, 5 inch (127 mm) by 3 foot (914 mm).
- I. Aluminum Finish:
  1. Exposed Side: Kynar 500
  2. Interior coating: manufacturer's standard primer wash coat
  3. Color: Matte White
- J. Sealant: Provide as specified in Section 07 92 00.
- K. Fasteners: Same material and finish as gutters and downspouts. Fasteners to extend a minimum of 1 inch into solid substrate.

## 2.4 FABRICATION

- A. Continuously form seamless gutters to the profiles and sizes specified.
- B. Form downspouts of profiles and sizes specified.
- C. Hem exposed edges of metal.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify governing dimensions at building.
- C. Verify surfaces are ready to receive gutters and downspouts.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Clean and repair if necessary any adjoining work on which this work is in any way dependent for its proper installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install gutters using appropriate hangers to allow normal expansion and contraction.
- C. Install gutter hangers using two 1-1/4 inch (32 mm) screw shank nails and fastened into solid lumber.
- D. All gutters shall be in continuous length for each elevation (run). No end laps are allowed.
- E. Exercise care in placing aluminum in contact with other dissimilar metals or materials that are not compatible with aluminum.
- F. Providing adequate insulation/separation where ever necessary, such as by painting or otherwise protecting when they are in contact with aluminum or when drainage from them passes over aluminum surfaces.
- G. Install sealants where indicated to clean dry surfaces only without skips or voids.

#### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF 07 71 23



DIVISION 7 – THERMAL AND MOISTURE PROTECTION  
**07 92 00 - Joint Sealants**

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
1. Silicone joint sealants.

1.2 RELATED WORK:

- A. Section 07 46 33 “Vinyl Siding and Fascia”
- B. Section 07 62 00 “Sheet Metal Flashing and Trim”
- C. Section 08 11 13 “Hollow Metal Doors and Frames”
- D. Section 08 80 00 "Glazing" for glazing sealants.
- E. Section 08 54 13 “Fiberglass Windows”

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
1. ASTM C 834 – Standard Specification for Latex Sealants
  2. ASTM C 920 – Standard Specification for Elastomeric Joint Sealants
  3. ASTM C 1021 – Standard Practice for Laboratories Engages in Testing of Building Sealants
  4. ASTM C 1087 – Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
  5. ASTM C 1193 – Standard Guide for Use of Joint Sealants
  6. ASTM C 1248 – Standard Test Method for Staining of Porous Substrate by Joint Sealants
  7. ASTM C 1330 – Standard Specification for Sealant Backing
  8. ASTM C 1521 – Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

- C. Product Testing: Test joint sealants using a qualified testing agency.
  - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
  - 2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

## 1.5 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color.
- D. Qualification Data: For qualified Installer and testing agency.
- E. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- F. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- H. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
  - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- I. Preconstruction Field-Adhesion Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

## 1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.



1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  2. Submit not fewer than eight pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
  3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
  5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
  2. Conduct field tests for each application indicated below:
    - a. Each kind of sealant and joint substrate indicated.
  3. Notify Architect seven days in advance of dates and times when test joints will be erected.
  4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
    - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
      - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
  5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
  6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

## 1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
  2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

## 2. PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- E. Colors of Exposed Joint Sealants: Architect to select from standard color charts

### 2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
  1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Dow Corning Corporation; 790.
    - b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
    - c. May National Associates, Inc.; Bondaflex Sil 290.
    - d. Pecora Corporation; 890.
    - e. Sika Corporation, Construction Products Division; SikaSil-C990.
    - f. Tremco Incorporated; Spectrem 1.
- B. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
  1. Products: Subject to compliance with requirements, provide one of the following:

- a. BASF Building Systems; Omniplus.
- b. Dow Corning Corporation; 786 Mildew Resistant.
- c. GE Advanced Materials - Silicones; Sanitary SCS1700.
- d. May National Associates, Inc.; Bondaflex Sil 100 WF.
- e. Tremco Incorporated; Tremsil 200 Sanitary.

### 2.3 URETHANE JOINT SEALANTS

A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.

- 1. Products: Subject to compliance with requirements, provide one of the following:
  - a. BASF Building Systems; Sonolastic NP1.
  - b. May National Associates, Inc.; Bondaflex PUR 25.
  - c. Sika Corporation, Construction Products Division; Sikaflex - 1a.
  - d. Tremco Incorporated; Dymonic.

B. Multicomponent, Nonsag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use NT.

- 1. Products: Subject to compliance with requirements, provide one of the following:
  - a. BASF Building Systems; Sonolastic NP 2.
  - b. May National Associates, Inc.; Bondaflex PUR 2 NS.
  - c. Sika Corporation, Construction Products Division; Sikaflex - 2c NS.
  - d. Tremco Incorporated; Vulkem 227.

### 2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

- 1. Products: Subject to compliance with requirements, provide one of the following:
  - a. BASF Building Systems; Sonolac.
  - b. May National Associates, Inc.; Bondaflex 600.Pecora Corporation; AC-20+.
  - c. Schnee-Morehead, Inc.; SM 8200.
  - d. Tremco Incorporated; Tremflex 834.

### 2.5 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

- B. Cylindrical Sealant Backings: ASTM C 1330, Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

## 2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove

loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

a. Concrete.

3. Remove laitance and form-release agents from concrete.

4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

a. Metal.

b. Glass.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.

2. Do not stretch, twist, puncture, or tear sealant backings.

3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.
  3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
  2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
  4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
  5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
    - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

### 3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed and cured sealant joints as follows:
    - a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
    - b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
  2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
    - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
  3. Inspect tested joints and report on the following:
    - a. Whether sealants filled joint cavities and are free of voids.
    - b. Whether sealant dimensions and configurations comply with specified requirements.
    - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
  4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.

- 5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

TYPE	POLYMER	EXPOSURE /TRAFFIC	COLOR	USES/APPLICATIONS
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TYPE	POLYMER	EXPOSURE /TRAFFIC	COLOR	USES/APPLICATIONS
Elastomeric	Silicone: Low modulus; Medium Modulus	Exterior joints in vertical surfaces and non-traffic horizontal surfaces	Selected by Architect from manufacturer's full range	<ul style="list-style-type: none"> <li>• Control and expansion joints in cast-in-place concrete.</li> <li>• Control and expansion joints in unit masonry.</li> <li>• Joints in dimension stone cladding.</li> <li>• Joints in metal panels.</li> <li>• Windows and between windows and other materials.</li> <li>• Storefront and entrances and between storefront and entrances and other materials.</li> <li>• Joints between materials listed above and frames of doors and windows.</li> <li>• Control and expansion joints in soffit and overhead surfaces.</li> <li>• Other joints as indicated.</li> </ul>
Elastomeric	STPe Joint Sealant	Contractor's Option: Exterior perimeter joints where indicated.	Selected by Architect from manufacturer's full range	<ul style="list-style-type: none"> <li>• Perimeter joints between doors and other frames where joint contacts traffic coatings.</li> </ul>
Elastomeric	Multi-part Urethane or Single-part Urethane	Exterior joints in horizontal traffic surfaces	Selected by Architect from manufacturer's full range	<ul style="list-style-type: none"> <li>• Control, expansion, and isolation joints in cast-in-place concrete slabs.</li> <li>• Control and expansion joints in paving.</li> <li>• Joints between materials listed above.</li> <li>• Other joints as indicated.</li> </ul>



TYPE	POLYMER	EXPOSURE /TRAFFIC	COLOR	USES/APPLICATIONS
Elastomeric	Silicone: Low modulus; Medium Modulus or One-part Urethane	Interior moving joints in vertical surfaces and horizontal nontraffic surfaces	Selected by Architect from manufacturer's full range	<ul style="list-style-type: none"> <li>Control and expansion joints on exposed interior surfaces of exterior walls.</li> <li>Perimeter joints of exterior openings where indicated.</li> <li>Joints between tops of non-load-bearing, non-fire rated unit masonry walls and underside of structure above.</li> <li>Tile control joints (In non-wet areas).</li> <li>Vertical control joints on exposed surfaces of interior unit masonry and concrete walls and partitions.</li> <li>Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.</li> </ul>
Elastomeric	Mildew-Resistant Silicone	Interior wet areas	White	<ul style="list-style-type: none"> <li>Perimeter of plumbing fixtures and tile surfacing.</li> <li>Between tile backing board and plumbing fixtures and showers.</li> </ul>
Elastomeric	Two-Part Urethane	Interior horizontal traffic joints	Selected by Architect from manufacturer's full range	<ul style="list-style-type: none"> <li>Paving and flooring control and expansion joints</li> <li>Isolation joints in cast in place concrete slabs.</li> <li>Joints in stone flooring.</li> <li>Joints in tile flooring, except in interior wet areas.</li> </ul>
Solvent Release Sealants	Butyl Sealant	Interior or Exterior concealed joints	Manufacturer's standard	<ul style="list-style-type: none"> <li>Concealed sheet metal sealants</li> <li>Sealing thresholds.</li> </ul>
Latex	Acrylic Latex Sealants	Interior	Manufacturer's standard paintable	<ul style="list-style-type: none"> <li>Interior non-moving exposed sealants in gypsum drywall construction</li> </ul>
Acoustical		Interior	Manufacturer's standard paintable	<ul style="list-style-type: none"> <li>Interior sealants in acoustically rated construction</li> </ul>

END OF 07 92 00



## 1. GENERAL

### 1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Hollow Metal Frames and Doors

### 1.2 RELATED REQUIREMENTS:

- A. Section 08 71 00 "Door Hardware"
- B. Section 08 80 00 "Glazing"

### 1.3 REFERENCES

- A. NAAMM-HMMA Standards for Hollow Metal Doors and Frames
- B. ANSI/SDI A250.8 – Specifications for Standard Steel Doors and Frames
- C. American Society for Testing and Materials (ASTM):
  - 1. ASTM A 153 – Standard Specification for Zinc Coating
  - 2. ASTM A 653 – Standard Specification for Galvanized Steel Sheet
  - 3. ASTM A 879 – Standard Specification for Steel Sheet, Zinc Coated
  - 4. ASTM A 1008 – Standard Specification for Cold-Rolled Steel
  - 5. ASTM C 665 – Standard Specification for Mineral-Fiber Blanket Thermal Insulation
  - 6. ASTM C 1363 – Standard Test Method for Thermal Performance of Building Materials
  - 7. ASTM E 136 – Standard Test Method for Behavior of Materials in A Vertical Tube Furnace

### 1.4 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, core descriptions and finishes.

- B. Shop Drawings: Include the following:
  - 1. Elevations of each door type.
  - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
  - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
  - 4. Locations of reinforcement and preparations for hardware.
  - 5. Details of each different wall opening condition.
  - 6. Details of anchorages, joints, field splices, and connections.
  - 7. Details of accessories.
  - 8. Details of moldings, removable stops, and glazing.
  - 9. Details of conduit and preparations for power, signal, and control systems.
- C. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

#### 1.7 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

#### 1.8 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
  - 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Amweld International, LLC.
  - 2. Ceco Door Products; an Assa Abloy Group company.
  - 3. Curries Company; an Assa Abloy Group company.
  - 4. Republic Doors and Frames.
  - 5. Steelcraft; an Ingersoll-Rand company.
- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

### 2.2 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3. At locations indicated in the Door and Frame Schedule.
  - 1. Physical Performance: Level A according to SDI A250.4.
  - 2. Doors:
    - a. Type: As indicated in the Door and Frame Schedule.
    - b. Thickness: 1-3/4 inches
    - c. Face: Metallic-coated steel sheet, minimum thickness of 14 gage, with minimum A40 coating.
    - d. Edge Construction: Model 2, Seamless.
    - e. Core: Vertical steel stiffened with manufacturer's standard polyurethane, polyisocyanurate or mineral-board insulation
      - 1) Thermal-Rated Doors: Provide doors fabricated with thermal-resistance value (R-value) of not less than 2.1 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.
  - 3. Frames:
    - a. Materials: Metallic-coated steel sheet, minimum thickness of 14 gage, with minimum A40 coating.
    - b. Construction: Full profile welded.
  - 4. Exposed Finish: Prime.

### 2.3 FRAME ANCHORS

- A. Jamb Anchors:

1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
  1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
  2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

## 2.4 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
  1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- G. Glazing: Comply with requirements in Section 08800 "Glazing."
- H. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

## 2.5 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for

metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
2. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
3. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets.
4. Bottom Edge Closures: Close bottom edges of doors with end closures or channels of same material as face sheets.
5. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.

C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelight Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
  - a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
    - 1) Three anchors per jamb up to 60 inches high.
    - 2) Four anchors per jamb from 60 to 90 inches high.
    - 3) Five anchors per jamb from 90 to 96 inches high.
    - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
  - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

- b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
  - 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
  - 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
- F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.
  - 1. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
  - 2. Provide loose stops and moldings on inside of hollow-metal work.
  - 3. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

## 2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
  - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

## 2.7 ACCESSORIES

- A. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

# 3. EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.



- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

### 3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
  - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. At fire-rated openings, install frames according to NFPA 80.
    - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - c. Install frames with removable stops located on secure side of opening.
    - d. Install door silencers in frames before grouting.
    - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
  - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
    - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
  - 3. Wood-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.

4. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
  - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
  - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
  1. Non-Fire-Rated Steel Doors:
    - a. Between Door and Frame Jambs and Head: 1/8 inch plus or minus 1/32 inch.
    - b. Between Edges of Pairs of Doors: 1/8 inch to 1/4 inch plus or minus 1/32 inch.
    - c. At Bottom of Door: 3/4 inch plus or minus 1/32 inch.
    - d. Between Door Face and Stop: 1/16 inch to 1/8 inch plus or minus 1/32 inch.
- D. Glazing: Comply with installation requirements in Section 08800 "Glazing" and with hollow-metal manufacturer's written instructions.
  1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

### 3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF 08 11 13

1. GENERAL

1.1 WORK INCLUDES

A. General Contractor provide:

1. Fiberglass Clad Exterior / Wood Interior Casement Windows
2. Fiberglass Clad Exterior / Wood Interior Single Sliding Windows
3. Fiberglass Clad Exterior / Wood Interior Direct Set Windows
4. Glazing.
5. Accessories.

1.2 RELATED SECTIONS

- A. Section 06 40 23: Wood trim other than furnished by window manufacturer
- B. Section 07 92 00—Joint Sealants: Sill sealant and perimeter caulking
- C. Section 09 90 00—Paints and Coatings: Paint or stain other than factory applied finish

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C1036 - Standard Specification for Flat Glass.
2. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass.
3. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
4. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
5. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.
6. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
7. ASTM F588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

B. American Architectural Manufacturers Association/Window and Door Manufacturers Association/Canadian Standards Association (AAMA/WDMA/CSA):

1. AAMA/WDMA/CSA 101/I.S.2/A440-05 - Standard/Specification for Windows, Doors and Unit Skylights.

- C. American National Standards Institute/American Architectural Manufacturers Association/National Wood Window and Door Association (ANSI/AAMA/NWWDA):
  1. ANSI/AAMA/NWWDA 101/I.S.2-97 – Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.
- D. Window and Door Manufacturers Association (WDMA):
  1. WDMA I.S.4-05 - Industry Standard for Water Repellent Preservative Non-Pressure Treatment for Millwork.
- E. American Architectural Manufacturers Association (AAMA):
  1. AAMA 623 – Voluntary Specifications, Performance and Test Procedures for Organic Coatings on Fiber-Reinforced Thermoset Profiles.
  2. AAMA 625 – Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Fiber-Reinforced Thermoset Profiles.
- F. National Fenestration Rating Council (NFRC):
  1. NFRC 102 - Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
  2. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
  3. NFRC 500 - Procedure for Determining Fenestration Product Condensation Resistance Values.
  4. ENERGY STAR<sup>®</sup> Compliant Models available.
- G. Insulating Glass Certification Council (IGCC).
- H. Safety glass tested in accordance with ANSI Z97.1.
- I. Screen Manufacturers Association (SMA):
  1. SMA-1201-2002 – Specifications for Insect Screens for Windows, Sliding Doors and Swinging Doors.
- J. Federal Specification (FS):
  1. FS L-S-125B - Screen, Insect Non-Metallic.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Design and performance requirements:
  1. Casement windows shall comply with AAMA/WDMA/CSA 101/I.S.2/A440-05 and ANSI/AAMA/NWWDA 101/I.S. 2-97:
  2. Air infiltration shall not exceed 0.30 cfm/ft<sup>2</sup> (1.5 L/s•m<sup>2</sup>) when tested at 1.57 psf [75 Pa] according to ASTM E283.
  3. No water penetration when tested at the following pressure according to ASTM E547:

- a. C-C40 - 6.00 psf (287 Pa)
- b. C-C60 - 9.00 psf (430 Pa)
4. Casement windows must withstand the following positive/negative structural test pressure without damage when tested according to ASTM E330:
  - a. C-C40 - +60.0/-60.0 psf (+2873/-2873 Pa)
  - b. C-C60 - +90.0/-90.0 psf (+4309/-4309 Pa)
5. Casement windows must pass a forced entry resistance test of at least Level 10 to meet requirements set forth in ASTM F588.

## 1.5 SUBMITTAL PROCEDURES

- A. Shop drawings: submit shop drawings according to Section 01 33 23 – Shop Drawings, Product Data and Samples.
- B. Product data: submit manufacturer's product catalog data and installation guides.
- C. Samples: submit samples including the following:
  1. Corner cutaway: submit corner cutaway, including glazing system, quality of construction and specified exterior/interior finishes.
  2. Exterior: submit color samples of exterior color finishes.
  3. Hardware: submit samples indicating typical hardware finishes.
- D. Quality control reporting: submit manufacturer's test results reported by independent laboratory indicating compliance with specified performance and design requirements, as listed in 1.4 Performance Requirements, according to Section 01 33 26 – Source Quality Control Reporting.

## 1.6 QUALITY ASSURANCE

- A. Single source responsibility: obtain all window materials and products from single source from single manufacturer.
- B. Regulatory requirements:
  1. Emergency escape and rescue: comply with requirements for sleeping units of IBC International Building Code.
  2. U-Value: comply with the 2012 Illinois Energy Conservation Code requirement for all windows to meet at U-Value of .32.

## 1.7 PRODUCT DELIVERY REQUIREMENTS

- A. Deliver in original packaging and protect from weather.

## 1.8 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store units in a dry location, off the ground, under cover, protected from weather and construction activities.

## 1.9 WARRANTIES

- A. Materials: 20-year limited warranty.
- B. Insulating glass: 20-year limited warranty.
- C. Fiberglass exterior finish: 10-year limited warranty.
- D. Workmanship: 2-year limited warranty

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design: EnduraShield™ Fiberglass Clad Exterior / Wood Interior Windows as manufactured by Weather Shield Mfg., Inc. of Medford, Wisconsin.
- B. Ultrex Fiberglass Clad Exterior / Wood Interior windows as manufactured by Integrity Windows & Doors, Fargo, North Dakota or Roanoke, Virginia.
- C. ArmaClad Windows and Doors, LLC / Series 1002 and 1003 Commercial Fiberglass Window Systems

### 2.2 FIBERGLASS CLAD EXTERIOR / WOOD INTERIOR CASEMENT WINDOW

#### A. Materials:

##### 1. Frame:

- a. Exterior frame members milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. The frame includes solid one-piece jambs free from nails or screws. Frame corners shall be rabbet-cut, chemically and mechanically fastened.
- b. Frame is clad with .075" [1.9mm] thick reinforced fiberglass pultrusion, with an integral extruded nailing fin. Corners shall be mitered, include internal corner keys, and chemically fastened.
- c. Interior frame materials to be milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
- d. Frame thickness shall be 1-3/16" [30mm].
- e. Wood sill operator cover shall be chemically fastened to sill.
- f. Frame shall have standard jamb depth of 4-9/16" [116mm].

##### 2. Sash:

- a. Sash shall be a reinforced fiberglass pultrusion exterior of .080" [2.0mm] thickness, miter cut at corners with internal corner keys and chemically fastened.
- b. Interior sash materials to be milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. Interior wood glazing bead is coped and mechanically fastened to sash.
- c. Sash shall be 1-11/16" [43mm] thick.
- d. Stiles and rails shall be 1-15/16" [49mm] wide.

**B. Hardware:**

1. Operator shall be hardened steel drive worm, hinged gear arms, factory applied, and located on the sill of the window:
  - a. High pressure all-metal zinc die-cast folding operator handle features a cam-action or detent joint that locks the handle into place, secured with stainless steel fasteners.
    - Finishes: corrosive-resistant white.
2. Cam-action metal sash lock with hidden tie bars have multi-point keepers that sequentially secure the sash at multiple locations. One sash lock with one keeper shall be applied to all units from 18" [457mm] up to and including 22-11/16" [576mm] rough opening height; two sash keepers shall be applied to all units from 22-3/4" [578mm] up to and including 45-1/16" [1145mm] rough opening height; and three sash keepers shall be applied to all units from 45-1/8" [1146mm] up to and including 84" [2134mm] rough opening height.
  - a. High pressure zinc die-cast sash lock finishes: white
3. Hinges: two concealed stainless steel adjustable hinges shall consist of a stainless steel track, stainless steel support arms and stainless steel reinforcing insert in low-friction sliding shoe. Options: egress hinges and limit stops.
4. Two-piece L-shaped steel snubbers

**C. Weatherstripping:**

1. Full length, foam-filled, black bulb-type weather strip around the frame perimeter with no corner joints.
2. Woven pile (white on white exterior; black on all other color exteriors) weather strip surrounds the sash and is partially exposed when sash is closed.
3. Weather stripping shall provide two points of contact at sash rails and stiles.

**D. Screens**

1. Consisting of .019" [0.5mm] thick formed aluminum butt-jointed frames with baked-on acrylic coating, injection-molded exposed vinyl corner keys, top screen spring, vinyl lift tabs and 20x20 charcoal vinyl-coated fiberglass mesh. Frame finish: white.

## 2.3 FIBERGLASS CLAD EXTERIOR / WOOD INTERIOR SINGLE SLIDING WINDOW

## A. Materials:

### 1. Frame:

- a. Exterior frame members milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. The frame includes solid one-piece jambs free from nails or screws. Frame corners shall be rabbet-cut, chemically and mechanically fastened.
- b. Frame is clad with .075" [1.9mm] thick reinforced fiberglass pultrusion, with an integral extruded nailing fin. Corners shall be mitered, include internal corner keys, and chemically fastened.
- c. Interior frame materials to be milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
- d. Frame thickness shall be 1 1/16" [18mm].
- e. Frame shall have standard jamb depth of 4-9/16" [116mm].

### 2. Sash:

- a. Sash shall be a reinforced fiberglass pultrusion exterior of .075" [2.0mm] thickness, miter cut at corners with internal corner keys and chemically fastened.
- b. Interior sash materials to be milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. Interior wood glazing bead is coped and mechanically fastened to sash.
- c. Sash shall be 1-1/2" [38mm] thick.
- d. Inside meeting stile with continuous finger pull shall be 2-1/4" [58mm] wide; outside meeting stile shall be 1-3/4" [44mm] wide.

## B. Hardware:

1. Each sash shall operate on two sets of dual tandem nylon rollers located at bottom of rail of sash.
2. Two zinc die-cast sash locks shall be surface-mounted at meeting stile and factory-applied. Zinc die-cast flush-mounted sash release latches shall be factory-applied to top of each sash stile and latch into beige vinyl head track. Interior sash release latch finish shall match sash lock. Exterior sash release latch finish shall be white.
  - a. Finish: white

## C. Weather stripping:

- a. Three rows of beige pile weather strip with center fin shall be applied at each head track.
- b. Vinyl bulb weather strip shall include: one row at bottom rail, check rail, side parting stock and along sill track.
- c. **Weather stripping shall provide two points of contact at sash rails and stiles.**



D. Half Screens:

1. Consisting of .019" [0.5mm] thick formed aluminum butt-jointed frames with baked-on acrylic coating, injection-molded exposed vinyl corner keys, top screen spring, vinyl lift tabs and 20x20 charcoal vinyl-coated fiberglass mesh. Frame finish: white.

2.3 FIBERGLASS CLAD EXTERIOR / WOOD INTERIOR DIRECT-SET WINDOW:

A. Materials:

1. Frame:

- a. Exterior frame members milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative. The frame includes solid one-piece jambs free from nails or screws. Frame corners shall be rabbet-cut, chemically and mechanically fastened.
- b. Frame is clad with .075" [1.9mm] thick reinforced fiberglass pultrusion, with an integral extruded nailing fin. Corners shall be mitered, include internal corner keys, and chemically fastened.
- c. Interior frame materials to be milled from pine, kiln dried to a moisture content of 6-12% at the time of fabrication and treated with a water-repellent preservative.
- d. Frame thickness shall be 1-3/16" [30mm].
- e. Frame shall have standard jamb depth of 4-9/16" [116mm].

2.4 FINISH:

A. Exterior fiberglass finish: medium gloss acrylic; meets or exceeds AAMA 625 requirements.

1. Color: white.

B. Interior finish: primed

2.5 GLAZING

A. Select quality complying with ASTM C1036. Insulating glass IGCC certified to performance level CBA when tested in accordance with ASTM E2190.

1. Glazing method:
  - a. Insulated glass consisting of two lites of clear annealed glass
2. Glass type: High-performance Low E: insulated glass consisting of one lite of multi-layered Low E coatings applied to the number two surface and one lite clear glass with warm-edge spacer system and argon gas in airspace
  - a. Insulated glass airspace: Argon gas
3. Insulated glass shall be sealed with an advanced charcoal shadow-line warm-edge spacer system with integrated edge seal and foil laminate moisture vapor barrier.

4. Glass shall be glazed with glazing adhesive at sash exterior to allow reglazing from the interior.
5. Glass shall be glazed with glazing adhesive at sash exterior.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install windows according to manufacturer's instructions and reviewed shop drawings to ensure proper installation and operation.
- B. Install window unit plumb, level and square with no distortion of frame members.
- C. Fill perimeter frame to wall opening cavity per manufacturer's installation instructions.
- D. Apply approved sealant in accordance with Section 07 92 00 - Joint Sealants.
- E. Do not puncture fiberglass cladding.

### 3.2 ADJUSTING AND CLEANING

- A. Adjust operating sash and hardware to provide tight fit at contact points and at the weather stripping for smooth operation.
- B. Remove excess sealant materials and visible labels from glass. Clean glass surfaces promptly after installation.
- C. Initiate and maintain all protection and other precautions required to ensure windows are in acceptable condition at time of substantial completion.

End of 08 54 13

## 1. GENERAL

### 1.1 WORK INCLUDES

#### A. General Contractor Provide:

1. Finish Hardware
2. Mechanical and electrified door hardware

#### B. Electrical Contractor:

1. Coordination with electrical strikes and security systems requirements.

### 1.2 RELATED SECTIONS:

#### A. Section 07 92 00 “Joint Sealants”

#### B. Section 08 11 13 “Hollow Metal Doors and Frames”

#### C. Section 08 00 00 “Glazing”

### 1.3 REFERENCES

#### A. ANSI/BHMA 156 Series Hardware Standards

### 1.4 SUBMITTALS

#### A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.

#### B. Action Submittals:

1. Product Data: Product data including manufacturers’ technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
  - a. Wiring Diagrams: For power, signal, and control wiring and including:
    - 1) Details of interface of electrified door hardware and building safety and security systems.

- 2) Schematic diagram of systems that interface with electrified door hardware.
  - 3) Point-to-point wiring.
  - 4) Risers.
3. Samples for Verification: Submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
  4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
    - a. Door Index; include door number, heading number, and Architects hardware set number.
    - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
    - c. Type, style, function, size, and finish of each hardware item.
    - d. Name and manufacturer of each item.
    - e. Fastenings and other pertinent information.
    - f. Location of each hardware set cross-referenced to indications on Drawings.
    - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
    - h. Mounting locations for hardware.
    - i. Door and frame sizes and materials.
    - j. Name and phone number for local manufacturer's representative for each product.
    - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include how door will operate on egress, ingress, and fire and smoke alarm connection.
      - 1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.
5. Key Schedule:
    - a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
    - b. Use ANSI A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    - c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    - d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.

- e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
    - 1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
  - f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.

C. Informational Submittals:

- 1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
- 2. Product Certificates for electrified door hardware, signed by manufacturer:
  - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
- 3. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by qualified testing agency, for door hardware on doors located in accessible routes.
- 4. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

- 1. Operations and Maintenance Data : Provide in accordance with Division 01 and include:
  - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
  - b. Catalog pages for each product.
  - c. Name, address, and phone number of local representative for each manufacturer.
  - d. Parts list for each product.
  - e. Final approved hardware schedule, edited to reflect conditions as-installed.
  - f. Final keying schedule
  - g. Copies of floor plans with keying nomenclature
  - h. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
  - i. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

## 1.5 QUALITY ASSURANCE

- A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

- 1. Warehousing Facilities: In Project's vicinity.
- 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.

3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
  4. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
    - a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.
- B. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.
- C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
  2. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
- D. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.
- E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.
1. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbf (22.2 N).
  2. Maximum opening-force requirements:
    - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
    - b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
    - c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
  3. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
  4. Adjust door closer sweep periods so that, from open position of 70 degrees, door will take at least 3 seconds to move to 3 inches (75 mm) from latch, measured to leading edge of door.
- F. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01.
1. Attendees: Owner, Contractor, Architect, Installer, and Supplier's Architectural Hardware Consultant.
  2. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:

- a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
  - b. Preliminary key system schematic diagram.
  - c. Requirements for key control system.
  - d. Requirements for access control.
  - e. Address for delivery of keys.
- G. Pre-installation Conference: Conduct conference at Project site
- 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Inspect and discuss preparatory work performed by other trades.
  - 3. Review required testing, inspecting, and certifying procedures.
- H. Coordination Conferences:
- 1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
    - a. Attendees: Door hardware supplier, door hardware installer, Contractor.
    - b. After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.
  - 2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.
    - a. Attendees: electrified door hardware supplier, doors and frames supplier, electrified door hardware installer, electrical subcontractor, Owner, Architect and Contractor.
    - b. After meeting, provide letter of compliance to Architect, indicating when coordination conference was held and who was in attendance.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
  - 1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
  - 1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
  - 2. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

- D. Protection and Damage:
  - 1. Promptly replace products damaged during shipping.
  - 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
  - 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- F. Deliver keys to Owner by registered mail or overnight package service.

## 1.7 COORDINATION

- A. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- C. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

## 1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Years from date of Substantial Completion, for durations indicated.
    - a. Closers:
      - 1) Mechanical: 10 years.
      - 2) Electrified: 2 years.
    - b. Exit Devices:
      - 1) Mechanical: 3 years.
      - 2) Electrified: 1 year.
    - c. Locksets:
      - 1) Mechanical: 3 years.
    - d. Continuous Hinges: Lifetime warranty.
  - 2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

## 1.9 MAINTENANCE

- A. Maintenance Tools:



1. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

A. Approval of manufacturers other than those listed shall be in accordance with QUALITY ASSURANCE article, herein.

B.

Item	Scheduled Manufacturer	Acceptable Manufacturer
Continuous Hinges	Ives (IVE)	ABH, Inc Hager/Roton Pemko (Assa Abloy) Select Products Stanley Zero
Electric Power Transfer	Von Duprin (VON)	No substitute per owner
Locksets & Deadlocks	Schlage (SCH)	Best Lock (Stanley Works) Corbin Russwin (Assa Abloy) Dorma Co Sargent (Assa Abloy) Yale Security (Assa Abloy)
Exit Devices & Mullions	Von Duprin (VON)	Dorma Co. Precision Co. Sargent (Assa Abloy) Yale Security (Assa Abloy)
Power Supplies	Schlage Electronics (SCE)	No substitute per owner
Cylinders	Sargent (SAR)	No substitute per owner
Keying	Sargent (SAR)	No substitute per owner
Door Closers	LCN (LCN)	Dorma Co. Norton (Assa Abloy) Sargent (Assa Abloy)
Electro-Mechanical Automatic Operators	LCN (LCN)	Sargent (Assa Abloy) Rixson
Protection Plates	Ives (IVE)	Glynn-Johnson Corbin Russwin
Overhead Stops	Glynn-Johnson (GLY)	Rockwood Mfg. Co. Hager ABH, Inc Trimco Ives
Thresholds & Weatherstrip	National Guard (NGP)	Pemko Hager

		Zero Reese
Door Position Switches	Schlage Electronics (SCE)	No substitute per owner

- C. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
- D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

## 2.2 MATERIALS

### A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

### B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

## 2.3 CONTINUOUS HINGES

### A. Aluminum Geared

1. Manufacturers:
  - a. Scheduled Manufacturer: Ives
2. Requirements:
  - a. Provide aluminum geared continuous hinges conforming to ANSI A156.25, Grade 2.
  - b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum, with 0.25-inch (6 mm) diameter Teflon coated stainless steel hinge pin.

- c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- f. Provide aluminum geared continuous hinges with electrified option where specified. Provide with sufficient number and gage of concealed wires to accommodate electric function of specified hardware.
- g. Install hinges with fasteners supplied by manufacturer.
- h. Provide hinges with symmetrical hole pattern.

## 2.4 ELECTRIC POWER TRANSFER

- A. Manufacturers:
  - a. Scheduled Manufacturer: Von Duprin
- B. Provide power transfer with number and gage of wires sufficient to accommodate electric function of specified hardware.
- C. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

## 2.5 MORTISE LOCKS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product: Schlage L9000 series
- B. Requirements:
  - 1. Provide mortise locks certified as ANSI A156.13, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
  - 2. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
  - 3. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
  - 4. Provide electrical options as scheduled. Provide electrified locksets with micro switch (RX) option that monitors retractor crank, and is actuated when rotation of inside or outside lever rotates retractor hub. Provide normally closed contacts or normally open contacts as required by security system.
  - 5. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.

- a. Lever Design: Schlage 07A.
- b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

## 2.6 EXIT DEVICES

A. Manufacturer and Product: Von Duprin 99 series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. Cylinders: Refer to “KEYING” article, herein.
2. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
3. Quiet Operation: Incorporate fluid damper or other device that eliminates noise of exit device operation.
4. Touchpad: Extend minimum of one half of door width, but not the full length of exit device rail. Provide end-cap with two-point attachment to door. Match exit device finish, stainless steel for US26, US26D, US28, US32, and US32D finishes; and for all other finishes, provide compatible finish to exit device. Provide compression springs in devices, latches, and outside trims or controls; tension springs prohibited.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrical requirements.
6. Provide exit devices with manufacturer’s approved strikes.
7. Provide exit devices cut to door width and height. Locate exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
8. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
9. Provide cylinder dogging at non-fire-rated exit devices, unless specified less dogging.
10. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion that is removed by use of a keyed cylinder, which is self-locking when re-installed.
11. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.
  - a. Lever Style: Match lever style of locksets.
  - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.
12. Provide UL labeled fire exit hardware for fire rated openings.

13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrical options as scheduled.

## 2.7 POWER SUPPLIES

### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage Electronics or Von Duprin PS914 series

### B. Requirements:

1. Provide power supplies, recommended and approved by manufacturer of electrified locking component, for operation of electrified locks, electrified exit devices, magnetic locks, electric strikes, and other components requiring power supply.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Options:
  - a. Provide power supply, where specified, with internal capability of charging sealed backup batteries 24 VDC, in addition to operating DC load.
  - b. Provide sealed batteries for battery back-up at each power supply where specified.
  - c. Provide keyed power supply cabinet.
5. Provide power supply in an enclosure, complete, and requiring 120VAC to fused input.
6. Provide power supply with emergency release terminals, where specified, that allow release of all devices upon activation of fire alarm system complete with fire alarm input for initiating “no delay” exiting mode.

## 2.8 CYLINDERS

### A. Manufacturer:

1. Scheduled Manufacturer: Schlage

### B. Requirements: Provide cylinders/cores complying with the following requirements.

1. Furnished by same manufacturer as locks.
2. Cylinders/cores compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer's series as indicated.

### C. Full-sized cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.

1. Conventional cylinder with interchangeable core with keyway compatible with existing system.
  2. Keying:
- D. Nickel silver bottom pins.
1. Identification:
- E. Identification stamping provisions must be approved by the Architect and Owner.
- F. Failure to comply with stamping requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.

## 2.9 KEYING

- A. Keying System: Factory registered, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- B. Keying System: Existing system maintained by Owner or Owners representative, incorporating decisions made at keying conference.
- C. Keying Requirements – General
1. Permanent cylinders/cores keyed by the manufacturer according to the following key system.
- D. Keying system tied into existing system as directed by the Owner.
1. Forward biting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
- E. Keys
1. Material: Nickel silver; minimum thickness of .092-inch (2.3mm)
  2. Identification:
- F. Coordinate with cylinder/core and key identification requirements above.
- G. Stamp keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.

## 2.10 DOOR CLOSERS

- A. Manufacturer and Product: LCN 4040XP series. No Substitute
- B. Requirements:
1. Provide door closers certified to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.

2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 11/16 inch (17 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers. When closers are parallel arm mounted, provide closers which mount within 6-inch (152 mm) top rail without use of mounting plate so that closer is not visible through vision panel from pull side.
8. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
9. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

## 2.11 ELECTRO-MECHANICAL AUTOMATIC OPERATORS

### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN Senior Swing 9540 series

### B. Requirements:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI A156.19.
  - a. Opening: Powered by DC motor working through reduction gears.
  - b. Closing: Spring force.
  - c. Manual, hydraulic, or chain drive closers: Not permitted.
  - d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
  - e. Cover: Aluminum.
2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, or adapters for arms as required to suit details.
4. Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.

5. Provide key switches, with LED's, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
7. Provide units with inputs for smoke evacuation doors, where specified, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset, presence detector input, which prevents closed door from opening or door that is fully opened from closing, hold open toggle input, which allows remote activation for indefinite hold open and close second time input is activated, vestibule inputs, which allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

## 2.12 PROTECTION PLATES

### A. Manufacturers:

1. Scheduled Manufacturer: Ives.

### B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:
  - a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
  - b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
  - c. Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

## 2.13 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

### A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson

### B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140



degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.

4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

## 2.14 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

### A. Manufacturers:

1. Scheduled Manufacturer: National Guard.
2. Acceptable Manufacturers: Reese, Zero.

### B. Requirements:

1. Provide thresholds, weatherstripping (including door sweeps, seals, astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Size of thresholds:
  - a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
  - b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

## 2.15 DOOR POSITION SWITCHES

### A. Manufacturers:

1. Scheduled Manufacturer: Schlage Electronics

### B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

## 2.16 FINISHES

### A. Finish: BHMA 626/652 (US26D); except:

1. Protection Plates: BHMA 630 (US32D)
2. Overhead Stops and Holders: BHMA 630 (US32D)
3. Door Closers: Powder Coat to Match
4. Weatherstripping: Clear Anodized Aluminum
5. Thresholds: Mill Finish Aluminum

### 3. EXECUTION

#### 3.1 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Where on-site modification of doors and frames is required:
  - 1. When modifications are exposed to view, use concealed fasteners, when possible.
  - 2. Prepare hardware locations in accordance with:
    - a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

#### 3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
  - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
  - 2. Custom Steel Doors and Frames: HMMA 831.
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent,

- unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- H. Lock Cylinders: Install construction cores to secure building and areas during construction period.
    - 1. Replace construction cores with permanent cores as indicated in keying section.
    - 2. Furnish permanent cores to Owner for installation.
  - I. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
    - 1. Conduit, junction boxes and wire pulls.
    - 2. Connections to and from power supplies to electrified hardware.
    - 3. Connections to fire/smoke alarm system and smoke evacuation system.
    - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
    - 5. Testing and labeling wires with Architect's opening number.
  - J. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.
  - K. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
    - 1. Configuration: least number of power supplies required to adequately serve doors with electrified door hardware.
  - L. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
  - M. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
  - N. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
  - O. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
  - P. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

### 3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Engage qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
  - 1. Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

### 3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  - 1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

### 3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

### 3.7 DEMONSTRATION

- A. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

### 3.8 DOOR HARDWARE SCHEDULE

- A. Locksets, exit devices, and other hardware items are referenced in the following hardware sets for series, type and function. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.
- B. Hardware Sets:

#### **HARDWARE SET NO. 1**

PROVIDE EACH PR DOOR(S) WITH THE FOLLOWING:

QTY	DESCRIPTION	CATALOG NUMBER	FINIS	MFR
2 EA	CONT. HINGE	224HD EPT	H 628	IVE
2 EA	POWER TRANSFER	EPT10	689	VON

1	EA	KEYED REMOVABLE MULLION	KR4954-MT54	689	VON
1	EA	PANIC HARDWARE	RX-CD-99-L-996-07-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	LX-RX-LC-QEL+-SD-99-L-996-07- SNB	626	VON
2	EA	RIM CYLINDER	20-057 ICX	626	SCH
4	EA	MORTISE CYLINDER	20-061-ICX	626	SCH
6	EA	PERMANENT CORE	MATCH EXISTING FACILITY	626	SAR
2	EA	OH STOP	90S	630	GLY
2	EA	SURFACE CLOSER (NEED WITH 90S)	4040XP HEDAW/62G X ST-2731	689	LCN
2	EA	KICK PLATE	8400 12" X 2" LDW B4E CS	630	IVE
1	SET	SEALS	135NA	CL	NGP
1	EA	MULLION SEAL	5100	BLK	NGP
2	EA	DOOR BOTTOM	320N	AL	NGP
1	EA	THRESHOLD	513	AL	NGP
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902	LGR	VON
1	SET	WIRING DIAGRAMS	AS REQUIRED		

- DOOR OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED.  
DOOR UNLOCKED BY VALID CREDENTIAL OR PROGRAM TIMED UNLOCK.  
FREE EGRESS AT ALL TIMES.

SEE RELATED SECTIONS FOR ACCESS CONTROL, POWER, AND WIRING.  
RECONNECT TO EXISTING CARD READERS TO REMAIN.

-PROVIDE A COPY OF THE WIRING DIAGRAM INSIDE THE POWER SUPPLY

**HARDWARE SET NO. 2**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS	MFR
				H	
1	EA	CONT. HINGE	224HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
2	EA	PANIC HARDWARE	RX-CD-99-L-996-07-SNB	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
2	EA	MORTISE CYLINDER	20-061-ICX	626	SCH
3	EA	PERMANENT CORE	MATCH EXISTING FACILITY	626	SAR

2	EA	SURFACE CLOSER (NEED WITH 90S)	4040XP HEDAW/62G X ST-2731	689	LCN
1	EA	OH STOP	90S	630	GLY
1	EA	KICK PLATE	8400 12" X 2" LDW B4E CS	630	IVE
1	SET	SEALS	135NA	CL	NGP
1	EA	DOOR BOTTOM	320N	AL	NGP
1	EA	THRESHOLD	513	AL	NGP
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	SET	WIRING DIAGRAMS	AS REQUIRED		

**- DOOR OPERATION:**

DOOR IS NORMALLY CLOSED AND LOCKED.  
DOOR UNLOCKED BY VALID CREDENTIAL OR PROGRAM TIMED UNLOCK.  
FREE EGRESS AT ALL TIMES.

SEE RELATED SECTIONS FOR ACCESS CONTROL, POWER, AND WIRING.  
-PROVIDE A COPY OF THE WIRING DIAGRAM INSIDE THE POWER SUPPLY.

**HARDWARE SET NO. 3**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS	MFR
				H	
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	PANIC HARDWARE	99-EO	626	VON
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER (NEED WITH 90S)	4040XP EDAW/62G X ST-2731	689	LCN
1	EA	KICK PLATE	8400 12" X 2" LDW B4E CS	630	IVE
1	SET	SEALS	135NA	CL	NGP
1	EA	DOOR BOTTOM	320N	AL	NGP
1	EA	THRESHOLD	896S	AL	NGP
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

**HARDWARE GROUP NO. 4**

PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS	MFR
				H	
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	L9080T 807A 07A	626	SCH

1	EA	PERMANENT CORE	MATCH EXISTING FACILITY	626	SAR
1	EA	SURFACE CLOSER	4040XP SHCUSH	689	LCN
1	EA	KICK PLATE	8400 12" X 2" LDW B4E CS	630	IVE
1	SET	SEALS	135NA	CL	NGP
1	EA	DOOR BOTTOM	320N	AL	NGP
1	EA	THRESHOLD	513	AL	NGP
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

End of 08 71 00





1. GENERAL

1.1 SUMMARY

- A. General Contractor provide:
  - 1. Glazing for Hollow Metal Doors and Sidelites

1.2 RELATED WORK

- A. Section 07 92 00 “Joint Sealants”
- B. Section 08 11 13 “Hollow Metal Doors and Frames”

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM C 509 Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material
  - 2. ASTM C 1021 Standard Practice for Laboratories Engaged in Testing of Building Sealant
  - 3. ASTM C 1036 Standard Specification for Flat Glass
  - 4. ASTM C 1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
  - 5. ASTM E 2190 Standard Specification for Insulating Glass Unit Performance and Evaluation
- B. American National Standards Institute (ANSI) Z97.1 Safety Glazing Materials Used in Buildings
- C. Glass Association of North America (GANA) Laminated Glazing Reference Manual
- D. Insulating Glass Manufacturers Alliance (IGMA) SIGMA TM-3000 North American Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use
- E. National Fire Protection Association (NFPA) 80 Standard for Fire Doors and Other Opening Protectives

1.4 SUBMITTALS

- A. Product Data: Submit complete printed data on each type of glazing product.
- B. Samples: Submit minimum 6” square samples of each type of glazing product.

- C. Certification: Submit letter from manufacturer stating that wired glass complies with ANSI 97.1, 1984 including impact requirements.
- D. Glazing Schedule: Submit a glazing schedule including elevations and glazing details utilizing the same designation as indicated on the drawings identifying types and thicknesses of glazing products and methods of installation.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: Fabrication processes, including low emissivity and reflective coatings, insulating, laminated, silk-screening and tempering shall be manufactured by a single manufacturer with a minimum of ten (10) years of fabrication experience and meet ANSI / ASQC 9002 1994..
- B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.
- C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
- D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
- E. Source Limitations for Glass: Obtain coated float glass, laminated glass and insulating glass from single source from single manufacturer for each glass type.
- F. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.
- G. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
  - 1. GANA Publications: GANA's "Laminated Glazing Reference Manual" and GANA's "Glazing Manual."
  - 2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- H. Safety Glass: Comply with ANSI Z97.1, the Safety Standard for Architectural Glazing Material Standard for Architectural Glazing Materials (16 CFR 1201) issued by the Consumer Product Safety Commission and requirements of authorities having jurisdiction.

## 1.6 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Glass Strength: Glass thicknesses when shown on the Drawings are for convenience of detailing only and are to be confirmed by the Contractor and/or glass manufacturer. Analysis shall comply with ASTM E 1300 Determining Load Resistance of Glass in Buildings. All glass for the size openings shown will be provided in thicknesses required to meet or exceed the following criteria based on project loads and in-service conditions: such that the probability of failure will not exceed 8 lights per 1000 for glass installed vertically and 1 break per 1000 for glass installed 15 degrees or more from the vertical plane
  - 1. Deflection must be limited to prevent disengagement from the frame and be less than or equal to 1" (25mm)
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
- D. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Protect materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

#### 1.8 PROJECT CONDITIONS

- A. Condition of Other Work: The Glazier must examine the framing or glazing channel surfaces, backing, removable stop design, and the conditions under which the glazing is to be performed, and notify the Contractor of any conditions detrimental to the proper and timely completion of the Work. Start of work will evidence acceptance of conditions.
- B. Ambient Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by the glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation or other causes.
  - 1. Do not install liquid glazing sealants when ambient and substrate temperature conditions are outside limits permitted by glazing sealant manufacturer or below 40°F (4.4°C).

## 2. PRODUCTS

### 2.1 GLASS MATERIALS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
- B. Tempered Glass: ASTM C 1048, Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1. (clear), quality q3 (glazing select), kind FT (fully tempered); free of visible tong marks.

### 2.2 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.
  - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary.
  - 2. Spacer: Manufacturer's standard spacer material and construction.
  - 3. Desiccant: Molecular sieve or silica gel, or blend of both.
- B. Provide insulating glass units with thicknesses as indicated in Glazing Schedule (ASTM C 1048, Type I, Quality 3) permanently and hermetically sealed together at edges with spacers and sealant to provide a dehydrated air space with -80° F dew point, certified for compliance by the IGCC in accordance with ASTM E2190 and having ten (10) year warranty.
  - 1. Provide tempered glass both sides.
  - 2. Provide low "E" units meeting "performance requirements" of this specification and drawing notes.
  - 3. Where indicated, provide obscure units.

### 2.3 GLAZING MATERIALS:

- A. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.
- B. Compatibility: Select tapes of proven compatibility with other materials with which they will come into contact, including glass products and glazing channel substrates, under conditions of installation and service.
- C. Cellular Elastomeric Preformed Gaskets: Extruded or molded closed cell, integral-skinned neoprene of profile and hardness required to maintain seal; complying with ASTM C 509, Type II; black.
- D. Polyvinyl Chloride Foam Glazing Tape: PVC foam tape with adhesive one side and one peel paper liner; Norseal U780, Norton. Other manufacturer's products will be considered subject to meeting the performance criteria specified herein.

- E. Setting Blocks: Setting blocks to be 100% silicone with a durometer hardness of 85±5
- F. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
- G. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

## 2.4 GLAZING SEALANTS

- A. General:
  - 1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  - 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
- B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, use NT.

## 2.5 FABRICATION

- A. Cut to size in the shop and key to glazing schedule
- B. Permanently mark each lite of safety glazing and fire resistive glazing where seen when installed on the lower right hand corner.
- C. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

## 3. EXECUTION

### 3.1 PREPARATION

- A. Protect glass from edge damage at all times during handling, installation and operation of the building. Glass breakage during the guarantee period will be considered a form of faulty material or workmanship (resulting from edge damage), unless known to result from vandalism or other causes not related to materials and workmanship.
- B. Glazing channel dimensions must provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thicknesses, with

reasonable tolerances. The Glazier is responsible for correct glass size for each opening, within the tolerances and necessary dimensions established.

### 3.2 INSTALLATION

#### A. Basic Requirements:

1. Comply with combined recommendations of glazing product manufacturer and manufacturer of sealants and other materials used in glazing, except where more stringent requirements are shown or specified, and except where manufacturers' technical representatives direct otherwise.
2. Inspect each piece immediately before installation. Do not use pieces which have observable edge damage or face imperfections.
3. Do not attempt to cut, seam, nip or abrade glass which is tempered.
4. Clean the glazing channel, or other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to the substrate.
5. Install setting blocks of proper size at quarter points of sill rabbet.
6. Provide spacers inside and out, and of proper size and spacing, for all glass sizes larger than 50 united inches, except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite of spacers on glass, and use thickness equal to sealant width; except with sealant tape, use thickness slightly less than final compressed thickness of tape.
7. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
8. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
9. Install pressurized tapes and gaskets to protrude slightly out of the channel, so as to eliminate dirt and moisture pockets.

#### B. Glazing Systems:

1. Glaze lites in labeled assemblies in accordance with UL requirements.
2. Glaze balance of door lites and borrowed lights using setting blocks and PVC-GT or CE-PG having adhesive to stop between glass and stops both sides compressed 35 to 50%.

### 3.3 CURE, PROTECTION AND CLEANING

- A. Remove and replace glazing products which is broken, chipped, cracked, abraded or damaged in other ways during the construction period, including natural causes, accidents and vandalism.
- B. Maintain in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other work.

### 3.4 GLAZING SCHEDULE

- A. GL-1: Insulated Low-E Clear Glass
  - 1. 1” Viracon VE1-85 Insulating Coated Glass as manufactured by Viracon.
    - a. Exterior Glass Ply: ¼” clear FT
    - b. Coating: VE1-85 coating on #2 surface
    - c. Airspace: ½” airspace – mill finish
    - d. Silicone: black
    - e. Interior Glass Ply: ¼” clear FT
  - 2. Performance Requirements
    - a. Visible Light Transmittance: 76%
    - b. Exterior (Vis-Out) Reflectance: 12%
    - c. Winter U-Value: .31 Btu
    - d. Summer U-Value: .29 Btu
    - e. Shading Coefficient: .63
    - f. Light to Solar Gain Ratio: 1.41

### 3.5 SURFACE APPLIED FILMS

- A. Surface Applied Obscuring Film at 2<sup>nd</sup> Floor Clerestory window types W-06
  - 1. Manufacturer: Solyx or approved equal.
  - 2. Product: SXWF-WM – white matte
  - 3. See locations shown on sheet A1.0
  - 4. Apply to #4 surface of glazing units
- B. Surface Applied Film for window in Alternate G-1
  - 1. Provide full color surface applied film with a custom graphic to #4 surface of glass.
  - 2. Architect to provide images files for custom graphics.
  - 3. A unique graphic will be provided for each of the seven buildings. Total of fourteen windows will receive the graphic film with seven unique graphics.

END OF 08 80 00





1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Fixed, extruded-aluminum louvers.

1.2 RELATED WORK:

- A. Section 07 46 33 “Vinyl Siding and Fascia” for integration with vinyl siding and trims
- B. Section 07 92 00 “Joint Sealants”

1.3 REFERENCES

- A. Air Movement and Control Association (AMCA)
  - 1. AMCA 500-L Laboratory Methods of Testing Louvers for Rating
  - 2. AMCA Publication 501 Application Manual for Air Louvers
- B. American Welding Society (AWS) D1.2/D1.2M Structural Welding Code - Aluminum
- C. Sheet Metal and Air Conditioning Contractors’ National Association (SMACNA) Architectural Sheet Metal Manual
- D. American Society for Testing and Materials (ASTM):
  - 1. ASTM B 209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
  - 2. ASTM B 221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes
  - 3. ASTM D 1187 Standard Specification for Asphalt-Base Emulsions for Use as Protective Coatings for Metal

1.4 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.
- B. Storm-Resistant Louver: Louver that provides specified wind-driven rain performance, as determined by testing according to AMCA 500-L.

- C. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width according to AMCA 500-L.

## 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.
  - 1. Show weep paths, gaskets, flashing, sealant, and other means of preventing water intrusion.
  - 2. Show mullion profiles and locations.
- C. Samples for Verification: For each type of metal finish required.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed according to AMCA 500-L by a qualified testing agency or by manufacturer and witnessed by a qualified testing agency, for each type of louver and showing compliance with performance requirements specified.

## 1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain louvers and vents from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.
- B. Welding: Qualify procedures and personnel according to the following:
  - 1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
- C. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

## 1.7 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design louvers, including comprehensive engineering analysis by a qualified professional engineer, using structural performance requirements and design criteria indicated.
- B. Structural Performance: Louvers shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by

louver blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures shall be considered to act normal to the face of the building.

1. Wind Loads: Determine loads based on pressures as indicated on Drawings.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes, without buckling, opening of joints, overstressing of components, failure of connections, or other detrimental effects.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

## 1.8 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

## 2. PRODUCTS

### 2.1 MATERIALS

A. Aluminium Extrusions: ASTM B 221, Alloy 6063-T5, T-52, or T6.

B. Aluminum Sheet: ASTM B 209, Alloy 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer for required finish.

C. Fasteners: Use types and sizes to suit unit installation conditions.

1. Use tamper-resistant screws for exposed fasteners unless otherwise indicated.

2. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.

3. For color-finished louvers, use fasteners with heads that match color of louvers.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

### 2.2 FABRICATION, GENERAL

A. Assemble louvers in factory to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

B. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.

D. Include supports, anchorages, and accessories required for complete assembly.

- E. Provide subsills made of same material as louvers or extended sills for recessed louvers.
- F. Join frame members to each other and to fixed louver blades with fillet welds, threaded fasteners, or both, as standard with louver manufacturer unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

### 2.3 FIXED, EXTRUDED-ALUMINUM LOUVERS

- A. Custom Round Storm-Resistant Louver:
  - 1. Manufacturers
    - a. Industrial Louvers, Inc.
    - b. Elwin G. Smith
    - c. Airolite.
  - 2. Louver Depth: match existing
  - 3. Louver Size: match existing
  - 4. Frame and Blade Nominal Thickness: Not less than 0.081 inch.
  - 5. Louver Performance Ratings:
    - a. Based on testing 48 inch x 48 inch (1,219 mm x 1,219 mm) size unit in accordance with AMCA 500.
    - b. Free Area: 57 percent, nominal.
    - c. Free Area Size: 9.08 square feet (0.84 m<sup>2</sup>).
    - d. Maximum Recommended Air Flow Thru Free Area: 1,023 feet per minute (312 m/min).
    - e. Air Flow: 9,289 cubic feet per minute (263 m<sup>3</sup>/min).
    - f. Maximum Pressure Drop: 0.15 inches w.g. (3.8mm w.g.).
    - g. Water Penetration: Maximum of 0.01 ounces per square foot (3.1 g/m<sup>2</sup>) of free area at an air flow of 1,023 feet per minute (312 m/min) free area velocity when tested for 15 minutes.
    - h. Incorporate structural support to resist design loads per IBC 2003
  - 6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

### 2.4 LOUVER SCREENS

- A. General: Provide screen at each exterior louver.
  - 1. Screen Location for Fixed Louvers: Interior face.
  - 2. Screening Type: Bird screening.
- B. Secure screen frames to louver frames with machine screws with heads finished to match louver, spaced a maximum of 6 inches from each corner and at 12 inches o.c.
- C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.

1. Metal: Same kind and form of metal as indicated for louver to which screens are attached. Reinforce extruded-aluminum screen frames at corners with clips.
2. Finish: Same finish as louver frames to which louver screens are attached.
3. Type: Removable, rewirable.

## 2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

## 2.6 ALUMINUM FINISHES

- A. Finish louvers after assembly.
- B. High-Performance Organic Finish: 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  1. Color: custom color to match adjacent vinyl siding color.

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

### 3.3 INSTALLATION

- A. Locate and place louvers and vents level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.

- D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- E. Repair finishes damaged by cutting, welding, soldering, and grinding. Restore finishes so no evidence remains of corrective work. Return items that cannot be refinished in the field to the factory, make required alterations, and refinish entire unit or provide new units.
- F. Protect unpainted galvanized and nonferrous-metal surfaces that will be in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.
- G. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Division 7 Section "Joint Sealants" for sealants applied during louver installation.

#### 3.4 ADJUSTING AND CLEANING

- A. Test operation of adjustable louvers and adjust as needed to produce fully functioning units that comply with requirements.
- B. Clean exposed surfaces of louvers and vents that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.
- C. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
- D. Restore louvers and vents damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.
  - 1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF 08 91 19

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
1. Interior gypsum board.

1.2 RELATED WORK:

- A. Section 09 91 23 "Interior Painting" for finishes

1.3 REFERENCES

- A. American Society for Testing of Materials (ASTM)
1. ASTM C 475 Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board
  2. ASTM C 840 Standard Specification for Application and Finishing of Gypsum Board
  3. ASTM C 1002 Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products to Wood Studs
  4. ASTM C 1047 Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base
  5. ASTM C 1396 Standard Specification for Gypsum Board
  6. ASTM E 119 Standard Test Methods for Fire Tests of Building Construction and Materials

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.5 QUALITY ASSURANCE

- A. Mockups: Before beginning gypsum board installation, provide an in-place mock-up at one residence hall room as marked on drawing sheet A3.0. Mock-up to demonstrate the following installation qualities:
1. Finished condition adjacent to new plastic laminate window sills
  2. Finished condition where new drywall abuts existing drywall.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

## 1.7 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

## 2. PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

### 2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

### 2.3 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. American Gypsum Co.
  - 2. CertainTeed Corp.
  - 3. Georgia-Pacific Gypsum LLC.
  - 4. National Gypsum Company.
  - 5. USG Corporation.
- B. Gypsum Wallboard: ASTM C 1396/C 1396M.
  - 1. Thickness: 5/8 inch, unless otherwise indicated.
  - 2. Long Edges: Tapered.



## 2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
  - 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
  - 2. Shapes:
    - a. Cornerbead.
    - b. LC-Bead: J-shaped, exposed long flange receives joint compound.
    - c. L-Bead: L-shaped, exposed long flange receives joint compound.
    - d. U-Bead: J-shaped, exposed short flange does not receive joint compound.
    - e. Expansion (control) joint.

## 2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
  - 1. Interior Gypsum Board: Paper.
  - 2. Exterior Gypsum Soffit Board: Paper.
  - 3. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
  - 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
  - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
  - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
  - 5. Skim Coat: For final coat of Level 5 finish, use high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.

## 2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
  - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
  - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

### 3. EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
  - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
  - 2. Fit gypsum panels around ducts, pipes, and conduits.
  - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these

locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

### 3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
  - 1. Wallboard Type: Vertical surfaces unless otherwise indicated.
- B. Single-Layer Application:
  - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
  - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
    - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
  - 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

### 3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings or, if not indicated, according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
  - 1. Cornerbead: Use at outside corners unless otherwise indicated.
  - 2. LC-Bead: Use at exposed panel edges and where drywall abuts the interior face of window frames.
  - 3. L-Bead: Use where indicated.

### 3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
  - 1. Level 4: At panel surfaces that will be exposed to view.

### 3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

End of Section 09 29 00

DIVISION 9 – FINISHES  
**09 65 13 Resilient Wall Base and Accessories**

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. Resilient base.

1.2 REFERENCES

- A. American Society of Testing and Materials (ASTM)
  - 1. ASTM E 648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems
  - 2. ASTM F 1861 Standard Specification for Resilient Wall Base

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.
- C. Product Schedule: For resilient products. Use same designations indicated on Drawings.

1.4 MATERIALS MAINTENANCE SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.
  - 2. Rubber base: one (1) unopened carton of each type

1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
  - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

## 1.7 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following time periods:
  - 1. 48 hours before installation.
  - 2. During installation.
  - 3. 48 hours after installation.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Install resilient products after other finishing operations, including painting, have been completed.

## 2. PRODUCTS

### 2.1 RESILIENT BASE

- A. Resilient Base:
  - 1. Basis-of-Design: Subject to compliance with requirements, provide Rubber Base by Johnsonite Inc., A Tarkett Company.
- B. Resilient Base Standard: ASTM F 1861.
  - 1. Material Requirement: Type TP (rubber, thermoplastic).
  - 2. Manufacturing Method: Group I (solid, homogeneous).
  - 3. Style: As indicated, or if not indicated, as follows:
    - a. At Carpet: Straight (flat or toeless)
    - b. At Resilient Flooring: Coved
- C. Minimum Thickness: 0.125 inch.
- D. Height: 4 inches
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Job formed.
- G. Inside Corners: Job formed.
- H. Colors and Patterns: matching existing

### 2.2 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

- B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

### 3. EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
- C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- E. Do not install resilient products until they are same temperature as the space where they are to be installed.
  - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

#### 3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

- C. Install resilient base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.

#### 3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.
- B. Perform the following operations immediately after completing resilient product installation:
  1. Remove adhesive and other blemishes from exposed surfaces.
  2. Sweep and vacuum surfaces thoroughly.
  3. Damp-mop surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products until Substantial Completion.

END OF 09 65 13



1. GENERAL

1.1 WORK INCLUDES

A. General contractor provide:

1. This Section includes surface preparation and the application of paint systems on the following exterior substrates:
  - a. Hollow metal doors and frames
  - b. Galvanized steel downspout support posts

1.2 RELATED WORK:

- A. Section 05 50 00 “Metal Fabrications” for galvanized finish on ferrous metal.
- B. Section 08 11 13 “Hollow Metal Doors and Frames” for factory priming doors

1.3 REFERENCES

- A. Master Painters Institute (MPI) Architectural Painting Specification Manual

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat indicated.
  1. Submit Samples on rigid backing, 8 inches square.
  2. Step coats on Samples to show each coat required for system.
  3. Label each coat of each Sample.
  4. Label each Sample for location and application area.
- C. Product List: For each product indicated, include the following:
  1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
  2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.5 QUALITY ASSURANCE

- A. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Final approval of color selections will be based on benchmark samples.

- a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

## 1.7 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  1. Benjamin Moore & Co. (Benjamin Moore).
  2. PPG Industries, Inc. (Pittsburgh Paints).
  3. Sherwin-Williams Co. (Sherwin-Williams).

### 2.2 PAINT, GENERAL

- A. Material Compatibility:
  1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors:
  1. See Paint Color schedule on drawing sheet A11.0.

### 2.3 EXTERIOR PRIMERS

- A. Exterior Ferrous-Metal Primer: Factory-formulated solvent based, rust-inhibitive metal primer for exterior application; MPI #79 or # 23
  1. Benjamin Moore; IronClad Alkyd Low Lustre Metal & Wood Enamel No. 163: Applied at a dry film thickness of not less than 1.3 mils .

2. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils.
  3. Pittsburgh Paints; 6-212 Speedhide Interior/Exterior rust Inhibitive Steel Primer: Applied at a dry film thickness of not less than 1.5 mils
- B. Exterior Galvanized Metal Primer: Factory-formulated solvent based, galvanized metal primer for exterior application.
1. Benjamin Moore; Universal Metal Primer: Applied at a dry film thickness of not less than 1.6 mils .
  2. Sherwin-Williams; Galvite HS. Applied at a dry film thickness of not less than 1.6 mils.
  3. Pittsburgh Paints; 6-209 Speedhide Interior/Exterior Galvanized Steel Primer; Applied at a dry film thickness of not less than 1.5 mils.

## 2.4 EXTERIOR FINISH COATS

- A. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
1. Benjamin Moore; MoorGlo Latex House & Trim Paint No. 096: Applied at a dry film thickness of not less than 1.2 mils .
  2. Sherwin-Williams; Exterior Gloss Latex A-84 Series: Applied at a dry film thickness of not less than 1.4 mils .
  3. Pittsburgh Paints; 78-45 Sun-Proof Exterior Semi Gloss Latex 100% Acrylic: Applied at a dry film thickness of not less than 1.1 mils.

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- C. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
  - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.5 EXTERIOR PAINTING SCHEDULE

- A. Exterior Ferrous Metal Substrates:
  - 1. Latex Over Water-Based Primer System:
    - a. Prime Coat: galvanized-metal primer.
    - b. Intermediate Coat: Exterior latex matching topcoat.
    - c. Topcoat: Exterior latex (semigloss).
- B. Galvanized-Metal Substrates:
  - 1. Latex Over Water-Based Primer System:
    - a. Prime Coat: galvanized-metal primer.
    - b. Intermediate Coat: Exterior latex matching topcoat.
    - c. Topcoat: Exterior latex (semigloss).

END OF 09 91 13



1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. This Section includes surface preparation and the application of paint systems on the following interior substrates:
    - a. Interior, factory printed, wood framed at all windows
    - b. Interior wood trim at windows
    - c. Gypsum board.

1.2 RELATED WORK:

- A. Section 06 40 23 “Interior Architectural Woodwork” – for painting trim at windows
- B. Section 08 54 13 “Fiberglass Windows” – for painting interior wood face of window frames
- C. Section 09 29 00 “Gypsum Wall Board” – for painting interior gypsum wallboard

1.3 REFERENCES

- A. Master Painters Institute (MPI) Architectural Painting Specification Manual

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
  - 1. Submit Samples on rigid backing, 8 inches square.
  - 2. Step coats on Samples to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
  - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.5 QUALITY ASSURANCE

- A. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample

submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Final approval of color selections will be based on benchmark samples.
  - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

## 1.7 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

## 1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. Benjamin Moore & Co.
  2. PPG Architectural Finishes, Inc.
  3. Sherwin-Williams Company (The).

### 2.2 PAINT, GENERAL

- A. Material Compatibility:
  1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.



2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors:

1. P-1 – gypsum board walls at dorm rooms: TBD
2. P-2 – wood trim and interior wood face of fiberglass window frames: TBD
3. P-3 – gypsum board walls at commons spaces: TBD
4. P-4 – gypsum board walls at entries: TBD

## 2.3 INTERIOR PRIMERS

A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application; MPI #50.

1. Akzo Nobel Paints (ICI Paints): Prep & Prime Hi-Hiding Primer Sealer 1000-1200
2. Benjamin Moore; Super Spec Latex Enamel Undercoater & Primer Sealer No. 253
3. PPG; Int. Latex Primer Sealer No. 6-2
4. Sherwin-Williams; ProMar 200 Interior Wall Primer, B28W8200

B. Interior Latex-Based Wood Primer: Factory-formulated wood primer; MPI #39.

1. Akzo Nobel Paints (ICI Paints): Prep & Prime Stain Killer Primer 3210
2. Benjamin Moore; Fresh Start All Purpose 100% Acrylic Primer 023
3. PPG; Seal Grip Int/Ext Stain Blocking Primer 17-921
4. Sherwin-Williams; PrepRite Multi-Purpose Latex Primer, B51W8020.

## 2.4 INTERIOR FINISH COATS

A. Interior High Performance Architectural Flat Acrylic Paint: Factory-formulated flat acrylic-emulsion latex paint for interior application; MPI # 138.

1. Akzo Nobel Paints (ICI Paints): Dulux Ultra 1201
2. Benjamin Moore; Regal Flat Finish N215
3. PPG; Interior Latex Satin
4. Sherwin-Williams; Super Paint Interior Latex Satin.

B. Interior High Performance Architectural Low Sheen Acrylic Paint: Factory-formulated low sheen acrylic-emulsion latex paint for interior application; MPI # 139.

1. Akzo Nobel Paints (ICI Paints): Dulux Diamond Acrylic Eggshell 7200
2. Benjamin Moore; Regal Matte Finish N221
3. PPG; Manor Hall 83-310 Int. 100% Acrylic Latex- Eggshell
4. Sherwin-Williams; Eminence HP Interior Latex Lo-Lustre Eg-Shel

C. Interior High Performance Architectural Eggshell Acrylic Paint: Factory-formulated eggshell acrylic-emulsion latex paint for interior application; MPI # 140.

1. Akzo Nobel Paints (ICI Paints): Dulux Ultra Semi-Gloss 1407

2. Benjamin Moore; Regal Eggshell Finish N319
3. PPG; Interior Eggshell Semigloss; 90-1110
4. Sherwin-Williams; SuperPaint Interior Latex Semi-Gloss

### 3. EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  1. Wood: 15 percent.
  2. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
  1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

#### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
  1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Wood Substrates:
  1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
  2. Sand surfaces that will be exposed to view, and dust off.
  3. Prime edges, ends, faces, undersides, and backsides of wood.

4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- E. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
1. Use applicators and techniques suited for paint and substrate indicated.
  2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
  3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.5 INTERIOR PAINTING SCHEDULE

- A. Wood Substrates:
1. Low-Odor/VOC Latex System:

- a. Prime Coat: Institutional low-odor/VOC interior latex matching topcoat.
- b. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
- c. Topcoat: Institutional low-odor/VOC interior latex
- d. Sheen: As scheduled

B. Gypsum Board Substrates:

1. Low-Odor/VOC Latex System:
  - a. Prime Coat: Institutional low-odor/VOC interior latex matching topcoat.
  - b. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
  - c. Topcoat: Institutional low-odor/VOC interior latex
  - d. Sheen: As scheduled

END OF 09 91 23

1. GENERAL

1.1 WORK INCLUDES

- A. General Contractor provide:
  - 1. 2” Horizontal Aluminum Blinds

1.2 RELATED WORK:

- A. Section 06 10 53 “Miscellaneous Rough Carpentry”
- B. Section 08 54 13 “Fiberglass Windows”

1.3 REFERENCES

- A. National Fire Protection Association (NFPA) 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. Submit Manufacturer’s literature indicating materials, finishes, construction and installation instructions
  - 2. Submit Manufacturer’s recommendations for maintenance and cleaning
- B. Samples for Verification: For each type of shade specified
  - 1. Submit samples furnished complete with all required components, mounting and associated hardware, and finish as specified.

1.5 QUALITY ASSURANCE

- A. Supplier: Manufacturer, subsidiary or licensed agent shall be approved to supply the products specified and to honor any claims against product presented in accordance with warranty
- B. Installer: Installer or agent shall be qualified to install specified products by prior experience, demonstrated performance and acceptance of requirements of manufacturer, subsidiary, or licensed agent. Installer shall be responsible for an acceptable installation
- C. Uniformity: Provide 2” Horizontal Aluminum Blinds of only one manufacturer for entire project

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Product shall be delivered to site in manufacturer's original packaging
- B. Product shall be handled and stored to prevent damage to materials, finishes, and operating mechanisms.

## 1.7 PROJECT CONDITIONS

- A. Building shall be enclosed prior to shade installation.
- B. Interior temperature shall be maintained between 60 deg F and 90 deg F during and after installation; relative humidity shall not exceed 8-%. Wet work shall be complete and dry.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Hunter Douglas Contract: 2" H200 2 Aluminum Blinds.
  - 2. Levolor: Riveira.
  - 3. Bali: Classic.

### 2.2 2" HORIZONTAL ALUMINUM BLINDS

- A. Materials:
  - 1. Slats: 2" wide x .008" thick, heat-treated and spring tempered (except 5000 series alloy on metallized finishes) aluminum alloy 6011 with eased corners and manufacturing burrs removed. Furnish not less than nominal 7.2 slats per foot to ensure tight closure and light control.
    - a. Finish: Manufacturer's standard baked-on finish colors selected by Architect
    - b. Furnish slats with Dust Shield finish to inhibit dust build-up for easier maintenance
  - 2. Slat Support: Braided ladders of 100% polyester yarn color compatible with slats and spacing of ladder no more than 42mm
  - 3. Headrail: U-shaped profile with rolled edges, measuring 1 1/2" x 2 1/4" x .024" constructed of corrosion resistant steel. Internally fit with components required for specified performance and designed for smooth, quiet, trouble-free operation.
    - a. Finish: Manufacturer's standard baked-on finish to match slats
  - 4. Bottom Rail: .019" steel, with corrosion-resistant finish formed with double-lock seam into closed oval shape for optimum beam and torsional strength.

Ends fitted with color-coordinated engineered polymer caps. Color-coordinated engineered polymer tape buttons secure the ladder and cord.

- a. Finish: Manufacturer's standard baked-on finish to match slats
5. Lifting mechanism: Crashproof steel cordlocks with corrosion-resistant finish and steel locking dogs, polyester cord which meet or exceed commercial specifications No. 1029-86 lift cords, and Cord Stop/Single Pull Cord. Locate on either side of individual blind unit as per architect's request.
6. Tilting Mechanism: Die-cast helical worm and gear type tilter gear mechanism in polymer housing with clutch action to protect ladder tapes from over rotation of the solid steel, corrosion resistant tilt rod.
7. Tilt Control Wand: Tubular shaped 7/16" diameter extruded clear plastic, ribbed for positive grip and detachable without tools. Located on either side of individual blind unit as per architect's request.
8. Mounting Hardware: Manufacturer's standard .030" steel box brackets. Provide additional support brackets for blinds over 84" wide.
  - a. Finish: Manufacturer's standard baked-on finish to match headrail

## 2.3 FABRICATION

- A. Blind measurements shall be accurate to within  $\pm 1/8$ " or as recommended in writing by manufacturer

## 2.4 FINISHES

- A. Manufacturer's standard baked-on finish
  1. Finish: Bright White

## 3. EXECUTION

### 3.1 EXAMINATION

- A. Subcontractor shall be responsible for inspection on site, approval of mounting surfaces, installation conditions and field measurement for this work.
- B. Other interacting trades shall receive drawings of shade systems, dimensions, assembly and installation methods from subcontractor upon request.
  1. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

### 3.2 INSTALLATION

- A. Installation shall comply with manufacturer's specifications, standards and procedures as detailed on contract drawings.
- B. Adequate clearance shall be provided to permit unencumbered operation of shade and hardware..

- C. Clean finish installation of dirt and finger marks. Leave work area clean and free of debris.

### 3.3 DEMONSTRATION

- A. Demonstrated operation method and instruct owner in the proper operation and maintenance of the blinds.

END OF 09 91 23



1. GENERAL

1.1 SCOPE OF WORK

- A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.
- B. It is the intent of these specifications to provide complete and workable plumbing systems as shown on the accompanying plans and as specified herein except such parts as are specifically exempted herein. Provide all necessary supervision, coordination, labor, materials, equipment, fixtures, drayage, hoisting, tools, transportation, plant services and facilities, machinery and connections to utilities for the installation of complete and operable plumbing systems. If details or special conditions are required in addition to those shown on drawings, provide all material and equipment usually furnished with such systems or required to complete their installation, whether noted in plans and specification or not.
- C. Materials and labor shall be new (unless noted otherwise), first class and workmanlike and shall be subject at all times to the A/E's inspections, tests and approval from the commencement until the acceptance of the completed work.
- D. The layout shown on the drawings is necessarily diagrammatic but shall be followed as closely as other work will permit. The drawings provide design intent. The Contractor shall verify all dimensions at the site and be responsible for their accuracy.
- E. Because of the scale of the Drawings, certain basic items, such as, pipe fittings, duct fittings, access panels, and sleeves, may not be shown. Where such items are required by Code or by other Sections, or where required for proper installation of the Work, such items shall be included, whether shown or not.
- F. In the event of any inconsistencies between the specifications, drawings, contract documents, applicable laws, statutes, ordinances, building codes, rules and regulations, the contractor shall provide the better quality or greater quantity of work and comply with or conform its work to the most stringent legal or contractual requirements.
- G. Changes from these drawings required to make this work conform to the building construction shall be made only with prior written approval of the Architect/Engineer. All proposed changes shall be shown on shop drawings. All measurements shall be verified by actual observation and all work shall fit in place meeting the approval of the Architect/Engineer

- H. Equipment Specification may not deal individually with minute items required, such as, components, parts, controls, and devices which may be required to produce the equipment performance specified or as required to meet the equipment warranties. Where such items are required to make the system operational, they shall be included by the supplier of the equipment at no additional cost, whether or not specifically called for.

## 1.2 SECTION INCLUDES

- A. This section includes information common to two or more technical plumbing specification sections or items that are of a general nature, not conveniently fitting into other technical sections.

### Submittals

1. Reference Standards
2. Quality Assurance
3. Lead Free Requirements
4. Guarantee
5. Operation And Maintenance Instructions
6. Record Documents
7. Continuity Of Existing Services
8. Protection Of Finished Surfaces
9. Sealing And Firestopping
10. Off Site Storage
11. Regulatory Requirements
12. Certificates And Inspections
13. Coordination
14. Demolition And Existing Requirements
15. Sleeves And Openings
16. Omissions
17. Definitions
18. Project/Site Conditions
19. Work Sequence And Scheduling
20. Salvage Materials
21. Training
22. Access Panels And Doors
23. Identification
24. Cutting And Patching
25. Lubrication
26. Housekeeping And Clean Up

## 1.3 RELATED WORK

- A. Applicable provisions of Division 1 govern work under this section.

B. This section applies to all Division 22 sections of plumbing.

1.4 SUBMITTALS

- A. Submit shop drawings for equipment under each section per requirements listed in that section, as well as per Division 1.
- B. Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name and/or number, as indicated in the contract documents. Failure to do this may result in the submittal(s) being returned to the Contractor for correction and resubmission. Do not submit hard copies of web pages. Failing to follow these instructions does not relieve the Contractor from the requirement of meeting the project schedule.
- C. On request from the A/E, the successful bidder shall furnish additional drawings, illustrations, catalog data, performance characteristics, etc.
- D. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equipment.
- E. The submittals must be approved before fabrication is authorized.
- F. Provide electronic copies of all submittals for review.
- G. Before submitting electrically powered equipment, verify that the electrical power and control requirements for the equipment are in agreement with the motor starter schedule on the electrical drawings. Include a statement on the shop drawing transmittal to the architect/engineer that the equipment submitted and the motor starter schedule is in agreement or indicate any discrepancies.
- H. Not more than two weeks after award of contract but before any shop drawings are submitted, contractor to submit the following plumbing system data sheet. List piping material type for each piping service on the project, ASTM number, schedule or pressure class, joint type, manufacturer and model number where appropriate. List valves and specialties for each piping service, fixture and equipment with manufacturer and model number. The approved plumbing system data sheet(s) will be made available to the owner's project representative for their use on this project.



8. EPA Environmental Protection Agency
9. FS Federal Specifications, Superintendent of Documents, U.S. Government Printing Office
10. IAPMO International Association of Plumbing & Mechanical Officials
11. MICA Midwest Insulation Contractors Association
12. MSS Manufacturer's Standardization Society of the Valve & Fitting Industry, Inc.
13. NBS National Bureau of Standards
14. NEC National Electric Code
15. NEMA National Electrical Manufacturers Association
16. NFPA National Fire Protection Association
17. NSF National Sanitation Foundation
18. PDI Plumbing and Drainage Institute
19. UL Underwriters Laboratories Inc.

B. Standards referenced in this section:

1. ACI 614 Recommended Practice for Measuring, Mixing and Placing of Concrete
2. ASTM D1557 Standard Test Method for Moisture-Density Relations of Soils
3. ASTM E814 Standard Test Method for Fire Tests of Through-Penetration Fire Stops
4. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
5. UL1479 Fire Tests of Through-Penetration Firestops
6. UL723 Surface Burning Characteristics of Building Materials

## 1.6 QUALITY ASSURANCE

A. Substitution of Materials: Refer to Division 1 for equals and substitutions.

1. Where the following conflicts with Division 1, the requirements of Division 1 shall govern.
2. If the Contractor wishes to submit an alternate to the named manufacturers for any equipment, he may submit a voluntary alternative minimum 7 days prior to bid, stating the manufacturer's name, model number, written, detailed product data.
3. Where materials or equipment are specified by name the proposed material or equipment must be identical to the specified material or equipment in all characteristics of quality, function and serviceability, regardless of application in the Project and, in addition, when the Architect deems that aesthetic significance is important, the equal material or equipment must be identical in all characteristics of visual

appearance, design, color and texture. Any proposed equal shall be submitted to Architect/Engineer for prior approval, which Architect/Engineer may approve or disapprove in its sole discretion. Work performed or constructed with unapproved equals is at Contractor's risk and any required correction of work incorporating unapproved equals shall be at Contractor's sole cost and expense.

4. In all instances, Contractor shall assume full responsibility for proof of equality of the statute to the equipment hereinafter specified. All data and information necessary for proof of equality, function and space requirements shall be prepared and accompany the submittal of the substitution to the Architect/Engineer. Approval by the Architect/Engineer of equipment other than the specified does NOT relieve Contractor of this responsibility.

- B. All products and materials used are to be new, undamaged, clean and in good condition. Existing products and materials are not to be reused unless specifically indicated.
- C. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs involved in integrating the equipment or accessories into the system, including, but not limited to, coordination with other trades and any required changes by other trades and for obtaining the intended performance from the system into which these items are placed.

#### 1.7 LEAD FREE REQUIREMENTS

- A. All materials that contact potable water shall be lead free. Lead free refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$  per the Federal Safe Drinking Water Act as amended January 4<sup>th</sup> 2011 Section 1417.
- B. This requirement applies to all of the subsequent Plumbing Specification Sections and Plumbing Drawings and supersedes any part or model number that may conflict with this requirement.

#### 1.8 GUARANTEE

- A. Refer to Division 1 for guarantees and warranties. In addition to the requirements in Division 1, this Contractor shall meet the following requirements.

- B. In entering into a contract covering this work, the contractor accepts the specifications and guarantees that the work will be carried out in accordance with the requirements of this specification or such modifications as may be made under the contract documents.
- C. Contractor further guarantees that the workmanship and material will be of the best procurable and that none but experienced workmen familiar with each particular class of work will be employed.
- D. Contractor further guarantees to replace and make good at his own expense, including travel time, all defects, which may develop within 1 year after final payment and acceptance by the Architect/Engineer, due to faulty workmanship or material, upon, receipt of written notification from the Owner.

#### 1.9 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. Refer to Division 1 for all operations and maintenance instructions.
- B. In addition to the general content specified under Division 1 supply the following additional documentation:
  - 1. Copies of all approved submittals along with approval letters
  - 2. Records of tests performed a to certify compliance with system requirements
  - 3. Manufacturer's wiring diagrams for electrically powered equipment
  - 4. Certificates of inspection by regulatory agencies
  - 5. Valve schedules
  - 6. Lubrication instructions, including list/frequency of lubrication
  - 7. Parts lists for fixtures, equipment, valves and specialties.
  - 8. Manufacturers' installation, operation and maintenance recommendations for fixtures, equipment, valves and specialties.
  - 9. Additional information as indicated in the technical specification sections

#### 1.10 RECORD DOCUMENTS

- A. Refer to Division 1 for record documents.
- B. In addition to the general content specified under Division, follow the following procedures.
  - 1. During the progress of the work, Contractor shall maintain a current (daily) record set of the drawings and specifications, indicating thereon all work installed at variance with such Contract Documents including,

without limitation, work covered by Addenda, Field Work Orders, Change Orders and Engineers additional instructions, interpretations and clarification. All changes or deviations from the original layout of the work and all critical dimensions of buried or concealed work shall be recorded. It shall be Contractor's responsibility to assure that said record sets are complete, accurate and up-to-date, Engineer shall have the right to inspect and review such record sets.

2. At the completion of the work, Contractor shall indicated on record sets all record changes and such additional details necessary or appropriate to provide a complete reference document for use by Engineer. If variations and details cannot be shown clearly thereon, the Contractor shall prepare supplemental drawings adequate to impart the information. The foregoing drawings collectively shall constitute the "Record" drawings for the work.
3. All indication on "Record" drawings shall be executed in a legible manner at Contractor's cost, using methods and legend presentations compatible with the overall scheme of the record drawings with respect to scale, drawing sheet sizes and sequential indexing. All changes shall be marked clearly in red and clouded.
4. Engineer may review Contractor's "Record" drawings and notify Contractor of observed discrepancies or deviations. Contractor shall promptly correct discrepancies, deviations or illegible markups at Contractor's expense and resubmit revised drawings for Engineer review.
5. Contractor shall provide final electronic record drawings to the Owner through the Engineer.

#### 1.11 CONTINUITY OF EXISTING SERVICES

- A. Do not interrupt or change existing services without prior written approval from the Owner's Project Representative. When interruption is required, coordinate scheduling of down-time with the Owner to minimize disruption to his activities. Unless specifically stated, all work involved in interrupting or changing existing services is to be done during normal working hours.
- B. Each Contractor shall thoroughly familiarize himself with existing systems which will affect and be affected by relocation of existing equipment and installation of new lines and equipment. They shall plan installation of their work so that interruptions of services to any building or portion thereof will be a minimum and such interruptions shall occur only when system is not required, if possible. If not possible, each Contractor shall insure the operation of services by whatever means possible, such as, installing bypasses, capping of services or providing temporary service. Each interruption shall be for as short a duration as possible.



- C. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours.
- D. This Contractor shall restore any circuit interruption as a result of this work to proper operation as soon as possible. Note that institutional operations are on a seven day week schedule.

#### 1.12 PROTECTION OF FINISHED SURFACES

- A. Refer to Division 1.

#### 1.13 SEALING AND FIRESTOPPING

- A. Sealing and firestopping of sleeves/openings between piping, etc. and the sleeve or structural opening shall be the responsibility of the contractor whose work penetrates the opening. The contractor responsible shall hire individuals skilled in such work to do the sealing and fireproofing. These individuals hired shall normally and routinely be employed in the sealing and fireproofing occupation.
- B. Contractor shall request current life safety drawings from Architect/Owner.

#### 1.14 OFF SITE STORAGE

- A. If payment will be requested for approved offsite stored material, then the Contractor shall complete an "Offsite Storage Agreement" which is available from the Owner. Prior approval by Owner's personnel for offsite storage will be needed. No material will be accepted for offsite storage unless submittals for the material have been approved.

#### 1.15 REGULATORY REQUIREMENTS

- A. Comply with requirements of Illinois Plumbing Code and local Authority Having Jurisdiction (AHJ) regarding materials and installation.

#### 1.16 CERTIFICATES AND INSPECTIONS

- A. Refer to Division 1 for permits, regulations, utilities and taxes.
- B. Obtain and pay for all required local or State installation inspections. Deliver originals of these certificates to the Owner. Include copies of the certificates in the Operating and Maintenance Instructions.

- C. Coordinate and provide inspections as required by the Authority Having Jurisdiction over the site.

#### 1.17 COORDINATION

- A. Refer to Division 1 for coordination. In addition to the requirements specified under Division 1, the following requirements apply.
- B. It shall be the responsibility of each Contractor to coordinate and consult with each other to determine space requirements and to determine that adequate space for servicing is provided for all equipment whether furnished by the Contractor or others. The General Contractor shall have final decision on all space priority conflicts among Contractors. All space priority conflicts shall be brought to the attention of the Architect/Engineer and Owner's Representative.
- C. Each Contractor shall thoroughly familiarize himself with existing systems which will affect and be affected by relocation of existing equipment and installation of new lines and equipment. They shall plan installation of their work so that interruptions of services to any building or portion thereof will be a minimum, and such interruptions shall occur only when system is not required, if possible. If not possible, each Contractor shall insure the operation of services by whatever means possible, such as, installing bypasses, capping of services, or providing temporary service. Each interruption shall be for as short a duration as possible.

#### 1.18 DEMOLITION AND EXISTING REQUIREMENTS

- A. Existing active services: water, gas, medical gas, steam, ventilation, compressed or control air, sanitary waste, sanitary vent, storm electric, and any other building systems when encountered shall be protected against damage. Where existing services are to be abandoned, the services shall be removed back to the point of origin and removed from the site unless otherwise directed by the Owner's Representative.
- B. Bidders should inspect the site to become familiar with conditions of the site which will affect the Work. Bidders should verify points of connection with utilities, routing of outside piping to include required clearances from any existing structures, or other obstacles.
- C. Extra payment will not be allowed for changes in the Work required because of the successful bidder's failure to make this inspection.

#### 1.19 SLEEVES AND OPENINGS

- A. Openings required in new or existing construction that may be necessary for the installation of new work shall be provided by the respective contractor and all patching and repairing shall be done by workmen competent in the trade required, at the expense of the respective contractor. The respective contractor shall be responsible for arranging the work so that minimum cutting will be required. All rubbish and excess materials involved in such cutting shall be promptly removed from the site and disposed of by the contractor. Cutting through the floor or load bearing walls shall be done only with the prior written approval of the Architect/Engineer so as to avoid damaging the structural system.

#### 1.20 OMISSIONS

- A. No later than ten (10) days before bid opening, the Contractor shall call the attention of the A/E to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.

#### 1.21 DEFINITIONS

- A. Wherever the words “the Contractor”, “this Contractor” or “Plumbing Contractor” appear in this division, they refer to the Contractor for Plumbing work.
- B. The term “provide” includes such labor, methods, materials, equipment and transportation or other facilities required to complete the Contract and the performance of all duties thereby upon the Contractor.

#### 1.22 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of A/E before proceeding.
- C. Tools, materials and equipment shall be confined to areas designated by the Owner’s project representative.

#### 1.23 WORK SEQUENCE AND SCHEDULING

- A. Install work in phases to accommodate Owner's occupancy requirements. During the construction period coordinate schedule and operations with Owner's Construction Representatives.

## 1.24 SALVAGE MATERIALS

- A. No materials removed from this project shall be reused (except as specifically noted below). All materials removed shall become the property of and shall be disposed of by the Contractor.

## 1.25 TRAINING

- A. The contractor shall have the following responsibilities:

1. Provide designated owner personnel with comprehensive orientation and training in the understanding of the systems and the operation and maintenance of each piece of equipment that makes up the system.
2. Training shall normally start with classroom sessions followed by hands-on demonstration/training on each piece of equipment.
3. During any demonstration, should the system fail to perform in accordance with the requirements of the O&M manual or sequence of operations, the system shall be repaired or adjusted as necessary and the demonstration repeated at another scheduled time, if necessary.
4. The training sessions shall follow the outline in the table of contents of the operation and maintenance manual and illustrate whenever possible the use of the O&M manuals for reference.
5. Training shall include:
  - a. Use of the printed installation, operation and maintenance instruction material included in the O&M manuals.
  - b. A review of the written O&M instructions emphasizing safe and proper operating requirements, preventative maintenance, special tools needed and spare parts inventory suggestions. The training shall include startup, operation in all modes possible, shutdown, seasonal changeover and any emergency procedures.
  - c. Discussion of relevant health and safety issues and concerns.
  - d. Discussion of warranties and guarantees.
  - e. Common troubleshooting problems and solutions.
  - f. Explanatory information included in the O&M manuals.
  - g. Discussion of any peculiarities of equipment installation or operation.

- B. Provide a minimum of 2 hours of instruction.

- C. Provide additional training as specified in other specification sections for specific equipment.

## 2. PRODUCTS

### 2.1 ACCESS PANELS AND DOORS

- A. Lay-in Ceilings:  
Removable lay-in ceiling tiles in 2 X 2 foot or 2 X 4 foot configuration provided under Division 9 are sufficient; no additional access provisions are required unless specifically indicated.
- B. Concealed Spline Ceilings:  
Removable sections of ceiling tile held in position with metal slats or tabs compatible with the ceiling system used will be provided under Division 9.
- C. Metal Pan Ceilings:  
Removable sections of ceiling tile held in position by a pressure fit will be provided under Division 9.
- D. Plaster Walls and Ceilings:  
  
16 gauge frame with not less than a 20 gauge hinged door panel, prime coated steel for general applications, stainless steel for use in toilets, showers, and similar wet areas, concealed hinges, screwdriver operated cam latch for general applications, key lock for use in public or secured areas, UL listed for use in fire rated partitions if required by the application. Use the largest size access opening possible, consistent with the space and the item needing service; minimum size is 12" by 12".

## 2.2 IDENTIFICATION

- A. Manufacturers: EMED Company, W.H. Brady, Seton Nameplate Company, Thor Enterprises, Carlton, MSI Marking Services.
- B. Engraved Name Plates:  
White letters on a black background, 1/16 inch thick plastic laminate, beveled edges, screw mounting
- C. Snap-Around Pipe Markers:  
One-piece, preformed, vinyl construction, snap-around or strap-around pipe markers with applicable labeling and flow direction arrows, 3/4" min. size for lettering. Provide nylon ties on each end of pipe markers
- D. Valve Tags:  
Round brass tags with 1/2 inch numbers, 1/4 inch system identification abbreviation, 1-1/4 inch minimum diameter, with brass jack chains, brass "S" hooks or one piece nylon ties around the valve stem.

## 2.3 SLEEVES AND OPENINGS

### A. General:

1. Pipe sleeves shall be constructed of standard weight ASTM A53 or ASME B36.10 steel with an anchor plate constructed of A36/A36M steel welded to the pipe. The sleeve shall be sized a minimum of 1" larger than piping insulation diameter. The entire assembly shall be hot-dip galvanized after fabrication.
2. Piping sleeves passing through interior walls shall be constructed of 24 gauge galvanized steel minimum thickness.

## 2.4 SEALING AND FIRESTOPPING

### A. Fire and/or Smoke Rated Penetrations:

1. Manufacturers: 3M, Hilti, Rectorseal, STI/SpecSeal, Tremco.
2. All firestopping systems shall be provided by the same manufacturer.
3. Fire stop systems shall be UL listed or tested by an independent testing laboratory approved by the Owner and the Authority Having Jurisdiction (AHJ).
4. Submittals: Contractor shall submit product data for each firestop system. Submittals shall include product characteristics, performance and limitation criteria, test data, MSDS sheets, installation details and procedures for each method of installation applicable to this project. For non-standard conditions where no UL tested system exists, submit manufacturer's drawings for UL system with known performance for which an engineering judgment can be based upon.
5. Use a product that has a rating not less than the rating of the wall or floor being penetrated. Reference architectural drawings for identification of fire and/or smoke rated walls and floors.
6. Use firestop putty, caulk sealant, intumescent wrapstrips, intumescent firestop collars, firestop blocks, firestop mortar or a combination of these products to provide a UL listed system for each application required for this project. Provide mineral wool backing where specified in manufacturer's application detail.
7. All sealants shall meet the intent of LEED® VOC requirements, <250 g/L VOC contents (less H<sub>2</sub>O and exempt solvents).

### B. Non-Rated Penetrations:

1. Pipe Penetrations: At pipe penetrations of non-rated interior partitions and floors use urethane caulk in annular space between pipe insulation and sleeve. For non-rated drywall, plaster or wood partitions where sleeve is not required use urethane caulk in annular space between pipe insulation and wall material.

### 3. EXECUTION

#### 3.1 CUTTING AND PATCHING

- A. Refer to Division 1 for cutting and patching. In addition to the requirements in Division 1:
- B. The Contractor shall provide cutting and patching and patch painting in the existing structure as required for the installation of his Work and shall furnish lintels and supports as required for openings. Cutting of structural support members will not be permitted without prior approval of the Architect/Engineer. Extent of cutting shall be minimized; use core drills, power saws, or other machines which will provide neat, minimum openings. Patching shall match adjacent materials and surfaces and shall be performed by craftsmen skilled in the respective craft required.

#### 3.2 COORDINATION

- A. Coordinate all work with other contractors prior to installation. Any work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.
- B. Verify that all devices are compatible for the type of construction and surfaces on which they will be used.

#### 3.3 IDENTIFICATION

- A. Identify interior piping not less than once every 30 feet, not less than once in each room, adjacent to each access door or panel, and on both side of the partition where accessible piping passes through walls or floors. Place flow directional arrows at each pipe identification location.
- B. Identify valves with brass tags bearing a system identification and a valve sequence number. Valve tags are not required at a terminal device unless the valves are greater than ten feet from the device, located in another room or not visible from device. Provide a typewritten valve schedule and pipe identification schedule indicating the valve number and the equipment or areas supplied by each valve and the symbols used for pipe identification; locate schedules in mechanical room and in each Operating and Maintenance manual. Schedule in mechanical room to be framed under clear plastic.

#### 3.4 LUBRICATION

- A. Lubricate all bearings with lubricant as recommended by the manufacturer before the equipment is operated for any reason. Once the equipment has been run, maintain lubrication in accordance with the manufacturer's instructions until the work is accepted by the Owner. Maintain a log of all lubricants used and frequency of lubrication; include this information in the Operating and Maintenance Manuals at the completion of the project.

### 3.5 SLEEVES AND OPENINGS

#### A. General:

1. Sleeves are not required for piping and ducts passing through interior non-rated drywall, plaster, or wood partitions and interior poured concrete walls that have been saw cut or core drilled.
2. Pack annular space between sleeves and pipe or ducts with fiberglass insulation and seal.
3. Piping sleeves that pass through fire rated floors, walls, or ceilings shall be provided with a UL listed fire stop material meeting UL 1479 to seal the opening between the pipe and the pipe sleeve to maintain the fire rating.
4. Provide escutcheon plates on piping to cover sleeve and insulation in finished areas.
5. Refer to Division 1, General Requirements for additional information on sleeves and openings.

#### B. Sleeves Through Floors/Ceilings:

1. Sleeves shall be installed to extend 1 inch above finished floor with a watertight sealant between floor and sleeve in all mechanical rooms and wet rooms listed below.

### 3.6 SEALING AND FIRESTOPPING

- A. The Contractor shall refer to building life safety drawings for all smoke and fire rates in addition to the mechanical drawings. Any discrepancies shall be brought to the attention of the Architect/Engineer before final addendum.

#### B. Fire And/Or Smoke Rated Penetrations:

1. Install approved product in accordance with the manufacturer's instructions where pipes penetrate a fire/smoke rated surface. When pipe is insulated, use a product which maintains the integrity of the insulation and vapor barrier.



C. Non-Rated Partitions:

1. In exterior wall openings below grade, assemble rubber links of mechanical seal to the proper size for the pipe and tighten in place, in accordance with manufacturer's instructions.
2. At all interior partitions, pipe penetrations are required to be sealed. Apply sealant to both sides of the penetration in such a manner that the annular space between the pipe sleeve or cored opening and the pipe or insulation is completely blocked.

3.7 HOUSEKEEPING AND CLEAN UP

- A. The Contractor shall clean up and remove from the premises, on a daily basis, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

END 22 05 00.



DIVISION 22 - PLUMBING  
**22 05 13 - Common Motor Requirements for Plumbing**

1. GENERAL

1.1 SCOPE OF WORK

A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

A. This section includes requirements for single and three phase motors that are used with equipment specified in other sections.

1. Single Phase, Single Speed Motors

1.3 RELATED WORK

A. Applicable provisions of Division 1 govern work under this section.

B. Section 22 30 00 – Plumbing Equipment for equipment requiring motors.

1.4 SUBMITTALS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. Single Phase, Single Speed Motors

2. Two-Speed Motors

B. Include with the equipment which the motor drives the following motor information: motor manufacturer, voltage, phase, hertz, rpm, full load efficiency, full load power factor, service factor, NEMA design designation, insulation class, and frame type.

1.5 REFERENCE STANDARDS

A. ANSI/IEEE 112 Test Procedure for Polyphase Induction Motors and Generators

B. ANSI/NEMA MG-1 Motors and Generators

C. ANSI/NFPA 70 National Electrical Code

1.6 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified in Section 22 05 00 – Common Work Results for Plumbing.
- B. In addition to the general content specified in Section 22 05 00 – Common Work Results for Plumbing, supply the following additional documentation:

#### 1.7 ELECTRICAL COORDINATION

- A. All starters, disconnects, relays, wire, conduit, pushbuttons, pilot lights, and other devices required for the control of motors or electrical equipment are provided by the Electrical Contractor, except as specifically noted elsewhere in this division of specifications.
- B. Electrical drawings and/or specifications show number and horsepower rating of all motors furnished by this Contractor, together with their actuating devices if these devices are furnished by the Electrical Contractor. Should any discrepancy in size, horsepower rating, electrical characteristics or means of control be made to any motor or other electrical equipment after contracts are awarded, Contractor is to immediately notify the architect/engineer of such discrepancy. Costs involved in any changes required due to equipment substitutions initiated by this contractor will be the responsibility of this contractor.
- C. The A/E must coordinate specified voltages with the Electrical Consultant for the project. The Electrical Contractor will provide all power wiring and the Plumbing Contractor will provide all control wiring. Control wiring shall conform to Division 26 requirements for Control Wiring.
- D. Furnish project specific wiring diagrams to Electrical Contractor for all equipment and devices furnished by this Contractor and indicated to be wired by the Electrical Contractor.

#### 1.8 PRODUCT CRITERIA

- A. Motors to conform to all applicable requirements of NEMA, IEEE, ANSI, and NEC standards and shall be listed by U.L. for the service specified.
- B. Select motors for conditions in which they will be required to perform; i.e., general purpose, splashproof, explosion proof, standard duty, high torque or any other special type as required by the equipment or motor manufacturer's recommendations.
- C. Furnish motors for starting in accordance with utility requirements and compatible with starters as specified.

## 2. PRODUCTS

### 2.1 SINGLE PHASE, SINGLE SPEED MOTORS

- A. Use NEMA rated 115 volt, single phase, 60 hertz motors for all motors 1/3 HP and smaller.
- B. Use permanent split capacitor or capacitor start, induction run motors equipped with permanently lubricated and sealed ball or sleeve bearings and Class A insulation. Service factor to be not less than 1.35.

## 3. EXECUTION

### 3.1 INSTALLATION

- A. When motor will be flexible coupled to the driven device, mount coupling to the shafts in accordance with the coupling manufacturer's recommendations. Using a dial indicator, check angular misalignment of the two shafts; adjust motor position as necessary so that the angular misalignment of the shafts does not exceed 0.002 inches per inch diameter of the coupling hub. Again using the dial indicator, check the shaft for run-out to assure concentricity of the shafts; adjust as necessary so that run-out does not exceed 0.002 inch.
- B. Lubricate all motors requiring lubrication.

END 22 05 13.



1. GENERAL

1.1 SCOPE OF WORK

- A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

- A. This section includes specifications for floor drains, roof drains, cleanouts, backflow preventers, water hammer arrestors and other miscellaneous plumbing specialties.

- 1. Thermostatic Mixing Valves

1.3 RELATED WORK

- A. Applicable provisions of Division 1 shall govern work under this section.
- B. Section 22 05 23 – General-Duty Valves for Plumbing Piping
- C. Section 22 11 00 – Facility Water Distribution

1.4 SUBMITTALS

- A. Refer to Section 22 05 00 – Common Work Results for Plumbing. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:
- B. Include data concerning dimensions, capacities, materials of construction, ratings, certifications, weights, manufacturer's installation requirements, manufacturer's performance limitations, and appropriate identification.

1.5 REFERENCE STANDARDS

- A. ANSI 1017 – Temperature actuated mixing valves fore hot water distribution systems

1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 1

1.7 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified in Section 22 05 00 – Common Work Results for Plumbing.
- B. In addition to the general content specified in Section 22 05 00 – Common Work Results for Plumbing, supply the following additional documentation:

## 2. PRODUCTS

### 2.1 THERMOSTATIC MIXING VALVE

- A. Manufacturer: Lawler, Leonard, Powers, Symmons
- B. ASSE 1017 Thermostatic mixing valve with inlet check stops, removable cartridge strainer, 3” diameter dial thermometer.
- C. See schedule on drawings.

## 3. EXECUTION

### 3.1 INSTALLATION

- A. Coordinate location and setting of plumbing specialties with adjacent construction. Install in accordance with manufacturers recommendations.
- B. Set mixing valve outlet temperature as indicated on schedule on drawings.
- C. Furnish owner with one spare cartridge.

### 3.2 CONSTRUCTION VERIFICATION CHECKLIST

- A. Contractor is responsible for utilizing the construction verification checklists supplied under these specifications in accordance with the procedures defined for construction verification checklists.

END 22 05 14.



DIVISION 22 – PLUMBING  
**22 05 15 - Piping Specialties**

1. GENERAL

1.1 SCOPE OF WORK

A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

A. This section contains specifications for plumbing piping specialties for all piping systems.

1. Thermometers
2. Thermometer Sockets
3. Test Wells
4. Test Plugs

1.3 RELATED WORK

- A. Applicable provisions of Division 1 govern work under this section.
- B. Section 22 05 23 – General-Duty Valves for Plumbing Piping
- C. Section 22 07 00 – Plumbing Insulation
- D. Section 22 11 00 – Facility Water Distribution
- E. Section 22 30 00 – Plumbing Equipment

1.4 SUBMITTALS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. Thermometers
2. Thermometer Sockets
3. Test Wells
4. Test Plugs

B. Include materials of construction, dimensional data, ratings/capacities/ranges, approvals, test data, pressure drop data where appropriate, and identification as referenced in this section and/or on the drawings.

1.5 REFERENCE STANDARDS

A. ASTM B650 Electrodeposited Engineering Chromium Coatings on Ferrous Substrates

1.6 QUALITY ASSURANCE

A. Substitution of Materials: Division 1.

1.7 DESIGN CRITERIA

A. All piping specialties are to be rated for the highest pressures and temperatures in the respective system in accordance with ANSI B31, but not less than 125 psig unless specifically indicated otherwise.

1.8 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified in Section 22 05 00 – Common Work Results for Plumbing.

B. In addition to the general content specified in section 22 05 00 – common work results for plumbing, supply the following additional documentation:

2. PRODUCTS

2.1 THERMOMETERS

A. Ashcroft, Marsh, Taylor, H. O. Terrice, Ametek/U. S. Gauge, Weiss, Wika, Weksler.

B. Stem Type: Cast aluminum case, nine inch scale, clear acrylic window. adjustable angle brass stem with stem of sufficient length so the end of the stem is near the middle of a pipe without reducing the thickness of any insulation, red indicating fluid, black lettering against a white background, with scale ranges as follows:

Service	Hot Water
Scale Range, °F	30 - 180
Increment, °F	2

2.2 THERMOMETER SOCKETS

A. Brass with threaded connections suitable for thermometer stems and temperature control sensing elements in pipeline. Furnish with extension necks for insulated piping systems.

2.3 TEST WELLS

- A. Similar to thermometer sockets except with a brass cap that threads into the inside of the test well to prevent dirt from accumulating. Secure cap to body with a short chain. Furnish with extension necks, where appropriate, to accommodate the pipeline insulation.

#### 2.4 TEST PLUGS

- A. Brass threaded pressure and temperature test plug with neoprene self-closing valve, valve retainer, brass threaded cap, rated for 150 psi and 0-200 degrees F.

### 3. EXECUTION

#### 3.1 THERMOMETERS

- A. Stem Type: Install in piping systems as indicated on the drawings and/or details using a separable socket in each location.

#### 3.2 THERMOMETER SOCKETS

- A. Install at each point where a thermometer or temperature control sensing element is located in a pipeline.

#### 3.3 TEST WELLS

- A. Install in piping systems as indicated on the drawings and/or details wherever provisions are needed for inserting a thermometer at a later date.

#### 3.4 TEST PLUGS

- A. Install in piping systems as indicated on the drawings and/or details wherever provisions are needed for short-term measurement of pressure or temperature.

END OF 22 05 15.



DIVISION 22 - PLUMBING  
**22 05 23 - General Duty Valves for  
Plumbing Piping**

1. GENERAL

1.1 SCOPE OF WORK

- A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

- A. This section includes valve specifications for all Plumbing systems except where indicated under Related Work.

1. Water System Valves
  - a. Ball Valves
  - b. Swing Check Valves
  - c. Balancing Valves
  - d. Drain Valves

1.3 RELATED WORK

- A. Applicable provisions of Division 1 govern work under this section.
- B. Section 22 05 14 – Plumbing Specialties
- C. Section 22 11 00 – Facility Water Distribution
- D. Section 22 30 00 – Plumbing Equipment

1.4 SUBMITTALS

- A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. Water System Valves
  - a. Ball Valves
  - b. Swing Check Valves
  - c. Balancing Valves
  - d. Drain Valves
2. Specialty Valves And Valve Accessories

- B. Schedule of all valves indicating type of service, dimensions, materials of construction, and pressure/temperature ratings for all valves to be used on the project. Temperature ratings specified are for continuous operation.

## 1.5 QUALITY ASSURANCE

A. Substitution of Materials: Refer to Division 1.

## 1.6 DESIGN CRITERIA

A. Where valve types (ball, butterfly, etc.) are specified for individual plumbing services (i.e. domestic water, gas, etc.), each valve type shall be of the same manufacturer unless prior written approval is obtained from the Owner.

B. Valves to be line size unless specifically noted otherwise.

## 1.7 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified in Section 22 05 00 – Common Work Results for Plumbing.

## 2. PRODUCTS

### 2.1 WATER SYSTEM VALVES

A. Manufacturers: Apollo, Asco, Conbraco, Crane, Hammond, Jomar, Lunkenheimer, Milwaukee Valve, Nibco, Stockham, Watts

B. All water system valves to be rated at not less than 125 water working pressure at 240 degrees F unless noted otherwise.

C. Ball Valves:

1. Two or three piece bronze body; sweat ends, stainless steel ball; glass filled Teflon seat; Teflon packing and threaded packing nut; blowout-proof stem; 600 psig WOG. Provide valve stem extensions for valves installed in all piping with insulation.
2. 2" and smaller: Nibco, S-585-70-66

D. Swing Check Valves:

1. Bronze body, sweat ends, Y-pattern, regrindable bronze seat, renewable bronze disc, Class 125, suitable for installation in a horizontal or vertical line with flow upward. Crane 1342, Hammond IB941, Nibco S413B, Watts CVYS

E. Balancing Valves:

1. 2" and smaller: Two or three piece bronze body ball valve, sweat or threaded ends, chrome plated brass ball, glass filled teflon seat, threaded packing nut, with adjustable memory stop position indicator and extended handle stem, suitable for 400 psig water working pressure at 240 degrees F. Watts B-6000/B-6001 BS
2. 2" and smaller: Bronze body with sweat or threaded ends, brass ball, glass filled Teflon seat, capped read-out ports, tapped drain/purge port, and adjustable memory stop position indicator, rated for 200 psig water working pressure at 250°F minimum. Bell & Gossett Model CB Series.

F. Drain Valves:

1. ¾" ball valve with integral threaded hose adapter, sweat or threaded inlet connections, with threaded cap and chain on hose threads, Watts B-6000-CC/B-6001-CC series.

### 3. EXECUTION

#### 3.1 GENERAL

- A. Properly align piping before installation of valves. Install and test valves in strict accordance with valve manufacturer's installation recommendations. Do not support weight of piping system on valve ends.
- B. Mount valves in locations which allow access for operation, servicing and replacement.
- C. Provide valve handle extensions for all valves installed in insulated piping.
- D. Install all valves with the stem in the upright or horizontal position. If possible, install butterfly valves with the stem in the horizontal position. Valves installed with the stems down will not be accepted.
- E. Prior to flushing of piping systems, place all valves in the full-open position.

#### 3.2 SHUT OFF VALVES

- A. Install shut-off valves at each piece of equipment, at each branch take-off from mains for isolation or repair and elsewhere as indicated.

#### 3.3 BALANCING VALVES

- A. Install where indicated on the drawings and details for balancing of flow in pumped hot water recirculation piping systems.

- B. Upon project completion, adjust each valve and set position stop. Balance system to minimum flow in return piping branches needed to maintain even supply water temperature throughout building.

#### 3.4 DRAIN VALVES

- A. Provide drain valves for complete drainage of all systems. Locations of drain valves include low points of piping systems, downstream of riser isolation valves, equipment locations specified or detailed, other locations required for drainage of systems and elsewhere as indicated.

#### 3.5 SWING CHECK VALVES

- A. Install swing check valves in recirculation branch lines and elsewhere as indicated. Provide weighted swing check valves at sanitary sump pump discharges.

END OF 22 05 23.



DIVISION 22 – PLUMBING  
**22 05 29 - Hangers and Supports for  
Plumbing Piping and Equipment**

1. GENERAL

1.1 SCOPE OF WORK

A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

A. This section includes specifications for supports of all plumbing equipment and materials as well as piping system anchors.

1. Structural Supports
2. Pipe Hangers And Supports
3. Pipe Hanger Rods
4. Beam Clamps
5. Concrete Inserts
6. Anchors

1.3 RELATED WORK

A. Applicable provisions of Division 1 shall govern work under this section.

B. Section 22 07 00 – Plumbing Insulation for insulation protection at support devices

1.4 SUBMITTALS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. Structural Supports
2. Pipe Hangers And Supports
3. Pipe Hanger Rods
4. Beam Clamps
5. Concrete Inserts
6. Anchors
7. Equipment Stands

B. Schedule of all hanger and support devices indicating attachment methods and type of device for each pipe size and type of service.

- C. All submittals are to comply with submission and content requirements specified within Section 22 05 00 – Common Work Results for Plumbing.

## 1.5 REFERENCE STANDARDS

- A. MSS SP-58 Pipe Hangers and Supports - Materials, Design and Manufacture
- B. MSS SP-69 Pipe Hangers and Supports - Selection and Application

## 1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 1.

## 1.7 DESCRIPTION

- A. Provide all supporting devices as required for the installation of plumbing equipment and materials. All supports and installation procedures are to conform to the latest requirements of the ANSI Code for building piping.
- B. Do not hang any plumbing item directly from a metal deck or run piping so its rests on the bottom chord of any truss or joist.
- C. Fasteners depending on soft lead for holding power or requiring powder actuation will not be accepted.
- D. Support apparatus and material under all conditions of operation, variations in installed and operating weight of equipment and piping, to prevent excess stress, and allow for proper expansion and contraction.
- E. Protect insulation at all hanger points; see Related Work above.

## 1.8 DESIGN CRITERIA

- A. Materials and application of pipe hangers and supports shall be in accordance with MSS Standard Practice SP-58 and SP-69 unless noted otherwise.

## 2. PRODUCTS

### 1.9 STRUCTURAL SUPPORTS

- A. Provide all supporting steel required for the installation of plumbing equipment and materials, including angles, channels, beams, etc. to suspended or floor supported tanks and equipment. All of this steel may not be specifically indicated on the drawings.

## 1.10 PIPE HANGERS AND SUPPORTS

A. Manufacturers: Anvil, B-Line, Grinnell, Pate, Piping Technology, Roof Products & Systems.

B. Hangers for Pipe Sizes 1/2" through 2":

1. Carbon steel, adjustable swivel ring.
2. Carbon steel, adjustable clevis, standard.

C. Hangers for Pipe Sizes 2" and Larger:

1. Carbon steel, adjustable clevis, standard.

D. Multiple or Trapeze Hangers:

1. Steel channels with welded spacers and hanger rods.

E. Wall Support:

1. Carbon steel welded bracket with hanger.
2. Perforated, epoxy painted finish, 16-12 gauge, min., steel channels securely anchored to wall structure, with interlocking, split-type, bolt secured, galvanized pipe/tubing clamps. When copper piping is being supported, provide flexible elastomeric/thermoplastic isolation cushion material to completely encircle the piping and avoid contact with the channel or clamp.

F. Vertical Support:

1. Carbon steel riser clamp for above floor use.

G. Floor Support:

1. Carbon steel pipe saddle, stand and bolted floor flange.

H. Copper Pipe Supports:

1. All supports, fasteners, clamps, etc. directly connected to copper piping shall be copper plated or polyvinylchloride coated. Where steel channels are used, provide isolation collar between supports/clamps/fasteners and copper piping.

## 1.1 PIPE HANGER RODS

A. Steel Hanger Rods:

1. Threaded both ends, threaded one end, or continuous threaded, complete with adjusting and lock nuts.
2. Size rods for individual hangers and trapeze support as indicated in the following schedule.
3. Total weight of equipment, including valves, fittings, pipe, pipe content, and insulation, are not to exceed the limits indicated.

Maximum Load (Lbs.) (650°F Maximum Temp.)	Rod Diameter (inches)
610	3/8
1130	1/2
1810	5/8
2710	3/4
3770	7/8
4960	1
8000	1-1/4

#### 1.1 BEAM CLAMPS

- A. MSS SP-69 Types 19 & 23 malleable black iron clamp for attachment to beam flange to 0.62 inches thick with a retaining ring and threaded rod of 3/8, 1/2, and 5/8 inch diameter. Furnish with a hardened steel cup point set screw.
- B. MSS SP-69 Type 28 or Type 29 forged steel jaw type clamp with a tie rod to lock clamp in place, suitable for rod sizes to 1-1/2 inch diameter.

#### 1.1 CONCRETE INSERTS

##### A. Drilled Fasteners:

1. Carbon steel expansion anchors, vibration resistant, with ASTM B633 zinc plating. Use drill bit of same manufacturer as anchor. Hilti, Rawl, Redhead.

#### 1.1 ANCHORS

- A. Use welding steel shapes, plates, and bars to secure piping to the structure.

### 3. EXECUTION

#### 3.1 INSTALLATION

- A. Size, apply and install supports and anchors in compliance with manufacturers recommendations.

- B. Install supports to provide for free expansion of the piping system. Support all piping from the structure using concrete inserts, beam clamps, ceiling plates, wall brackets, or floor stands. Fasten ceiling plates and wall brackets securely to the structure and test to demonstrate the adequacy of the fastening.
- C. Coordinate hanger and support installation to properly group piping of all trades.
- D. Where piping can be conveniently grouped to allow the use of trapeze type supports, use standard structural shapes for the supporting steel.
- E. Size and install hangers and supports, except for riser clamps, for installation on the exterior of piping insulation. Where a vapor barrier is not required, hangers may be installed either on the exterior of pipe insulation or directly on piping.
- F. Perform welding in accordance with standards of the American Welding Society.

### 3.2 HANGER AND SUPPORT SPACING

- A. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
- B. Place a hanger within 12 inches of each horizontal elbow, valve, strainer, or similar piping specialty item.
- C. Use hangers with 1-1/2 inch minimum vertical adjustment.
- D. Support riser piping independently of connected horizontal piping.
- E. Adjust hangers to obtain the slope specified in the piping section of these specifications.
- F. Space hangers for pipe as follows:

Pipe Material	Pipe Size	Max. Horiz. Spacing	Max. Vert.
Cast Iron	2" and larger	5'-0"	15'-0"
Copper	1/2" through 3/4"	5'-0"	10'-0"
Copper	1" through 1-1/4"	6'-0"	10'-0"
Copper	1-1/2" through 2-1/2"	8'-0"	10'-0"

### 3.3 RISER CLAMPS

- A. Support vertical piping with clamps secured to the piping and resting on the building structure or secured to the building structure below at each floor.

#### 3.4 CONCRETE INSERTS

- A. Select size based on the manufacturer's stated load capacity and weight of material that will be supported.

#### 3.5 ANCHORS

- A. Install where indicated on the drawings and details. Where not specifically indicated, install anchors at ends of principal pipe runs and at intermediate points in pipe runs between expansion loops. Make provisions for preset of anchors as required to accommodate both expansion and contraction of piping.

END OF 22 05 29.

DIVISION 22 - PLUMBING  
**22 07 00 - Plumbing Insulation**

1. GENERAL

1.1 SCOPE OF WORK

A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

A. This section includes insulation specifications for plumbing piping and equipment.

1. Insulation

- a. Rigid Fiberglass Insulation
- b. Calcium Silicate Insulation

2. Covers and Jackets

- a. PVC Fitting Covers and Jackets

3. Insulation Inserts And Pipe Shields

4. Accessories

1.3 RELATED WORK

A. Applicable provisions of Division 1 govern work under this section.

B. Section 22 05 00 – Common Work Results for Plumbing

C. Section 22 05 29 – Hangers and Supports for Plumbing Piping and Equipment

D. Section 22 30 00 – Plumbing Equipment

1.4 SUBMITTALS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. Insulation

- a. Rigid Fiberglass Insulation
- b. Calcium Silicate Insulation

2. Covers and Jackets
  - a. PVC Fitting Covers and Jackets
3. Insulation Inserts And Pipe Shields
4. Accessories

B. Submit a schedule of all insulating materials to be used on the project, including adhesives, fastening methods, fitting materials along with material safety data sheets and intended use of each material. Include manufacturer's technical data sheets indicating density, thermal characteristics, jacket type, and manufacturer's installation instructions.

#### 1.5 REFERENCE STANDARDS

- |               |   |
|---------------|---|
| A. ASTM B209  | Aluminum and Aluminum Alloy Sheet and Plate                   |
| B. ASTM C165  | Test Method for Compressive Properties of Thermal Insulations |
| C. ASTM C177  | Heat Flux and Thermal Transmission Properties                 |
| D. ASTM C195  | Mineral Fiber Thermal Insulation Cement                       |
| E. ASTM C302  | Density of Preformed Pipe Insulation                          |
| F. ASTM C303  | Density of Preformed Block Insulation                         |
| G. ASTM C449  | Mineral Fiber Hydraulic Setting Thermal Insulation Cement     |
| H. ASTM C518  | Heat Flux and Thermal Transmission Properties                 |
| I. ASTM C533  | Calcium Silicate Block and Pipe Thermal Insulation            |
| J. ASTM C547  | Mineral Fiber Preformed Pipe Insulation                       |
| K. ASTM C553  | Mineral Fiber Blanket and Felt Insulation                     |
| L. ASTM C591  | Preformed Rigid Cellular Polyurethane Thermal Insulation      |
| M. ASTM C610  | Expanded Perlite Block and Thermal Pipe Insulation            |
| N. ASTM C612  | Mineral Fiber Block and Board Thermal Insulation              |
| O. ASTM C921  | Properties of Jacketing Materials for Thermal Insulation      |
| P. ASTM C1136 | Flexible Low Permeance Vapor Retarders for Thermal Insulation |
| Q. ASTM E84   | Surface Burning Characteristics of Building Materials         |
| R. MICA       | National Commercial & Industrial Insulation Standards         |
| S. NFPA 225   | Surface Burning Characteristics of Building Materials         |
| T. UL 723     | Surface Burning Characteristics of Building Materials         |

#### 1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 1.
- B. Label all insulating products delivered to the construction site with the manufacturer's name and description of materials.

#### 1.7 OPERATION AND MAINTENANCE DATA



- A. All operations and maintenance data shall comply with the submission and content requirements specified in Section 22 05 00 – Common Work Results for Plumbing.
- B. In addition to the general content specified in Section 22 05 00 – Common Work Results for Plumbing, supply the following additional documentation:

## 1.8 DESCRIPTION

- A. Furnish and install all insulating materials and accessories as specified or as required for a complete installation. The following types of insulation are specified in this section:
  - 1. Pipe Insulation
- B. Install all insulation in accordance with the latest edition of MICA (Midwest Insulation Contractors Association) Standard and manufacturer's installation instructions. Exceptions to these standards will only be accepted where specifically modified in these specifications, or where prior written approval has been obtained from the Owner's Project Representative.

## 1.9 DEFINITIONS

- A. Concealed: shafts, furred spaces, space above finished ceilings, utility tunnels and crawl spaces. All other areas, including walk-through tunnels, shall be considered as exposed.

## 2. PRODUCTS

### 2.1 MATERIALS

- A. Materials or accessories containing asbestos will not be accepted.
- B. Use composite insulation systems (insulation, jackets, sealants, mastics, and adhesives) that have a flame spread rating of 25 or less and smoke developed rating of 50 or less, with the following exceptions:
  - 1. Insulation which is not located in an air plenum may have a flame spread rating not over 25 and a smoke developed rating no higher than 150.

### 2.2 INSULATION AND JACKETS

A. Manufacturers: Armstrong, Certainteed Manson, Childers, Dow, Extol, Halstead, H.B. Fuller, Imcoa, Knauf, Owens-Corning, Pittsburgh Corning, Rubatex, Johns-Mansville, or approved equal.

B. Insulating materials shall be fire retardant, moisture and mildew resistant, and vermin proof. Insulation shall be suitable to receive jackets, adhesives and coatings as indicated.

C. Rigid Fiberglass Insulation:

1. Minimum nominal density of 3 lbs. per cu. ft., and thermal conductivity of not more than 0.23 at 75 degrees F, minimum compressive strength of 25 PSF at 10% deformation, rated for service to 450 degrees F.
2. White kraft reinforced foil vapor barrier all service jacket, factory applied to insulation with a self-sealing pressure sensitive adhesive lap, maximum permeance of .02 perms and minimum beach puncture resistance of 50 units.

D. Calcium Silicate Insulation:

1. Rigid hydrous calcium silicate, ASTM C533, Type I, minimum dry density of 12.5 lbs. per cu. ft., thermal conductivity of not more than 0.44 at 300 degrees F, maximum water absorption of 90% by volume, minimum compressive strength 140 psi at 5% deformation, rated for service range of 0 degrees F to 1,200 degrees F. Material to be visually coded or marked to indicate it is asbestos free.

E. PVC Fitting Covers and Jackets:

1. White PVC film, gloss finish one side, semi-gloss other side, FS LP-535D, Composition A, Type II, Grade GU. Ultraviolet inhibited indoor/outdoor grade to be used where exposed to high humidity, ultraviolet radiation, in kitchens or food processing areas or installed outdoors. Jacket thickness to be .02 inch (20 mil).

## 2.3 INSULATION INSERTS AND PIPE SHIELDS

A. Manufacturers: B-Line, Pipe Shields, Value Engineered Products

B. Construct inserts with calcium silicate, minimum 140 psi compressive strength. Piping 12" and larger, supplement with high density 600 psi structural calcium silicate insert. Provide galvanized steel shield. Insert and shield to be minimum 180 degree coverage on bottom of supported piping and full 360 degree coverage on clamped piping. On roller mounted piping and piping designed to slide on support, provide additional load distribution steel plate.

- C. Where contractor proposes shop/site fabricated inserts and shields, submit schedule of materials, thicknesses, gauges and lengths for each pipe size to demonstrate equivalency to pre-engineered pre-manufactured product described above. On low temperature systems, extruded polystyrene may be substituted for calcium silicate provided insert and shield length and gauge are increased to compensate for lower insulation compressive strength.
- D. Precompressed 20# density molded fiberglass blocks, Hamfab, of same thickness as adjacent insulation may be substituted for calcium silicate inserts with one 1"x 6" block for piping through 2-1/2" and three 1" x 6" blocks for piping through 4". Submit shield schedule to demonstrate equivalency to pre-engineered/pre-manufactured product described above.
- E. Wood blocks will not be accepted.

#### 2.4 ACCESSORIES

- A. All products shall be compatible with surfaces and materials on which they are applied, and be suitable for use at operating temperatures of the systems to which they are applied.
- B. Adhesives, sealants, and protective finishes shall be as recommended by insulation manufacturer for applications specified.
- C. Insulation bands to be 3/4 inch wide, constructed of aluminum or stainless steel. Minimum thickness to be .015 inch for aluminum and .010 inch for stainless steel.
- D. Tack fasteners to be stainless steel ring grooved shank tacks.
- E. Staples to be clinch style.
- F. Insulating cement to be ANSI/ASTM C195, hydraulic setting mineral wool.
- G. Finishing cement to be ASTM C449.
- H. Fibrous glass or canvas fabric reinforcing shall have a minimum untreated weight of 6 oz./sq. yd.
- I. Bedding compounds to be non-shrinking and permanently flexible.
- J. Vapor barrier coatings to be non-flammable, fire resistant, polymeric resin.

- K. Fungicidal water base coating (Foster 40-20) to be compatible with vapor barrier coating.

### 3. EXECUTION

#### 3.1 INSTALLATION

- A. Install insulation, jackets and accessories in accordance with manufacturer's instructions and under ambient temperatures and conditions recommended by manufacturer. Surfaces to be insulated must be clean and dry.
- B. Do not insulate systems or equipment which are specified to be pressure tested or inspected, until testing, inspection and any necessary repairs have been successfully completed.
- C. Install insulation with smooth and even surfaces. Poorly fitted joints or use of filler in voids will not be accepted. Cover and seal exposed fiberglass insulation when insulation is terminated, no raw fiberglass insulation is allowed. Provide neat and coated terminations at all nameplates, uninsulated fittings, or at other locations where insulation terminates. Install with longitudinal joints facing wall or ceiling.
- D. Install fabric reinforcing without wrinkles. Overlap seams a minimum of 2 inches.
- E. Use full-length material (as delivered from manufacturer) wherever possible. Scrap piecing of insulation or pieces cut undersize and stretched to fit will not be accepted.
- F. Insulation shall be continuous through sleeves and openings. Vapor barriers shall be maintained continuous through all penetrations.
- G. Provide a complete vapor barrier for insulation on the following systems:
  - 1. Cold water (potable and non-potable)
  - 2. Storm Water
  - 3. Equipment piping with a surface temperature below 65 degrees F

#### 3.2 PIPING, VALVE AND FITTING INSULATION

##### A. General:

- 1. Install insulation with butt joints and longitudinal seams closed tightly. Provide minimum 2" lap on jacket seams and 2" tape on butt joints, firmly cemented with lap adhesive. Additionally secure with staples

along seams and butt joints. Coat staples with vapor barrier mastic on systems requiring vapor barrier.

2. Water supply piping insulation shall be continuous throughout the building and installed adjacent to and within building walls to a point directly behind the fixture that is being supplied.
3. Install insulation continuous through pipe hangers and supports with hangers and supports on the exterior of insulation. Where a vapor barrier is not required, hangers and supports may be attached directly to piping with insulation completely covering hanger or support and jacket sealed at support rod penetration. Where riser clamps are required to be attached directly to piping requiring vapor barrier, extend insulation and vapor barrier jacketing/coating around riser clamp.

#### B. Insulation Inserts and Pipe Shields:

1. Provide insulation inserts and pipe shields at all hanger and support locations. Inserts may be omitted on 3/4" and smaller copper piping provided 12" long 22 gauge pipe shields are used.

#### C. Fittings and Valves:

1. Fittings, valves, unions, flanges, couplings and specialties may be insulated with factory molded or built up insulation of the same thickness as adjoining insulation. Cover insulation with fabric reinforcing and mastic or where temperatures do not exceed 150 degrees, PVC fitting covers. Secure PVC fitting covers with tack fasteners and 1-1/2" band of mastic over ends, throat, seams or penetrations. On systems requiring vapor barrier, use vapor barrier mastic.

#### D. Protective Jackets:

1. Provide a protective PVC jacket for the following insulated piping: exposed piping within 5'-0" of floor.
2. Lap seams and joints a minimum of 2 inches and continuously seal with welding solvent recommended by jacket manufacturer. Lap slip joint ends 4" without fasteners where required to absorb expansion and contraction. For sections where vapor barrier is not required and jacket requires routine removal, tack fasteners may be used.

#### E. Pipe Insulation Schedule:

1. Provide insulation on new and existing remodeled piping as indicated in the following schedule:

Service	Insulation Types	Insulation Thickness by Pipe Size				
		1" and smaller	1-1/4" to 2"	2-1/2" to 4"	5" to 6"	8" and larger
Hot Water Supply	Rigid Fiberglass	1"	1"	1.5"	1.5"	1.5"
Hot Water Return	Rigid Fiberglass	1"	1"	1.5"		
Cold Water	Rigid Fiberglass	0.5"	0.5"	1"	1"	1"

1. The following piping and fittings are not to be insulated:
  - a. Chrome plated exposed supplies and stops (except where specifically noted).
  - b. Water hammer arrestors.
  - c. Piping unions and flanges for systems not requiring a vapor barrier.

END OF 22 07 00

DIVISION 22 - PLUMBING  
**22 11 00 - Facility Water Distribution**

1. GENERAL

1.1 SCOPE OF WORK

- A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

- A. This section contains specifications for plumbing pipe and pipe fittings for this project.
1. Domestic Water
  2. Dielectric Unions And Flanges
  3. Unions And Flanges
  4. Piping System Leak Tests

1.3 RELATED WORK

- A. Applicable provisions of Division 1 govern work under this section.  
B. Section 22 05 14 – Plumbing Specialties  
C. Section 22 05 15 – Piping Specialties  
D. Section 22 05 29 – Hangers and Supports for Plumbing Piping and Equipment

1.4 SUBMITTALS

- A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:
1. Domestic Water
  2. Dielectric Unions And Flanges
  3. Unions And Flanges
  4. Piping System Leak Tests
- B. Schedule from the contractor indicating the ASTM or AWWA specification number of the pipe being proposed along with its type and grade if known at the time of submittal, and sufficient information to indicate the type and rating of fittings for each service.

- C. Statement from manufacturer on letterhead that pipe furnished meets the ASTM or AWWA specification contained in this section.

#### 1.5 REFERENCE STANDARDS

- A. ANSI B16.5 Pipe Flanges and Flanged Fittings
- B. ANSI B16.22 Wrought Copper and Wrought Copper Alloy Solder Joint Pressure Fittings
- C. ANSI B16.29 Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV
- D. ASTM B32 Solder Metal
- E. ASTM B88 Seamless Copper Water Tube
- F. ASTM B280 Seamless Copper Tube for Air Conditioning and Refrigeration Field Service
- G. ASTM B813 Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube
- H. AWS A5.8 Brazing Filler Metal

#### 1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 1.
- B. Order all pipe with each length marked with the name or trademark of the manufacturer and type of pipe; with each shipping unit marked with the purchase order number, metal or alloy designation, temper, size, and name of supplier.
- C. Any installed material not meeting the specification requirements must be replaced with material that meets these specifications without additional cost to the owner.

#### 1.7 DESIGN CRITERIA

- A. Use only new material, free of defects, rust and scale, and meeting the latest revision of ASTM specifications as listed in this specification.
- B. Construct all piping for the highest pressures and temperatures in the respective system.
- C. Where ASTM B88, type L H (drawn) temper copper tubing is specified, ASTM B88, type K H (drawn) temper copper tubing may be substituted at Contractor's option.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Promptly inspect shipments to insure that the material is undamaged and complies with specifications.



- B. Cover pipe to prevent corrosion or deterioration while allowing sufficient ventilation to avoid condensation. Do not store materials directly on grade. Protect pipe, tube, and fitting ends so they are not damaged. Where end caps are provided or specified, take precautions so the caps remain in place. Protect fittings, flanges, and unions by storage inside or by durable, waterproof, above ground packaging.
- C. Offsite storage agreements will not relieve the contractor from using proper storage techniques.
- D. Storage and protection methods must allow inspection to verify products.

## 2. PRODUCTS

### 2.1 DOMESTIC WATER

#### A. Above Ground:

Type L copper water tube, H (drawn) temper, ASTM B88; wrought copper pressure fittings, ANSI B16.22; lead free (<.2%) solder, ASTM B32; flux, ASTM B813; copper phosphorous brazing alloy, AWS A5.8 BCuP.

### 2.2 DIELECTRIC UNIONS AND FLANGES

#### A. Manufacturers: Watts Regulator Company, Lochinvar, Wilkins or EPCO Sales, Inc.

B. Dielectric unions 2" and smaller with iron female pipe thread to copper solder joint or brass female pipe thread end connections, non-asbestos gaskets, having a pressure rating of not less than 175 psig at 180 degrees.

### 2.3 UNIONS

A. Unions to have a pressure rating of not less than 150 psig at 180 degrees. Gasket material for flanges and flanged fittings shall be Teflon type. Treated paper gaskets are not acceptable.

#### B. 2" and Smaller Copper:

1. ANSI B16.18 cast bronze union coupling or ANSI B15.24 Class 150 cast bronze flanges.

## 3. EXECUTION

### 3.1 GENERAL

- A. Install pipe and fittings in accordance with reference standards, manufacturer's recommendations and recognized industry practices.

### 3.2 PREPARATION

- A. Cut pipe ends square. Ream ends of piping to remove burrs. Clean scale and dirt from interior and exterior of each section of pipe and fitting prior to assembly.

### 3.3 ERECTION

- A. Install all piping parallel to building walls and ceilings and at heights which do not obstruct any portion of a window, doorway, stairway, or passageway. Where interferences develop in the field, offset or reroute piping as required to clear such interferences. Coordinate locations of plumbing piping with piping, ductwork, conduit and equipment of other trades to allow sufficient clearances. In all cases, consult drawings for exact location of pipe spaces, ceiling heights, door and window openings, or other architectural details before installing piping.
- B. Maintain piping in clean condition internally during construction.
- C. Provide clearance for installation of insulation, access to valves and piping specialties.
- D. Provide anchors, expansion joints, swing joints and/or expansion loops so that piping may expand and contract without damage to itself, equipment, or building.
- E. Do not route piping through transformer vaults or above transformers, panelboards or switchboards, including the required service space for this equipment.
- F. Install all valves and piping specialties, including items furnished by others, as specified and/or detailed. Provide access to valves and specialties for maintenance. Make connections to all equipment, fixtures and systems installed by others where same requires the piping services indicated in this section.

### 3.4 COPPER PIPE JOINTS

- A. Remove all slivers and burrs remaining from the cutting operation by reaming and filing both pipe surfaces. Clean fitting and tube with metal brush, emery cloth or sandpaper. Remove residue from the cleaning operation, apply flux and assemble joint to socket stop. Apply flame to fitting until solder melts when placed at joint. Remove flame and feed

solder into joint until full penetration of cup and ring of solder appears. Wipe excess solder and flux from joint.

### 3.5 THREADED PIPE JOINTS

- A. Use a thread lubricant or Teflon tape when making joints; no hard setting pipe thread cement or caulking will be allowed.

### 3.6 DOMESTIC WATER

- A. Maintain piping system in clean condition during installation. Remove dirt and debris from assembly of piping as work progresses. Cap open pipe ends where left unattended or subject to contamination.
- B. Install interior water piping with drain valves where indicated and at low points of system to allow complete drainage. Install shutoff valves where indicated and at the base of risers to allow isolation of portions of system for repair. Do not install water piping within exterior walls.

### 3.7 DIELECTRIC UNIONS

- A. Install dielectric unions at each point where a copper-to-steel pipe connection is required in domestic water systems.

### 3.8 UNIONS

- A. Install a union at each connection to each piece of equipment and at other items which may require removal for maintenance, repair, or replacement. Where a valve is located at a piece of equipment, locate the flange or union connection on the equipment side of the valve. Concealed unions are not acceptable.

### 3.9 PIPING SYSTEM LEAK TESTS

- A. Isolate or remove components from system which are not rated for test pressure. Test piping in sections or entire system as required by sequence of construction. Do not insulate or conceal pipe until it has been successfully tested.
- B. If required for the additional pressure load under test, provide temporary restraints at fittings or expansion joints.
- C. For hydrostatic tests, use clean water and remove all air from the piping being tested. Measure and record test pressure at the high point in the system.

D. Inspect system for leaks. Where leaks occur, repair the area with new materials and repeat the test; caulking will not be acceptable.

E. Entire test must be witnessed by the Owner's representative. All pressure tests are to be documented on form included in specification.

<u>Test</u>		<u>Initial Test</u>	<u>Final Test</u>
<u>System</u>	<u>Medium</u>	<u>Pressure</u> <u>Duration</u>	<u>Pressure</u> <u>Duration</u>
Above Ground Domestic Water	Water	N/A	100 psig 8 hr.

END OF 22 11 00.

**PIPING SYSTEM TEST REPORT**

**Date Submitted:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Project No:** \_\_\_\_\_

**Contractor:** \_\_\_\_\_

- Plumbing                       Fire Sprinkler

Test Medium:  Air     Water     Other\_\_

Test performed per specification section No. \_\_\_\_\_

Specified Test Duration \_\_\_\_\_ Hours    Specified Test Pressure \_\_\_\_\_ PSIG

System Identification: \_\_\_\_\_

Describe Location: \_\_\_\_\_

\_\_\_\_\_

Test Date: _____	
Start Test Time: _____	Initial Pressure: _____ PSIG
Stop Test Time: _____	Final Pressure: _____ PSIG

Tested By: \_\_\_\_\_                      Witnessed By: \_\_\_\_\_

Title: \_\_\_\_\_                              Title: \_\_\_\_\_

Signed: \_\_\_\_\_                              Signed: \_\_\_\_\_

Date: \_\_\_\_\_                              Date: \_\_\_\_\_

Comments: \_\_\_\_\_

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# PIPING SYSTEM TEST REPORT

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DIVISION 22 - PLUMBING  
**22 30 00 - Plumbing Equipment**

1. GENERAL

1.1 SCOPE OF WORK

A. Base Bid: Unless noted otherwise, the Plumbing Contractor shall provide all labor and materials for a complete system in this specification section.

1.2 SECTION INCLUDES

A. This section includes specifications for water heaters, water softeners, pumps and other equipment used for plumbing applications.

1. In-Line Close Coupled Centrifugal Pumps
2. In-Line System Lubricated Centrifugal Pumps

1.3 RELATED WORK

- A. Applicable provisions of Division 1 shall govern work under this section.
- B. Section 22 05 13 - Common Motor Requirements for Plumbing
- C. Section 22 05 15 - Piping Specialties
- D. Section 22 05 23 - General-Duty Valves for Plumbing Piping
- E. Section 22 07 00 - Plumbing Insulation

1.4 SUBMITTALS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Submittals. In addition to the general content specified under Section 22 05 00 – Common Work Results for Plumbing, supply the following submittals:

1. In-Line Close Coupled Centrifugal Pumps
2. In-Line System Lubricated Centrifugal Pumps
3. Expansion Tanks

B. Include data concerning dimensions, capacities, materials of construction, ratings, certifications, weights, pump curves with net positive suction head requirements, manufacturer's installation requirements, manufacturer's performance limitations, and appropriate identification.

1.5 FUNCTIONAL TESTS

A. Refer to Section 22 05 00 – Common Work Results for Plumbing, Functional Tests. In addition to the general content specified under

Section 22 05 00 – Common Work Results for Plumbing, supply the following functional tests:

1. In-Line Close Coupled Centrifugal Pumps
2. In-Line System Lubricated Centrifugal Pumps

## 1.6 QUALITY ASSURANCE

- A. Substitution of Materials: Refer to Division 1.
- B. Plumbing products requiring approval by the State of Wisconsin Dept. of Safety & Professional Services must be approved or have pending approval at the time of shop drawing submission.

## 1.7 OPERATION AND MAINTENANCE DATA

- A. All operations and maintenance data shall comply with the submission and content requirements specified under in Section 22 05 00 – Common Work Results for Plumbing.
- B. In addition to the general content specified in Section 22 05 00 – Common Work Results for Plumbing, supply the following additional documentation:
  1. A/E and commissioning provider to define detailed operation and maintenance data requirements for equipment specifications added to this section.

## 2. PRODUCTS

### 2.1 IN-LINE CLOSE COUPLED CENTRIFUGAL PUMPS

- A. Manufacturer: Bell and Gossett, Gould, Grundfos, Taco.
- B. Type: Horizontal single stage close coupled oil lubricated in-line pumps, 125 psig maximum working pressure at operating temperature of 225° F continuous. The manufacturer shall certify all pump ratings. All pumps to operate without excessive noise or vibration.
- C. Casing: Bronze or stainless steel; flanged suction and discharge connection.
- D. Impeller: Brass, bronze or thermoplastic, keyed to the shaft, single suction enclosed type, hydraulically and dynamically balanced.
- E. Bearings: Oil lubricated bronze sleeve or ball bearings.



- F. Shaft: Stainless steel or carbon steel with stainless steel or bronze sleeve, integral thrust collar.
- G. Seal: Mechanical type, carbon rotating against a stationary ceramic seat, 225°F maximum continuous operating temperature.
- H. Motor: Provide pump with open dripproof motor with built-in thermal overload protection sized for non-overloading over the entire pump curve. Furnish each pump and motor with a nameplate giving the manufacturer's name, serial number of pump, capacity in GPM and head in feet at design condition, horsepower, voltage, frequency, speed and full load current.

## 2.2 IN-LINE SYSTEM LUBRICATED CENTRIFUGAL PUMPS

- A. Manufacturer: Bell and Gossett, Grundfos, Taco.
- B. Type: Horizontal single stage close coupled system lubricated in-line pumps, 125 psig maximum working pressure at operating temperature of 225° F continuous. The manufacturer shall certify all pump ratings. All pumps to operate without excessive noise or vibration.
- C. Casing: Bronze or stainless steel; flanged suction and discharge connection.
- D. Impeller: Bronze, stainless steel or thermoplastic, keyed to the shaft, single suction enclosed type, hydraulically and dynamically balanced.
- E. Bearings: System lubricated carbon sleeve bearings.
- F. Shaft: Stainless steel or ceramic.
- G. Seal: Stainless steel can isolating rotor and stator.
- H. Motor: Provide pump with impedance protected motor sized for non-overloading over the entire pump curve. Furnish each pump and motor with a nameplate giving the manufacturer's name, serial number of pump, capacity in GPM and head in feet at design condition, horsepower, voltage, frequency, speed and full load current.

## 3. EXECUTION

### 3.1 INSTALLATION

- A. Install plumbing equipment where indicated in accordance with manufacturer's recommendations. Coordinate equipment location with piping, ductwork, conduit and equipment of other trades to allow

sufficient clearances. Locate equipment and arrange plumbing piping to provide access space for servicing all components.

- B. Connect equipment to water piping using unions or flanges and isolation valves.
- C. Lubricate pumps before startup. Adjust pumps for rated flow. Clean and blowdown strainers after 8 hours of operation.

END OF 22 33 00.

DIVISION 23 - MECHANICAL  
**23 05 13 – Common Motor Requirements for HVAC Equipment**

1. GENERAL

1.1 SECTION INCLUDES

A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.

1. Single phase electric motors.

1.2 RELATED REQUIREMENTS

A. Section 23 81 13 - Packaged Terminal Air Conditioners

1.3 REFERENCE STANDARDS

- A. ABMA STD 9 - Load Ratings and Fatigue Life for Ball Bearings; American Bearing Manufacturers Association, Inc.; 1990 (Reapproved 2008).
- B. NEMA MG 1 - Motors and Generators; National Electrical Manufacturers Association; 2009, Revision 1 - 2010.
- C. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide wiring diagrams with electrical characteristics and connection requirements.
- C. Manufacturer's Installation Instructions: Indicate setting, mechanical connections, lubrication, and wiring instructions.
- D. Operation Data: Include instructions for safe operating procedures.
- E. Maintenance Data: Include assembly drawings, data including replacement sizes, and lubrication instructions.

1.5 QUALITY ASSURANCE

- A. Conform to NFPA 70.

- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect motors stored on site from weather and moisture by maintaining factory covers and suitable weather-proof covering. For extended outdoor storage, remove motors from equipment and store separately.

## 1.7 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for motors larger than 20 horsepower.

## 2. PRODUCTS

### 2.1 MANUFACTURERS

- A. Lincoln Motors: [www.lincolnmotors.com](http://www.lincolnmotors.com).
- B. A. O. Smith Electrical Products Company: [www.aosmithmotors.com](http://www.aosmithmotors.com).
- C. Reliance Electric/Rockwell Automation: [www.reliance.com](http://www.reliance.com).

### 2.2 GENERAL CONSTRUCTION AND REQUIREMENTS

- A. Construction:
  - 1. Open drip-proof type except where specifically noted otherwise.
  - 2. Design for continuous operation in 40 degrees C environment.
  - 3. Design for temperature rise in accordance with NEMA MG 1 limits for insulation class, service factor, and motor enclosure type.
- B. Visible Nameplate: Indicating motor horsepower, voltage, phase, cycles, RPM, full load amps, locked rotor amps, frame size, manufacturer's name and model number, service factor, power factor, efficiency.
- C. Wiring Terminations:
  - 1. Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70, threaded for conduit.

2. For fractional horsepower motors where connection is made directly, provide threaded conduit connection in end frame.

### 2.3 SINGLE PHASE POWER - PERMANENT-SPLIT CAPACITOR MOTORS

- A. Starting Torque: Exceeding one fourth of full load torque.
- B. Starting Current: Up to six times full load current.
- C. Multiple Speed: Through tapped windings.
- D. Open Drip-proof or Enclosed Air Over Enclosure: Class A (50 degrees C temperature rise) insulation, minimum 1.0 Service Factor, prelubricated sleeve or ball bearings, automatic reset overload protector.

## 3. EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install securely on firm foundation. Mount ball bearing motors with shaft in any position.
- C. Check line voltage and phase and ensure agreement with nameplate.

END OF SECTION 23 0513



DIVISION 23 - MECHANICAL  
**23 05 19 - Meters and Gages for HVAC Piping**

1. GENERAL

1.1 SECTION INCLUDES

- A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.
  - 1. Pressure gages and pressure gage taps.
  - 2. Thermometers and thermometer wells.
  - 3. Static pressure gages.
  - 4. Filter gages.

1.2 RELATED REQUIREMENTS

- A. Section 23 2113 - Hydronic Piping.

1.3 REFERENCE STANDARDS

- A. ASME B40.100 - Pressure Gauges and Gauge Attachments; The American Society of Mechanical Engineers; 2005.
- B. ASME MFC-3M - Measurement of Fluid Flow in Pipes Using Orifice, Nozzle and Venturi; The American Society of Mechanical Engineers; 2004.
- C. ASTM E1 - Standard Specification for ASTM Thermometers; 2007.
- D. ASTM E77 - Standard Test Method for Inspection and Verification of Thermometers; 2007.
- E. AWWA C701 - Cold Water Meters -- Turbine Type, for Customer Service; American Water Works Association; 2007.
- F. AWWA C702 - Cold Water Meters -- Compound Type; American Water Works Association; 2001.
- G. AWWA C706 - Direct-Reading, Remote-Registration Systems for Cold Water Meters; American Water Works Association; 2010 (ANSI/AWWA C706).
- H. AWWA M6 - Water Meters -- Selection, Installation, Testing, and Maintenance; American Water Works Association; 1999.
- I. UL 393 - Indicating Pressure Gauges for Fire-Protection Service; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

## 1.4 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide list that indicates use, operating range, total range and location for manufactured components.
- C. Project Record Documents: Record actual locations of components and instrumentation.

## 1.5 FIELD CONDITIONS

- A. Do not install instrumentation when areas are under construction, except for required rough-in, taps, supports and test plugs.

## 2. PRODUCTS

### 2.1 PRESSURE GAGES

#### A. Manufacturers:

1. Dwyer Instruments, Inc: [www.dwyer-inst.com](http://www.dwyer-inst.com).
2. Moeller Instrument Co., Inc: [www.moellerinstrument.com](http://www.moellerinstrument.com).
3. Omega Engineering, Inc: [www.omega.com](http://www.omega.com).
4. Substitutions: See Section 016000 - Product Requirements.

- B. Pressure Gages: ASME B40.100, UL 393 drawn steel case, phosphor bronze bourdon tube, rotary brass movement, brass socket, with front recalibration adjustment, black scale on white background.

1. Case: Steel with brass bourdon tube.
2. Size: 4-1/2 inch (115 mm) diameter.
3. Mid-Scale Accuracy: One percent.
4. Scale: Psi and KPa.

### 2.2 PRESSURE GAGE TAPPINGS

- A. Gage Cock: Tee or lever handle, brass for maximum 150 psi (1034 kPa).
- B. Needle Valve: Brass, 1/4 inch (6 mm) NPT for minimum 150 psi (1034 kPa).

### 2.3 STEM TYPE THERMOMETERS

#### A. Manufacturers:



1. Dwyer Instruments, Inc: [www.dwyer-inst.com](http://www.dwyer-inst.com).
2. Omega Engineering, Inc: [www.omega.com](http://www.omega.com).
3. Weksler Glass Thermometer Corp: [www.wekslerglass.com](http://www.wekslerglass.com).

B. Thermometers - Adjustable Angle: Red- or blue-appearing non-toxic liquid in glass; ASTM E1; lens front tube, cast aluminum case with enamel finish, cast aluminum adjustable joint with positive locking device; adjustable 360 degrees in horizontal plane, 180 degrees in vertical plane.

1. Size: 9 inch (225 mm) scale.
2. Window: Clear Lexan.
3. Stem: 3/4 inch (20 mm) NPT brass.
4. Accuracy: 2 percent, per ASTM E77.
5. Calibration: Degrees F.

## 2.4 THERMOMETER SUPPORTS

- A. Socket: Brass separable sockets for thermometer stems with or without extensions as required, and with cap and chain.
- B. Flange: 3 inch (75 mm) outside diameter reversible flange, designed to fasten to sheet metal air ducts, with brass perforated stem.

## 2.5 TEST PLUGS

- A. Test Plug: 1/4 inch (6 mm) or 1/2 inch (13 mm) brass fitting and cap for receiving 1/8 inch (3 mm) outside diameter pressure or temperature probe with neoprene core for temperatures up to 200 degrees F (93 degrees C).
- B. Test Kit: Carrying case, internally padded and fitted containing one 2-1/2 inch (60 mm) diameter pressure gages, one gage adapters with 1/8 inch (3 mm) probes, two 1 inch (25 mm) dial thermometers.

## 3. EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install thermometers in piping systems in sockets in short couplings. Enlarge pipes smaller than 2-1/2 inch (60 mm) for installation of thermometer sockets. Ensure sockets allow clearance from insulation.
- C. Coil and conceal excess capillary on remote element instruments.

- D. Provide instruments with scale ranges selected according to service with largest appropriate scale.
- E. Install gages and thermometers in locations where they are easily read from normal operating level. Install vertical to 45 degrees off vertical.
- F. Adjust gages and thermometers to final angle, clean windows and lenses, and calibrate to zero.
- G. Locate test plugs adjacent thermometers and thermometer sockets.

END OF SECTION 23 0519

DIVISION 23 - MECHANICAL  
**23 05 53 – Identification for HVAC Piping and Equipment**

1. GENERAL

1.1 SECTION INCLUDES

A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.

1. Nameplates.
2. Tags.
3. Pipe Markers.

1.2 RELATED REQUIREMENTS

A. Section 09 9000 - Painting and Coating: Identification painting.

B. Section 23 0719 HVAC Piping Insulation

1.3 REFERENCE STANDARDS

A. ASME A13.1 - Scheme for the Identification of Piping Systems; The American Society of Mechanical Engineers; 2007.

B. ASTM D709 - Standard Specification for Laminated Thermosetting Materials; 2001 (Reapproved 2007).

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. List: Submit list of wording, symbols, letter size, and color coding for mechanical identification.

C. Chart and Schedule: Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

D. Product Data: Provide manufacturers catalog literature for each product required.

E. Manufacturer's Installation Instructions: Indicate special procedures, and installation.

F. Project Record Documents: Record actual locations of tagged valves.

## 2. PRODUCTS

### 2.1 IDENTIFICATION APPLICATIONS

- A. Air Handling Units: Nameplates.
- B. Air Terminal Units: Tags.
- C. Piping: Pipe markers.
- D. Relays: Tags.
- E. Small-sized Equipment: Tags.
- F. Thermostats: Nameplates.
- G. Valves: Tags and ceiling tacks where located above lay-in ceiling.

### 2.2 NAMEPLATES

#### A. Manufacturers:

1. Advanced Graphic Engraving: [www.advancedgraphicengraving.com](http://www.advancedgraphicengraving.com).
2. Kolbi Pipe Marker Co.: [www.kolbipipemarkers.com](http://www.kolbipipemarkers.com).
3. Seton Identification Products: [www.seton.com](http://www.seton.com).
4. Substitutions: See Section 016000 - Product Requirements.
5. Letter Color: White.
6. Letter Height: 1/4 inch (6 mm).
7. Background Color: Black.
8. Plastic: Conform to ASTM D709.

### 2.3 TAGS

#### A. Manufacturers:

1. Advanced Graphic Engraving: [www.advancedgraphicengraving.com](http://www.advancedgraphicengraving.com).
2. Brady Corporation: [www.bradycorp.com](http://www.bradycorp.com).
3. Kolbi Pipe Marker Co.: [www.kolbipipemarkers.com](http://www.kolbipipemarkers.com).
4. Seton Identification Products: [www.seton.com](http://www.seton.com).
5. Substitutions: See Section 01 6000 - Product Requirements.

- B. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inch (40 mm) diameter.

- C. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch (40 mm) diameter with smooth edges.
- D. Valve Tag Chart: Typewritten letter size list in anodized aluminum frame.

## 2.4 PIPE MARKERS

### A. Manufacturers:

1. Brady Corporation: [www.bradycorp.com](http://www.bradycorp.com).
2. Kolbi Pipe Marker Co.: [www.kolbipipemarkers.com](http://www.kolbipipemarkers.com).
3. MIFAB, Inc.: [www.mifab.com](http://www.mifab.com).
4. Seton Identification Products: [www.seton.com](http://www.seton.com).
5. Substitutions: See Section 016000 - Product Requirements.

### B. Color: Conform to ASME A13.1.

### C. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

## 2.5 CEILING TACKS

### A. Description: Steel with 3/4 inch (20 mm) diameter color coded head.

### B. Color code as follows:

1. HVAC Equipment: Yellow.
2. Heating/Cooling Valves: Blue.

## 3. EXECUTION

### 3.1 PREPARATION

#### A. Degrease and clean surfaces to receive adhesive for identification materials.

### 3.2 INSTALLATION

#### A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

#### B. Install tags with corrosion resistant chain.

#### C. Install plastic pipe markers in accordance with manufacturer's instructions.

- D. Install plastic tape pipe markers complete around pipe in accordance with manufacturer's instructions.
- E. Install ductwork with plastic nameplates. Identify with air handling unit identification number and area served. Locate identification at air handling unit, at each side of penetration of structure or enclosure, and at each obstruction.
- F. Locate ceiling tacks to locate valves or dampers above lay-in panel ceilings. Locate in corner of panel closest to equipment.

END OF SECTION 23 05 53

DIVISION 23 - MECHANICAL  
**23 05 93 – Testing, Adjusting and Balancing for HVAC**

1. GENERAL

1.1 SECTION INCLUDES

- A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.
  - 1. Testing, adjustment, and balancing of air systems.
  - 2. Testing, adjustment, and balancing of hydronic and refrigerating systems.
  - 3. Measurement of final operating condition of HVAC systems.
  - 4. Commissioning activities.

1.2 RELATED REQUIREMENTS

- A. Section 01 9113 - General Commissioning Requirements: Commissioning requirements that apply to all types of work.

1.3 REFERENCE STANDARDS

- A. AABC MN-1 - AABC National Standards for Total System Balance; Associated Air Balance Council; 2002.
- B. ASHRAE Std 111 - Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems; American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
- C. NEBB (TAB) - Procedural Standards for Testing Adjusting Balancing of Environmental Systems; National Environmental Balancing Bureau; 2005, Seventh Edition.
- D. SMACNA (TAB) - HVAC Systems Testing, Adjusting, and Balancing; Sheet Metal and Air Conditioning Contractors' National Association; 2002.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.
- C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.

1. Submit to Architect.
2. Submit to the Commissioning Authority.
3. Submit six weeks prior to starting the testing, adjusting, and balancing work.
4. Include at least the following in the plan:
  - a. List of all air flow, water flow, sound level, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
  - b. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
  - c. Identification and types of measurement instruments to be used and their most recent calibration date.
  - d. Discussion of what notations and markings will be made on the duct and piping drawings during the process.
  - e. Final test report forms to be used.
  - f. Detailed step-by-step procedures for TAB work for each system and issue, including:
    - 1) Terminal flow calibration (for each terminal type).
    - 2) Diffuser proportioning.
    - 3) Branch/submain proportioning.
    - 4) Total flow calculations.
    - 5) Rechecking.
    - 6) Diversity issues.
  - g. Details of how TOTAL flow will be determined; for example:
    - 1) Air: Sum of terminal flows via control system calibrated readings or via hood readings of all terminals, supply (SA) and return air (RA) pitot traverse, SA or RA flow stations.
    - 2) Water: Pump curves, circuit setter, flow station, ultrasonic, etc.
  - h. Specific procedures that will ensure that both air and water side are operating at the lowest possible pressures and methods to verify this.
  - i. Confirmation of understanding of the outside air ventilation criteria under all conditions.
  - j. Method of verifying and setting minimum outside air flow rate will be verified and set and for what level (total building, zone, etc.).
  - k. Method of checking building static and exhaust fan and/or relief damper capacity.
  - l. Procedures for formal deficiency reports, including scope, frequency and distribution.

D. Control System Coordination Reports: Communicate in writing to the controls installer all setpoint and parameter changes made or problems and



discrepancies identified during TAB that affect, or could affect, the control system setup and operation.

- E. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
  - 1. Submit to the Commissioning Authority within two weeks after completion of testing, adjusting, and balancing.
  - 2. Revise TAB plan to reflect actual procedures and submit as part of final report.
  - 3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect and for inclusion in operating and maintenance manuals.
  - 4. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
  - 5. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
  - 6. Units of Measure: Report data in both I-P (inch-pound) and SI (metric) units.
  - 7. Include the following on the title page of each report:
    - a. Name of Testing, Adjusting, and Balancing Agency.
    - b. Address of Testing, Adjusting, and Balancing Agency.
    - c. Telephone number of Testing, Adjusting, and Balancing Agency.
    - d. Project name.
    - e. Project location.
    - f. Project Architect.
    - g. Project Engineer.
    - h. Project Contractor.

## 2. PRODUCTS - NOT USED

## 3. EXECUTION

### 3.1 GENERAL REQUIREMENTS

- A. Perform total system balance in accordance with one of the following:
  - 1. AABC MN-1, AABC National Standards for Total System Balance.
  - 2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
  - 3. NEBB Procedural Standards for Testing Adjusting Balancing of Environmental Systems.

4. SMACNA HVAC Systems Testing, Adjusting, and Balancing.
  5. Maintain at least one copy of the standard to be used at project site at all times.
- B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.
- C. TAB Agency Qualifications:
1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
  2. Having minimum of three years documented experience.
  3. Certified by one of the following:
    - a. AABC, Associated Air Balance Council: [www.aabchq.com](http://www.aabchq.com); upon completion submit AABC National Performance Guaranty.
    - b. NEBB, National Environmental Balancing Bureau: [www.nebb.org](http://www.nebb.org).
    - c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: [www.tabbcertified.org](http://www.tabbcertified.org).
- D. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

### 3.2 EXAMINATION

- A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
1. Systems are started and operating in a safe and normal condition.
  2. Temperature control systems are installed complete and operable.
  3. Proper thermal overload protection is in place for electrical equipment.
  4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
  5. Fans are rotating correctly.
  6. Air coil fins are cleaned and combed.
  7. Air outlets are installed and connected.
  8. Hydronic systems are flushed, filled, and vented.
  9. Service and balance valves are open.
- B. Beginning of work means acceptance of existing conditions.

### 3.3 PREPARATION

- A. Provide additional balancing devices as required.

### 3.4 ADJUSTMENT TOLERANCES

- A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
- B. Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.
- C. Hydronic Systems: Adjust to within plus or minus 10 percent of design.

### 3.5 RECORDING AND ADJUSTING

- A. Field Logs: Maintain written logs including:
  - 1. Running log of events and issues.
  - 2. Discrepancies, deficient or uncompleted work by others.
  - 3. Contract interpretation requests.
  - 4. Lists of completed tests.
- B. Ensure recorded data represents actual measured or observed conditions.
- C. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
- D. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
- E. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

### 3.6 AIR SYSTEM PROCEDURE

- A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities.
- B. Measure air quantities at air inlets and outlets.
- C. Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.
- D. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels.

### 3.7 WATER SYSTEM PROCEDURE

- A. Adjust water systems to provide required or design quantities.
- B. Use calibrated Venturi tubes, orifices, or other metered fittings and pressure gauges to determine flow rates for system balance. Where flow metering devices are not installed, base flow balance on temperature difference across various heat transfer elements in the system.
- C. Adjust systems to provide specified pressure drops and flows through heat transfer elements prior to thermal testing. Perform balancing by measurement of temperature differential in conjunction with air balancing.
- D. Effect system balance with automatic control valves fully open to heat transfer elements.
- E. Effect adjustment of water distribution systems by means of balancing cocks, valves, and fittings. Do not use service or shut-off valves for balancing unless indexed for balance point.

### 3.8 MINIMUM DATA TO BE REPORTED

#### A. Electric Motors:

- 1. Manufacturer
- 2. Model/Frame
- 3. HP/BHP
- 4. Phase, voltage, amperage; nameplate, actual, no load
- 5. RPM
- 6. Service factor
- 7. Starter size, rating, heater elements
- 8. Sheave Make/Size/Bore

#### B. V-Belt Drives:

- 1. Identification/location
- 2. Required driven RPM
- 3. Driven sheave, diameter and RPM
- 4. Belt, size and quantity
- 5. Motor sheave diameter and RPM
- 6. Center to center distance, maximum, minimum, and actual

#### C. Air Cooled Condensers:

- 1. Identification/number

2. Location
3. Manufacturer
4. Model number
5. Serial number
6. Entering DB air temperature, design and actual
7. Leaving DB air temperature, design and actual
8. Number of compressors

D. Heating Coils:

1. Identification/number
2. Location
3. Service
4. Manufacturer
5. Air flow, design and actual
6. Water flow, design and actual
7. Water pressure drop, design and actual
8. Entering water temperature, design and actual
9. Leaving water temperature, design and actual
10. Entering air temperature, design and actual
11. Leaving air temperature, design and actual
12. Air pressure drop, design and actual

E. Air Moving Equipment:

1. Location
2. Manufacturer
3. Model number
4. Serial number
5. Arrangement/Class/Discharge
6. Air flow, specified and actual
7. Return air flow, specified and actual
8. Outside air flow, specified and actual
9. Total static pressure (total external), specified and actual
10. Inlet pressure
11. Discharge pressure
12. Sheave Make/Size/Bore
13. Number of Belts/Make/Size
14. Fan RPM

F. Return Air/Outside Air:

1. Identification/location
2. Design air flow
3. Actual air flow
4. Design return air flow

5. Actual return air flow
6. Design outside air flow
7. Actual outside air flow
8. Return air temperature
9. Outside air temperature
10. Required mixed air temperature
11. Actual mixed air temperature
12. Design outside/return air ratio
13. Actual outside/return air ratio

END OF SECTION 23 05 93

1. GENERAL

1.1 WORK INCLUDES

A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.

1. Piping Insulation

1.2 SECTION INCLUDES

- A. Piping insulation.
- B. Jackets and accessories.

1.3 RELATED REQUIREMENTS

- A. Section 22 10 05 - Plumbing Piping: Placement of hangers and hanger inserts.
- B. Section 23 21 13 - Hydronic Piping: Placement of hangers and hanger inserts.
- C. Section 23 23 00 - Refrigerant Piping: Placement of inserts.

1.4 REFERENCE STANDARDS

- A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2010.
- B. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot Plate Apparatus; 2010.
- C. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement; 2007.
- D. ASTM C449 - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement; 2007.
- E. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2010.
- F. ASTM C533 - Standard Specification for Calcium Silicate Block and Pipe Thermal Insulation; 2009.
- G. ASTM C534/C534M - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form; 2008.
- H. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation; 2007e1.
- I. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation; 2007.
- J. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System); 2010.

- K. ASTM D1056 - Standard Specification for Flexible Cellular Materials--  
Sponge or Expanded Rubber; 2007.
- L. ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular  
Plastics; 2006.
- M. ASTM E84 - Standard Test Method for Surface Burning Characteristics of  
Building Materials; 2010b.
- N. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of  
Materials; 2010.
- O. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of  
Building Materials; National Fire Protection Association; 2006.
- P. UL 723 - Standard for Test for Surface Burning Characteristics of Building  
Materials; Underwriters Laboratories Inc.; Current Edition, Including All  
Revisions.

#### 1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal  
procedures.
- B. Product Data: Provide product description, thermal characteristics, list of  
materials and thickness for each service, and locations.
- C. Manufacturer's Instructions: Indicate installation procedures that ensure  
acceptable workmanship and installation standards will be achieved.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the  
Products specified in this section with not less than three years of documented  
experience.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site, labeled with manufacturer's identification,  
product density, and thickness.

#### 1.8 FIELD CONDITIONS

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

### 2. PRODUCTS

#### 2.1 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION

- A. Surface Burning Characteristics: Flame spread/Smoke developed index of  
25/50, maximum, when tested in accordance with ASTM E84, NFPA 255, or



UL 723.

## 2.2 GLASS FIBER

### A. Manufacturers:

1. Knauf Insulation: [www.knaufusa.com](http://www.knaufusa.com).
2. Johns Manville Corporation: [www.jm.com](http://www.jm.com).
3. Owens Corning Corp: [www.owenscorning.com](http://www.owenscorning.com).
4. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
5. Substitutions: See Section 01 60 00 - Product Requirements.

### B. Insulation: ASTM C547 and ASTM C795; rigid molded, noncombustible.

1. 'K' value: ASTM C177, 0.24 at 75 degrees F.
2. Maximum service temperature: 850 degrees F.
3. Maximum moisture absorption: 0.2 percent by volume.

### C. Insulation: ASTM C547 and ASTM C795; semi-rigid, noncombustible, end grain adhered to jacket.

1. 'K' value: ASTM C177, 0.24 at 75 degrees F.
2. Maximum service temperature: 650 degrees F.
3. Maximum moisture absorption: 0.2 percent by volume.

### D. Vapor Barrier Jacket: White kraft paper with glass fiber yarn, bonded to aluminized film; moisture vapor transmission when tested in accordance with ASTM E96/E96M of 0.02 perm-inches.

### E. Tie Wire: 0.048 inch stainless steel with twisted ends on maximum 12 inch centers.

### F. Vapor Barrier Lap Adhesive:

1. Compatible with insulation.

### G. Insulating Cement/Mastic:

1. ASTM C195; hydraulic setting on mineral wool.

### H. Fibrous Glass Fabric:

1. Cloth: Untreated; 9 oz/sq yd weight.
2. Blanket: 1.0 lb/cu ft density.
3. Weave: 5x5.

### I. Indoor Vapor Barrier Finish:

1. Cloth: Untreated; 9 oz/sq yd weight.

2. Vinyl emulsion type acrylic, compatible with insulation, black color.

J. Outdoor Vapor Barrier Mastic:

1. Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.

K. Insulating Cement:

1. STM C449/C449M.

## 2.3 FLEXIBLE ELASTOMERIC CELLULAR INSULATION

A. Manufacturer:

1. Armacell International: [www.armacell.com](http://www.armacell.com).
2. Aeroflex USA: [www.aeroflexusa.com](http://www.aeroflexusa.com).
3. Nomaco: [www.nomacoinsulation.com](http://www.nomacoinsulation.com)

B. Insulation: Preformed flexible EPDM-based elastomeric cellular rubber insulation complying with ASTM C534 Grade 3; use molded tubular material wherever possible.

1. Minimum Service Temperature: -40 degrees F.
2. Maximum Service Temperature: 220 degrees F.
3. Connection: Waterproof vapor barrier adhesive.
4. 'K' Value: 0.245 at 75 degrees F, when tested in accordance with ASTM C177 or ASTM C518.
5. UV resistant.

C. Elastomeric Foam Adhesive: Air dried, contact adhesive, compatible with insulation.

## 2.4 JACKETS

A. Jackets

1. Jacket: One piece molded type fitting covers and sheet material, off-white color.
  - a. Minimum Service Temperature: 0 degrees F.
  - b. Maximum Service Temperature: 150 degrees F.
  - c. Moisture Vapor Permeability: 0.002 perm inch, maximum, when tested in accordance with ASTM E96/E96M.
  - d. Thickness: 10 mil.
  - e. Connections: Brush on welding adhesive.

2. Covering Adhesive Mastic:
  - a. Compatible with insulation.

B. Aluminum Jacket: ASTM B209 (ASTM B209M) formed aluminum sheet.

1. Thickness: 0.016 inch sheet.
2. Finish: Smooth.
3. Joining: Longitudinal slip joints and 2 inch laps.
4. Fittings: 0.016 inch thick die shaped fitting covers with factory attached protective liner.
5. Metal Jacket Bands: 3/8 inch wide; 0.015 inch thick aluminum.

3. EXECUTION

3.1 EXAMINATION

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

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install in accordance with NAIMA National Insulation Standards.
- C. Exposed Piping: Locate insulation and cover seams in least visible locations.
- D. Insulated pipes conveying fluids below ambient temperature: Insulate entire system including fittings, valves, unions, flanges, strainers, flexible connections, pump bodies, and expansion joints.
- E. Glass fiber insulated pipes conveying fluids below ambient temperature:
  1. Provide vapor barrier jackets, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips with pressure sensitive adhesive. Secure with outward clinch expanding staples and vapor barrier mastic.
  2. Insulate fittings, joints, and valves with molded insulation of like material and thickness as adjacent pipe. Finish with glass cloth and vapor barrier adhesive or PVC fitting covers.
- F. For hot piping conveying fluids 140 degrees F or less, do not insulate flanges and unions at equipment, but bevel and seal ends of insulation.
- G. Glass fiber insulated pipes conveying fluids above ambient temperature:
  1. Provide standard jackets, with or without vapor barrier, factory-applied or field-applied. Secure with self-sealing longitudinal laps and butt strips

with pressure sensitive adhesive. Secure with outward clinch expanding staples.

2. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe. Finish with glass cloth and adhesive or PVC fitting covers.

#### H. Inserts and Shields:

1. Application: Piping 1-1/2 inches diameter or larger.
2. Shields: Galvanized steel between pipe hangers or pipe hanger rolls and inserts.
3. Insert location: Between support shield and piping and under the finish jacket.
4. Insert configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
5. Insert material: Hydrous calcium silicate insulation or other heavy density insulating material suitable for the planned temperature range.

- I. Continue insulation through walls, sleeves, pipe hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions. At fire separations, refer to Section 07 84 00.

- J. Pipe Exposed in Mechanical Equipment Rooms or Finished Spaces (less than 10 feet above finished floor): Finish with PVC jacket and fitting covers.

### 3.3 SCHEDULE

#### A. Heating Systems:

1. Heating Water Supply and Return:
  - a. Pipe sizes up to 1-1/2" in diameter: 1-1/2"
  - b. Pipe sizes 2" to 4" in diameter: 2"
  - c. Pipe sizes above 4" in diameter: 1-1/2"

#### B. Cooling Systems:

1. Condensate Drains from Cooling Coils: 1/2"

END 23 07 19.

1. GENERAL

1.1 SECTION INCLUDES

A. Base Bid: Unless noted otherwise, the Heating Contractor shall provide all labor and materials for a complete system in this specification section.

1. Pipe and pipe fittings for:
  - a. Heating water piping system.
2. Valves:
  - a. Gate valves.
  - b. Globe or angle valves.
  - c. Ball valves.
  - d. Butterfly valves.
  - e. Check valves.

1.2 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.
- B. Section 23 0553 - Identification for HVAC Piping and Equipment.
- C. Section 23 0719 - HVAC Piping Insulation.
- D. Section 23 2114 - Hydronic Specialties.

1.3 REFERENCE STANDARDS

- A. ASME (BPV IX) - Boiler and Pressure Vessel Code, Section IX - Welding and Brazing Qualifications; The American Society of Mechanical Engineers; 2010.
- B. ASME B16.3 - Malleable Iron Threaded Fittings; The American Society of Mechanical Engineers; 1998 (R2006).
- C. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2001 (R2005) (ANSI B16.18).
- D. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings; The American Society of Mechanical Engineers; 2001 (R2005).

- E. ASME B31.9 - Building Services Piping; The American Society of Mechanical Engineers; 2008 (ANSI/ASME B31.9).
- F. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2010.
- G. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2009.
- H. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service; 2011.
- I. ASTM A536 - Standard Specification for Ductile Iron Castings; 1984 (Reapproved 2009).
- J. ASTM B32 - Standard Specification for Solder Metal; 2008.
- K. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2009.
- L. ASTM B88M - Standard Specification for Seamless Copper Water Tube (Metric); 2005.
- M. ASTM F876 - Standard Specification for Crosslinked Polyethylene (PEX) Tubing; 2010.
- N. ASTM F877 - Standard Specification for Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems; 2007.
- O. AWS A5.8/A5.8M - Specification for Filler Metals for Brazing and Braze Welding; American Welding Society; 2004 and errata.
- P. AWWA C110/A21.10 - American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 In. Through 48 In. (75 mm Through 1200 mm), for Water and Other Liquids; American Water Works Association; 2008.
- Q. AWWA C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings; American Water Works Association; 2007 (ANSI/AWWA C111/A21.11).
- R. AWWA C151/A21.51 - Ductile-Iron Pipe, Centrifugally Cast, for Water; American Water Works Association; 2009 (ANSI/AWWA C151/A21.51).
- S. AWWA C606 - Standard Specification for Grooved and Shouldered Joints; American Water Works Association; 2006.

T. MSS SP-58 - Pipe Hangers and Supports - Materials, Design and Manufacture, Selection, Application, and Installation; Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; 2009.

#### 1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Include data on pipe materials, pipe fittings, valves, and accessories. Provide manufacturers catalogue information. Indicate valve data and ratings.
- C. Manufacturer's Installation Instructions: Indicate hanging and support methods, joining procedures.
- D. Project Record Documents: Record actual locations of valves.
- E. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.
- B. Welder Qualifications: Certify in accordance with ASME (BPV IX).
  - 1. Provide certificate of compliance from authority having jurisdiction, indicating approval of welders.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

## 2. PRODUCTS

### 2.1 HYDRONIC SYSTEM REQUIREMENTS

- A. Comply with ASME B31.9 and applicable federal, state, and local regulations.
- B. Piping: Provide piping, fittings, hangers and supports as required, as indicated, and as follows:
  - 1. Where more than one piping system material is specified, provide joining fittings that are compatible with piping materials and ensure that the integrity of the system is not jeopardized.
  - 2. Use non-conducting dielectric connections whenever jointing dissimilar metals.
  - 3. Grooved mechanical joints may be used in accessible locations only.
    - a. Accessible locations include those exposed on interior of building, in pipe chases, and in mechanical rooms, aboveground outdoors, and as approved by Architect.
    - b. Use rigid joints unless otherwise indicated.
  - 4. Provide pipe hangers and supports in accordance with ASME B31.9 unless indicated otherwise.
- C. Pipe-to-Valve and Pipe-to-Equipment Connections: Use flanges, unions, or grooved couplings to allow disconnection of components for servicing; do not use direct welded, soldered, or threaded connections.
  - 1. Where grooved joints are used in piping, provide grooved valve/equipment connections if available; if not available, provide flanged ends and grooved flange adapters.
- D. Valves: Provide valves where indicated and as follows:
  - 1. Provide drain valves where indicated, and if not indicated provide at least at main shut-off, low points of piping, bases of vertical risers, and at equipment. Use 3/4 inch (20 mm) gate valves with cap; pipe to nearest floor drain.
  - 2. Isolate equipment using butterfly valves with lug end flanges or grooved mechanical couplings.
  - 3. For throttling, bypass, or manual flow control services, use globe, ball, or butterfly valves.
  - 4. In heating water systems, butterfly valves may be used interchangeably with gate and globe valves.
  - 5. For shut-off and to isolate parts of systems or vertical risers, use gate or ball valves.
- E. Welding Materials and Procedures: Conform to ASME (BPV IX).



## 2.2 HEATING WATER PIPING, ABOVE GROUND

- A. Steel Pipe: ASTM A53/A53M, Schedule 40, black, using one of the following joint types:
  - 1. Welded Joints: ASTM A234/A234M, wrought steel welding type fittings; AWS D1.1 welded.
  - 2. Threaded Joints: ASTM B16.3, malleable iron fittings.
  - 3. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.
- B. Copper Tube: ASTM B88 (ASTM B88M), Type L (B), drawn, using one of the following joint types:
  - 1. Solder Joints: ASME B16.18 cast brass/bronze or ASME B16.22 solder wrought copper fittings.
    - a. Solder: ASTM B32 lead-free solder, HB alloy (95-5 tin-antimony) or tin and silver.
    - b. Braze: AWS A5.8/A5.8M BCuP copper/silver alloy.
  - 2. Grooved Joints: AWWA C606 grooved tube, fittings of same material, and copper-tube-dimension mechanical couplings.
  - 3. Tee Connections: Mechanically extracted collars with notched and dimpled branch tube.

## 2.03 EQUIPMENT DRAINS AND OVERFLOWS

- A. Steel Pipe: ASTM A53/A53M, Schedule 40 galvanized; using one of the following joint types:
  - 1. Threaded Joints: Galvanized cast iron, or ASME B16.3 malleable iron fittings.
  - 2. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.
- B. Copper Tube: ASTM B88 (ASTM B88M), Type L (B) drawn; using one of the following joint types:
  - 1. Solder Joints: ASME B16.18 cast brass/bronze or ASME B16.22 solder wrought copper fittings; ASTM B32 lead-free solder, HB alloy (95-5 tin-antimony) or tin and silver.
  - 2. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.

## 2.4 PIPE HANGERS AND SUPPORTS

- A. Provide hangers and supports that comply with MSS SP-58.

1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
- B. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch (13 to 38 mm): Carbon steel, adjustable swivel, split ring.
- C. Hangers for Hot Pipe Sizes 2 to 4 Inches (50 to 100 mm): Carbon steel, adjustable, clevis.
- D. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
- E. Wall Support for Pipe Sizes to 3 Inches (76 mm): Cast iron hook.
- F. Vertical Support: Steel riser clamp.
- G. Floor Support for Hot Pipe Sizes to 4 Inches (100 mm): Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
- H. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.
- I. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.
- J. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.
- K. Rooftop Supports for Low-Slope Roofs: Steel pedestals with bases that rest on top of roofing membrane, not requiring any attachment to the roof structure and not penetrating the roofing assembly, with support fixtures as specified; and as follows:
  1. Bases: High density polypropylene.
  2. Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
  3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
  4. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports; corrosion resistant material.
  5. Height: Provide minimum clearance of 6 inches (150 mm) under pipe to top of roofing.

## 2.5 UNIONS, FLANGES, AND COUPLINGS

### A. Unions for Pipe 2 Inches (50 mm) and Under:

1. Ferrous Piping: 150 psig (1034 kPa) malleable iron, threaded.
2. Copper Pipe: Bronze, soldered joints.

### B. Flanges for Pipe Over 2 Inches (50 mm):

1. Ferrous Piping: 150 psig (1034 kPa) forged steel, slip-on.
2. Copper Piping: Bronze.
3. Gaskets: 1/16 inch (1.6 mm) thick preformed neoprene.

### C. Mechanical Couplings for Grooved and Shouldered Joints: Two or more curved housing segments with continuous key to engage pipe groove, circular C-profile gasket, and bolts to secure and compress gasket.

1. Dimensions and Testing: In accordance with AWWA C606.
2. Housing Material: , galvanized.
3. Gasket Material: EPDM suitable for operating temperature range from -30 degrees F (-34 degrees C) to 230 degrees F (110 degrees C).
4. Bolts and Nuts: Hot dipped galvanized or zinc-electroplated steel.
5. When pipe is field grooved, provide coupling manufacturer's grooving tools.

### D. Dielectric Connections: Union or waterway fitting with water impervious isolation barrier and one galvanized or plated steel end and one copper tube end, end types to match pipe joint types used.

## 2.6 BALL VALVES

### A. Manufacturers:

1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
2. Conbraco Industries: [www.conbraco.com](http://www.conbraco.com).
3. Nibco, Inc: [www.nibco.com](http://www.nibco.com).
4. Milwaukee Valve Company: [www.milwaukeevalve.com](http://www.milwaukeevalve.com).
5. Victaulic Company: [www.victaulic.com](http://www.victaulic.com).
6. Substitutions: See Section 016000 - Product Requirements.

### B. Up To and Including 2 Inches (50 mm):

1. Bronze one piece body, chrome plated brass ball, teflon seats and stuffing box ring, lever handle with balancing stops, solder ends with union.

C. Over 2 Inches (50 mm):

1. Cast steel body, chrome plated steel ball, teflon seat and stuffing box seals, lever handle, flanged.

2.7 FLOW CONTROLS

A. Manufacturers:

1. Tyco Flow Control: [www.tycoflowcontrol.com](http://www.tycoflowcontrol.com).
2. ITT Bell & Gossett: [www.bellgossett.com](http://www.bellgossett.com).
3. Griswold Controls: [www.griswoldcontrols.com](http://www.griswoldcontrols.com).
4. Substitutions: See Section 016000 - Product Requirements.

B. Construction: Class 125, Brass or bronze body with union on inlet and outlet, temperature and pressure test plug on inlet and outlet , blowdown/backflush drain.

C. Calibration: Control flow within 5 percent of selected rating, over operating pressure range of 10 times minimum pressure required for control, maximum minimum pressure 3.5 psi (24 kPa).

3. EXECUTION

3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Prepare pipe for grooved mechanical joints as required by coupling manufacturer.
- C. Remove scale and dirt on inside and outside before assembly.
- D. Prepare piping connections to equipment using jointing system specified.
- E. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
- F. After completion, fill, clean, and treat systems. Refer to Section 232500 for additional requirements.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

- B. Route piping in orderly manner, parallel to building structure, and maintain gradient.
- C. Install piping to conserve building space and to avoid interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Slope piping and arrange to drain at low points.
- F. Pipe Hangers and Supports:
  - 1. Install in accordance with ASME B31.9.
  - 2. Install hangers to provide minimum 1/2 inch (13 mm) space between finished covering and adjacent work.
  - 3. Place hangers within 12 inches (300 mm) of each horizontal elbow.
  - 4. Use hangers with 1-1/2 inch (38 mm) minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
  - 5. Support vertical piping at every floor. Support riser piping independently of connected horizontal piping.
  - 6. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
  - 7. Provide copper plated hangers and supports for copper piping.
  - 8. Prime coat exposed steel hangers and supports. Refer to Section 099000. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
- G. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Refer to Section 230719.
- H. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors with Section 083100.
- I. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.
- J. Install valves with stems upright or horizontal, not inverted.

### 3.3 SCHEDULES

#### A. Hanger Spacing for Copper Tubing.

- 1. 1/2 inch (15 mm) and 3/4 inch (20 mm): Maximum span, 5 feet (1500 mm); minimum rod size, 1/4 inch (6 mm).

2. 1 inch (25 mm): Maximum span, 6 feet (1800 mm); minimum rod size, 1/4 inch (6 mm).
3. 1-1/2 inch (40 mm) and 2 inch (50 mm): Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9 mm).
4. 2-1/2 inch (65 mm): Maximum span, 9 feet (2700 mm); minimum rod size, 3/8 inch (9 mm).
5. 3 inch (80 mm): Maximum span, 10 feet (3.0 m); minimum rod size, 3/8 inch (9 mm).

B. Hanger Spacing for Steel Piping.

1. 1/2 inch (15 mm), 3/4 inch (20 mm), and 1 inch (25 mm): Maximum span, 7 feet (2100 mm); minimum rod size, 1/4 inch (6 mm).
2. 1-1/4 inches (32 mm): Maximum span, 8 feet (2400 mm); minimum rod size, 3/8 inch (9 mm).
3. 1-1/2 inches (40 mm): Maximum span, 9 feet (2700 mm); minimum rod size, 3/8 inch (9 mm).
4. 2 inches (50 mm): Maximum span, 10 feet (3.0 m); minimum rod size, 3/8 inch (9 mm).
5. 2-1/2 inches (65 mm): Maximum span, 11 feet (3.4 m); minimum rod size, 3/8 inch (9 mm).
6. 3 inches (80 mm): Maximum span, 12 feet (3.6 m); minimum rod size, 3/8 inch (9 mm).

END OF SECTION 23 21 13

DIVISION 23 - MECHANICAL  
**23 81 13 – Packaged Terminal Air Conditioners**

1. GENERAL

1.1 WORK INCLUDES

- A. Base Bid: Heating Contractor provide through-wall packaged terminal unit specified and indicated on the drawings.

1.2 RELATED WORK

- A. Specified elsewhere:

1. 23 21 13 – Hydronic Piping
2. 23 05 13 – Common Motor Requirements for HVAC Equipment

2. PRODUCTS

2.1 MATERIAL

- A. Provide a self-contained, air-to-air, through-wall packaged terminal air conditioning unit. The unit shall be completely factory assembled and tested, and shall include compressor, evaporator coil, condenser coil, fans and motors, subbase, valves, interconnecting wiring, hydronic heater coil (mounted on top), prewired control panel, filters, and other necessary components mounted in a cabinet. Height of hydronic base to match the height of the existing bases and maintain the location of the existing wall opening.

2.2 WALL LOUVER

- A. Wall louver shall be extruded aluminum with a corrosion resistant finish. Louver shall be easily installed from the inside of the building after room cabinet wall sleeve is set in place.
- B. All louvers located in siding type S-2 shall be finished a custom color to match the siding. Custom paint color specifications will be provided by the Architect.
- C. The size of the louver shall match the size of the existing exterior wall opening.
- D. The louver shall have integrated weep holes.

2.3 ROOM CABINET WALL SLEEVE

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- A. Room cabinet wall sleeve shall be entirely constructed of zinc coated, phosphatic steel. Top and sides shall be 18-gauge with baked epoxy, corrosion resistant finish. Base pan shall be dipped in thermo-setting plastic and baked to form a continuous film of corrosion protection.
- B. All exposed exterior surfaces of room cabinet wall sleeves located in siding type S-2 shall be finished a custom color to match the siding. Custom paint color specification will be provided by the Architect.
- C. The size of room cabinet wall sleeve shall match the size of the existing exterior wall opening.
- D. The wall sleeve shall be a minimum of 3-5/8” deep and a maximum dimension that does not exceed the overall wall assembly thickness.
- E. The wall sleeve shall be installed and sealed to adjacent construction and the heating /cooling chassis to provide a water and air tight condition.
- F. The exterior flange of the room cabinet wall sleeve shall be set on top of the exterior siding to avoid wall infiltration into the exterior wall cavity.

2.4 PTAC UNIT

- A. Units shall not exceed 44-7/8” wide, 24-1/2” high and 20” deep.
- B. Discharge grilles shall be four-position stamped to adjust to conditioned air delivery pattern without use of tools.
- C. Front panel shall be capable of being opened and/or removed without the use of tools. Filter service shall not require removal of front panel.
- D. During the cooling cycle, condensation accumulated on the evaporator coil shall be drained into the outdoor section where it is to be drained through the exterior louver or evaporated across the condenser coil.

2.5 HEATING/COOLING CHASSIS

- A. Chassis shall be slide-in, plug-in type with a self-contained, hermetically sealed refrigerant circuit.



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- B. All chassis sheet metal parts shall be constructed of either powder-coated A-60 or A-60 galvanized steel for maximum corrosion resistance.
- C. The chassis shall consist of the following components: Vibration isolated compressor; rifled copper tubed evaporator and condenser coils with high efficiency raised lance aluminum plate fins mechanically expanded to the tubes for maximum heat transfer; and a capillary restrictor type refrigerant metering device.
- D. Coils shall be factory tested at 600 psig.
- E. A positive closing (manual) fresh air damper may be located within the chassis to provide fresh air during fan operation.
- F. Airflow system shall include separate fan motors for the condenser and evaporator sections.
- G. The condenser fan motor shall be a single-speed, totally enclosed, permanently lubricated fan motor.
- H. Condenser fan shall be propeller-type with a slinger ring and shall be constructed of aluminum. The indoor fan motor shall be a two-speed, totally enclosed; permanently lubricated fan motor must be positioned on the indoor side of the bulkhead so as to be completely within the conditioned, filtered airstream. The indoor blower fan shall be a forward-curved tangential design to provide even airflow across the evaporator coil.

2.6 COOLING CAPACITY

- A. Total net cooling capacity of the unit shall be as scheduled on the drawings with entering air of 67 degrees Fahrenheit wet bulb, 70 degrees Fahrenheit dry bulb, and condenser entering air temperature of 95 degrees Fahrenheit dry bulb. Equipment must meet 2012 IECC Energy code stating that the EER of the PTAC must exceed 10.0.

2.7 HEATING CAPACITY

- A. Heating capacity shall be as scheduled on the drawings.

2.8 CONTROLS

- A. Operating controls shall be provided in a separable, plug in module as part of the heating/cooling chassis.

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- B. Control module shall contain OFF/HEAT/COOL/HIGH/LOW selector switch and self-contained adjustable thermostat with a heat anticipator.

2.9 MANUFACTURERS

- A. Acceptable manufacturers: Daikin McQuay comfort conditioner PDAE, Islandaire, Comitale.

3. EXECUTION

3.1 INSTALLATION

- A. The unit shall be installed substantially as indicated on the drawings. Special care must be exercised to provide for a completely weather tight installation.

3.2 START UP

- A. The Contractor shall check, test, and start each unit in accordance with manufacturer's printed instructions and a copy of the completed check test and start report for each unit shall be placed on file with the Architect/Engineer's office. Each unit shall be independently started in the field for both the heating and cooling cycles. Check operation of all control items and report to the Architect/Engineer on the status of equipment and control systems. Factory personnel shall instruct Owner/Using Agency's maintenance personnel as to preventative maintenance, normal and emergency operational procedures, and procedures for starting equipment on the cooling and heating cycle.

END 23 81 13.

## **1. GENERAL**

### **1.1 WORK INCLUDES**

- A. Base Bid:
  - 1. Electrical Contractor provide:
    - a. All labor, materials, equipment, tools and services required to perform all work and services for execution, installation and completion of all electrical work including all parts listed in the operating instructions, wiring and control diagrams as shown on the drawings and as specified and completely coordinated with work of all other trades.
    - b. All supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete electrical installation, although such work is not specifically indicated.
    - c. Complete, in operative condition and to approval of Architect/Engineer, materials contemplated herein and shown on drawings.
    - d. Equipment, materials and accessories for electrical systems as shown and noted on the drawings including but not limited to the following:
      - (1) A complete rough-in system including conduit, outlet boxes, pull boxes, junction boxes, sleeves and hangers.
      - (2) Complete wiring system.
      - (3) All cutting and patching.

### **1.2 RELATED WORK**

- A. Specified elsewhere:
  - 1. 01010 - Project Summary
  - 2. 01040 - Coordination
  - 3. 01060 - Regulatory Requirements
  - 4. 01730 - Operating & Maintenance Data
  - 5. 01740 - Warranties & Bonds
  - 6. Division 23 - Mechanical
  - 7. 26510 - Lighting

### **1.3 REFERENCE**

- A. American National Standards Institute
- B. ASTM American Society for Testing and Materials
- C. EPA Environmental Protection Agency
- D. IEEE Institute of Electrical and Electronics Engineers
- E. NEC National Electric Code
- F. NEMA National Electrical Manufacturers Association
- G. NESC National Electrical Safety Code

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1. NFPA National Fire Protection Association
- J. UL Underwriters Laboratories Inc.

**1.4 REGULATORY REQUIREMENTS**

- A. All work and materials are to conform in every detail to applicable rules and requirements of the National Electrical Code (ANSI/NFPA 70), other applicable National Fire Protection Association codes, the National Electrical Safety Code, and present manufacturing standards (including NEMA).

**1.5 QUALITY ASSURANCE**

- A. Where equipment is used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs involved in integrating the equipment into the system and the assigned space and for obtaining the performance from the system into which these items are placed.
- B. Manufacturer references used herein are intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.
- C. All materials shall be listed by and shall bear the label of an approved electrical testing laboratory. Where one of the approved electrical testing laboratories has an applicable system listing and label, the entire system, except for medium voltage equipment and components, shall be so labeled.

**1.6 CONTINUITY OF EXISTING SERVICES AND SYSTEMS**

- A. No outages shall be permitted on existing systems except at the time and during the interval specified by the Owner and by the Owner's Project Representative. The institution may require written approval. Any outage must be scheduled when the interruption causes the least interference with normal institutional schedules and business routines. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours.
- B. This Contractor shall restore any circuit interrupted as a result of this work to proper operation as soon as possible. Note that institutional operations are on a seven-day week schedule.

**1.7 PROTECTION OF FINISHED SURFACES**

- A. Furnish one can of touch-up paint for each different color factory finish furnished by the Contractor. Deliver touch-up paint with other "loose and detachable parts" as covered in the General Requirements.

**1.8 APPROVED ELECTRICAL TESTING LABORATORIES**

- A. The following laboratories are approved for providing electrical product safety testing and listing services as required in these specifications:
  1. Underwriters Laboratories Inc.

**1.9 SEALING AND FIRESTOPPING**

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- A. Sealing and firestopping of openings between conduits and the structural or partition opening shall be the responsibility of the contractor whose work penetrates the opening. The contractor responsible shall hire individuals skilled in such work to do the sealing and firestopping. These individuals hired shall normally and routinely be employed in the sealing and fireproofing occupation.

**1.10 INTENT**

- A. The Contractor shall furnish and install all the necessary materials, apparatus, and devices to complete the electrical equipment and systems installation herein specified, except such parts as are specifically exempted herein.
- B. It must be understood that the details and drawings are diagrammatic. The Contractor shall verify all dimensions at the site and be responsible for their accuracy.
- C. All sizes as given are minimum except as noted.
- D. Materials and labor shall be new (unless noted or stated otherwise), first class, and workmanlike, and shall be subject at all times to the A/E's inspections, tests and approval from the commencement until the acceptance of the completed work.
- E. Whenever a particular manufacturer's product is named, it is intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.

**1.11 OMISSIONS**

- A. No later than ten (10) days before bid opening, the Contractor shall call the attention of the A/E to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.

**1.12 SUBMITTALS**

- A. Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name and/or number, as indicated in the contract documents. Failure to do this may result in the submittal(s) being returned to the Contractor for correction and resubmission. Failing to follow these instructions does not relieve the Contractor from the requirement of meeting the project schedule.
- B. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal.
- C. The submittals must be approved before fabrication is authorized.
- D. Submit sufficient quantities of submittals to allow the following distribution:
- E. Operating and Maintenance Manuals: 2 copies
- F. A/E: 2 copies

**1.13 DEFINITIONS**

- A. Wherever the words "the Contractor", "this Contractor" or "Electrical Contractor", appear in this section, they refer to the Contractor for Electrical Work.

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- B. The term “provide” includes such labor, methods, materials, equipment and transportation or other facilities required to complete the Contract and the performance of all duties thereby upon the Contractor.

**1.14 GUARANTEE (IF NOT COVERED IN FRONTEND)**

- A. In entering into a contract covering this work, the contractor accepts the specifications and guarantees that the work will be carried out in accordance with the requirements of this specification or such modifications as may be made under the contract documents.
- B. Contractor further guarantees that the workmanship and material will be of the best procurable and that none but experienced workmen familiar with each particular class of work will be employed.
- C. Contractor further guarantees to replace and make good at his own expense all defects, which may develop within 1 year after final payment and acceptance by the Architect/Engineer, due to faulty workmanship or material, upon, receipt of written notification from the Owner.

**1.15 PROJECT/SITE CONDITIONS**

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of A/E before proceeding.
- C. Tools, materials and equipment shall be confined to areas designated by the Owner’s project representative.

**1.16 WORK SEQUENCE AND SCHEDULING**

- A. Install work in phases to accommodate Owner's occupancy requirements. During the construction period coordinate electrical schedule and operations with Owner's Construction Representatives.

**1.17 WORK BY OTHER TRADES**

- A. Every attempt has been made to indicate in this trade's specifications and drawings all work required of this Contractor. However, there may be additional specific paragraphs in other trade specifications and addenda, and additional notes on drawings for other trades which pertain to this Trade's work, and thus those additional requirements are hereby made a part of these specifications and drawings.
- B. This Contractor shall lay out the electrical work and shall be responsible for its correctness to match equipment actually provided by others.

**1.18 SALVAGE MATERIALS**

- A. No materials removed from this project shall be reused [except as specifically noted below]. All materials removed shall become the property of and shall be disposed of by the Contractor.

**1.19 CERTIFICATES AND INSPECTIONS**

- A. Obtain and pay for all required State and local installation inspections except those provided by the Owner. Deliver originals of these certificates to the Owner's Project Representative.
- B. This contractor is responsible for coordination of Owner's electrical inspection. Inspection requirements will be issued at a pre-installation meeting, arranged by this contractor and the Owner's Electrical Inspector (See Article 15 of the General Conditions). (Verify article is included)

**1.20 RECORD DRAWINGS**

- A. The Contractor shall maintain at least one copy each of the specifications and drawings on the job site at all times.
- B. The A/E will provide the Contractor with a suitable set of contract drawings on which daily records of changes and deviations from contract shall be recorded. The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.
- C. At completion of the project, the Contractor shall submit the marked-up record drawings to the A/E prior to final payment.

**2 PRODUCTS**

**2.1 IDENTIFICATION**

- A. See Electrical section 26 05 53 – Identification for Electrical Systems.

**2.2 SEALING AND FIRESTOPPING**

- A. FIRE AND/OR SMOKE RATED PENETRATIONS:  
Manufacturers:
  - 1. 3M, STI/SpecSeal, Tremco, Hilti or approved equal.
  - 2. All firestopping systems shall be by the same manufacturer.Product:
  - 3. Contractor shall use firestop putty, caulk sealant, intumescent wrapstrips, intumescent firestop collars, firestop mortar or a combination of these products to provide a UL listed system for each application required for this project. Provide mineral wool backing where specified in manufacturer's application detail.
- B. NON-RATED PENETRATIONS:  
Conduit Penetrations:
  - 1. At conduit penetrations of non-rated interior partitions, use urethane caulk in annular space between conduit and wall opening.

**3 EXECUTION**

**3.1 COORDINATION**

- A. The Contractor shall cooperate with other trades in locating work in a proper manner. Should it be necessary to raise or lower or move longitudinally any part of the electrical work to better fit the general installation, such work shall be done

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at no extra cost to the Owner, provided such decision is reached prior to actual installation.

- B. Coordinate all work with other contractors prior to installation. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.

**3.2 SEALING AND FIRESTOPPING**

- A. Fire and/or Smoke Penetrations:
  - 1. Install approved product in accordance with the manufacturer's instructions where a conduit penetrates a fire rated surface.
- B. Non-Rated Surfaces:
  - 1. When the opening is through a non-fire rated wall the opening must be sealed using an approved type of material.
  - 2. At interior partitions, conduit penetrations are required to be sealed for all dormitory rooms, where the room pressure or odor transmission must be controlled. Apply sealant to both sides of the penetration in such a manner that the annular space between the conduit sleeve and the conduit is completely filled.

**3.3 HOUSEKEEPING AND CLEAN UP**

- A. The Contractor shall clean up and remove from the premises, on a daily basis, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

END 26 05 00



## **PART 1. GENERAL**

### **1.1 WORK INCLUDES**

- A. BASE BID: Electrical Contractor provide:
  - 1. All labor, materials, equipment and tools required to perform all work for demolition and extension of existing electrical work

### **1.2 RELATED WORK**

- A. Specified Elsewhere:
  - 1. Section 01 70 00 - Execution and Closeout Requirements: Additional requirements for alterations work.

## **2 PRODUCTS**

### **2.1 MATERIALS AND EQUIPMENT**

- A. Materials and equipment for patching and extending work as specified in the individual Sections.

## **3 EXECUTION**

### **3.1 EXAMINATION**

- A. Demolition Drawings are based on existing record documents. Report discrepancies to the Owner, Architect/Engineer and Owner's Field Representative before disturbing existing installation.
- B. Beginning of demolition means installer accepts existing conditions.

### **3.2 PREPARATION**

- A. Disconnect electrical systems in walls scheduled for removal.

### **3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK**

- A. Demolish and extend existing electrical work to meet all requirements of these specifications.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

### **3.4 CLEANING AND REPAIR**

- A. Clean and repair existing materials and equipment which remain or are to be reused.

DIVISION 26 - ELECTRICAL  
**Electrical Demolition For Remodeling**

3.5 INSTALLATION

- A. Install relocated materials and equipment under the provisions of other sections.

END 26 05 02

## **PART 1 GENERAL**

### **1.1 WORK INCLUDES**

- A. Base Bid
  - 1. Electrical Contractor provide:
    - a. All wires and cables including splices, connections and supports for a complete installation as shown on the drawings and specified.

### **1.2 RELATED WORK**

- A. Specified Elsewhere:
  - 1. Section 07 84 00 - Firestopping.
  - 2. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
  - 3. Section 26 05 33 - Raceways and Boxes for Electrical Systems.
  - 4. Section 26 05 53 - Identification for Electrical Systems.

### **1.3 REFERENCES**

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2001 (Reapproved 2007).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- C. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; National Electrical Manufacturers Association; 2009 (ANSI/NEMA WC 70/ICEA S-95-658).
- D. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.
- F. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
- G. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
- H. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.
- I. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

DIVISION 26 - ELECTRICAL  
**Low-Voltage Electrical Power Conductors and Cables**

**1.4 SUBMITTALS**

- A. Submit product data.

**1.5 PROJECT CONDITIONS**

- A. Conductor sizes are based on copper.
- B. Route wire as required to meet project conditions.
- C. Where wire routing is not shown, and destination only is indicated, determine exact routing and lengths required.

**2 PRODUCTS**

**2.1 GENERAL**

- A. All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old out of manufacturer's stock.
  - 1. All conductors shall be copper.
  - 2. Insulation shall have a 600 volt rating.
  - 3. All conductors shall be stranded.
  - 4. Stranded conductors may only be terminated with UL OR ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device or must be terminated in an approved back wired method.

**2.2 BUILDING WIRE**

- A. Description: Single conductor insulated wire.
- B. Insulation: Type THHN/THWN insulation for branch circuits.

**2.3 WIRING CONNECTORS**

- A. Split Bolt Connectors: Not acceptable.
- B. Spring Wire Connectors: Solderless spring type pressure connector with insulating covers for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller.

**3 EXECUTION**

**3.1 GENERAL WIRING METHODS**

- A. All wire shall be installed in conduit.
- B. Do not use wire smaller than 12 AWG for power circuits.
- C. Splice only in junction or outlet boxes.
- D. Identify ALL low voltage, 600v and lower, wire per section 26 05 53.
- E. Neatly train and lace wiring inside boxes.

DIVISION 26 - ELECTRICAL  
**Low-Voltage Electrical Power Conductors and Cables**

**3.2 WIRING INSTALLATION IN RACEWAYS**

- A. Pull all conductors into a raceway at the same time.
- B. Completely and thoroughly swab raceway system before installing conductors.
- C. Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground conductor) in the same raceway.

**3.3 WIRING CONNECTIONS AND TERMINATIONS**

- A. Splice only in accessible junction boxes.
- B. Wire splices and taps shall be made firm, and adequate to carry the full current rating of the respective wire without soldering and without perceptible temperature rise.
- C. All splices shall be so made that they have an electrical resistance not in excess of two feet (600 mm) of the conductor.
- D. Use solderless spring type pressure connectors with insulating covers for wire splices and taps, 10 AWG and smaller.
- E. Thoroughly clean wires before installing lugs and connectors.
- F. At all splices and terminations, leave tails long enough to cut splice out and completely re-splice.

**3.4 FIELD QUALITY CONTROL**

- A. Conductors shall be closely checked for loose or poor connections, and for signs of overheating or corrosion.
- B. Test procedures shall meet NETA guidelines.
- C. Test results and report shall be provided to the engineer.
- D. Contractor shall correct all deficiencies reported in the test report.

**3.5 WIRE COLOR**

- A. General:
  - 1. For wire sizes 10 AWG and smaller - Wire shall be colored as indicated below.
  - 2. In existing facilities, use existing color scheme.
  - 3. Neutral Conductors: White for 120/208V and 120/240V systems, Gray for 277/480V systems. Where there are two or more neutrals in one conduit, each shall be individually identified with a different stripe.
  - 4. Branch Circuit Conductors: Three or four wire home runs shall have each phase uniquely color coded.
  - 5. Ground Conductors: Green for 6 AWG and smaller.

**3.6 BRANCH CIRCUITS**

- A. The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All branch circuits shall be furnished and installed with an individual accompanying neutral, sized the same as the phase conductors.

**3.7 CONSTRUCTION VERIFICATION ITEMS.**

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**Low-Voltage Electrical Power Conductors and Cables**

- A. Contractor is responsible for utilizing the construction verification checklists supplied under specification Section 01 91 01 or 01 91 02 in accordance with the procedures defined for construction verification checklists.

END 26 05 19

## **PART 1. GENERAL**

### **1.1 WORK INCLUDES**

- A. Base Bid: Electrical Contractor provides:
1. Conductors for grounding and bonding.
  2. Connectors for grounding and bonding.
  3. Grounding and bonding components.

### **1.2 RELATED WORK**

- A. Specified Elsewhere:
1. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables:  
Additional requirements for conductors for grounding and bonding, including conductor color coding.
  2. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

### **1.3 REFERENCES**

- A. NFPA 70 - National Electrical Code.
- B. ANSI/IEEE 142 (Latest edition) - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

### **1.4 REGULATORY REQUIREMENTS**

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. or testing firm acceptable to authority having jurisdiction as suitable for purpose specified and shown.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

## **2 PRODUCTS**

### **2.1 MECHANICAL CONNECTORS**

- A. The mechanical connector bodies shall be manufactured from high strength, high conductivity cast copper alloy material. Bolts, nuts, washers and lockwashers shall be made of Silicon Bronze and supplied as a part of the connector body and shall be of the two bolt type.
- B. Split bolt connector types are NOT allowed. The connectors shall meet or exceed UL 467 and be clearly marked with the catalog number, conductor size and manufacturer.

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**Grounding and Bonding For Electrical Systems**

**2.2 WIRE**

- A. Material: Stranded copper (aluminum not permitted).
- B. Branch Circuit Equipment Ground: Size as shown on drawings, specifications or as required by NFPA 70, whichever is larger.

**3 - EXECUTION**

**3.1 GENERAL**

- A. Mechanical connections shall be accessible for inspection and checking. No insulation shall be installed over mechanical ground connections.
- B. Ground connection surfaces shall be cleaned and all connections shall be made so that it is impossible to move them.
- C. Conductor Termination and Connections:
  - 3.1.C.1 Pipe and Equipment Grounding Conductor Terminations:  
Bolted connectors.

**3.2 LESS THAN 600 VOLT SYSTEM GROUNDING**

- A. Bond together system neutrals, service equipment enclosures, exposed non-current carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways.
- B. Equipment Grounding Conductor: Provide separate, insulated equipment grounding conductor within each raceway. Terminate each end on suitable lug, bus, enclosure or bushing. Provide a ground wire from each device to the respective enclosure.

**3.3 FIELD QUALITY CONTROL**

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

END 26 05 26



DIVISION 26 - ELECTRICAL  
**Section 26 05 33 – Raceway and Boxes For Electrical Systems**

**PART 1 GENERAL**

**1.1 WORK INCLUDES**

- A. Base Bid: Electrical Contractor provides:
1. Electrical metallic tubing (EMT).
  2. Flexible metal conduit (FMC).
  3. Liquidtight flexible metal conduit (LFMC).
  4. Conduit supports
  5. Junction boxes
  6. Conduit fittings.
  7. Accessories.

**1.2 RELATED WORK**

- A. Specified Elsewhere:
1. Section 07 84 00 - Firestopping.
  2. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.
  3. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
  4. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.
  5. Section 26 27 02 – Equipment Wiring Systems.

**1.3 REFERENCES**

- A. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT);2005.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- C. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); National Electrical Contractors Association; 2006.
- D. NEMA FB 1 - Fittings, and Conduit Bodies, Electrical Metallic Tubing; National Electrical Manufacturers Association; 2007.
- E. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
- G. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
- H. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.

DIVISION 26 - ELECTRICAL  
**Section 26 05 33 – Raceway and Boxes For Electrical Systems**

**1.4 SUBMITTALS**

- A. Boxes - provide product data showing configurations, finishes, dimensions, and manufacturer's instructions.

**1.5 QUALITY ASSURANCE**

- A. Electrical Components, Devices and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction and marked for intended use.

**2 PRODUCTS**

**2.1 METAL CONDUIT AND TUBING**

- A. Electrical metallic tubing - EMT: ANSI C80.3. Minimum Size: 3/4-inch trade size.
- B. Flexible metal conduit - FMC: Zinc-coated steel.
- C. Liquidtight flexible metal conduit - LFMC: PVC jacket.
- D. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
  - 1. Fittings for EMT: compression type with insulated throat.

**2.2 JUNCTION BOXES**

- A. Junction boxes shall be minimum 4 inch square (100 mm) by 2 1/8th inches (54 mm) deep for use with 1 inch (25 mm) conduit and smaller.

**2.3 GENERAL**

- A. All steel fittings and conduit bodies shall be galvanized.
- B. All boxes shall be of sufficient size to provide free space for all conductors enclosed in the box and shall comply with NEC requirements.

**3 EXECUTION**

**3.1 CONDUIT SIZING, ARRANGEMENT AND SUPPORT**

- A. Conduit shall be sized per number of conductors pulled and their cross-section. 40% fill shall be maximum for all new conduit fills.

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**Section 26 05 33 – Raceway and Boxes For Electrical Systems**

- B. Supports shall be independent of the installations of other trades, e.g. HVAC pipes, other conduits, etc., unless so approved or detailed.

**3.2 CONDUIT INSTALLATION**

- A. All conduit terminations (except for terminations into conduit bodies) shall use conduit hubs, or connectors with one locknut, or shall use double locknuts (one each side of box wall) and insulated bushing. Provide bushings for the ends of all conduit not terminated in box walls. Refer to Section 26 05 26 – Grounding and Bonding for Electrical Systems for grounding bushing requirements.
- B. Ground and bond conduit under provisions of Section 26 05 26.

**3.3 CONDUIT INSTALLATION SCHEDULE**

- A. Motor and equipment connections: Flexible PVC coated metal conduit (all locations). Minimum length shall be one foot (300 mm), maximum length shall be three feet (900 mm). Conduit must be installed perpendicular to direction of equipment vibration to allow conduit to freely flex.

**3.4 COORDINATION OF BOX LOCATIONS**

- A. Provide electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections, and code compliance.
- B. Locate and install boxes to allow access to them. Locate and install to maintain headroom and to present a neat appearance.

**3.5 JUNCTION BOX INSTALLATION**

- A. All boxes are to be readily-accessible.
- B. Support junction boxes independent of conduit.

END 26 05 33



**PART 1 – GENERAL**

**1.1 WORK ENCLUDES**

- A. Base Bid: Electrical Contractor provide:
  - 1. The products related to labeling of wiring and raceways.

**1.2 RELATED WORK**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.
  - 1. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables

**1.3 QUALITY ASSURANCE**

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.

**PART 2 – PRODUCTS**

**2.1 IDENTIFICATION MATERIALS**

- A. General:
  - 1. Tape (phase identification only): Scotch #35 tape in appropriate colors for system voltage and phase.

**2.2 POWER RACEWAY IDENTIFICATION MATERIALS**

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistance coating and matching wraparound adhesive tape for securing ends of legend label.

**2.3 CONDUCTOR IDENTIFICATION MATERIALS**

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

**PART 3 – EXECUTION**

**3.1 GENERAL**

- A. Clean all surfaces before attaching labels with the label manufacturer's recommended cleaning agent.

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**Section 26 05 53 – Identification For Electrical Systems**

- B. Install all labels firmly as recommended by the label manufacturer.

**3.2 POWER WIRE IDENTIFICATION**

- A. Provide wire markers on each conductor in junction boxes, and at load connection. Identify with branch circuit or feeder number for power circuits.
- B. All wiring shall be labeled within 2 to 4 inches of terminations. Each end of a wire shall be labeled as soon as it is terminated.

END 26 05 53

**PART 1 – GENERAL**

**1.1 WORK INCLUDES**

- A. Base Bid: Electrical Contractor provide:
  - 1. The electrical connections to equipment specified under other Divisions and/or Sections, or furnished by Owner, including, but not limited to:
    - a. PTAC Units.

**1.2 RELATED WORK**

- A. Specified Elsewhere:
  - 1. General and Supplementary Conditions and Division 01 Specification Sections that apply to this section.
  - 2. Section 26 05 33 – Raceway and Boxes for Electrical Systems.
  - 3. Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables.

**1.3 COORDINATION**

- A. Coordinate all equipment requirements with the various contractors and the Owner. Review the complete set of drawings and specifications to determine the extent of wiring, devices, etc., required.

**PART 2 – PRODUCTS**

**2.1 WIRING PRODUCTS**

- A. Refer to related sections for other product requirements.

**PART 3 – EXECUTION**

**3.1 INSPECTION**

- A. Verify that equipment is ready for electrical connection, wiring, and energization.

**3.2 PREPARATION**

- A. Review equipment submittals prior to installation and electrical rough-in. Verify location, size, and type of connections. Coordinate details of equipment connections with supplier and installer.

**3.3 INSTALLATION**

- A. Use wire with insulation suitable for temperatures encountered in heat-producing equipment.
- B. Make conduit connections to equipment using flexible PVC-coated metal conduit.
- C. Make wiring connections in wiring compartment of pre-wired equipment in accordance with manufacturer's instructions. Provide interconnecting wiring where indicated.

**3.4 HVAC CONNECTIONS**

DIVISION 26 - ELECTRICAL  
**Section 26 27 02 – Equipment Wiring Systems**

- A. Each motor terminal box shall be connected with a minimum 12", maximum 36" piece of flexible PVC-coated metal conduit to a fixed junction box. Conduit must be installed perpendicular to direction of equipment vibration to allow conduit to freely flex.
- B. Check for proper rotation of each motor.

END 26 27 02



DIVISION 26 - ELECTRICAL  
**Section 26 56 00 –Exterior Lighting**

PART 1 GENERAL

1.1 WORK INCLUDES

A. Base Bid: Electrical Contractor provides:

1. Exterior luminaires.
2. LED drivers

1.2 RELATED WORK

- A. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- B. Section 26 0537 - Boxes.

1.3 REFERENCES

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- B. NECA/IESNA 501 - Recommended Practice for Installing Exterior Lighting Systems; 2006.
- C. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 1598 - Luminaires; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

## 1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
  - 1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
  - 2. Provide photometric calculations where luminaires are proposed for substitution upon request.
- C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, weight, effective projected area (EPA), and installed accessories; include model number nomenclature clearly marked with all proposed features.
  - 1. Provide electronic files of photometric data certified by a National Voluntary Laboratory Accreditation Program (NVLAP) lab or independent testing agency in IESNA LM-63 standard format upon request.
- D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.
- E. Operation and Maintenance Data: Instructions for each product including information on replacement parts.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.
  - 2. Provide 3% of each fixture type, but not less than one fixture of each type.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, handle, and store products according to NECA/IESNA 501 and manufacturer's written instructions.
- B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

## PART 2 - PRODUCTS

### 2.1 LUMINAIRE TYPES

- A. Furnish products as indicated in luminaire schedule included on the Drawings.

### 2.2 LUMINAIRES

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- C. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. Unless otherwise indicated, provide complete luminaires including all components required to position, energize and protect the lighting fixture and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.
- G. Provide luminaires listed and labeled as suitable for wet locations.

## 2.3 LED DRIVERS

### A. LED drivers shall meet the following requirements:

1. Drivers shall have a minimum efficiency of 85%.
2. Starting Temperature: -40° F [-40° C].
3. Input Voltage: 120 to 480 ( $\pm 10\%$ ) V.
4. Power Supplies: Class I or II output.
5. Surge Protection: The system must survive 250 repetitive strikes of “C Low” (C Low: 6kV/1.2 x 50  $\mu$ s, 10kA/8 x 20  $\mu$ s) waveforms at 1-minute intervals with less than 10% degradation in clamping voltage. “C Low” waveforms are as defined in IEEE/ASNI C62.41.2-2002, Scenario 1 Location Category C.
6. Power Factor (PF):  $\geq 0.90$ .
7. Total Harmonic Distortion (THD):  $\leq 20\%$ .
8. Comply with FCC Title 47 CFR Part 18 Non-consumer RFI/EMI Standards.
9. Drivers shall be reduction of hazardous substances (ROHS)-compliant.
10. LED engine and components shall be covered by 5-year warranty.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that suitable support frames are installed where required.
- B. Verify that existing branch circuit wiring is tested, and ready for connection to luminaires.
- C. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 PREPARATION

- A. Clean dirt, debris, and other foreign materials from outlet boxes.

### 3.3 INSTALLATION

- A. Install products according to manufacturer's instructions.
- B. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 1 (general workmanship) and NECA/IESNA 501 (exterior lighting).
- C. Install luminaires plumb and square and aligned with building lines.
- D. Install accessories furnished with each luminaire.
- E. Bond products and metal accessories to branch circuit equipment grounding conductor.

### 3.4 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect each product for damage and defects.
- C. Operate each luminaire after installation and connection to verify proper operation.
- D. Correct wiring deficiencies and repair or replace damaged or defective products.

### 3.5 CLEANING

- A. Clean surfaces according to NECA/IESNA 501 and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

### 3.6 CLOSEOUT ACTIVITIES

- A. See Section 017800 - Closeout Submittals, for closeout submittals.
- B. See Section 017900 - Demonstration and Training, for additional requirements.

- C. Demonstration: Demonstrate proper operation of luminaires to Architect, and correct deficiencies or make adjustments as directed.

END OF SECTION 26 5600