SUBMIT BID TO: Grambling State University

Purchasing Department purchasingbids@gram.edu

To maintain the integrity of the bid process, please do not cc any other University email address when submitting your bid.

Purchasing Department Contacts: Erin Walker (318-274-3280) walkere@gram.edu

Drawings upon request contact info. 318-548-2485 or woodywhitt@aol.com

INVITATION TO BID

Bid Number: 50018-250009 **DATE: OCTOBER 2, 2024**

TITLE: PROPERTY AND RECEVING WAREHOUSE BUILDING

BID SCHEDULE: NOVERMBER 5, 2024

PRE-BID SCHEDULE: OCTOBER 22, 2024 AT 10:00AM

DUE DATE/TIME *(email only)*: NOVEMBER 5 BY 2:00 PM CST

LOCATION: 1 FACILITIES DR., GRAMBLING, LA 71245 BID

OPENING *(Zoom)*: NOVEMBER 5, 2024 AT 2:05 PM CST

ALL INQUIRES MUST BE RECEIVED BY: OCOTBER 25, 2024

MEETING ID: 840 4236 6949 **PASSWORD: 952303**

https://us06web.zoom.us/j/84042369649?pwd=OM4oFzoFkB16ojg8tfpWSBMV68A87M.1

General Instructions to Bidders

1. Grambling State University reserves the right to award items separately, grouped or on an all or none basis and to reject any or all bids and waive any informalities.
2. Hard copies of sealed bids will no longer be accepted. All bids must be received electronically by the due date and time to be considered.
3. Sealed bids for furnishing the items and/or services specified are hereby solicited, and will be received by the issuing Grambling State University Campus/Department at the "Submit Bid To" address stated above, until the specified due date and time. Bidder is solely responsible for the timely delivery of bid. The Purchasing Office is not responsible for any delays. It is the responsibility of the Supplier to ensure the bid is received by GSU Purchasing by the indicated due date and time. Any delays that may occur in transmission of the bid is the responsibility of the supplier. A bid will be considered late if it is not received at the "Submit Bid TO" email address by the indicated due date and time.
4. The maximum email attachment size accepted is 125 MB. It is the supplier's responsibility to ensure bid submission is sized such that it is successfully transmitted and received by GSU. If the bid response is too large to be emailed as one document, the bid must be sent as separate documents. Each submittal should be labeled. (Example – Bid Submittal 1 out of 3 for IFB-50018-25XXXX - Title; Bid Submittal 2 out of 3 for IFB-50018-25XXXX - Title, etc.). If any submittal is received late, GSU will not consider the late submittal(s). Only the submittal(s) received by the due date and time will be considered. Late bids will not be accepted per
5. Bid submissions must be signed by a person authorized to bind the vendor. In accordance with Louisiana R.S. 39:1594, the person signing the bid must be:
    a. any corporate officer listed on the most current annual report on file with the secretary of state, or the signature on the bid is that of any member of a partnership or partnership in commended listed in the most current partnership records on file with the secretary of state; or
    b. an authorized representative of the corporation, partnership, or other legal entity and the Bidder submits or provides upon request a corporate resolution, certification as to the corporate principal, or other documents indicating authority which are acceptable to the public entity, including registration on an electronic Internet database maintained by the public entity; or
    c. entity has filed in the appropriate records of the secretary of state in which the public entity is located, an affidavit, resolution, or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts.

6. When bid is submitted by email, **the subject line must show the Solicitation/File No.** and submission must be received by bid deadline.
7. Read the entire solicitation, including all terms, conditions and specifications within this packet.
8. All bid information and prices must be typed or written in ink. Any corrections, erasures or other forms of alteration to unit prices are to be initialed by the Bidder.
9. Bid prices shall include all delivery charges paid by the vendor, F.O.B. Grambling State University Destination, unless otherwise provided in the solicitation. Any invoiced delivery charges not quoted and itemized on the Grambling State University purchase order are subject to rejection and non-payment.
10. Payment terms: Net 30 after receipt of properly executed invoice or delivery and acceptance, whichever is later.
11. By signing this solicitation, the Bidder certifies compliance with all general instructions to Bidders, terms, conditions and specifications; and further certifies that this bid is made without collusion or fraud. MANDATORY bid requirements are detailed immediately following the Standard Terms & Conditions section.
12. Quantities listed in these specifications are approximate and are not guaranteed by the University. The University reserves the right to ***increase or reduce*** quantity as needed if in the best interest of the University.
13. **Bid Bonds:** If a bid bond is required on **ALL** Public Works Project over $25,000, a bid bond must be submitted for each separate bid response. The bid bond shall be in an amount equal to 5% of the bid price submitted and alternates, if any. The bid security shall be in a form of a bid bond or certified check, or cashier's check.
14. The Contractor shall record the Contract and Performance Bond with the Clerk of Court in Lincoln Parish and provide the Purchasing Department with proof of filing.

(PLEASE NOTE THAT A BID BOND MUST BE SIGNED BY THE AGENT OR ATTORNEY-IN-FACT OF THE SURETY.)

(*) The surety or insurance company furnishing the bid bond shall be currently on the U.S. Department of the Treasury Financial Management Service list of approved bonding companies or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds.

FOR THIS BID SOLICITATION:	BID BOND REQUIRED:	**YES**
	PERFORMANCE BOND REQUIRED:	**NO**
	PURCHASE WILL BE EXECUTED WITH:	**Purchase Order Only**

WHITTINGTON ARCHITECTS INC./LONNIE PATRICK ARCHITECT – JOINT VENTURE
8525 HIGHWAY 80 WEST
Ruston, Louisiana 71270
P&F 318-548-2485
woodywhitt@aol.com

PROPERTY & RECEIVING WAREHOUSE REPLACEMENT

Grambling State University Grambling, Louisiana

TABLE OF CONTENTS

DIVISION 7 - THERMAL AND MOISTURE

078400 Firestopping
079200 Joint Sealants

DIVISION 8 - DOORS AND WINDOWS

081113 Hollow Metal Doors & Frames
083323 Overhead Coiling Doors
085000 Metal Window
087100 Hardware

DIVISION 9 – FINISHES

092116 Gypsum Board
093013 Ceramic Tile
095113 Suspended Acoustic Ceilings
096519 Vinyl Plank Flooring
099100 Painting
099102 Paint Schedule

DIVISION 10 – SPECIALTIES

100000 Specialties: Fire Extinguishers; Toilet Accessories; Metal Storage Products

DIVISION 13 – SPECIAL CONSTRUCTION

133410 COLD FORMED METAL BUILDING

DIVISION 21 – FIRE SUPPRESSION

210000 FIRE PROTECTION SYSTEMS

DIVISION 22 – PLUMBING

220500 BASIC MECHANICAL MATERIALS AND METHODS FOR PLUMBING SYSTEMS AND HVAC
220529 HANGERS AND SUPPORTS FOR PLUMBING AND HVAC
220719 PIPE INSULATION FOR PLUMBING
221116 DOMESTIC WATER PIPING SYSTEM
221316 SOIL, WASTE, & VENT PIPING SYSTEM
223300 ELECTRIC, DOMESTIC-WATER HEATERS (LIGHT COMMERCIAL)
224200 PLUMBING FIXTURES

DIVISION 23 - MECHANICAL

230500 BASIC MECHANICAL MATERIALS AND METHODS FOR HVAC
230529 HANGERS AND SUPPORTS FOR HVAC SYSTEMS
230593 TESTS, ADJUST, AND BALANCE
230713 DUCT INSULATION
230719 HVAC PIPE INSULATION
232400 CONDENSATE DRAIN PIPING
233113 METAL DUCTS
233300 DUCTWORK ACCESSORIES
233423 POWER VENTILATORS
233713 DIFFUSERS, REGISTERS, AND GRILLES
236315 SPLIT-SYSTEM HEAT PUMP UNITS

DIVISION 26 – ELECTRICAL

260500 BASIC ELECTRICAL MATERIALS AND METHODS
260519 CONDUCTORS AND CABLES
260526 GROUNDING AND BONDING
260533 RACEWAYS AND BOXES
260923 LIGHTING CONTROL DEVICES
260943 DIGITAL-NETWORK LIGHTING CONTROLS

262416 PANELBOARDS
262726 WIRING DEVICES

262813 FUSES
262816 ENCLOSED SWITCHES
264313 SURGE PROTECTIVE DEVICES
265100 INTERIOR LIGHTING
265600 EXTERIOR LIGHTING

DIVISION 27 – COMMUNICATIONS

275100 COMMUNICATIONS SYSTEMS EQUIPMENT ROUGH-IN ONLY

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

283111 FIRE ALARM
285100 ELECTRONIC SAFETY AND SECURITY SYSTEMS EQUIPMENT ROUGH-IN ONLY

DIVISION 31 - EARTHWORK

311000 Site Clearing
312300 Earthwork for Sitework
313116 Termite Control

DIVISION 32- SITE IMPROVEMENTS

321373 Concrete Paving Joint Sealants
321713 Parking Bumper
321723 Pavement Markings
323113 Chain Link Fencing
334100 Storm Utility Drainage Piping

END OF SECTION

INSTRUCTIONS TO BIDDERS

STANDARD TERMS & CONDITIONS INVITATION TO BID

These standard terms and conditions shall apply to all Grambling State University solicitations, unless otherwise specifically amended and provided for in the special terms and conditions, specifications, or other solicitation documents. In the event of conflict between the General Instructions to Bidders or Standard Terms & Conditions and the Special Terms & Conditions, the Special Terms & Conditions shall govern.

Bids submitted are subject to provisions of the laws of the State of Louisiana, including but not limited to: the Louisiana Procurement Code (R.S. 39:1551-1736); Purchasing Rules and Regulations (Title 34 of the Louisiana Administrative Code); Executive Orders; and the terms, conditions, and specifications stated in this solicitation.

1. **Bid Delivery and Receipt:** To be considered, Bidders may submit bids electronically to **purchasingbids@gram.edu** When bid is submitted by email, the subject line must show the Solicitation/File No. and must be received by bid deadline.

2. Bidders are advised that the U.S. Postal Service does not make deliveries to the Purchasing Office. Bids will no longer be accepted by mail or in person. Bidder is solely responsible for the timely delivery of its bid, and failure to meet the bid due date and time shall result in rejection of the bid.

3. **Bid Forms:** Bids are to be submitted on and in accordance with the Grambling State University solicitation forms provided, and must be signed by an authorized agent of the vendor. Bids submitted on other forms or in other price formats may be considered informal and may be rejected in part or in its entirety. Bids submitted in pencil and/or bids containing no original signature indicating the Bidder's intent to be bound will not be accepted.

4. **Interpretation of Solicitation/Bidder Inquiries:** If Bidder is in doubt as to the meaning of any part or requirement of this solicitation, Bidder may submit a written request for interpretation to the Grambling State University Purchasing at the email address on page 1 of this solicitation. Written inquiries must be received in the Grambling State University Purchasing Department no later than five (5) calendar days prior to the opening of bids, and shall be clearly cross-referenced to the relevant solicitation/specification in question.

   No decisions or actions shall be executed by any Bidder as a result of oral discussions with any Grambling State University employee or consultant. Any interpretation of the documents will be made by formal addendum only, issued by the Grambling State University Purchasing Department. It is the responsibility of the bidder, prior to submitting their bid, to periodically visit the State of Louisiana Purchasing Department LaPAC website, or contact he Grambling State University Purchasing Department, to identify if any addendums were issued. Grambling State University shall not be responsible for any other interpretations or assumptions made by Bidder.

5. **Bid Opening:** In-person bid openings have been suspended for the foreseeable future. Bidders may attend the public bid opening of sealed bids and proposals conducted on Zoom. No information or opinions concerning the ultimate contract award will be given at bid opening or during the evaluation process. Written bid tabulations will not be furnished. Bids may be examined within 72 hours after bid opening. Information pertaining to completed files may be secured by submitting a written request to the Grambling State University Purchasing at the email address shown in header.

6. **Special Accommodations:** Any "qualified individual with a disability" as defined by the Americans with Disabilities Act, who has submitted a bid and desires to attend the public bid opening, must notify the Grambling State University Purchasing Department in writing not later than seven days prior to the bid opening date of their need for special accommodations. If the request cannot be reasonably provided, the individual will be informed prior to the bid opening.

7. **Standards of Quality:** Any product or service bid shall conform to all applicable federal, state and local laws and regulations, and the specifications contained in the solicitation. Any manufacturer's name, trade name, brand name, or catalog number used in the specification is for the purpose of describing the standard of quality, performance, and characteristics desired; and is not intended to limit or restrict competition. Bidder must specify the brand and model number of the product offered in his bid. Bids not specifying brand and model number shall be considered as offering the exact product specified in the solicitation.

8. **New Products/Warranty/Patents:** All products bid for purchase must be new, never previously used, of the manufacturer's current model and/or packaging, and of best quality as measured by acceptable trade standards. No remanufactured, demonstrator, used or irregular products will be considered for purchase unless otherwise specified.

9. The manufacturer's standard published warranty and provisions shall apply, unless more stringent warranties are otherwise required by Grambling State University and specified in the solicitation. In such cases, the Bidder and/or manufacturer shall honor the specified warranty requirements, and bid prices shall include any premium costs of such coverage.

10. Bidder guarantees that the products proposed and furnished will not infringe upon any valid patent or trademark; and shall, at its own expense, defend any and all actions or suits charging such infringement, and shall save Grambling State University harmless. Descriptive Information: Bidders proposing an equivalent brand or model should submit descriptive information (such as literature, technical data, illustrations, etc.) sufficient for Grambling State University to evaluate quality, suitability, and compliance with the specifications with the bid submission. Failure to submit descriptive information may cause bid to be rejected. Any changes made by Bidder to a manufacturer's published specifications shall be verifiable by the manufacturer. If items bid do not fully comply with specifications, Bidder should state in what respect items deviate. Bidder's failure to note exceptions in its bid will not relieve the Bidder from supplying the actual products requested.

11. Bids/Prices/F.O.B. Point

- The bid price for each item is to be quoted on a "net" basis and F.O.B. Grambling State University Destination, i.e. title passing upon receipt and inclusive of all delivery charges, any item discounts, etc.
- Bids other than F.O.B. Grambling State University Destination may be rejected.
- Bids indicating estimated freight charges may be rejected.
- Bids requiring deposits, payment in advance, or C.O.D. terms may be rejected.
- Bidders who do not quote "net" item prices and who separately quote an overall "lump sum" freight cost or discount for all items shall be considered as submitting an "all-or-none" bid for evaluation and award purposes; and risk rejection if award is made on an item basis.
- Prices shall be firm for acceptance for a minimum of 30 days, unless otherwise specified. Bids conditioned with shorter acceptance periods may be rejected.
- Prices are to be quoted in the unit/packaging specified (e.g. each, 12/box, etc), or may be rejected.
- In the event of extension errors, the unit price bid shall prevail.

12. Taxes: Vendor is responsible for including all applicable taxes in the bid price. Grambling State University is exempt from all Louisiana state and local sales and use taxes. By accepting an award, resident and non-resident firms acknowledge their responsibility for the payment of all taxes duly accessed by the State of Louisiana and its political subdivisions for which they are liable, including but not limited to: franchise taxes, privilege taxes, sales taxes, use taxes, ad valorem taxes, etc.

13. Terms and Conditions: This solicitation contains all terms and conditions with respect to the purchase of the goods and/or services specified herein. Submittal of any contrary terms and conditions may cause your bid to be rejected. By signing and submitting a bid, vendor agrees that contrary terms and conditions which may be included in its bid are nullified; and agrees that this contract shall be construed in accordance with this solicitation and governed by the laws of the State of Louisiana.

14. Vendor Forms/ Grambling State University Signature Authority: The terms and conditions of the Grambling State University solicitation, purchase order and contract shall solely govern the purchase agreement, and shall not be amended by any vendor contract, form, etc. The University's has assigned delegated authorities to execute/sign any vendor contracts, forms, etc., on behalf of Grambling State University as a result of any award of the solicitation. Departments are expressly prohibited from signing any vendor forms.

15. Any such vendor contracts/forms bearing unauthorized signatures shall be null and void, shall have no legal force, and shall not be recognized by Grambling State University in any dispute arising therefrom. Vendors who present any such forms to department users for signature without regard to this strict Grambling State University policy may face contract cancellation, suspension, and/or debarment.

16. Awards: The intent to award this bid on an all-or-none basis to the lowest responsible and responsive Bidder will be stated on the bid form. For bids with several items, Grambling State University reserves the right: (1) to award items separately, grouped, or on an all-or-none basis, as deemed in its best interest; (2) to reject any or all bids and/or items; and (3) to waive any informalities.

17. All solicitation specifications, terms and conditions shall be made part of any subsequent award as if fully reproduced and included therein, unless specifically amended in the formal contract.

18. Acceptance of Bid: Only the issuance of an official Grambling State University purchase order, contract, Notification of Award letter, or a Notification of Intent to Award letter shall constitute the University's acceptance of a bid. Grambling State University shall not be responsible in any way to a vendor for goods delivered or services rendered without an official purchase order and/or contract.

19. **Applicable Law:** All contracts shall be construed in accordance with and governed by the laws of the State of Louisiana.

20. **Awarded Products/Unauthorized Substitutions:** Only those awarded brands and numbers stated in the Grambling State University contract are approved for delivery, acceptance, and payment purposes. Any substitutions must be reviewed and approved by the Grambling State University Purchasing Department prior to awarding the contract. Unauthorized product substitutions are subject to rejection at time of delivery, post-return at vendor's expense, and non-payment. Testing/Rejected Goods: Vendor warrants that the products furnished will be in full conformity with the specification, drawing or sample, and agrees that this warranty shall survive delivery, acceptance, and use. Any defect in any product may cause its rejection. Grambling State University reserves the right to test products for conformance to specifications both prior to and after any award. Vendor shall bear the cost of testing if product is found to be non-compliant. All rejected goods will be held at vendor's risk and expense, and subject to vendor's prompt disposition. Unless otherwise arranged, rejected goods will be returned to the vendor freight collect.

21. **Delivery**: Vendor is responsible for making timely delivery in accordance with its quoted delivery terms. Vendor shall promptly notify the Grambling State University Purchasing Department of any unforeseen delays beyond its control. In such cases, Grambling State University reserves the right to cancel the order and to make alternative arrangements to meet its needs. All deliveries **must** go to: **Property and Receiving, 407 Central Ave., Grambling, La 71245.**

22. **Default of Vendor:** Failure to deliver within the time specified in the bid/award will constitute a default and may be cause for contract cancellation. Where the University has determined the vendor to be in default, Grambling State University reserves the right to purchase any or all goods or services covered by the contract on the open market and to surcharge the vendor with costs in excess of the contract price. Until such assessed surcharges have been paid, no subsequent bids from the defaulting vendor will be considered for award.

23. **Vendor Invoices:** Invoices shall reference the Grambling State University purchase order number, vendor's packing list/delivery ticket number, shipping/delivery date, etc. Invoices are to be itemized and billed in accordance with the order, show the amount of any prompt payment discount, and submitted on the vendor's own invoice form. Invoices submitted by the vendor's supplier are not acceptable.

24. **Delinquent Payment Penalties:** Delinquent payment penalties are mandated and governed by Louisiana R.S. 39:1695. Vendor penalties to the contrary shall be null and void, shall have no legal force, and shall not be recognized by Grambling State University in any dispute arising therefrom.

25. **Assignment of Contract/Contract Proceeds:** Vendor shall not assign, sublet or transfer its contractual responsibilities, or payment proceeds thereof, to another party without the prior written consent and approval of the Grambling State University Purchasing Department. Unauthorized assignments of contract or assignments of contract proceeds shall be null and void, shall have no legal force, and shall not be recognized by Grambling State University in any dispute arising therefrom.

26. **Contract Cancellation/Termination:** Grambling State University has the right to cancel any contract for cause, in accordance with purchasing rules and regulations, including but not limited to: (1) failure to deliver within the time specified in the contract; (2) failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition; (3) misrepresentation by the vendor; (4) fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the University; (5) conflict of contract provisions with constitutional or statutory provisions of state or federal law; (6) any other breach of contract.

    Grambling State University has the right to cancel any contract for convenience at any time by giving thirty (30) days written notice to the vendor. In such cases, the vendor shall be entitled to payment for compliant deliverables in progress.

27. **Prohibited Contractual Arrangements:** Per Louisiana R.S. 42:1113.A, no public servant, or member of such a public servant's immediate family, or legal entity in which he has a controlling interest shall bid on or enter into any contract, subcontract, or other transaction that is under the supervision or jurisdiction of the agency of such public servant. See statute for complete law, exclusions, and provisions.

28. **Equal Employment Opportunity Compliance**: By submitting and signing this bid, vendor agrees to abide by the requirements of the following as applicable: Title VI and VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972; federal Executive Order 11246; federal Rehabilitation Act of 1973, as amended; the Vietnam Era Veteran's Readjustment Assistance Act of 1974; Title IX of the Education Amendments of 1972; the Age Act of 1975; the Americans with Disabilities Act of 1990. Vendor agrees not to discriminate in its employment practices and will render services under any contract entered into as a result of this solicitation without regard to race, color, religion, sex, age, national origin, veteran

status, political affiliation, handicap, disability, or other non-merit factor. Any act of discrimination committed by vendor, or failure to comply with these statutory obligations when applicable, shall be grounds for termination of any contract entered into as a result of this solicitation.

29. **Mutual Indemnification:** Each party hereto agrees to indemnify, defend, and hold the other, the State of Louisiana, any governing board, each party's officers, directors, agents and employees harmless from and against any and all losses, liabilities, and claims, including reasonable attorney's fees arising out of or resulting from the willful act, fault, omission, or negligence of the indemnifying party or of its employees, contractors, or agents in performing its obligations under this agreement, provided however, that neither party hereto shall be liable to the other for any consequential damages arising out of its willful act, fault, omission, or negligence. Certification of No Suspension or Debarment: By signing and submitting this bid, Bidder certifies that its company, any subcontractors, or principals thereof, are not suspended or debarred under federal or state laws or regulations. A list of parties who have been suspended or debarred by federal agencies is maintained by the General Services Administration and can be viewed on the internet at www.epls.gov.

30. **Substitution of Personnel:** If applicable, the University intends to include in any contract resulting from this IFB the following condition: Substitution of Personnel: If, during the term of the contract, the Contractor or subcontractor cannot provide the personnel as proposed and requests a substitution, that substitution shall meet or exceed the requirements stated herein. A detailed resume of qualifications and justification is to be submitted to the University for approval prior to any personnel substitution. It shall be acknowledged by the Contractor that every reasonable attempt shall be made to assign the personnel listed in the Contractor's bid.

31. **Insurance Requirements:** Please note insurance requirements section included in these bid specifications. If applicable to the services procured in this solicitation, the successful Bidder will be required to furnish a certificate of insurance evidencing required coverages and naming the Grambling State University as an additional insured, and grant a waiver of subrogation on all liability policies.

32. **Nonperformance:** Successful Bidder is required to perform in strict accordance with all contract specifications, terms, and conditions. Successful Bidder will be advised in writing of nonperformance issues and shall be required to promptly implement corrective actions to ensure contract compliance and to prevent recurrences. In the event the successful Bidder is issued three or more complaints of nonperformance, Grambling State University reserves the right at its sole discretion to cancel the contract with a ten (10) day written notice. Contract cancellations due to nonperformance may be cause to deem vendor non-responsible in future solicitations.

33. **No Smoking Campus**: The Successful Bidder shall be responsible for compliance with all University policies, security measures and vehicle regulations. Specifically, the University is a NO SMOKING campus and all prospective Bidders are cautioned that smoking will not be permitted inside or outside on ANY part of this facility at any time. Any employee who is found to be in violation of this policy will be subject to immediate dismissal.

34. **Non-Exclusivity:** This agreement is non-exclusive and shall not in any way preclude Grambling State University from entering into similar agreements and/or arrangements with other Vendors or from acquiring similar, equal, or like goods and/or services from other entities or sources.

35. **Contract Amendments:** Requests for contract changes must be made in writing by an authorized agent/signatory of the Vendor and submitted to the Grambling State University Purchasing Department for prior approval. Requests shall include detailed justification and supporting documentation for the proposed amendment.
Contract revisions shall be effective only upon approval by Grambling State University Purchasing Department and issuance of a formal Grambling State University Contract Amendment. The Vendor shall honor purchase orders issued prior to the approval of any contract amendment as applicable.

36. **Term of Contract:** The duration of this Contract commences from the date specified herein or date of award notification and continues until University accepts final delivery of all deliverables. Total initial contract period not to exceed **Twelve (12)** months, unless renewal terms are specified in the solicitation documents. All terms of the solicitation shall be firm for the duration of Contract.

37. **Notification of Fund Appropriation: T**he continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the Legislature. If the Legislature fails to appropriate sufficient monies to provide for the continuation of the contract or if such appropriation is reduced by the veto of the Governor or by any means provided in the Appropriations Act to prevent the total appropriations for the year from exceeding revenues for that year or for any lawful purpose and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

All Bidders should be aware that our Legislative process is such that it is often impossible to give prior notice of the non-appropriation of funds. Number of Bid Response Copies: Each Bidder must submit one (1) signed original bid to the Office of Purchasing at the mailing address specified in this solicitation document. The original must CONTAIN ORIGINAL SIGNATURES of those company officials or agents duly authorized to sign on behalf of the organization. Bidders may be required to mail in the original documents upon award.

38. **Prohibition of Discriminatory Boycotts of Israel:** In accordance with LA R.S. 39:1602:1, for any contract for $100,000 or more and for any contractor with five or more employees, Contractor, or any Subcontractor, shall certify it is not engaging in a boycott of Israel, and shall, for the duration of this contract, refrain from a boycott of Israel.
The State reserves the right to terminate this contract if the Contractor, or any Subcontractor, engages in a boycott of Israel during the term of the contract.

39. Pre-Bib Meeting: A PRE-BID MEETING **October 22, 2024 at 10:00 am, Facilities Management Conference, 1 Facilities Dr. Grambling, La 71245.** La. R.S. 38:2212.H; Bidders must attend (and stay at) any pre-bid meeting. All **inquiries** must be received by 11:00 am October 25, 2024. **Drawings will be provided upon request by contacting Woody Whittington at** woodywhitt@aol.com

40. **Site Visit/Contract Information**: It is the responsibility of the prospective bidder to visit and examine the jobsite, take measurements to his/her own satisfaction and determine conditions under which work is to be done. Owner will not accept responsibility for conditions which careful examination of premises would have shown existed.

41. To visit jobsite and for further information, prospective bidder is to contact the Grambling State University Purchasing Departments at the contacts listed on page 1. It is preferred to have a written record of the correspondence for each site visit request. Please do not contact us by phone to schedule a visit unless you do not receive a response to your email request after 48 hours.

42. **State of Louisiana Contractor's Licenses Requirements:** If a Louisiana Contractor's License Number is Required for the items, work, or services to be performed under this solicitation, then it shall be stated in the bid advertisement that will appear in the Baton Rouge Advocate, and it will be stated in the specifications provided with these bid documents.

NOTICE TO VENDORS

LOUISIANA'S HUDSON (SMALL ENTREPRENEURSHIP) AND VETERAN INITIATIVE

The Louisiana Initiative for Small Entrepreneurships (the Hudson Initiative) and the Veteran Initiative (Veteran Small Entrepreneurship) are race and gender neutral goal-oriented programs which encourage State agencies to contract with and encourage contractors who receive contracts from the State to use good faith efforts to utilize certified small entrepreneurships and certified veteran or service-connected disabled veteran owned small entrepreneurships as subcontractors in the performance of the contract. The primary intent of the programs is to provide additional opportunities for Louisiana-based small entrepreneurships that are certified by the Louisiana Department of Economic Development (LED) to participate in contracting and procurement with the State.

Small entrepreneurships that are not currently certified and are interested in participating in procurement and contracting opportunities with the State are encouraged to visit https://www.opportunitylouisiana.gov/small-business/special-programs- for- small-business/hudson-initiative or https://www.opportunitylouisiana.gov/small-business/special-programs-for-small- business/veteran-initiative for qualification requirements and on-line certification. After certification, businesses are encouraged to register in the LaGov Supplier Portal.

IMPORTANT NOTES:

1. VENDOR BIDDING ANYTHING OTHER THAN EXACT GOODS/SERVICES SPECIFIED IN THESE SPECIFICATIONS SHOULD SUBMIT DESCRIPTIVE AND ILLUSTRATIVE LITERATURE WITH BID FOR CONSIDERATION OF AWARD. FAILURE TO DO SO MAY BE CAUSE FOR REJECTION OF BID.

2. ALL PRICES QUOTED ARE TO REMAIN FIRM UNTIL ALL DELIVERABLE GOODS OR SERVICES ARE RENDERED TO AND ACCEPTED BY GRAMBLING STATE UNIVERSITY.

3. IN THE EVENT OF EXTENSION ERRORS, THE UNIT PRICE ON THE BID FORM SHALL PREVAIL.

4. GRAMBLING STATE UNIVERSITY ADHERES TO NET 30 PAYMENT TERMS. ALL OTHER PAYMENT TERMS MUST BE DISCLOSED <u>WITH BID</u>. BE ADVISED THAT STRICTER PAYMENT TERMS MAY BE CAUSE FOR REJECTION OF BID.

5. QUANTITIES ARE APPROXIMATE AND ARE NOT GUARANTEED BY THE UNIVERSITY. THE UNIVERSITY RESERVES THE RIGHT TO INCREASE OR REDUCE QUANTITY AS NEEDED IF IN THE BEST INTEREST OF THE UNIVERSITY.

6. THE UNIVERSITY RESERVES THE RIGHT TO AWARD PROPOSAL ON AN INDIVIDUAL ITEM BASIS, A COMBINATION OF ITEMS BASIS, OR AS A TOTAL PACKAGE TO ONE VENDOR, WHICHEVER IS IN THE BEST INTEREST OF THE UNIVERSITY.

7. BID SUBMISSIONS MUST DISCLOSE ALL FEES INCLUDING SHIPPING, HANDLING, FREIGHT, FUEL SURCHARGES, ETC.. NO ADDITIONAL FEES WILL BE ACCEPTED AFTER AWARD.

8. FAILURE TO COMPLY WITH ANY MANDATORY REQUIREMENTS SHALL BE CAUSE FOR REJECTION OF BID.

9. TAX EXEMPTION: ***Grambling State University is exempt from all Louisiana state and local sales and use taxes and will not pay taxes delineated on invoices for this or any other project. Grambling State University is a tax-exempt State Agency. However, that tax-exempt status does not transfer to its contractors, subcontractors, suppliers or vendors for their use in purchasing project-related materials.***

END OF SECTION

ARTICLE 1

DEFINITIONS

1.1 The Bidding Documents include the following:

1. Advertisement for Bids.
2. Instructions to Bidders.
3. Bid Form
4. Contract between Owner and Contractor.
5. Performance and Payment Bond.
6. Affidavit of Compliance with Act 38, 1965 Louisiana State Legislature.
7. General Conditions of the Contract for PROPERTY & RECEIVING WAREHOUSE REPLACEMENT
8. Supplementary (and amended General) Conditions.
9. Divisions of the Technical Specifications.
10. Addenda issued during bid period. (by Owner and acknowledged in bid form)

1.2 Addenda are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda will become part of the Contract Documents when the Contract is executed.

ARTICLE 2

BIDDER'S REPRESENTATION

2.1 Each bidder by submitting a bid represents that s/he has read and understands the bidding documents.

2.2 Each bidder by making a bid represents that s/he has visited the site and familiarized themselves with the local Each bidder by submitting a bid understands they must be fully qualified under any state or local licensing law for Contractors in effect at the time and at the location of the project before submitting a bid. In the State of Louisiana; only the bids of contractors and sub-contractors duly licensed under Louisiana Revised Statute 37:2150, et. seq., will be considered, if applicable. The Contractor shall be responsible for ensuring all Sub-contractors or prospective Sub-contractors are duly licensed in accordance with the statute above.

2.3 Each bidder submitting a bid understands that GSU's Public Works Policy related to contractor licensure is that a contractor's license is required for any/all projects with an anticipated/bid cost greater than $50,000ARTICLE 3

BIDDING PROCEDURES

3.1 Bids must be prepared on the forms provided by the Owner and submitted in accordance with the Instructions to Bidders.

3.2 A bid will be considered invalid if not deposited at the designated location prior to the time and date for receipt of bids indicated in the advertisement or invitation to bid, or prior to any extension thereof issued to the bidders.

3.3 Unless otherwise provided in any supplement to these Instructions to Bidders, no bidder shall modify, withdraw or cancel his bid or any part thereof for thirty days after the receipt of bids. However, written request (letter or telegram) for the withdrawal of a bid or any part thereof will be granted if the request is received prior to the specified time of opening. Formal bids, amendments thereto or request for withdrawal of bids or any part thereof received after time specified for bid opening will not be considered whether delayed in the mail or for any other cause whatsoever.

3.4 Bids are to be sealed and will be received until the time specified and at the place specified in the advertisement for bids. It shall be the specific responsibility of the Bidders to deliver sealed bids to Grambling State University at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason including late delivery by the United States Mail shall disqualify the bid.

3.5 Prior to the receipt of bids, Addenda, if any, will be mailed or delivered (hard copy or email) to each person or firm recorded by the Owner as having received the bidding documents and will be available for inspection wherever the bidding documents are kept available for that purpose. Addenda issued after receipt of bids will be mailed or delivered only to the sealed bidder.

3.6 **Bids for Public Works will not be considered or accepted unless the bid is accompanied by bid security in an amount of not less than five percent (5%) of the sum of the Base Bid and any Alternates.** The bid security shall be in the form of a certified check drawn on a bank insured by the Federal Deposit Insurance Corporation, or a bid bond written by a surety company licensed to do business in Louisiana, accompanied by appropriate power of attorney and in favor of Grambling State University.

3.7 All Bids and Sureties must be signed by a duly authorized person of the firm or corporation and be accompanied by legal evidence authorizing the signature as valid.

3.8 Any interpretation, correction or change of the Bidding Documents will be made by Addendum. Interpretations, corrections or changes of the Bidding Documents made in any other manner will not be binding, and bidders shall not rely upon such interpretations, corrections and changes.If bidding other than as specified, an indication must be made on the bid form, stating manufacturer's name and model number(s) being submitted for bid. Detailed specifications, drawings, pictures, brochures, diagrams or any other literature or information necessary to determine the equality of the bid response must be included with the bid form.

3.9 Prior to the issuance of a purchase order the successful bidder must submit the following items to the Purchasing Department:

a. Notarized affidavit
b. Contract
c. Insurance Certificate
d. Proof of filing of Performance and Payment Bond with Power of Attorney, if Public Works, and,
e. Resolution, if incorporated.

ARTICLE 4

Each bidder shall examine the bidding documents carefully and, not later than seven days prior to the date for receipt of bids, shall make written request to the Owner for interpretation or correction of any ambiguity, inconsistency or error therein which he may discover. Any interpretation or correction will be issued as an Addendum by the Owner. Only a written interpretation or correction by Addendum shall be binding. No bidder shall rely upon any interpretation or correction given by any other method.

ARTICLE 5

SUBSTITUTIONS

5.1 Each bidder represents that his bid is based upon the materials and equipment described in the bidding documents.

MANUFACTURER'S NUMBERS OR TRADE NAMES:

5.2 Where a manufacturer's product is named or specified, it is understood that "or equal" shall apply, whether stated or not. Such name and number is meant to establish the standard of quality desired and does not restrict bidders to the specific brand, make, manufacturer, or specification named; and are set forth and convey to prospective bidders the general style, type, character, and quality of product desired; and that equal products will be acceptable. Grambling State University shall be sole judge as to whether or not the material is equal to that specified.

ARTICLE 6

REJECTION OF BIDS

The bidder acknowledges the right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the bidder recognizes the right of the Owner to reject a bid if the bidder failed to furnish any required bid security, or to submit the data required by the bidding documents, or if the bid is in any way incomplete or irregular.

ARTICLE 7

AWARDS

7.1 Awards may not be made to any person, firm, or company in default of any contract. Said person, firm, or company shall be considered non-responsible bidders and may be reinstated and awards made to them only after they have

given evidence of good faith and have satisfactorily completed their obligations.

PUBLICIZING AWARDS

7.2 Written notice of award shall be sent to the successful bidder. In procurement over $25,000, each unsuccessful bidder shall be notified of the award provided that he/she submitted with his/her bid a self-addressed envelope requesting this information. Notice of award will be made a part of the procurement file.

RIGHT TO PROTEST

7.3 Any person who is aggrieved in connection with the solicitation or award of a contract shall protest to the Director Purchasing. Protests with respect to a solicitation shall be submitted in writing at least two days prior to the opening of bids on all matters except housing of state agencies, their personnel, operations, equipment, or activities pursuant to R.S. 39:1643 for which such protest shall be submitted at least ten days prior to the opening of bids. Protests with respect to the award of a contract shall b submitted in writing within fourteen days after contract award.

AUTHORITY TO RESOLVE PROTESTS:

7.4 Prior to the commencement of an action in court concerning any controversy, the Director of Purchasing or his designee shall have the authority, to resolve the protest of any aggrieved person concerning the solicitation or award of a contract. This authority shall be exercised in accordance with regulations.

ARTICLE 8

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

Performance and Payment Bonds shall be required on Public Works projects with an expected cost greater than $50,000.Performance and Payments Bonds shall be required by the successful bidder. Any surety bond required shall be written by a surety or insurance company currently on the U. S. Department of the Treasury Financial Management Service list of approved bonding companies which is published annually in the Federal Register. For any Public Works projects, no surety or insurance company shall write a bond which is in excess of the amount indicated as approved by the U. S. Department of the Treasury Financial Management Service list. The surety bond written for a Public Works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana.

8.1 The bidder shall require the attorney in fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his power of attorney indicating the monetary limit of such power.

RECORDING OF BOND AND CONTRACT

8.2 The Contractor shall record the Contract and Performance Bond with the Clerk of Court in Lincoln Parish and provide the Purchasing Department with proof of filing.

ARTICLE 9

PAYMENT

9.1 Payment will be made by Grambling State University.

9.2 The contractor will be required to provide a Clear Lien Certificate from the Lincoln Parish Clerk of Court, a process that may take an average 45 days for final payment.

ARTICLE 10

TAXES

10.1 Applicable taxes are to be included in lump sum bid.

ARTICLE 11

GUARANTEE

11.1 The materials and labor under this contract, as described in the specifications, shall be guaranteed by the Contractor

for a period of one year from date of its acceptance against defects of materials or workmanship. Any defects which develop during this period shall be properly repaired or replaced without cost to the Owner as soon as possible.

ACCEPTANCE

The guarantee covering materials and labor under this contract will begin the date a Notice of Acceptance is issued to the Contractor by Grambling State University.

ARTICLE 12

CHANGES IN THE WORK

A Change Order is a written order to the Contractor signed by the Owner, issued after execution of the Contract, authorizing a Change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any Change Order not signed by the Owner will be considered null and void.

12.1 The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

Any change order in excess of the contract limit as defined herein shall be let out for public bid. The term contract limit as used herein shall be equal to the sum of $30,000 per project. When the Change Order is negotiated it shall be fully documented and itemized as to cost, including material quantities, material costs, insurance, employee benefits, other related costs, profit and overhead. Where certain unit prices are contained in the initial contract no deviation shall be allowed in computing negotiated change order cost

00012 SUPPLEMENTARY CONDITIONS

ARTICLE 1

CONTRACTOR

CONTRACTOR'S LICENSE

1.1 On any bid amounting to $50,000 or more, the Contractor shall certify that s/he is licensed under Act 377 of the 1976 Louisiana Regular Legislative Session and show the contractor license number and the bid number on the front portion of the envelope; except projects financed, partially or wholly, with Federal Funds, provided that any successful Bidder before signing Contract thereon, files application for a license and pays the fee as provided in this Act and complies with all terms and provisions of this Act and with the rules and regulations of the Licensing Board.

CONTRACTOR'S AFFIDAVIT

1.2 In accordance with the Louisiana R.S. 38:2190 - 2220, if the Contract is awarded to the successful Bidder, the bidder shall, at the time of the signing of the Contract, execute the AFFIDAVIT included in the Contract Documents.

INTEREST

1.3 There shall be no payment of interest on money owed.

ARTICLE 2

PAYMENTS AND COMPLETION SUBSTANTIAL COMPLETION

2.1 The Owner will issue a NOTICE OF ACCEPTANCE for the Contractor to record with the Clerk of Court in Lincoln Parish.

FINAL COMPLETION AND FINAL PAYMENT

2.2 The Contract is to provide that the contractor is not to be paid more than ninety percent (90%) of the amount of the contract upon completion of the work. The Contractor shall record the NOTICE OF ACCEPTANCE with the Lincoln Parish Clerk of Court and shall furnish a CLEAR LIEN CERTIFICATE from the Clerk of Court within forty-five days after recordation of NOTICE OF ACCEPTANCE. At that time, the remaining ten percent (10%) will be paid.

LIQUIDATED DAMAGES

The Owner will suffer financial loss if the Project is not substantially complete on the date set forth in the CONTRACT DOCUMENTS. The Contractor (and/or Surety) shall be liable for and shall pay to the Owner Liquidated Damages for each calendar day of delay until the work is Substantially Complete.

The Completion Time stated in Consecutive Calendar Days and the Liquidated Damages stated in Dollars Per Day are listed in the PROPOSAL FORM

ARTICLE 3

INSURANCE

INSURANCE: Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. **The cost of such insurance shall be included in the Contractor's bid**.

A. MINIMUM SCOPE OF INSURANCE

Coverage shall be at least as broad as:

1. Insurance Services Office form number GL 0002 (Ed. 1/73) covering Comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability; or form is unacceptable. The "occurrence form" shall not have a "sunset clause."

2. Insurance Services Office form number CA 0001 (Ed. 1/78) covering Automobile Liability and endorsement CA 0025 or CA 0001 12 90. The policy shall provide coverage for owned, hired, and non-owned coverage. If an automobile is to be utilized in the execution of this contract, and the vendor/contractor does not own a vehicle, then proof of hired and non-owned coverage is sufficient.

3. Workers' Compensation insurance as required by the Labor Code of the State of Louisiana, including Employers Liability insurance.

B. MINIMUM LIMITS OF INSURANCE

Contractor shall maintain limits no less than:

1. Commercial General Liability: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage.

2. Automobile Liability: $1,000,000 combined single limit per accident, for bodily injury and property damage.

Workers Compensation and Employers Liability: Workers' Compensation limits as required by the Labor Code of the State of Louisiana and Employers Liability coverage.

BUILDER'S RISK COVERAGE

A General Contractor shall purchase and maintain property insurance upon the entire work included in the contract for an amount equal to the greater of the full-completed value or the amount of the construction contract including any amendments thereto. The general contractor's policy shall provide "ALL RISK" Builder's Risk Insurance (extended to include the perils of wind, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure.) The "ALL RISK" Builder's Risk Insurance must also cover architects' and engineers' fees that may be necessary to provide plans and specifications and supervision of work for the repair and/or

replacement of property damage caused by a covered peril not to exceed 10% of the cost of those repair and/or replacements.

Flood coverage shall be provided by the Contractor on the first floor and below for projects North of the Interstate Corridor beginning at the Texas-Louisiana border at Interstate 10 East to the Baton Rouge junction of Interstate 12, East to Slidell junction with Interstate 10 to Louisiana-Mississippi border. Flood sub-limit shall equal an amount no lower than ten percent (10%) of the total contract cost per occurrence. Coverage for roofing projects shall not require flood coverage.

On projects South of this corridor, flood coverage shall be provided by the State of Louisiana, as the owner, through the National Flood Insurance Program (NFIP). The Contractor will be liable for the $5,000 deductible on the NFIP policy from the Notice to Proceed date through the Notice of Final Acceptance date of the project.

A specialty contractor shall purchase and maintain property insurance upon the system to be installed for an amount equal to the greater of the full-completed value or the amount of the contract including any amendments thereto. The specialty contractor may provide an installation floater with the same coverage as the "ALL RISK" Builder's Risk Insurance policy.

The policy must include the interest of the Owner, Contractor and Subcontractors as their interest may appear. The contractor has the right to purchase coverage or self- insure any exposures not required by the bid specifications, but shall be held liable for all losses, deductibles, self-insurance for coverages not required.

Policies insuring projects involving additions, alterations or repairs to existing buildings or structures must include and endorsement providing the following:

> In the event of a disagreement regarding a loss covered by this policy which may also be covered by the State of Louisiana policy of self-insurance or any commercial property insurance policy purchased by the State of Louisiana, Office of Risk Management (ORM) covering in excess of the State of Louisiana, policy of self-insurance, this company agrees to follow the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make written demand for an appraisal of the matter in disagreement. Within 20 days of receipt of written demand, this company and either ORM or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers will select a competent and impartial umpire. The appraisers will then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of the loss that must be borne by each policy. If the two appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of the loss. Each insurance company (or ORM) agree that the decision of the appraisers and the umpire if involved, will be binding and final and that neither party will resort to litigation.
Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

C. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the Agency. At the option of the Agency, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Agency, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage

    a. The Agency, its officers, officials, employees, Boards and Commissions and volunteers are to be added as "additional insured" as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to

the Agency, its officers, officials, employees or volunteers. It is understood that the business auto policy under "Who is an insured" automatically provides liability coverage in favor of Grambling State University and the State of Louisiana.

b. Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, officials, and employees, Boards and Commissions or volunteers.

c. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. Workers' Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the Agency, its officers, officials, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

All Coverage

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Agency.

E. ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with an A.M. Best's rating of **"A- VI or higher"**. This requirement will be waived for workers' compensation coverage only for those contractors whose workers' compensation coverage is placed with companies who participate in the State of Louisiana Workers' Compensation Assigned Risk Pool or the Louisiana Workers' Compensation Corporation.

F. VERIFICATION OF COVERAGE

Contractor shall furnish the Agency with certificates of insurance affecting coverage required by this clause. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates are to be received and approved by Grambling State University before work commences. Grambling State University reserves the right to require complete, certified copies of all required insurance policies, at any time.

G. SUBCONTRACTORS

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

ARTICLE 4 QUALITY

STANDARD OF QUALITY

1.1 Where catalog numbers and/or manufacturer's names are referred to in the specifications, they are used for the purpose of conveying to the prospective bidders the type and design of equipment, or supplies desired; but it shall be understood that bidders may submit on other makes in lieu of that mentioned, providing such other item is similar in design and equal in quality. It is not expected that the items of all manufacturers shall conform exactly to every detail and dimension mentioned in the specifications; but the essential features of the items mentioned shall be provided in the items to be furnished.

00013 DIVISION 1 - GENERAL REQUIREMENTS

A. SUMMARY OF THE WORK

1. Work under this Contract shall include, but is not necessarily limited to, the following as summarized;

   a. PROPERTY & RECEIVING WAREHOUSE REPLACEMENT.

B. LAWS, RULES AND REGULATIONS

1. Contractor shall comply with all applicable federal, state, local and University laws, ordinances, rules and regulations and shall: furnish and pay for all required permits, licenses and bonds; pay all charges and fees, and give all notices necessary and incidental to the due and lawful work required under this project.

C. ALTERNATES

1. Base Bid
2. ALTERNATE NO.1: ADD PAVING AS SHOWN ON DRAWINGS.
3. ALTERNATE NO.2: ADD SITE LIGHTING FIXTURES MARKED P1 SHOWN ON SHEET ES 1.0
4. ALTERNATE NO.3: ADD STORAGE RACKS AS SHOWN ON FLOOR PLAN AND AS SPECIFIED.

D. SITE INSPECTIONS AND PROJECT MEETINGS

1. Site Inspections

   Each bidder by making a bid represents that s/he has visited the site and familiarized themselves with the local conditions under which the work is to be performed.

2. Pre-Work Conference

   Prior to the Contractor beginning any work on this project, the University will conduct a Pre-Work Conference to review and approve the Contractor's work schedule and inform the Contractor of any special conditions, controls and regulations that apply to the project.

E. TEMPORARY FACILITIES AND CONTROLS

1. Safety Conditions

   The Contractor shall post adequate warning signs and maintain safety lights as required to warn persons of hazardous conditions.

2. Security

   The Contractor shall be responsible for security of his equipment, materials, etc., at the project site for the duration of the contract.MATERIAL AND EQUIPMENT

3. Transportation and Handling

The Contractor shall provide for all transportation and handling required for the work on this project.

4. Storage and Protection

The Contractor shall be responsible for storage and protection of equipment and materials. The Contractor shall Protect all property of the Owner, and shall repair same, if damaged.

00014 INDEMNIFICATION AGREEMENT

The _____(Contractor) agrees to protect, defend, indemnify, save, and hold harmless the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants and employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur or in any way grow out of any act or omission of _____(Contractor), its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by

(Contractor) as a result of any claim, demands, and/or causes of action except those claims, demands, and/or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its agents, representatives, and/or employees. ___(Contractor) agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent.

Accepted by_____

Company Name

_____

Signature

_____

Title

Date Accepted_____

Is Certificate of Insurance Attached? _____Yes _____No Contract No.

_____ For Grambling State University

Purpose of Contract: _____

00015 **Pre-Bid Conference 50018-250009- Property and Receiving Warehouse**

Where: Facilities Department Conference Room – 1 Facilities Dr – Grambling, LA, 71245

When: **November 5, 2024**

Time: 10:00 A.M.

This signed statement certifies that the vendor named below has visited the job site and is familiar with all conditions surrounding fulfillment of the specifications for this project.

_____

Vendor's Company Name

_____

GSU Project Name

_____

GSU Representative

_____

Vendor's Signature

Present this form to Project Manager at Pre-Bid Conference. Return this signed form with your bid response.

BID FORM

LOUISIANA UNIFORM PUBLIC WORK BID

TO: Grambling State University
403 Main Street
Grambling, LA 71245

(Owner to provide name and address of owner)

Bid for: 50018-250009
PROPERTY & RECEIVING WAREHOUSE REPLACEMENT
Project No. GSU-2023-1

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Grambling State University and WHITTINGTON ARCHITECTS INC./LONNIE PATRICK ARCHITECT JOINT VENTURE dated: October 2, 2024

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____ Dollars ($ _____)

ALTERNATES:

Alternate No. 1 ADD PAVING AS SHOWN ON DRAWINGS: for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 2 ADD SITE LIGHTING FIXTURES P1 AS SHOWN ON SHEET ES 1.0: for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 3 ADD STORAGE RACKS AS SHOWN ON FLOOR PLAN AND SPECIFIED: for the lump sum of:

_____ Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LAR.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid

BID BOND
FOR
GRAMBLING STATE UNIVERSITY PROJECTS

Date: _____
KNOW ALL MEN BY THESE PRESENTS:

That_____of_____, as Principal, and
, as Surety, are held and firmly bound unto GRAMBLING STATE UNIVERSITY (Obligee), in the full and just sum of five (5%) percent of the total amount of this proposal, including all alternates, lawful money of the United States, for payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally firmly by these presents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.
Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.
THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

_____

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

PRINCIPAL (BIDDER) _____ SURETY _____

BY: _____ BY: _____ AUTHORIZED OFFICER-
OWNER-PARTNER AGENT OR ATTORNEY-IN-FACT(SEAL)

00017

STATE OF LOUISIANA NAME_____

PARISH OF LINCOLN LOCATION_____

AFFIDAVIT

Before me, the undersigned authority, duly commissioned and qualified within and for the state and parish aforesaid, personally came and appeared _____representing who, being by me first duly sworn deposed and said that he has read this affidavit and does hereby agree under oath to comply with all provisions herein as follows:

PART I

Section 2220 of Part II of Chapter 10 to Title 38 of the Louisiana Revised Statutes of 1950 as amended.

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction of the public building or project were in the regular course of their duties for affiant.

PART II

Section 2190 of Part I of Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 as amended.

The affiant, if he be an architect or engineer, or representative thereof, does not own a substantial financial interest, either directly or indirectly, in any corporation, firm, partnership, or other organization which supplied materials for the construction of a public building or project when the architect or engineer has performed architectural or engineering services, either directly or indirectly, in connection with the public building or project for which the materials are being supplied.

For the purpose of this Section, a "substantial financial interest" shall exclude any interest in stock being traded on the American Stock Exchange or the New York Stock Exchange.

That affiant, if subject to the provisions of this section, does hereby agree to be subject to the penalties involved for the violation of this section.

PART III

That affiant does hereby state that he has read and agrees to comply with and be subject to the provisions of Part V of Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950, being Sections 2290 through 2296 of Title 38 as amended.

Signature of Affiant: _____

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____DAY OF _____, 2021.

Signature of Notary: _____

00018

Grambling State University

Grambling, Louisiana

This Agreement, made and executed, on this _____day of the month _____in the year of our Lord, TWO THOUSAND and TWENTY-FOUR, by and through _____Grambling State University, the Party of the First Part, and hereinafter designated as "University" and _____, Contractor, domiciled and doing business in _____, Party of the Second Part, and hereinafter designated as Contractor.

WITNESSETH, That, in consideration of the covenants and agreements herein contained to be performed by the parties hereto and of the payments hereinafter agreed to be made, it is mutually agreed as follows:

The Contractor shall and will provide and furnish all materials, equipment and labor and perform the work required to complete in a thorough and workmanlike manner, to the satisfaction of the University, project entitled _____, in strict accordance with the Plans and Specifications which are on file in the Purchasing Department at Grambling State University. The bid on this project, numbered _____, was opened on _____, at _____. The plans and specifications and the Proposal Form are made a part hereof as fully as if set out herein and hereby become a part of this contract. Contract amount is $_____.

It is agreed and understood between the parties hereto that the Contractor agrees to accept and the University agrees to pay for the work at the price stipulated in said Proposal, such payment to be in lawful money of the United States, and the payment shall be made at the time and the manner set forth.

Performance will begin _____ Grambling State University

_____

BY: _____ BY: _____

TITLE:_____ TITLE: _____

GRAMBLINGSTATEUNIVERSITY

PROPERTY & RECEIVING WAREHOUSE REPLACEMENT

NOTE: Digital Drawing, Project Manual (Specifications) and bidding documents may be obtained from: WHITTINGTON ARCHITECTS INC./LONNIE PATRICK ARCHITECT JOINT VENTURE, P.O. BOX 1701, RUSTON, LOUISIANA 71273-1701318-548-2485, woodywhitt@aol.com

SECTION 00110 – REQUEST FOR INFORMATION

REQUEST FOR INFORMATION

Project Name: PROPERTY & RECEIVING WAREHOUSE
REPLACEMENT GRAMBLING STATE UNIVERSITY
GRAMBLING, LOUISIANA

Company Name:

Company Contact:

Project No.

Type of Work:

RFI #

Please Clarify the Following:

Drawing #:

Specification Section:

Request Response By:

QUESTIONS (Number each one):

ANSWER (List answers with same number as question):

GENERAL CONDITIONS

1.1 SUMMARY

A. Related Documents:
   1. Document 00 7300 - Supplementary Conditions.
   2. Division 01 - General Requirements.

1.2 DOCUMENT

A. American Institute of Architects (AIA) Document A201-LATEST EDITION, General Conditions of the Contract for Construction, forms a part of this Contract and by reference is incorporated herein as fully as if repeated at length.

END OF DOCUMENT

SCHEDULE OF VALUES

The Contractor is to use the following format. The total Contract Cost is to be itemized in each Subsection listed (as applicable)

			QUANITY		COST
DIVISION 01 – GENERAL REQUIREMENTS					
01 00 00	General Requirements				
01 32 50	Record Drawings, Shop Drawings, Product Data, Samples and other submittals.				
		TOTAL		**TOTAL**	
DIVISION 02 – EXISTING CONDITIONS					
02 30 00	Subsurface Investigation				
		TOTAL		**TOTAL**	
DIVISION 03 – CONCRETE					
03 01 00	Maintenance of Concrete				
03 11 00	Concrete Forming				
03 15 00	Concrete Accessories				
03 20 00	Concrete Reinforcing				
03 30 00	Cast-in-place Concrete				
03 40 00	Precast Concrete				
03 50 00	Cast Decks & Underlayment				
		TOTAL		**TOTAL**	
DIVISION 04 – MASONRY					
04 01 00	Maintenance of Masonry				
04 05 13	Masonry Mortaring				
04 05 19	Masonry Anchorage & Reinforcing				
04 05 23	Masonry Accessories				
04 20 00	Unit Masonry				
		TOTAL		**TOTAL**	
DIVISION 05 – METALS					
05 05 23	Metal Fastenings				
05 10 00	Structural Metal Framing				
05 20 00	Metal Joists				
05 30 00	Metal Decking				
05 50 00	Metal Fabrications				
05 58 00	Formed Metal Fabrications				
		TOTAL		**TOTAL**	
DIVISION 06 – WOOD, PLASTICS, & COMPOSITES					
06 05 23	Fastening and Adhesives				
06 10 00	Rough Carpentry				
06 13 00	Heavy Timber				
06 17 00	Shop-fabricated Structural Wood				
06 20 00	Finish Carpentry				
06 40 00	Architectural Woodwork				
06 60 00	Plastic Fabrications				
06 80 00	COMPOSITE FABROCATIONS				

		TOTAL	**TOTAL**
DIVISION 07 – THERMAL AND MOISTURE PROTECTION			
07 10 00	Dampproofing and Waterproofing		
07 18 00	Traffic Coatings		
07 19 00	Water Repellents		
07 21 00	Thermal Insulation		
07 24 00	Exterior Insulation & Finish Systems		
07 25 00	Weather Barriers		
07 31 00	Shingles and Shakes		
07 32 00	Roof Tiles		
07 40 00	Roofing and Siding Panels		
07 50 00	Membrane Roofing		
07 60 00	Flashing and Sheet Metal		
07 61 00	Sheet Metal Roofing		
07 70 00	Roof & Wall Specialties and Accessories		
07 80 00	Fire and Smoke Protection		
07 90 00	Joint Protection		
07 95 00	Expansion Control		
		TOTAL	**TOTAL**
DIVISION 08 – OPENINGS			
08 11 00	Metal Doors and Frames		
08 14 00	Wood Doors		
08 15 00	Plastic Doors		
08 30 00	Specialty Doors and Frames		
08 41 00	Entrances and Storefronts		
08 44 00	Curtain Wall and Glazed Assemblies		
08 51 00	Metal Windows		
08 52 00	Wood Windows		
08 53 00	Plastic Windows		
08 56 00	Special Function Windows		
08 60 00	Roof Windows and Skylights		
08 70 00	Hardware		
08 80 00	Glazing		
08 90 00	Louvers and Vents		
		TOTAL	**TOTAL**
DIVISION 09 – FINISHES			
09 22 00	Supports for Plaster and Gypsum Board		
09 23 00	Gypsum Plastering		
09 24 00	Portland Cement Plastering		
09 29 00	Gypsum Board		
09 30 00	Tiling		
09 50 00	Acoustical Ceilings		
09 54 00	Specialty Ceilings Quantity		

09 61 00	Flooring Treatment		
09 62 00	Specialty Flooring		
09 63 00	Masonry Flooring		
09 64 00	Wood Flooring		
09 65 00	Resilient Flooring		
09 66 00	Terrazzo Flooring		
09 68 00	Carpeting		
09 69 00	Access Flooring		
09 97 00	Wall Finishes		
09 91 00	Painting		
09 97 00	Special Coatings		
		TOTAL	**TOTAL**
DIVISION 10 – SPECIALTIES			
10 11 00	Visual Display Surfaces		
10 14 00	Signage		
10 21 00	Compartments and Cubicles		
10 22 00	Partitions		
10 26 00	Wall and Door Protection		
10 28 00	Toilet, Bath, and Laundry Accessories		
10 44 00	Fire Protection Specialties		
10 51 00	Lockers		
10 56 00	Storage Assemblies		
10 82 00	Grilles and Screens		
		TOTAL	**TOTAL**
DIVISION 11 – EQUIPMENT			
11 15 00	Security, Detention, and Banking Equipment		
11 19 00	Detention Equipment		
11 23 00	Commercial Laundry and Dry Cleaning Equipment		
11 26 00	Unit Kitchens		
11 27 00	Photographic Processing Equipment		
11 40 00	Foodservice Equipment		
11 51 00	Library Equipment		
11 52 00	Audio-Visual Equipment		
11 53 00	Laboratory Equipment		
11 61 00	Theater and Stage Equipment		
11 65 00	Athletic and Recreational Equipment		
11 70 00	Healthcare Equipment		
		TOTAL	**TOTAL**
DIVISION 12 – FURNISHINGS			
12 20 00	Window Treatments		
12 30 00	Casework		
12 40 00	Furnishings and Accessories		
12 50 00	Furniture		

DIVISION 13 –SPECIAL CONSTRUCTION				
13 10 00	Special Facility Components			
13 34 00	Fabricated Engineered Structures			
13 49 00	Radiation Protection			
		TOTAL		**TOTAL**
DIVISION 14 – CONVEYING EQUIPMENT				
14 20 00	Elevators			
14 30 00	Escalators and Moving Walks			
14 40 00	Lifts			
14 80 00	Scaffolding			
		TOTAL		**TOTAL**
DIVISION 21 – FIRE SUPPRESSION				
21 10 00	Water-Based Fire-Suppression Systems Piping			
21 20 00	Fire-Extinguishing Systems			
21 30 00	Fire Pumps			
		TOTAL		**TOTAL**
DIVISION 22 – PLUMBING				
22 07 00	Plumbing Insulation			
22 11 00	Facility Water Distribution			
22 13 00	Facility Sanitary Sewerage			
22 14 00	Facility Storm Drainage			
22 30 00	Plumbing Equipment			
22 40 00	Plumbing Fixtures			
		TOTAL		**TOTAL**
DIVISION 23 – HEATING, VENTILATING, & AIR-CONDITIONING				
23 05 93	Testing, Adjusting, & Balancing for HVAC			
23 07 00	HVAC Insulation			
23 09 00	Instrumentation & Control for HVAC			
23 13 00	Facility Fuel-Storage Tanks			
23 20 00	HVAC Piping and Pumps			
23 30 00	HVAC Air Distribution			
23 40 00	HVAC Air Cleaning Devices			
23 50 00	Central Heating Equipment			
23 60 00	Central Cooling Equipment			
23 70 00	Central HVAC Equipment			
		TOTAL		**TOTAL**
DIVISION 26 – ELECTRICAL				
26 09 00	Instrumentation & Control for Electrical Systems			
26 10 00	Medium-Voltage Electrical Distribution			
26 20 00	Low-Voltage Electrical Transmission			

26 27 00	Low-Voltage Distribution Equipment			
26 30 00	Facility Electrical Power Generating & Storage Equipment			
26 40 00	Electrical and Cathodic Protection			
26 50 00	Lighting			
		TOTAL		**TOTAL**
DIVIASION 27 – COMMUNICATIONS				
27 10 00	Structured Cabling			
27 20 00	Data Communications			
27 30 00	Voice Communications			
27 40 00	Audio-Video Communications			
27 50 00	Distributed Communications & Monitoring Systems			
		TOTAL		**TOTAL**
DIVISION 28 – ELECTRONIC SAFETY AND SECURITY				
28 10 00	Electronic Access Control & Intrusion Detection			
28 20 00	Electronic Surveillance			
28 30 00	Electronic Detection and Alarm			
28 40 00	Electronic Monitoring and Control			
		TOTAL		**TOTAL**
DIVISION 31 – EARTHWORK				
31 10 00	Site Clearing			
31 20 00	Earth Moving			
31 31 00	Soil Treatment			
31 32 00	Soil Stabilization			
31 40 00	Shoring and Underpinning			
31 50 00	Excavation Support and Protection			
31 60 00	Special Foundations and Load-Bearing Elements			
		TOTAL		**TOTAL**
DIVISION 32 – EXTERIOR IMPROVEMENTS				
32 10 00	Bases, Ballasts, and Paving			
32 30 00	Site Improvements			
32 90 00	Planting			
		TOTAL		**TOTAL**
DIVISION 33 – UTILITIES				
33 10 00	Water Utilities			
33 30 00	Sanitary Sewerage Utilities			
33 40 00	Storm Drainage Utilities			
33 50 00	Fuel Distribution Utilities			
33 60 00	Hydronic & Steam Energy Utilities			
33 70 00	Electrical Utilities			

DIVISION 34 – TRANSPORTATION				
34 00 00	Transportation			
		TOTAL	**TOTAL**	
DIVISION 35 – WATERWAY AND MARINE CONSTRUCTIONS				
35 00 00	Waterway and Marine construction			
DIVISION 40-43 – PROCESS EQUIPMENT		**TOTAL**	**TOTAL**	
DIVISION 44 – POLLUTION CONTROL EQUIPMENT				
44 40 00	Water Treatment Equipment			
44 41 00	Packaged Water Treatment Plants			
44 50 00	Solid Waste Control			
		TOTAL	**TOTAL**	
DIVISION 45 – INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT				
DIVISION 48 – ELECTRICAL POWER GENERATION				
48 10 00	Electrical Power Generation Equipment			
48 70 00	Electrical Power Generation Testing			
		TOTAL	**TOTAL**	

Grambling State University
CHANGE ORDER

PROJECT NAME:			CHANGE ORDER NO:
PROJECT NUMBER:			CONTRACT DATE:
CONTRACTOR:			CFMS No.
SITE CODE:		STATE ID:	NOTICE TO PROCEED DATE:

You are directed to make the following change(s) in this contract. Attach SUMMARY, BREAKDOWN and/or UNIT PRICE BREAKDOWN forms as required and give a brief description of the change(s) below.

The Original Contract Sum _____

Total Changes by Previous Change Order(s) _____

Current Contract Sum _____

Contract Sum will be (increased) (decreased) (unchanged) by this Change Order _____

New Contract Sum

The Original Contract Completion Date and Contract Time.	Date:		DAYS
Total Time extended by Previous Change Order(s)			DAYS
Contract Time will be (increased) (decreased) (unchanged) by this Change Order			DAYS
New Contract Completion Date & Revised Contract Time	Date:		DAYS
Added Building Area			(Sq. Ft.)

NOTE : No additional increase in time or money will be considered for a Change Order item after it has been executed.

RECOMMENDED Designer's Name:	**ACCEPTED** Contractor's Name:	**APPROVED** Project Manager:
Address:	Address:	Grambling State University
By:	By:	By:
Date:	Date:	Date:

GRAMBLING STATE UNIVERSITY USE ONLY

Classification	**Amount**	**Classification**	**Amount**
Omission (Type "O")*		**Miscellaneous (Type "M")**	
Error (Type "E")*		**Owner Requested (Type "R")**	

*See Section 5.4.3 of the Louisiana Capital Improvement Projects Procedure Manual for Design and Construction, 2006 Edition

Senior Manager/Assistant Director approval: _____

COMMENTS:

CERTIFICATE OF COMPLIANCE

with

Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines

TO: GRAMBLING STATE UNIVERSITY
Purchasing Department
P.O. Box 4262
Grambling, LA 71245

FROM: _____

_____

_____

Design Firm Name and Address

PROJECT NAME: _____

_____

PROJECT No.: _____

SITE CODE: _____ STATE ID: _____

DATE OF ACCEPTANCE: _____

I, _____certify that, to the best of my knowledge and belief, this project has been constructed in compliance with the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines as reviewed by the fire marshal.

_____ Date: _____

Designer Signature

State of Louisiana

GRAMBLING STATE UNIVERSITY

CERTIFICATE OF COMPLIANCE

with

Louisiana Building Code for State Owned Buildings

TO: GRAMBLING STATE UNIVERSITY
Purchasing Department P.O. Box 4262
Grambling, LA 71245

FROM: _____

_____

_____

(Design Firm or Owner/User Name and Address)

PROJECT NAME: _____

_____

PROJECT No.: _____

DATE OF ACCEPTANCE: _____

I, _____certify that, to the best of my knowledge and belief, this project has been constructed in compliance with the construction documents determined to be satisfactory by the State of Louisiana, Grambling State University, Grambling, La.

_____ Date: _____

(*Signature of Designer or Owner/User)*

SECTION 01010 - SUMMARY OF THE WORK

PART 1 - GENERAL

RELATED DOCUMENTS:

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

PROJECT/WORK IDENTIFICATION:

General: Project name is PROPERTY & RECEIVING WAREHOUSE REPLACEMENT, GRAMBLING STATE UNIVERSITY, GRAMBLING, LOUISIANA, as shown on Contract Documents prepared by WHITTINGTON ARCHITECTS INC./LONNIE PATRICK ARCHITECT JOINT VENTURE Drawings and Specifications are dated, June 30, 2024.

The work includes the construction of a single-story metal building with a mezzanine floor, including concrete slab, brick veneer front, concrete masonry units, vinyl plank flooring, resinous flooring, hollow metal doors and frames, overhead doors, windows, gypsum board wall panels, cabinets, ceramic tile, painting, suspended acoustic ceilings; lighting and electrical; mechanical, plumbing, site work, concrete paving, etc., as shown on the drawings and as required to complete the work.

Items Provided by the Owner and Contractor Installed: None

Work Performed by Owner:

BUILDING PERMITS: Local building permits are not required for State of Louisiana-owned building projects.

PLAN OF ACTION:

Submit a detailed plan of the procedures proposed for use in complying with the requirements of this specification. Include in the plan the sequencing of all work, the interface of trades involved in the performance of work, methods to be used to assure the safety of building occupants and visitors to the site, disposal plan including the location of the approved disposal site, and a detailed description of the methods to be employed to control pollution. The plan must be coordinated with the Architect prior to commencement of work.

INSPECTION:

OSHA COMPLIANCE:

All requirements of OSHA including the Hazard Communications Standard must be met by the Contractor at all times.

CONTRACTOR USE OF PREMISES:

General: The Contractor shall limit his use of the premises to the work indicated, so as to allow for Owner occupancy and use by the public.

Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

Keep existing driveways and entrances serving the premises clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials.

Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary obtain and pay for such storage off-site.

Lock automotive-type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.

OWNER OCCUPANCY:

Full Owner Occupancy: The Owner, ie. Students will occupy existing adjacent buildings during the entire period of construction. Cooperate fully with the Owner or his representative during construction operations to minimize conflicts and facilitate Owner usage. Perform the work so as not to interfere with the Owner's operation.

SUBMITTALS

Before the Start of Work: Submit the following to the Architect for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final but restricted use.

Plan of Action: Submit a written report in the same manner as product data.

Inspection: Report on inspection carried out as required by this section. Include copies of all photographs, videotapes, etc. Submit in the same manner as product data.

PART 2 - PRODUCTS (Not Applicable) PART 3 - EXECUTION

Work Sequence:

It is the intent of the University to award a contract to the lowest responsible contractor as long as the bid is within the budget and the Contractor provides all necessary items for execution of the contract within FIFTHTEEN DAYS.

The successful Bidder shall furnish properly executed contracts, specified certificates of insurance, and bonds must be returned to the University within 15 working days of notice of award or University may declare bidder non-responsible and award to next lowest qualified bid.

COMPLETION TIME: The Bidder hereby agrees to commence work under this Contract on a date specified in a written “Notice To Proceed” by the Owner and to fully complete the project within (365) consecutive calendar days thereafter, or within the time as may be extended as stipulated in the Contract Documents.

LIQUIDATED DAMAGES: The Bidder hereby also agrees to pay as Liquidated Damages the sum of Three Hundred Dollars ($300.00) for each consecutive calendar day which the work is not complete beginning with the first day beyond the completion time stated above.

END OF SECTION - 01010

SECTION 01025 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.

The Contractor's Construction Schedule and Submittal Schedule are included in Section 01300 "Submittals".

SCHEDULE OF VALUES

Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.

Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

Contractor's Construction Schedule. Application
for Payment Form.
List of Subcontractors.
Schedule of Alternates. List
of Products.
List of Principal Suppliers and Fabricators. Schedule
of Submittals.

Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than 7 days before the date scheduled for submittal of the initial Application for Payment.

Form: The schedule of values will be submitted on AIA Document G702 “Application and Certificate for Payment” or other prior approved form.

Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.

Identification: Include the following Project identification on the Schedule of Values:

Project name and location.
Name of the Architect.
Project number.
Contractor's name and address. Date
of submittal.

Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items. Each item shall include a directly proportional amount of the contractor's overhead and profit. For items on which progress payments will be requested for stored materials, break down the value into:

A. The cost of the material, delivered and unloaded with taxes paid.
B. The total installed value.

Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.

APPLICATIONS FOR PAYMENT

See General Conditions of the Contract. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction Work covered by each Application or Payment is the period indicated in the Agreement.

Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment, or similar approved document.

Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.

Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.

Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

Transmittal: Submit 3 executed copies of each Application for Payment to the Architect by means ensuring receipt within 24 hours; one copy shall be complete, including waivers of lien and similar attachments, when required.

Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.

Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment; this application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

Administrative actions and submittals that shall proceed or coincide with this application include:

Occupancy permits and similar approvals.

Warranties (guarantees) and maintenance agreements. Test/adjust/balance

records.

Maintenance instructions.

Meter readings.

Start-up performance reports.

Change-over information related to Owner's occupancy, use, operation and maintenance.

Final cleaning.

Application for reduction of retainage, and consent of surety.

Advice on shifting insurance coverages.

Final progress photographs.

List of incomplete Work, recognized as exceptions to Owner's Representative Certificate of Substantial Completion.

Final Payment Application: Administrative actions and submittals which must precede or coincide with submittal of the final payment Application for Payment include the following:

Completion of Project closeout requirements.

Completion of items specified for completion after Substantial Completion. Assurance that

unsettled claims will be settled.

Assurance that Work not complete and accepted will be completed without undue delay. Transmittal of

required Project construction records to Owner.

Certified property survey.

Disposal receipts, bills of lading and other required documentation of transportation and disposal of asbestos-containing waste.

Proof that taxes, fees and similar obligations have been paid.

Removal of temporary facilities and services.

Removal of surplus materials, rubbish and similar elements.

Copy of the contractor's final report including daily reports and air monitoring.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01025

SECTION 01040 - PROJECT COORDINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SUMMARY

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

Administrative and Supervisory Personnel.

Progress Meetings

Pre-Construction Conference

Daily Log

Special Reports.

Contingency Plans

Notifications to Other Entities at Job Site.

Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of projects of this scope including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor`s Representative responsible for compliance with all applicable federal, state and local regulations.

Experience and Training: The General Superintendent must have had a minimum of five (5) years on-the-job training on construction projects. Provide resume of superintendent with project submittals. Superintendent is to remain on the project until completion of all punch list items. Changes in Superintendent require written approval of Architect.

PROGRESS MEETINGS:

General: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, Owner's Representative will hold general progress meetings as required. These meeting will be scheduled, where possible, at time of preparation of payment request. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

PRE-CONSTRUCTION CONFERENCE:

An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Owner's Representative prior to start of any work. Meet at project site, or as otherwise directed with General Superintendent, Owner, Owner's Representative, Project Administrator, and other entities concerned with the work.

72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.

This is an organizational meeting, to review responsibilities and personnel assignments of all parties involved in the work. All parties shall have reviewed the requirements of the work and be prepared to bring up any and all items that may result in construction problems or change orders.

DAILY LOG:

Daily Log: Maintain within the Contractors job shack a daily log documenting the dates and time of but not limited to, the following items:

Meetings; purpose, attendees, brief discussion

Visitations; authorized and unauthorized

Personnel; by name, entering and leaving the work area Special or

unusual events, accidents

Upkeep of Record Drawings and Specifications Work

Progress Schedule

Make available a copy of this log to Project Administrator on a daily basis or as requested. Submit

copies of this log at final closeout of project as a project close- out submittal.

SPECIAL REPORTS:

General: Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to the Architect and others affected by occurrence.

Reporting Unusual Events: When an event of unusual and significant nature occurs at site, prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information.

Reporting Accidents: Prepare and submit reports of significant accidents at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

Report Discovered Conditions: When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) prepare and submit a special report indication condition discovered.

CONTINGENCY PLAN:

Contingency Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, or any other event that may cause a threat to persons and property.

Post: in the job shack telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.

NOTIFICATIONS

Notify other entities at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.

Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

Notification Required by OSHA: Hazard Communication Act for Construction Projects. Have all required MSDS information readily available.

SUBMITTALS

Before the Start of Work: Submit the following to the Architect for review. No work shall begin until these submittals are returned with the Architect's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Contingency Plans: for emergency actions.

Telephone Numbers: and location of emergency services.

Notifications: sent to other entities at the work site.

Notifications: sent to emergency service agencies.

Resume: of general superintendent.

Accreditation: submit evidence in form of training course certificate of accreditation of the Competent Person as an asbestos abatement supervisor.

Staff Names: Within 10 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

Post copies of the list in the project meeting room, the temporary field office, and each temporary telephone.

Subcontractors/Supplier Staff Names: Within 30 days of Notice to Proceed, submit a list of the Subcontractors and material suppliers including the project foreman and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers. Post copies of the list in the project meeting room, the temporary field office, and each temporary telephone.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Non-Applicable)

END OF SECTION 01040

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

- Contractor's construction schedule.
- Submittal schedule.
- Daily construction reports.
- Shop Drawings.
- Product Data.
- Samples.
- Miscellaneous Submittals

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

- Permits
- Applications for payment
- Maintenance, Performance and Payment bonds
- Insurance certificates
- List of Subcontractors

SUBMITTAL PROCEDURES

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Owner's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Owner's Representative using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

CONTRACTOR'S CONSTRUCTION SCHEDULE

Schedule: Provide proposed detailed schedule including work dates, work shift time, number of employees, dates of start and completion including dates of preparation work, removals and final inspection dates.

Critical Path: The construction schedule shall set forth each segment of the work on a critical path of events and material delivery dates. This schedule shall show activities that are dependent upon each other and the longest path for completion of those activities.

Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Owner's Representative's procedures necessary for certification of Substantial Completion.

Area Separations: Provide a separate time bar to identify each part of the work or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.

SUBMITTAL SCHEDULE

Listing: At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

SHOP DRAWINGS

Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

Shop Drawings include fabrication and installation drawings, schedules, and similar drawings. Include the following information:

- Dimensions.
- Identification of products and materials included.
- Compliance with specified standards.
- Notation of coordination requirements.
- Notation of dimensions established by field measurement.

USE OF ARCHITECTS ELECTRONIC CAD FILES

The contractor and its sub-contractors will have limited use of the architect’s electronic cad files. All drawings are in AutoCAD.dwg format.

Drawing files will be issued at the discretion of the architect and only after an Indemnification Agreement has been executed between the Architect and requestor (Contractor or subcontractor). The intent of this is to facilitate the contractor in expediting the preparation of shop drawings by using the architects base floor plan drawings. However, the responsibility lies with the contractor and the subcontractor to verify actual conditions and by signing the Indemnification Agreement, the requestor holds the architect and its consultants harmless from dimensional discrepancies, changes in the conditions, etc.

A processing charge of $300.00 per electronic drawing file will be assessed and is due with the executed Indemnification Agreement. Electronic files will be issued on writeable only Compact Disc medium.

Sheet Size: Submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 24" x 36".

Initial Submittal: Submit one correctable translucent reproducible print and one blue- or black-line print for the Owner's Representative's review; the reproducible print will be returned. Unless non-compliance with contract document provisions is observed, the submittal may serve as the final submittal. If reproducibles are not appropriate, submit five copies for review.

One of the prints returned shall be marked-up and maintained as a "Record Document".

Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

Coordination drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended.

Preparation of coordination Drawings is specified in section "Project Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.

Submit coordination Drawings for integration of different construction elements. Show sequences and relationships of separate components to avoid conflicts in use of space.

PRODUCT DATA

Collect Product Data into submittals in accordance with Specification sections. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

Manufacturer's printed recommendations.
Compliance with recognized trade association standards.
Compliance with recognized testing agency standards.
Application of testing agency labels and seals. Notation of dimensions verified by field measurement. Notation of coordination requirements.

Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

Submittals (Product Data): Submit 5 copies of each required submittal. The Owner's Representative will retain two, and will return the three marked with action taken and corrections or modifications required.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.

Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.

Do not permit use of unmarked copies of Product Data in connection with construction.

Products requiring testing agency labels and seals shall have separate submittal data from that testing agency. Manufacturer's printed literature does not meet this requirement.

SAMPLES

Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials.

Generic description of the Sample.
Sample source.
Product name or name of manufacturer.
Compliance with recognized standards.
Availability and delivery time.

Submit Samples for review of kind, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.

Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.

Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.

Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

MISCELLANEOUS SUBMITTALS:

Material Safety Data Sheets: Process material safety and data sheets as "product data."

Records of Actual Work: Furnish 4 copies of records of actual work, one of which will be returned for inclusion in the record documents as specified in section "Project Closeout".

Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

Record Documents: Furnish set of original documents as maintained on the project site. Along with original marked-up record drawings provide 2 photographic copies of marked-up drawings, which, at the Contractor's option, may be reduced to not less than half size. See Section 01700 for other requirements.

CONTRACTOR'S ACTION

The Contractor shall stamp each Shop Drawing and Product Data submittal. Submittal received without the Contractor's stamp and signature will not be accepted. The Contractor shall certify to the review of the submittal verification of product, field measurements and field construction criteria and coordination of the information within the submittal for compliance with the Contract.

ARCHITECT'S ACTION

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Owner's Representative will review each submittal, mark to indicate action taken, and return promptly.

Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

Reviewed: This block marked states that the submittal for that part of the work may proceed provided it complies with requirements of the contract documents; final acceptance will depend upon that compliance.

Furnish As Corrected: This block marked states that the submittal for that part of the work has been reviewed with corrections noted by the architect and may proceed provided it complies with requirements of the contract documents; final acceptance will depend upon that compliance.

Revise and Resubmit: This block marked states that the submittal was found to not be in compliance with the contract documents. Resubmittal with appropriate corrections is required.

Submit Specified Item: This block marked states that only the specified item will be required.

Rejected - See Remarks: This block marked states, the submittal is not in compliance with the contract documents.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01300

SECTION 01500 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

ELECTRICAL UTILITIES:

The contractor may use the electrical system located at the buildings for all necessary work to complete this project. Utility cost will be covered by the University.

PROTECTIONS OF PERSONS AND PROPERTY:

The contractor will be responsible for protection of the work, persons and property during the contract period.

TEMPORARY TOILET FACILITIES:
The contractor shall provide and maintain in sanitary condition portable prefabricated chemical type toilets with proper enclosures. He shall remove them at completion of the project and leave the premises clean and sanitary.

TREE AND PLANT PROTECTION:

The contractor will be responsible for any and all damage to any trees to remain on the site. If a tree is damaged he shall make a written report to be delivered to the Architect. This report will describe the type, size and location of the tree and the amount of damage. All damage shall be repaired as soon as possible by an expert in plant care. The contractor will assume all cost for the protection of major trees near construction. The contractor will construct wood barricades around the trees.

SITE LOCATIONS OF TEMPORARY FACILITIES & STORAGE:

The Contractor shall verify with the Architect the site locations for all temporary construction, storage, and facilities.

WEATHER PROTECTION:

The contractor shall provide all weather protection to protect the work and materials against inclement weather including cold, heat and dampness. The method of protection shall be acceptable to the architect.

CLEAN UP:

At all times during the construction the premises will be kept free of accumulations of waste material and rubbish. All materials will be stacked neatly and in accordance with proper storage of the materials.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01500

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

Inspection procedures.
Project record document submittal.
Submittal of warranties.
Final cleaning.

Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.

SUBSTANTIAL COMPLETION

Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

General: When Contractor considers work is substantially complete, he shall submit to Architect:

A written notice that work, or designated portion thereof, is substantially complete.
A list of items to be completed or corrected and a dollar value assigned to each item of work.

Other Requirements:

See Supplementary Conditions

In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the work claimed as substantially complete. Include supporting documents for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the work is not complete.

Advise Owner of pending insurance change over requirements.

Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

Submit record drawings, damage or settlement survey, and similar final record information.

Complete start up testing of systems. Discontinue or change over and remove temporary facilities from the site, along with construction tools, and similar elements.

Complete final clean up requirements, including touch up painting. Touch up and otherwise repair and restore marred exposed finishes.

Inspection Procedures: On receipt of a written request for inspection, from the contractor, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

The Architect will repeat inspection when requested and assured that the work has been substantially completed.

Results of the completed inspection will form the basis of requirements for final acceptance.

FINAL ACCEPTANCE

Preliminary Procedures: Before requesting final inspection for Certification of Final Acceptance and Final Payment, complete the following. List exceptions in the request.

Submit the Final Payment Request with releases and supporting documentation not previously submitted and accepted. Include Certificates of Insurance for products and completed operations where required.

Submit an updated final statement, accounting for final additional changes to the Contract Sum.

Submit a certified copy of the Owner's Representative's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Owner's Representative.

Submit consent of surety to Final Payment.

Submit a final liquidated damages settlement statement.

Submit evidence of final, continuing insurance coverage complying with insurance requirements.

FINAL ADJUSTMENT OF ACCOUNTS:

General: Submit a final statement of accounting to Architect.

Form: Statement shall reflect all adjustments to the Contract sum:

The original Contract Sum.

Additions and deductions resulting from: Previous
Change Orders.
Allowances. Unit
Prices.
Deductions for uncorrected work.
Deductions for liquidated damages.
Deductions for reinspection payments.
Other adjustments.

Total Contract Sum, as adjusted. Previous
payments.
Sum remaining due.

Final Adjustment: Architect will prepare a final Change Order, reflecting approved adjustments to Contract Sum which were not previously made by Change Orders.

FINAL APPLICATION FOR PAYMENT:

General: Contractor shall submit Final Application for Payment in accordance with procedures and requirements stated in Conditions of Contract.

Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.

Upon completion of reinspection, the Architect will prepare a Certificate of Final Acceptance, or advice the Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.

If necessary, reinspection will be repeated.

REINSPECTION FEES:

General: Should the Architect perform reinspections due to failure of Work to comply with claims of status of completion made by Contractor.

The Owner will compensate the Architect for such additional services.
The Owner will deduct amount of such compensation from final payment to the Contractor.

RECORD DOCUMENT SUBMITTALS

General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Owner's Representative's reference during normal working hours.

Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the work.

Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.

Note related Change Order numbers where applicable.

Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

Drawings: Legibly mark to record actual construction:

Depths of various elements of foundation in relation to finish first floor datum.

Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.

Field changes of dimension and detail.

Changes made by Field Order or by Change Order. Details

not on original Contract Drawings.

SPECIAL NOTE:

Furnish a set of original documents as maintained on the project site. Along with original marked-up record drawings, provide two (2) photographic copies of the record drawings, which at the Contractor's option may be reduced to not less than half size.

Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.

Upon completion of the work, submit record Specifications to the Architect for the Owner's records.

Specifications and Addenda: Legibly mark each Section to record:

Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.

Changes made by Field Order or by Change Order.

Record Product Data/Shop Drawings: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in the actual work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark up of record Drawings and Specifications.

Upon completion of mark up, submit complete set of record Product Data to the Architect for the Owner's records. All record product data and shop drawings shall be placed in a three-ring binder and divided into sections as they apply to the specification manual.

Documents Reviewed and Signed by all Government Agencies: These documents must be kept in a safe place by the Contractor during construction. These documents are not to be used for construction other than reference. Do not mark on these documents. With the final submittal of record documents these documents must be included.

Operating and Maintenance Data: Submit to Architect at completion of Project following Operating and Maintenance Data:

Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Contract.

Provide three sets of 3-ring binders containing operating and maintenance data as specified in other pertinent sections of Specifications.

Provide this same information digitally on CD-ROM in PDF, Excel, and/or Word format as applicable to each separate operating and maintenance data type.

Instructing Owner's Personnel:

Instruct Owner's personnel in maintenance of products and in operation of equipment and systems. This shall be arranged as a series of meetings between the Contractor and the Owner for review of all projects and systems for turn over to the Owner.

Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.

Warranties and Service Contracts: Submit to Architect in accordance with requirements of Section 01740 - "Warranties and Lists."

Spare Parts and Maintenance Materials: Submit Lists to Architect in accordance with requirements of Section 01740 - "Warranties and Lists."

Evidence of Payment and Release of Liens: Submit to Architect in accordance with requirements of Section 00700 - "General Conditions of the Contract" and Section 01740 - "Warranties and Lists."

Certificate of Insurance for Products and Completed Operations: Submit to Architect in accordance with requirements of Section 00700 - "General Conditions of the Contract"

Keys and Keying Schedule: Submit to Architect in accordance with requirements of Section 08711 - "Finish Hardware."

Record Survey: Provide final certified survey as noted in Section 01051.

PART 2 - PRODUCTS (Not Applicable)
PART 3 - EXECUTION

FINAL CLEANING: See Section 01710 - Cleaning

END OF SECTION

SECTION 032000 CONCRETE

REINFORCING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Reinforcing bars, wire fabric, and accessories for cast-in-place concrete.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. American Concrete Institute (ACI) 301 - Specifications for Structural Concrete for Buildings.

B. ASTM International (ASTM):
   1. A185/A185M - Standard Specification for Welded Steel Wire Reinforcement, Plain, for Concrete.
   2. A615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
   3. A767 - Standard Specification for Zinc-Coated (Galvanized) Bars for Concrete Reinforcement.
   4. D3963 - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Reinforcing Steel.

C. American Welding Society (AWS) D1.4 - Structural Welding Code - Reinforcing Steel.

D. Concrete Reinforcing Steel Institute (CRSI):
   1. Manual of Practice.
   2. Publication 63 - Recommended Practice for Placing Reinforcing Bars.
   3. Publication 65 - Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

1.3 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings:
   a. Include bar sizes, spacings, laps, locations, and quantities of reinforcing bars, wire fabric, and accessories.
   b. Provide bending and cutting schedules.
   c. Show complete layout plan for each layer of reinforcing.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver reinforcing to project site in bundles marked with tags indicating bar size, length, and mark.

B. Store reinforcing above ground in dry, well drained area; protect from corrosion.

PART 2 PRODUCTS

2.1 MATERIALS

A. Reinforcing Bars:
   1. ASTM A615/A615M, deformed billet steel, Grade 40.
   2. Finish: Plain.

B. Welded Wire Fabric:
   1. ASTM A185/A185M. As shown on drawings.
   2. Finish: Plain.

2.2 ACCESSORIES

A. Spacers, Chairs, Bolsters, and Bar Supports:
   1. Sized and shaped for strength and support of reinforcement during concrete placement.
   2. Galvanized or plastic-coated steel for surfaces exposed to weather.

B. Tie Wire: Annealed steel, minimum 16 gage.

2.3 FABRICATION

A. Fabricate in accordance with ACI 301 and CRSI Manual.

B. Bend bars cold; do not heat or bend by makeshift methods. Discard damaged bars.

C. Welding: AWS D1.4.

D. Fabrication Tolerances:
   1. Sheared length: Plus or minus 1 inch.
   2. Bends in stirrups and ties: Plus or minus 1/2 inch.
   3. All other bends: Plus or minus 1 inch.

PART 3 EXECUTION

3.1 PREPARATION

A. Before placing in work, thoroughly clean reinforcing of loose rust, mill scale, dirt, oil, and other materials that could reduce bonding.

B. Inspect reinforcing left protruding for future bonding or following delay in work, and clean if necessary.

3.2 INSTALLATION

A. Install reinforcing in accordance with ACI 301, and CRSI Manual and Publications 63 and 65.

B. Accurately position reinforcing; securely tie at intersections.

C. Welding: AWS D1.4.

D. Install wire fabric reinforcing in longest practical lengths. Offset end laps in adjacent widths to prevent continuous lap.

E. Do not displace or damage vapor retarder.

F. Locate splices not indicated on Drawings at points of minimum stress.

END OF SECTION

SECTION 033000 CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Cast-in-place concrete for footing foundations, paving, and slabs on grade.
2. Equipment pads.

1.2 REFERENCES

A. American Concrete Institute (ACI):
1. 301 - Structural Concrete for Buildings.
2. 305R - Hot Weather Concreting.
3. 306R - Cold Weather Concreting.
4. 308 - Standard Practice for Curing Concrete.
5. 318 - Building Code Requirements for Structural Concrete.

B. ASTM International (ASTM):
1. C31 - Standard Test Method for Method of Making and Curing Concrete Test Specimens in the Field.
2. C33 - Standard Specification for Concrete Aggregates.
3. C39 - Standard Test Method for Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. C94 - Standard Specification for Ready-Mixed Concrete.
5. C143 - Standard Test Method for Slump of Portland Cement Concrete.
6. C150 - Standard Specification for Portland Cement.
7. C171 - Standard Specification for Sheet Materials for Curing Concrete.
8. C172 - Standard Test Method for Method of Sampling Freshly Mixed Concrete.
9. C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
10. C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
11. C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
12. C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
13. C494 - Standard Specification for Chemical Admixtures for Concrete.
14. C618 - Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolans for Use as a Mineral Admixture in Portland Cement Concrete.
15. C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
16. D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

1.3 SUBMITTALS

A. Submittals for Review:
1. Concrete Mix Designs: Include:
   a. Proportions of cement, fine and coarse aggregates, fibrous reinforcing, and water.
   b. Water/cement ratio, design strength, slump, and air content.
   c. Type of cement and aggregates.
   d. Type and proportion of admixtures.

1.4 QUALITY ASSURANCE

A. Concrete Mix Design: In accordance with ACI 301, Method 1 or 2.

1.5 DELIVERY, STORAGE AND HANDLING

A. Mix and deliver concrete to project ready mixed in accordance with ASTM C94.

B. Schedule delivery so that pours will not be interrupted for over (15) minutes.

C. Place concrete on site within (90) minutes after proportioning materials at batch plant.

1.6 PROJECT CONDITIONS

A. Cold Weather Placement - Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures. Comply with ACI 306R and following requirements:
1. Air temperature at or expected to fall below (40) degrees F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than (50) degrees F and not more than (80) degrees F at point of placement.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.

B. Hot Weather Placement - Place concrete in accordance with ACI 305R and following requirements:
1. Cool ingredients before mixing to maintain concrete temperature at time of placement below (90) degrees F. Use chilled mixing water or chopped ice if water equivalent of ice is calculated in total amount of mixing water.
2. If required, cover reinforcing steel with water soaked burlap so that steel temperature will not exceed ambient air temperature.
3. Fog spray forms, reinforcing steel, and subgrade just before concrete is placed.
4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Concrete Chemicals:
1. Conspec Marketing and Manufacturing. (www.conspecmkt.com)
2. BASF Admixtures, Inc. (www.masterbuilders.com)
3. W. R. Meadows, Inc. (www.wrmeadows.com)

2.2 MATERIALS

A. Portland Cement: ASTM C150, Type I or III, gray color.

B. Aggregates:
1. Fine: ASTM C33, clean, hard, durable, uncoated natural sand, free from silt, loam, and clay.
2. Coarse: ASTM C33, clean, hard, durable, uncoated crushed stone, maximum size No. 467, Table No. 2.

C. Fibrous Reinforcing: ASTM C1116, 100 percent virgin polypropylene, or approved substitute, free from reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.

2.3 ACCESSORIES

A. Water: Clean and potable.

B. Admixtures:
1. Water reducing or water reducing/set retarding: ASTM C494, Type A or D.
2. Air entraining: ASTM C260.

C. Expansion Joint Filler: ASTM D1752, non-asphaltic type.

D. Non-Shrink Grout: Premixed, consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; minimum 7,000 psi compressive strength at 28 days.

E. Bonding Agent: Two component modified epoxy resin.

F. Curing Compound: ASTM C309, water based type.

G. Curing Paper: ASTM C171, waterproof paper or polyethylene film.

2.4 MIXES

A. Proportions: In accordance with ACI 301.

B. Design concrete to yield characteristics scheduled at end of Section.

C. Fibrous Reinforced Concrete:
1. Add fibrous reinforcing to concrete at time concrete is batched to provide 1.5 pounds of reinforcing per cubic yard of concrete.
2. Ensure complete distribution.

D. Use accelerating admixture in cold weather only when approved by Architect. Use of admixtures will not reduce cold weather placement requirements.

PART 3 EXECUTION

3.1 PREPARATION

A. Notify Architect and Testing Laboratory minimum (24) hours prior to placing concrete.

B. Accurately position anchor bolts, sleeves, conduit, inserts, and accessories. Do not cut reinforcing steel to facilitate installation of inserts or accessories.

C. Remove water and debris from forms and excavations.

D. Close openings left in forms for cleaning and inspection.

E. Prepare previously placed concrete surfaces by cleaning with steel wire brush and applying bonding agent in accordance with manufacturer's instructions.

3.2 PLACEMENT OF CONCRETE

A. Place concrete in accordance with ACI 301 and ACI 318.

B. Ensure reinforcement, inserts, and embedded parts are not disturbed during concrete placement.

C. Deposit concrete as nearly as possible in its final position to minimize handling and flowing.

D. Place concrete continuously between predetermined expansion, control, and construction joints.

E. Do not place partially hardened, contaminated, or retempered concrete.

F. Do not allow concrete to free fall over (8) feet; provide tremies, chutes, or other means of conveyance.

G. Consolidate concrete with mechanical vibrating equipment. Hand compact in corners and angles of forms.

H. Screed slabs level, to flatness tolerance of (1/8) inch in 10 feet.

3.3 PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

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

C. Provide artificial heat to maintain temperature of concrete above minimum specified temperature for duration of curing period.

D. Keep forms sufficiently wet to prevent cracking of concrete or loosening of form joints.

3.4 CURING

A. Cure concrete in accordance with ACI 308:
   1. Horizontal surfaces:
      a. Surfaces to receive additional toppings or setting beds: Use curing paper method.
      b. Other surfaces: Use either curing paper or curing compound method.
   2. Vertical surfaces: Use either wet curing or curing compound method.

B. Curing Compound Method:
   1. Spray compound on surfaces in two coats, applying second at right angle to first, at minimum rate recommended by manufacturer.
   2. Restrict traffic on surfaces during curing.

C. Curing Paper Method:
   1. Spread curing paper over surfaces, lapping ends and sides minimum 4 inches; maintain in place by use of weights.
   2. Remove paper after curing.

D. Wet Curing Method: Spray water over surfaces and maintain wet for 7 days.

3.5 CLEANING

A. Remove efflorescence, stains, oil, grease, and foreign materials from exposed surfaces.

3.6 FIELD QUALITY CONTROL

A. Testing and Inspection Services:
1. Certify each delivery ticket.
   2. Record time at which concrete was discharged from truck.
   3. Monitor and record amount of water and water reducing admixture added to concrete at project site.
   4. Determine ambient temperature and temperature of concrete sample for each set of test cylinders.
   5. Test cylinders:
      a. Make test cylinders in accordance with ASTM C172; one set of 3 cylinders for each (100) cubic yards or fraction thereof placed in any one day, for each different class of concrete.
      b. Mold and cure cylinders in accordance with ASTM C31; test cylinders in accordance with ASTM C39; one at 7 days and two at 28 days.
   6. Slump tests: Make slump tests at beginning of each day's placement and for each set of test cylinders in accordance with ASTM C143.
   7. Air content: Determine total air content of air entrained concrete for each strength test in accordance with ASTM C231.

3.7 CONCRETE SCHEDULE

Minimum 28 Day Compressive Strength	Slump	Comments	Uses
3000 psi	4 to 6 inches		Piers or Footings
3000 psi	3 to 5 inches	Air entrained	Paving
3000 psi	3 to 5 inches	Flay ash	Columns, beams, and elevated slabs
4000 psi	3 to 5 inches	Fibrous reinforcing	Slabs on grade

END OF SECTION

SECTION 042050 - UNIT MASONRY PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications sections, apply to the work of this section.

WORK INCLUDED:

General: Unit Masonry Procedures and general requirements specified herein apply to all Unit Masonry Work specified in other Division 4 sections and all other items specified in other sections to be installed under Division 4 sections.

RELATED WORK:

Items To Be Installed But Furnished Under Other Sections:

Masonry grout reinforcement: Section 03200 Bolts, anchors, and shelf angles: Section 05500 Hollow Metal frames: Section 08100

General: Following items of related work are included in other sections:

Masonry mortar and grout: Section 04100
Masonry anchors and reinforcement: Section 04150 Brick: Section 04210
Cast Stone: Section 04220 Wall flashing: Section 07660 Joint sealants: Section 07900

QUALITY ASSURANCE:

Installer Qualifications: For actual cutting and placing of all Unit Masonry Work, use only skilled journeyman masons who are thoroughly experienced with materials and methods specified and thoroughly familiar with Project design requirements. Provide one skilled journeyman mason who shall be present at all times during execution of Work specified in masonry specification sections and who shall personally direct execution of this portion of Work. Masonry work that is unsatisfactory in the opinion of the architect will be removed and replaced at no cost to the owner.

SUBMITTALS:

General: As specified and/or indicated in other Division 4 sections, submit to Architect all required submittals in accordance with Section 01300 - "Submittals."

DELIVERY, STORAGE AND HANDLING:

Acceptance: Deliver and store products in manufacturer's original, unopened packaging, with each product package legibly identified with manufacturer's name, product name and grade and contents.

Unit Masonry Protection: Shall be as follows:

Brick: Store brick masonry units in a dry place; in a manner to prevent damage or intrusion of contaminating materials.

Cast Stone: Store cast stone units under cover that will permit circulation of air; that will prevent excessive moisture absorption and protect cast stone units against wetting prior to use.

Note: During freezing weather, protect all masonry units with tarpaulins or other suitable covering materials.

Masonry Mortar Protection: Store cement, lime, other moisture degrading materials and sand in a manner to prevent hydration, contamination, mixing, deterioration, or intrusion of foreign matter.

Masonry Accessories Protection: Store masonry accessories materials to protect masonry accessories from contamination by rusting, contact with oils or any other foreign matter.

PROJECT CONDITIONS:

Environmental Requirements: Do not lay unit masonry when temperature of outside air is below 40 degrees F. unless suitable means, as approved by the Architect, are provided to heat materials, and to protect the Work from cold, frost and to insure that mortar will harden without freezing.

Note: Do not use any anti-freeze admixture in masonry mortar.

PART 2 - PRODUCTS

MASONRY MATERIALS:

General: Provide masonry materials as specified and/or required by other related unit masonry sections. See Related Work article for list of all unit masonry sections and related sections included in Project Specification.

PART 3 - EXECUTION

INSPECTION:

General: Examine areas and conditions under which all unit masonry work will be performed. Notify Contractor and Architect in writing of any detrimental conditions prior to installation. Do not proceed until unsatisfactory conditions have been corrected.

COORDINATION:

General: Consult with other trades in advance to make provisions for installation of their work in order to avoid cutting and patching. Build in work as specified in other sections and/or indicated on the Drawings as Work progresses.

PREPARATION:

General: Prepare masonry materials for installation as required by other related unit masonry sections.

Wetting Masonry Units: Where masonry units are specified to be wetted; uniformly wet units 3 to 4 hours prior to use in hot weather and 18 to 24 hours in normal weather.

Masonry Anchors and Reinforcement: Prior to being placed, clean and remove any loose rust, ice, mud and/or any other coatings.

Cutting of Masonry Units: Cut all exposed masonry units with a motor-driven masonry saw.

INSTALLATION:

Erection: Lay up unit masonry walls plumb, level and true to line and dimensions indicated.

Pattern Bond: Refer to bond requirements of related unit masonry specification sections.

Adjustments: Adjust masonry unit to final position while mortar is soft and plastic. Where adjustments must be made after mortar has started to harden, remove mortar, replace with fresh mortar. Avoid over- plumbing, pounding of corners and/or jambs after being set into position.

Joining of Work: When joining fresh masonry to set or partially set masonry construction, clean exposed surface of set masonry and remove loose mortar prior to laying fresh masonry. If necessary to stop off a horizontal run of masonry, rake back 1/2 unit of masonry length in each course. Do not use toothing to join new masonry, to set or partially set masonry when continuing a horizontal run.

Tooling of Joints: Tool exposed joints when "thumb-print" hard with proper tool, slightly larger than width of joint.

Flashing: Clean surface of masonry smooth and free from projections which might puncture flashing material. Construct as indicated, use flashing material as specified in Section 07600 - "Flashing and Sheet Metal."

Damaged Units: Do not use chipped or broken units. If any such broken units are discovered in finished wall, Architect may require their removal and replacement with new units at no additional cost to Owner.

Solid Masonry Units: Lay all solid masonry units in full bed of mortar with full head joints.

Hollow Masonry Units:

Lay hollow masonry units 4 inches or less in thickness in full beds of mortar with full head joints. Lay hollow

masonry units exceeding 4 inches in thickness with divided bed and head joints.

Collar Joints: Collar joints in exterior wall shall be completely filled with mortar.

Weep Holes: Provide weep holes 24 inch o.c. max. in exterior brick masonry, weep holes to be in vertical joints immediately above all wall flashing, at base of cavity brick veneer walls. When wicks of 1/4 inch fiberglass rope or similar materials are used, weep holes are to be at 16 inch o.c. max.

Cavity Wall Air Space: Keep air space within cavity wall clean, free from obstructions. Provide positive means of catching mortar droppings.

Built-In Work: Set steel lintels in beds of mortar. Fill jambs, heads of bucks and frames solid with mortar. Adjust shelf angles to keep masonry level and at proper elevation.

Sealant Recesses: Leave joints around exterior perimeters of exterior doors, window frames and other wall openings:

Depth: uniform 3/4 inch.
Width: 1/4 inch to 3/8 inch.
Sealant: Seal as indicated, use sealant as specified in Section 07900 - "Caulking and Sealants."

Control Joints: Where indicated and/or specified, install masonry control joints as follows:

Location: Install masonry control joints as indicated; if no locations are shown, install in locations directed and spaced not to exceed 40'-0" o.c. max.

Construction: Construct as indicated, use special control joint material as specified in Section 04150 - "Masonry Accessories."

Sealant: Seal as indicated, use sealant as specified in Section 07900 - "Caulking and Sealants."

Bond Beams: Where indicated on Drawings, install masonry bond beams as follows:

General: Construct with masonry units of same type as surrounding area. Use approved solid bottom type where bottom surface exposed to view.

Location: Place at locations indicated.

Reinforcement: Install reinforcement in number and sizes indicated, use max. practicable length bars; lap splice - 30 bar diameters.

Grout or Concrete Fill: Place and consolidate specified grout or concrete fill without disturbing reinforcement. Masonry mortar is not acceptable for use as a cementitious fill material.

Control Joints at Bond Beams: Run bond beams at floor and roof levels continuous through control joints, with any intermediate course bond beams discontinuous at control joints.

Reinforced Masonry Construction: Where indicated on Drawings, install reinforced and filled vertical masonry voids and hollow masonry units with specified masonry grout or concrete fill as follows:

Height: Build wall up in max. of 48 inch height lifts.

Reinforcement: Insert reinforcement in proper cavities; use number and size reinforcing bars indicated. Lap splices - 30 bar diameters. Support reinforcement to prevent displacement from location required.

Concrete or Grout Fill: Fill masonry void with specified masonry grout or concrete fill, to within 1- 1/2 inch of top of top masonry course to form a key for next lift. Repeat this step until full height of reinforced masonry is reached. Terminate last lift of fill flush with top of uppermost masonry course. Masonry mortar is not acceptable for use as a cementitious fill material.

Joint Reinforcement: Where indicated on the Drawings and/or specified herein, install specified joint reinforcements as follows:

General: Place joint reinforcement continuous, at 16 inch o.c. intervals vertically, except it shall not pass through vertical masonry control joints. Lap side rods a min. of 6 inch at splices. Place joint reinforcement to assure min. 5/8 inch mortar cover on exterior face of walls, min. 1/2 inch mortar cover in interior face of walls.

Joint Reinforcement at Masonry Openings: Place joint reinforcement in 3 consecutive courses immediately

below impending structural member at top of wall such as bond beams. Place reinforcement in first and second bed joints 8 inch apart immediately above lintels; below sills at openings at least 2'-0" beyond jambs.

Bonding and Anchorage: Where indicated on Drawings and/or specified herein, install specified masonry bonding and/or masonry anchorage systems as follows:

Masonry Wall Corners: Bond or anchor corners and intersections of nonload bearing and load bearing masonry walls at 16 inch o.c. vertically with preformed corner joint reinforcement.

Masonry Walls: Structurally bond single wythe and multiwythe masonry walls with continuous prefabricated joint reinforcement; spaced not more than 16 inch o.c. vertically.

POINTING AND CLEANING OF WALLS

Pointing: Point up exposed masonry, fill holes and joints. Remove loose mortar, cut out defective joints and repoint with mortar.

General Cleaning: Thoroughly clean all exposed masonry work: See Section 04510.

PROTECTION:

Wall Covering: During erection, cover top of walls with strong waterproof membrane at end of each day or shutdown. Cover partially complete walls when work is not in progress. Extend cover min. of 24 inch down both sides. Hold covers securely in place.

Load Application: Do no apply uniform floor or roof loading for at least 12 hr. after building masonry columns or walls. Do not apply concentrated loads for at least 72 hr. after building masonry columns or walls.

Staining: Prevent mortar or grout from staining face of masonry left exposed or painted.

CLEANING OF PREMISES:

General: Contractor shall remove all rubbish, and building materials left over from masonry construction operation; premises must be left clear and clean when masonry work is completed; mortar dropping shall be completely removed.

END OF SECTION

SECTION 042100 - MASONRY MORTAR

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications sections, apply to the work of this section.

Note: The provisions of Section 04050 - "Unit Masonry Procedures" apply to Work under this section.

WORK INCLUDED:

General: Provide Masonry Mortar indicated as specified herein.

RELATED WORK:

General: Following items of related work are included in other sections:

Reinforcement for grout fill: Section 03200. General masonry requirements: Section 04050.
Masonry anchors and reinforcement: Section 04150. Brick: Section 04210.
Cast Stone Masonry: Section 04220.

QUALITY ASSURANCE:

Sample Panels: Provide in-place Masonry Mortar samples in accordance with Sample Panel requirements noted in other Unit Masonry sections. See Related Work article for list of all unit masonry sections included in Project Specifications.

Source Quality Control: Brands of cementitious materials and source of sand and gravel aggregates shall remain same through-out entire Project and shall not be changed except by written permission of Architect.

DELIVERY, STORAGE AND HANDLING:

General: Deliver and store Masonry Mortar in accordance with Delivery, Storage and Handling requirements of Section 04050 - "Unit Masonry Procedures."

PROJECT CONDITIONS:

General: In accordance with Project Conditions of Section 04050 - "Unit Masonry Procedures."

PART 2 - PRODUCTS

MASONRY MORTAR MATERIALS:

Mortar Type:

Conform to ASTM C-270, Type "N" proportion specification.

Conform to ASTM C-91, Type "S" proportion specification.

Mortar Materials: Materials used as ingredients in Masonry Mortar shall conform to following specified requirements:

Portland Cement: ASTM C-150, Type 1.
Hydrated Lime: ASTM C-207, Type S. Sand:
ASTM C-144.
Admixtures: No air-entraining admixtures or cementitious materials containing air-entraining admixtures shall be used in mortar. No anti-freeze compounds or other substances shall be used in mortar to lower freezing point. Calcium chloride or admixtures containing calcium chloride shall not be use in mortar in which reinforcement, metal ties or anchors are embedded. Mortar colors may be added if so specified herein.
Water: Water shall be clean and free of deleterious amounts of acid, alkalies or organic materials.

Mortar Mix: Portland cement - lime mortar.

Type S.

Two 94 lb. bags Portland cement (ASTM C-150), one 50 lb. bag hydrated lime (ASTM C-207) plus nine cubic feet of sand (ASTM C-144) or

One 94 lb. Portland cement (ASTM C-150)

Two 70 lb. bags masonry cement Type 1 (ASTM C-91) plus nine cubic feet of sand (ASTM C- 144).

Mortar Color: Match adjacent building.

MASONRY GROUT FILL:

Grout Materials: Materials used as ingredients in masonry grout shall conform to following specified requirements:

Portland Cement: ASTM C-150, Type 1.
Hydrate Lime: ASTM C-207, Type S. Sand
(Fine Aggregate): ASTM C-144.
Gravel (Course Aggregate): ASTM C-404; max. size 3/8 inch.

Admixtures: No air-entraining admixtures or cementitious materials containing air-entraining admixtures shall be used in masonry grout. No anti-freeze compounds or substances shall be used masonry grout to lower freezing point. Calcium chloride or admixtures containing calcium chloride shall not be used in mortar in which reinforcement, metal ties or anchors are embedded. Water: Water shall be clean and free of deleterious amounts of acid, alkalies or organic materials.

Grout Strength: 28 day compressive strength - 2500 psi.

Grout Slump: 8 inch to 10 inch per ASTM C-143.

Grout Mix: 1 part Portland cement, 1/10 part hydrated lime, 3 parts sand, 2 parts gravel and enough water to produce specified slump.

PART 3 - EXECUTION

MIXING:

Measurement of Materials: The method of measuring materials for masonry mortar or grout in masonry construction shall be by either volume or weight, and such that specified proportions of masonry mortar or grout materials can be controlled and accurately maintained.

Note: Measurement of sand by shovel shall not be permitted.

Mixing of Mortar Materials: All cementitious materials and aggregate shall be mixed for at least 3 minutes and not more than 5 minutes in a mechanized batch mixer, with maximum amount of water to product a workable consistency.

Mixing of Grout Materials: All cementitious materials and aggregate shall be mixed for at least 3 minutes and not more than 5 minutes in a mechanical batch mixer, with maximum amount of water to product specified slump.

Retempering of Mortar: Mortars that have stiffened because of evaporation of water from masonry mortar shall be retempered by adding water as frequently as needed to restore required consistency. Mortars shall be used and placed in final position within 2-1/2 hours after initial mixing.

PLACEMENT:

Placement of Mortar: Follow requirements for Laying-Up Masonry Construction as specified in Section 04050 - "Unit Masonry Procedures."

Placement of Masonry Grout Fill: Follow requirements for Bond Beams and/or Reinforced Masonry Construction as specified in Section 04050 - "Unit Masonry Procedures."

POINTING AND CLEANING:

General: Follow requirements for Pointing and Cleaning as specified in Section 04050 - "Unit Masonry Procedures."

PROTECTION:

General: Follow requirements for Protection as specified in Section 04050 - "Unit Masonry Procedures."

END OF SECTION

SECTION 042113 - BRICK MASONRY

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

Note: The provisions of Section 04050 - "Unit Masonry Procedures" apply to Work under this section.

WORK INCLUDED:

General: Provide Brick Masonry indicated and as specified herein.

RELATED WORK:

General: Following items of related work are included in other sections:

General masonry requirements: Section 04050.
Masonry mortar and grout: Section 04100.
Cast Stone: Section 04220.

QUALITY ASSURANCE:

Source Quality Control: Source of Brick Unit Masonry materials shall remain same throughout entire Project and shall not be changed except by written permission of Architect.

REFERENCES:

Workmanship of Masonry Wall Erection: Conform to latest "Recommended Standard Specifications for Clay Masonry" as published by the Brick Institute of America (BIA).

SUBMITTALS:

General: Submit to Architect all required submittals in accordance with requirements of Section 01300 - "Submittals."

Certificates: Prior to delivery, submit certificates attesting compliance with the applicable specifications for grades, types or classes included in this Section.

DELIVERY, STORAGE AND HANDLING:

General: Deliver and store Brick Masonry in accordance with Delivery, Storage and Handling requirements of Section 04050 - "Unit Masonry Procedures."

PROJECT CONDITIONS:

General: In accordance with Project Conditions requirements of Section 04050 - "Unit Masonry Procedures."

PART 2 - PRODUCTS

BRICK:

Face Brick: **Match GRAMBLING STATE UNIVERSITY Blend Brick**

Grade and Type: ASTM C-216, Grade MW above grade, Grade SW when brick is in contact with earth; Type FBS.
Dimensions: Modular.
Shapes: Provide special shaped brick as indicated.
Note: Provide brick similar in texture and physical properties to those original existing brick. Do not exceed variations in color and texture of original existing brick.

PART 3 - EXECUTION

INSPECTION:

General: Examine areas and conditions under which brick masonry work will be performed. Notify Contractor and Architect in writing of any detrimental conditions prior to installation. Do not proceed until unsatisfactory conditions have been corrected.

PREPARATION:

Brick: Recommended procedure to insure that brick are nearly saturated, surface dry when laid is to spray water with a hose on to the brick pile until water runs from the pile. Uniformly wet units in compliance with requirements of Section 04050 - "Unit Masonry Procedures."

INSTALLATION:

General: Follow requirements for laying up of masonry construction as specified in Section 04050 - "Unit Masonry Procedures."

Face Brick Bond Pattern: Lay face brick in: match existing adjacent building.

Mortar Joints: As follows:

Dimensions: Lay brick up 8” inch center to center of every third bed joint, inch center to center of every head joint. Make joints uniform, not to exceed 1/2 inch width.

Face Joint Finish: Finish face joints exposed on exterior or interior with metal tool to form concave joint, close hairline cracks and crevices.

Finish of All Other Joints: Cut off flush.

POINTING AND CLEANING:

General: Follow requirements for Pointing and Cleaning as specified in Section 04050 - "Unit Masonry Procedures."

PROTECTION:

General: Follow requirements for Pointing and Cleaning as specified in Section 04050 - "Unit Masonry Procedures."

END OF SECTION

SECTION 042200 UNIT

MASONRY

GENERAL

1.1 SUMMARY

A. Section Includes:
1. Concrete unit masonry.
2. Colored Split Faced Concrete Masonry Units
3. Colored Mortar

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM)
1. A951 - Standard Specification for Masonry Joint Reinforcement.
2. C129 - Standard Specification for Hollow Nonloadbearing Concrete Masonry Units.

B. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units.

C. ASTM C270 - Standard Specification for Mortar for Unit Masonry.

D. ASTM C744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units

E. ASTM C1262 - Standard Test Method for Evaluating the Freeze-Thaw Durability of Dry-Cast Segmental Retaining Wall Units and Related Concrete Units

F. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry.

G. The Masonry Society (TMS):
1. 402 - Building Code for Masonry Structures.
2. 602 - Specification for Masonry Structures.

1.3 SUBMITTALS

A. Submittals for Review:
1. Product Data: Provide information on reinforcing and anchors including sizes, profiles, materials, and finishes.
2.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum [5] FIVE years documented experience in work of this Section.

B. Perform Work in accordance with TMS 402 and 602.

1.5 DELIVERY, STORAGE AND HANDLING

A. Store masonry off-ground; prevent contact with materials that could cause staining or damage.

B. Protect reinforcement and anchors from corrosion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers – Concrete Masonry Units:
1. Featherlite Building Products.
2. TXI
3. Echelon

B. Acceptable Manufacturers - Masonry Accessories:
1. Dur-O-Wal. (www.dur-o-wal.com)
2. Heckmann Building Products. (www.heckmannbuildingprods.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. INTERIOR CMU: General Requirements: All concrete masonry units specified herein shall meet the following general requirements:

Strength:
Exterior Walls: Min. compressive strength: fm' = 1500 psi. Interior
Walls: Min. compressive strength: fm' = 1000 psi. Aggregate:
Provide lightweight aggregate units.
DRY-BLOCK integral water-repellent admixture.

Hollow Load Bearing Units: Provide hollow load-bearing concrete masonry units as indicated and/or specified below:

Type and Grades: ASTM C-90, Type I, Grade N; for use in load-bearing walls. Dimensions: 7-5/8 and 7-5/8 inch x 15-5/8 inch of thickness indicated.
Shapes: Provide special shaped units as required and/or indicated. Lintels, Bond beams, Solid units.

B. EXTERIOR COLORED SPLIT FACED CMU: General / Appearance: Integrally colored pre-finished architectural concrete block meeting the requirements of ASTM C90, with a rough-hewn texture on one or more faces. Molded as two units attached face to face, the units are split after curing to expose a rough texture and reveals the aggregates used in the block.

2.3 ACCESSORIES

A. Mortar: Interior: Type N, gray color.
Exterior: Type N, color to be selected from manufacturers standard pre-mixed colors. DRY- BLOCK integral water-repellent admixture
Recommended mortar additive compatible with DRY-BLOCK, to keep mortar from absorbing moisture.

B. Grout: Portland Cement: ASTM C150, Type I.
A. Grout Mix:
1. ASTM C476, coarse grout.
2. Compressive strength: Minimum 2500 psi at 28 days.
3. Slump: [7 to 8] inches.

C. Single Wythe Joint Reinforcement:
1. Truss type; ASTM A951, hot-dip galvanized steel wire, 9 gage side rods with 9 gage cross ties.
2. Width: Nominal wall thickness less 1-1/2 inches.
3. Corner and tee fittings: Type to match reinforcement.

D. Strap Anchors: Bent steel shape, hot dip galvanized, ASTM A153/A153M.

E. Reinforcing Bars:
   1. ASTM A615/A615M, deformed billet steel, Grade 40.

F. Flashing: Perm-A-Barrier Wall Flashing at bottom course.
   40 mil thick fully adhered, rubberized asphalt with 8 mil cross-laminated polyethylene top surface.
   Trim membrane ½ inch back from the faces of the wall.

G. Stainless steel drip edge.

H. Cleaner: Type recommended by DRY-BLOCK integral water-repellent admixture masonry manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

A. Wet block having an absorption rate as determined by ASTM C67 so that absorption rate when laid does not exceed this amount.

B. Remove dirt, loose rust, and other foreign matter from reinforcement and anchors.

3.2 INSTALLATION

A. Establish lines, levels and courses indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimensions. Form horizontal and vertical joints of uniform thickness.

C. Lay concrete masonry in running or stack bond to match existing. Course one masonry unit and one mortar joint to equal [8] inches.

D. Lay masonry plumb and level. Do not adjust masonry units after mortar has set.

E. Lay solid masonry units in full mortar bed, with full head joints. Lay hollow masonry units with face shell bedding on head and bed joints.

F. Do not butter corners or excessively furrow joints.

G. Machine cut masonry with straight cuts and clean edges; prevent oversized or undersized joints. Discard damaged units. Do not expose cut cells.

H. Isolate masonry from structural members with compressible filler.

I. When joining fresh masonry to partially set masonry, remove loose masonry and mortar; clean and lightly wet exposed surface of set masonry.

J. Stop horizontal runs by racking back normal bond unit in each course. Toothing not permitted.

K. Horizontal Reinforcement:
   1. Place reinforcement at maximum [16] inches on center vertically, at topmost course, and at first two courses above and below openings.
   2. Extend minimum [24] inches each side of openings.
   3. Center reinforcing in wall.
   4. Lap ends [6] inches minimum; use fabricated tee and corner fittings at corners and intersections.

L. Secure masonry to structural members with strap anchors or wall ties spaced maximum [16] inches on center.

M. Control and Expansion Joints:
   1. Do not continue horizontal joint reinforcement through joints.
   2. Keep joints free from mortar and grout.
   3. Install joint backing and joint sealer at control joints.
   4. Form expansion joint as indicated on Drawings.

N. Finishing Mortar Joints:
   1. Exposed locations: Tool joints to match existing profile.
   2. Concealed locations: Cut joints flush.

O. Reinforcing Bars:
   1. Position reinforcing accurately and hold securely in place to prevent displacement. Maintain minimum [1] inch space between masonry and reinforcing.
   2. Grout at intervals of not more than [60] inches in [6 to 8] inch lifts.
   3. Vibrate grout during and after placement to ensure complete filling.
   4. Stop grout [1-1/2] inch below top of masonry if grouting is stopped for [1] hour or more, except where completing grouting of finished wall.

P. Installation Tolerances; Maximum variation from:
   1. Alignment face to face of adjacent units: Plus or minus [1/8] inch.
   2. Vertical alignment of head joints: Plus or minus [1/2] inch in 10 feet.
   3. True plane of wall: Plus or minus [1/4] inch in 10 feet.
   4. Plumb: Plus or minus [1/4] inch in 10 feet noncumulative.
   5. Level coursing: Plus or minus [1/8] inch in 3 feet.
   6. Joint thickness: Plus or minus [1/8] inch.
   7. Cross sectional thickness of walls: Plus or minus [1/4] inch.

3.3 CLEANING

A. Protect adjacent and underlying surfaces.

B. Apply masonry cleaner in accordance with manufacturer's instructions.

C. Thoroughly rinse surfaces with clean water after completion of cleaning; remove all traces of cleaning solution.

END OF SECTION

SECTION 055000 METAL

FABRICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Guard rails and handrails.
   2. Bollards.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA):

B. American Welding Society (AWS):
   1. D1.1 - Structural Welding Code - Steel.

C. ASTM International (ASTM):
   1. A36/A36M - Standard Specification for Carbon Structural Steel.
   2. A123/A123M - Standard Specification for Zinc (Hot-Galvanized) Coatings on Iron and Steel Products.
   3. A307 - Standard Specification for Carbon Steel Externally Threaded Standard Fasteners.
   4. A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
   5. A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
   6. E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

D. National Association of Architectural Metal Manufacturers (NAAMM):
   1. MBG 531 - Metal Bar Grating Manual.

E. Society for Protective Coatings (SSPC) - Painting Manual.

1.3 SYSTEM DESCRIPTION

A. Minimum design loads:
   1. Pedestrian loading:
      a. Uniform load of 100 PSF.
      b. Concentrated load of 300 pounds.
      c. Maximum deflection under loading: L/180.
   2. Guard rails and handrails:
      a. 50 pounds per linear foot applied in any direction at top, transferred via attachments and supports to building structure.
      b. Concentrated 200 pound load applied in any direction at any point along top, transferred via attachments and supports to building structure.
      c. Maximum deflection under loading: L/120.
   3. Concentrated and uniform loads do not need to be applied simultaneously.

B. Fabricate guard rails and handrails in accordance with ASTM E985.

1.4 SUBMITTALS

A. Submittals for Review:

1. Shop Drawings: Show dimensions, metal thicknesses, finishes, joints, attachments, and relationship of work to adjacent construction.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Minimum 5 years [documented] experience in work of this Section.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

A. Shapes: ASTM A36/A36M.

B. Plate: ASTM A283.

C. Checkered Plate: ASTM A1011/A1011M, diamond pattern.

D. Sheet: ASTM A1008/A1008M.

E. Pipe: ASTM A501.

F. Tube: ASTM A500.

G. Bars: ASTM A108.

2.2 MATERIALS - CAST IRON

A. Cast Iron: ASTM A48/A48M, Class 30, or ASTM A47/A47M.

2.3 ACCESSORIES

A. Exposed Screws: Same material as metal being fastened; Phillips flat head, countersunk, unless noted otherwise.

B. Bolts: ASTM A307, hexagonal head type.

C. Primer Paint: SSPC Paint 15, Type 1, red oxide.

D. Anchoring Cement: [Non-shrink cementitious] [Two component epoxy] type.

2.4 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts, unobtrusively located, consistent with design of component except where specifically noted otherwise.

E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

F. Conceal fastenings where possible.

G. Welding to conform to AWS D1.1.
1. Use welds for permanent connections where possible. Grind exposed welds smooth.

2. Tack welds prohibited on exposed surfaces.

2.5 FINISHES

A. Exterior Ferrous Metal: Galvanized; ASTM A123/A123M, to 2.0 ounces per square foot.

B. Interior Ferrous Metal:
1. Shop painted except steel to be encased in concrete and surfaces to be welded.
2. Surface preparation: SSPC SP2 - Hand Tool Cleaning or SP3 - Power Tool Cleaning.
3. Application: One coat; follow coating manufacturer's instructions.
4. Minimum dry film thickness: 2.0 mils.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install items in accordance with approved Shop Drawings.

B. Install components plumb, level, and rigid.

C. Welding: AWS D1.1. Grind and fill exposed welds; finish smooth and flush.

D. Install sleeved components with anchoring cement.

E. Prevent contact of aluminum and dissimilar metals by use of zinc rich paint, bituminous coating, or non-absorptive gaskets.

3.2 ADJUSTING

A. Clean and touch up damaged primer paint with same product as applied in shop.

B. Clean and touch up galvanized coatings at welded and abraded surfaces in accordance with ASTM A780, Annex A2.

3.3 SCHEDULE

A. This Schedule includes principal items only; refer to Drawings for additional items not listed.

B. Guard Rails and Handrails:
1. Fabricate from steel pipe or tube stock of sizes and types indicated.
2. Make bends uniform and free from buckles and other defects.
3. Cut intersections square to within 2 degrees and to length within 1/8 inch. Remove burrs from cut ends.
4. Miter and cope intersections within 2 degrees, fit to within 1/8 inch.
5. Continuously weld connections.
6. Where length exceeds that suitable for shipping and handling, fabricate in sections with concealed internal sleeves forming slip joints. Extend sleeves minimum 2 inches on both sides of joint; field weld and grind smooth.

C. Bollards:
1. Fabricate from steel pipe of sizes indicated.
2. Set into concrete footing.
3. Fill pipe with concrete; rod to consolidate. Dome top to shed water.

END OF SECTION

SECTION METAL STAIRS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Shop fabricated steel stairs with open grate treads.
2. Guard rails and handrails.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 03 3000 - Cast-In-Place Concrete.

1.2 REFERENCES

A. American Welding Society (AWS) D1.1 - Structural Welding Code.

B. ASTM International (ASTM):
1. A36/A36M - Standard Specification for Carbon Structural Steel.
2. A123/A123M - Standard Specification for Zinc (Hot-Galvanized) Coatings on Iron and Steel Products.
3. A307 - Standard Specification for Carbon Steel Externally Threaded Standard Fasteners.
4. A501 - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
5. A780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
6. E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

C. National Association of Architectural Metal Manufacturers (NAAMM):
1. AMP 510 - Metal Stairs Manual.

D. Society for Protective Coatings (SSPC) - Painting Manual.

1.3 SYSTEM DESCRIPTION

A. Design Requirements:
1. Design stair assembly to support a uniform live load of 100 PSF and a concentrated load of 300 pounds, with maximum deflection of L/180.
2. Design guard rails and handrails to resist following without damage or permanent set:
a. 50 pounds per linear foot applied in any direction at top, transferred via attachments and supports to building structure.
b. Concentrated 200 pound load applied in any direction at any point along top, transferred via attachments and supports to building structure.
c. Maximum deflection under loading: L/120.
3. Concentrated and uniform loads do not need to be applied simultaneously.
4. Perform design under direct supervision of Professional Structural Engineer licensed in State in which project is located, with minimum 2 years documented experience in work of this Section.

B. Fabricate stair assembly to NAAMM AMP 510, Industrial Class.

C. Fabricate guard rails and handrails in accordance with ASTM E985.

1.4 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings:

a. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
b. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Minimum 5 years documented experience in work of this Section.

B. Perform Work in accordance with ASTM E985.

PART 2 PRODUCTS

2.1 MATERIALS - STEEL

A. Sections: ASTM A36/A36M.

B. Plate: ASTM A283.

C. Pipe: ASTM A501.

D. Tube: ASTM A500.

E. Gratings: NAAMM MBG 531, welded type, size as shown on drawings serrated top surface.

2.2 ACCESSORIES

A. Bolts, Nuts, and Washers: ASTM A307.

B. Primer Paint: SSPC 15, Type 1, red oxide.

2.3 FABRICATION

A. Fit and shop assemble components in largest practical sections, for delivery to site.

B. Fabricate components with joints tightly fitted and secured.

C. Continuously weld connections. Welding to conform to AWS D1.1.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

F. Accurately form components required for anchorage of stairs, [landings,] and railings to each other and to building structure.

G. Treads and Landings:
1. Form treads and landings from checkered steel plate, welded to stringer support clips.
2. Bend nosing to 2 inch radius and return down 2 inch.
3. Fabricate stairs with closed steel sheet risers.
4. Reinforce underside of landings with steel angles when required to resist design loads.

H. Guard Rails and Handrails:
1. Fabricate from steel pipe or tube stock.
2. Make bends uniform and free from buckles and other defects.

3. Where length exceeds that suitable for shipping and handling, fabricate in sections with concealed internal sleeves forming slip joints. Extend sleeves minimum 2 inches on both sides of joint; field weld and grind smooth.

2.4 FINISHES

A. Steel:
1. Surface preparation: SSPC SP2 - Hand Tool Cleaning or SP3 - Power Tool Cleaning.
2. Application: One coat; follow coating manufacturer's instructions.
3. Minimum dry film thickness: 2.0 mils.
4. Do not prime surfaces in direct contact with concrete or where field welding is required.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install components plumb and level, accurately fitted, free from distortion and defects.

B. Provide anchors, angles, hangers, and struts required for connecting stairs to structure.

C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

D. Field weld components indicated on Shop Drawings. Perform field welding in accordance with AWS D1.1.

E. Field bolt and weld to match shop bolting and welding. Conceal bolts and screws whenever possible.

F. Mechanically fasten joints butted tight, flush, and hairline. Grind welds smooth and flush.

G. Installation Tolerances:
1. Maximum variation from plumb: 1/4 inch per story, noncumulative.
2. Maximum offset from true alignment: 1/4 inch.

3.2 ADJUSTING

A. Clean and touch up primer paint at welded and abraded surfaces with same product as applied in shop.

END OF SECTION

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ROUGH CARPENTRY 061000 PART 1 --

GENERAL

1.1 WORK

A. Provide and install wood framing and blocking as shown on the Drawings and as specified herein. Work includes all connectors, and related hardware and materials.

B. Where additional instructions are required, work shall be as directed by the Architect.

1.2 SUBMITTALS

A. Provide all tests, certificates, and affidavits necessary to verify materials are as specified.

1.3 QUALITY STANDARDS AND TOLERANCES

A. Provide a work force that is sufficient in number for the quantity of work and time schedule. Workers shall be skilled, trained, experienced, and competent to do the work as specified.

B. Unless otherwise directed by the Architect, all work shall be as per building code and the Manual for Wood Frame Construction, American Forest and Paper Association (NFPA), National Design Specifications for Wood Construction of the NFPA, Plywood Specifications and Grade guide of the American Plywood Association. All lumber shall be grade marked and shall bear the official stamp of the Southern Pine Association grading rules. The maximum defects and blemishes occurring in any specified grade shall not exceed the limitations of the American Lumber Standards. All lumber is subject to the approval of the Architect.

C. Tolerances: Vertical framing shall be plumb within 1/4" per 10 linear feet and horizontal framing shall be level within 1/4" per 10 linear feet.

D. Moisture content of framing lumber shall be 19% or less by weight. Tests will be conducted on all newly shipped lumber to confirm moisture content. Kiln-dried or other lumber requiring lower moisture content shall be as specified.

E. Follow applicable lumber grading agency standards in accepting or rejecting delivered lumber. Reject special, required lumber that is not marked and certified as preservative-treated or kiln-dried.

1.4 MATERIALS HANDLING AND STORAGE

A. Reject any delivered framing lumber that is not grade-stamped and certified by a bona fide grading agency. Identify framing lumber by grade and store each grade separately.

B. Do not accept or use lumber that deviates from grade standards or has excessive moisture content or other defects. Remove unstamped or defective lumber from the job site.

C. Handle lumber to avoid damage during transport, unloading, and moving on the job site. Handle chemically treated lumber and panels strictly according to manufacturer's instructions.

D. Store framing lumber and wood panels to prevent damage and moisture absorption. Store metal connectors that are subject to damage in weathertight wrapping and in safe locations away from traffic or other sources of damage. Store chemically treated lumber and wood panels outdoors until installation. Keep chemically treated lumber and wood panels well ventilated if moved indoors.

PART 2 -- MATERIALS

2.1 FASTENERS, CONNECTORS, AND SUPPORTS

A. Use hot-dip galvanized steel for exterior, high humidity, and treated wood locations.

B. Nails shall be common wire or spike nails as shown on nailing schedule. Follow all nail size requirements and nail spacings required by the governing building code.

C. Power-driven nailing: Comply with standards of the International Staple, Nail and Tool Association.

D. Machine bolts shall comply with ASTM A307. Lag bolts to comply with Federal Spec FF-N-1. Drill holes 1/16" larger than bolt diameters. Use washers under all nuts and bolt heads.

E. Hangers, connectors, and crossbridging shall be product manufacturered by: "Teco, Simpson, or equal as approved by the Architect."

2.2 LUMBER

A. S4S, S-Dry unless otherwise indicated, grade marked complying with the following: Joist framing species

and grade: #2 Standard S.Y.P.

Studs (2 to 4 inches thick or wide, 10 feet in length or shorter) Grade: "Stud" or No. 3 Structural Light Framing.

Rafter framing species and grade: #2 Standard S.Y.P.

Non-structural light framing species and grade: #2 Standard or better, S. Y. P. No Utility grade. Sill boards:

Pressure treated or redwood sill grade.

Structural light framing: No. 2 or better.

Lumber for miscellaneous applications shall be Standard grade unless noted otherwise.

2.3 SHEATHING AND UNDERLAYMENT: MATERIALS

A. Sheathing and underlayment:

Plywood sheathing: Use APA rated, PS-1 or APA PRP-108. Particleboard:

Exterior Type 2-M.

Hardboard: ANSI/AHA A135.6.

Underlayment: APA rated underlayment, Exterior; 1/4" Luan.

B. Related construction and materials:

Sill gasket atop foundation wall: Glass fiber strip with width equal to plate. Sill flashing:

Galvanized steel or aluminum.

Subfloor glue: APA AFG-01, solvent base, waterproof.

Building paper: No. 15 asphalt felt (or spun-bonded polyethylene). Vapor barrier: 6 mil

polyethylene.

Termite shield: See Section 04200 Masonry.

2.4 WOOD TREATMENT

A. Provide wood preservative as follows:

Pressure treatment with Wolman Salts, in accordance with AWPB LP-2, LP-3 or LP-4. AWPA Treatment C.

Waterborne preservative with 0.25 percent retainage, rated for specific uses noted on Drawings.

PART 3 -- INSTALLATION

3.1 WOOD FRAMING: PREPARATION AND PRECONSTRUCTION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.

B. Maintain and refer to the latest trade standards.

C. Identify actual dimensions of all required rough openings in framing.

D. Provide framing and shoring plan and schedule. Provide lifts or cranes to assist high-level framing. Verify that materials are stored so as to not overload or interfere with construction.

3.2 ROUGH CARPENTRY, WOOD FRAMING -- AT GRADE AND FOUNDATIONS

A. Apply termite prevention where untreated wood will be within 8" of finish grade of soil. Use foundation grade or preservative-treated lumber near soil or where otherwise potentially exposed to moisture.

B. Completed mudsills shall be straight with a side variation tolerance of 1/4" per 10 linear feet and level within 1/4" per 10 linear feet.

A. ROUGH CARPENTRY, FRAMING MEMBERS

B. Install all framing members as per framing plan, details, and building code requirements.

C. Install joist hangers as per Drawings, manufacturer's instructions, and building code requirements.

3.3 WOOD FRAMING: COORDINATION

A. Coordinate electrical stub-ups with the framing plan.

B. Supply and coordinate in-wall fixture and equipment supports such as in-wall blocking, anchors, brackets, grounds, curbs, and other supports.

C. Install plaster grounds as detailed and as per trade association standards.

D. Provide joints and connectors at non-wood construction to allow for shrinkage, expansion and other movement of the wood. Provide clearances between framing and other construction that may be subject to differential movement.

E. Set and prepare framing as required for tile or other waterproof wall finishes. Provide waterproofing sealing as detailed. Prepare framing for waterproof finishes where waterproofing required.

F. Combine thermal insulation with framing as shown on Drawings.

G. Combine soundproofing with framing as shown on Drawings. Install sound barrier materials, gaskets, and clips as per manufacturers' instructions. Do not allow any sound transfer connections within soundproof party wall construction.

H. Provide fire protection facilities and all necessary fire protection precautions during construction. Install required concealed fireproofing such as under enclosed stairs. Provide openings for inspection of concealed work before closing in.

3.4 FASTENERS, CONNECTORS, AND SUPPORTS: INSTALLATION

A. Where not shown on nailing schedule, nails shall penetrate not less than 1/2 the length of nail. Exception: 16d nails may connect two pieces of 2" thickness. Remove and replace split framing members.

B. Use nailing machines or power hammers according to manufacturer's requirements. Provide correct sizes and types of nails for use in nail guns.

C. Check and tighten all bolt connections after they are installed. Recheck and retighten all bolt connections before final construction is completed.

D. Install joist hangers and bridging as per Drawings and manufacturer's instructions.

END OF SECTION

SECTION 064000 ARCHITECTURAL

WOODWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Special fabricated cabinet units.
2. Plastic laminate countertops.
3. Shop finishing.
4. Cabinet hardware.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 07900 - Joint Sealers.

1.2 REFERENCES

A. Architectural Woodwork Institute (AWI) - Architectural Woodwork Quality Standards.

B. Association of Electrical and Medical Imaging Equipment Manufacturers (NEMA) LD-3 - High Pressure Decorative Laminates.

C. Forest Stewardship Council (FSC) STD-40-004 - Chain of Custody Standard.

1.3 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings:
a. Include dimensioned plan, sections, elevations, and details, including interface with adjacent work.
b. Designate wood species and finishes.
2. Samples:
a. 3 x 3 inch plastic laminate samples showing available colors and finishes.
b. Each hardware component.
c. 6 inch long lumber samples.
d. 12 x 12]inch panel product samples.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications:
1. Minimum 5 years documented experience in work of this Section.
2. Certified under AWI Quality Certification Program.

B. Mockup:
1. Size: Base and wall cabinet, minimum 24 inches wide.
2. Show: Cabinets, countertops, and hardware.
3. Locate where directed.
4. Approved mockup may remain as part of the Work.

1.5 DELIVERY, STORAGE AND HANDLING

A. Do not deliver materials until proper protection can be provided, and until needed for installation.

1.6 PROJECT CONDITIONS

A. Environmental Requirements: HVAC system complete and operational for minimum 7 days prior to installation of cabinets.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Plastic Laminate:
   1. Formica Corp. (www.formica.com)
   2. Nevamar Co. (www.nevamar.com)
   3. Wilsonart International, Inc. (www.wilsonart.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Panel Products:
   1. Graded in accordance with AWI Section 200 requirements for quality grade specified.
   2. Exposed and semi-exposed veneers: red oak species, plain cut, of quality suitable for transparent finish.

B. Hardboard: Pressed wood fiber with resin binder; standard grade, 1/4 inch thick, smooth one side.

C. Plastic Laminate: NEMA LD-3.
   1. Horizontal surfaces:
      a. Backing sheet: Grade BGF.
      b. Postformed surfaces: Grade HGP.
      c. Acid resisting: Grade LGP.
      d. Other surfaces: Grade HGS.
   2. Vertical surfaces:
      a. Backing sheet: Grade BLF.
      b. Cabinet liner: Grade CLS.
      c. Other surfaces: Grade VGP.
   3. Melamine laminate: Grade VGL.
   4. Colors: To be selected from manufacturer's full color range.
   5. Finish: Matte.

D. Lumber:
   1. Graded in accordance with AWI Section 100 requirements for quality grade specified, average moisture content of 6 percent.
   2. Exposed and semi-exposed locations: red oak species, plain cut, of quality suitable for transparent finish.

2.3 ACCESSORIES

A. Fasteners: Type and size as required by conditions of use.

B. Adhesives:
   1. Waterproof, water based type, compatible with backing and laminate materials.

C. Finish Hardware: As scheduled at end of Section.

D. Joint Sealers: Specified in Section 07900.

2.4 FABRICATION

A. Cabinets - Transparent Finish:
   1. Quality: AWI Section 400, Premium Grade.
   2. Type: Flush overlay.
   3. Semi-exposed surfaces: Wood to match exposed surfaces.
   4. Fit exposed and semi-exposed panel edges with matching wood edging.
   5. Fabricate drawer bodies to full depth of drawer fronts less 1/2 inch.

B. Plastic Laminate Countertops:
   1. Quality: AWI Section 400, Premium Grade.
   2. Fabricate from panel product with lumber fronts.
   3. Locate end joints centered or symmetrical. Join sections with concealed clamp fasteners.
   4. Provide holes and cutouts for mounting of accessories.

C. Shop assemble for delivery to project site in units easily handled.

D. Prior to fabrication, field verify dimensions to ensure correct fit.

E. Apply plastic laminate in full uninterrupted sheets; fit corners and joints to hairline. Slightly bevel arises. Apply laminate backing sheet to reverse side of laminate faced surfaces.

F. Where field fitting is required, provide ample allowance for cutting. Provide trim for scribing and site conditions.

G. Provide cutouts and reinforcement for [plumbing,] [electrical,] [appliances,] [and] [accessories]. Prime paint surfaces of cut edges.

2.5 FINISHES

A. Transparent Finish System:
   1. Finish system: AWI Section 1500, Premium Grade.
   2. Stain color: To be selected from manufacturer’s full color range.
   3. Sheen: To be selected.

PART 3 EXECUTION

3.1 PREPARATION

A. Prior to installation, condition cabinets to average humidity that will prevail after installation.

3.2 INSTALLATION

A. Install in accordance with AWI Section 1700, Premium Grade requirements.

B. Set plumb, rigid and level.

C. Scribe to adjacent construction with maximum 1/8 inch gaps.

D. Adhere countertops, splashes, and skirts with beads of adhesive.

E. Fill joints between tops and splashes with sealant as specified in Section 07 9200; finish flush.

3.3 CABINET HARDWARE:

Hinges:	Five knuckle, hospital tip, black or dull chrome / blume 170 degrees concealed.
Pulls:	Wire, black or dull chrome
Drawer slides:	KV-1300; KV-1460 where full extension slides are noted. Shelf
standards:	KV-255
Shelf brackets:	KV-256
Catches:	Amerock magnetic catch (catch not required w/ self closing hinge:
Locks:	Five disc tumbler, dull chrome, keyed alike within each room. All cabinets and drawers shall have locks. Pairs of doors upper/base units shall have automatic door bolt.

END OF SECTION

SECTION 078400

FIRESTOPPING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Firestopping perimeter of and penetrations through fire and smoke rated assemblies.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. E814 - Standard Test Method for Fire Tests of Through-Penetration Firestops.
   2. E1966 - Standard Test Method for Fire-Resistive Joint Systems.

B. Underwriters Laboratories, Inc. (UL):
   1. 1479 - Fire Tests of Through-Penetration Firestops.
   2. 2079 - Fire Resistance of Building Joint Systems.

1.3 SYSTEM DESCRIPTION

A. Provide continuous protection against passage of heat, fire, smoke, and gases at perimeter of and penetrations through rated assemblies.

1.4 SUBMITTALS

A. Submittals for Review:
   1. Product Data:
      a. Firestopping schedule; prepare in tabular format and identify:
         1) Type of assembly receiving firestop and required fire rating.
         2) Type of penetrating item.
         3) Proposed firestop system.
      b. Include UL or equivalent details for each firestop system.
   2. Test Reports: Indicate conformance with ASTM E814, ASTM E1966, ASTM E2307, UL 1479, or UL 2079.

B. Quality Control Submittals:
   1. Certificates of Compliance: Indicate conformance of installed systems with specified requirements.

1.5 QUALITY ASSURANCE

A. Applicator Qualifications: Minimum 5 years documented experience in work of this Section.

B. Firestopping: Fire resistance rating equivalent to adjacent construction; tested to ASTM E814, ASTM E1966, ASTM E2307, UL 1479, or UL 2079.

1.6 PROJECT CONDITIONS

A. Do not apply sealants, mortars, or putties when temperature of substrate material and surrounding air is below 40 degrees F or is anticipated to drop below that temperature within 24 hours after installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. Hilti, Inc. (www.us.hilti.com)
2. 3M Fire Protective Products. (www.3m.com)
3. Nelson Firestop Products. (www.nelsonfirestop.com)
4. Rectorseal. (www.rectorseal.com)
5. Specified Technologies, Inc. (www.stifirestop.com)
6. Tremco, Inc. (www.tremcosealants.com) \

2.2 MATERIALS

A. Firestopping: One or more of the following:
1. Silicone elastomer compound: Single or multiple component, low modulus, moisture curing silicone sealant.
2. Ceramic sealant: Single component, moisture curing ceramic sealant.
3. Intumescent sealant: Single component, water based intumescent sealant.
4. Acrylic sealant: Single component acrylic sealant, suitable for painting.
5. Putty: Single component ceramic fiber base putty or intumescent elastomer putty that expands on exposure to surface heat gain.
6. Mortar: Hydraulic cementitious mortar.
7. Pillows or blocks: Formed intumescent or mineral fiber pillows or blocks.
8. Intumescent strips: Solvent free intumescent wrap strips.
9. Mechanical devices: Incombustible fillers or silicone elastomer covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
10. Cast-in-place devices: Containing intumescent material and smoke/water seals.

2.3 ACCESSORIES

A. Forming and Damming Materials: As recommended by firestopping manufacturer for intended use.
1. Permanent: Mineral fiber board, mineral fiber matting, or mineral fiber putty.
2. Temporary: Plywood, particle board, or other.

PART 3 EXECUTION

3.1 PREPARATION

A. Prepare openings to receive firestopping as directed by manufacturer:
1. Remove incidental and loose materials from penetration opening.
2. Remove free liquids and oil from involved surfaces and penetration components.
3. Install damming materials to accommodate and ensure proper thickness and fire rating requirements and provide containment during installation.
4. Remove combustible materials and materials not intended for final penetration seal system.

3.2 INSTALLATION

A. Install firestopping at perimeter of and penetrations through fire and smoke rated assemblies.

B. Apply materials in accordance with manufacturer's instructions.

C. Apply firestopping material in sufficient thickness to achieve required ratings.

D. Compress fibered material to achieve a density of 40 percent of its uncompressed density.

E. Place foamed material in layers to ensure homogenous density, filling cavities and spaces. Place sealant

to completely seal junctions with adjacent dissimilar materials.

F. Place intumescent coating in sufficient coats to achieve rating required.

G. Remove dam material after firestopping material has cured.

H. Finish exposed surfaces to smooth, flush appearance.

END OF SECTION

SECTION 079200 JOINT

SEALERS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Joint backup materials.
   2. Joint sealers.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. C510 - Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants.
   2. C719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
   3. C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants.
   4. C834 - Standard Specification for Latex Sealing Compounds.
   5. C919 - Standard Practice for Use of Sealants in Acoustical Applications.
   6. C920 - Standard Specification for Elastomeric Joint Sealants.
   7. C1193 - Standard Guide for Use of Joint Sealants.
   8. C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants.
   9. C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
   10. D2203 - Standard Test Method for Staining from Sealants.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Product Data: Indicate sealers, primers, backup materials, bond breakers, and accessories proposed for use.
   2. Samples:
      a. 1/2 x 1/2 x 3 inch long joint sealer samples showing available colors.
      b. 6 inch long joint backup material samples.
   3. Warranty: Sample warranty form.

B. Sustainable Design Submittals:
   1. Regional Materials.
   2. Low-Emitting Materials.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Minimum 5 years documented experience in work of this Section.

B. Maximum Volatile Organic Compound (VOC) Content; interior sealers and accessories:
   1. Sealants: 250 grams per liter.
   2. Primers for non-porous substrates: 250 grams per liter.
   3. Primers for porous substrates: 775 grams per liter.

C. Laboratory Pre-Construction Testing:
   1. Obtain representative samples of actual substrate materials.
      a. Test sealers and accessories for following:
      b. Adhesion: Test to ASTM C794 and ASTM C719; determine surface preparation and required primer.
      c. Compatibility: Test to ASTM C1087; determine that materials in contact with sealers do not adversely affect sealant materials or sealant color.
      d. Staining: Test to ASTM D2203, ASTM C510, or ASTM C1248; determine that sealants will not stain joint substrates.
      e. Pre-construction testing is not required when sealant manufacturer furnishes data acceptable to Architect based on previous testing for materials matching those of this Project.

D. Field Pre-Construction Testing: Test each joint sealer and joint substrate before beginning work of this Section:
   1. Install sealers in mockups using joint preparation methods and materials recommended by sealer manufacturer.
   2. Install field-test joints in inconspicuous location as directed by Architect.
   3. Test sealers using manufacturer's standard field adhesion test; verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.
   4. When test indicates sealant adhesion failure, modify joint preparation, primer, or both and retest until joint passes sealant adhesion test.

1.5 PROJECT CONDITIONS

A. Do not apply sealers at temperatures below 40 degrees F unless approved by sealer manufacturer.

1.6 WARRANTIES

A. Furnish manufacturer’s 10 year warranty providing coverage for exterior sealers and accessories that fail to provide air and water tight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. BASF Building Systems. (www.buildingsystems.basf.com)
   2. Dow Corning Corp. (www.dowcorning.com)
   3. GE Silicones. (www.gesealants.com)
   4. Pecora Corp. (www.pecora.com)
   5. Sika Corp. (www.sikausa.com)
   6. Tremco, Inc. (www.tremcosealants.com)
   7. OSI Quad (www.ositough.com)
   8. W.R. Meadows (www.wrmeadows.com)

B. Substitutions: Not permitted.

2.2 MATERIALS

A. Joint Sealer Type 1:
   1. ASTM C920, Type S, Grade P, single component pourable, urethane, elastomeric, self-leveling grade, Class 25..
   2. Movement capability: Plus or minus 50 percent.

B. Joint Sealer Type 2:
   1. ASTM C920, Grade NS, multiple component silicone type, non sag.
   2. Movement capability: Plus or minus 25 percent.
   3. Color: To be selected from manufacturer's full color range.

   4. Joint Sealer Type 3:

   5. ASTM C920, Grade NS, single component butyl rubber type, non sag.
   6. Movement capability: Plus or minus 12-1/2 percent.
   7. Color: To be selected from manufacturer's full color range.

C. Joint Sealer Type 4:
   1. ASTM C834, single component acrylic latex, non sag.
   2. Movement capability: Plus or minus 7-1/2 percent.
   3. Color: White.

D. Joint Sealer Type 5:
   1. ASTM C920, Grade NS, single component silicone, non sag, mildew resistant.
   2. Movement capability: Plus or minus 25 percent.
   3. Color: To be selected from manufacturer's full color range.

E. Joint Sealer Type 6:
   1. ASTM C920, Grade NS, single component polyurethane type, non sag, recommended by manufacturer for continuous water immersion.
   2. Movement capability: Plus or minus 25 percent.
   3. Color: To be selected from manufacturer's full color range.

F. Joint Sealer Type 7:
   1. ASTM C834, single component acrylic latex, non sag, non-hardening, recommended by manufacturer for acoustical applications.
   2. Movement capability: Plus or minus 7-1/2 percent.
   3. Color: White.

G. Joint Sealer Type 8:
   1. ASTM C920, Grade NS, single component polyurethane type, non sag.
   2. Movement capability: Plus or minus 100 percent.
   3. Color: To be selected from manufacturer's full color range.

2.3 ACCESSORIES

A. Primers, Bond breakers, and Solvents: As recommended by sealer manufacturer.

B. Joint Backing:
   1. ASTM C1330, closed cell polyethylene foam, preformed round joint filler, non absorbing, non staining, resilient, compatible with sealer and primer, recommended by sealer manufacturer for each sealer type.
   2. Size: Minimum 1.25 times joint width.

2.4 MIXES

A. Mix multiple component sealers in accordance with manufacturer's instructions.
   1. Mix with mechanical mixer; prevent air entrainment and overheating.
   2. Continue mixing until color is uniform.

PART 3 EXECUTION

3.1 PREPARATION

A. Remove loose and foreign matter that could impair adhesion. If surface has been subject to chemical contamination, contact sealer manufacturer for recommendation.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Protect adjacent surfaces with masking tape or protective coverings.

D. Sealer Dimensions:

1. Minimum joint size: 1/4 x 1/4 inch.
2. Joints 1/4 to 1/2 inch wide: Depth equal to width.
3. Joints over 1/2 inch wide: Depth equal to one half of width.

3.2 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Install sealers and accessories in accordance with ASTM C1193.

C. Install acoustical sealers and accessories in accordance with ASTM C919.

D. Install joint backing to maintain required sealer dimensions. Compress backing approximately 25 percent without puncturing skin. Do not twist or stretch.

E. Use bond breaker tape where joint backing is not installed.

F. Fill joints full without air pockets, embedded materials, ridges, and sags.

G. Tool sealer to smooth profile.

H. Apply sealer within manufacturer’s recommended temperature range.

3.3 CLEANING

A. Remove masking tape and protective coverings after sealer has cured.

B. Clean adjacent surfaces.

3.4 SCHEDULE

JOINT LOCATION OR TYPE	SEALER TYPE
Exterior Joints:	
Joints in horizontal surfaces subject to pedestrian or vehicular traffic	1
Joints in water features	6
Joints in above-grade surfaces	[2] [3]
Joints in fiber cement boards, windows, doors	8

Interior Joints:

Joints in horizontal surfaces subject to pedestrian traffic	1
Joints in toilet rooms, countertops, kitchens	5
Joints in acoustical assemblies	7
Other joints	4

END OF SECTION

METAL DOORS AND FRAMES 081113 PART 1 -- GENERAL

1.1 WORK

A. Provide and install metal doors and frames where shown on the Drawings and as specified herein.

B. Door and frame types and sizes shall be as per the Drawings and Door Schedule; New doors and frames shall match the existing.

1.2 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

1.3 SUBMITTALS

A. Submit the following within 30 calendar days after receiving the Notice to Proceed. Submit

list of materials to be provided for this work.

Submit manufacturer's data required to prove compliance with these Specifications. Submit

manufacturer's installation instructions.

Submit Shop Drawings with complete details and assembly instructions.

1.4 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on Drawings and specified herein. Deliver and transport materials to avoid damage to the product or to any other work. Return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.

B. Store materials safely to avoid damage and locate to expedite the work. Store delivered doors consistently vertical or flat. Provide sheet materials at bottom and top sides, to protect doors from damage. Lift and carry doors when moving them; do not drag into position.

PART 2 -- MATERIALS AND PRODUCTS

2.1 METAL DOORS

A. Provide full flush doors of sizes, thickness, and types shown in Drawings and Door Schedule. 18 gauge steel for interior doors. 16 gauge steel for exterior doors. Reinforced for finish hardware.

Provide doors that are straight, free of defects and blemishes, and have correct finish material thickness. Doors will be complete with reinforcing and backing plates.
Verify that factory preparation and prefitting follow required hardware templates.

B. Provide door glazing with stops as required and labeled safety glass.

C. Provide fire-rated doors and fire-rated assemblies that comply with all building code and fire code requirements.

D. Louvers as shown on Door Schedule. 24 gauge steel in 20 gauge frames.

E. Doors shall be as manufactured by: AMWELD BUILDING PRODUCTS; CURRIES CO.; STEELCRAFT OR PRIOR APPROVED EQUAL.

2.2 METAL FRAMES

A. Provide metal frames as per Drawings and Door Schedule. Welded frames with mitered corners. 16 gauge steel for interior doors, 14 gauge steel for doors over 5' wide. 14 gauge steel for exterior doors. Reinforced for finish hardware.

B. Metal frames shall be as manufactured by:

C. Provide cleaned, shop-primed frames ready for finish painting. Painting as per Section 09900 of these Specifications.

2.3 FINISH HARDWARE

A. Manufacturer shall prepare frames for finish hardware using hardware supplier's templates. Use hardware supplier's templates to install or prepare for all finish hardware.

PART 3 -- CONSTRUCTION AND INSTALLATION

3.1 PRECONSTRUCTION AND PREPARATION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.

B. Do not allow door swings to conflict with electrical switches or outlets, wall guards or rails.

3.2 INSTALLATION

A. Mount frames prior to wall construction wherever practical to do so. Mount frames plumb, straight, and securely braced until permanently anchored.

B. Hang doors straight, plumb, smooth in opening and closing.

C. Provide clearances below doors as necessary to allow for thresholds, weatherstripping, etc.

D. Do not cut fire-rated doors so as to negate fire rating.

E. Seal or re-seal doors whenever they are cut. Seal, stain, or paint exterior doors before or immediately after installing them.

A. INSPECTION, REPAIR, AND TOUCH-UP

B. After installation, inspect all doors and frames to find and repair damaged surfaces. Repair or replace any damaged materials so that repairs are undetectable. Any costs for replacing doors for non-compliance will be paid by the Contractor.

C. Final door mounts shall be square, smooth operating, and plumb when doors are closed, partially open, and fully open.

END OF SECTION

SECTION 083323

OVERHEAD COILING DOORS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Steel overhead coiling doors.
   2. Operating hardware , controls, and supports.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 08 7100 - Door Hardware.
   3. Section 16-1000:
      a. Connection to power supply and control devices.

1.2 REFERENCES

A. American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures.

B. ASTM International (ASTM):
   1. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

C. Underwriters Laboratories (UL) 10B - Standard for Fire Tests of Door Assemblies.

1.3 SYSTEM DESCRIPTION

A. Design Requirements: Design doors to withstand:
   1. Positive and negative design wind loads in accordance with ASCE 7 without permanent deformation or damage.
   2. Movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.

B. Design Cycle Life: 10,000 cycles.

C. Operation:
   1. Manually operated, with speed governor.

1.4 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.
   2. Product Data: Provide information on component construction, anchorage method, and hardware.

B. Closeout Submittals:
   1. Operation and Maintenance Data.

1.5 QUALITY ASSURANCE

A. Fire Door Construction: Conform to UL 10B.
B. Installed Fire Rated Door Assembly: Conform to NFPA 80.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. CHI Overhead Doors. (www.chiohd.com)
2. Overhead Door Corp. (www.overheaddoor.com)
3. Raynor. (www.raynor.com)
4. Wayne-Dalton Corp. (www.wayne-dalton.com)

2.2 MATERIALS

A. Galvanized Steel Sheet:
1. ASTM A653/A653M, Structural Quality, G90 coating class.

2.3 COMPONENTS

A. Curtain:
1. Material: Roll formed galvanized steel sheet, minimum 22 gage.
2. Profile: Flat.
3. Slat face width: 1-1/2 inches.
4. Core: Nominal 2 PCF density foamed-in-place polyurethane insulation.
5. Slat ends: Equip with end locks to act as wearing surface and prevent lateral movement.
6. Bottom bar: Steel angle type.

B. Hood: Minimum 24 gage galvanized steel with closed ends.

C. Guides: Steel angles or roll formed channels.

D. Counterbalance: Adjustable, enclosed, helical torsion spring with grease sealed ball bearings or self lubricating graphite bearings for rotating members.

E. Weather Seals:
1. Full width flexible seal attached to lintel to seal against slats.
2. Full height seals attached to guides.
3. Full width loop type bottom seal attached to bottom bar.

F. Lock: Slide bolt type mounted on one end of bottom bar at interior; locks keyed alike

2.4 FINISHES

A. Galvanized Steel: Epoxy primer and polyester finish coat, color to be selected from manufacturer’s full color range.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install door assembly in accordance with manufacturer's instructions.

B. Anchor to adjacent construction without distortion or stress.

C. Fit and align door assembly including hardware, level and plumb, to provide smooth operation.

3.2 ADJUSTING

A. Adjust doors for smooth operation throughout full operating range.

END OF SECTION

METAL FRAME WINDOWS 085000 PART 1 -- GENERAL

1.1 WORK

A. Provide metal frame windows where shown on the Drawings and as specified herein.

B. Window types and sizes shall be as per the Drawings and Window Schedule. Unless approved by the Architect, provide all products from one manufacturer.

1.2 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

1.3 SUBMITTALS

A. Submit the following within 30 calendar days after receiving the Notice to Proceed. Submit list of materials

to be provided for this work.

Submit manufacturer's data required to prove compliance with these Specifications. Submit

manufacturer's installation instructions.

Submit Shop Drawings with complete details and assembly instructions.

1.4 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on Drawings and specified herein. Deliver and transport materials to avoid damage to the product or to any other work. Return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.

B. Store materials safely to avoid damage and locate to expedite the work. Store delivered doors and frames consistently vertical or flat. Lift and carry windows and frames with care to avoid damage.

PART 2 -- MATERIALS AND PRODUCTS

2.1 WINDOWS

A. Provide windows complete with glazing as per Drawings and Window Schedule.

B. Windows shall be as manufactured by: KAWNEER or Prior Approved Equal.

WINDOWS MARKED “A” - KAWNEER 451 Series, 2" x 4 ½”, finish to selected from manufacturers standard colors.=, with 1/4" clear tempered glass.

PART 3 -- CONSTRUCTION AND INSTALLATION

3.1 PRECONSTRUCTION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work.

3.2 INSTALLATION

A. Window dimensions and alignments shall be as per Drawings and Window Schedule.

B. Install windows according to manufacturer's instructions. Install windows that are watertight and allow no air infiltration. Install ventilator hardware to operate easily and without sticking. Install operable windows that open and close smoothly, without rattling or sticking.

C. Tolerances: Construct openings of six feet or less within plus or minus 1/16 inch tolerance in each direction. Construct openings larger than six feet within plus or minus 1/8 inch tolerance in each direction. Construct openings with diagonal dimensions within 1/8 inch of each other.

3.3 INSPECTION, REPAIR, AND TOUCH-UP

A. After installation, inspect all windows and frames to find and repair damage. Repair or replace any damaged materials as directed by the Architect. Any costs for replacing windows for non-compliance will be paid by the Contractor.

B. Final windows will be mounted square and smooth operating.

C. After installation, protect all materials from physical and chemical damage. Make undetectable repairs to damaged materials or finishes.

END OF SECTION

SECTION 087100 - FINISH HARDWARE SCHEDULE

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to the work of this session.

RELATED TECHNICAL ITEMS: Include but are not limited to the following:

Metal Doors and Frames: Section 08100
Finish hardware - General (the general section applies to schedule as though it were included in full within this section): Section 08710
Door schedule - On drawings

SUBMITTALS:
Provide complete hardware schedule including cut sheets on all hardware items, including finishes. PART 2 –

PRODUCTS

All hardware to match existing in style, size and finishes.

BUTTS:

Provide template produced units. Hinges shall be mortise type, 5-knuckle, except where indicated.

Pins: Exterior doors shall have non-removable pins; Interior doors, non-rising pins. Tips: Flat button and matching plug.

Provide butts which will continuously support weights equal to or exceeding those recommended by the Manufacturer.

LOCK CYLINDERS AND KEYING:

General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.

Existing System: Key the locks to the Owner's existing system, with a new master key for the project.

Locks: Equipment locks with cylinders for interchangeable-core pin tumbler inserts. **ONLY Patented System "Stanley / Best" Cores to match campus standard. "VERIFY WITH GSU"**

Cylinders to be compatible with these. Contractor to include cost of cores in base bid. Contractor shall supply and install construction cores in locks to secure the space during construction.

Stanley/Best to ship permanent lock cores directly to the User Agency, who will install them when project is accepted as substantially complete.

Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.

Master Keying: Comply with the Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.

Key Material: Provide keys of nickel silver only.

Key Quantity: Furnish three change keys for each lock; Five master keys for each master system. Furnish one extra blank for each lock.

Deliver keys to Owner's representative.

LOCKS, LATCHES AND BOLTS:

Strikes: Provide Manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set.

Provide dust-proof strikes for foot bolts, except where special threshold construction provides non-recessed strike for bolt.

Provide roller type strikes where recommended by Manufacturer of the latch and lock units.

Lock Throw: Provide 5/8" minimum throw on latch and deadbolts used on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.

Provide 1/2" minimum throw on other latch and deadlock bolts.

Flush Bolt Heads: Minimum of 1/2" diameter rods of brass, bronze or stainless steel, with minimum 12" long rod.

Flush Bolt Bottoms: Same as head with dustproof strike at floor.

PUSH / PULL UNITS:

Exposed Fasteners: Provide Manufacturer's standard exposed fasteners for installation through bolted for matched pairs, but not for single units.

CLOSERS AND DOOR CONTROL DEVICES:

Size of Units: Except as otherwise specifically indicated, comply with the Manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.

Where parallel arms are required for closers, provide closer unit one size larger than recommended for use with standard arms.

Closer Location: Do not install closers on the outside of any exterior door nor on the corridor side of any room door. Wherever it is necessary to install a closer on the side of a door away from the butts, a parallel arm shall be used. Corner or soffit brackets will not be permitted. Corridor installation is acceptable where abutting walls prevent normal installation. All fastenings to the door shall be by sex bolts or other type of through bolts acceptable to the Architect.

Combination Door Closers and Holders:

Provide closers with hold-open feature except where another type of hold-open feature is provided or where forbidden by Safety regulations.

Provide units where indicated, designed to hold door in open position under normal usage and to release and automatically close door under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.

Provide integral smoke detector device in combination door closers and holders complying with UL 228.

Exposed floor Plates: Except where floor closers occur in carpeted floor finish areas, provide finished metal flush dress plates. Finish exposed plates to match thresholds (If Any), or to match hardware sets (If no Threshold), unless otherwise indicated.

At exterior doors, provide threshold as an integral part of the floor plate for floor closers.

Flush Bolts: Provide automatic flush bolts and coordinator for pairs of automatically closing fire doors.

Exit Devices: Provide touchbar design meeting ANSI A156.3, Grade 1 with 5/8" min. latch bolt protection. Provide guards on exposed vertical rod devices to comply with ADA requirements.

KICK PLATES AND ARMOR PLATES:

General: Fabricate kick and armor plates with bevel on top and both sides. Fasten with screws spaced no more than 4 inches on center.

Stainless Steel: Fabricate kick plates from 16 gauge stainless steel (US32D) 10 inches high x width of door, less 2 inches

STRIPPING AND SEALS:

Continuity of Stripping: Except as otherwise indicated, it is required that the stripping at each opening be continuous and without unnecessary interruptions at door corners and hardware.

Replaceable Seal Strips: It is required that the resilient or flexible seal strip of every unit be easily replaceable and readily available from stocks maintained by the Manufacturer.

Weatherstripping: Provide types of weatherstripping indicated, properly prepared for attachment to supporting units.

Bumper Type: Provide bumper type weatherstripping at jambs and head, including a resilient insert and metal retainer strip, surface-applied unless shown as mortised or semi-mortised, of the following metal, finish and resilient bumper material:

Extruded aluminum with aluminum or bronze anodized finish as required; 0.062" minimum thickness of main walls and flanges.

Closed-cell sponge neoprene insert, 1/4" x 3/4".

Foam Type: Provide flexible polyurethane foam type sound-stripping at jambs and head, with adhesive backing, for direct application to stops at head and lock jamb, and to jamb at hinges. Provide 1/4" x 1/2" size, except as otherwise shown or required for proper seal and door operation.

Threshold Type: Provide threshold-contact type weather stripping at door bottom, including resilient insert and metal housing of the design and size shown; of the following metal, finish and resilient seal

strip: Extruded aluminum with natural anodized finish; 0.062" minimum thickness of main walls and flanges.

Solid neoprene loop seal strip.

Automatic Drop Seal: Provide automatic drop-seal sound-stripping door-bottom unit of Manufacturer's standard design, with operating seal bar of the following material retained in an extruded metal bar and capable of operating to close a 3/4" gap (from door bottom to floor or threshold). House mechanism and operating bar in the following metal housing, for mounting on doors as follows:

Seal: Closed-cell sponge neoprene.

Housing: Extruded aluminum, 0.062" thick, with medium bronze or aluminum anodized finish as required on exposed surfaces.

Mounting: Semi recessed, except as otherwise indicated. Mount on stop-face of doors.

Astragal: Provide metal Astragal Bar, not less than 1/8" X 1-3/4" for exposed flat head screw mounting on one leaf on pairs of exterior doors, fire doors, smoke doors and other pairs of doors where noted as follows:

Cold rolled steel, prime paint finish.

Fire/Smoke Seals: Provide an approved seal at all rated doors. This shall include head, jambs, and sill.

Stops: Provide one of the following at all doors:
Wall Stop Floor
Stop Overhead
Stop

THRESHOLDS:

Metal: Extruded aluminum, smooth commercial finish.

Surface Pattern: Grooved tread, Manufacturer's standard.

Width: As indicated, but not less than 4 inches if not otherwise indicated.

Minimum Thicknesses: Produce units with the indicated minimum thicknesses, exclusive of surface pattern grooves.

Extrusions: 0.25" for direct tread surfaces, 0.1875" for secondary tread surfaces, and 0.125" for unexposed flanges and legs.

Construction: Single-piece or multiple-piece construction at contractor's option, complying with manufacturer's recommendations.

Profile: Provide Manufacturer's standard unit which conforms with the minimum size and profile requirements as shown or otherwise indicated.

For exterior doors, provide profile designed to form a weather seal, of the appropriate type for the swing of door.

Floor Drop: Except where no change in floor elevation is shown (From Inside to Outside), provide profile which accommodates 1/2" drop in floor elevation, unless another dimension is shown.

For swing-out doors provide units with stop or hook to act as weather bar.

For swing-in doors, provide hook-bar and drain channel to minimize infiltration of moisture and air.

For doors equipped with panic hardware including floor bolts, provide profile with stop bar of proper size and shape to function as the strike plate for the floor bolts.

No threshold may exceed ½" in height and shall be "ADA" compliant.

RUBBER THRESHOLD RAMPS:

Material: 100% recycled rubber

Width: Match width of sloped platform access walkway

Thickness: ¼" minimum – 4" max

Surface Pattern: None required

Construction: Single or multiple layer Profile:

Meet ADA requirements

Manufacturers: Reese Enterprises
EZ Handi-Ramp

HARDWARE FINISHES:

Provide matching finishes for hardware units at each door or opening, to the greatest extent possible, and except as otherwise indicated. Reduce differences in color and textures as much as commercially possible where the base metal or metal forming process is different for individual units of hardware exposed at the same door or opening. In general, match items to the manufacturer's standard finish for the latch and lock set (or push-pull units if no latch-lock sets) for color and texture. Provide finish on exposed cabinet hardware to match that of room door hardware unless otherwise indicated.

Provide finishes which match those established by BHMA or, if none established, match the Architect's sample.

Provide quality of finish, including thickness of plating or coating (If Any), composition, hardness and other qualities complying with manufacturer's standards, but in no case less than specified for the applicable units of hardware by FSFF-H-106, FSFF-H-111, FSFF-H-121.

The designations used in schedules and elsewhere to indicate hardware finishes are the industry- recognized standard commercial finishes, except as otherwise noted.

SILENCERS: Provide gray rubber silencers for interior metal frames, 3 for each single door and 2 for each pair of doors, except at fire doors.

ACCEPTABLE DESIGNS AND MANUFACTURERS:

Butts and hinges finish to be 26D. Provide ball bearing butts where closers are required.

Provide size of butt determined by door size as indicated below with throw as required to clear trim. Doors 3'-4" wide and over to have 4 ball bearing, extra heavy.

DOOR THICKNESS	DOOR WIDTH	HINGE SIZE
1-3/4"	To 36"	4-1/2"
1-3/4"	36" to 48"	5"
1-3/4"	over 48"	6"

Width of butt shall be no greater than is necessary to swing door clear of opening and to clear adjacent trim or other obstruction.

Equivalent series of acceptable butts are:

MCKINNEY	HAGERSTANLEY	LAWRENCE	BOMMER	
TA2714	BB1279FBB179	BB4101	Single Acting Spring	
T4A3786	BB1168FBB168	BB5151	Double Acting Spring	
T2714	1279	179	SC2481	(Grade 1)

Pivots:

Provide pivots specifically recommended by the manufacturer for the size and weight of door for which they are to be used.

Acceptable Manufacturers: LCN; Rixon-Firemark, Stanley, Dor-O-Matic.

Locks, Latches and Cylinders:

Provide heavy duty mortise lock sets for exterior doors unless otherwise noted.

Provide heavy duty cylindrical lock sets for exterior and interior doors unless otherwise noted. Finish: US

26D unless otherwise noted.

All lever handles shall have “breakaway” lever trim.

Acceptable manufacturers and designs:

ONLY Stanley/Best patented lock cores will be accepted. Cylinders to be compatible with these. Contractor to include cost of cores in base bid.

Stanley/Best to ship permanent lock cores directly to the User Agency, who will install them. Bolts -

Flush:

Finish: Match lockset finish.
Acceptable Manufacturers: Trimco; quality, Ives.

Stripping and Seals:

Acceptable Manufacturers: Zero; May, Sager.

Thresholds:

Acceptable Manufacturers: Zero; May, Sager.

Door Stops:

Equal to Ives No. BPO60F3 Door

Lock Guard Plates:

Provide lock guard plate at all exterior doors that do not have deadbolts.

HARDWARE SETS:

The following list provides a general listing of hardware requirements and is not intended for use as a final hardware schedule. Any items of hardware required by established standards or practices, or to meet state and local codes shall be furnished whether or not specifically called out in the listed groups

HW-1 Exterior Hollow Metal Doors

3 Ea	Hinge
1 Ea	Mortise Lock (F05)
1 Ea	Closer
1 Ea	Threshold
1 Ea	Stripping and Seals
1 Ea	Floor Stop
3 Ea	Silencer
1 Ea	Kick Plate

HW-2 (Mechanical)

3 Ea	Hinge
1 Ea	Mortise Lock (F07)
1 Ea	Holder
1 Ea	Threshold

HW-3 Interior Door

3 Ea	Hinge
1 Ea	Mortise Lock (F07)
1 Ea	Floor Stop
3 Ea	Silencer
1 Ea	Closer

HW-4 Toilet Door

3 Ea	Hinge
1 Ea	Mortise Lock (F07)
1 Ea	Floor Stop
3 Ea	Silencer
1 Ea	Closer

END OF SECTION 08711

GYPSUM WALLBOARD 092116 PART 1 --

GENERAL

1.1 WORK

A. Provide: All necessary labor, materials, equipment, etc. required for furnishing gypsum board wall construction to complete the work as shown on the Drawings and specified herein. Provide water resistant gypsum board in walls and ceilings with water source.

1.2 QUALITY STANDARDS

A. Provide experienced well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

C. Use products and accessories:

From a manufacturer who specializes in making, installing, and servicing systems of this type. From a manufacturer specified or approved by the Architect.

D. All work shall comply with manufacturer's instructions and governing building and safety codes.

E. Workmanship shall be of first class and new wall surfaces shall match existing in texture and finish so that there is no discernable difference between new and existing.

1.3 SUBMITTALS

A. Submit the following within 30 calendar days after receiving the Notice to Proceed.

Submit list of materials to be provided for this work.
Submit manufacturer's specifications required to prove compliance with these specifications. Submit manufacturer's installation instructions.

1.4 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on Drawings and specified herein.

B. Deliver, store, and transport materials to avoid damage to the product or to any other work. Return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.

C. Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

A. PRECONSTRUCTION AND PREPARATION

B. Examine and verify that job conditions are satisfactory for speedy and acceptable work. Confirm there is no conflict between this work and governing building and safety codes. Confirm there are no conflicts between this work and work of other trades. Confirm that work of other trades that must precede this work has been completed. Meet all requirements to secure any applicable warranty.

C. Notify Architect when work is scheduled to be started and completed. PART 2 --

MATERIALS

2.1 GYPSUM WALLBOARD

A. Gypsum wallboard shall be manufactured by: DALE INDUSTRIES; GOLD BOND; US GYPSUM OR PRIOR APPROVED EQUAL.

Provide boards in 8 foot or other lengths to minimize construction joints.

B. Gypsum wallboard shall be as per Federal Specification SS-L-30D, in 48" widths.

C. Gypsum wallboard sheathing as per Federal Specification SS-L-30D, Type II, Grade W, Class 2.

D. Use types and thicknesses specified below except where shown otherwise in the Drawings. Standard

wallboard: Type III, Grade R, Class 1, 5/8" thick.

Fire-retardant wallboard: Type III, Grade X, Class 1, 5/8" thick.

Water-resistant wallboard: Type VII, Grade W or X as required, Class 2, 5/8" thickness.

2.2 METAL TRIM AND ACCESSORIES

A. Metal Trim: Zinc-coated steel 26 gauge min., as per Federal Specification QQ-S-775, Class d or e.

B. Casing beads: Channel-shapes with exposed wing, and concealed wing not less than 7/8" wide.

C. Corner beads: Angle shapes with wings not less than 7/8" wide: Perforated for nailing and joint treatment. Or use paper/metal combination bead suitable for joint treatment.

D. Edge beads at ceiling perimeter: Angle shapes with wings 3/4" wide minimum. Concealed wing perforated for nailing, exposed wing edge folded flat.

2.3 JOINTING

A. Jointing system with reinforcing tape and compound as supplied or recommended by the gypsum wallboard manufacturer.

A. FASTENINGS

For gypsum wallboard attached to metal framing and channels: Flat-head screws, 1" long minimum. Self- tapping threads and self-drilling points. Specifically designed for use with power-driven tools.

B. For gypsum wallboard attached to wood: 1-1/4" type W bugle-head screws. Alternate:

Annular ring nails complying with ASTM C514.

Nail sizes as required by governing building code. PART 3 --

CONSTRUCTION AND INSTALLATION

3.1 PREPARATION

A. Preparation and coordination: Install blocking and backups to support all edges of wallboard. Verify that wood framing to receive wallboard is dry and not subject to shrinkage.

B. Keep wallboard materials dry and protected from moisture. Store wallboard materials so they are

protected from damage to surfaces and edges. Maintain interior work environment closed in, not exposed to weather, clean, dry, well-ventilated, well-lighted, and comfortable in temperature.

C. Keep work of trades such as conduit, pipe, and ducts clear of the inside faces of wall panels.

3.2 INSTALLATION

A. Install as per manufacturer's instructions, trade association standards, and governing building code.

B. If there is a conflict between instructions, standards, code, etc., install as instructed by the Architect.

C. For walls and ceilings: Hold wallboard 3/8 inch to 2inch up from floor. Install wall panels horizontally unless otherwise required. Stagger panel joints vertically.

D. Nailing and screw attachment as per manufacturer's instructions. Do not position conduit and piping where it can be damaged by nailing. Do not proceed with nailing into wood framing that has over 19% of moisture content.

E. Thoroughly seal penetrations in fire-rated walls. Box in recesses in fire-rated walls. Make cutouts for electrical outlets, switch boxes, pipe, etc., tightly to size.

F. Taping and spackling must follow applicable trade standards and manufacturer's instructions throughout. Keep temperature above specified minimum (usually 55 degrees). Do not track gypsum and spackle dust to clean areas.

G. Joint treatment must follow applicable trade standards and manufacturer's instructions throughout. Gypsum wallboard must fit completely snugly against supporting framework. Joint work shall be at a minimum of 55 degrees F. for 24 hours prior to work.

A. CLEANING AND REPAIR

Don't allow tracking of gypsum and finishing compounds onto floor surfaces. At completion of each segment of work in a room, clean thoroughly and remove all debris. Frequently remove all debris from site. Make a final check to determine that there are no penetrations through fire- rated walls.

B. Recheck work for necessary repairs that may be required before painting or other added work.
Complete repairs as directed by the Architect.

END OF SECTION

CERAMIC TILE 09300 PART 1 -

- GENERAL

1.1 WORK

A. Provide: Install new, Unglazed ceramic mosaic tile, Glazed wall tiles, Latex Emulsion based Latex Portland Cement Mortars, Water cleanable tile setting epoxy adhesives, organic adhesives, Acrylic emulsion for latex-Portland cement grouts, etc..

B. Provide everything required to complete the work as shown on the Drawings and specified herein.

C. Other related work: Prepare plywood floor decking and gypsum board walls to receive ceramic tile, as per tile manufacturers recommendations and industry standards.

1.2 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

C. Use products and accessories:

From a manufacturer who specializes in making, installing, and servicing systems of this type. From a manufacturer specified or approved by the Architect.

D. All work shall comply with manufacturer's instructions and governing building and safety codes.

1.3 SUBMITTALS

A. Submit the following within 30 calendar days after receiving the Notice to Proceed.

Submit list of materials to be provided for this work.
Submit manufacturer's specifications required to prove compliance with these specifications. Submit manufacturer's installation instructions.

1.4 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on Drawings and specified herein.

B. Deliver, store, and transport materials to avoid damage to the product or to any other work. Return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.

C. Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

1.5 PRECONSTRUCTION AND PREPARATION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work. Confirm there is no conflict between this work and governing building and safety codes. Confirm there are no conflicts between this work and work of other trades. Confirm that work of other trades that must precede this work has been completed. Meet all requirements to secure any applicable warranty.

B. Notify Architect when work is scheduled to be started and completed.

PART 2 -- MATERIALS

2.1 TILE AND ACCESSORIES

A. Tile shall comply with Tile Council of America Specification 137.1. Colors, textures, and patterns will be as selected by the Architect/User Agency from manufacturer's samples.

B. Wall tile shall be manufactured by: American Olean, Dal-Tile, Summitville.

Glazed Wall Tile: Flat tile complying with the following requirements:

1. Composition: Porcelain.
2. Nominal Facial Dimensions: 12 x 24
3. Nominal Thickness: 3/8"
4. Mounting: Factory back-mounted.
5. Trim: Units to match characteristics of adjoining flat tile, size to coordinate with size and coursing of adjoining flat tile, Coved Base, Bullnose cap, 3/4" radius bullnose shape external corner, field-butted square corner internal corners.

C. Floor tile shall be manufactured by: American Olean, Dal-Tile, Summitville.

Unglazed Floor Tile:

1. Composition: Porcelain with abrasive admixture.
2. Nominal facial dimensions: 12 x 24
3. Nominal Thickness: 3/8”
4. Dynamic Coefficient of Friction (DCOF): Greater than 0.42

Floor tile shall have coefficient of friction not less than 0.50 as per ASTM F489, ASTM F609. Floor tile as per National Bureau of Standards Technical Note 895.

D. THRESHOLDS: White honed marble complying with MIA Group “A” requirements for soundness.

2.2 SETTING MATERIALS

A. Comply with Tile Council of America "Handbook for Ceramic Tile Installation."

B. Latex-portland cement mortar as per ANSI A118.4.

C. Organic adhesive as per ANSI A136.1. Type I where subject to extended water exposure. Type II at all other locations.

2.3 GROUT

A. Comply with Tile Council of America "Handbook for Ceramic Tile Installation."

B. Grout color shall be as selected by the Architect.

2.4 Portland cement grout: Use mixture of portland cement and other materials manufactured for this purpose. Grout must comply with tile manufacturer's instructions.

2.5 OTHER MATERIALS

A. Provide all related materials required for a complete, proper installation.

B. Adhesive, sealant, and grout as per applicable trade standards and tile manufacturer's instructions, delivered in new unopened containers, with correct color additives.

C. Provide non-corrosive lath, zinc-coated, lapped, and tied with zinc-coated wires.

D. Install waterproofing and backing that will absolutely block water leakage. All waterproofing

and backing must be as per manufacturer's instructions.

PART 3 -- CONSTRUCTION AND INSTALLATION

3.1 PREPARATION

A. Keep work surfaces and working environment clean, dry, well lighted, well ventilated, free of airborne construction dust and at comfortable working temperature, minimum 60 degrees F.

B. Provide supports for fixtures and related construction. Pre-mark and double-check locations for accessories to be installed. Set accessories in place before beginning tile work. Put in place and properly position, work of related trades.

C. Install all support framing, furring, and backing, plumb, square, aligned, and well secured so surfaces will not move or deflect.

D. Prepare floors for tiling so the finish floor will be either perfectly level or slope properly to drains.

E. Work preparation:

Install waterproofing and backing that will absolutely block water leakage: Install control joints and edge strips securely fastened. Set layout start points to achieve tile patterning that is symmetrical and complete.

3.2 INSTALLATION

A. Work standards and conditions:

Comply with Tile Council of America "Handbook for Ceramic Tile Installation." Comply with ANSI A108.1, ANSI A108.2.
Comply with manufacturer's instructions.
Work temperature must be as per instructions of materials manufacturers.
Tile over floor membrane may not be installed until membrane is tested and accepted.

B. Tile must be installed as a complete, uninterrupted covering. Extend tile into recesses and under and behind future equipment or fixtures. Terminate tile neatly at edges, obstructions, or penetrations of other work.

C. Lay tile in standard grid unless shown otherwise on Drawings or directed by the Architect. Align joints of adjoining same size tiles on floor, base, walls, and trim. In tile layout, center tile fields both directions on each floor or wall area. Joint widths must be consistent and uniform.

D. Provide expansion and control joints where shown on Drawings and as instructed by the "Handbook for Ceramic Tile Installation" of the Tile Council of America.

E. Perfectly match tile pieces with other tile work. Apply tile surface smoothly and free of irregularities, humps, or dips. Install tile joints straight, level horizontally, aligned and exact vertically. Make tile cuts uniform and not smaller than half a tile.

F. Complete grouted or thin-set adhesion so no tiles can be pulled loose.

3.3 PROTECTION, CLEANING, AND REPAIR

A. Completely protect finished tile, and allow no damage to the work.

B. Use cleaning solutions and materials as per manufacturer's instructions. Wash tile surfaces with clean water before and after cleaning. Remove excess corrosive cleaning solutions from site; do not empty into building drains.

C. Repair and replace defective work. Reject tiles and replace if chipped, scratched, loose, or misaligned. Repair or replace all defective and non-conforming work as directed by the Architect. Make repairs undetectable.

END OF SECTION

SECTION 095113

ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Suspended metal ceiling grid system.
   2. Acoustical panels.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM):
   1. A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
   2. C635 - Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
   3. C636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.
   4. E1264 - Standard Classification of Acoustical Ceiling Products.

B. Ceiling and Interior Systems Construction Association (CISCA) - Ceiling Systems Handbook.

C. Underwriters Laboratories, Inc. (UL) - Fire Resistance Directory.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Samples:
      a. 12 x 12 inch acoustical panel samples.
      b. 6 inch long suspension system samples showing each profile.

B. Quality Control Submittals:
   1. Certificates of Compliance: Certification from an independent testing laboratory that acoustical panels meet fire hazard classification requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years documented experience in work of this Section.
B. Fire Hazard Classification: Class A] rated, tested to ASTM E1264.

1.5 PROJECT CONDITIONS

A. Environmental Requirements: Install in approximately same conditions of temperature and humidity as will prevail after installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Suspension System:
   1. Armstrong World Industries, Inc. (www.armstrong.com/commceilingsna)
   2. Chicago Metallic Corporation. (www.chicago-metallic.com)
   3. USG Interiors, Inc. (www.usg.com)

B. Acceptable Manufacturers - Acoustical Units:
   1. Armstrong World Industries, Inc. (www.armstrong.com/commceilingsna)
   2. Certainteed Corporation (www.certainteed.com)
   3. USG Interiors, Inc. (www.usg.com)

C. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Suspension Grid System:
   1. ASTM C635, heavy duty, die cut, interlocking ends.
   2. Grid type: Exposed T.
   3. Material: Extruded aluminum.
   4. Runners: 1-1/2 inches high, 9/16 inch exposed width, flush profile.
   5. Perimeter molding: Angle shape.
   6. Finish: Factory applied enamel paint, sprayed and baked, white color.
   7. Accessories: Stabilizer bars, clips, splices, etc. for complete system.

B. Acoustical Panels: Basis of Design product subject to compliance with requirements provide
   1. Armstrong World Industries CALLA 2820 or Certainteed or prior approved equal.
   2. Size: 24 x 24 inches x 1 inch thick.
   3. Edge configuration: Square.
   4. Performance requirements:
      a. NRC: 0.85.
      b. CAC: 35.
      c. AC: 170
      d. Light reflectance: 85%.
      e. Flame Performance: Class A (HPVA)
      f. ASTM Classification: Type IV, Form: 2, Pattern: E

2.3 ACCESSORIES

A. Support Channels: Galvanized steel; size and type to suit application.

B. Hanger Wire:
   1. ASTM A641, minimum 12 gage galvanized steel.

C. Hold Down Clips: Minimum 24 gage spring steel, manufacturer's standard profile.

D. Touch-Up Paint: Color to match acoustical panels and suspension grid.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install ceilings in accordance with ASTM C636 and CISCA Handbook.

B. Minimize panels less than one half size.

C. Install molding around perimeters and abutting surfaces. Miter molding at exterior corners; cut flanges and bend web to form interior corners.

D. Space hanger wires maximum 48 inches on center. Install additional hangers where required to support light fixtures and ceiling supported equipment.

E. Do not suspend hangers directly from metal deck. Attach steel channel horizontally to adjacent framing members; place hanger at regular spacing.

F. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.

G. Where ducts or other equipment prevent regular spacing of hangers:
   1. Reinforce nearest related hangers to span extra distance, or:
   2. Suspend steel channel horizontally beneath duct or equipment; place hanger at regular spacing.

H. Install main tees at maximum 48 inches on center.

I. Install cross tees to form 24 x 24 inch modules. Lock cross tees to main tees.

J. Support ends of tees on flange of perimeter molding.

K. Place acoustical panels with edges resting flat on suspension grid.

L. Cutting Acoustic Units:
   1. Cut to fit irregular grid and perimeter edge trim and around penetrations.
   2. Locate cuts to be concealed.
   3. Cut and field paint exposed edges of reveal edge units to match factory edge.

M. Place hold down clips over cross tees at mid point of each module.

N. Lighting Fixture Protection: Form trapezoidal, five sided box of acoustical panels cut to size over each light fixture; conform to UL requirements.

O. Installation Tolerances: Ceilings level to 1/8 inch in 12 feet measured in any direction.

3.2 ADJUSTING

A. Touch up minor scratches and abrasions to match factory finish.

END OF SECTION

VINYL PLANK TILE FLOORING 09650 PART 1 -- GENERAL

1.1 WORK

A. Provide: Prepare concrete slab as required for the installation of new vinyl plank flooring of type and color as selected by Architect and where indicated on drawings and schedule. Install new rubber base.

B. Provide everything required to complete the work as shown on the Drawings and specified herein.

1.2 QUALITY STANDARDS

A. Provide experienced, well-trained workers competent to complete the work as specified.

B. Unless approved by the Architect, provide all related products and accessories from one manufacturer.

C. Use products and accessories:

From a manufacturer who specializes in making, installing, and servicing systems of this type. From a manufacturer specified or approved by the Architect.

D. All work shall comply with manufacturer's instructions and governing building and safety codes.

1.3 SUBMITTALS

A. Submit the following within 30 calendar days after receiving the Notice to Proceed.

Submit list of materials to be provided for this work.
Submit manufacturer's specifications required to prove compliance with these specifications. Submit manufacturer's installation instructions.

1.4 MATERIALS HANDLING

A. Provide all materials required to complete the work as shown on Drawings and specified herein.

B. Deliver, store, and transport materials to avoid damage to the product or to any other work. Return any products or materials delivered in a damaged or unsatisfactory condition. Materials and products delivered will be certified by the manufacturer to be as specified.

C. Store materials in a safe, secure location, protected from dirt, moisture, contaminants, and weather.

1.5 PRECONSTRUCTION AND PREPARATION

A. Examine and verify that job conditions are satisfactory for speedy and acceptable work. Confirm there is no conflict between this work and governing building and safety codes. Confirm there are no conflicts between this work and work of other trades. Confirm that work of other trades that must precede this work has been completed. Meet all requirements to secure any applicable warranty.

B. Notify Architect when work is scheduled to be started and completed.

C. PART 2 -- MATERIALS

2.1 FLOORING AND ACCESSORIES

A. Vinyl Plank: Tile shall be 0.120 inch thick, 6x48, as manufactured by TARKETT Latitude Natural Teak. Other approved manufacturers Armstrong, CoreTec. Flooring shall match samples selected by the Architect from approved manufacturer. Equal products of other manufacturers may be submitted for prior approval by the Architect.

B. Edging Strips: Provide edging strip of design to protect exposed edges of tile.

C. Base: Provide rubber base where scheduled. Top set type 4 inches high or other height noted on drawings, 1/8" thick with rounded top and cove bottom. Make internal and external corners rounded. Color of base shall be selected from manufacturers standard colors. Acceptable manufacturers: Roppe; Armstrong; Johnsonite or Approved Equal.

D. Wax: Hillyard Super Hill Brite or Armstrong S480 applied to vinyl plank tile.

E. Adhesive: Use waterproof stabilized adhesive as recommended by the flooring manufacturer. Do not use asphalt emulsions or other non-waterproof adhesives.

F. Maintenance supplies: Provide (2) boxes of each color of tiles to the Owner, well wrapped and clearly labeled.

G. Warranty: 15 Years minimum.

PART 3 -- CONSTRUCTION AND INSTALLATION

3.1 PREPARATION

A. Subfloor or substrate shall be smooth and at required finish elevation. No more than 1/8" in 10'-0" deviation from level or slopes shown on Drawings. Sweep or vacuum clean substrate and inspect for smoothness and any needed repairs.

B. Concrete slab primer must be non-staining and recommended by the flooring manufacturer. Apply primer as per manufacturer's instructions.

3.2 INSTALLATION

A. Install resilient tiles as per manufacturer's instructions and as approved by the Architect.

B. Install flooring after other finish work such as painting is completed and the building's heating system is operational.

C. Thoroughly adhere base materials; do not spot glue. Use materials from cartons in the same sequence manufactured and packaged. Lay in pattern with grain direction as directed by the Architect. Butt tile units tightly against vertical surfaces, nosings, etc. Scribe as necessary to fit around objects. Scribed joints must be as neat and square as manufactured edges. Avoid cut widths less than 3" at edges of rooms. Do not allow scrap for base work; use maximum piece lengths.

D. Place tiles tightly aligned, even, in straight parallel lines. Extend units into recesses and concealed spaces such as behind fixtures.

E. 3.3. CLEANING AND FINISHING

A. Only use cleaner recommended by the flooring manufacturer. Remove excess adhesive and other marks or stains from finish flooring. Remove all stains and excess adhesive immediately after installationB. Leave factory finish unless otherwise required. Do new finishing such as waxing strictly according to manufacturer's instructions.

3.4 REPAIR

A. Repair or replace defective work as directed by the Architect. All chipped, scratched, unlevel, or other defective work will be repaired or replaced. Repairs shall be undetectable.

B. Securely protect floor from damage by traffic or further construction work.

END OF SECTION

SECTION 099100

PAINTING

GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Texturing of gypsum board.
   2. Surface preparation and field application of paints.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM) D4442 - Standard Test Method for Direct Moisture Content Measurement of Wood and Wood-Base Materials.

B. Society for Protective Coatings (SSPC) - Painting Manual.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Product Data: Manufacturer's data on materials proposed for use. Include:
      a. Product designation and grade.
      b. Surface preparation materials and procedures.
      c. Product analysis and performance characteristics.
   2. Samples:
      a. [3 x 6] inch samples of each coating system on representative substrate. Step back successive coats so that all coats remain exposed. Indicate type of material used for each coat.
      b. [12 x 12] inch texture samples on gypsum board backing.
   3. Paint Schedule: Detailed schedule indicating type and location of surface, coating materials, and number of coats to be applied.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Minimum 5 years [documented] experience in work of this Section.

B. Mockup:
   1. Construct mockup panels for interior wall finishes,4 feet wide x 4 feet high.
   2. Show: Each color and texture.
   3. Locate where directed.
   4. Approved mockup may [not] remain as part of the Work.

1.5 DELIVERY, STORAGE AND HANDLING

A. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

B. Paint Materials: Store at ambient temperature from 45 to 90 degrees F in ventilated area, or as required by manufacturer's instructions.

C. PROJECT CONDITIONS

Do not apply materials when surface and ambient temperatures or relative humidity are outside ranges required by manufacturer.

D. Provide lighting level of 80 footcandles measured mid-height at substrate surface.

1.6 MAINTENANCE

A. Extra Materials: 1 gallon of each color and sheen.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. Benjamin Moore and Co. (www.benjaminmoore.com)
2. Devoe Paint Co. (www.devoepaint.com)
3. Fuller O'Brien Paints. (www.fullerpaint.com)
4. Glidden. (www.gliddenprofessional.com)
5. I.C.I. Paints. (www.icipaintstores.com)
6. Kelly-Moore Paints. (www.kellymoore.com)
7. PPG Architectural Finishes, Inc. (www.pittsburghpaints.com)
8. Pratt and Lambert Paints. (www.prattandlambert.com)
9. Sherwin Williams. (www.sherwin-williams.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Paints: As scheduled at end of Section, or approved substitute.

2.3 ACCESSORIES

A. Accessory Materials: Paint thinners and other materials required to achieve specified finishes; commercial quality.

B. Patching Materials: Latex filler.

C. Fastener Head Cover Materials: Latex filler.

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2.4 MIXES

A. Uniformly mix to thoroughly disperse pigments.

B. Do not thin in excess of manufacturer's recommendations.

PART 3 EXECUTION

3.1 EXAMINATION

A. Test shop applied primer for compatibility with subsequent coatings.

B. Measure moisture content of surfaces using electronic moisture meter. Do not apply coatings unless moisture content of surfaces are below following maximums:
1. Gypsum board: 12 percent.
2. Masonry and concrete: 12 percent.

3. Wood: 15 percent, measured to ASTM D4442.

3.2 Concrete floors: 8 percent.

3.3 PREPARATION

A. General:
1. Protect adjacent and underlying surfaces.
2. Remove [or mask] electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
3. Correct defects and clean surfaces capable of affecting work of this section.
4. Seal marks that may bleed through surface finishes with shellac.

B. Impervious Surfaces: Remove mildew by scrubbing with solution of trisodium phosphate and bleach. Rinse with clean water and allow to dry.

C. Gypsum Board:
1. Fill minor defects with filler compound. Spot prime defects after repair.
2. Apply light orange peel texture in accordance manufacturer's instructions.

D. Concrete and Masonry:
1. Remove dirt, loose mortar, scale, salt and alkali powder, and other foreign matter.
2. Remove oil and grease with solution of trisodium phosphate; rinse and allow to dry.
3. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

E. Concrete Floors:
1. Remove contamination, acid etch, and rinse floors with clear water. Allow to dry.
2. Verify that required acid-alkali balance has been achieved.

F. Galvanized Steel: SSPC Method SP1 - Solvent Cleaning.

G. Aluminum: SSPC Method SP1 - Solvent Cleaning.

H. Uncoated Ferrous Metals:
1. SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
2. Spot prime paint after repairs.

I. Shop Primed Ferrous Metals:
1. SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
2. Feather edges to make patches inconspicuous.
3. Prime bare steel surfaces.

J. Interior Wood:
1. Wipe off dust and grit.
2. Seal knots, pitch streaks, and sappy sections with sealer.
3. Fill nail holes and cracks after primer has dried; sand between coats.

K. Exterior Wood:
1. Remove dust, grit, and foreign matter.
2. Seal knots, pitch streaks, and sappy sections.

L. Existing Surfaces:
1. Remove loose, flaking, powdery, and peeling paints.
2. Lightly sand glossy painted surfaces.
3. Fill holes, cracks, depressions and other imperfections with patching compound; sand flush with surface.
4. Remove oil, grease, and wax by scraping; solvent wash and thoroughly rinse.
5. Remove rust by wire brushing to expose base metal.

M. APPLICATION

Apply primer or first coat immediately after surface preparation is complete to prevent recontamination.

N. Do not apply finishes to surfaces that are not dry.

O. Apply coatings to minimum dry film thickness recommended by manufacturer.

P. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

Q. Apply coatings to uniform appearance without laps, sags, curtains, holidays, and brush marks.

R. Allow applied coats to dry before next coat is applied.

S. Sand between coats on interior [wood] [and] [metal] surfaces.

T. Match final coat to approved color samples.

U. Where clear finishes are specified, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.

V. Prime concealed surfaces of [exterior wood] [and] [interior wood in contact with masonry or cementitious materials] with one coat primer paint.

1. Mechanical and Electrical Components:
2. Paint factory primed equipment.
3. Remove unfinished and primed louvers, grilles, covers, and access panels; paint separately.
4. Paint exposed and insulated pipes, conduit, boxes, ducts, hangers, brackets, collars, and supports unless factory finished.
5. Do not paint name tags or identifying markings.
6. Paint exposed conduit and electrical equipment in finished areas.

W. Do not Paint:
1. Surfaces indicated on Drawings or specified to be unpainted or unfinished.
2. Surfaces with factory applied finish coat or integral finish.
3. Architectural metals, including brass, bronze, stainless steel, and chrome plating.

3.4 ADJUSTING

A. Touch up or refinish disfigured surfaces.

3.5 CLEANING

A. Remove paint from adjacent surfaces.

END OF SECTION

SECTION 099102 - PAINTING SCHEDULE

PART 1 - GENERAL

RELATED REQUIREMENTS INCLUDED ELSEWHERE

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to the work of this section

Related technical items include but are not limited to the following: Section

09900 Painting
Room material schedule on drawings.

The products described in this section are manufactured by Benjamin Moore & Co. and Sherwin Williams Products of at least equal quality from the manufacturers listed in Section 09900 - Painting will be accepted.

Paint colors will be as selected by the architect. In areas where repairs and additions are made and not scheduled to be repainted, the colors shall match existing adjacent color finish.

PART 2 - PRODUCTS

WOOD - INTERIOR

Painted

Finish System: Semi-gloss Alkyd
First coat: Alkyd Enamel Underbody
Additional coats: Two coats Alkyd Semi-gloss Enamel

Stain Clear Finish – Multiple Colors Required

Finish System: Wood Classic Interior Stain-Oil First coat: Wood Oil Stain
Additional Coats: Two coats Polyurethane Varnish

MASONRY/DRYWALL - INTERIOR

Painted

Finish System: Vinyl Acrylic Latex – Egg Shell Enamel First coat: Latex Wall Primer
Additional Coats: Two coats: "SW" Promar 200 Latex Enamel
"BM" Moorcraft (274) Egg Shell Enamel

METALS - INTERIOR

Ferrous - Paint

Finish System Alkyd Semi-Gloss Enamel First coat: Primer
Additional coats: Two coats: "SW" Promar 200 Interior Alkyd Semi-Gloss Enamel
"BM" Moorcraft Semi-Gloss Enamel (271)

WOOD – EXTERIOR

Painted

Finish System: Semi-gloss Alkyd
First coat: Alkyd Enamel Underbody
Additional coats: Two coats Alkyd Semi-gloss Enamel

Stain Clear Finish – Multiple Colors Required

Finish System: Wood Classic Exterior Stain-Oil Two coats: Wood Oil Stain

DRYWALL - EXTERIOR

Painted

Finish System: Vinyl Acrylic Latex – Enamel First coat: Latex Wall Primer
Additional Coats: Two coats: "SW" Promar 200 Latex Enamel
"BM" Moorcraft (274) Latex Enamel

GALVANIZED METAL

Painted

First Coat: Galvanized Metal Primer Additional Coats: Two coats: Alkyd enamel

FERROUS METAL

Painted

First Coat: Zinc Chromate Primer Additional Coats: Two coats: Alkyd enamel

END OF SECTION

SECTION 10100

SPECIALTIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fire Extinguishers.
   2. Toilet accessories.

1.2 SUBMITTALS

A. Submittals for Review:
   1. Product Data:
      a. Schedule accessories by room; show plans and elevations, and identify room name and number, type and quantity of accessories, and mounting heights.
      b. Include manufacturer's brochures showing sizes, details of function, finishes, and attachment methods.
   2. Warranty: Sample warranty form.

1.3 QUALITY ASSURANCE

A. Conform to applicable accessibility code for locating accessories.

1.4 WARRANTIES

A. Furnish manufacturer’s standard year warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: See SCHEDULE OF SPECIALTIES at the end of this section.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Set plumb, level, square, and rigid.

3.2 Install wiring between power supply and accessories

3.3 SCHEDULE OF SPECIALTIES:

PRODUCT DATA SHEET 1: FIRE EXTINGUISHERS AND CABINETS:

A. Designation Mark: FEC
B. Type: Dry Chemical Ul rated 3-A:40-B:C, 10lb. Nominal capacity, in enameled steel container.
C. Manufacturers: J.L. Industries, Kidde, Larsens or Prior Approved Equal.
D. Cabinet: Design based on Larsen Model 2409-5R semi-recessed, steel white baked on enamel finish, Full Glass (Acrylic). Mount with top at 5'-4" maximum above floor.

ACCESSORIES

A. Mounting Hardware: Type best suited to application.

PRODUCT DATA SHEET 2: TOILET ACCESSORIES:

A. Provide the following:

Toilet tissue holder		Bobrick B-2888	1/Toilet
Mirror 24x36		Bobrick B-290 2436	1/Lavatory
Paper Towel Dispenser/ Waste Receptacle		Bobrick B-3949	1/Toilet
Soap Dispenser		Bobrick B-2012	1/Lavatory
Grab Bar 36"	Bradley 6806 x 36 Satin finish, slip resistant		1/Toilet
Grab Bar 42"	Bradley 6806 x 42 Satin finish, slip resistant		1/Toilet

B. Manufacturers: Bobrick; Bradley; McKinney or Prior Approved Equal.

PRODUCT DATA SHEET 3: STORAGE PRODUCTS

A. 144" HIGH x 48" DEPTH x 96" WIDTH STRUCTURAL PALLET RACK with TEARDROP UPRIGHT. 3" x 1-5/8" x 13 GA. STEEL COLUMN. 23,000 lbs. capacity @ 48" beam spacing. Welded bracing, 3-1/8" depth x 3" wide x 1/8" foot plates. Color Vista Green. Beams: Safety orange. Beams adjust on 2" Centers. Wire Rack Decking: 2.5" x 4" mesh pattern. 48" Depth x 46" Width.

B. Manufacturers: Interlake; Ridg-U-Rack; Nashville Wire; Tuberack or Prior Approved Equal.

END OF SECTION

SECTION 133419

COLD-FORMED STEEL BUILDING SYSTEMS

PART 1 GENERAL

.1 SUMMARY

A. Section Includes:
1. Pre-engineered, shop-fabricated cold-formed steel building frame.
2. Metal wall and roof panel system including trim and accessories.
3. Thermal insulation.
4. Gutters and downspouts.

.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
1. 620 - Voluntary Specifications for High-Performance Organic Coatings on Coil-Coated Architectural Aluminum Substrates.
2. 621 - Voluntary Specifications for High-Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) and Zinc-Aluminum Coated Steel Substrates.
3. 2605 - Voluntary Specification, Performance Requirements, and Test Procedures for Superior Performing Organic Coatings on Architectural Extrusions and Panels.
4. AISI Cold-Formed Steel Design Manual latest edition.
5. AISI/FOGS/2001 Standard for Cold-Formed Steel Framing

B. American Institute of Steel Construction (AISC) - Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings.

C. American Iron and Steel Institute (AISI) - Specifications for Cold-Formed Members.

D. American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures.

E. American Welding Society (AWS) D1.1 - Structural Welding Code - Steel.

F. ASTM International (ASTM):
1. A36/A36M - Standard Specification for Carbon Structural Steel.
2. A307 - Standard Specification for Low-Carbon Steel Externally and Internally Threaded Standard Fasteners.
3. A325 - Standard Specification for High-Strength Bolts for Structural Steel Joints, Including Suitable Nuts and Plain Hardened Washers.
4. A572/A572M - Standard Specification for High Strength Low Alloy Columbium-Vanadium Steels of Structural Quality.
5. A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
6. A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
7. A992 - Standard Specification for Steel for Structural Shapes for Use in Building Framing.
8. A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
9. C665 - Standard Specification for Mineral Fiber Thermal Insulation for Light Frame Construction and Manufactured Housing.

G. Metal Building Manufacturers Association (MBMA):
1. Common Industry Practices.
2. Low Rise Building Systems Manual.

H. Society for Protective Coatings (SSPC) - Painting Manual.

.3 SYSTEM DESCRIPTION

A. Pre-Engineered Cold-Formed Steel Building System:
1. Clear-span cold-formed steel frame.
2. Primary framing: Cold-Formed Steel frame of rafter beams and columns, end wall columns, and wind bracing.
3. Secondary framing: Purlins, girts, eave struts, clips, and other items indicated or required.
4. Wall and roof panels: Preformed, prefinished metal panels with subgirt framing, and insulation.

B. Design Requirements:
1. Design framing and panels in accordance with MBMA Manual.
2. Design structural steel members and light gauge steel framing in accordance with AISC Specifications.
3. Total load deflection: L/240.
4. Welded connections: In accordance with AWS D1.1.
5. Anchor bolts: Design anchor bolts to resist horizontal and uplift reactions at column bases.
6. Tolerances: Meet fabrication tolerances specified in MBMA Common Industry Practices.
7. Thermal expansion and contraction: Withstand movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.

C. Design Loads: Design system to withstand:
1. Live and dead loads in accordance with Building Code.
2. Design wind pressure in accordance with ASCE 7, with a maximum allowable deflection of L/180.
3. Weight of additional imposed loads of mechanical and electrical systems, ceiling, roofing, and other elements.
4. Special loads: Concentrated loads as indicated.
5. Limit deflection of framing members supporting exterior glazed assemblies to L/360.
6. Primary frame lateral drift:
a. Base wind pressures for purposes of calculating lateral drift of primary frames on 50-year mean recurrence interval using scheduled wind speed.
b. Limit deflection of framing members to H/60.

.4 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings:
a. Include for structural components:
1) Plans, elevations, and sections showing the location of components.
2) Details showing anchoring, fastening, and interface with other work.
b. Include for panels:
1) Configuration of panels, trim members, and closures.
2) Assembly of system components, including typical and special conditions.
2. Product Data: Include a description of system components and verify compliance with specified requirements.
3. Samples: Panel samples in the profile proposed, showing available colors.

.5 QUALITY ASSURANCE

B. Installer Qualifications: Minimum 5 years' experience in work of this Section.

C. Welder Qualifications: AWS D1.1.

D. Size gutters and downspouts for rainfall intensity determined by a storm occurrence of one in 10 years.

.6 DELIVERY, STORAGE AND HANDLING

A. Store steel above ground on platforms, skids, or other supports; separate with wooden separators.

B. Protect steel from corrosion.

C. Prevent damage to prime coat; use wooden protectors to prevent damage from chain or cable cinches.

D. Protect panels and trim from contact with materials that could cause staining or discoloration of the finish.

.7 WARRANTIES

A. Furnish manufacturer's standard warranty providing coverage against flaking, chipping, cracking, fading, or delamination of panel finish.

B. Furnish manufacturer's standard warranty providing coverage against rupture, perforation, or structural failure of aluminum-zinc alloy coated panels.

PRODUCTS

.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. McElroy Metal Co. (www.mcelroymetal.com)
2. Mueller Building Systems
3. Kirby Building Systems, Inc. (www.kirbybuildingsystems.com)
4. Southern Structures, Inc. (www.southernstructures.com)

.2 MATERIALS

A. Framing:
1. Load bearing members shall be manufactured form structural quality steel having a minimum yield strength of 33 ksi, having a minimum protective coating equal to G-60 Galvanized finish and conforming to one of the following standards: ASTM A653, ASTM A875, ASTM C955, or ASTM A1003.

B. Metal Wall and Roof Panels, Gutters, Downspouts, Trim, and Closures: ASTM A653/A653M galvanized steel, Structural Quality, G60 coating class.

C. Panel Closures: Die cut compressible filler to fit panel configuration.

D. Fasteners: Stainless or plated steel, type as required; head color to match panels where exposed, with nylon or neoprene washers.

E. Insulation: in wall and roof, shall be blanket-type fiberglass with a vapor barrier, as manufactured by LAMTEC Corporation WMP-VR or Approved Equal. Walls: Thickness 3-1/2 in., R-value 11; Roof: thickness 6 in., R-Value 19. The blanket facing and glass fiber shall qualify for a UL25 rating. Polypropylene / Scrim / Kraft meeting ASTM C1136, Type IV. Fire testing: UL-723 / ASTM E84; Flame Spread 10, Smoke Developed 10.

G. Windows: Provide windows as shown on drawings.
1. Acceptable Manufacturers: PREMIER PRODUCTS, ALENCO, or Prior Approved Equal.
2. Standard windows shall be fixed units, mill-finished, insulated glass. Windows shall be self- flashing, and self-framing, with head, sill, and jamb fins. Windows shall be factory-glazed and shall be equipped with all necessary hardware.

H. Doors: Provide exterior doors as shown on drawings.
1. Acceptable Manufacturers: PREMIER PRODUCTS or Prior Approved Equal.

2. Standard hollow metal doors.

.3 FABRICATION

A. Steel Framing Components:
   1. Fabricate structural steel in accordance with AISC and AISI Specifications.

B. Wall Panels:
   1. Galvanized steel sheet, minimum 26 gage core steel, roll formed.
   2. 36 inches wide x 1-1/2 inches high, major corrugations at 12 inches on center and minor corrugations at 4 inches on center, interlocking edges.
   3. Single piece from base to top of wall.
   4. Trim members: Form from the same material and gage and with the same finish as panels.

C. Roof Panels:
   1. Galvanized steel sheet, minimum 26 gage core steel, roll formed.
   2. 36 inches wide x 1-1/2 inches high, major corrugations at 12 inches on center and minor corrugations at 4 inches on center, interlocking edges.
   3. Ridge assembly designed to allow thermal movement.
   4. Factory punched at ends to match holes in eave member.
   5. Designed to fasten to supports by means of thermally responsive panel clips.
   6. Single piece from ridge to eave.
   7. Trim members: Form from the same material and gage and with the same finish as panels.

D. Gutters and Downspouts:
   1. Galvanized steel, minimum 26 gage core steel, roll formed.
   2. Fabricate end caps, downspout outlets, and headers, straps, brackets, and downspout strainers in profile to suit gutters and downspouts.

.4 FINISHES

A. Framing Members: Galvanized G-60 conforming to one of the following standards ASTM A635, ASTM A875, ASTM C955, or ASTM A1003.

B. Wall/Roof Panels and Trim: Finish: Two coat coil applied, baked-on full-strength (70% resin, PVF2) fluorocarbon coating consisting of a nominal of .25 mil dry film thickness primer, nominal dry film thickness of .75 mil color coat. Finish to be selected from the manufacturer's standard color selection. The back side of the material should be .25 mil. Primer and 0.25 polyester wash coat.

EXECUTION

.1 ERECTION OF FRAMING SYSTEM

A. Install in accordance with AISC and AISI Specifications, manufacturer's instructions, and approved Shop Drawings.

B. Fit members square against abutting components.

C. Position members plumb, square, and level.

D. Temporarily brace members until permanently fastened.

E. Do not splice load bearing members.

F. Align and adjust various members forming parts of a complete frame or structure after assembly but before fastening.

G. Rigidly connect members using welds or bolts.

H. Installation Tolerances:
   1. Maximum variation from location: Plus or minus 1/4 inch.
   2. Maximum variation from plane: 1/4 inch in 10 feet.

.2 INSTALLATION OF METAL PANELS

A. Install in accordance with the manufacturer's instructions and approved Shop Drawings.

B. Install aligned, level, and plumb.

C. Fasten panels using concealed panel clips. Exposed fasteners are permitted on trim members only.

D. Locate panel joints over supports.

E. Lap end joints 4 inches minimum.

F. Install trim to maintain the visual continuity of the system.

G. Install joint sealers and gaskets to prevent water penetration.

H. Flash penetrations through roofing with metal trim to match panels:
   1. Lap flashings over roof panels 12 inches minimum on all sides and seal with a double bead of joint sealer.
   2. Install metal draw bands and joint sealer at the top of pipe penetrations.
   3. Install a water diverter at the uphill side of square and rectangular penetrations.

I. Pipe Penetration Flashings: flexible boot type, with stainless steel compression ring, and stainless steel pipe strap, Dektite by Buildex, Flashers, or approved substitute. Use high-temperature silicone type at hot pipes.

J. Metal Roof Curbs: welded aluminum, or stainless steel, factory-insulated, with integral cricket, and designed to fit roof panel module, sized to meet application, by L.M. Curbs, or approved substitute.

.3 INSTALLATION OF GUTTERS AND DOWNSPOUTS

A. Gutters: Secure with straps spaced a maximum 36 inches on the center and within 6 inches of ends.

B. Downspouts:
   1. Secure with straps spaced a maximum 8 feet on center and within 2 feet of ends and elbows.
   2. Flash downspouts a minimum 3 inches into gutters and fasten.
   3. Flash upper sections into lower sections a minimum 2 inches at joints; fasten sections together.

.4 ADJUSTING

A. After erection of structural steel, touch up bolt heads and nuts, field welds, and abrasions with same primer used in shop.

B. Touch up field cuts, scratches, and abrasions on exposed panel surfaces and trim to match factory finish.

END OF SECTION

SECTION

SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Site clearing of designated site improvements and landscaping

B. Tagging of vegetation and items to remain after site clearing.

1.2 RELATED SECTIONS

A. Section 31 20 00 - Earth Moving.

1.3 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Clearing Plan: Submit a list of proposed operations and identify site improvements and features to remain. Include the proposed location for stockpiles.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 2 years' experience performing similar operations.

1.5 PRE-INSTALLATION MEETINGS

A. Convene a minimum of two weeks prior to starting work of this section.

1.6 SEQUENCING

A. Ensure that work of this section is performed in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MATERIALS

A. Site Clearing Materials Suitable for Site Conditions:
   1. Tree protection.
   2. Erosion control.
   3. Siltation control.
   4. Dust control materials.

PART 3 EXECUTION

3.1 SITE CLEARING OPERATIONS

A. Protection of existing trees, vegetation, landscaping, and site improvements not scheduled for clearing which might be damaged by construction activities.

B. Trimming of existing trees and vegetation as recommended by arborist for protection during construction activities.

C. Clearing and grubbing of stumps and vegetation, and removal and disposal of debris, rubbish, designated trees, and site improvements.

D. Topsoil stripping and stockpiling.

E. Temporary erosion control, siltation control, and dust control.

F. Temporary protection of adjacent property, structures, benchmarks, and monuments.

G. Temporary relocation of play structures, fencing, and site improvements scheduled for reuse.

H. Watering of trees and vegetation during construction activities.

I. Removal and legal disposal of cleared materials.

3.2 CLEARING

A. Prevent damage to existing improvements indicated to remain, including improvements on and off site. Protect existing trees and vegetation indicated to remain. Do not stockpile materials and restrict traffic within drip line of existing trees to remain. Provide and maintain temporary guards to encircle trees or groups of trees to remain; obtain approval before beginning work.

B. Water vegetation as required to maintain health. Cover temporarily exposed roots with wet burlap and backfill as soon as possible. Coat cut plant surfaces with approved emulsified asphalt plant coating.

C. Repair or replace vegetation, which has been damaged, or pay damages. Remove heavy growths of grass before stripping. Stockpile satisfactory topsoil containing no large stones, foreign matter and weeds on site for reuse.

D. Completely remove all improvements including stumps and debris except for those indicated to remain. Remove below grade improvements at least 12" below finish grade and to the extent necessary so as not to interfere with new construction. Remove abandoned mechanical and electrical work as required.

E. Prevent erosion and siltation of streets, catch basins and piping. Control windblown dust. Remove waste materials and unsuitable soil from site and dispose of in a legal manner.

END OF SECTION

SECTION 312300 - EARTHWORK FOR SITEWORK

PART 1 – GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section includes the following:

Preparing and grading subgrades for footings, slabs-on-grade, walks, pavements, and landscaping. Subbase course for walks and pavements. Subsurface drainage backfill for walls and trenches.
Excavating and backfilling for underground mechanical and electrical utilities and appurtenances. Related Sections:

The following Sections contain requirements that relate to this Section.

Division 3 Section "Cast-In-Place Concrete" for concrete encasings, cradles, and appurtenances for utility systems.

DEFINITIONS

Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.

Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

Borrow: Soil material obtained off-site when sufficient approved soil material is not available from excavations.

Subbase Course: The layer placed between the subgrade and base course in a paving system or the layer placed between the subgrade and surface of a pavement or walk.

Base Course: The layer placed between the subbase and surface pavement in a paving system.

Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water.

Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Architect. Unauthorized excavation, as well as remedial work directed by the Architect, shall be at the Contractor's expense.

Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.

Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within building lines.

SUBMITTALS

General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.

Product data for the following:

Each type of plastic warning tape. Filter fabric (Slit fence).

Test Reports: In addition to test reports required under field quality control, submit the following:

Laboratory analysis of each soil material proposed for fill and backfill from on-site and borrow sources. One optimum moisture-maximum density curve for each soil material. Report of actual unconfined compressive strength and/or results of bearing tests of each stratum tested.

QUALITY ASSURANCE

Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction.

Testing and Inspection Service: Employ a qualified independent geotechnical engineering testing agency to classify proposed on-site and borrow soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.

PROJECT CONDITIONS

Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted in writing by the Architect and then only after acceptable temporary utility services have been provided.

Provide a minimum 48-hours' notice to the Architect and receive written notice to proceed before interrupting any utility.

PART 2 - PRODUCTS

SOIL MATERIALS

General: Provide approved borrow soil materials from off-site.

Satisfactory Soil Materials: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter.

Unsatisfactory Soil Materials: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.

Top Soil: Top soil shall be workable, loamy soil, free of debris, refuse and similar foreign matter, and reasonably free of subsoil, hard lumps, gravel and other such materials. Topsoil shall be a minimum PI of 4, a maximum PI of 12, a pH of 5.5-8.0, a minimum organic content of 3 percent, and shall be capable of supporting adequate vegetation. Existing topsoil meeting the above requirements within construction limits may be used. If agricultural lime or organic matter is added to a soil to bring topsoil into conformance with these specifications, it shall be at no additional cost to the Owner.
Backfill and Fill Materials: Satisfactory soil materials.

Subbase and Base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone,

and natural or crushed sand, ASTM D 2940, with at least 95 percent passing a 1-1/2- inch sieve and not more than 8 percent passing a No. 200 sieve.

Engineered Fill: Subbase or base materials.

Bedding Material: Subbase or base materials with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D 448, coarse aggregate grading size 57, with 100 percent passing a 1-1/2-inch sieve and not more than 5 percent passing a No. 8 sieve.

Filtering Material: Evenly graded mixture of natural or crushed gravel or crushed stone and natural sand, with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 50 sieve.

Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

ACCESSORIES

Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, continuously inscribed with a description of the utility.

Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 2'-6" deep.

Tape Colors: Provide tape colors to utilities as follows:

Red:	Electric.
Yellow:	Gas, oil, steam, and dangerous materials.
Orange:	Telephone and other communications. Blue: Water systems.
Green:	Sewer systems.

PART 3 - EXECUTION

PREPARATION

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil- bearing water runoff or airborne dust to adjacent properties and walkways.

DEWATERING

Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

STABILITY OF EXCAVATIONS

Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

EXCAVATION FOR WALKS AND PAVEMENTS

Excavate as necessary for proper placement and forming of concrete site elements and pavement structure. Remove vegetation and deleterious material from site. Backfill over-excavated areas with compacted base material specified in this section. Remove and replace exposed material which becomes soft or unstable.

EXCAVATION FOR UTILITY TRENCHES

Excavate trenches to indicated slopes, lines, depths, and invert elevations. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

Clearance: 12 inches minimum each side of pipe or conduit, unless specifically indicated on plans on profile.

Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove stones and sharp objects to avoid point loading.

For pipes or conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.

For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.

Where encountering rock or another unyielding bearing surface, carry trench excavation 6 inches below invert elevation to receive bedding course.

APPROVAL OF SUBGRADE

Notify Architect when excavations have reached required subgrade.

When Architect determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work.

Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Architect.

UNAUTHORIZED EXCAVATION

Fill unauthorized excavation under foundations or wall footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position when acceptable to the Architect. Fill unauthorized excavations under other construction as directed by the Architect.

Where indicated widths of utility trenches are exceeded, provide stronger pipe, or special installation procedures, as required by the Architect.

STORAGE OF SOIL MATERIALS

Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust. Stockpile soil materials away from edge of excavations.

BACKFILL

Backfill excavations promptly, but not before completing the following:

Surveying locations of underground utilities for record documents. Testing, inspecting, and approval of underground utilities.
Concrete formwork removal.
Removal of trash and debris from excavation.
Removal of temporary shoring and bracing, and sheeting.
Installing permanent or temporary horizontal bracing on horizontally supported walls.

UTILITY TRENCH BACKFILL

Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

Concrete backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings. Place concrete to level of bottom of footings.

Provide 4-inch-thick concrete base slab support for piping or conduit less than 2'-6" below surface of roadways. After installation and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.

Place and compact initial backfill as per municipal embedment standards. Such embedment shall be of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit unless indicated otherwise.

Coordinate backfilling with utilities testing.

Fill voids with approved backfill materials as shoring and bracing, and sheeting is removed. Place and

compact final backfill of satisfactory soil material to final subgrade.

Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

FILL

Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills. Plow strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface.

When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition or aerate soil and recompact to required density.

Place fill material in layers to required elevations for each location listed below.

Under grass, use satisfactory excavated or borrow soil material.
Under walks and pavements, use subbase or base material, or satisfactory excavated or borrow soil material.
Under steps and ramps, use subbase material. Under
footings and foundations, use engineered fill.

MOISTURE CONTROL

Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within a range of -2 to +3 percent of optimum moisture content. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density. Stockpile or spread and dry removed wet satisfactory soil material.

COMPACTION

Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.

Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D 698:

Under steps, and pavements, compact the top 12 inches below subgrade and each layer of backfill or fill material at 95 percent maximum dry density.

Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material at 95 percent maximum dry density.
Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 90 percent maximum dry density.

INSTALLATION OF TOP SOIL

Areas to receive top soil shall include areas where existing soiling is disturbed and new fill areas around the building. Areas to receive topsoil shall be scarified. Agricultural lime, if required, shall be spread prior to scarifying the areas. Topsoil shall be uniformly spread over the areas to a depth of 6 inches and rolled to a uniform surface with a cultipacker or other suitable equipment.

GRADING

General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated. Provide a smooth transition between existing adjacent grades and new grades. Cut out soft spots, fill low spots, and trim high spots to

conform to required surface tolerances.

Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

Lawn or Unpaved Areas: Plus or minus 0.10 foot. Walks: Plus or minus 0.10 foot.
Pavements: Plus or minus 0.10 foot.

SUBBASE AND BASE COURSES

Under pavements and walks, place subbase course material on prepared subgrades. Place base course material over subbases to pavements. Compact subbase and base courses at -3 to +3 percent of optimum moisture content to required grades, lines, cross sections and thickness to not less than 95 percent of the maximum density as determined by the modified moisture/density relation ASTM D 1557.

Shape subbase and base to required crown elevations and cross-slope grades. When thickness of compacted subbase or base course is 6 inches or less, place materials in a single layer. When thickness of compacted subbase or base course exceeds 6 inches, place materials in equal layers, with no layer more than 6 inches thick or less than 3 inches thick when compacted.

Pavement Shoulders: Place shoulders along edges of subbase and base course to prevent lateral movement. Construct shoulders at least 12 inches wide of acceptable soil materials and compact simultaneously with each subbase and base layer.

DRAINAGE FILL

Under slabs-on-grade, place drainage fill course on prepared subgrade where indicated on plans. Compact drainage fill to required cross sections and thickness. When compacted thickness of drainage fill is 6 inches or less, place materials in a single layer. When compacted thickness of drainage fill exceeds 6 inches thick place materials in equal layers, with no layer more than 6 inches thick nor less than 3 inches thick when compacted.

FIELD QUALITY CONTROL

Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.

Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2167 (rubber balloon method), or ASTM D 2937 (drive cylinder method), as applicable. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gages according to ASTM D 3017.

When field in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Architect.

Footing Subgrade: At footing subgrades, perform at least one test of each soil stratum to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of each subgrade with related tested strata when acceptable to the Architect.

Paved Slab Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2,000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
Foundation Wall Backfill: In each compacted backfill layer, perform at least one field in-place density test for each 100 feet or less of wall length, but no fewer than two tests along a wall face.

Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150 feet or less of trench, but no fewer than two tests.

When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

PROTECTION

Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.

Scarify or remove and replace material to depth directed by the Architect; reshape and recompact at optimum moisture content to the required density.

Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

DISPOSAL OF SURPLUS AND WASTE MATERIALS

Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property at no additional cost to the owner.

Disposal: Transport surplus satisfactory soil to designated storage areas on the Owner's property. Stockpile or spread soil as directed by Architect.
Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION

SECTION 313116 TERMITE

CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil treatment with termiticide.

2.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include the EPA-Registered Label for termiticide products.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Soil Treatment Application Report: Include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

C. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

B. Regulatory Requirements: Formulate and apply termiticides and termiticide devices according to the EPA-Registered Label.

1.5 Preinstallation Conference: Conduct conference at Project site..

1.6 PROJECT CONDITIONS

A. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.

B. Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.7 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work, consisting of applied soil termiticide treatment, will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

1. Warranty Period: Five years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

A. Continuing Service: Beginning at Substantial Completion, provide 12 months continuing service including monitoring, inspection, and re-treatment for occurrences of termite activity. Provide a standard continuing service agreement. State services, obligations, conditions, terms for agreement period, and terms for future renewal options.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

A. Termiticide: Provide an EPA-Registered termiticide, complying with requirements of authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation. Provide quantity required for application at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to product's EPA-Registered Label.

1. Products: Subject to compliance with requirements, **provide one of the following**:

a. BASF Corporation, Agricultural Products; Termidor.
b. Bayer Environmental Science; Premise 75.
c. FMC Corporation, Agricultural Products Group; **Dragnet FT, Talstar**, **Prevail**.
d. Syngenta; **Demon TC**, **Prelude**, **Probuild TC**.

2. Service Life of Treatment: Soil treatment termiticide that is effective for not less than **three** years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 APPLICATION, GENERAL

A. General: Comply with the most stringent requirements of authorities having jurisdiction and with manufacturer's EPA-Registered Label for products.

3.2 APPLYING SOIL TREATMENT

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label requirements, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite

control.

B. Proceed with application only after unsatisfactory conditions have been corrected.

C. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.

1. Fit filling hose connected to water source at the site with a backflow preventer, complying with requirements of authorities having jurisdiction.

D. Application: Mix soil treatment termiticide solution to a uniform consistency. Provide quantity required for application at the label volume and rate for the maximum specified concentration of termiticide, according to manufacturer's EPA-Registered Label, to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction. Distribute treatment evenly.

1. Slabs-on-Grade and Basement Slabs: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
2. Foundations: Adjacent soil, including soil along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
3. Crawlspaces: Soil under and adjacent to foundations as previously indicated. Treat adjacent areas including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
4. Masonry: Treat voids.

E. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

F. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground- supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

G. Post warning signs in areas of application.

H. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.
2. Hot-applied joint sealants.
3. Joint-sealant backer materials.
4. Primers.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each kind and color of joint sealant required.

C. Paving-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.

1.4 INFORMATIONAL SUBMITTALS

A. Product certificates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

Compatibility: Provide joint sealants, backing materials, 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.

COLD-APPLIED JOINT SEALANTS

A. Single-Component, Nonsag, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type NS.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone.
b. Dow Corning Corporation; 888.

c. Pecora Corporation; 301 NS.

B. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone SL.
b. Dow Corning Corporation; 890-SL.
c. Pecora Corporation; 300 SL.

C. Multicomponent, Nonsag, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use T.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Meadows, W.R.,Inc; Pourthane NS.

D. Single Component, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Meadows, W.R.,Inc; Pourthane SL.

E. Multicomponent, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade P, Class 25, for Use T.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

2.2 Pecora Corporation; Dynatred, Dynatrol II-SG, Urexpan NR-200].

2.3 JOINT-SEALANT BACKER MATERIALS

A. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.4 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 INSTALLATION OF JOINT SEALANTS

A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Cleaning of Joints: Clean out joints immediately to comply with joint-sealant manufacturer's written instructions.

C. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer.

D. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.

E. Install joint-sealant backings to support joint 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 joint-sealant backings.
2. Do not stretch, twist, puncture, or tear joint-sealant backings.
3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

F. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:

1. Place joint sealants so they fully contact 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.

G. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements 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 joint sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

H. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

I. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

END OF SECTION

SECTION 321713

PARKING BUMPERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes wheel stops.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals:

1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.

C. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 PARKING BUMPERS

A. Concrete Wheel Stops: Precast, steel-reinforced, air-entrained concrete, 4000-psi minimum compressive strength, 4-1/2 inches high by 9 inches wide by 72 inches long Provide chamfered corners, transverse drainage slots on underside, and a minimum of two factory-formed or - drilled vertical holes through wheel stop for anchoring to substrate.

1. Mounting Hardware: Galvanized-steel [spike or dowel, 1/2-inch diameter, 10-inch minimum length or hardware as standard with wheel-stop manufacturer.

B. Resilient Wheel Stops: Solid, integrally colored, 96 percent postconsumer or commingled postconsumer and preconsumer recycled rubber or plastic; UV stabilized; 4 inches high by 6 inches wide by 72 inches long. Provide chamfered corners and a minimum of two factory- formed or -drilled vertical holes through wheel stop for anchoring to substrate.

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work.

Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings

a. Checkers Industrial Safety Products, Inc.
b. GNR Technologies.
c. Plastic Safety Systems, Inc.
d. Scientific Developments, Inc.
e. Technoflex.
f. Traffic Logix.

2. Color: Yellow
3. Embedded Markings: Molded-in,white reflective markings, permanently inset in exposed surface.
4. Mounting Hardware: Galvanized-steel [spike or dowel, 1/2-inch diameter, 10-inch minimum length or hardware as standard with wheel-stop manufacturer].
5. Adhesive: As recommended by wheel-stop manufacturer for adhesion to pavement.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install wheel stops according to manufacturer's written instructions unless otherwise indicated.

B. Install wheel stops in bed of adhesive before anchoring.

C. Securely anchor wheel stops to pavement with hardware in each preformed vertical hole in wheel stop as recommended in writing by manufacturer.

END OF SECTION

SECTION PAVEMENT

MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes painted markings applied to **concrete** pavement.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals:

1. Product Data for Credit IEQ 4.2: For interior, field-applied, pavement-marking paints, documentation including printed statement of VOC content.

C. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

B. Basis-of-Design Product: Subject to compliance with requirements, provide [**product indicated on Drawings**] <**Insert manufacturer's name; product name or designation**> or comparable product by one of the following:

1. Aexcel Inc.
2. Benjamin Moore & Co.
3. Color Wheel Paints & Coatings.
4. Columbia Paint & Coatings.
5. Conco Paints.
6. Coronado Paint; Division of INSL-X Products Corporation.
7. Diamond Vogel Paints.
8. Dunn-Edwards Corporation.

9. Ennis Traffic Safety Solutions, Inc.
10. Frazee Paint.
11. General Paint.
12. Kwal Paint.
13. M.A.B. Paints.
14. McCormick Paints.
15. Miller Paint.
16. Parker Paint Mfg. Co. Inc.
17. PPG Industries.
18. Pratt & Lambert.
19. Rodda Paint Co.
20. Rohm and Haas Company; a subsidiary of The Dow Chemical Company.
21. Scott Paint Company.
22. Sherwin-Williams Company (The). 23.

2.2 PAVEMENT-MARKING PAINT

A. Pavement-Marking Paint: MPI #32, alkyd traffic-marking paint.

1. Color: **As indicated or as specified by Architect**.

B. Pavement-Marking Paint: MPI #97, latex traffic-marking paint.

1. Color: **As indicated** or as specified by the Architect.

C. VOC Content: Pavement markings used on building interior shall have a VOC content of 150 g/L or less.

PART 3 - EXECUTION

3.1 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow paving to age for a minimum of **30** days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils. Apply paint so that it cannot run beneath the stencil.

END OF SECTION

SECTION

CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Fence framework, fabric, and accessories.
2. Excavation for posts.
3. Concrete post foundations.
4. Gates and hardware.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Section 033000 - Cast-In-Place Concrete.

1.2 REFERENCES

A. ASTM International (ASTM) C94 - Standard Specification for Ready-Mixed Concrete.

B. Chain Link Fence Manufacturers Institute (CLFMI) - Product Manual.

1.3 SYSTEM DESCRIPTION

A. Fence Height: 6 feet.

1.4 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings: Include layout, spacing of components, post foundation dimensions, hardware, and schedule of components.
2. Samples: [6 x 6] inch fabric samples illustrating construction and finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. Ameristar. (www.ameristarfencing.com)
2. Master-Halco, Inc. (www.fenceonline.com)
3. Merchants Metals. (www.merchantsmetals.com)
4. Perfection Fence Corp. (www.perfectionfence.com)
5. Southwestern Wire, Inc. (www.southwesternwire.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Materials and Components: Conform to CLFMI Product Manual.

B. Framing:
1. Intermediate posts: Type II - round.
2. Terminal, corner, rail, brace, and gate posts: Type II - round.
3. Framing sizes: Per CLFMI Product Manual.
4. Finish: Galvanized, to CLFMI Product Manual.

C. Fabric:

1. 6 feet x 9 gauge
2. Finish: Galvanized, to CLFMI Product Manual.

2.3 ACCESSORIES

A. Post Caps: Galvanized, sized to post diameter.

B. Concrete: ASTM C94; [Specified in Section 033000; minimum 2500 PSI compressive strength at 28 days, 3 to 5 inch slump.

C. Hinged Gate:
1. 12 feet double gate
2. Two hinges per gate leaf, sized to gate weight and conditions.
3. Fork latch with gravity drop [and padlock provisions].
4. Center gate stop and drop rod for double gates.

D. Sliding Gate: 20 feet Cantilevered type.

E. Gate operator and access controls.
1. Liftmaster CSL24UL SOLAR
2. Wireless Keypad
3. Photo eye
4. Exit Loop
5. 7 Day Programmable timer

2.4 FABRICATION OF GATES

A. Fabricate to CLFMI Product Manual.

B. Welded and truss rod frame construction.

2.5 FINISHES

A. Hardware and Fittings: Color to match framing.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install fencing in accordance with CLFMI Product Manual.

B. Space posts maximum 8 feet on center.

C. Drill post holes into undisturbed or compacted soil, with diameter equal to 3 times post diameter.

D. Set posts minimum 36 inches below grade, with bottom of hole 3 inches below bottom of post. Excavate deeper in soft or loose soils and for posts with heavy lateral loads.

E. Place concrete around posts in continuous pour, tamp and dome top away from post. Check for vertical and top alignment; brace posts until concrete has set.

F. Pour top of footings flush with finished grade.

G. Stretch panels taut and secure to posts with wire post brackets.

H. Install gates plumb and level. Adjust for smooth operation.

3.2 INSTALLATION TOLERANCES

A. Maximum Variation from Plumb: 1/4 inch in 10 feet.

B. Maximum Offset from True Position: 1 inch.

END OF SECTION

SECTION 334100

STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Channel drainage systems.
3. Encasement for piping.
4. Manholes.
5. Cleanouts.
6. Nonpressure transition couplings.
7. Expansion joints.
8. Catch basins.
9. Stormwater inlets.
10. Pipe outlets.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings:

1. Manholes: Include plans, elevations, sections, details, frames, and covers.
2. Catch basins and storm water inlets. Include plans, elevations, sections, details, frames, covers, and grates. Tops for catch basins and storm water inlets shall be cast in the field to allow for adjustment if required.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.

B. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer. Drainage piping shall be from an approved Louisiana Department of Transportation and Development source.

1.4 Field quality-control reports.

1.5 PROJECT CONDITIONS

A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Architect no fewer than two days in advance of proposed interruption of service.
2. Do not proceed with interruption of service without Architect's written permission.

PART 2 - PRODUCTS

2.1 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS – Not in Contract

2.2 HUBLESS CAST-IRON SOIL PIPE AND FITTINGS – Not in Contract

2.3 DUCTILE-IRON, CULVERT PIPE AND FITTINGS – Not in Contract

2.4 PE PIPE AND FITTINGS

A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10 (DN 80 to DN 250): AASHTO M 252M, Type S, with smooth waterway for coupling joints.

1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.
2. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.

B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60 (DN 300 to DN 1500): AASHTO M 294M, Type S, with smooth waterway for coupling joints.

1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.
2. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2.5 PVC PIPE AND FITTINGS

A. PVC Corrugated Sewer Piping:

1. Pipe: ASTM F 949, PVC, corrugated pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM F 949, PVC molded or fabricated, socket type.
3. Gaskets: ASTM F 477, elastomeric seals.

2.6 CONCRETE PIPE AND FITTINGS

A. Nonreinforced-Concrete Sewer Pipe and Fittings: Not in Contract.

B. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76 (ASTM C 76M).

1. Bell-and-spigot ends and gasketed joints with ASTM C 443 (ASTM C 443M), rubber gaskets.

2.7 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
2. Top-Loading Classification(s): Medium Duty.
3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, PVC soil pipe and fittings.

B. Plastic Cleanouts:

1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

C. Standard Precast Concrete Catch Basins:

1. Description: ASTM C 478 (ASTM C 478M), precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Base Section: 6-inch (150-mm) minimum thickness for floor slab and 4-inch (102-mm) minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
3. Riser Sections: 4-inch (102-mm) minimum thickness, 48-inch (1200-mm) diameter, and lengths to provide depth indicated.
4. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
5. Joint Sealant: ASTM C 990 (ASTM C 990M), bitumen or butyl rubber.
6. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and shape matching catch basin frame and grate. Include sealant recommended by ring manufacturer.
7. Grade Rings: Include two or three reinforced-concrete rings, of 6- to 9-inch (150- to 225- mm) total thickness, that match 24-inch- (610-mm-) diameter frame and grate.
8. Steps: Not Required.
9. Pipe Connectors: ASTM C 923 (ASTM C 923M), resilient, of size required, for each pipe connecting to base section.

Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include flat grate with small square or short-slotted drainage openings from an approved Louisiana Department of Transportation and Development supplier.

1. Size: 24 by 24 inches (610 by 610 mm) minimum unless otherwise indicated.
2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

D. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include 24-inch (610-mm) ID by 7- to 9-inch (175- to 225-mm) riser with 4-inch (102- mm) minimum width flange, and 26-inch- (660-mm-) diameter flat grate with small square or short-slotted drainage openings.

1. Grate Free Area: Approximately 50 percent unless otherwise indicated.

2.8 STORMWATER INLETS

A. Curb Inlets: Made with vertical curb opening, of materials and dimensions according to Louisiana Department of Transportation and Development standards.

B. Gutter Inlets: Made with horizontal gutter opening, of materials and dimensions according to drawings. Include heavy-duty frames and grates.

C. Combination Inlets: Made with vertical curb and horizontal gutter openings, of materials and dimensions according to drawings. Include heavy-duty frames and grates.

D. Frames and Grates: Heavy duty, according to Louisiana Department of Transportation and Development standards.

2.9 PIPE OUTLETS

A. Head Walls: Cast-in-place reinforced concrete, with apron and tapered sides as indicated on drawings.

B. Riprap Basins: Broken, irregularly sized and shaped, graded stone according to NSSGA's "Quarried Stone for Erosion and Sediment Control."

1. Average Size: NSSGA No. R-3, screen opening 2 inches (51 mm).
2. Average Size: NSSGA No. R-4, screen opening 3 inches (76 mm).
3. Average Size: NSSGA No. R-5, screen opening 5 inches (127 mm).

C. Filter Stone: According to NSSGA's "Quarried Stone for Erosion and Sediment Control," No. FS-2, No. 4 screen opening, average-size graded stone.

D.
Energy Dissipaters: According to NSSGA's "Quarried Stone for Erosion and Sediment Control," No. A-1, 3-ton (2721-kg) average weight armor stone, unless otherwise indicated.

PART 3 – EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections

unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe- jacking process of microtunneling.

F. Install gravity-flow, nonpressure drainage piping according to the following:

1. Install piping pitched down in direction of flow.
2. Install piping with 24 inch minimum cover.
3. Install PE corrugated sewer piping according to ASTM D 2321.
4. Install PVC sewer piping according to ASTM D 2321 and ASTM F 1668.
5. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure drainage piping according to the following:
1. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
2. Join PVC corrugated sewer piping according to ASTM D 2321 for elastomeric-seal joints.
3. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasketed joints.

3.4 Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.5 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
4. Use Extra-Heavy-Duty, top-loading classification cleanouts in roads.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, **18 by 18 by 12 inches (450 by 450 by 300 mm)** deep. Set with tops **1 inch (25 mm)** above surrounding earth grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.6 MANHOLE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C 891.

C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops **3 inches (76 mm)** above finished surface elsewhere unless otherwise indicated.

3.7 CATCH BASIN INSTALLATION

A. Set frames and grates to elevations indicated.

3.8 STORMWATER INLET AND OUTLET INSTALLATION

A. Construct inlet head walls, aprons, and sides of reinforced concrete, as indicated.

B. Construct riprap of broken stone, as indicated.

C. Install outlets that spill onto grade, anchored with concrete, where indicated.

D. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.

3.9 Construct energy dissipaters at outlets, as indicated.

3.10 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.11 CONNECTIONS

A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains specified per piping manufacture installation instructions

B. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch (150-mm) overlap, with not less than 6 inches (150 mm) of concrete with 28-day compressive strength of 3000 psi (20.7 MPa).
2. Make branch connections from side into existing piping, NPS 4 to NPS 20 (DN 100 to DN 500). Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches (150 mm) of concrete with 28-day compressive strength of 3000 psi (20.7 MPa).
3. Make branch connections from side into existing piping, NPS 21 (DN 525) or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches (76 mm) of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches (150 mm) of concrete for minimum length of 12 inches (300 mm) to provide additional support of collar from connection to undisturbed ground.

    a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi (20.7 MPa) unless otherwise indicated.
    b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

4. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

C. Pipe couplings and expansion joints with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

    a. Shielded flexible couplings for same or minor difference OD pipes.
    b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.

3.12 Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.13 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches (610 mm) of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
    b. Option: Test plastic piping according to ASTM F 1417.
    c. Option: Test concrete piping according to ASTM C 924 (ASTM C 924M).

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

END OF SECTION