

ADVERTISEMENT FOR BIDS

Sealed bids will be received and publicly read by the Purchasing Department of The University of Louisiana Monroe, via mail or delivered to Coenen Hall 140, 4014 LaSalle Street, Monroe, LA 71209-2250 at 2:00 P.M. December 17, 2024 for the following:

Bid #50006-044 – Exterior Lighting Improvements for ULM Campus

ANY PERSON REQUIRING SPECIAL ACCOMMODATIONS SHALL NOTIFY THE PURCHASING DEPARTMENT OF THE TYPE(S) OF ACCOMMODATION REQUIRED NOT LESS THAN SEVEN (7) DAYS BEFORE THE BID OPENING.

Complete Bidding Documents may be obtained from: The University of Louisiana at Monroe, Purchasing Department, 4014 LaSalle St., Room 140, Monroe, Louisiana, 71209-2250, via fax request at 318.342.5218 or the State of Louisiana LaPac page: <https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubmain.cfm>. Used bid #50006-044.

A non-mandatory pre-bid conference will be held on November 21, 2024 at 10:00 a.m. at ULM HR training room located at Coenen Hall Room 106, Monroe, Louisiana 71209. All interested parties are urged to attend.

All bids shall be accompanied by Bid Security in an amount of five percent (5.0%) of the sum of the base bid and all alternates. The form of this security shall be as stated in the Instruction to Bidders included in the Bid Documents for this project.

The successful Bidder shall be required to furnish a Performance and Payment Bond written as described in the Instruction to Bidders included in the Bid Documents for this project.

Bids shall be accepted from Contractors who are licensed under LA R.S. 37:2150-2192 in the areas of Electrical. Bidder is required to comply with provisions and requirements of LA R.S. 38:2212(A)(1)(a). No bid may be withdrawn for a period of thirty (30) days after receipt of bids, except under the provisions of LA R.S. 38:2214.

The Owner reserves the right to reject any and all bids for just cause. In accordance with LA R.S. 38:2212(B)(2), the provisions and requirements of this Section, those stated in the advertisement for bids, and those required on the bid form shall not be considered as informalities and shall not be waived by any public entity.

STATE OF LOUISIANA
THE UNIVERSITY OF LOUISIANA MONROE
MONROE, LOUISIANA
A Member of the University of Louisiana System

INVITATION TO BID
FOR
BID NO. 50006-044

ISSUING AGENCY: The University of Louisiana Monroe
Purchasing Department
700 University Avenue
Monroe, LA 71209

PROCUREMENT SPECIALIST: Shakeya Bennett
Telephone: 318.342.5208
REQUISITIONED BY: Michael Davis
Telephone: 318.342.5171

RELEASE DATE: November 13, 2024

BID OPENING DATE: December 17, 2024

BID OPENING TIME: 2:00 p.m., Central Time

BID OPENING LOCATION: The University of Louisiana Monroe
Purchasing Department
Coenen Hall 140
4014 LaSalle Street
Monroe, LA 71209-2250

NOTE: THIS SOLICITATION IS A SEALED BID AND MUST BE RETURNED BY MAIL OR DELIVERED IN PERSON. BID RESPONSE FORMS CANNOT BE FAXED AND ANY FAX RESPONSES SHALL BE REJECTED.

This ITB is available in electronic form at <https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubmain.cfm>. It is in printed form by submitting a written request to the Procurement Manager listed above. It is the Bidder's responsibility to check the Office of State Purchasing LaPAC website frequently for any possible addenda that may be issued. ULM is not responsible for a bidder's failure to download any addenda documents required to complete an Invitation to Bid.

Notice To Vendors This Is Not An Order. It Is Merely A Request For Prices	THE UNIVERSITY OF LOUISIANA AT MONROE Monroe, Louisiana REQUEST FOR QUOTATION	DATE November 13, 2024	Date and Time by Which Quotation Must be Returned: December 17, 2024
	<u>Facilities</u> Department	TO THE VENDOR: To be returned on or before date specified above to:	
Name and Address of Vendor (Firm or Individual)		THE UNIVERSITY OF LOUISIANA AT MONROE PURCHASING DEPARTMENT 4014 LASALLE ST, COENEN BLDG. 140 MONROE, LOUISIANA 71209-2250	
		NOTE: THE UNIVERSITY RESERVE THE RIGHT TO ACCEPT OR REJECT ANY OR ALL BIDS, AND WAIVE INFORMALITIES THIS BID IS DUE IN PURCHASING OFFICE AS STATED ABOVE <u>LATE BIDS NOT ACCEPTED</u>	
PURCHASE REQUISITION NO. R00 BID 50006-044		P. O. No.	

INSTRUCTIONS TO BIDDERS:

1. READ THE ENTIRE BID, INCLUDING ALL TERMS AND CONDITIONS AND SPECIFICATIONS.
2. ALL BID PRICES MUST BE TYPED OR WRITTEN IN INK. ANY CORRECTIONS, ERASURES OR OTHER FORMS OF ALTERATION TO UNIT PRICES SHOULD BE INITIALED BY THE BIDDER.
3. THIS BID IS TO BE MANUALLY SIGNED IN INK.
4. BID PRICES SHALL INCLUDE DELIVERY OF ALL ITEMS FREIGHT ON BOARD (FOB) DESTINATION OR AS OTHERWISE PROVIDED. BIDS CONTAINING "PAYMENT IN ADVANCE" OR CASH ON DELIVERY (COD) REQUIREMENTS MAY BE REJECTED. PAYMENT IS TO BE MADE WITHIN 30 DAYS AFTER RECEIPT OF PROPERLY EXECUTED INVOICE OR DELIVERY, WHICHEVER IS LATER.
5. BIDS SUBMITTED ARE SUBJECT TO PROVISIONS OF THE LAWS OF THE STATE OF LOUISIANA INCLUDING BUT NOT LIMITED TO L.R.S. 39:1551-1736; PURCHASING RULES AND REGULATIONS; EXECUTIVE ORDERS; STANDARD TERMS AND CONDITIONS; SPECIAL CONDITIONS; AND SPECIFICATIONS LISTED IN THIS SOLICITATION.
6. THIS IS A SEALED BID. MUST BE MAILED OR DELIVERED TO THE PURCHASING DEPARTMENT, COENEN HALL 140, 700 UNIVERSITY AVE, MONROE LA 71209.
7. TO ASSURE CONSIDERATION OF YOUR BID, ALL BIDS AND ADDENDA SHOULD BE RETURNED IN AN ENVELOPE OR PACKAGE CLEARLY MARKED WITH THE BID NUMBER.
8. BIDS OR QUOTATIONS MAY BE CONSIDERED FOR ALL OR PART OF TOTAL QUANTITIES.
9. NOTE: A COMPLETE RECORD OF ALL BIDS IS KEPT ON FILE IN THE PURCHASING DEPARTMENT SUBJECT TO THE INSPECTIONS OF ANY CITIZEN. EVERY COURTESY WILL BE AFFORDED ANY CITIZEN WHO IS INTERESTED IN INVESTIGATING FOR ANY PURPOSE THE RECORD OF STATE PURCHASES. COPIES OF EVALUATION CAN BE FAXED TO YOU ONLY AFTER RECEIPT OF WRITTEN REQUEST. PLEASE DO NOT CALL.
10. IMPORTANT: BY SIGNING THE BID, THE BIDDER CERTIFIES COMPLIANCE WITH ALL INSTRUCTIONS TO BIDDERS, TERMS, CONDITIONS AND SPECIFICATIONS, AND FURTHER CERTIFIES THAT THIS BID IS MADE WITHOUT COLLUSION OR FRAUD. THIS BID IS TO BE MANUALLY SIGNED IN INK BY A PERSON AUTHORIZED TO BIND THE VENDOR. ALL BID INFORMATION SHALL BE MADE WITH BLUE INK OR TYPEWRITTEN.
11. ORDER OF PRIORITY. IN THE EVENT THERE IS A CONFLICT BETWEEN THE INSTRUCTIONS TO BIDDERS OR STANDARD CONDITIONS AND THE SPECIAL CONDITIONS, THE SPECIAL CONDITIONS SHALL GOVERN.

For questions regarding this bid, please contact Shakeya Bennett at rodgers@ulm.edu.

TO THE VENDOR:	THIS QUOTATION IS SUBMITTED BY
Bid Bond of 5% will be required	Name of Vendor (Firm or Individual) _____
Performance Bond of 50% will be required	Signature _____
	Name (Printed) _____
Non-Mandatory Pre-bid Meeting: 11/21/2024	Telephone # _____
Deadline to Receive Inquiries: 12/3/2024	Fax # _____
Deadline to Respond to Inquiries: 12/10/2024	Email Address _____
Bid Opening: 12/17/2024	Title _____
Louisiana Contractor's License #:	Vendor Quote # _____
	Date Submitted _____

Definitions:

- (1) "Alternate" means an item on the bid form that may either increase or decrease the quantity of work or change the type of work within the scope of the project, material, or equipment specified in the bidding documents, or both.
- (2) "Bidding documents" means the bid notice, plans and specifications, bid form, bidding instructions, addenda, special provisions, and all other written instruments prepared by or on behalf of a public entity for use by prospective bidders on a public contract.
- (3)(a) "Change order" means any contract modification that includes an alteration, deviation, addition, or omission as to a preexisting public work contract, which authorizes an adjustment in the contract price, contract time, or an addition, deletion, or revision of work.
- (b) "Change order outside the scope of the contract" means a change order which alters the nature of the thing to be constructed or which is not an integral part of the project objective.
- (c) "Change order within the scope of the contract" means a change order which does not alter the nature of the thing to be constructed and which is an integral part of the project objective.
- (4) "Contractor" means any person or other legal entity who enters into a public contract.
- (5)(a) "Emergency" means an unforeseen mischance bringing with it destruction or injury of life or property or the imminent threat of such destruction or injury or as the result of an order from any judicial body to take any immediate action which requires construction or repairs absent compliance with the formalities of this Part, where the mischance or court order will not admit of the delay incident to advertising as provided in this Part. In regard to a municipally owned public utility, an emergency shall be deemed to exist and the public entity may negotiate as provided by R.S. 38:2212(P) for the purchase of fuel for the generation of its electric power where the public entity has first advertised for bids as provided by this Part but has failed to receive more than one bid.
- (b) An "extreme public emergency" means a catastrophic event which causes the loss of ability to obtain a quorum of the members necessary to certify the emergency prior to making the expenditure to acquire materials or supplies or to make repairs necessary for the protection of life, property, or continued function of the public entity.
- (6) "Licensed design professional" means the architect, landscape architect, or engineer who shall have the primary responsibility for the total design services performed in connection with a public works project. Such professional shall be licensed as appropriate and shall be registered under the laws of the state of Louisiana.
- (7)(a) "Louisiana resident contractor", for the purposes of this Part, includes any person, partnership, association, corporation, or other legal entity and is defined as one that either:
- (i) Is an individual who has been a resident of Louisiana for two years or more immediately prior to bidding on work,
- (ii) Is any partnership, association, corporation, or other legal entity whose majority interest is owned by and controlled by residents of Louisiana, or
- (iii) For two years prior to bidding has maintained a valid Louisiana contractor's license and has operated a permanent facility in the state of Louisiana and has not had a change in ownership or control throughout those two years.
- (b) For the purposes of Item (a)(ii) of this Paragraph, ownership percentages shall be determined on the basis of:
- (i) In the case of corporations, all common and preferred stock, whether voting or nonvoting, and all bonds, debentures, warrants, or other instruments convertible into common or preferred stock.
- (ii) In the case of partnerships, capital accounts together with any and all other capital advances, loans, bonds, debentures, whether or not convertible into capital accounts.
- (8) "Negotiate" means the process of making purchases and entering into contracts without formal advertising and public bidding with the intention of obtaining the best price and terms possible under the circumstances.
- (9) "Probable construction costs" means the estimate for the cost of the project as designed that is determined by the public entity or the designer.
- (10) "Public contract" or "contract" means any contract awarded by any public entity for the making of any public works or for the purchase of any materials or supplies.

(11) "Public entity" means and includes the state of Louisiana, or any agency, board, commission, department, or public corporation of the state, created by the constitution or statute or pursuant thereto, or any political subdivision of the state, including but not limited to any political subdivision as defined in Article VI Section 44 of the Constitution of Louisiana, and any public housing authority, public school board, or any public officer whether or not an officer of a public corporation or political subdivision. "Public entity" shall not include a public body or officer where the particular transaction of the public body or officer is governed by the provisions of the model procurement code.

(12) "Public work" means the erection, construction, alteration, improvement, or repair of any public facility or immovable property owned, used, or leased by a public entity.

(13) "Responsive bidder" means the apparent low bidder who submits the proper information or documentation as required by the bidding documents within the ten-day period

(14) "Responsible bidder" means contractor or subcontractor who has an established business and who has demonstrated the capability to provide goods and services in accordance with the terms of the contract, plan, and specifications without excessive delays, extensions, cost overruns, or changes for which the contractor or subcontractor was held to be responsible, and who does not have a documented record of past projects resulting in arbitration or litigation in which such contractor or subcontractor was found to be at fault. Responsible Bidder will have a negotiable net worth, or shall be underwritten by an entity with a negotiable net worth, which is equal to or exceeds in value the total cost amount of the public contract as provided in the bid submitted by such bidder. All property comprising the negotiable net worth shall be pledged and otherwise unencumbered throughout the duration of the contract period.

(15) "Written" or "in writing" means the product of any method of forming characters on paper, other materials, or viewable screen, which can be read, retrieved, and reproduced, including information that is electronically transmitted and stored.

**Veteran-Owned and Service-Connected Disabled Veteran-Owned (Veteran Initiative) and
Louisiana Initiative for Small Entrepreneurships (Hudson Initiative) Program**

This procurement has been designated as suitable for Louisiana certified small entrepreneurships participation.

The State of Louisiana Veteran and Hudson Initiatives small entrepreneurship programs are designed to provide additional opportunities for Louisiana-based small entrepreneurships (sometimes referred to as LaVet's and SE's respectively) to participate in contracting and procurement with the state. A certified Veteran-Owned and Service-Connected Disabled Veteran-Owned small entrepreneurship (LaVet) and a Louisiana Initiative for Small Entrepreneurships (Hudson Initiative) are businesses that have been certified by the Louisiana Department of Economic Development. All eligible vendors are encouraged to become certified. Qualification requirements and online certification are available at <https://smallbiz.louisianaeconomicdevelopment.com>.

Bidders that are not eligible for certification are encouraged to use Veteran-Owned and Service-Connected Disabled Veteran-Owned and Hudson Initiative small entrepreneurships where sub-contracting opportunities exist.

For a good faith effort, written notification is the preferred method to inform Louisiana certified Veteran Initiative and Hudson Initiative small entrepreneurships of potential subcontracting opportunities. A current list of certified Veteran-Owned and Service-Connected Disabled Veteran-Owned and Hudson Initiative small entrepreneurships may be obtained from the Louisiana Economic Development Certification System at <https://smallbiz.louisianaeconomicdevelopment.com>. Additionally, a current list of Hudson Initiative small entrepreneurships, which have been certified by the Louisiana Department of Economic Development and have opted to enroll in the State of Louisiana Procurement and Contract (LaPAC) Network, may be accessed from <https://wwwcfprd.doa.louisiana.gov/OSP/LaPAC/vendor/srchven2.cfm>. You may then determine the search criteria (i.e. alphabetized list of all certified vendors, by commodities, etc.), and select "SmallE".

Copies of notification to at least three (or more) certified Veteran Initiative and Hudson Initiative small entrepreneurships will satisfy the notification requirements. Notification must be provided to the certified entrepreneurships by the bidder in writing no less than five working days prior to the date of bid opening. Notification must include the scope of work, location to review plans and specifications (if applicable), information about required qualifications and specifications, any bonding and insurance information and/or requirements (if applicable), and the name of a person to contact. If a certified Veteran-Owned or Service-Connected Disabled Veteran-Owned or Hudson Initiative small entrepreneurship was not selected, the bidder must certify and maintain written justification of the selection process. The state reserves the right to request confirmation of this information at any time.

In the event questions arise after an award is made relative to the bidder's good faith efforts, the bidder will be required to provide supporting documentation to demonstrate its good faith subcontracting plan was actually followed. If it is at any time determined that the contractor did not in fact perform its good faith subcontracting plan, the contract award or the existing contract may be terminated.

Contractors will be required to report Veteran-Owned and Service-Connected Disabled Veteran-Owned and Hudson Initiative small entrepreneurship subcontractor or distributor participation and the dollar amount of each to the ULM Purchasing Department along with the Clear Lien.

The statutes (LA R.S. 39:2171 *et. seq.*) concerning the Veteran Initiative may be viewed at www.legis.la.gov; and the statutes (LA R.S. 39:2001 *et. seq.*) concerning the Hudson Initiative may be viewed at www.legis.la.gov. The rules for the Veteran Initiative (LAC 19:VII.Chapters 11 and 15) and for the Hudson Initiative (LAC 19:VIII.Chapters 11 and 13) may be viewed at <http://www.doa.louisiana.gov/osp/se/se.htm>.

The State requires competitive pricing, qualifications, and demonstrated competencies in the selection of contractors.

If you are a Certified Small Entrepreneur (Hudson Initiative), Veteran Owned Small Entrepreneurs, or Service-Connected Disabled Veteran-Owned (Veteran Initiative) vendor, please state your Certification Number below.

Certification No./Date of certification.: _____

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Purchasing Department
University of Louisiana at Monroe
700 University Ave., Coenen Hall 140
Monroe, Louisiana 71209-2250

BID FOR: Exterior Lighting Improvements
University of Louisiana - Monroe
Monroe, Louisiana

Project No. P1123-002 – AE&EC

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: **Ayres Electrical & Energy Consulting, LLC** and dated: **August 15, 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: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Add the replacement of one hundred eighty-two (182) existing Trane Unit Control Modules (UCM) and room zone sensors) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

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. 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 LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Purchasing Department
 University of Louisiana at Monroe
 700 University Ave., Coenen Hall 140
 Monroe, Louisiana 71209-2250

BID FOR: Exterior Lighting Improvements
 University of Louisiana - Monroe
 Monroe, Louisiana

Project No P1123-002 AE&EC

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E1 RETROFIT	200	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E2 RETROFIT	100	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E3-P1-F1	40	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E3 RETROFIT	25	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E4-P2-F2	20	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E4 RETROFIT	30	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E5-P2-F2	20	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
E5-P3-F3	200	Each			

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E5 RETROFIT	200	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E6 RETROFIT	400	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E7 RETROFIT	65	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E8 RETROFIT	25	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E9 RETROFIT	25	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E10 RETROFIT	20	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E11	20	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
E11-P2-F2	20	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.#				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION	<i>(Quantity times Unit Price)</i>
ARF	300	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# _____				
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
SPD	50	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# _____				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
F-DEMO	40	Each			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# _____				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
EC-NEW	??	Foot			

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# _____				
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)	
PANEL	6	Each			

BID BOND
FOR

Exterior Lighting Improvements for the ULM Campus

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal, and, _____ as Surety, are held and firmly bound unto the _____ (Obligee), in the full and just sum of five (5%) percent of the total amount of this bid, 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: _____
AUTHORIZED OFFICER-OWNER-PARTNER

BY: _____
AGENT OR ATTORNEY-IN-FACT(SEAL)

INDEMNIFICATION AGREEMENT

The _____{Contractor/Lessee} agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees, and volunteers, from and against any and all claims, damages, expenses, 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/Lessee}, its agents, servants, and employees, or any and all costs, expenses and/or attorney fees incurred by _____{Contractor/Lessee} as a result of any claims, demands, suits or causes of action, except those claims, demands, suits, or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

_____ {Contractor/Lessee} agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits, or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling of and expenses for all claims.

Accepted by _____

Company Name

Signature

Title

Date Accepted _____

Is Certificate of Insurance Attached? Yes No

Contract No. 50006-044 for The University of Louisiana at Monroe
State Agency Name

PURPOSE OF CONTRACT: Exterior Lighting Improvements for the ULM Campus

LIQUIDATED DAMAGES:

The undersigned agrees that the Owner may retain the sum of Two hundred dollars (\$200.00) from the amount of the Compensation to be paid him for each day after the above stated completion date, Sundays and Holidays included, that the work remains incomplete. This amount is agreed upon as the proper measure of Liquidated Damages which the Owner will sustain per day by the failure of the undersigned to complete the work at the stipulated time and is not to be construed in any sense as a penalty.

If this proposal shall be accepted and the undersigned shall fail to execute the contract and furnish performance bond as herein provided, then the proposal guarantee shall become the property of the University; otherwise, the said proposal guaranty shall be returned to the undersigned.

Bidder certifies that he has visited the job site at The University of Louisiana at Monroe, and is fully aware of what is expected of the successful bidder (s).

Louisiana Contractor's License Number

Firm Name

Authorized Signature

Title

Phone/Fax Numbers

Date

STATE OF LOUISIANA
PARISH OF OUACHITA

NAME _____
LOCATION _____

AFFIDAVIT OF COMPLIANCE

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 2224 of Part II of Chapter 10 to Title 38 of the Louisiana Revised Statutes of 1950 as amended.

A. (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

A. (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.

B. No public contract shall be granted to any person, corporation, firm, association, or other organization refusing to execute the affidavit required by Subsection A above.

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 _____, 20____.

Signature of Notary: _____

E-VERIFY AFFIDAVIT

STATE OF LOUISIANA

PARISH OF OUACHITA

BEFORE ME, the undersigned Notary Public PERSONALLY CAME AND APPEARED,

I, _____, the owner/authorized representative of

Company/Individual/Legal Entity Name

who hereby personally and as the authorized representative of the above identified legal person executes this affidavit, as the undersigned Contractor verification of its current and future compliance with LA R.S. 38:2212.10, stating affirmatively that it and each individual, firm or corporation associated with it and engaged in the physical performance of services in the State of Louisiana, under a contract with the University of Louisiana Monroe has registered with, is participating in, and shall continue to participate in a federal work authorization program designated as such under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, which is operated by the United States Department of Homeland Security, known as the "E-Verify" program. The Contractor hereby verifies the legal status of all existing and new employees in the State of Louisiana by attesting herein that each is a citizen of the United States or legal aliens as defined by now effective immigration laws of the United States of America.

Contractor shall not assign this Contract or any monies due or to become due hereunder, or subcontract any part of the Work without the prior written consent of University of Louisiana Monroe.

Contractor verifies that Contractor will collect an affidavit in this form from any approved subcontractor and forward a copy to: University of Louisiana Monroe, Purchasing Office 700 University Avenue; Coenen Hall 140; Monroe, LA 71209-2250, no later than five business days of contracting with its subcontractor; however, in no instance shall the affidavit be received after commencement of work by the subcontractor.

Signature of Authorized Signatory

Date E-Verify ID Assigned

Printed Name of Signatory

E-Verify ID

Title of Authorized Signatory

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE DAY OF _____, 20____

Notary Signature: _____

Notary Printed Name: _____

Notary/Bar Roll Number: _____

My Commission is For/Expires: _____

PAST CRIMINAL CONVICTIONS ATTESTATION (LA R.S. 39:2192)

STATE OF LOUISIANA

PARISH OF _____

BEFORE ME, the undersigned Notary Public PERSONALLY CAME AND APPEARED,

I, _____, (Appearer) the owner/authorized representative of

Company / Individual / Legal Entity Name

Appearer, as a Bidder on the herein named Project, does hereby attest that:

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a five percent (5%) ownership in the bidding entity named herein, including any silent or dormant owner or manager, has been convicted of, or has entered a plea of guilty or nolo contendere to, any of the following state crimes or equivalent federal crimes:

- (a) Public bribery (R.S. 14:118)
- (b) Corrupt influencing (R.S. 14:120)
- (c) Extortion (R.S. 14:66)
- (d) Money laundering (R.S. 14:230)

B. For five years prior to the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named herein, including any silent or dormant owner or manager, has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

- (a) Theft (R.S. 14:67)
- (b) Identity Theft (R.S. 14:67.16)
- (c) False accounting (R.S. 14:70)
- (d) Contractor's misapplication of payments (R.S. 14:202)
- (e) Bank fraud (R.S. 14:71.1)
- (f) Forgery (R.S. 14:72)
- (g) Issuing worthless checks (R.S.14:71)
- (h) Malfeasance in office (R.S. 14:134)

Name of Bidder

Signature of Authorized Signatory of Bidder

Project Name/Number

Title of Authorized Signatory

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE DAY OF _____, 20____

Notary Signature: _____

Notary Printed Name: _____

Notary/Bar Roll Number: _____

My Commission is For/Expires: _____

University of Louisiana Monroe
NON-SOLICITATION AND UNEMPLOYMENT AFFIDAVIT
(Pursuant to LA R.S. 38:2224 and LA R.S. 23:1726(B))

STATE OF _____

PARISH/COUNTY OF _____

Before me, the undersigned authority, came and appeared,

I, _____, the owner/authorized representative of

Company/Individual/Legal Entity Name

who, being first duly sworn, deposed and state that I personally and as an authorized representative of the above identified legal person executes this continuing affidavit stating that neither the above named Contractor nor a person acting on its behalf, either directly or indirectly, employed, paid, nor promised any gift, consideration or commission to any person or legal entity to procure or assist in procuring this public contract, other than persons regularly employed by Contractor whose services were in the regular course of their duties for Contractor in connection with the construction, alteration or demolition of a public building or project.

The above named Contractor, if awarded, continually affirms that no part of the contract price received by Contractor 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 were in the regular course of their duties for Contractor. The above named Contractor has neither in the past three years received a final determination that the named Contractor has knowingly or willfully failed to properly classify an individual as an employee nor failed to pay unemployment.

The above named Contractor hereby attests and certifies that it does not have any unpaid assessment or penalty levied against it regarding unemployment compensation and currently does and will continue to properly classify each employee. Contractor verifies that Contractor will collect an affidavit in this form from any approved subcontractor and forward a copy to: University of Louisiana Monroe, 700 University Avenue; Purchasing Office, Coenen Hall 140; Monroe, LA 71209-2250 no later than five business days after contracting with its subcontractor; however, in no instance shall the affidavit be received after commencement of work by the subcontractor.

<p>_____ Signature of Authorized Signatory</p> <p>_____ Printed Name of Signatory</p> <p>_____ Title of Authorized Signatory</p> <p>_____ Project Name/Number</p>	<p>SUBSCRIBED AND SWORN BEFORE ME ON THIS _____ DAY OF _____ 20____.</p> <p>_____ Notary Signature</p> <p>Printed Notary Name: _____</p> <p>Notary/Bar Roll Number: _____</p> <p>My Commission is for/expires on: _____</p>
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EQUAL OPPORTUNITY AND ASSURANCE STATEMENT

The contractor agrees to abide by the requirements of the following as applicable: Title VI and Title VII of the Civil Rights Act of 1964, as amended by the Equal Opportunity Act of 1972, Federal Executive Order 11246, the 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 Davis-Bacon Act of 1931, the Age Act of 1975, and contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Contractor agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, disability, or age in any matter relating to employment. Any act of discrimination committed by Contractor, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract.

The Contractor certifies to The University of Louisiana at Monroe that they are compliant with the above statements.

Firm Name

Authorized Signature

Title

Date

RELATING TO THE PROHIBITION OF DISCRIMINATORY BOYCOTTS OF ISRAEL IN STATE PROCUREMENT STATEMENT

As stated in Executive Order number JBE 2018-15 Relating to the Prohibition of Discriminatory Boycotts of Israel in State Procurement, for bids over \$100,000, and for vendors with greater than five (5) employees:

Consistent with existing Louisiana non-discrimination provisions and regulations governing purchases, executive branch agencies may not execute a procurement contract with a vendor if that vendor is engaging in a boycott of Israel. Further, executive branch agencies shall reserve the right to terminate any procurement contract with a vendor that engages in a boycott of Israel during the term of the contract.

By submitting a response to this solicitation, the bidder or proposer certifies and agrees that the following information is correct: In preparing its response, the bidder or proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The state reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response

The Contractor certifies to The University of Louisiana at Monroe that:

- a. it is not engaging in a boycott of Israel; and
- b. it will, for the duration of its contractual obligations, refrain from a boycott of Israel.

Firm Name

Authorized Signature

Printed Name

Title

Date

_____ Initial here if the bid is less than \$100,000, or your firm has fewer than five employees

SAMPLE CONTRACT

The University of Louisiana at Monroe
Monroe, Louisiana

This Agreement, made and executed, on this ___ day of the month __ in the year of our Lord, TWO THOUSAND and EIGHTEEN, by and through _____, The University of Louisiana at Monroe, 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 The University of Louisiana at Monroe. The bid on this project, numbered Bid 50006-, was opened on _____, at _____ 2:00 p.m. 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.

The State may terminate this Agreement at any time by giving thirty (30) days written notice to contractor of such termination or negotiating with the Contractor an effective date.

The State may terminate this agreement for cause based upon the failure of Contractor to comply with the terms and/or conditions of the Agreement provided that the State shall give the Contractor written notice specifying the Contractor's failure. If within thirty (30) days after receipt of such notice, the Contractor shall not have corrected such failure or, in the case of failure which cannot be corrected in thirty (30) days, begun in good faith to correct such failure and thereafter proceeded diligently to complete such correction, then the State may, at its option, place the Contractor in default and the Agreement shall terminate on the date specified in such notice.

The Contractor may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of the State to comply with the terms and conditions of this agreement, provided that the Contractor shall give the State written notice specifying the State's failure and a reasonable opportunity for the State to cure the defect.

Any claim or controversy arising out of the agreement shall be resolved by the provisions of LA R.S. 39:1672.2-1672.4.

This Contract shall be governed by and interpreted in accordance with the laws of the State of Louisiana, including but not limited to LA R.S. 39:1551-1736; rules and regulations; executive orders; standard terms and conditions, special terms and conditions, and specifications listed in the RFP (if applicable); and this Contract. Venue of any action brought, after exhaustion of administrative remedies, with regard to this Contract shall be in the Fourth Judicial District Court, Parish of Ouachita, State of Louisiana.

Contractor acknowledges and agrees to comply with the provisions of LA R.S. 38:2212.10 and federal law pertaining to E-Verify in the performance of services under this Contract.

The 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 appropriation for the year from exceeding revenues for that year, or for any other 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.

The contractor agrees to abide by the requirements of the following as applicable: Title VI of the Civil Rights Act of 1964 and Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, Federal Executive Order 11246 as amended, the 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 Davis-Bacon Act of 1931, the Age Discrimination Act of 1975, the Fair Housing Act of 1968 as amended, and contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Contractor agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, national origin, veteran status, political affiliation, or disabilities. Any act of discrimination committed by Contractor, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract.

Contractor has a continuing obligation to disclose any suspensions or debarment by any government entity, including but not limited to General Services Administration (GSA). Failure to disclosed may constitute grounds for suspension and/or termination of the Contract and debarment from future Contracts.

Contractor, and each tier of Subcontractors, shall certify that it is not on the List of Parties Excluded from Federal Procurement or Nonprocurement Programs promulgated in accordance with E.O.s 12549 and 12689, "Debarment and Suspension," as set forth at 24 CFR part 24.

The State Legislative auditor, federal auditors and internal auditors of the State, or others so designated by the State, shall have the option to audit all accounts directly pertaining to the contract for a period of five (5) years after project acceptance or as required by applicable State and Federal Law. Records shall be made available during normal working hours for this purpose.

The complete Agreement between the parties with respect to the subject matter and all prior discussions and negotiations are merged into this contract. This Agreement is entered into with neither party relying on any statement or representation made by the other party not embodied in this Agreement and there are no other agreements or understanding changing or modifying the terms. This Agreement shall become effective upon final statutory approval.

No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required by law. No oral understanding or agreement not incorporated in the contract is binding on any of the parties.

If any term or condition of this Agreement, or the application thereof, is held invalid, such invalidity shall not affect other terms, conditions or applications which can be given effect without the invalid term, condition or application; to this end the terms and conditions of this Agreement are severable.

Performance shall not begin until issuance of Notice to Proceed and Purchase Order.

The University of Louisiana at Monroe

Contractor

Signature: _____

Signature: _____

Title: _____

Title: _____

INSTRUCTIONS TO BIDDERS

ARTICLE 1

DEFINITIONS

- 1.1 The Bidding Documents include the following:
- a. Advertisement for Bids
 - b. Instructions to Bidders
 - c. Bid Form
 - d. Bid Bond
 - e. Affidavit of Compliance with LA R.S. 38
 - f. General Requirements
 - g. Supplementary Conditions
 - h. Technical Specifications
 - i. Addenda issued during bid period must be acknowledged on returned 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 conditions under which the work is to be performed.
- 2.3 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 LA R.S. 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.
- 2.4 Each bidder submitting a bid understands that ULM'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 \$50,000

ARTICLE 3

BIDDING PROCEDURES

- 3.1 Each responsive bid package must be received by the University by the date and time stated in the Advertisement for Bid or Invitation to Bid in this Bid Packet, and include, at a minimum the following documents.
- a. Louisiana's Contractor's License Number displayed on the outside envelope
 - b. Bid Form
 - c. Bid Security or Bid Bond
 - d. Acknowledgement of Addenda

- e. Base Bid
- f. Alternate Bids (if applicable)
- g. Signature of Bidder
- h. Name, Title, and Address of Bidder
- i. Name of Firm or Joint Venture
- j. Corporate Resolution or written evidence of the authority of the person signing the bid
- k. Unit Prices, where required, including a description for each unit

3.2 The following items must be provided by the apparent lowest bidder not later than ten (10) calendar days after bid opening, however, it is strongly encouraged that these items be returned with the bid packet. If the apparent lowest bidder was not in attendance at the bid opening, the University Purchasing Department will notify apparent lowest bidder by email, if provided. This will not be the notification of award. If Bidder has not heard from the University within three (3) days, the Bidder should contact the University Purchasing Department. In no instance will the ten (10) days be waived or altered.

- a. Notarized Contractor's Affidavit
- b. E-Verify Affidavit
- c. Past Criminal Convictions Affidavit
- d. Non-Solicitation and Unemployment Affidavit
- e. Equal Opportunity and Assurance Affidavit
- f. Insurance Certificate
- g. Resolution, if incorporated

3.3 Once the above items from 3.1 and 3.2 have been received by the University, the University will soon thereafter provide the Bidder with three (3) executed contract originals. The following items must then be promptly returned to the University:

- a. One (1) original, fully-executed contract
- b. Payment & Performance Bond
- c. Proof of filing with the Ouachita Parish Clerk of Court

3.4 Upon receipt of all of the items listed in section 3.1, 3.2 and 3.3 above, the University will issue the Purchase Order (PO) and Notice to Proceed.

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

3.6 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.

3.7 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 (30) days after the receipt of bids. However, written request (letter or email) 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.

3.8 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 The University of Louisiana at Monroe 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.

3.9 Prior to the receipt of bids, Addenda, if any, will be delivered via email or fax, 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.

3.10 **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 The University of Louisiana at Monroe.

3.11 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.

3.12 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.

3.13 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.

ARTICLE 4

EXAMINATION OF BIDDING DOCUMENTS

4.1 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. The University of Louisiana at Monroe shall be sole judge as to whether or not the material is equal to that specified.

ARTICLE 6

REJECTION OF BIDS

6.1 The Bidder acknowledges the right of the University 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 University 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 be 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/her 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

8.1 Performance and Payment Bonds shall be required on Public Works projects with an expected cost greater than \$50,000. Performance and Payment Bonds, when required, shall be provided in an amount of 100% of the contract price. 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.

8.2 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

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

ARTICLE 9

PAYMENT

9.1 Payment will be made by The University of Louisiana Monroe.

9.2 The contractor will be required to provide a Clear Lien Certificate from the Ouachita 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

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

ARTICLE 12

CHANGES IN THE WORK

12.1 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.

- 12.2 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.
- 12.3 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, and will be process in accordance with LA R.S. 38:2222.

SUPPLEMENTAL 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. Per LA R.S. 37:2163 A.(1), if the bid does not display the contractor's license number on the bid envelope, the bid shall be automatically rejected, shall be returned to the bidder marked "Rejected", and shall not be read aloud.
- 1.2 A subcontractor who wishes to bid or perform commercial work where the total cost of the project including labor and materials for the following must be licensed:
 - \$50,000 or more for major and specialty classifications
 - \$10,000 or more for electrical, mechanical, and plumbing
 - \$1 or more for hazardous

CONTRACTOR'S AFFIDAVIT

- 1.3 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 Contractor's Affidavit included in the Contract Documents.

INTEREST

- 1.4 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 Ouachita 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 Ouachita 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

- 2.3 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 REQUIREMENTS FOR CONTRACTORS

The Contractor shall purchase 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, its agents, representatives, employees or subcontractors.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE

1. Workers Compensation

Workers Compensation insurance shall be in compliance with the Workers Compensation law of the State of the Contractor's headquarters. Employers Liability is included with a minimum limit of \$1,000,000 per accident/per disease/per employee. If work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act, or other maritime law coverage shall be included. A.M. Best's insurance company rating requirement may be waived for workers compensation coverage only. The insurance shall cover any claim(s) for incident(s) made during the policy period.

2. Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations, shall have a minimum limit per occurrence of \$1,000,000 and a minimum general annual aggregate of \$2,000,000. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

3. Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per accident of \$1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

4. Professional Liability (Errors and Omissions)

Professional Liability (Error & Omissions) insurance, which covers the professional errors, acts, or omissions of the Contractor, shall have a minimum limit of \$1,000,000 per claim. Claims-made coverage is acceptable. The

date of the inception of the policy must be no later than the first date of the anticipated work under this contract. It shall provide coverage for the duration of this contract and shall have an expiration date no earlier than 30 days after the anticipated completion of the contract. The policy shall provide an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy, if policy is not renewed.

5. Cyber Liability

Cyber liability insurance, including first-party costs, due to an electronic breach that compromises the State's confidential data shall have a minimum limit per occurrence of \$1,000,000. Claims-made coverage is acceptable. The date of the inception on the policy must be no later than the first date of the anticipated work under this contract. It shall provide coverage for the duration on this contract and shall have an expiration date no earlier than 30 days after the anticipated completion of the contract. The policy shall provide an extended reporting period of not less than 24 months from the expiration date of the policy, if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

B. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and accepted by the Agency. The Contractor shall be responsible for all deductibles and self-insured retentions.

C. OTHER INSURANCE PROVISIONS

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

1. Commercial General Liability and Automobile Liability Coverages
 - a. The Agency, its officers, agents, employees and volunteers shall be named as an additional insured as regards negligence by the contractor. ISO Forms CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalents, are to be used when applicable. The coverage shall contain no special limitations on the scope of protection afforded to the Agency.
 - b. The Contractor's insurance shall be primary as respects the Agency, its officers, agents, employees and volunteers for any and all losses that occur under the contract. Any insurance or self-insurance maintained by the Agency shall be excess and non-contributory of the Contractor's insurance.
2. Workers Compensation and Employers Liability Coverage

To the fullest extent allowed by law, the insurer shall agree to waive all rights of subrogation against the Agency, its officers, agents, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverages
 - a. All policies must be endorsed to require 30 days written notice of cancellation to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy. In addition, Contractor is required to notify Agency of policy cancellations or reductions in limits.

- b. The acceptance of the completed work, payment, failure of the Agency to require proof of compliance, or Agency's acceptance of a non-compliant certificate of insurance shall not release the Contractor from the obligations of the insurance requirements or indemnification agreement.
- c. The insurance companies issuing the policies shall have no recourse against the Agency for payment of premiums or for assessments under any form of the policies.
- d. Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, agents, employees and volunteers.

D. ACCEPTABILITY OF INSURERS

1. All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best's rating of **A-:VI or higher**. This rating requirement may be waived for workers compensation coverage only.
2. If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another Certificate of Insurance within 30 days.

E. VERIFICATION OF COVERAGE

1. Contractor shall furnish the Agency with Certificates of Insurance reflecting proof of required coverage. 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 the Agency before work commences and upon any contract renewal or insurance policy renewal thereafter.
2. The Certificate Holder Shall be listed as follows:

University of Louisiana at Monroe
Agency Name, Its Officers, Agents, Employees and Volunteers
Address, City, State, Zip
Project or Contract #:

3. In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision for each insurance policy. The Agency reserves the right to request complete certified copies of all required insurance policies at any time.
4. Upon failure of the Contractor to furnish, deliver and maintain required insurance, this contract, at the election of the Agency, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

F. SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the Certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Agency reserves the right to request copies of subcontractor's Certificates at any time. Failure of contractor to comply with this clause does not waive the contractor responsibility to indemnify or defend Agency due to subcontractor's failure to acquire proper insurance.

G. WORKERS COMPENSATION INDEMNITY

In the event Contractor is not required to provide or elects not to provide workers compensation coverage, the parties hereby agree that Contractor, its owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Workers Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its owners, agents and employees. The parties further agree that Contractor is a wholly independent contractor and is exclusively responsible for its employees, owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

H. INDEMNIFICATION/HOLD HARMLESS AGREEMENT

1. Contractor/Subcontractor/Other responsible party agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees, and volunteers, from and against any and all claims, damages, expenses, 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, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits, or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

2. Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits, or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling of and expenses for all claims.

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.

University of Louisiana at Monroe (ULM)
Exterior Lighting Improvements for the ULM Campus

1. PROJECT SUMMARY

The base bid includes the replacement of HID fixtures with LED fixtures and some new LED fixtures with poles per the plans outlines per the attached.

2. PROJECT LOCATION

On the main campus of the University of Louisiana at Monroe. The physical address is 700 University Avenue, Monroe, Louisiana, 71209.

3. BID DELIVERY INSTRUCTIONS

Sealed bids will be received by the Purchasing Department of The University of Louisiana at Monroe, Coenen Hall 140, 4014 LaSalle Street Monroe, La 71209, until the due date and time. Bids must be sealed in an envelope with the Bid Number, Bid Opening Date, Company Name, and Contractors License clearly displayed on the outside of the envelope.

4. SCOPE OF WORK TO BE COMPLETED BY CONTRACTOR

Contractor shall refer to full set of documents for full scope of work of project.

5. SITE VISIT/SITE INSPECTIONS

Site visits are mandatory for all potential Bidders. Visits may be scheduled by contacting Michael Davis, Director of Facilities & EHS, at 318.342.5171, or via email to mdavis@ulm.edu.

Each bidder is solely responsible for a prudent and complete personal inspection, examination, and assessments of the facilities and any other existing condition, factor, or item that may affect or impact the performance of services described and required by the Contractual Requirements.

Bidders are strongly encouraged to advise the University prior to the scheduled tour of the facilities, of any special accommodations for disabled personnel who will be attending the tour(s) so that these accommodations can be made.

6. QUESTIONS/REQUEST FOR CLARIFICATION

All questions and requests for clarification shall be submitted in writing to the ULM purchasing office by December 3, 2024, at 10:00 am. If necessary, ULM will issue an addendum to provide answers and clarification.

7. AREA OF WORK – Safety and Protection

The contractor shall post warning signs and barriers as necessary to ensure that students, faculty, staff, and the general public avoid the work area. The contractor may store materials on site provided the materials are stored in a location and manner that does not interfere with the University and does not damage existing facilities (grounds, grass, sidewalks, parking lots, etc.)

The contractor should coordinate with University personnel to approve the laydown/material storage areas at the pre-construction meeting and before any materials are delivered.

8. CONSTRUCTION SCHEDULE/OUTAGES

The project should be completed within 168 days of the notice to proceed. The University should be given notice before any outages are scheduled should there need to be any.

9. LIQUIDATED DAMAGES

The University will assess liquidated damages to the contractor for failure to comply with the schedule of the work. Liquidated damages shall be assessed as the rate of \$200.00 per day for each additional day required to fully complete the scope of work. The contractor shall fully complete the work in the base bid within 168 days of notice to proceed, in accordance with the project specifications.

10. DAMAGES TO FACILITIES

Contractor shall be responsible for all damages to the existing site, facilities, furniture, and equipment that are caused by this project. The contractor shall carefully document existing site conditions and existing damages prior to commencing work. The contractor shall repair all damage to its original, undamaged condition prior to completing this project.

11. COMPLIANCE AND SAFETY REQUIREMENTS

Contractor shall be required to adhere to all University safety and health policies. Contractor shall fully comply with all applicable laws, rules, regulations, permits, etc. This includes but is not limited to the following: the contractor must use an OSHA approved lockout/tag out program that meets or exceeds the University's policy, the contractor shall properly label all chemical containers used during the project, the contractor shall have a material safety data sheet (MSDS) for each product used during the project. Etc. All employees shall wear fall protection equipment as required when working at elevated levels. All employees will not be allowed to use tobacco products on the project site. Contractor, subcontractors, material suppliers and all employees must be properly trained and fully comply with occupational safety and health regulations. Any accidents, incidents, near misses, etc. will be reported to the University project coordinator immediately and the University may investigate these events. The University reserves the right to require the contractor to remove any employee from the project if the employee is observed violating safety rules, regulations, policies, etc.

12. PROFESSIONAL CONDUCT

The contractor, subcontractors, material suppliers, and all workers associated with the project shall conduct themselves in a professional manner at all times. All employees shall wear identification that clearly identifies them as a contract employee. This could be a uniform shirt or name badge. Shirts shall be neatly tucked into trousers. Contractors shall not be allowed to wear sleeveless shirts, tank tops, etc. No profanity will be allowed for any reason. The University reserves the right to require the contractor to remove any employee from the job immediately for failure to comply with these requirements and/or for failure to comply with University policies and procedures, and all other applicable laws, rules, and requirements.

13. USE OF UNIVERSITY FACILITEIS

The contractor, subcontractors, material suppliers, and all workers associated with the project shall not use University facilities such as restrooms, break rooms, vending machines, etc. The contractor shall supply a portable restroom for their employee to use.

14. USE OF TABACCO PRODUCTS

Tobacco use will only be allowed in personal vehicles. See ULM's tobacco use policy for detailed information at <http://www.ulm.edu/tobaccouse/>

15. DISPOSAL

Contractor shall dispose of all construction debris, trash, and other materials in compliance with all applicable laws, rules, regulations, permits, etc.

PROJECT MANUAL & DRAWINGS TO FOLLOW

JOHN J. GUTH ASSOCIATES, INC.

208 Milam Street • Shreveport, Louisiana 71101
Phone: (318) 221.8638 • Fax: (318) 221.8717

PROJECT INFORMATION

EXTERIOR LIGHTING IMPROVEMENTS UNIVERSITY OF LOUISIANA, MONROE MONROE, LOUISIANA

PROJECT No. AE&EC – P1123-002

DESIGNED BY

**BRUCE C. AYRES, PE, CEM, CPQ
AYRES ELECTRICAL & ENERGY
CONSULTING, LLC
124 AMY LANE
RUSTON, LA 71270
PHONE: 318-614-4260**

STATE OF LOUISIANA

JEFF LANDRY – GOVERNOR

DIVISION OF ADMINISTRATION

TAYLOR F. BARRAS – COMMISSIONER OF ADMINISTRATION

OFFICE OF FACILITY PLANNING AND CONTROL

ROGER E. HUSSER, JR. - DIRECTOR

ISSUE DATE: September 9, 2024

**EXTERIOR LIGHTING IMPROVEMENTS
ENTIRE CAMPUS
UNIVERSITY OF LOUISIANA, MONROE
MONROE, LOUISIANA**

PROJECT No: AE&EC P1123-002

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**EXTERIOR LIGHTING IMPROVEMENTS
ENTIRE CAMPUS
UNIVERSITY OF LOUISIANA, MONROE
MONROE, LOUISIANA**

PROJECT No: AE&EC P1123-002

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**EXTERIOR LIGHTING IMPROVEMENTS
UNIVERSITY OF LOUISIANA, MONROE
MONROE, LOUISIANA**

AE&EC PROJECT No: P1123-002

SEALS

Specification Divisions/Sections prepared under my responsible supervision:

DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

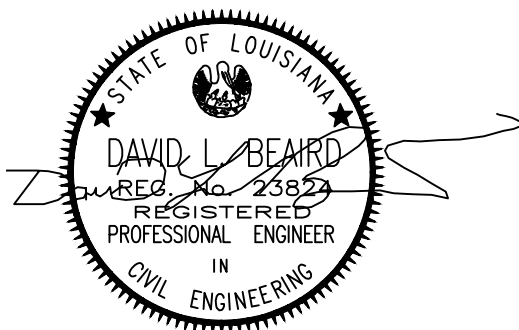
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DIVISION 26 ELECTRICAL



**BRUCE C. AYRES, P.E., PRESIDENT
ELECTRICAL ENGINEER – LA LICENSE 17333**

DIVISION SECTION 16522 STEEL CYLINDRICAL FOUNDATIONS



9/6/2024

**DAVID LANE BEARD, PE
CIVIL ENGINEER – LA 23824**

SECTION 00115 – LIST OF DRAWING SHEETS

SHEET NO.	TITLE
CS1	COVER SHEET
E1-101	CAMPUS PLAN KEY
E-102A	AREAS TO BE IMPROVED
E-102B	AREAS TO BE IMPROVED - DETAILS
E-103	CAMPUS MAP – CITY OF MONROE STREET LIGHTS
E-201	BAYOU VILLAGE APARTMENTS 5, 6, 7 DETAILS
E-301	FIXTURES SCHEDULE AND DETAILS
C-101	LIGHT POLES FOUNDATION DETAIL

END OF SECTION 00115

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Purchasing Department
University of Louisiana at Monroe
700 University Ave., Coenen Hall 140
Monroe, Louisiana 71209-2250

BID FOR: Exterior Lighting Improvements
University of Louisiana - Monroe
Monroe, Louisiana

Project No. P1123-002 – AE&EC

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: **Ayres Electrical & Energy Consulting, LLC** and dated: **August 15, 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: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Add the replacement of one hundred eighty-two (182) existing Trane Unit Control Modules (UCM) and room zone sensors) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

Not Applicable _____ Dollars (\$ _____ Not Applicable _____)

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. 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 LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: Purchasing Department
University of Louisiana at Monroe
700 University Ave., Coenen Hall 140
Monroe, Louisiana 71209-2250

BID FOR: Exterior Lighting Improvements
University of Louisiana - Monroe
Monroe, Louisiana

Project No P1123-002 AE&EC

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E1 RETROFIT	200	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E2 RETROFIT	100	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E3-P1-F1	40	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E3 RETROFIT	25	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E4-P2-F2	20	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E4 RETROFIT	30	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E5-P2-F2	20	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E5-P3-F3	200	Each		

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E5 RETROFIT	200	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E6 RETROFIT	400	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E7 RETROFIT	65	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E8 RETROFIT	25	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E9 RETROFIT	25	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E10 RETROFIT	20	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E11	20	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
E11-P2-F2	20	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
ARF	300	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	MAX QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
SPD	50	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
F-DEMO	40	Each		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
EC-NEW	??	Foot		

DESCRIPTION:	<input checked="" type="checkbox"/> Base Bid or <input type="checkbox"/> Alt.# ____			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (<i>Quantity times Unit Price</i>)
PANEL	6	Each		

Wording for "DESCRIPTION" per Chart Below. All quantities estimated. The contractor will be paid based upon actual quantities as verified by Owner.

Ref. No.	
E1 RETROFIT	Remove old bollard, furnish, install, and make operational one each 6" diameter dome top LED bollard in place of existing fixture
E2 RETROFIT	Remove old bollard, furnish, install, and make operational one each 8" diameter dome top LED bollard in place of existing fixture
E3-P1-F1	Furnish, install, and make operational one post top tenon LED fixture and 15 ft. pole with steel cylindrical auger type foundation per plans
E3 RETROFIT	Remove old fixture, furnish, install, and make operational one post top LED fixture. Adapt mounting to fit existing pole.
E4-P2-F2	Furnish, install, and make operational one street light LED fixture and 20 ft pole with steel cylindrical auger type foundation per plans.
E4 RETROFIT	Remove old fixture, furnish, install, and make operational one street light fixture. Adapt mounting to fit existing pole.
E5-P2-F2	Furnish, install, and make operational one parking lot LED light fixture and 20 ft pole with steel cylindrical auger type foundation per plans.
E5-P3-F3	Furnish, install, and make operational one parking lot LED light fixture and 30 ft. pole with steel cylindrical auger type foundation per plans.
E5 RETROFIT	Remove old fixture, furnish, install, and make operational one parking lot light fixture. Adapt mounting to fit existing pole.
E6 RETROFIT	Remove old fixture, furnish, install, and make operational one acorn type post top LED fixture. Adapt mounting to fit existing pole.
E7 RETROFIT	Remove old round surface mount fixture. Furnish, install, and make operational one concrete ceiling type LED fixture in the Parking Facility.
E8 RETROFIT	Remove old two-lamp fluorescent fixture. Furnish, install, and make operational one LED linear type fixture in the Parking Facility.
E9 RETROFIT	Remove old pole-mounted HID floodlight fixture. Furnish, install, and make operational one knuckle mount LED type floodlight fixture. Adapt to fit existing mount.
E10 RETROFIT	Remove old wall-mounted HID floodlight fixture. Furnish, install, and make operational one wall-mounted LED type fixture.
E11	Furnish, install, and make operational one solar/battery powered LED floodlight fixture on existing pole at street crosswalk.
E11-P2-F2	Furnish, install, and make operational one solar/battery powered LED floodlight and 20 ft pole and steel cylindrical auger foundation per plans.
ARF	Remove old ballast/lamp assembly, furnish, install, and make operational one LED retrofit assembly for existing acorn type HID fixture.
SPD	Install one SPD at lighting panelboard or lighting contactor for existing lighting circuit.
F-DEMO	Demolish and remove existing concrete foundation for a pole or bollard to 12" below grade. Repair below ground electrical circuit with waterproof splicing in PVC conduit if circuit to remain energized. Fill/cover with topsoil in grassed areas.
EC-NEW	Extend electrical power circuit to a new or existing pole-mounted fixture or bollard with 3/4" PVC conduit and #12 AWG minimum. Provide trenching or boring for minimum conduit depth of 18" below grade. Cover/fill with topsoil in grassed area. Bore under sidewalks as necessary.
PANEL	Provide 8 circuit NEMA 3R panel with breakers, rigid conduit, wiring, and weatherhead, and photocells (4) to supply new fixtures from Entergy.

BID BOND
FOR
UNIVERSITY OF LOUISIANA at MONROE PROJECTS

Date: _____

KNOW ALL MEN BY THESE PRESENTS:

That _____ of _____, as Principal, and _____, as Surety, are held and firmly bound unto the University of Louisiana at Monroe, State of Louisiana (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 than 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: _____
AUTHORIZED OFFICER-OWNER-PARTNER

BY: _____
AGENT OR ATTORNEY-IN-FACT(SEAL)



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

University of Louisiana at Monroe
Exterior Lighting Improvements
700 University Avenue
Monroe, LA 71209-2250

THE OWNER:
(Name, legal status and address)

University of Louisiana at Monroe
State of Louisiana
700 University Avenue
Monroe, LA 71209-2250

THE ARCHITECT:
(Name, legal status and address)

Ayres Electrical & Energy Consulting, LLC
124 Amy Lane
Ruston, LA 71270

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- 13 MISCELLANEOUS PROVISIONS

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon written protocols governing the transmission and use of, and reliance on, Instruments of Service or any other information or documentation in digital form.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These

obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

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§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional,

whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work,

provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the

Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

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- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;

- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities

proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Section, Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Section, Article, Paragraph, Subparagraph or Clause shall remain in effect.

Articles, Sections, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1. The Contract Documents

In Section 1.1.1 delete the third sentence, and add the following sentence:
The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.

1.1.8 Initial Decision Maker

Delete all after the words, “shall not show partiality to the Owner or Contractor”.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE [REFER TO *La R.S. 38:2317*]

1.5.1 Delete the first sentence of the paragraph.

1.5.1 In the third sentence: delete the remainder after the word “publication”.

1.7 DIGITAL DATA USE AND TRANSMISSION

In the first sentence after the words, “in digital form” delete “. The parties will use AIA Document E203 2013, Building Information Modeling and Digital Data Exhibit”.

1.8 BUILDING INFORMATION MODELS USE AND RELIANCE

Delete Section 1.8.

ARTICLE 2

OWNER

2.2 EVIDENCE OF THE OWNER’S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.3.1 In the first sentence, delete: all before “the Owner shall secure...”

Delete Section 2.3.2 and substitute the following:

2.3.2 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

2.3.3 Delete the words: “to whom the Contractor has no reasonable objection and”.

ARTICLE 3

CONTRACTOR

3.4 LABOR AND MATERIALS

3.4.2 Delete Section 3.4.2.

Delete Section 3.4.3 and substitute with the following:

3.4.3 Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner’s requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner’s property, as determined by the Owner, shall be removed from the Project at the Owner’s request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner’s property pursuant to this Section. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.5 WARRANTY

3.5.2 Replace reference to “Section 9.8.4” with “Section 9.8.6”.

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

3.7.1 Delete Section 3.7.1.

3.7.2 In Section 3.7.2, replace the word “public” with the word “State”.

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:
Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add the following: For projects with a contract sum greater than \$1,000,000.00, the Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word "general".

After the first sentence, add the following:

If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

Add the following Sections:

3.10.4 Add the following: Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and

others under his control to cooperate. The purpose of such services shall be to ensure that all systems perform correctly and interactively according to the provisions of the Contract Documents.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

ARTICLE 4

ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 In the first sentence, delete the phrase: “the date the Architect issues the final Certificate for Payment” and replace with the phrase “final payment is due, and with the Owner’s concurrence, from time to time during the one year period for correction of Work described in Section 12.2.”

4.2.2 In the first sentence, after the phrase: “become generally familiar with”; insert the following: “and to keep the Owner informed about”.

In the first sentence, after the phrase “portion of the Work completed”, insert the following: “to endeavor to guard the Owner against defects and deficiencies in the Work,”

4.2.4 In the first sentence, delete all after “The Owner and Contractor”, and add the following “may communicate directly with each other, when deemed necessary by the Owner, and the Owner will notify the Architect of any decision.”

4.2.10 Add the following sentence to the end of Section 4.2.10: There shall be no restriction on the Owner having a Representative.

4.2.11 Add the following sentence to the end of Section 4.2.11:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

4.2.14 Insert the following sentence between the second and third sentences of Section 4.2.14:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

ARTICLE 5

SUBCONTRACTORS

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

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7

CHANGES IN THE WORK

7.1 GENERAL

Add the following Sections:

7.1.4 As part of the pre-construction conference submittals, the Contractor shall submit the following prior to the Contractor's initial request for payment:

7.1.4.1 Fixed job site overhead cost itemized with documentation to support daily rates.

7.1.4.2 Bond Premium Rate with supporting information from the General Contractor's carrier.

7.1.4.3 Labor Burden by trade for both Subcontractors and General Contractor. The Labor Burden shall be supported by the Worker's Compensation and Employer's Liability Insurance Policy Information Page. Provide for all trades.

7.1.4.4 Internal Rate Charges for all significant company owned equipment.

7.1.5 If the General Contractor fails to submit the aforementioned documentation as part of the pre-construction submittals, then pay applications shall not be processed until such time as the Owner receives this information.

7.2 CHANGE ORDERS

Delete Section 7.2.1, and substitute the following Sections:

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/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 reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

7.2.2 "Cost of the Work" for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the "Cost of the Work" is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which **shall not** be included, as these costs are already compensated by the Overhead and Profit markup.

Supervision shall not be included as a line item in the "Cost of the Work", except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a specific trade (i.e., shovels, saws, hammers, air compressors, etc.,) and general use vehicles, such as pickup trucks even for

moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

7.2.2.4 Eligible Insurance costs shall be limited to documented increases in “Builder’s Risk” insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work.

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, including overhead and profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall be computed for credits to the Owner and extras to the Contractor. The Owner shall receive full credit for the computed overhead and profit on credit change order items.

7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor’s Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor’s Overhead and Profit markup, for General Contractor’s Overhead and Profit.

7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2.

Premiums for the General Contractor’s bond may be included, but after the markup is added to the Cost of the Work.

Premiums for the Subcontractor’s Bond shall not be included.

7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.

7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor's Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor's and/or Sub-Subcontractor's Work including quantities and unit costs for each item of labor, material and equipment.

7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities, and telephone.

Extended fixed job-site costs or equitable adjustment may be included in a Change Order due to a delay in the critical path, with the exception of weather related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time **within twenty-one (21) days** of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities.

The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. "Replacement Work" is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

7.2.8 "Cost of the Work" whether General Contractor cost or Subcontractor cost shall not apply to the following:

7.2.8.1 Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.

7.2.8.2 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

7.2.8.4 Cost of supervision refer to section 7.2.2.1, with exception as provided in Section 7.2.7.

7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as

submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.3 In the first sentence after “following methods” insert: “, but not to exceed a specified amount”.

7.3.4 From .1 of the list, delete all after “Costs of labor, including” and substitute the following “social security, old age and employment insurance, applicable payroll taxes, and workers’ compensation insurance;”

Delete the following from .4 of the list: “permit fees,”

Delete Section 7.3.9 and substitute the following:

7.3.9 Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties’ agreement with part or all of such costs.

ARTICLE 8

TIME

8.1 DEFINITIONS

Add the following:

8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

8.2 PROGRESS AND COMPLETION

Add to Section 8.2.1 the following:

Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the project within the time stated in the Contract. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the Contract Documents. The Contractor and the Contractor’s Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and liquidated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Liquidated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

Delete Section 8.2.2.

8.3 DELAYS AND EXTENSIONS OF TIME

- 8.3.1 In the first sentence after the words “Owner pending” delete the words “mediation and binding dispute resolution” and add the word “litigation”, and delete the last word “determine” and add the following: “recommend, subject to Owner’s approval of Change Order. If the claim is not made within the limits of Article 15, all rights for future claims for that month are waived.”

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

Delete Section 9.1.2.

Delete Section 9.2 and substitute the following:

9.2 SCHEDULE OF VALUES

At the Pre-Construction Conference, the Contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

- 9.2.1 The attached Schedule of Values Format shall be used. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.
- 9.2.2 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor’s Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect.

9.3 APPLICATIONS FOR PAYMENT

Delete Sections 9.3.1, 9.3.1.1, and 9.3.1.2 and substitute the following:

- 9.3.1 Monthly, the Contractor shall submit to the Architect a Facility Planning and Control – Application and Certification for Payment form, supported by any additional data substantiating the Contractor’s right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials, suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per La R.S. 38:2248:

9.3.1.1 Projects with Contract price up to \$500,000.00 – 10% of the Contract price.

9.3.1.2 Projects with Contract price of \$500,000.00, or more – 5% of the Contract price.

9.3.1.3 No payment shall be made until the revised schedule required by Section 3.10.1 is received.

9.3.1.4 The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety, and invoice for retainage.

Delete Section 9.3.2 and substitute the following:

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word "repeated".

Delete Section 9.5.4.

9.6 PROGRESS PAYMENTS

Delete Section 9.6.1 and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within twenty days except for projects funded fully or in part by a Federal reimbursement program. For such projects the Owner will make payment in a timely manner consistent with reimbursement.

9.6.2 Delete the phrase: "no later than seven days" from the first sentence.

After the end of the second sentence, add the following:

La R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of 1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty.

9.6.4 Delete the first two sentences of Section 9.6.4 and add the following to the end of the Section:

Pursuant to La. R.S. 38:2242 and La. R.S. 38:2242.2, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder

of mortgages of the parish where the Work has been done. When the Owner receives original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum.

Delete Section **9.7 FAILURE OF PAYMENT**.

Delete Section 9.8 and substitute the following:

9.8 SUBSTANTIAL COMPLETION

- 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the project is substantially complete in accordance with this Section.
- 9.8.2 When the Contractor considers that the Work is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
- 9.8.3 Upon receipt of the Contractor's list, the Architect shall make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Owner's receipt of the executed Roofing Contractor's and Roofing Manufacturer's guarantees, where roofing Work is part of the Contract. Prior to inspection by the Architect, the Contractor shall notify the Architect that the project is ready for inspection by the State Fire Marshal's office. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.
- 9.8.4 When the Architect determines that the project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the forty-five day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

- 9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Recommendation of Acceptance incorporating the punch list and submit it to the Owner. Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of Building Contract which shall establish the Date of Substantial Completion. The Contractor shall record the Notice of Acceptance with the Clerk of Court in the Parish in which the Work has been performed. If the Notice of Acceptance has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor's expense. All additive change orders must be processed before issuance of the Recommendation of Acceptance. The Owner shall not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Recommendation of Acceptance.
- 9.8.6 Warranties required by the Contract Documents shall commence on the date of Acceptance of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner's responsibility on the Date of Substantial Completion.
- 9.8.7 If all punch list items have not been completed by the end of the forty-five (45) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within forty-five (45) days after notification, the Surety has not completed the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety.

9.9 PARTIAL OCCUPANCY OR USE

Delete Section 9.9.1 and substitute the following:

- 9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

9.10 FINAL COMPLETION AND FINAL PAYMENT

Delete Section 9.10.4 and replace with the following:

9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

9.10.4.1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;

9.10.4.2 failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;

9.10.4.3 terms of special warranties required by the Contract Documents; or

9.10.4.4 audits performed by the Owner, after final payment.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.2 In the first sentence, between the words: “bearing on” and “safety”, add the words: “the health and,”

10.3 HAZARDOUS MATERIALS

10.3.1 In the second sentence after (PCB) add: “or lead”.

10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: “The Contract time shall be extended appropriately.”

Delete Section 10.4 and substitute the following:

10.4 EMERGENCIES

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11

INSURANCE AND BONDS

AIA A101 – 2017 Exhibit A is not a part of these documents. Delete all of Sections 11.1, 11.2, 11.3, 11.4, and 11.5, and substitute the following:

**INSURANCE REQUIREMENTS FOR
NEW CONSTRUCTION, ADDITIONS AND RENOVATIONS**

11.1 CONTRACTOR’S LIABILITY INSURANCE

The Contractor shall purchase and maintain without interruption 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, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

11.2 MINIMUM SCOPE AND LIMITS OF INSURANCE

11.2.1 Worker’s Compensation

Worker’s Compensation insurance shall be in compliance with the Worker’s Compensation law of the Contractor’s headquarters. Employers Liability is included with a minimum limit of \$1,000,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included. A.M. Best’s insurance company rating requirement may be waived for Worker’s compensation coverage only.

11.2.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

The aggregate loss limit must apply to each project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

<u>Type of Construction</u>	<u>Projects up to \$1,000,000</u>	<u>Projects over \$1,000,000 up to \$10,000,000</u>	<u>Projects over \$10,000,000</u>
New Buildings:			
Each Occurrence			
Minimum Limit	\$1,000,000	\$2,000,000	\$4,000,000
Per Project Aggregate	\$2,000,000	\$4,000,000	\$8,000,000
Renovations:			
	The building(s) value for the Project is <u>\$23,573,488.00</u>.		
Each Occurrence			
Minimum Limit	\$1,000,000**	\$2,000,000**	\$4,000,000**

Per Project Aggregate	2 times per occur limit**	2 times per occur limit**	2 times per occur limit**
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**While the minimum Combined Single Limit of \$1,000,000 is required for any renovation, the limit is calculated by taking 10% of the building value and rounding it to the nearest \$1,000,000 to get the insurance limit. Example: Renovation on a \$33,000,000 building would have a calculated \$3,300,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to \$3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is \$10,000,000 regardless of building value. The per project aggregate limit is then calculated as twice the per occurrence limit.

11.2.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of \$1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

11.2.5 Builder's Risk

11.2.5.1 Builder's Risk Insurance shall be in an amount equal to the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad Form Causes of Loss (extended, if necessary, to include the perils of wind, earthquake, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects' and engineers' fees necessary to provide plans, 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 the repair and/or replacement.

11.2.5.2 Flood coverage shall be provided by the Contractor on the first floor and below for all projects, except as otherwise noted. The builder's risk insurance policy, sub-limit for flood coverage shall not be less than ten percent (10%) of the total contract cost per occurrence. If flood is purchased as a separate policy, the limit shall be ten percent (10%) of the total contract cost per occurrence (with a max of \$500,000 if NFIP). Coverage for roofing projects shall **not** require flood coverage.

11.2.5.3 A Specialty Contractor may provide an installation floater in lieu of a Builder's Risk policy, with the similar coverage as the Builder's Risk policy, upon the

system to be installed in an amount equal to the amount of the contract including any amendments. Flood coverage is not required.

11.2.5.4 The policy must include coverage for the Owner, Contractor and any subcontractors as their interests may appear.

11.2.6 Pollution Liability (*required when asbestos or other hazardous material abatement is included in the contract*)

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than \$1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

11.2.7 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

11.3 OTHER INSURANCE PROVISIONS

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

11.3.1.1 Worker's Compensation and Employers Liability Coverage

11.3.1.1.1 To the fullest allowed by law, the insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

11.3.1.2 Commercial General Liability Coverage

11.3.1.2.1 The Owner, its officers, agents, employees and volunteers are to be added as additional insureds 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. ISO Form CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used.

11.3.1.2.2 The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers for any and all losses that occur under the contract. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-

insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance.

11.3.1.3 Builder's Risk

The policy must include an endorsement providing the following:

In the event of a disagreement regarding a loss covered by this policy, which may also be covered by a State of Louisiana self-insurance or commercial property policy through the Office of Risk Management (ORM), Contractor and its insurer agree 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, the Contractor's insurer 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 shall select a competent and impartial umpire. The appraisers shall 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 agrees that the decision of the appraisers and the umpire if involved shall 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.

11.3.1.4 All Coverages

11.3.1.4.1 All policies must be endorsed to require 30 days written notice of cancellation to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy. In addition, Contractor is required to notify Agency of policy cancellations or reductions in limits.

11.3.1.4.2 Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

11.3.1.4.3 The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

11.3.1.4.4 Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

11.3.2 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with an A.M. Best's rating of **A-: VI or higher**. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance within 30 days.

11.3.3 Verification of Coverage

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. 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 the Owner before Work commences and upon any contract renewal or insurance policy renewal thereafter. The Certificate Holder must be listed as follows:

State of Louisiana
Name of Owner
Owner Address
City, State, Zip
Attn: Project # _____

The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain required insurance, this contract, at the election of the Agency, may be suspended, discontinued, or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

11.3.4 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

11.3.5 Worker's Compensation Indemnity

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and employees shall have no cause of action against, and shall not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

11.3.6 Indemnification/Hold Harmless Agreement

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, employees and volunteers, from and against any and all claims, damages, expenses 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, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling and expenses of all claims.

11.4 PERFORMANCE AND PAYMENT BOND

11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3 Recordation of Contract and Bond [La R.S. 38:2241 thru 38:2241.1]

The Owner shall record within thirty (30) days the Contract Between Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed.

ARTICLE 12

UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:

“If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:

“If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety.”

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Delete all after the word “located”.

13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete “Except as ... 13.2.2”

Delete Section 13.2.2.

13.3 RIGHTS AND REMEDIES

Add the following Section 13.3.3:

13.3.3 The Nineteenth Judicial Court in and for the Parish of East Baton Rouge, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

13.4 TESTS AND INSPECTIONS

In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory provided by the Owner, and the Owner shall bear all related costs of tests, inspections and approvals.

Delete the last two sentences of Section 13.4.1.

13.5 INTEREST

Delete Section 13.5.

ARTICLE 14

TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete Section 14.1.1.4.

In Section 14.1.3, after the word “profit,” delete the words “on Work not executed” and substitute the following: “for Work completed prior to stoppage”.

14.2 TERMINATION BY THE OWNER FOR CAUSE

Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

“Termination by the Owner shall not suspend assessment of liquidated damages against the Surety.”

Add the following Section:

14.2.5 If an agreed sum of liquidated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under the liquidated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem liquidated damages.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

In Section 14.4.3, delete all after “incurred by reason of the termination,” and add “along with reasonable profit on the Work not executed.”

ARTICLE 15

CLAIMS AND DISPUTES

15.1 CLAIMS

Delete Section 15.1.2, **Time Limit on Claims**, (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:

“A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided.”

15.1.4.2 In the first sentence of the Section, delete “Initial Decision Maker’s” and replace with “Architect’s”. In the second sentence of the Section, delete “the decision of the Initial Decision Maker” and replace with: “his/her decision”.

Delete Section 15.1.6.2 and substitute the following:

15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within **twenty-one (21) days** from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site.

Add the following Section:

15.1.6.3 The following are considered reasonably anticipated days of adverse weather on a monthly basis:

January	<u>11</u> days	July	<u>6</u> days
February	<u>10</u> days	August	<u>5</u> days
March	<u>8</u> days	September	<u>4</u> days
April	<u>7</u> days	October	<u>3</u> days
May	<u>5</u> days	November	<u>5</u> days
June	<u>6</u> days	December	<u>8</u> days

The Contractor shall ask for total adverse weather days. The Contractor's request shall be considered only for days over the allowable number of days stated above.

Note: Contract is on a calendar day basis.

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word "will" and replace with: "shall always".

In the second sentence, delete the phrase: ", unless otherwise indicated in the Agreement."

In the third sentence, delete the word "mediation" and replace with: "litigation".

At the end of the third sentence, add: "arising prior to the date final payment is due".

Delete the fourth sentence.

15.2.5 In the middle of the first sentence, delete all after the phrase: "rejecting the Claim".

In the second sentence, delete the phrase: "and the Architect, if the Architect is not serving as the Initial Decision Maker,".

In the third sentence, delete all after: "binding on the parties" and add the following: "except that the Owner may reject the decision or suggest a compromise or both".

Delete Section 15.2.6.

Delete Section 15.2.6.1.

15.3 MEDIATION

Delete Section 15.3.

15.4 ARBITRATION

Delete Section 15.4.

Name of Project

Project No.

STATE OF _____

PARISH OF OUACHITA

ATTESTATIONS AFFIDAVIT

Before me, the undersigned notary public, duly commissioned and qualified in and for the parish and state aforesaid, personally came and appeared Affiant, who after being duly sworn, attested as follows:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

- (a) Public bribery (R.S. 14:118)
- (b) Corrupt influencing (R.S. 14:120)
- (c) Extortion (R.S. 14:66)
- (d) Money laundering (R.S. 14:230)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

- (a) Theft (R.S. 14:67)
- (b) Identity Theft (R.S. 14:67.16)
- (c) Theft of a business record (R.S.14:67.20)
- (d) False accounting (R.S. 14:70)
- (e) Issuing worthless checks (R.S. 14:71)
- (f) Bank fraud (R.S. 14:71.1)
- (g) Forgery (R.S. 14:72)
- (h) Contractors; misapplication of payments (R.S. 14:202)
- (i) Malfeasance in office (R.S. 14:134)

LA. R.S. 38:2212.10 Verification of Employees

- A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.
- B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.
- C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

Exterior Lighting Improvements

Name of Project

AE&EC P1123-002

Project No.

LA. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

- A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.
- B. By signing this bid /proposal, Affiant certifies that no such assessment is in effect against the bidding / proposing entity.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED
SIGNATORY OF BIDDER/AFFIANT

Sworn to and subscribed before me by Affiant on the ____ day of _____, 20__ .

Notary Public

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)

	Quantity	Cost
DIVISION 01 – GENERAL REQUIREMENTS		
01000 General Requirements		
01001 Record Drawings, Shop Drawings, Product Data, Samples and other submittals.		
	TOTAL	
DIVISION 02 – SITE CONSTRUCTION		
02070 Selective Demolition		
02920 Lawns		
	TOTAL	
DIVISION 03 – CONCRETE		
03100 Concrete Forms		
03200 Concrete Reinforcement		
03300 Cast-in-Place Concrete		
	TOTAL	
DIVISION 26 – ELECTRICAL		
16050 Basic Electrical Materials and Methods		
16060 Grounding and Bonding		
16075 Electrical Identification		
16120 Conductors and Cables		
16130 Raceways and Boxes		
16138 Underground Ducts and Raceways		
16140 Wiring Devices		
16289 Surge Protection for Low-Voltage Power		
16521 Exterior Lighting		
16522 Steel Cylindrical Foundations		
	TOTAL	
	GRAND TOTAL	

Facility Planning & Control CHANGE ORDER

PROJECT NAME: Exterior Lighting Improvements, University of Louisiana at Monroe CHANGE ORDER No. _____
 PROJECT NUMBER: _____ WBS No. _____ CONTRACT DATE: _____
 CONTRACTOR: _____ CFMS / SRM No(s). _____
 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	ACCEPTED	APPROVED
Designer's Name: _____	Contractor's Name: _____	Project Manager: _____
Address: _____	Address: _____	Facility Planning & Control
Email Address: _____	Email Address: _____	
By: _____	By: _____	By: _____
Date: _____	Date: _____	Date: _____

FACILITY PLANNING AND CONTROL USE ONLY

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

Senior Manager/Assistant Director approval: _____

COMMENTS: _____

Construction Contract Change Order SUMMARY

State of Louisiana Item No. _____
 Facility Planning & Control RFI No. (or COR, CPR, etc.) _____
 State Project No. _____ Date: _____
 WBS No. _____
 Project Name: Exterior Lighting Improvements, University of Louisiana at Monroe

Contractor Name: _____
 Description of Work: _____

General Contractor Direct Costs - Breakdown No. _____
 (See attached breakdown)
 Total General Contractor Cost _____ %
 (General Contract Direct Cost plus OH&P) (Max: 8%)

Subcontractor Cost Breakdowns
 (See attached.)

Subcontractor Name	Breakdown No.	A Total Direct Cost	B OH&P (Max 8%)	C Total A+(A X B)
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
_____	_____	_____	_____%	_____
Subcontractor Direct Costs Total (Sum column A)		\$ -		

Subcontractor Direct Costs + Subcontractor OH&P
 (Sum column C)
 General Contractor OH&P on Subcontractor Direct Cost at _____ %
 (Sum column A times General Contractor OH&P rate.) (Max: 8%)

Total Subcontractor Costs
 (Subcontractor Direct Costs + OH&P + General Contractor OH&P)

Change Order Subtotal
 (Sum of Total General Contractor Costs and Total Subcontractor Costs)

Performance and Payment Bond at _____ %
 (Change Order Subtotal times Performance and Payment Bond rate)

Amount will be increased decreased unchanged by
 (Sum of Change Order Subtotal and Performance and Payment Bond)

Days will be increased decreased unchanged by
 (Attach supporting data such as meteorological reports)

Construction Contract Change Order BREAKDOWN

State of Louisiana	Breakdown No. _____	
Facility Planning & Control	Item No. _____	
State Project No. _____	RFI No. (or COR, CPR, etc.) _____	
WBS No. _____	Date: _____	
Project Name: <u>Exterior Lighting Improvements, University of Louisiana at Monroe</u>		

Contractor/Subcontractor Name: _____

Direct Cost of Work :

A. Labor	<small>Check here if explained on the Comment Sheet</small>		Hourly Wage Rate	Hours	Total Cost
1	_____	<input type="checkbox"/>	_____	_____	_____
2	_____	<input type="checkbox"/>	_____	_____	_____
3	_____	<input type="checkbox"/>	_____	_____	_____
4	_____	<input type="checkbox"/>	_____	_____	_____
5	_____	<input type="checkbox"/>	_____	_____	_____
6	_____	<input type="checkbox"/>	_____	_____	_____
7	_____	<input type="checkbox"/>	_____	_____	_____
			Add Labor Burden @ _____ %		_____

LABOR TOTAL

B. Material			Unit Price	Unit	Units	Total Cost
1	_____	<input type="checkbox"/>	_____	_____	_____	_____
2	_____	<input type="checkbox"/>	_____	_____	_____	_____
3	_____	<input type="checkbox"/>	_____	_____	_____	_____
4	_____	<input type="checkbox"/>	_____	_____	_____	_____
5	_____	<input type="checkbox"/>	_____	_____	_____	_____
6	_____	<input type="checkbox"/>	_____	_____	_____	_____
7	_____	<input type="checkbox"/>	_____	_____	_____	_____
<small>(Copies of invoices may be required.)</small>			Add Tax @ _____ %			_____

MATERIAL TOTAL

C. Equipment			Unit Rate	Unit	Units	Total Cost
1	_____	<input type="checkbox"/>	_____	_____	_____	_____
2	_____	<input type="checkbox"/>	_____	_____	_____	_____
3	_____	<input type="checkbox"/>	_____	_____	_____	_____
4	_____	<input type="checkbox"/>	_____	_____	_____	_____
5	_____	<input type="checkbox"/>	_____	_____	_____	_____
6	_____	<input type="checkbox"/>	_____	_____	_____	_____
7	_____	<input type="checkbox"/>	_____	_____	_____	_____
<small>(Copies of invoices may be required.)</small>			Add Tax @ _____ %			_____

EQUIPMENT TOTAL

TOTAL DIRECT COST FOR THIS BREAKDOWN:
(Sum A, B & C)

Construction Contract Change Order
BREAKDOWN COMMENT SHEET

State of Louisiana	Breakdown No.	_____
Facility Planning & Control	Item No.	_____
State Project No. _____	RFI No. (or COR, CPR, etc.)	_____
WBS No. _____	Date:	_____
Project Name: Exterior Lighting Improvements, University of Louisiana at Monroe		_____

Contractor/Subcontractor Name: _____

A. Labor

No. (From BREAKDOWN Sheet)

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. Material

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

C. Equipment

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Construction Contract Change Order UNIT PRICE BREAKDOWN

State of Louisiana	Breakdown No.	
Facility Planning & Control	Item No.	
State Project No.	RFI No. (or COR, CPR, etc.)	
WBS No.	Date:	
Project Name:	Exterior Lighting Improvements, University of Louisiana at Monroe	

Contractor/Subcontractor Name: _____

Unit Price Tabulation

(Unit prices must be included in the bid or clearly defined in a standard, industry recognized pricing reference. The pricing reference shall be identified herein.)

Unit Price Description	Reference*	Unit Price	Units	Total

❖ NOT FOR RECORDATION PURPOSES ❖

University of Louisiana at Monroe
RECOMMENDATION OF ACCEPTANCE

TO: UNIVERSITY OF LOUISIANA at MONROE
Facilities Department
Strauss Hall 250
Monroe, LA 71209

FROM: Ayres Electrical & Energy Consulting, LLC
124 Amy Lane
Ruston, Louisiana 71270
Design Firm Name and Address

DATE: _____

PROJECT NAME: Exterior Lighting Improvements, University of Louisiana, Monroe,
Monroe, LA

PROJECT NUMBER: AE&EC P1123-002 WBS No.

SITE CODE: _____ STATE ID: _____ CFMS/SRM #: _____

CONTRACTOR: _____

ORIGINAL CONTRACT AMOUNT: \$ _____

FINAL CONTRACT AMOUNT: \$ _____

FINAL BUILDING AREA (SQ. FEET): _____

I certify that, to the best of my knowledge and belief, this project is substantially complete in accordance with the Plans and Specifications to the point where it can be used for the purpose which was intended. It is recommended that it be accepted.

DATE OF ACCEPTANCE: _____

CONTRACT DATE OF COMPLETION: _____

NUMBER OF DAYS (OVERRUN) (UNDERRUN) (As of Acceptance Date) _____

LIQUIDATED DAMAGES PER DAY STIPULATED IN CONTRACT \$ _____

VALUE OF PUNCH LIST \$ _____ (*Attach punch list*)

Was part of project occupied prior to Acceptance?

PORTION OCCUPIED: (*Attach Partial Occupancy Forms*)

Signed: _____
DESIGNER

FOR USE OF PROJECT MANAGER:

Signed: _____
PROJECT MANAGER

c: User Agency

❖ NOT FOR RECORDATION PURPOSES ❖

CERTIFICATE OF COMPLIANCE
with
Americans with Disabilities Act and Architectural Barriers Act
Accessibility Guidelines

TO: UNIVERSITY OF LOUISIANA at MONROE
Facilities Department
Strauss Hall 250
Monroe, LA 71209

FROM: Ayres Electrical & Energy Consulting, LLC
124 Amy Lane
Ruston, Louisiana 71270

Design Firm Name and Address

PROJECT NAME: Exterior Lighting Improvements, University of Louisiana, Monroe, Monroe, LA

PROJECT No.: AE&EC P1123-002

WBS 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.

Designer Signature Date: _____

**University of Louisiana at Monroe
State of Louisiana**

CERTIFICATE OF COMPLIANCE
with
Louisiana Building Code for State Owned Buildings

TO: FACILITIES DEPARTMENT
UNIVERSITY OF LOUISIANA AT MONROE
STRAUSS HALL 250
Monroe, LA 71209

FROM: Ayres Electrical & Energy Consulting, LLC
124 Amy Lane
Ruston, LA 71270
(Design Firm or Owner/User Name and Address)

PROJECT NAME: Exterior Lighting Improvements, University of Louisiana, Monroe,
Monroe, Louisiana

PROJECT No.: AE&EC P1123-002

WBS 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, Division of Administration, Office of Facility Planning and Control.

(Signature of Designer or Owner/User) Date: _____



FACILITY PLANNING AND CONTROL - APPLICATION AND CERTIFICATION FOR PAYMENT

From: (Contractor's name, address, city state, zip code)		Project Title		FPC Project Number
Contractor Name Contractor Address		Exterior Lighting Improvements of Louisiana, Monroe		University Monroe, Louisiana
				WBS/Part Number
		Application Period		Contract No.
		FROM	TO	
Vendor No.	Payment Application No.	Application Date	Purchase Order No.	

APPLICATION FOR PAYMENT

DESCRIPTION	AMOUNTS
1. ORIGINAL CONTRACT	
2. TOTAL BY EXECUTED CHANGE ORDERS.....	\$0.00
3. CONTRACT TOTAL TO DATE (Line 1 + Line 2).....	\$0.00
4. TOTAL COMPLETED AND STORED TO DATE (Columns G on continuation sheets).....	\$0.00
5. RETAINAGE.....a. <input type="text"/> of Completed Work.....	<input type="text"/> \$0.00
.....b. <input type="text"/> of Stored Material.....	<input type="text"/> \$0.00
TOTAL RETAINAGE (Line 5a + Line 5b)	\$0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 minus Line 5).....	\$0.00
7. TOTAL EARNED (Line 6 minus value of outstanding punch list items)	\$0.00
8. TOTAL EARNED FROM PREVIOUS CERTIFICATE.....	
9. AMOUNT DUE THIS STATEMENT (Line 7 minus line 8).....	\$0.00
10. BALANCE TO COMPLETE CONTRACT, including retainage (Line 3 minus line 7).....	\$0.00

CONTRACTOR'S CERTIFICATION		CHANGE ORDER SUMMARY			
The undersigned Contractor certifies that to the best of his/her knowledge, information, and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that the current payment shown herein is now due.			ADDITIONS	DEDUCTIONS	
		Total Owner approved change orders in prior months			
		Total Owner approved change orders this month			
Contractor Signature		DATE:	TOTAL	\$0.00	\$0.00

ARCHITECT/ENGINEER'S CERTIFICATION		Net increase/decrease by all change orders	\$0.00
In accordance with the Contract Documents, based on on-site observations and other pertinent data, the Architect/Engineer certifies that, to the best of the Architect/Engineer's knowledge, information and belief, the work has progressed to the point indicated and that this is a true and correct statement of work performed and materials supplied by the Contractor, and that this statement of account and the amount due is correct and that all work and material has been performed in full accordance with the terms and conditions of the Contract Documents and authorized changes thereto.			

		VALUE OF PUNCH LIST ITEMS	COMMENTS:
		AMOUNT CERTIFIED FOR PAYMENT	
Architect/Engineer Signature	Date		
Project Manager	DATE		
Fiscal Analyst	DATE		

SECTION 01010 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PROJECT/WORK IDENTIFICATION

- A. General: Project name is "**Exterior Lighting Improvements, University of Louisiana, Monroe, Louisiana; Project No.: P1123-002 AE&EC**, as shown on Contract Documents prepared by Ayres Electrical & Energy Consulting, LLC. Drawings and Specifications are dated August 15, 2024.
- B. Summary by References: Work of the contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the Contract Documents issued as part of addenda subsequent to the initial printing of this Project Manual and including, but not necessarily limited to, printed material referenced by any of these. It is recognized that work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon, including weather conditions, and other forces outside the Contract Documents.
- C. Abbreviated Written Summary: Briefly and without force and effect upon the Contract Documents, the work of the Contract can be summarized as follows:
 - 1. The work includes replacement of HID fixtures with LED fixtures and some new LED fixtures with poles per the plans.
- D. Sequence of Work: Sequence work for minimum interruption of the Owner's operation.
- E. Utility Interruptions: Utility interruptions shall be held to a minimum and will be permitted only at times approved by the local User Agency and by the State User Agency. Provide any required overtime work at no additional cost to the Owner.
- F. Completion Date: As required by Instructions to Bidders, the Contractor is required to fully complete construction of project within specified number of days. Contractor shall furnish sufficient forces, construction plant and equipment, and work such hours, including weekend and night shifts as may be necessary to insure prosecution of work in accordance with schedule to the contracted completion date. If, in the opinion of the Engineer and Owner, Contractor falls behind progress schedule, Contractor shall take steps as may be necessary to improve his progress by such means as increasing number of men, number of shifts, days of work, and/or amount of construction plant, all without additional cost to Owner. If access to building is

required at other than normal building hours, Contractor shall make arrangements with User Agency.

1.3 CONTRACTOR USE OF PREMISES

- A. General: The Contractor shall limit his use of the premises to the work indicated, so as to allow for Owner occupancy with minimum interruptions.
- B. 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.
- C. 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.
- D. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas approved by User Agency. If additional storage is necessary, obtain and pay for such storage off-site. The Owner will not make payments for materials stored off-site.
- E. 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.
- F. Use of existing toilets within the buildings by the Contractor and his personnel will not be permitted.
- G. General Requirements: Observe no smoking rules. All personnel must wear shirts. No radios or similar items may be used.

1.4 OWNER OCCUPANCY

- A. Full Owner Occupancy: The Owner will occupy the site during the entire period of construction. Cooperate fully with the Owner and his representative during construction operations to minimize conflicts and to facilitate Owner usage. Perform the work so as not to interfere with the Owner's operations.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 01010

SECTION 01090 - DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. General: This section specifies procedural and administrative requirements for compliance with governing regulations and codes and standards imposed upon the work. These requirements include obtaining permits, licenses, inspections, releases, and similar documentation, as well as payments, statements, and similar requirements associated with regulations, codes, and standards.
- B. The term "Regulations" is defined to include laws, statutes, ordinances, and lawful orders issued by governing authorities, as well as those rules, conventions, and agreements within the construction industry which effectively control the performance of the work regardless of whether they are lawfully imposed by governing authority or not.

1.3 DEFINITIONS

- A. General Explanation: Certain terms used in Contract Documents are defined in this Article. Definitions and explanations contained in this Section are not necessarily complete, but are general for the work to extent that they are not stated more explicitly in another element of the Contract Documents.
- B. General Requirements: Provisions and requirements of other Division 1 Sections apply to the entire work of the Contract and, where so indicated, to other elements which are included in the project.
- C. Indicated: The term "indicated" is a cross-reference to graphic representations, notes, or Schedules on the Drawings, to other paragraphs or Schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader locate the cross-reference, and no limitation of location is intended except as specifically noted.
- D. Directed, Requested, Etc.: Terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by the Architect," "requested by the Architect," and similar phrases. However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
- E. Approve: Where used in conjunction with the Architect's response to submittals, requests, applications, inquiries, reports, and claims by the Contractor, the term "approved" will be held to limitations of the Engineer's responsibilities and duties as specified in General and

Supplementary Conditions. In no case will the Engineer's approval be interpreted as a release of the Contractor from responsibilities to fulfill requirements of Contract Documents or acceptance of the work, unless otherwise provided by requirements of the Contract Documents.

- F. Project Site: The term "project site" means the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.
- G. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- H. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimensions, finishing, curing, protecting, cleaning, and similar operations."
- I. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- J. Installer: The "Installer" is "the entity" (person or firm) engaged by the Contractor, its Subcontractor, or Sub-Subcontractor for performance of a particular element of construction at the project site, including installation, erection, application, and similar required operations. It is a requirement that installers are experienced in the operations they are engaged to perform.
- K. Testing Laboratory: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere, and to report and (if required) interpret results of those inspections or tests.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where more explicit or stringent requirements are written into the Contract Documents, applicable construction standards have the same force and effect as if bound into or copied directly into the Contract Documents. Such industry standards are made a part of the Contract Documents by reference. Individual specification sections indicate which codes and standards the Contractor must keep available at the project site for reference.
- B. Referenced standards (standards referenced directly in the Contract Documents) take precedence over standards that are not referenced but generally recognized in the industry for applicability to the work.
- C. Unreferenced Standards: Except as otherwise limited by the Contract Documents, standards not referenced but recognized in the construction industry as having direct applicability will be enforced for performance of the work. The decision as to whether an industry code or standard is applicable, or as to which of several standards are applicable, is the sole responsibility of the Architect.
- D. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

- E. **Conflicting Requirements:** Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents specifically indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding.
- F. **Minimum Quantities or Quality Levels:** In every instance, the quantity or quality level shown or specified is intended to be the minimum to be provided or performed. Unless otherwise indicated, the actual work may either comply exactly, within specified tolerances, with the minimum quantity or quality specified, or may exceed that minimum within reasonable limits. In complying with these requirements, the indicated numeric values are minimum or maximum values, as noted, or as appropriate for the context of the requirements. Refer instances of uncertainty to the Architect for decision before proceeding.
- G. **Copies of Standards:** The Contract Documents require that each entity performing work be experienced in that part of the work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the work. Copies of applicable standards are not bound with the Contract Documents.
- H. Where copies of standards are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source.
- I. Although copies of standards needed for enforcement of requirements may be required submittals, the Architect reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.
- J. **Abbreviations and Names:** Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in Specifications or other Contract Documents they are defined to mean the recognized name of the trade association, standards generating organization, governing authority or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.5 SUBMITTALS

- A. **Permits, Licenses, and Certifications:** For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01090

SECTION 01103 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
- B. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the Alternate into the Project.
- B. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
 - 1. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each Alternate. Indicated if Alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to Alternates.
 - 2. Execute accepted Alternates under the same conditions as other work of the Contract.
 - 3. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in Schedule contain requirements for materials necessary to achieve the work described under each Alternate.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- a. Alternate No. 1:
- b. Provide the following proprietary items under Alternate No.1 referenced.
Reference No.:

END OF SECTION 01103

SECTION 01200 - PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 RELATED SECTIONS

- A. Construction Schedule: Division 1 Section 01300, "Submittals."

1.3 PRE-CONSTRUCTION MEETING

- A. After notification that the contract has been executed, the Engineer shall arrange with the Owner, User Agency, and Contractor, and conduct a pre-construction conference to be held at the project site. The Contractor shall be responsible to see that his subcontractors are in attendance, and shall furnish the following to the Architect, Owner, and User Agency:

1. Schedule of values (Division 01 Section 01300, "Submittals").
2. List of Subcontractors and major material suppliers (Division 01 Section 01300, "Submittals").
3. Construction Schedule (Division 01 Section 01300, "Submittals").

- B. The following shall serve as a minimum agenda:

1. Distribute and discuss the list of major subcontractors.
2. Tentative construction schedule.
3. Critical work sequencing.
4. Use of premises.
5. Relation and coordination of major subcontractors.
6. Designation of responsible personnel.
7. Processing of field decisions and change orders.
8. Submittal of Shop Drawings, project data, and samples.
9. Procedures for maintaining record documents.
10. Safety and first-aid procedures.

1.4 PROGRESS MEETINGS

- A. Engineer shall schedule and administer monthly progress meetings during the construction period. Construction schedule should be revised for every progress meeting. Required attendance shall be:

1. Architect and his professional consultants, as needed.
2. Contractor.
3. Subcontractors, as appropriate.

4. Suppliers, as appropriate.
- B. The Owner shall be notified of such meetings and may be represented. It shall be the principal purpose of these meetings or conferences to effect coordination, cooperation, and assistance in every practical way to the end of maintaining progress of the project on schedule and completing the project within the contract time.
- C. Suggested Agenda:
1. Review work progress since last meeting.
 2. Note field observations, problems, and decisions.
 3. Review off-site fabrication problems.
 4. Revise construction schedule, as indicated.
 5. Review submittal schedules, expedite as required to maintain schedule.
 6. Review changes proposed by Owner for effect on construction schedule and effect on completion date.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 01200

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.
 - 2. Unit-cost allowances.
 - 3. Quantity allowances.
 - 4. Contingency allowances.
 - 5. Testing and inspecting allowances.
- C. Related Requirements:
 - 1. Section 01220 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.
 - 2. Section 01260 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Engineer of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Engineer under allowance and shall include freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Engineer under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Engineer, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Engineer under allowance and shall include freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Engineer under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Engineer, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.9 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include **taxes**, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Engineer under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.10 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Engineer for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's **overhead, profit, and** related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.11 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- 1. Coordinate quantity allowance adjustment with unit-price requirements in Section 01220 "Unit Prices."

END OF SECTION 01210

SECTION 01220 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 01210 "Allowances" for procedures for using unit prices to adjust quantity allowances.
 - 2. Section 01260 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is **an amount incorporated into the Agreement, applicable during the duration of the Work** as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Provide in Schedule of Values

END OF SECTION 01220

SECTION 01250 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01210 "Allowances" for products selected under an allowance.
 - 2. Section 01600 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

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

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use **CSI Form 13.1A**.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. Cost information, including a proposal of change, if any, in the Contract Sum.
 - h. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - i. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within **seven** days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within **15** days of receipt of request, or **seven** days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

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

1.6 PROCEDURES

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

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

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

1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

- B. Substitutions for Convenience: Engineer will consider requests for substitution if received within **60** days after **the Notice to Proceed**. Requests received after that time may be considered or rejected at discretion of Engineer.
 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Additional Submittal Requirements: Division 0 Section 00700, "General Conditions."
- B. Closeout Submittals: Division 1 Section 01700 "Project Closeout."

1.3 CONSTRUCTION SCHEDULE

- A. General: As required by Article 3.10 of the General Conditions, Contractor shall, within ten days after signing the Contract, prepare and submit to Architect for information purposes, a practical schedule showing order in which Contractor proposes to carry on work. Extend schedule from date established for the notice to proceed to date of Substantial Completion. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Form of Schedule: Provide in form of horizontal bar chart. Provide separate horizontal bar column for each trade or operation. Order shall be Table of Contents from Project Manual or the chronological order of beginning of each item of work. Submit three copies to Architect.
- C. Content of Schedule: Provide complete sequence of construction activity, dates for beginning, and completion of each element of construction. Identify work of separate phases or other logically grouped activities. Show projected percentage of completion for each item of work as of first day of each month.

1.4 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. Shop Drawings:
 - 1. Submit prints of Original Drawings prepared by Contractor, Subcontractor, Supplier, or Distributor which illustrate same portion of work; showing fabrication, layout setting, or erection details.
 - 2. Minor corrections needed on prints will be made by Architect; for extensive modifications, prints may be returned to Contractor for correction. When reviewed, Engineer will retain two copies for record and return remaining copies to General Contractor for distribution. Reproducible copies of Shop Drawings will not be reviewed.
- B. Product Data:
 - 1. Manufacturer's Standard Drawings: Modify Drawings to delete information which is not applicable to project. Supplement standard information to provide additional information applicable to project.

2. Manufacturer's Catalog Sheet, Brochures, Diagrams: Clearly mark each copy to identify pertinent materials, product, or models. Show dimensions and clearances required. Show performance characteristics and capacities.

C. Samples:

1. Physical examples to illustrate materials, equipment, or workmanship to establish standards by which completed work is judged.
2. Office samples shall be of sufficient size and quantity to clearly illustrate functional characteristics of product or material and full range of color and texture samples.

D. General Submission Requirements:

1. Quantities: Submit the number of copies of product data and Shop Drawings that the Contractor requires for distribution, plus two copies which will be retained by the Architect. Quantity of samples required shall be as specified in specification section for respective product.

E. Submittals shall include:

1. Project title.
2. Names of Contractor, Subcontractor, Supplier, Manufacturer.
3. Identification of Product.
4. Relation to adjacent structure or materials.
5. Field dimensions.
6. Reference to Engineer's drawing numbers, Specification Section, room numbers, structural framing marks, and/or numbers.
7. Applicable standards: e.g., ASTM.
8. Blank space for Architect 's stamp.
9. Identification of deviations from Contract Documents.
10. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements, and compliance with Contract Documents.

F. These requirements are in addition to those in Article 3.12 of General Conditions.

1.5 SCHEDULE OF VALUES

- A. General: As required by Article 9.2 of General Conditions, submit to Engineer a Schedule of Values at least ten days prior to submitting first Application for Payment. Upon request by Engineer, support values with data that will substantiate their correctness. Use Schedule of Values only as basis for Contractor's Application for Payment. Itemize separate line item cost for work required by each section of this Specification.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01300

SECTION 01500 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 TEMPORARY UTILITIES

- A. Temporary Services: Contractor shall arrange and pay for all hook-ups, meters for all temporary utility services for construction, and, as necessary, for the proper and expeditious prosecution of the work. The Contractor shall provide piping, conduit, etc., and make all connections to existing services and sources of supply, and pay all charges for same. The Contractor shall pay for all utilities usage during the time of construction directly to the utility company. Contractor shall provide all labor, materials, equipment, and appliances necessary for the complete installation, operation, and maintenance of all temporary service systems and facilities. Contractor shall remove all such temporary installations and connections when no longer required, or when directed.
- B. Electric power used in existing buildings for operating tools and testing of equipment will be furnished by the User Agency at no charge, but the Contractor shall provide any required temporary facilities and remove same when no longer required.

1.3 BARRICADES, LIGHTS, AND WATCHMEN

- A. Where the work is constructed in or adjacent to any road, parking area, or public place, the Contractor shall, at his own cost and expense, furnish and erect such barricades, lights, and danger signals, shall provide such watchmen, and take such other precautionary measures for the protection of persons and property and of the work, as are necessary. At the completion of construction, all barricades and all traces thereof, shall be removed, holes filled, paving repaired, etc.

1.4 STORAGE OF MATERIALS

- A. Contractor shall provide, on the premises where directed, suitable storage sheds (substantial and watertight) in which he shall store all materials subject to damage by weather. All storage sheds shall be of sufficient size to hold all materials required on the site at one time, and shall have floors raised at least 6 inches above the ground on heavy joists or sleepers. Storage sheds shall have neat appearance.
- B. Major subcontractors shall provide such temporary buildings as, in the opinion of the Engineer, may be necessary to fully protect their materials, equipment, apparatus, etc., during the progress of the work. Such buildings shall have neat appearance.

- C. Building materials, Contractor's equipment, etc., shall be stored on the premises in a manner so that it may be observed at any time by the Architect.
- D. All materials affected by the weather shall be covered and protected and kept free from damage while being transported to the site.
- E. Subcontractors desiring to store materials scheduled for immediate use in the building may do so only in locations as directed by the General Contractor and approved by the Engineer.

1.5 SANITARY FACILITIES

- A. Provide single-occupant, self-contained toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar non-absorbent material. Contractor shall keep such place in sanitary condition and remove at completion of contract. Facility fixtures shall not be used by workmen. Comply with all applicable codes, utility, and safety regulations.

1.6 LAYING-OUT OF WORK

- A. Contractor shall compare all Drawings and verify all dimensions, and shall take any and all measurements necessary to verify the drawing dimensions in relation to conditions already established at the job site before laying out the work. Contractor will be held responsible for subsequent errors which could have been avoided by such checking.
- B. Any discrepancy which will affect the proper layout of the work shall be immediately called to the attention of the Architect by the Contractor. No work shall proceed until such discrepancy has been rectified as directed by the Engineer.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01500

SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The general provisions of the Contract, including General and Supplementary Conditions, apply to the work specified in this Section. Refer to other Division 1 Sections for additional requirements which may affect the work of this Section.

1.2 RELATED REQUIREMENTS

- A. Warranty: General Conditions, 3.5.
- B. Substitutions: Division 00 Section, "Instruction to Bidders."

1.3 GENERAL PRODUCT REQUIREMENTS

- A. Provide products, materials, and equipment which comply with the requirements and which are undamaged and unused at the time of installation, and which are complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and for the intended use and effect. Do not use material or equipment for any purpose other than that for which it is designed or specified.

1.4 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with Manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to Architect. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition, and adjust product in strict accord with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with Manufacturer's instructions, consult with Architect for further instructions. Do not proceed with work without clear instructions.
- C. Perform work in accord with Manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.5 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site. Deliver products in undamaged condition, in Manufacturer's original containers or packaging, with identifying labels intact and legible. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

- B. Provide equipment and personnel to handle products by method to prevent soiling or damage to products or packaging.

1.6 STORAGE AND PROTECTION

- A. Store products in accord with Manufacturer's instructions, with seals and labels intact and legible. Store products subject to damage by the elements in weathertight enclosures. Maintain temperature and humidity within the ranges required by Manufacturer's instructions.
- B. Exterior Storage: Store fabricated products above the ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- D. Protection After Installation: Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01600

SECTION 01601 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01635 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

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

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable

product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Section 01330 "Submittal Procedures."
- b. Use product specified if Engineer does not issue a decision on use of a comparable product request within time allocated.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01330 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

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

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

- B. Delivery and Handling:

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

- C. Storage:

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

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01770 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 - 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Engineer's sample", provide a product that complies with requirements and matches Engineer's sample. Engineer's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01635 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Engineer from manufacturer's full range" or similar phrase, select a product that complies with requirements. Engineer will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01601

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Project closeout is the term used to describe certain collective project requirements, indicating completion of the work that is to be fulfilled near the end of the contract time in preparation for final acceptance and occupancy of the work by the Owner, as well as final payment to the Contractor and the normal termination of the Contract.
- B. Specific requirements for individual units of work are included in the appropriate Sections in Division 02 through 16.

1.3 CLOSEOUT SUBMITTALS

- A. Submit to Engineer for review, four copies each of the following items and other items as specified. Approved copies will be transmitted to Owner by Engineer.
- B. Operation and Maintenance Data: Refer to Article titled "Operation and Maintenance Manuals" hereinafter this Section.
- C. Record Drawings: Refer to "Record Drawings" article hereinafter this Section (one copy required).
- D. Release of Liens: AIA Form G706A, refer to Article 9.10 of the General Conditions.
- E. Consent of Surety to Final Payment: AIA Form G707, refer to Article 9.10 of General Conditions.

1.4 OPERATION AND MAINTENANCE MANUALS

- A. Purpose: Operation and maintenance manuals will be used for training of, and use by, the Owner and his employees in the operation and maintenance of the systems and related equipment as specified below. A separate manual or chapter shall be prepared for instructions of each class of equipment or system.
- B. Contents: Manuals shall contain the following information on each item of equipment:
 - 1. Routine maintenance operations
 - 2. Complete operating instructions
 - 3. Service instructions

4. Complete control wiring
 5. Emergency procedure
 6. Equipment warranties or guarantees
- C. Preparation: The manuals shall be prepared to provide for the optimum operation and maintenance of the various systems outlined above and equipment forming a part of these systems. Manufacturer's literature and data shall be that of the actual equipment installed under contract for the particular facility. Each manual containing the systems noted shall be bound in one or more volumes as required for convenience in handling.

1.5 INSTRUCTIONS

- A. Instruct Owner's personnel in operation of all systems, mechanical, electrical, and other equipment in accordance with respective Specification Sections and Manufacturer's instructions.

1.6 RECORD DRAWINGS

- A. Mark-Up Procedure: During progress of work, maintain a white-print set of Contract Drawings and Shop Drawings, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whatever Drawing is most capable of showing actual physical condition, fully and accurately. Where Shop Drawings are marked up, cross-reference on contract drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible to distinguish between changes for different categories of work at same general location. Mark-up important additional information which was either shown schematically or omitted from Original Drawings. Give particular attention to information on work concealed, which would be difficult to identify or measure and record at a later date. Note alternate numbers, change order numbers, and similar identification.
- B. Submittal: At the conclusion of the Contract, the final set of record prints shall be prepared by the Engineer from information obtained from the Contractor.

1.7 CLEANING UP

- A. No rubbish shall be allowed to accumulate or be allowed to remain on the premises or job site beyond a reasonable length of time. Trash shall be removed from within the building and from the site daily. Particular attention shall be given to these requirements.
- B. All rubbish shall be removed by means of chutes, hoists, or receptacles. Under no circumstances shall any rubbish or waste be dropped or thrown from one level to another within or outside the buildings. Immediately after unpacking materials, all packing case lumber and other packing materials, excelsior, wrappings, and other like flammable wastes shall be collected and removed from the buildings and premises. Burning of trash on the site will not be permitted.
- C. Care shall be taken by all workmen not to mark, soil, or otherwise deface any finishes. In the event that any finishes become defaced in any way by mechanics or workmen, the Contractor or any of his sub-contractors shall clean and restore such surfaces to their original condition.

- D. Each subcontractor engaged upon the work shall bear his full responsibility for leaving all work in a clean and proper condition, satisfactory to the Owner and the Engineer.
- E. Final Cleaning: Beside the general broom cleaning, the following cleaning shall be done just before final acceptance of the work:
 - 1. Remove all labels not intended for permanent installation.
 - 2. Remove all marks, stains, fingerprints, and other soil or dirt from all painted work, and clean as required to leave in first class condition.
 - 3. Clean all equipment removing all stains, paint, dirt, and dust.
- F. Upon completion of the work, the Contractor will be required to thoroughly clean the building site and surrounding ground, and all trash and rubbish left by him in the course of construction of the work shall be removed and disposed of off the site of work.
- G. Contractor shall haul off all debris from the site to legal disposal areas and dispose of all debris and excess materials resulting from project work. No burning of material or debris shall be done at site. In hauling material from the site, it shall be the responsibility of the Contractor to prevent debris from dropping from vehicles and littering the site and any public thoroughfare.

1.8 SUBSTANTIAL COMPLETION

- A. Inspection and other procedures for Contractor to follow to process Contract through Substantial Completion are specified in General and Supplementary Conditions, Articles 9.8 and 9.9.

1.9 FINAL INSPECTION

- A. Contractor shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Project has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
 - 5. Project is completed, and ready for final inspection.
- B. Engineer will make final inspection after receipt of certification.
- C. Should Engineer consider that work is not finally complete, he will notify Contractor, in writing, stating reasons. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete. Engineer will reinspect work.

1.10 FINAL PAYMENT

- A. Application for final payment shall be submitted together with documents specified in General and Supplementary Conditions, Article 9.10 "Final Completion and Final Payment".

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01700

SECTION 02070 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Extent of selective demolition work is indicated on Drawings.

1.2 LAWS, ORDINANCES, REGULATIONS

- A. Comply with regulations and requirements of authority having jurisdiction over these operations.
- B. Hazardous Materials: Only persons or firms duly licensed to handle hazardous materials shall do so. Hazardous materials shall be removed and disposed of in accordance with all applicable laws, ordinances and regulations.

1.3 SCHEDULE

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to Engineer for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection.
- B. Coordinate with Owner's continuing occupation of portions of existing building. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
- C. Owner shall have the right to salvage. Material and/or equipment to be salvaged by Owner shall be indicated as such.

1.4 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of materials, equipment or structures to be demolished.
- B. Conditions existing at the time of commencement of contract will be maintained by Owner insofar as practicable. However, variations may occur due to Owner's salvage operations prior to start of selective demolition work.
- C. Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding and pollution.
- D. Occupancy: Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in a manner that will

minimize the need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities which will severely impact Owner's normal operations.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Utilize such approved materials and equipment as required and necessary to accomplish the work.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Engineer prior to starting work.

3.2 PROTECTIONS

- A. Protections:
 - 1. Provide temporary barricades, and partitions and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.
 - 2. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from occupied portions of building.
 - 3. Erect temporary covered passageways as required by the Owner or authorities having jurisdiction.
 - 4. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
 - 5. Protect floors with suitable coverings when necessary.
 - 6. Construct temporary insulated solid dust proof partitions where required separating areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dust proof doors and security locks, if required.
 - 7. Remove protections at completion of work.
 - 8. Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- B. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.

3.3 DEMOLITION

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.

- B. Contractor shall coordinate demolition operations so as to prevent damage to materials and/or equipment to be salvaged.
- C. Cut concrete and masonry at junctures with construction to remain using power driven masonry saw or hand tools; do not use power-driven impact tools.
- D. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors or framing.
- E. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
- F. Cease operations and notify the Architect immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
- G. Utility Services:
 - 1. Maintain existing utilities indicated to remain. Keep in service and protect against damage during demolition operations.
 - 2. Do not interrupt existing utilities serving occupied or used facilities, except when authorized, in writing, by authorities having jurisdiction. Provide temporary services such as emergency power, fire alarm, heating, medical gas, air conditioning, during interruptions to existing utilities, as acceptable to Owner and governing authorities. Allow no interruption in service unless coordinated with Owner at least 24 hours in advance.
 - 3. Disconnect and seal utilities serving each structure to be demolished and interior area to be demolished, prior to start of demolished work.
 - 4. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
 - 5. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum 24 hour advance notice to Owner if shut-down of service is necessary during change-over.
- H. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Architect in written, accurate detail. Pending receipt of directive from Engineer, rearrange selective demolition schedule as necessary to continue overall job progress without delay.
- I. Explosives: Use of explosives will not be permitted.
- J. Storage or sale of removed items on site will not be permitted.

3.4 HAZARDOUS MATERIALS

- A. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.

3.5 CLEAN - UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment, demolished materials and other materials resulting from demolition operations from site. Leave interior areas broom clean.
- B. Promptly repair adjacent construction or surfaces soiled or damaged by demolition work at no cost to Owner. Repair demolition performed in excess of that required at no cost to Owner. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work.

3.6 DISPOSITION OF SALVAGE MATERIALS AND EQUIPMENT

- A. Carefully remove materials and/or equipment to be salvaged. All materials and/or equipment selected to remain the property of the Owner shall be removed and delivered to a location as designated by the Owner. Owner shall confirm receipt in writing.
- B. Material and/or equipment not retained by the Owner shall become the property of the Contractor and shall be removed from the site by him.

END OF SECTION 02070

SECTION 02920 - LAWNS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. The extent of lawn work shall be the damaged by the Contractor during construction. It shall also include the re-sodding of existing lawn areas damaged by Contractor's operations. The types of work required include the following:
 - 1. Preparation of lawn areas.
 - 2. Sodding of lawn areas affected by construction.

1.3 RELATED SECTIONS

- A. Grading, Placing Topsoil: Division 2 Section 02300, "Earthwork."

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Work shall be performed only during period when beneficial results are likely to be obtained. When conditions are such, by reason of drought, excessive moisture, or other factors, that satisfactory results are not likely to be obtained; work shall cease and be resumed when desired results are likely to be obtained.

1.5 WARRANTY

- A. Contractor shall insure establishment of a viable, uniform, dense stand of grass within lawn areas, by use of methods specified herein, until final acceptance of Project or for a 60 day period, whichever is greater.

PART 2 - PRODUCTS

2.1 FERTILIZER

- A. Granular approved commercial brand conforming to the requirements of the State Department of Agriculture. Nitrogen-Phosphorus-Potassium rates shall be 8-8-8 or 12-12-12, or 13-13-13.

2.2 SOD

- A. Strongly rooted sod, not less than 2 years old, from off-site source; free of weeds, undesirable plants, large stone and other material detrimental to development and maintenance of lawn. Provide sod composed principally of the same grasses as the surrounding lawn.

PART 3 - EXECUTION

3.1 FERTILIZER

- A. Shall be applied to all new lawn areas not more than 24 hours in advance of tilling and seeding operations. Rate of application shall be as follows:

	<u>Type</u>	<u>Pounds Per 1000 Sq.Ft.</u>	<u>Pounds Per Acre</u>
1.	8-8-8	23	1,000
2.	12-12-12	15.3	667
3.	13-13-13	14.1	615

3.2 TILLAGE

- A. After application of fertilizer, new lawn areas shall be tilled to depth of 4 inches, using chisel or disk-type breaking plow followed by discing, harrowing, and culti-packing. When chisel plows are used, areas shall be cross-tilled with chisels set not to exceed 10 inches apart.

3.3 SOLID SODDING

- A. Provide sodding on all damaged lawns. Lay sod to form a solid mass with tightly-fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains, and seeded areas.
- B. Peg sod on slopes steeper than 3 to 1 to prevent slippage at a rate of 2 stakes per yd. of sod. Water sod thoroughly with a fine spray immediately after laying. Roll with light lawn roller to ensure contact with sub-grade.

3.4 PROTECTION

- A. Maintenance period for new lawn areas shall begin immediately after planting and extend for a period of 60 days or until final acceptance of Project by Owner, whichever period is greater.
- B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading, replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

- C. Watering: Provide and maintain temporary piping, hoses, and lawn watering equipment as required to convey water from water sources and to keep lawn areas uniformly moist as required for proper growth.
 - 1. Mow lawns as soon as there is enough top growth to cut with mower set at 2-1/2 to 3 inches height. Repeat mowing as required to maintain specified height. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet.
 - 2. Re-sod any area that becomes damaged or does not produce an acceptable growth of grass.

3.5 ACCEPTANCE

- A. Sodded lawns will be acceptable, provided all requirements including maintenance, have been complied with, and a healthy, well-rooted, even-colored, viable lawn is established, free of weeds, open joints and bare areas.

END OF SECTION 02920

SECTION 03100 - CONCRETE FORMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 RELATED SECTIONS

- A. Division 3 Section 03200, "Concrete Reinforcement."
- B. Division 3 Section 03300, "Cast-in-Place Concrete."

1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Unless otherwise shown or specified, design, construct, erect, maintain, and remove forms and related structures for cast-in-place concrete work in compliance with American Concrete Institute Standard ACI 347 "Recommended Practice for Concrete Formwork."

PART 2 - PRODUCTS

2.1 FORMS FOR EXPOSED FINISH CONCRETE

- A. Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.
- B. Use overlaid plywood complying with DOC PS-1 "A-C or B-B High Density Overlaid Concrete Form," Class I.

2.2 FORMS FOR UNEXPOSED FINISH CONCRETE

- A. Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

2.3 FORM TIES

- A. Provide factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection and to prevent spalling concrete surfaces upon removal. Portion of ties remaining after form is removed shall be 1 inch from outer edge of concrete, within concrete. Form ties fabricated on Project site and wire ties are not acceptable.

2.4 FORMS COATINGS

- A. Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces requiring bond or adhesion, nor impede the wetting of surfaces to be cured with water or curing compounds with a maximum VOC of 350 mg/l.

2.5 CORNER FORMERS AND REVEAL STRIPS.

- A. Shall be extruded PVC or rigid Geon vinyl shapes or other material as approved by Engineer. Shapes shall be fabricated to conformations as indicated and shall be of types that will prevent leakage at form face or shall be provided with suitable approved gaskets to prevent leakage.

PART 3 - EXECUTION

3.1 FABRICATION OF FORMWORK

- A. Structural Responsibility: Contractor shall be solely responsible for the structural adequacy of the forms, ties, shoring, and bracing. Requirements given herein are minimum for appearance purposes only, not to be considered as structural design. Contractor shall verify dimensions of new chiller and pump room prior to dimensioning forms.
- B. General Design: Make sufficiently tight to prevent leakage of mortar. Properly brace and tie forms together so as to maintain position and shapes. Forms shall withstand the concrete pressures and weight without deformation beyond 1/360 of spans. Except in unfinished locations, use the form tops or a continuous wood strip to establish accurate top edges for beams, slabs, and construction joints.
- C. Chamfers: 3/4 inch on exposed corners except where shown otherwise.
- D. Tolerances: Exposed concrete shall be visually plumb, level, straight, and smooth when viewed at a distance of 30 feet, except for irregularities that will be removed in the finishing process. Maximum deviation shall not be over 1/4 inch in 8 feet – 0 inches for exposed surfaces and 1/2 inch in 8 feet – 0 inches for concealed or covered surfaces.

3.2 COORDINATION

- A. Coordinate work of this Section with related work of other Sections as necessary to obtain a proper installation of all embedded items. Items furnished by other Sections for installation into the work of this Section shall be installed in accordance with requirements of other Sections.

Provide framing and formwork for all openings and chases for mechanical, plumbing and electrical ducts, pipes, and conduits. Provide for installation of bolts, anchors, sleeves, reglets, anchor studs, inserts, framing members, and similar items. Examine all architectural, structural, mechanical, and electrical Drawings for requirements to accommodate the work of other Sections.

3.3 FORM CONSTRUCTION

- A. Form strips shall be installed straight and true as required to produce reveals, reglets, drip grooves, and similar details as indicated. Strips shall be beveled as indicated for easy removal and to prevent breaking of concrete corners.
- B. Beveled construction keys shall be formed at all joint locations shown on the Drawings and at locations as approved when it is necessary to stop pours where no joint is shown. Set beveled pouring strips at joints which will be exposed in the finish. Remove strips before placing next lift. Tighten all forms to compensate for shrinkage at joints before pouring new concrete against previously poured concrete.
- C. Temporary openings shall be provided at the base of all wall and column forms and at all other locations where necessary to facilitate cleaning and inspection prior to placing concrete. Locations of openings in exposed cast-in-place concrete shall be subject to approval.
- D. Anchoring devices (such as anchor slots, inserts, bolts, fastening devices, reglets, etc.) necessary for attachment of various materials to concrete shall be installed in the forms as required and/or necessary to properly complete the indicated construction. Consult and cooperate with other Sections and trades to insure properly located anchoring devices, whether specified to be installed under this Section or under other Sections of the Specifications.
- E. Install wood boxes and block-outs as necessary to form openings through concrete and cooperate with other trades that are required to set sleeves, etc., in forms.

3.4 FORM REMOVAL

- A. Formwork not supporting concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operation, and provided that curing and protection operations are maintained.
- B. Formwork, supporting weight of concrete, such as beams, joists, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.
- C. Form facing material may be removed four days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

END OF SECTION 03100

SECTION 03200 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 RELATED SECTIONS

- A. Division 3 Section 03100, "Concrete Forms."
- B. Division 3 Section 03300, "Cast-in-Place Concrete."

1.3 PERFORMANCE REQUIREMENTS

- A. Comply with applicable requirements of the following standards, except as herein modified:
 - 1. ACI "Manual of Standard Practice for Detailing Reinforced Concrete Structures" ACI 315, latest edition.
 - 2. ACI "Building Code Requirements for Reinforced Concrete", ACI 318.
 - 3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice."
 - 4. American Welding Society, AWS D1.4 "Structural Welding Code -Reinforcing Steel."

1.4 SUBMITTALS

- A. Shop Drawings:
 - 1. Shop drawings are required, complete, for all items under this Section. No part of any concrete work for this project shall be installed for which reinforcement shop drawings have not been submitted and reviewed for that part.
 - 2. Details of reinforcing shall conform to applicable reinforcements of reference specifications and standards as listed herein.
 - 3. Drawings shall indicate location, general spacing, and sizes and grades of the reinforcing members, together with all slots, chases, recesses, and openings required for installation of other items of work.
 - 4. Diagrams and general schedules shall indicate the bends, sizes, and lengths of reinforcing members and they shall clearly indicate by diagram or other easily recognizable mark exactly where the steel is to be placed in the beam, girder, slab, etc.
- B. Certificates: Submit copies of steel mill certificates of mill analysis, tensile and bend tests for reinforcing steel. Mill certificates shall be furnished at time of steel delivery.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver reinforcement to project site bundled, tagged, and marked. Store concrete reinforcement materials at the site to prevent damage and accumulation of dirt or excessive rust.

PART 2 - PRODUCTS

2.1 WIRE FABRIC

- A. ASTM A-185. Fabric style designation shall be as indicated on Drawings in accordance with Wire Reinforcement Institute "Manual of Standard Practice."

2.2 BARS

- A. ASTM A-615, Grade 60, deformed unless otherwise indicated.

2.3 BARS, WELDING GRADE

- A. Max. 0.30 percent carbon; max. 0.60 percent manganese.

2.4 SUPPORTS FOR REINFORCEMENT

- A. Chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place shall be in accordance with CRSI Specifications and as specified hereinafter.
- B. Exposed Concrete: For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs which are plastic protected (CRSI, Class 1) or stainless steel protected (CRSI, Class 2).

2.5 TIE WIRE

- A. 18 gauge.

2.6 SHOP FABRICATION

- A. All bends and hooks shall conform to standard hook and radial bending details of ACI 315. Bars shall be bent cold. Heating of reinforcement or bending by any method not approved will not be permitted. Bars having kinks or bends not required by approved Bending Schedule shall not be used. Steel shall be bent by fabricator and delivered to the job in a prepared condition ready for installation unless otherwise approved.

PART 3 - EXECUTION

3.1 CLEANING

- A. Metal reinforcement shall be clean and free from rust, mill scale, oil, earth, ice, and other materials which reduce or destroy bond with concrete.

3.2 INSTALLATION

- A. Comply with the specified standards, and Concrete Reinforcing Steel Institute recommended practice for "Placing Reinforcing Bars" for details and methods of reinforcement placement and supports and as herein specified.

3.3 PLACING REINFORCEMENT

- A. Metal reinforcement shall be accurately placed in accordance with the Drawings, Details, and approved shop drawings. All reinforcement shall have the clearances shown on Drawings and as herein specified.
- B. Adequate chairs shall be placed under all reinforcing to prevent sagging or to prevent being bent when it will be walked on when pouring is taking place.
- C. All wire tying of reinforcing shall be tight loop or a double loop which will prevent bars from slipping or turning over as the concrete operation proceeds, using tie wire. Loose ends of the wires shall be close cut to prevent their becoming exposed in the finished surfaces. Stirrups in beams and girders and ties in columns shall be wired to principal reinforcing members. When splices other than those shown on Drawings are required, character and detail of splice shall be as approved.
- D. Welding shall not be carried out on any reinforcement without prior approval.
- E. Contractor shall have as many qualified men on hand as necessary to check the steel continuously as the concrete placing is in progress. Their job shall be to make sure there are no changes in the positioning of the steel and to keep the personnel who are placing the concrete from walking on or otherwise dislocating the steel.
- F. Tying: Saddle tie reinforcing at intersections with tie wire. Wire stirrups to both top and bottom bars.
- G. Outside Bars: Place outside bars of slab reinforcement, both main and temperature, parallel to beams or walls, not more than 1/2 bar spacing away from adjacent face of such parallel members.

3.4 SPLICES

- A. General: Splicing of bars larger than #4 not permitted. Stagger splices in continuous adjacent bars. Unless indicated otherwise in Drawings, lap reinforcing steel as follows:
 - 1. Unscheduled Bars: 36 bar diameters at splices.
 - 2. Horizontal Wall Steel: 90 degree bends and 12 inch returns at corners.

3.5 ANCHORS AND FITTINGS

- A. Provide all anchors and fittings, etc., required for proper construction of concrete work and the bonding of masonry that is to be anchored to concrete. Locations, spacings, type of fittings and anchors, etc., shall be according to standard practice and as shown on Drawings.

3.6 RODS AND STIRRUPS

- A. Where there are no stirrups scheduled and/or indicated on the Drawings for beams, No. 4 bar stirrups shall be provided in accordance with the beam schedule notes as listed on the Drawings, or closer if necessary to tie and support the steel in place.
- B. Furnish cut rods of No. 3 or No. 4 bars as may be required for supporting top steel in beams, girders, etc., to hold it in position. These rods shall be securely hung from spreaders or braces on the formwork.

3.7 CONCRETE PROTECTION FOR REINFORCEMENT

- A. General: Reinforcement (including stirrups) shall be protected by the thickness of concrete as specified in ACI 318 unless indicated otherwise.
- B. Minimum Coverage: Unless otherwise shown, the thickness of concrete over reinforcement including stirrups shall be as follows:
 - 1. Where concrete is deposited against ground without forms, not less than 3 inches.
 - 2. Where concrete may be exposed to the ground but where placed in forms, not less than 2 inches.
 - 3. All concrete exposed to the weather, not less than 2 inches.
 - 4. In slabs not exposed to weather, not less than 3/4 inch.
 - 5. In beams not exposed to the ground or to the weather, not less than 1-1/2 inches.
 - 6. In all cases, the thickness of concrete over reinforcement shall be at least equal to the diameter of the bars except at slabs and joists.

3.8 INSPECTION OF STEEL PLACEMENT

- A. Contractor shall give 24 hours notice to obtain approval of placement of reinforcing steel before concrete is placed. Such inspection is in nature of assisting Contractor to minimize errors, and in no case will it operate to relieve Contractor of his responsibility to provide materials and workmanship required by Contract Documents.

END OF SECTION 03200

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. Providing cast-in-place concrete materials and construction procedures for normal weight structural concrete for equipment pads.

1.3 RELATED SECTIONS

- A. Division 3 Section 03100, "Concrete Forms."
- B. Division 3 Section 03200, "Concrete Reinforcement."

1.4 PERFORMANCE REQUIREMENTS

- A. Codes and Standards: Comply with applicable provisions of following codes, specifications, and standards except as otherwise shown or specified.
 - 1. ACI 301 "Specifications for Structural Concrete for Buildings."
 - 2. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."
 - 3. ACI 318 "Building Code Requirements for Reinforced Concrete."

1.5 SUBMITTALS

- A. Laboratory test reports shall be submitted for approval 48 hrs. prior to start of work for concrete materials and mix design tests. Refer to article "Proportioning and Design of Mix" hereinafter this Section for specific requirements. Submit reports of Inspection and Testing as specified under "Field Quality Control".
- B. Product Data: Submit data for proprietary materials and items, including admixtures, patching compounds, waterstops, curing compounds, and others as requested by Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement: Portland, ASTM C-150, Type I (Type III where high early strength is required). Color shall be gray.
- B. Aggregate – Normal: ASTM C-33. Maximum size not larger than 1/5 of the narrowest dimension between forms of the member for which the concrete is to be used, nor larger than 3/4 of the minimum clear spacing between reinforcing bars. In walls, beams, and columns, maximum dimension shall be 1-1/2 inches when width, depth, or thickness is 8 inches or less.
- C. Aggregate – Fine: Natural sand free from deleterious substances, meeting requirements of ASTM C-33, or LDOTD Standard Specification Article 1003.02(a).
- D. Water: Potable.
- E. Admixtures:
 - 1. Set Control Retarder: Non-air-entraining conforming to ASTM C-494, Type B.
 - 2. Set Control Accelerator: A water reducing, chlorine-free set accelerating agent conforming to ASTM C-494, Type C or E.
 - 3. Air Entrainment: ASTM C-260, neutralized vinsol resin.
 - 4. Calcium Chloride: Not permitted separately or as an admixture ingredient.
- F. Curing Materials:
 - 1. Sheets shall be waterproof paper ASTM C-171 or white polyethylene sheeting: AASHTO M-171.
 - 2. Liquid types shall be ASTM C-309, Type I, Class A, clear with fungitive tint. Type 2, white colored may be used for exterior.
 - 3. Prohibitive Results: Oily, waxy, or loose residue that could interfere with future coatings, flooring adhesives, or sealant bond; discoloration of surfaces designated to remain uncovered.
- G. Non-Shrink Grout: A factory mixed, non-metallic, with min. compressive strength at 28 days to be 5000 psi, conforming to ASTM C-1107.
- H. Bonding Agent: A two-component, epoxy resin bonding system for application to Portland cement concrete conforming to ASTM C-881, Type I, Grades 1 or 2 Temperature Class as appropriate for application. Acceptable products include "Probond Nos. 821, 822 and 823" by Protex Industries, Inc.; "Epoxy Adhesive System" by Euclid, "Sikadur 32 Hi-Mod" by Sika Corp. or approved equal.

2.2 PROPORTIONING AND DESIGN OF MIX

- A. Concrete Compressive Strengths: Unless indicated otherwise on Drawings or elsewhere in Project Manual, the following 28 day strengths shall apply for respective locations.
 - 1. All applications shall be 3,000 psi.
- B. General: Submit written reports of proposed mix designs for each type of concrete for review prior to beginning concrete production. At Contractor's option, method used to determine proportioning can be either laboratory trial batch or field experience.
- C. Report data shall include following: Aggregate identification, aggregate tests, aggregate scale weight, cement brand, (type, composition), admixture brand, (type, amount), water amount, proportions per cubic yard, gross wt. and yield per cubic yard, slump, air content, strength at 7 and 28 days based on min. of 3 test cylinders.
- D. Laboratory Trial Batch Mix Design in accordance with ACI 301.
 - 1. Specimen Preparation: ASTM C-192.
 - 2. Strength Tests: ASTM C-39.
 - 3. Establish a curve showing relationship between water-cement ratio (or cement content) and compressive strength, with at least 3 points representing batches that produce strengths above and below that required. Use not less than 3 specimens tested at 28 days, or an earlier age when time insufficient to establish each point on the curve.
- E. Field Experience Mix Design: ACI 301.
 - 1. Establishing Standard Deviation: Where a concrete production facility has a record, based on at least 30 consecutive strength tests that represent similar materials and conditions to those expected, required average compressive strength used as the basis for selecting concrete proportions shall exceed the specified compressive strength at designated test age by at least:
 - a. 400 psi if standard deviation is less than 300 psi
 - b. 500 psi if standard deviation is 300 to 400 psi
 - c. 700 psi if standard deviation is 400 to 500 psi
 - d. 900 psi if standard deviation is 500 to 600 psi
 - e. If standard deviation exceeds 600 psi, concrete proportions shall be selected to produce an average strength at least 1200 psi greater than the specified compressive strength.
- F. Deviation Reduction: After sufficient experience and test data become available from the job, using ACI 214 methods of evaluation, the standard deviation may be deducted when the probable frequency of tests more than 500 psi below required compressive strength will not exceed 1 in 100, and when the probable frequency of an average of 3 consecutive tests below required compressive strength will not exceed 1 in 100.
- G. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows: Not less than 1 inch nor more than 4 inches.

H. Use of Admixtures:

1. General: Admixtures quantities and application procedures shall be as recommended by manufacturer of admixture for climatic conditions prevailing at time of placing concrete. Refer to articles on "Placing Concrete in Cold and Hot Weather" hereinafter this Section for applicable procedures.
 2. Air Entraining: Exterior exposed; 5 percent + 1 percent.
- I. Portland Cement - Pozzolan Blend (Contractor's Option): In lieu of a 100 percent pure Portland cement ingredient in the concrete mix design as specified hereinbefore, a Portland cement-pozzolan blend shall be permitted subject to following specifications: Up to 17.5 percent (by weight) of the cement may be replaced, with 1.25 lb. of pozzolan being substituted for each pound of cement replaced.
- J. Mix Design Adjustments: Adjustments may be requested by the Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant. Submit adjustments for review prior to making any change. No additional payment will be allowed for adjustments made to achieve specified performance or for the Contractor's benefit.

2.3 CONCRETE MIXING

- A. Comply with the requirements of ASTM C-94 for Ready-Mix Concrete. No water shall be added to mix after truck has left plant, unless authorized by Engineer. When air temperature is between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Immediately in advance of placing concrete, excavation, forms, reinforcement, inserts, etc., will be inspected by the Engineer and if any part of the work is determined to be unsatisfactory, concrete work shall not proceed at that part until all defects have been remedied and approval has been obtained. Such approval shall not in any way relieve Contractor of his obligation to produce the finished concrete required by provisions of the Drawings and Specifications.

3.2 PREPARATION

- A. Before depositing concrete, debris and water shall be removed from spaces to be occupied by concrete. Reinforcement shall be thoroughly secured in position. Concrete shall be wheeled over formwork only on runways supported from forms and not on reinforcing steel.

3.3 BONDING AND GROUTING

- A. Before depositing new concrete on or against concrete which has set, thoroughly roughen and clean existing surfaces. Re-tighten forms, slush existing concrete surfaces with coat of neat epoxy grout. Place new concrete before grout has attained its initial set.

3.4 PLACING

- A. Placing Concrete in Cold Weather: Comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures. When air temperature has fallen to or is 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. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials. Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators unless otherwise accepted in mix designs.
- B. Placing Concrete in Hot Weather: Placing concrete in hot weather shall be in accordance with ACI 305 except as modified herein. Extra care shall be taken to reduce the temperature of the concrete being placed, and to prevent rapid drying of newly placed concrete. When the outdoor ambient temperature is more than 90 degrees F, the temperature of the concrete shall not exceed 90 degrees F; the fresh concrete shall be shaded as soon as possible after placing; and curing shall be started as soon as the surface of the fresh concrete is sufficiently hard to permit it without damage. Concrete placement temperatures shall be controlled by the Contractor at his expense and shall be accomplished by one or a combination of procedures of ACI 305, but not limited to being accomplished by (1) shading and cooling the aggregates; (2) avoiding use of hot cement; (3) cooling mixing water by additions of ice; (4) insulating water supply lines and tanks; (5) insulating mixer drums or cooling them with sprays or wet burlap coverings; (6) working only at night; and (7) addition of a retarder or water reducing retarder in the mix, if approved. Reduce the temperature of side forms by aerating the forms with wet burlap or similar covering materials. Cool underlying material by sprinkling lightly with water.
- C. Placing – General: Handle concrete from mixer to place of final deposit as rapidly as practicable by methods which prevent separation and/or loss of ingredients. Under no circumstances shall concrete which has partially hardened be deposited in the work. Pumping shall be permitted with approval as to times and locations. Deposit concrete in forms as near as practicable in its final position to avoid rehandling. Deposit concrete so as to maintain a plastic surface approximately horizontal, until completion of the unit. Lifts shall be 18 inches to 24 inches.
1. Forms for walls and/or thin sections of considerable height shall be provided with openings, or other devices such as tremies, which will permit concrete to be placed in a manner that will prevent segregation and accumulation of hardened concrete on forms or metal reinforcement, above level of concrete.
 2. When concrete is conveyed by chutes, equipment shall be of such design as to insure a continuous slide on chute. Chutes shall be of metal or metal lined and different portions shall have approximately the same slope.
 3. Slope of chutes shall not be less than one vertical to two horizontal and shall be such as to prevent segregation of ingredients.
 4. When operation is intermittent, chute shall discharge into a hopper. Chute shall be thoroughly cleaned before and after each run, and debris and any water shall be discharged outside the forms.
 5. Concrete shall be deposited continuously or in layers of such thickness that no concrete will be deposited which has hardened sufficiently to cause formation of seams and planes

of weakness within the section. If a section cannot be placed continuously, construction joints may be located at points as provided for in Drawings or approved. Such joints shall be made in accordance with provisions of "Construction Joints" article hereinafter this Section.

3.5 CONSOLIDATING CONCRETE

- A. Formwork: Consolidate concrete placed in forms by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with the recommended practices of ACI 309, to suit the type of concrete and project conditions. Vibration of forms and reinforcing will not be permitted, unless otherwise approved.
 - 1. Do not use vibrators to transport concrete inside of forms. Insert and withdraw vibrators vertically at uniformly spaced locations not further than the visible effectiveness of the machine. Place vibrators to penetrate the layer of concrete rapidly and at least 6 inches into the preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit the duration of vibration to the time necessary to consolidate the concrete and complete embedment of reinforcement and other embedded items without causing segregation of the mix.

3.6 CONSTRUCTION JOINTS

- A. Location: Locate construction joints so as to least impair the strength and appearance of the structure. Obtain approval of layout showing proposed location of construction joints before proceeding.

3.7 FINISHING - GENERAL REQUIREMENTS

- A. Trowelling: All concrete finish so noted shall be troweled smooth, worked to a good hard even surface, free from tool marks and other defects, and finished according to best practice. Last two trowelings shall be hand troweled.
- B. Exterior concrete shall not be applied when weather conditions are unsuitable or else temporary protection (canvas, etc.) shall be supplied during finishing and setting period.
- C. Screeds: All floor surfaces shall be placed by the use of continuous pipe screeds which are straight and which have been supported by chairs or other approved methods to give surfaces which are within the specified tolerances.

3.8 TOLERANCES

- A. Vertical Alignment: ACI 117, 1/4 inch in 10 feet.
- B. Cross-section Thickness: (Beams, walls, piers under 12 inches thick) ACI 117, + 3/8 inch -1/4 inch.

- C. Tolerances shall not be cumulative.

3.9 CONCRETE SURFACE REPAIRS

- A. Formed Surfaces: Immediately after removal of forms, pack holes remaining from bolts or tie rods full with epoxy mortar. Remove and patch all defects or correct as otherwise directed. Finish to match adjoining surfaces.
 - 1. Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Engineer. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning. Flush out form tie holes and fill with epoxy mortar.
- B. Unformed Surfaces: Repair surface defects including crazing and cracks in excess of 0.01 inch wide or that penetrate to the reinforcement or completely through non-reinforced sections regardless of width, spalling, popouts, honeycombs, rock pockets, and other objectionable conditions.
 - 1. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days. Correct low areas in unformed surfaces during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 - 2. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose reinforcing steel with at least 3/4 inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

3.10 FIELD QUALITY CONTROL

- A. Inspection and Testing: Inspection of concrete shall be performed by Owner or Engineer.
 - 1. Correction of Work: Contractor shall remove and replace work found unacceptable by the above tests, at no added expense to the Owner.

SCHEDULE OF CONCRETE FINISHES

3.11 SMOOTH FORMED FINISH

- A. Location: Interior and exterior formed vertical surfaces exposed to public view or are covered with a coating material applied directly to concrete, such as paint.
- B. Procedure: Produce "as cast" finish. Patch honeycombing, tie-holes, and other defects as specified herein under "Patching." Fins, burrs, and other projections shall be removed. Rub smooth, freshly hardened concrete with carborundum brick or other abrasive until a

uniform color and texture is produced. Do not apply cement grout other than that created by the rubbing process.

3.12 NON-SLIP BROOM FINISH

- A. Location: Exposed slabs and elsewhere where indicated.
- B. Procedure: Immediately after float finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route water sure.

3.13 CONCRETE CURING AND PROTECTION.

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete. Start initial curing as soon as free moisture has disappeared from the concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 72 hours. Begin final curing procedures immediately following initial curing and before the concrete has dried. Continue final curing for at least 7 days and in accordance with ACI 301 procedures. Avoid rapid drying at the end of the final curing period.
- B. Curing Methods: Perform final curing of concrete by one of following methods at Contractor's option.
- C. Moisture curing, keeping the surface of the concrete continuously wet by covering with water.
- D. Moisture – Cover: Moisture retaining cover shall be placed on surfaces for curing period.
- E. Liquid Membrane applied to damp concrete surfaces as water film has disappeared in accordance with manufacturer's directions.
 - 1. Do not use membrane curing compounds on surfaces which are to be covered with a coating material applied directly to the concrete or with a covering material bonded to the concrete, such as other concrete, liquid floor hardener, waterproofing, dampproofing, membrane roofing, flooring, painting, and other coatings and finish materials.
- F. Temperature of Concrete During Curing: When the atmospheric temperature is 40 degrees F and below, maintain the concrete temperature between 50 and 70 degrees F continuously throughout the curing period. When necessary, make arrangements before concrete placing for continuous heating, covering, insulation, or housing as required for the concrete curing period. Provide cold weather protections complying with the requirements of ACI 306.

3.14 CURING OF POZZOLAN BLEND CONCRETE

- A. Concrete shall be protected against moisture loss, rapid temperature change, mechanical injury, and injury from rain or flowing water for a period of ten days. Concrete shall be maintained in a moist condition at temperature above 50 degrees F throughout the curing period. Concrete shall be protected from rapid temperature change and rapid drying for the first 24 hours following the removal of temperature protection. Curing activities shall be started as soon as free water has

disappeared from the surface of the concrete after placing and finishing. Curing shall be accomplished by the following methods or combination thereof, as approved: moist curing, impervious sheet curing, membrane-forming compound.

END OF SECTION 03300

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Codes and Standards: Where indicated, the referenced edition shall govern. Where not indicated, the latest edition shall govern.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Supporting devices for electrical components.
 - 2. Electrical identification.
 - 3. Electricity-metering components.
 - 4. Concrete equipment bases.
 - 5. Control wiring.
 - 6. Electrical demolition.
 - 7. Cutting and patching for electrical construction.
 - 8. Touchup painting.
 - 9. Access panels.

1.3 SUBMITTALS

- A. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.4 DEFINITIONS

- A. General Explanation: A substantial amount of the Contract Document Specification language constitutes specific definitions for terms found in other Contract Documents, including the Drawings which must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon. Certain terms used repetitiously in the Contract Documents are defined generally in this Article.
- B. General Requirements: The provisions or requirements of the Division 1 Sections. The General Requirements apply to the entire work of the Contract, and where so indicated, to other elements of work which are included in the project.
- C. Indicated: The term "Indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar means of recording requirements in the Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader locate the cross reference, and no limitation of location is intended except as specifically noted.

- D. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by the Architect," "requested by the Architect," etc. However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
- E. Refer: Used to indicate that the subject is defined or specified in further detail at another location in the Contract Documents, or elsewhere as indicated. Except as otherwise noted, "refer" does not imply that the Contractor must purchase or subcontract the subject work in any special manner.
- F. Approve: Where used in conjunction with the Architect's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the meaning of the term "approved" will be held to the limitations of the Architect's responsibilities and duties as specified in the General and Supplementary Conditions. In no case will "approval" by the Architect be interpreted as a release of the Contractor from responsibilities to fulfill the requirements of the Contract Documents.
- G. Project Site: The space available to the Contractor for the performance of the work, either exclusively or in conjunction with others performing other work as part of the project. The extent of the project site may or may not be identical with the description of the land upon which the project is to be built.
- H. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- I. Install: Except as otherwise defined in greater detail, the term "install" is used to describe operations of the project site including unloading, unpacking, assembly, erection, placing, anchoring, connecting utilities, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- J. Provide: Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for the intended use, as applicable in each instance.
- K. Installer: The entity (person or firm) engaged by the Contractor or its subcontractor or sub-subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in the operations they are engaged to perform.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70 (2020).

1.6 HAZARDOUS MATERIALS

- A. Asbestos: No asbestos-containing materials have been identified on items that are indicated to be disturbed. If asbestos-containing materials are encountered, comply with the following:

Upon encountering any previously unidentified materials which he suspects may contain asbestos, the Contractor shall immediately cease all work in the immediate vicinity of the suspected materials and notify the Designer and the Owner. The Owner shall retain consultants to identify the suspected materials. Upon identification, the Owner reserves the right to contract separately for the removal, or require the Contractor to remove said materials in accordance with the following provision. In any case, the work shall be performed by a licensed and certified Abatement Contractor.

The Louisiana Department of Environmental Quality (D.E.Q.) has issued the Louisiana Emission Standards for Hazardous Air Pollutants. Where asbestos is encountered in a project, the Contractor shall comply with all laws and ordinances pertaining to asbestos handling and abatement, including the latest revision of LAC 33:111, Chapter 25, Subchapter F, Emission Standards for Hazardous Air Pollutants, LAC 33:111, Chapter 27, Asbestos Containing Materials in Schools and Public Buildings and LAC 33:111, Chapter 51, Subchapter M, Section 5151, Emission Standards for Asbestos.

Notification should be addressed to:

Asbestos Coordinator
Louisiana Department of Environmental Quality
Air Quality Division
Post Office Box 82135
Baton Rouge, Louisiana 70884-2135

If the Owner chooses to remove any previously unidentified materials by utilizing different Contractors, the Contractor shall cooperate fully with the Owner's consultants and asbestos abatement Contractor permitting them full access to the project, and shall not resume work in the vicinity of the suspected materials until advised by the Designer and the Owner that it is safe to do so.

1.7 COORDINATION

- A. The electrical Plans and Specifications are a portion of the entire project. Other portions of the project contain information and requirements that will affect the electrical work. It is the responsibility of the Electrical Contractor to review all of the Contract Documents and to include those requirements in the bid.
- B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the work.
- C. Coordinate electrical service connections to components furnished by utility companies.
1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.

2. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

PART 2 - PRODUCTS

2.1 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.
- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16 inch (14 mm) diameter slotted holes at a maximum of 2 inches (50 mm) o.c., in webs.
- D. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- E. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- F. Expansion Anchors: Carbon-steel wedge or sleeve type.
- G. Toggle Bolts: All-steel springhead type.
- H. Powder-Driven Threaded Studs: Heat-treated steel.

2.2 ELECTRICAL IDENTIFICATION

- A. Identification Devices: A single type of identification product for each application category. Use colors prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Cable Labels: Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each cable size.
 1. Type: Preprinted, flexible, self-adhesive, vinyl. Legend is overlaminated with a clear, weather- and chemical-resistant coating.
- C. Colored Adhesive Marking Tape for Wires, and Cables: Self-adhesive vinyl tape, not less than 3/4 inch wide by 3 mils thick (18 mm wide by 0.08 mm thick).
- D. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape with the following features:
 1. Not less than 6 inches wide by 4 mils thick (150 mm wide by 0.102 mm thick).
 2. Compounded for permanent direct-burial service.
 3. Embedded continuous metallic strip or core.
 4. Printed legend that indicates type of underground line.

- E. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- F. Engraved-Plastic Labels, Signs, and Instruction Plates: Engraving stock, melamine plastic laminate punched or drilled for mechanical fasteners 1/16 inch (1.6 mm) minimum thickness for signs up to 20 sq. inch (129 sq. cm) and 1/8 inch (3.2 mm) minimum thickness for larger sizes. Engraved legend in black letters on white background.
- G. Interior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Preprinted, aluminum, baked-enamel-finish signs, punched or drilled for mechanical fasteners, with colors, legend, and size appropriate to the application.
- H. Exterior Warning and Caution Signs: Comply with 29 CFR, Chapter XVII, Part 1910.145. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396 inch (1 mm), galvanized-steel backing, with colors, legend, and size appropriate to the application. 1/4 inch (6 mm) grommets in corners for mounting.
- I. Fasteners for Nameplates and Signs: Self-tapping, stainless-steel screws or No. 10/32 stainless-steel machine screws with nuts and flat and lock washers.

2.3 EQUIPMENT FOR UTILITY COMPANY'S ELECTRICITY METERING

- A. Current-Transformer Cabinets: Comply with requirements of electrical power utility company.
- B. Meter Sockets: Comply with requirements of electrical power utility company.

2.4 CONCRETE BASES

- A. Concrete: 3000 psi (20.7 MPa), 28-day compressive strength as specified in Division 3 Section "Cast-in-Place Concrete."

2.5 TOUCHUP PAINT

- A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.
- B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

PART 3 - EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom, but no less than that required by NEC.
- B. Clearances: Coordinate with other trades and/or existing conditions to maintain code required clearances above, below and around electrical equipment.

- C. Materials and Components: Install level, plumb, and square to other building systems and components, unless otherwise indicated.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.

3.2 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, U-channel system components.
- B. Dry Locations: Steel materials.
- C. Selection of Supports: Comply with manufacturer's written instructions.
- D. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200 lb (90 kg) design load.

3.3 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by a 25 percent minimum in the future.
- E. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps. Clamps less than 7 feet above the floor shall be one-piece without protruding edges or bolts.
- F. Install 1/4 inch (6 mm) diameter or larger threaded steel hanger rods, unless otherwise indicated.
- G. Spring-steel fasteners specifically designed for supporting single conduits or tubing may be used instead of malleable-iron hangers for 1-1/2 inch (38 mm) and smaller raceways serving receptacle branch circuits above suspended ceilings and for fastening raceways to slotted channel and angle supports. Support wires shall be dedicated to the support of electrical materials and equipment. Ceiling support equipment and wires are not to be used for the support of electrical equipment. Identify electrical support wires as required by NFPA 70 300.11(A)(2).
- H. Separately support cast boxes that are threaded to raceways and used for fixture support. Support sheet-metal boxes directly from the building structure or by bar hangers. If bar hangers are used, attach bar to raceways on opposite sides of the box and support the raceway with an approved fastener not more than 24 inches (610 mm) from the box.

- I. Install metal channel racks for mounting cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, and other devices unless components are mounted directly to structural elements of adequate strength. Field galvanize galvanized members that have been field cut.
- J. Securely fasten electrical items and their supports to the building structure, unless otherwise indicated. Perform fastening according to the following unless other fastening methods are indicated:
 - 1. Wood: Fasten with wood screws or screw-type nails.
 - 2. Masonry: Toggle bolts on hollow masonry units and expansion bolts on solid masonry units.
 - 3. New Concrete: Concrete inserts with machine screws and bolts.
 - 4. Existing Concrete: Expansion bolts. Instead of expansion bolts, threaded studs driven by a powder charge and provided with lock washers may be used in existing concrete.
 - 5. Steel: Welded threaded studs or spring-tension clamps on steel. No field welding of supports to structural members will be allowed.
 - 6. Light Steel: Sheet-metal screws. Do not penetrate outer skin of building from within.
 - 7. Fasteners: Select so the load applied to each fastener does not exceed 25 percent of its proof-test load.

3.4 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout project.
- C. Self-Adhesive Identification Products: Clean surfaces before applying.
- D. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
- E. Install continuous underground plastic markers during trench backfilling, for exterior underground power, lines located directly above power lines. Locate 6 to 8 inches (150 to 200 mm) below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches (400 mm), overall, use a single line marker.
- F. Color-code 208/120-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Black.
 - 2. Phase B: Red.
 - 3. Phase C: Blue.

- G. Color-code 480/277-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Brown.
 - 2. Phase B: Orange.
 - 3. Phase C: Yellow.
- H. Color-code 120/240-V single phase system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Black.
 - 2. Phase B: Red.
- I. Install warning, caution, and instruction signs where required to comply with 29 CFR, Chapter XVII, Part 1910.145, and where needed to ensure safe operation and maintenance of electrical systems and of items to which they connect. Install engraved plastic-laminated instruction signs with approved legend where instructions are needed for system or equipment operation. Install metal-backed butyrate signs for outdoor items.
- J. Install engraved-laminated signs with black letters on white background with minimum 3/8 inch (9 mm) high lettering for equipment designations for switchgear or description of load being fed or controlled in the case of disconnects or contactors.

3.5 UTILITY COMPANY ELECTRICITY-METERING EQUIPMENT

- A. Verify and provide equipment according to utility company's written requirements. Provide grounding and empty conduits as required by utility company.

3.6 FIRESTOPPING

- A. Apply firestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly. Firestopping materials shall be fire resistant per ASTM E119 fire test conditions and shall be non-combustible when tested per ASTM E136. Melting point shall exceed 2000 degrees F. per ASTM C24. Fireproofing installation for openings in rated floors or partitions shall provide an airtight seal.

3.7 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger, in both directions, than supported unit. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations, unless otherwise indicated. Use 3000 psi (20.7 MPa), 28-day compressive-strength concrete and reinforcement.

3.8 EQUIPMENT AND CONTROL WIRING

- A. Wire in and connect every motor and item of equipment furnished as a part of this contract, including those furnished under other Divisions. Provide all required disconnecting means,

boxes, conduit, conductors, etc. Motors and equipment furnished under other Divisions will be installed under that Division.

- B. Motor starters will be furnished under the division that the motors being controlled are furnished, and will be installed under Division 16 by the Electrical Contractor unless controllers are integral to the equipment. Installation includes mounting, connection to power and grounding.
- C. Control Wiring: All control wiring and interlock wiring is included in Division 15.

3.9 DEMOLITION

- A. Protect existing electrical equipment and installations not indicated to be removed. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, appearance and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C. Abandoned Work: Cut and remove buried raceway and wiring, indicated to be abandoned in place, 2 inches (50 mm) below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
- D. Existing Work to Remain: Maintain feed, or provide new feed to equipment and devices that are not being removed.
- E. Remove demolished material from project site.
- F. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.10 SEQUENCING AND SCHEDULING

- A. Electrical power and system interruptions shall be held to a minimum and will be permitted only at times approved by the Owner. The Owner may require that any interruptions be during nights, weekends, holidays, etc. Provide any required overtime work at no additional cost to Owner.
- B. Do not interrupt feed to any service, feeder or branch circuit feeding facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to make temporary provisions where required according to requirements indicated:
 - 1. Notify Owner no fewer than seven (7) days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Owner's written permission.
 - 3. Provide all temporary facilities and services, including fire watch, required to maintain operation, security, and life safety.

3.11 CUTTING AND PATCHING

- A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.12 FIELD QUALITY CONTROL

- A. Inspect installed components for damage and faulty work, including the following:
 - 1. Supporting devices for electrical components.
 - 2. Electrical identification.
 - 3. Electricity-metering components.
 - 4. Concrete bases.
 - 5. Electrical demolition.
 - 6. Cutting and patching for electrical construction.
 - 7. Touchup painting.

3.13 REFINISHING AND TOUCHUP PAINTING

- A. Refinish and touch up paint:
 - 1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
 - 2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
 - 3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 4. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.14 CLEANING AND PROTECTION

- A. Upon completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION 16050

SECTION 16060 - GROUNDING AND BONDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes grounding of electrical systems and equipment. Grounding requirements specified in this Section may be supplemented by special requirements of systems described in other Sections.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article.
- C. Field Test Reports: Submit written test reports to include the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 1. Comply with UL 467.

PART 2 - PRODUCTS

- 2.1 Comply with NFPA 70 (2020).

2.2 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Grounding Conductors, Cables, Connections, and Rods:
 - a. Apache Grounding/Erico Inc.
 - b. Chance/Hubbell
 - c. Copperweld Corp.
 - d. Erico Inc.; Electrical Products Group
 - e. Ideal Industries, Inc.
 - f. ILSCO
 - g. Kearney/Cooper Power Systems
 - h. O-Z/Gedney Co.; a business of the EGS Electrical Group
 - i. Raco, Inc.; Division of Hubbell
 - j. Thomas and Betts, Electrical

2.3 GROUNDING CONDUCTORS

- A. For insulated conductors, comply with Division 16 Section 16120, "Conductors and Cables."
- B. Material: Copper.
- C. Equipment Grounding Conductors: Insulated with green-colored insulation.
- D. Bare Copper Conductors: Comply with the following:
 1. Solid Conductors: ASTM B 3.
 2. Stranded Conductors: ASTM B8.

2.4 CONNECTOR PRODUCTS

- A. Comply with IEEE 837 and UL 467; listed for use for specific types, sizes, and combinations of conductors and connected items.
- B. Bolted Connectors: Bolted-pressure-type connectors, or compression type.
- C. Twist-on Connectors: Plastic body with coiled copper alloy wire forming threads.
- D. Welded Connectors: Exothermic-welded type, in kit form, and selected per manufacturer's written instructions.
- E. Underground Mechanical Connectors: Bolted-pressure type or compression type, listed for underground application.

2.5 GROUNDING ELECTRODES

- A. Ground Rods: Copper-clad steel; ¾ “ dia by 120 inches long.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Use only copper conductors for both insulated and bare grounding conductors in direct contact with earth, concrete, masonry, crushed stone, and similar materials.
- B. In raceways, use insulated equipment grounding conductors.
- C. Exothermic-Welded Connections: Use for connections to structural steel and for underground connections except those at test wells.
- D. Equipment Grounding Conductor Terminations: Use bolted clamp type or compression connectors for conductors larger than 10 AWG. Use Plastic body twist-on connectors for 10AWG and smaller.

3.2 EQUIPMENT GROUNDING CONDUCTORS

- A. Comply with NFPA 70, Article 250, for types, sizes, and quantities of equipment grounding conductors, unless specific types, larger sizes, or more conductors than required by NFPA 70 are indicated.
- B. Install equipment grounding conductors in all feeders and circuits.

3.3 INSTALLATION

- A. Ground Rods:
 - 1. Drive ground rods until tops are 2 inches (50 mm) below finished floor or final grade, unless otherwise indicated.
 - 2. Electrical Service Grounding Electrode Applications: Install at least three (3) rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes; install in as straight line as conditions permit. Interconnect ground rods with grounding electrode conductors. Use exothermic welds. Make connections without exposing steel or damaging copper coating.
- B. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- C. Bonding Straps and Jumpers: Install so vibration by equipment mounted on vibration isolation hangers and supports is not transmitted to rigidly mounted equipment. Use exothermic-welded connectors for outdoor locations, unless a disconnect-type connection is required; then, use a

bolted clamp. Bond straps directly to the basic structure taking care not to penetrate any adjacent parts. Install straps only in locations accessible for maintenance.

- D. Metal Water Service Pipe: Provide insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes by grounding clamp connectors. Where a dielectric main water fitting is installed, connect grounding conductor to street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
- E. Metal Gas and Compressed Air Piping: Bond any above ground metallic piping to building grounding electrode, as required by NEC 250-104(B).

3.4 CONNECTIONS

- A. General: Make connections so galvanic action or electrolysis possibility is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.
 - 1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer to order of galvanic series.
 - 2. Make connections with clean, bare metal at points of contact.
 - 3. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.
- B. Exothermic-Welded Connections: Comply with manufacturer's written instructions. Welds that are puffed up or that show convex surfaces indicating improper cleaning are not acceptable.
- C. Equipment Grounding Conductor Terminations: For No. 8 AWG and larger, use pressure-type grounding lugs. No. 10 AWG and smaller grounding conductors may be terminated with winged pressure-type connectors.
- D. Noncontact Metal Raceway Terminations: If metallic raceways terminate at metal housings without mechanical and electrical connection to housing, terminate each conduit with a grounding bushing. Connect grounding bushings with a bare grounding conductor to grounding bus or terminal in housing. Bond electrically noncontinuous conduits at entrances and exits with grounding bushings and bare grounding conductors, unless otherwise indicated.
- E. Tighten screws and bolts for grounding and bonding connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
- F. Compression-Type Connections: Use hydraulic compression tools to provide correct circumferential pressure for compression connectors. Use tools and dies recommended by connector manufacturer. Provide embossing die code or other standard method to make a visible indication that a connector has been adequately compressed on grounding conductor.
- G. Moisture Protection: If insulated grounding conductors are connected to ground rods or grounding buses, insulate entire area of connection and seal against moisture penetration of insulation and cable.

3.5 FIELD QUALITY CONTROL

- A. Testing: Perform the following field quality-control testing:
1. After installing grounding system but before permanent electrical circuitry has been energized, test for compliance with requirements.
 2. Test completed grounding system at each location where a maximum ground-resistance level is specified and at service disconnect enclosure grounding terminal. Measure ground resistance not less than two full days after the last trace of precipitation, and without the soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance. Perform tests, by the fall-of-potential method according to IEEE 81.
 3. Provide drawings locating each ground rod and ground rod assembly and other grounding electrodes, identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.
 - a. Equipment Rated 500 kVA and Less: 10 ohms.
 4. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 16060

SECTION 16075 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Underground-line warning tape.
 - 5. Warning labels and signs.
 - 6. Instruction signs.
 - 7. Equipment identification labels.
 - 8. Miscellaneous identification products.

1.2 ACTION SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.3 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

PART 2 - PRODUCTS

2.1 POWER RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Raceways Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.

- C. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- D. Snap-Around Labels for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands for Raceways Carrying Circuits at 600 V or Less: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- F. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.2 ARMORED AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Colors for Raceways Carrying Circuits at 600 V and Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- C. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- D. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.

2.3 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Write-On Tags: Polyester tag, 0.010 inch (0.25 mm) thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.

1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
- D. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.4 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- D. Write-On Tags: Polyester tag, 0.010 inch (0.25 mm) thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 2. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

2.5 UNDERGROUND-LINE WARNING TAPE

- A. Tape:
1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
 2. Printing on tape shall be permanent and shall not be damaged by burial operations.
 3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
- B. Color and Printing:
1. Comply with ANSI Z535.1 through ANSI Z535.5.
 2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE, .
 3. Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE.

C. Tag:

1. Pigmented polyolefin, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
2. Thickness: 4 mils (0.1 mm).
3. Weight: 18.5 lb/1000 sq. ft. (9.0 kg/100 sq. m).
4. 3-Inch (75-mm) Tensile According to ASTM D 882: 30 lbf (133.4 N), and 2500 psi (17.2 MPa).
5. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

D. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).

E. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.

2.6 EQUIPMENT IDENTIFICATION LABELS

A. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.

B. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

C. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch (25 mm).

2.7 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

B. Apply identification devices to surfaces that require finish after completing finish work.

- C. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- D. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- E. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
- F. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches (400 mm) overall.
- G. Painted Identification: Comply with requirements in painting Sections for surface preparation and paint application.

3.2 IDENTIFICATION SCHEDULE

- 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
- b. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- B. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
 - C. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
 - D. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 - 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
 - E. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.
 - 1. Limit use of underground-line warning tape to direct-buried cables.

2. Install underground-line warning tape for both direct-buried cables and cables in raceway.

END OF SECTION 16075

SECTION 16120 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.

1.3 SUBMITTALS

- A. Field Quality-Control Test Reports: From Contractor.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70 (2020).

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Manufacturers:
 - 1. American Insulated Wire Corp.; a Leviton Company.
 - 2. General Cable Corporation.
 - 3. Senator Wire & Cable Company.
 - 4. Southwire Company.
- B. Refer to Part 3 "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.
- C. Conductor Material: Copper complying with NEMA WC 5 or 7; stranded or solid conductor for No. 10 AWG and smaller, stranded for No. 8 AWG and larger.
- D. Conductor Insulation Types: Type THHN-THWN or XHHW or USE (direct burial) complying with NEMA WC 5 or 7 as applicable.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers:
1. AFC Cable Systems, Inc.
 2. AMP Incorporated/Tyco International.
 3. Hubbell/Anderson.
 4. O-Z/Gedney; EGS Electrical Group LLC.
 5. 3M Company; Electrical Products Division.
 6. Ideal
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated. Push in splice and insulation displacement type connectors shall not be used.

PART 3 - EXECUTION

3.1 CONDUCTOR AND INSULATION APPLICATIONS

- A. Service Entrance, Feeders and Branch Circuits: Type THHN-THWN or XHHW single conductors in raceway. Minimum size #12 AWG or larger where required for voltage drop. Where branch circuits exceed 100 feet in length, use minimum #10 AWG.
- B. Fire Alarm Circuits: Type THHN-THWN, in raceway or Power-limited, fire-protective, signaling circuit cable in raceways. Size as recommended by equipment manufacturer or as specified in fire alarm specifications.
- C. Class 1 Control Circuits: Type THHN-THWN, in raceway. Minimum size #14 AWG.
- D. Class 2 Control Circuits: Type THHN-THWN, in raceway or Power-limited cable in raceways. Size as recommended by equipment manufacturer.

3.2 INSTALLATION

- A. Run all conductors in raceways unless specifically indicated otherwise.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Identify and color-code conductors and cables according to Division 16 Section 16050, "Basic Electrical Materials and Methods."
- E. No more than three current carrying phase conductors (excluding switch legs and grounding conductors), and one grounded conductor, may be installed in any raceway.

3.3 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.4 FIELD QUALITY CONTROL

- A. Testing: Perform the following field quality-control testing:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test for compliance with requirements.
 - 2. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.3.1. Certify compliance with test parameters.
- B. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 16120

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- B. Related Sections include the following:
 - 1. Division 16 Section 16050, "Basic Electrical Materials and Methods," for supports, anchors, and identification products.
 - 2. Division 16 Section 16140, "Wiring Devices," for devices installed in boxes.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. FMC: Flexible metal conduit.
- C. IMC: Intermediate metal conduit.
- D. LFMC: Liquidtight flexible metal conduit.
- E. RNC: Rigid nonmetallic conduit.
- F. Fixture Whip: Flexible wiring as specified from box to individual lighting fixture.

1.4 SUBMITTALS

- A. Product Data: For raceways, wireways and fittings,

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70 (2020).

1.6 COORDINATION

- A. Coordinate layout and installation of raceways, boxes, enclosures, cabinets, and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

A. Manufacturers:

1. Anamet Electrical, Inc.; Anaconda Metal Hose.
2. Electri-Flex Co.
3. Grinnell Co./Tyco International; Allied Tube and Conduit Div.
4. LTV Steel Tubular Products Company.
5. Manhattan/CDT/Cole-Flex.
6. O-Z Gedney; Unit of General Signal.
7. Wheatland Tube Co.

B. Rigid Steel Conduit: ANSI C80.1. U. L. 6. Threaded with threaded fittings.

C. IMC: ANSI C80.6. U.L. 1242.

D. Plastic-Coated Steel Conduit and Fittings: NEMA RN 1.

E. Plastic-Coated IMC and Fittings: NEMA RN 1.

F. EMT and Fittings: ANSI C80.3. U.L. 797.

1. Fittings, 2 Inch Diameter and Larger: Steel (not die cast) set-screw or compression type.
2. Fittings, Smaller than 2 Inches Diameter: Compression type.

G. FMC: Zinc-coated steel.

H. LFMC: Flexible steel conduit with PVC jacket.

I. Fittings: NEMA FB 1; compatible with conduit and tubing materials.

2.2 NONMETALLIC CONDUIT AND TUBING

A. Manufacturers:

1. American International.
2. Anamet Electrical, Inc.; Anaconda Metal Hose.
3. Aruco Corp.
4. Cantex Inc.
5. Certainteed Corp.; Pipe & Plastics Group.
6. Condux International.

7. ElecSYS, Inc.
8. Lamson & Sessions; Carlon Electrical Products.
9. Manhattan/CDT/Cole-Flex.
10. RACO; Division of Hubbell, Inc.
11. Thomas & Betts Corporation.

B. RNC: NEMA TC 2, Schedule 40 and Schedule 80 PVC.

C. RNC Fittings: NEMA TC 3; match to conduit or tubing type and material.

2.3 METAL WIREWAYS

A. Manufacturers:

1. Hoffman.
2. Square D.

B. Material and Construction: Sheet metal sized and shaped as indicated, NEMA 3R.

C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

D. Select features, unless otherwise indicated, as required to complete wiring system and to comply with NFPA 70.

E. Wireway Covers: Screw-cover type.

F. Finish: Manufacturer's standard enamel finish.

2.4 SURFACE RACEWAYS

A. Surface Metal Raceways: Galvanized steel with snap-on covers. Finish with manufacturer's standard prime coating.

1. Manufacturers:

- a. Airey-Thompson Sentinel Lighting; Wiremold Company (The).
- b. Thomas & Betts Corporation.
- c. Walker Systems, Inc.; Wiremold Company (The).
- d. Wiremold Company (The); Electrical Sales Division.

2.5 BOXES AND ENCLOSURES

A. Manufacturers:

1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
2. Emerson/General Signal; Appleton Electric Company.
3. Erickson Electrical Equipment Co.

4. Hoffman.
5. Hubbell, Inc.; Killark Electric Manufacturing Co.
6. O-Z/Gedney; Unit of General Signal.
7. RACO; Division of Hubbell, Inc.
8. Robroy Industries, Inc.; Enclosure Division.
9. Scott Fetzer Co.; Adalet-PLM Division.
10. Spring City Electrical Manufacturing Co.
11. Thomas & Betts Corporation.
12. Woodhead, Daniel Company; Woodhead Industries, Inc. Subsidiary.

- B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, Type FD, with gasketed cover.
- D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- E. Cast-Metal Pull and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.

2.6 FACTORY FINISHES

- A. Finish: For raceway, enclosure, or cabinet components, provide manufacturer's standard paint applied to factory-assembled surface raceways, enclosures, and cabinets before shipping.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Use the following raceways for outdoor installations:
 1. Exposed: IMC.
 2. Concealed: IMC.
 3. Underground, Single Run: RNC.
 4. Underground, Grouped: RNC.
 5. Connection to Vibrating Equipment: LFMC.
 6. Boxes and Enclosures: NEMA 250, Type 3R or Type 4.
- B. Use the following raceways for indoor installations:
 1. Exposed in Unfinished Areas: EMT. Use IMC or Rigid Steel Conduit for locations subject to mechanical damage.
 2. Exposed in finished areas: Surface metal raceway where concealment is impossible. Limit use to the least possible. The impossibility of concealment is in the opinion of the Engineer.
 3. Concealed: EMT.
 4. Connection to Vibrating Equipment: FMC; except in wet or damp locations, use LFMC.
 5. Damp or Wet Locations: IMC.
 6. Boxes and Enclosures: NEMA 250, Type 1, unless otherwise indicated.
- C. Minimum Raceway Size: 3/4-inch trade size (DN 21) unless noted.

- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
 - 2. PVC Externally Coated, Rigid Steel Conduits: Use for rigid elbow stubbing up above ground. Use only fittings approved for use with that material. Patch all nicks and scrapes in PVC coating after installing conduits.

3.2 INSTALLATION

- A. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues or hot-water pipes. Install horizontal raceway runs above water piping.
- B. Do not support electrical equipment or raceways from ceiling grid or ceiling grid supports. Independently support all equipment and raceways directly from structural elements.
- C. Complete raceway installation before starting conductor installation.
- D. Support raceways as specified in Division 16 Section 16050, "Basic Electrical Materials and Methods."
- E. Install temporary closures to prevent foreign matter from entering raceways.
- F. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and keep straight legs of offsets parallel, unless otherwise indicated.
- G. Conceal raceways within finished walls, ceilings, and floors unless concealment is impossible or where otherwise indicated.
 - 1. Install concealed raceways with a minimum of bends in the shortest practical distance, considering type of building construction and obstructions, unless otherwise indicated.
- H. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible.
 - 1. Run parallel or banked raceways together on common supports.
 - 2. Make parallel bends in parallel or banked runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.
- I. Join raceways with fittings designed and approved for that purpose and make joints tight.
 - 1. Use insulating bushings to protect conductors.
- J. Tighten set screws of threadless fittings with suitable tools.
- K. Terminations:
 - 1. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.

2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed. Use bell boxes for all surface mounted Installations
- L. Stub-up Connections: Extend conduits through concrete floor for connection to freestanding equipment. Install with an adjustable top or coupling threaded inside for plugs set flush with finished floor. Extend conductors to equipment with rigid steel conduit; FMC may be used 6 inches (150 mm) above the floor. Install screwdriver-operated, threaded plugs flush with floor for future equipment connections.
 - M. Flexible Connections: Use maximum of 12 inches (35 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for all motors. Use LFMC in damp or wet locations. Install separate ground conductor across flexible connections.
 - N. Surface Raceways: Install a separate, green, ground conductor in raceways from junction box supplying raceways to receptacle or fixture ground terminals.

3.3 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

3.4 CLEANING

- A. After completing installation of exposed, factory-finished raceways and boxes, inspect exposed finishes and repair damaged finishes.

END OF SECTION 16130

SECTION 16138 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

1.1 RELATED REQUIREMENTS

- A. Section 01090 "Definitions and Standards" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
- B. Section 16050 "Basic Electrical Materials and Methods"

1.2 ALLOWANCES

- A. See Section 01210 "Allowances" for description of allowances affecting items specified in this Section.

1.3 UNIT PRICES

- A. See Section 01220 "Unit Prices" for description of unit prices affecting items specified in this Section.

1.4 ALTERNATES

- A. See Section 01103 "Alternates" for description of alternates affecting items specified in this Section.

1.5 TYPE EPEC RACEWAYS AND FITTINGS

- A. General Characteristics: UL 651A and UL CCN EAZX.
- B. Schedule 40 Electrical HDPE Underground Conduit (EPEC-40):
 - 1. Minimum Trade Size: ¾".
- C. Schedule 80 Electrical HDPE Underground Conduit (EPEC-80):
 - 1. Minimum Trade Size: ¾".
- D. Type A Electrical HDPE Underground Conduit (EPEC-A):
 - 1. Minimum Trade Size: ¾".
- E. Type B Electrical HDPE Underground Conduit (EPEC-B):
 - 1. Minimum Trade Size: ¾".

1.6 TYPE ERM-C-S RACEWAYS, ELBOWS, COUPLINGS, AND NIPPLES

- A. General Characteristics: UL 6 and UL CCN DYIX.
- B. Galvanized-Steel Electrical Rigid Metal Conduit (ERM-C-S-G), Elbows, Couplings, and Nipples:
 - 1. Interior Coating: Zinc.
 - 2. Minimum Trade Size: 3/4".
 - 3. Colors: As indicated on Drawings.
- C. PVC-Coated-Steel Electrical Rigid Metal Conduit (ERM-C-S-PVC), Elbows, Couplings, and Nipples:
 - 1. Exterior Coating: PVC complying with NEMA RN 1.
 - 2. Interior Coating: Zinc.
 - 3. Minimum Trade Size: 3/4".
 - 4. Colors: As indicated on Drawings.
 - 5. Conduit Fittings for Hazardous (Classified) Locations: UL 1203.
 - 6. Expansion and Deflection Fittings: UL 651 with flexible external bonding jumper.

1.7 TYPE IMC RACEWAYS

- A. General Characteristics: UL 1242 and UL CCN DYBY.
- B. Steel Electrical Intermediate Metal Conduit (IMC):
 - 1. Exterior Coating: Zinc.
 - 2. Interior Coating: Zinc.
 - 3. Minimum Trade Size: 3/4".
 - 4. Colors: As indicated on Drawings.

1.8 TYPE PVC RACEWAYS AND FITTINGS

- A. General Characteristics: UL 651 and UL CCN DZYR.
- B. Schedule 40 Rigid PVC Conduit (PVC-40) and Fittings:
 - 1. Minimum Trade Size: 3/4".
 - 2. Markings: For use with maximum 90 deg C wire.
- C. Schedule 80 Rigid PVC Conduit (PVC-80) and Fittings:
 - 1. Minimum Trade Size: 3/4"
 - 2. Markings: For use with maximum 90 deg C wire
- D. Type A Rigid PVC Concrete-Encased Conduit (PVC-A) and Fittings:
 - 1. Minimum Trade Size: 3/4".

1.9 FITTINGS FOR CONDUIT, TUBING, AND CABLE

- A. Metallic Fittings for Type ERM, Type IMC, Type PVC, Type EPEC, and Type RTRC Raceways:
 - 1. General Characteristics: UL 514B and UL CCN DWTT.
 - 2. Options:
 - a. Material: Steel.
 - b. Coupling Method: Compression coupling (screw type couplings are not acceptable).
 - c. Conduit Fittings for Hazardous (Classified) Locations: UL 1203.
 - d. Expansion and Deflection Fittings: UL 651 with flexible external bonding jumper.

1.10 ELECTRICALLY CONDUCTIVE CORROSION-RESISTANT COMPOUNDS FOR THREADED CONDUIT

- A. General Characteristics: UL Subject 2419 and UL CCN FOIZ.

1.11 SOLVENT CEMENTS

- A. General Characteristics: As recommended by conduit manufacturer in accordance with UL 514B and UL CCN DWTT.
- B. Sustainability Characteristics:
 - 1. VOC Content: 510 g/L or less for PVC conduit and fittings.
 - 2. Low-Emitting Material Requirements: As recommended by solvent and adhesive manufacturer and that complies with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Solvent cements for Type PVC raceways and fittings.

1.12 DUCT ACCESSORIES

- A. Duct spacers.
- B. Underground-line warning tape.
- C. Concrete warning planks.

1.13 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. General Characteristics:
 - 1. ASTM C858 for design and manufacturing processes.
 - 2. SCTE 77.

- B. Source quality control.
 - 1. Handholes 12 inch wide by 24 inch long (300 mm wide by 600 mm long) and larger must have factory-installed inserts for cable racks and pulling-in irons.
 - 2. Color: Gray.

- C. Fiberglass Handholes and Boxes with Polymer Concrete Frame and Cover:
 - 1. Configuration: Units must be designed for flush burial and have closed bottom unless otherwise indicated.
 - 2. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 - a. Cover Finish: Nonskid finish must have minimum coefficient of friction of 0.50.
 - b. Cover Legend: Molded lettering, "ELECTRIC".
 - 3. Direct-buried wiring entrance provisions.
 - 4. Duct entrance provisions.
 - 5. Handholes 12 inch wide by 24 inch long (300 mm wide by 600 mm long) and larger must have factory-installed inserts for cable racks and pulling-in irons.
 - 6. Color: Gray.

- D. Fiberglass Handholes and Boxes:
 - 1. Description: Molded of fiberglass-reinforced polyester resin, with covers made of polymer concrete.
 - 2. Configuration: Units must be designed for flush burial and have closed bottom unless otherwise indicated.
 - 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 - a. Cover Finish: Nonskid finish must have minimum coefficient of friction of 0.50.
 - b. Cover Legend: Molded lettering, "ELECTRIC"
 - 4. Direct-buried wiring entrance provisions.

1.14 EARTHWORK

- A. Restoration: Restore area after construction vehicle traffic in immediate area is complete.
- B. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.
- C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching. Comply with Section 02920 "Lawns."

1.15 INSTALLATION OF DUCTS AND DUCT BANKS

- A. Interfaces with Other Work:

1. Coordinate installation of new products with existing conditions.

END OF SECTION 16138

SECTION 16140 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Duplex receptacles.
 - 2. Ground-fault circuit interrupters.
 - 3. Single-pole switches.
 - 4. Double-pole switches.
 - 5. Device wall plates.

1.3 DEFINITIONS

- A. GFCI: Ground-fault circuit interrupter.
- B. TVSS: Transient voltage surge suppressor.
- C. EMI: Electromagnetic interference.
- D. UTP: Unshielded twisted pair.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device through one source from a single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70 (2020).

1.6 COORDINATION

- A. Receptacles for Owner-Furnished Equipment: Match plug configurations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following (for each type of wiring device):

1. Single Pole Toggle Switch, 120-277V, 20A:
 - a. Hubbell #HBL1221.
 - b. Leviton #1221-2.
 - c. P & S #20-AC-1.
2. Two Pole Toggle Switch, 120-277V, 20A:
 - a. Hubbell #HBL1222.
 - b. Leviton #1222-2.
 - c. P & S #20-AC-2.
3. Duplex Receptacle, 125V-1 ϕ -20A:
 - a. Hubbell #HBL5362.
 - b. Leviton #5362.
 - c. P & S #5362A.
4. GFCI Receptacles, 125V-1 ϕ -20A:
 - a. Hubbell #HBL-GF-5362.
 - b. Leviton #8899.
 - c. P & S #2091-S.
5. Motor Rated Switches and Manual Motor Starters:
 - a. General Electric CR101 Series.
 - b. Square-D FG or KG Series.
 - c. P & S 78XX Series.

2.2 DEVICE PLATES

- A. Single and combination types to match corresponding wiring devices.
 1. Plate-Securing Screws: Metal with head color to match plate finish.
 2. Material for Finished Spaces: 0.035-inch- (1-mm-) thick, satin-finished stainless steel.
Material for Unfinished Spaces: Galvanized steel.

3. Material for Wet Locations: Thermoplastic, with spring-loaded lift cover, and listed and labeled for use in "wet locations." For receptacles, listing shall apply with plug cap inserted.

2.3 FINISHES

A. Color:

1. Wiring Devices Connected to Normal Power System: Gray, unless otherwise indicated or required by NFPA 70.
2. Wiring Devices Connected to Emergency Power System: Red.
3. TVSS Devices: Blue.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install devices and assemblies level, plumb, and square with building lines.
- B. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical, and with grounding terminal of receptacles on top.
- C. Remove wall plates and protect devices and assemblies during painting.

3.2 MOUNTING HEIGHTS

- A. Mount toggle switches at 48 inches above finished floor to center of toggle handle.

3.3 IDENTIFICATION

- A. Comply with Division 16 Section 16050, "Basic Electrical Materials and Methods".
 1. Receptacles: Identify panelboard and circuit number from which served. Use hot, stamped or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

3.4 CONNECTIONS

- A. Ground equipment according to Division 16 Section 16060, "Grounding and Bonding."
- B. Connect wiring according to Division 16 Section 16120, "Conductors and Cables."
- C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

- D. Do not connect stranded wire to devices using back wired push-in feature.
- E. When terminating stranded conductors on devices, ends of strands shall be contained by insulation so that all strands must be held by screw.

3.5 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 - 1. After installing wiring devices and after electrical circuitry has been energized, test for proper polarity, ground continuity, and compliance with requirements.
 - 2. Test GFCI operation with both local and remote fault simulations according to manufacturer's written instructions.
- B. Remove malfunctioning units, replace with new units, and retest as specified above.

END OF SECTION 16140

SECTION 16289 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes field-mounted SPDs for low-voltage (120 to 600 V) power distribution and control equipment.

1.3 DEFINITIONS

- A. Inominal: Nominal discharge current.
- B. MCOV: Maximum continuous operating voltage.
- C. Mode(s), also Modes of Protection: The pair of electrical connections where the VPR applies.
- D. MOV: Metal-oxide varistor; an electronic component with a significant non-ohmic current-voltage characteristic.
- E. OCPD: Overcurrent protective device.
- F. SCCR: Short-circuit current rating.
- G. SPD: Surge protective device.
- H. VPR: Voltage protection rating.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
 - 2. Copy of UL Category Code VZCA certification, as a minimum, listing the tested values for VPRs, Inominal ratings, MCOVs, type designations, OCPD requirements, model numbers, system voltages, and modes of protection.

1.5 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.
- B. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For SPDs to include in maintenance manuals.

1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to replace or replace SPDs that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: **Five** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GENERAL SPD REQUIREMENTS

- A. SPD with Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. Comply with UL 1449.
- D. MCOV of the SPD shall be the nominal system voltage.
 - 1. [Eaton Corporation.](#)
 - 2. [Emerson Electric Co.](#)
 - 3. [GE Zenith Controls.](#)
 - 4. [LEA International; Protection Technology Group.](#)
 - 5. [Leviton Manufacturing Co., Inc.](#)
 - 6. [PowerLogics, Inc.](#)
 - 7. [Schneider Electric Industries SAS.](#)
 - 8. [Siemens Industry, Inc.](#)
- E. SPDs: Comply with UL 1449, **Type 2**.
- F. SPDs: Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, **Type 2**
 - 1. SPDs with the following features and accessories:
 - a. Integral disconnect switch.

- b. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
 - c. Indicator light display for protection status.
- G. Comply with UL 1283.
- H. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 36 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.
- I. Protection modes and UL 1449 VPR for grounded wye circuits with **480Y/277 V and 208Y/120 V**, three-phase, four-wire circuits shall not exceed the following:
 - 1. Line to Neutral: **1200 V for 480Y/277 V and 150 V for 208Y/120 V**.
 - 2. Line to Ground: **1200 V for 480Y/277 V and 300 V for 208Y/120 V**.
 - 3. Line to Line: **2000 V for 480Y/277 V and 300 V for 208Y/120 V**.
- J. Protection modes and UL 1449 VPR for 240/120 V, single-phase, three-wire circuits shall not exceed the following:
 - 1. Line to Neutral: 700 V.
 - 2. Line to Ground: **700 V**.
 - 3. Line to Line: 1000 V.
- K. SCCR: Equal or exceed 36 kA.
- L. Inominal Rating: 20 kA.

2.2 PANEL SUPPRESSORS

- A. Manufacturers: Subject to compliance with requirements, **provide products by one of the following**:
- B. **Basis-of-Design Product**: Subject to compliance with requirements, provide **product indicated on Drawings** or comparable product by one of the following:
 - 1. [ABB France](#).
 - 2. [Advanced Protection Technologies Inc. \(APT\)](#).
 - 3. [Eaton Corporation](#).
 - 4. [Emerson Electric Co](#).
 - 5. [GE Zenith Controls](#).
 - 6. [LEA International; Protection Technology Group](#).
 - 7. [Leviton Manufacturing Co., Inc](#).
 - 8. [PowerLogics, Inc](#).
 - 9. [Schneider Electric Industries SAS](#).
 - 10. [Siemens Industry, Inc](#).
- C. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 36 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

- D. Comply with UL 1283.

2.3 ENCLOSURES

- A. Indoor Enclosures: NEMA 250, Type 1.
- B. Outdoor Enclosures: NEMA 250, **Type 3R**.

2.4 CONDUCTORS AND CABLES

- A. Power Wiring: Same size as SPD leads, complying with Section 16120 "Conductors and Cables."
- B. Class 2 Control Cables: Multiconductor cable with copper conductors not smaller than **No. 18** AWG, complying with Section 16120 "Conductors and Cables."
- C. Class 1 Control Cables: Multiconductor cable with copper conductors not smaller than **No. 14** AWG, complying with Section 16120 "Conductors and Cables."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1.
- B. Install an OCPD or disconnect as required to comply with the UL listing of the SPD.
- C. Install SPDs with conductors between suppressor and points of attachment as short and straight as possible, and adjust circuit-breaker positions to achieve shortest and straightest leads. Do not splice and extend SPD leads unless specifically permitted by manufacturer. Do not exceed manufacturer's recommended lead length. Do not bond neutral and ground.
- D. Use crimped connectors and splices only. Wire nuts are unacceptable.
- E. Wiring:
 - 1. Power Wiring: Comply with wiring methods in Section 16120 "Conductors and Cables."
 - 2. Controls: Comply with wiring methods in Section 16120 "Conductors and Cables."

3.2 FIELD QUALITY CONTROL

- A. Replace any SPD that fails within one year of substantial completion date.

3.3 STARTUP SERVICE

- A. Complete startup checks according to manufacturer's written instructions.

- B. Do not perform insulation-resistance tests of the distribution wiring equipment with SPDs installed. Disconnect SPDs before conducting insulation-resistance tests, and reconnect them immediately after the testing is over.
- C. Energize SPDs after power system has been energized, stabilized, and tested.

END OF SECTION 16289

SECTION 16521 - EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior luminaires with lamps and ballasts.
 - 2. Poles and accessories.

1.3 DEFINITIONS

- A. LED Light Emitting Diode
- B. HID: High-intensity discharge.
- C. Luminaire: Complete lighting fixture, including ballast housing if provided.
- D. Pole: Luminaire support structure, including tower used for large area illumination.
- E. Standard: Same definition as "Pole" above.

1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

- A. Dead Load: Weight of luminaire and its horizontal and vertical supports and supporting structure, applied as stated in AASHTO LTS-4.
- B. Live Load: Single load of 500 lbf (2224 N), distributed as stated in AASHTO LTS-4.
- C. Ice Load: Load of 3 lbf/sq. ft. (143.6 Pa), applied as stated in AASHTO LTS-4.
- D. Wind Load: Pressure of wind on pole and luminaire, calculated and applied as stated in AASHTO LTS-4.
 - 1. Wind speed for calculating wind load for poles is 100 mph (160 km/h).

1.5 SUBMITTALS

- A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:

1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
2. Details of attaching luminaires and accessories.
3. Details of installation and construction.
4. Luminaire materials.
5. Photometric data based on laboratory tests of each luminaire type, complete with indicated lamps, ballasts, and accessories.
 - a. Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
6. Photoelectric relays.
7. Ballasts, including energy-efficiency data.
8. Lamps, including life, output, and energy-efficiency data.
9. Materials, dimensions, and finishes of poles.
10. Means of attaching luminaires to supports, and indication that attachment is suitable for components involved.
11. Anchor bolts for poles.
12. Manufactured pole foundations.

B. Shop Drawings:

1. Anchor-bolt templates keyed to specific poles and certified by manufacturer.
2. Wiring Diagrams: Power and control wiring.

C. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements in AASHTO LTS-4 and that load imposed by luminaire has been included in design.

D. Qualification Data: For agencies providing photometric data for lighting fixtures.

E. Field quality-control test reports.

F. Operation and Maintenance Data: For luminaires and poles to include in emergency, operation, and maintenance manuals.

G. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with IEEE C2, "National Electrical Safety Code."

- D. Comply with NFPA 70 (2020).

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Package poles for shipping according to ASTM B 660.
- B. Store poles on decay-resistant-treated skids at least 12 inches (300 mm) above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.
- C. Handle poles so they will not be damaged.
- D. Retain factory-applied pole wrappings on poles until right before pole installation. Handle poles with web fabric straps.
- E. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.
 - 1. Warranty Period for Luminaires: Five years from date of Substantial Completion.
 - 2. Warranty Period for Metal Corrosion: Five years from date of Substantial Completion.
 - 3. Warranty Period for Color Retention: Five years from date of Substantial Completion.
 - 4. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than five years from date of Substantial Completion.

1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Fixtures: 1 for every 10 of each type and rating installed. Furnish at least one of each type.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. As specified on the drawings or with approval prior to the bid. Approval granted prior to bid is subject, after the bid, to comparison with the specified equipment and to compliance with the plans, specifications and space limitation requirements.

2.2 LUMINAIRES, GENERAL REQUIREMENTS

- A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.
- B. Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.
- G. Exposed Hardware Material: Stainless steel.
- H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- I. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.
- J. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
- K. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.
- L. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

2.3 LUMINAIRE-MOUNTED PHOTOELECTRIC RELAYS

- A. Comply with UL 773 or UL 773A.
- B. Contact Relays: Factory mounted, single throw, designed to fail in the on position, and factory set to turn light unit on at 1.5 to 3 fc (16 to 32 lx) and off at 4.5 to 10 fc (48 to 108 lx) with 15-second minimum time delay. Relay shall have directional lens in front of photocell to prevent artificial light sources from causing false turnoff.

1. Relay with locking-type receptacle shall comply with NEMA C136.10.
2. Adjustable window slide for adjusting on-off set points.

2.4 FLUORESCENT BALLASTS AND LAMPS

- A. Low-Temperature Driver Capability: Rated by its manufacturer for reliable starting and operation of indicated LED(s) at temperatures 0 degrees F (-18 degrees C) and higher.
- B. Driver Characteristics:
 1. Power Factor: 90 percent, minimum.
 2. Sound Rating: A.
 3. Total Harmonic Distortion Rating: Less than 20 percent.
 4. Transient-Voltage Protection: Comply with IEEE C62.41 Category A or better.

2.5 POLES AND SUPPORT COMPONENTS, GENERAL REQUIREMENTS

- A. Structural Characteristics: Comply with AASHTO LTS-4.
 1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in Part 1 "Structural Analysis Criteria for Pole Selection" Article, with a gust factor of 1.3.
 2. Strength Analysis: For each pole, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.
- B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts, unless otherwise indicated.
- C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
 1. Materials: Shall not cause galvanic action at contact points.
 2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication, unless stainless-steel items are indicated.
 3. Anchor-Bolt Template: Plywood or steel.
- D. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Concrete, reinforcement, and formwork are specified in Division 3 Section "Cast-in-Place Concrete."
- E. Breakaway Supports: Frangible breakaway supports, tested by an independent testing agency acceptable to authorities having jurisdiction, according to AASHTO LTS-4.

2.6 STEEL POLES

- A. Poles: Comply with ASTM A 500, Grade B, carbon steel with a minimum yield of 46,000 psig (317 MPa); 1-piece construction up to 40 feet (12 meters) in height with access handhole in pole wall.

1. Shape: As scheduled.
 2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.
- B. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.
- C. Intermediate Handhole and Cable Support: Weathertight, 3-by-5-inch (76-by-127-mm) handhole located at midpoint of pole with cover for access to internal welded attachment lug for electric cable support grip.
- D. Grounding and Bonding Lugs: Welded 1/2-inch (13-mm) threaded lug, complying with requirements in Division 16 Section 16060, "Grounding and Bonding," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.
- E. Cable Support Grip: Wire-mesh type with rotating attachment eye, sized for diameter of cable and rated for a minimum load equal to weight of supported cable times a 5.0 safety factor.
- F. Platform for Lamp and Ballast Servicing: Factory fabricated of steel with finish matching that of pole.
- G. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.
- H. Galvanized Finish: After fabrication, hot-dip galvanize complying with ASTM A 123/A 123M.
- I. Factory-Painted Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.7 POLE ACCESSORIES

- A. Duplex Receptacle: 120 V, 20 A in a weatherproof assembly complying with Division 16 Section "Wiring Devices" for ground-fault circuit-interrupter type.
1. Recessed, 12 inches (300 mm) above finished grade.
 2. Nonmetallic polycarbonate plastic or reinforced fiberglass cover, color to match pole, that when mounted results in NEMA 250, Type 3R enclosure.
 3. With cord opening.
 4. With lockable hasp and latch that complies with OSHA lockout and tag-out requirements.
- B. Minimum 1800-W transformer, protected by replaceable fuses, mounted behind access cover.
- C. Base Covers: Manufacturers' standard metal units, arranged to cover pole's mounting bolts and nuts. Finish same as pole.

2.8 REQUIREMENTS FOR INDIVIDUAL EXTERIOR LIGHTING DEVICES

- A. Exterior Lighting Devices: As scheduled on the contract drawings.

PART 3 - EXECUTION

3.1 LUMINAIRE INSTALLATION

- A. Install lamps in each luminaire.
- B. Fasten luminaire to indicated structural supports.
 - 1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- C. Adjust luminaires that require field adjustment or aiming. Include adjustment of photoelectric device to prevent false operation of relay by artificial light sources.

3.2 POLE INSTALLATION

- A. Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole.
- B. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Division 3 Section "Cast-in-Place Concrete."
- C. Foundation-Mounted Poles: Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.
 - 1. Use anchor bolts and nuts selected to resist seismic forces defined for the application and approved by manufacturer.
 - 2. Grout void between pole base and foundation. Use nonshrink or expanding concrete grout firmly packed to fill space.
 - 3. Install base covers, unless otherwise indicated.
 - 4. Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.
- D. Embedded Poles with Tamped Earth Backfill: Set poles to depth below finished grade indicated on Drawings, but not less than one-sixth of pole height.
 - 1. Dig holes large enough to permit use of tampers in the full depth of hole.
 - 2. Backfill in 6-inch (150-mm) layers and thoroughly tamp each layer so compaction of backfill is equal to or greater than that of undisturbed earth.
- E. Embedded Poles with Concrete Backfill: Set poles in augered holes to depth below finished grade indicated on Drawings, but not less than one-sixth of pole height.
 - 1. Make holes 6 inches (150 mm) in diameter larger than pole diameter.
 - 2. Fill augered hole around pole with air-entrained concrete having a minimum compressive strength of 3000 psi (20 MPa) at 28 days, and finish in a dome above finished grade.
 - 3. Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through concrete dome. Arrange to drain condensation from interior of pole.
 - 4. Cure concrete a minimum of 72 hours before performing work on pole.

- F. Poles and Pole Foundations Set in Concrete Paved Areas: Install poles with minimum of 6-inch- (150-mm-) wide, unpaved gap between the pole or pole foundation and the edge of adjacent concrete slab. Fill unpaved ring with pea gravel to a level 1 inch (25 mm) below top of concrete slab.
- G. Raise and set poles using web fabric slings (not chain or cable).

3.3 BOLLARD LUMINAIRE INSTALLATION

- A. Align units for optimum directional alignment of light distribution.
- B. Install on concrete base with top 4 inches (100 mm) above finished grade or surface at bollard location. Cast conduit into base, and shape base to match shape of bollard base. Finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Division 3 Section "Cast-in-Place Concrete."

3.4 INSTALLATION OF INDIVIDUAL GROUND-MOUNTING LUMINAIRES

- A. Install on concrete base with top 4 inches (100 mm) above finished grade or surface at luminaire location. Cast conduit into base, and finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Division 3 Section "Cast-in-Place Concrete."

3.5 CORROSION PREVENTION

- A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.
- B. Steel Conduits: Comply with Division 16 Section 16130, "Raceways and Boxes." In concrete foundations, wrap conduit with 0.010-inch- (0.254-mm-) thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.6 GROUNDING

- A. Ground metal poles and support structures according to Division 16 Section 16060, "Grounding and Bonding."
 - 1. Install grounding electrode for each pole, unless otherwise indicated.
 - 2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.
- B. Ground nonmetallic poles and support structures according to Division 16 Section 16060, "Grounding and Bonding."
 - 1. Install grounding electrode for each pole.
 - 2. Install grounding conductor and conductor protector.
 - 3. Ground metallic components of pole accessories and foundations.

3.7 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.
 - 1. Verify operation of photoelectric controls.
- C. Illumination Tests:
 - 1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IESNA testing guide(s):
 - a. IESNA LM-5, "Photometric Measurements of Area and Sports Lighting."
 - b. IESNA LM-50, "Photometric Measurements of Roadway Lighting Installations."
 - c. IESNA LM-52, "Photometric Measurements of Roadway Sign Installations."
 - d. IESNA LM-64, "Photometric Measurements of Parking Areas."
 - e. IESNA LM-72, "Directional Positioning of Photometric Data."
- D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

END OF SECTION 16521

SECTION 16522 – STEEL CYLINDRICAL FOUNDATIONS

PART 1 – GENERAL

1.1 Scope of Work

The usual application for this foundation is where loads are moderate and the project requires greater column stiffness than is possible with the typical square shaft helical pile. Examples of applications are: Light Standards, Curbside Business Sign Support, electrical/Mechanical equipment Pad Support, Cantilevered Loads, etc.

This work consists of furnishing labor, tools, equipment and materials associated with the preparation and installation of the Chance® Instant Foundations for structural foundation support according to the specifications contained herein. The work includes, but is not limited to, the following:

1. Diligent investigation of the possible existence and location of underground utilities situated at or near the area of work;
2. Excavation and preparation of foundation soil to grade for foundation installation;
3. Mounting of the hydraulic gear motor on a backhoe unit or similar auxiliary powered equipment, and the installation of the Instant Foundations product to the required torque resistance at the required depth (if torque resistance measurement is required).
4. Removal of the hydraulic gear motor.
5. Conducting an optional Field Load Test on one or more Instant Foundations products.
6. Clean Up.

1.2 References

1. Building Officials and Code administrators International, Inc. (BOCA) Basic National Building Code.
2. American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

1.3 Delivery, Storage and Handling

All foundation products shall be handled and transported carefully to prevent any deformation or damage. Care should be taken to prevent the accumulation of dirt, mud or other foreign matter on the steel materials. Such accumulation shall be completely removed prior to installation.

PART 2 - MATERIAL

2.1 Hydraulic Gear Motor

The torque rating of the hydraulic gear motor used to install the Instant Foundations product shall be adequate to install the required foundation. It is suggested that the torque rating be 25 percent higher than the planned installation torque. Depending upon the soil conditions and pile configuration, different hydraulic gear motors may be required.

2.2 3-1/2" and 4" Diameter Helical Instant Foundations Series

2.2.1 Foundation Shaft Section

The shaft section consists of a tubular hot rolled steel pile section 3-1/2" in diameter with a 0.300" wall thickness, or 4" diameter with a wall thickness of 0.226" conforming to ASTM A-53, A-252 and A-500. The length of the foundation shall be as specified: 4', 4'-8", 5', etc. The lead end of the 3.5" and 4" foundations shall have a single or double bevel cut to aid in starting the foundation installation. Welded to the shaft shall be one ASTM A-635 steel helical plate with a thickness of 3/8" and a 3" pitch.

2.2.2 Foundation System Base Mounting Plates

Foundation base plates may be round or square, of various sizes in plan view and may vary in thickness from 1/2" to 1-1/2" depending on job requirements.

2.3 6-5/8", 8-5/8" and 10-3/4" Diameter Helical Instant Foundations Series

2.3.1 Foundation Shaft Section

The shaft section consists of 6" diameter (6-5/8" outside diameter with 0.280" wall), 8" diameter

(8-5/8" outside diameter with 0.250" wall) or 10" (10-3/4" outside diameter with 0.250" wall) steel pipe conforming to ASTM A-53, A-252 or A-500. The length of the foundation may be 4', 5', 7', 8' or 10' long as required by the application. The pile section shall have two wire access slots located 180° from each other. The integral foundation cap plate shall have an alignment notch located

Directly above one of the wire access slots. Welded to the lead end of the foundation shaft shall be a steel helical plate with a 3" pitch. To aid in starting the pile, a 1-1/4" diameter steel rod shall extend beyond the center of the helix to provide a pilot.

2.3.2 Foundation System Base Mounting Plates

Foundation base plates may be round or square, of various sizes in plan view and may vary in thickness from 3/4" to 1-1/2" depending on job requirements.

2.4 Weldments

All welded connections shall conform to the requirements of the American Welding Society Structural Welding Code, AWS D1.1 and applicable revisions.

PART 3 – PRODUCTS

3.1 Manufacturers:

1. Hubbell - Chance® Instant Foundation® products

3.2 Specifications:

1. 3-1/2" Dia x 0.300" Wall

4" Dia x 0.226" Wall
6-5/8" Dia x 0.280 Wall
8-5/8" Dia x 0.250" Wall
10-3/4" Dia x 0.250" Wall

2. Hot-Dipped Galvanized
3. ASTM 153, 3-mil coat thickness
4. Variable bolt circle
5. Precast concrete collars
 - a. Specify height and diameter
 - b. Slip-on installation

PART 4 - EXECUTION

The following is intended to provide the controlling specification for the major steps undertaken in the installation of the Chance® Instant Foundation systems. Variations in the installation procedure may occur depending on the application and the structural support required.

WARNING! THOROUGHLY INVESTIGATE THE POSSIBLE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES SITUATED AT OR NEAR THE AREA OF WORK BEFORE PROCEEDING. SERIOUS INJURY MAY RESULT FROM FAILURE TO LOCATE ALL UNDERGROUND UTILITIES. REQUEST UNDERGROUND UTILITIES LOCATION BY CONTACTING LA 811 ONE CALL BEFORE DOING ANY EXCAVATIONS.

4.1 Preparation

The soil shall be excavated to the proper grade for placement of the Chance® Instant Foundations product. Stakes should be set at each foundation location prior to commencement of work. The foundation layout and staking should be under the supervision of the responsible structural engineer and be accomplished using fully qualified and trained technicians familiar with foundation layout.

4.2 Installation of The Instant Foundations Product

The hydraulic gear motor shall be installed on a backhoe or other suitable pile installation unit. Mount the Instant Foundations Product to the hydraulic gear motor via the appropriate Kelly bar adapter and installing tool using two structural grade bolts and nuts. The foundation is positioned vertically over a marked pile location and driven into the soil by means of the hydraulic gear motor. Rotary installation continues until the required design torque is achieved at or below the predetermined depth. The baseplate is typically installed to grade or slightly above to allow clearance for bolt mounting of the pole base. It is important that the installation torque remain at

or above the predetermined value during this process. Details of the installation shall be provided to the supervising engineer for review.

4.3 Documentation

When required, the dealer/installing contractor shall monitor the torque applied to the foundation during installation. It is suggested, but not mandatory that the installation torque be recorded at one-foot intervals throughout the installation. The installation torque may be measured with a calibrated torque indicator. At the conclusion of the installation, a copy of the foundation installation record shall be provided to the engineer for review.

4.4 Load Test (Optional)

A detailed description on the requirements and procedures for conducting a Load Test may be found in Appendix B (Load Tests). The results of the Field Load Test provide guidance for determining the ultimate and allowable foundation loads.

Load testing should be conducted under the supervision of the responsible engineer.

Depending on the project specifications, a Working Load Test may be required. Normally, the first installed foundation is selected for this test; however, some specifications require ultimate loading of the foundation. If an Ultimate Load Test is required, a test foundation must be installed in an alternate location on the site in addition to the pile locations marked. After the Ultimate Load Test is completed, the test foundation may be removed from the soil and used on the project, provided it is not damaged.

4.5 Clean Up

Upon completion of the installation of the Chance® Instant Foundations product, all equipment shall be removed from the site. Any disturbed soils in the area of the foundation shall be restored to the dimensions and condition specified by the engineer.

END OF SECTION

EXTERIOR LIGHTING IMPROVEMENTS

University of Louisiana at Monroe Monroe, Louisiana

AE&EC PROJECT NO. P1123-002

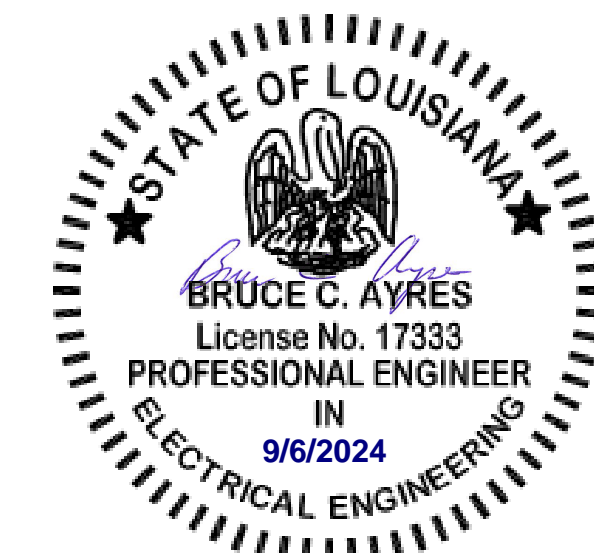
AUGUST 15, 2024



AYRES ELECTRICAL & ENERGY CONSULTING, LLC
RUSTON, LOUISIANA

INDEX TO DRAWINGS

SHEET NO.	TITLE
CS1	COVER SHEET
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E-102A	AREAS TO BE IMPROVED
E-102B	AREAS TO BE IMPROVED - DETAILS
E-103	CAMPUS MAP - CITY OF MONROE STREET LIGHTS
E-201	BAYOU VILLAGE APARTMENTS 5, 6, 7 DETAILS
E-301	FIXTURES SCHEDULE AND DETAILS
C-101	LIGHT POLES FOUNDATION DETAIL

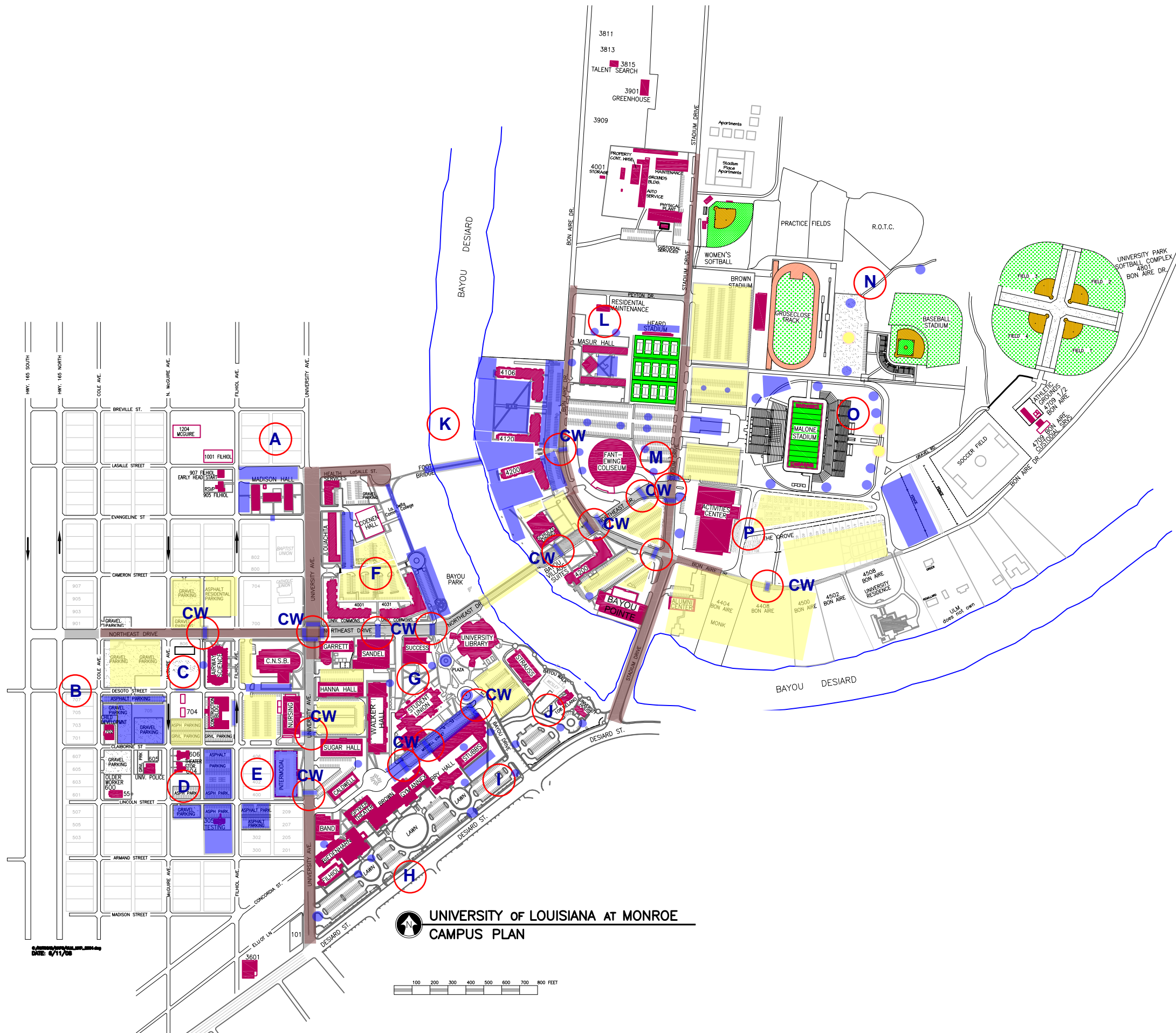


AREAS ADEQUATELY LIGHTED, NOT TO BE ADDRESSED

AREAS OF CITY STREETS TO BE CONSIDERED FOR RELAMPING

AREAS OF THE CAMPUS TO BE ADDRESSED, LAMPED OR RELAMPED

THE LOUISIANA OFFICE OF STATE FIRE MARSHAL REQUIRES THE MINIMUM STANDARD: NFPA 70 NEC FOR CONSTRUCTION OF THIS PROJECT.



DATE: 6/11/23

UNIVERSITY OF LOUISIANA AT MONROE
CAMPUS PLAN



BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE

DESIGNER: BCA



AYRES ELECTRICAL & ENERGY CONSULTING, LLC
BRUCE C. AYRES, PE, CEM, CPQ
124 AMY LANE
RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net

UNIVERSITY OF LOUISIANA AT MONROE
CAMPUS MAP
EXTERIOR LIGHTING IMPROVEMENTS
EXISTING AREAS KEY

DRAWING TITLE	UNIVERSITY OF LOUISIANA AT MONROE CAMPUS MAP EXTERIOR LIGHTING IMPROVEMENTS EXISTING AREAS KEY
REVISIONS	
	○
	○
	○
PRJT NO.	P1123-002
DATE:	AUGUST 15 2024
SHEET NO:	E-101
	OF 6

AREA	PRIORITY	WORK TO BE DONE
ALL	3	REPLACE OR RETROFIT HID KING LUMINAIRE ACORN FIXTURES WITH LED TYPE E6 FIXTURE OR ARF RETROFIT KIT. QUANTITY TO BE DETERMINED.
A	1	MADISON HALL - REPLACE 3 SQUARE HID 400W MH FIXTURES ON SQUARE POLES AND ARMS WITH LED TYPE E5 FIXTURES. REPLACE 4 HID FLOODLIGHTS, 2 PER POLE ON WEST SIDE WITH LED TYPE E9 FIXTURE.
B	1	PARKING LOTS WEST OF ULM PARKING FACILITY, INSIDE THE BLOCK BETWEEN CLAIBORNE & DESOTO STREETS AND BETWEEN COLE AND MCGUIRE AVENUES. FURNISH AND INSTALL 4 EACH 2-HEAD LED TYPE E5 FIXTURES AND P3 POLES 30 FT HIGH ON 2 FT DIAMETER ROUND, 2 FT ABOVE GROUND, AND ?? FT BELOW GROUND FOUNDATION PER DETAIL ON E-301. LOCATIONS BY ULM. CONNECT TO UNDERGROUND CIRCUIT TO FROM ENTERGY PROVIDED POLE MOUNT TRANSFORMER/METER TO BE REQUESTED. PROVIDE ALL MATERIALS NEEDED BY ENTERGY FOR METER. PROVIDE CIRCUIT BREAKER PANEL, CONDUIT, WIRING.
C	1	AREA NEAR HEMPHILL HALL: FURNISH AND INSTALL 2 P1 20 FT POLES WITH E4 FIXTURES AND FOUNDATIONS, ONE ON DESOTO SOUTH OF THE INTERNATIONAL BLDG AND ONE ON THE SHORT STREET BETWEEN HEMPHILL HALL AND THE INTERNATIONAL BLDG. PROVIDE UNDERGROUND POWER FROM HEMPHILL AND THE INTERNATIONAL BLDG. REPLACE OLD MUSHROOM HEAD FIXTURE ON SIDEWALK SOUTH OF CNSB WITH TYPE E3.
D	1	PARKING LOTS INSIDE THE BLOCK BETWEEN CLAIBORNE & ARMAND STREETS AND BETWEEN FILHIOL AND MCGUIRE AVENUES AND THE BLOCK BETWEEN LINCOLN AND MCGUIRE AND UNIVERSITY AND FILHIOL. FURNISH AND INSTALL 6 EACH 2-HEAD LED TYPE E5 FIXTURES AND P3 POLES 30 FT HIGH ON F3 STEEL CYLINDRICAL FOUNDATION PER DETAIL ON C-101. LOCATIONS BY ULM. CONNECT TO UNDERGROUND CIRCUIT TO FROM ENTERGY-PROVIDED POLE MOUNT TRANSFORMER/METER TO BE REQUESTED. PROVIDE ALL MATERIALS NEEDED BY ENTERGY FOR METER. PROVIDE CIRCUIT BREAKER PANEL, CONDUIT, WIRING.
E	3	INTERMODAL PARKING FACILITY: FURNISH AND REPLACE ON A ONE-FOR-ONE BASIS EACH ROUND HID FIXTURE AND EACH 4 FOOT LINEAR FLUORESCENT FIXTURE MOUNTED ON THE CEILINGS OF THE INTERMODAL PARKING FACILITY. PROVIDE 60 LED TYPE E7 FIXTURES AND 21 LED TYPE E8 FIXTURES PLUS 4 SPARE FIXTURES OF EACH TYPE. FURNISH AND REPLACE 7 POLE FIXTURES AT THE TOP DECK WITH TYPE E5 LED FIXTURES.
F	2	AREAS AT OUACHITA, COENEN, AND COMMONS 2. REPLACE 7 HID FIXTURES WITH LED TYPE E5 ALONG EAST SIDE OF OUACHITA HALL. REMOVE ONE STRESS CRETE POLE, FOUNDATION, AND REPAIR ANY CONDUITS RUNNING UNDERGROUND THAT FEED OTHER POLES AT THE NW CORNER OF COENEN HALL. RETURN POLE TO ULM. REPLACE COVER AT THE BASE OF POLES #392 AND REPLACE PVC CONDUIT WITH RIGID METAL CONDUIT FROM COVER TO BELOW GROUND OF #392 AND #394. REPLACE DAMAGED HID WALL PACK ON THE NORTH SIDE OF COENEN HALL WITH A TYPE E9 LED FLOODLIGHT. FURNISH AND REPLACE BOLLARDS ALONG PEDESTRIAN SIDEWALK EAST OF COENEN HALL WITH TYPE E1 LED BOLLARD. REPLACE HID FIXTURES WITH LED TYPE E5 IN PARKING LOT NORTH OF COMMONS 1 AND 2. REPLACE BOLLARDS ON SIDEWALKS NORTH OF COMMONS 1 AND 2 AND BETWEEN COMMONS 1 & 2 SOUTH TO NORTHEAST DRIVE WITH TYPE E1. REPLACE HID FIXTURES WITH LED TYPE E5 FIXTURES AROUND CONCRETE CIRCLE NE OF COMMONS 2. REPLACE BOLLARDS AROUND CONCRETE CIRCLE WITH CYPRESS TREE IN THE CENTER, EAST OF COMMONS 2. TYPE E1 LED BOLLARD. REPLACE HID FIXTURE ON POLE SE SIDE OF COMMONS 2, WEST SIDE OF CIRCLE. TYPE E5 FIXTURE. REPLACE MH BOX FIXTURES ON THE EAST SIDE OF COMMONS 2 WITH TYPE E5 DIST V FIXTURES.
G	2	AREAS AROUND STUDENT CENTER & UNIVERSITY LIBRARY. FURNISH & REPLACE WHITE BOLLARDS SOUTHWEST OF UNIVERSITY LIBRARY/ADMIN BLDG WITH TYPE E2 LED FIXTURE. (NOTE: SOME FIXTURES ARE MISSING (3). FURNISH & INSTALL NEW E2 FIXTURES AT THESE LOCATIONS ALSO.) FURNISH AND INSTALL 2 TYPE E3 FIXTURES ON EAST AND WEST SIDES OF CIRCLE DRIVE AROUND WARHAWK SCULPTURE. FURNISH AND INSTALL NEW P2 POLES AND F2 FOUNDATION ON NORTHEAST GRASSED AREA OFF CIRCLE DRIVE AROUND WARHAWK SCULPTURE. ALSO FURNISH AND INSTALL TYPE E3 FIXTURE AND POWER UNDERGROUND FROM EXISTING CIRCUIT. FURNISH AND INSTALL FOUNDATION AND POLE P2 (20 FT) WITH TYPE E3 FIXTURE AT INTERSECTION OF SIDEWALKS NORTHEAST OF STUDENT CENTER AS SHOWN WITH BLUE DOT ON PLAN E-101. FURNISH POWER FROM NEAREST POLE FIXTURE (#255). REPLACE 2 HPS FLOODLIGHTS ON POLE SOUTHEAST OF STUDENT CENTER WITH TYPE E9 LED FLOODLIGHTS. FURNISH AND INSTALL 1 TYPE E3 FIXTURE, POLE P2 (20 FT), AND FOUNDATION F2 AT THE EAST END OF THE PARKING LOT BETWEEN SUGAR AND CALDWELL HALLS. PROVIDE POWER CIRCUIT FROM CALDWELL EQUIPMENT ROOM. SEE PLAN E-101 BLUE DOT LOCATION.
H	2	AREAS NEAR FILHIOL, BIENDENHARM, AND BROWN. FURNISH AND INSTALL TYPE E5 FIXTURE, POLE P2 (20 FT), AND FOUNDATION F2 AT THE WEST ENTRANCE TO THE PARKING LOT FOR FILHIOL HALL/UNIVERSITY POLICE. PROVIDE AND INSTALL POWER CIRCUIT FROM NEARBY POLE UNDERGROUND. SEE BLUE DOT ON PLAN E-101. PROVIDE NEW FOUNDATION FOR EXISTING FIXTURES/POLES #220, AND #221 (DOUBLE KING LUMINAIRE) LOCATED ON THE SOUTH SIDE OF BIENDENHARN. MOVE THE POLES AND FIXTURES APPROXIMATELY 20 FT TO POSITION THEM OUT OF THE TREES. EXTEND THE POWER CIRCUITS FROM THE OLD LOCATIONS TO THE NEW AND RECONNECT. SEE PLAN E-101. STRAIGHTEN AND STABILIZE POLE #222 SOUTH OF FILHIOL HALL.
I	2	AREAS SOUTH OF BRY AND STUBBS HALLS AND BETWEEN STUBBS BLDGS. PROVIDE NEW FOUNDATION FOR EXISTING FIXTURES/POLE #213 (DOUBLE KING LUMINAIRE). MOVE THE POLE AND FIXTURES APPROXIMATELY 20 FT WEST TO POSITION IT OUT OF THE TREES. EXTEND THE POWER CIRCUITS FROM THE OLD LOCATIONS TO THE NEW AND RECONNECT. PROVIDE AND INSTALL NEW FOUNDATION, POLE P1 (20 FT), AND FIXTURE TYPE E5 AT THE DESIARD STREET ENTRANCE TO BRY HALL AREA. SEE BLUE DOT. PROVIDE AND INSTALL NEW FOUNDATION, POLE P2 (20 FT), AND FIXTURE TYPE E5 AT THE DESIARD STREET ENTRANCE TO BRY HALL AREA. SEE BLUE DOT. PROVIDE AND INSTALL NEW FOUNDATION, POLE P2 (20 FT), AND FIXTURE TYPE E3 BETWEEN STUBBS BUILDINGS. SEE BLUE DOT ON E-101. PROVIDE POWER CIRCUIT FROM STUBBS EQUIPMENT ROOM. PROVIDE AND INSTALL 3 FOUNDATIONS, POLES (20 FT), AND FIXTURES E5 ALONG AND EITHER SIDE OF BAYOU DRIVE (2 ON WEST SIDE, 1 ON EAST SIDE) AS SHOWN BY BLUE DOTS ON E-101.
J	2	AREAS NEAR STRAUSS HALL AND THE UNIVERSITY HOUSE. FURNISH AND 2 INSTALL TYPE E5 FIXTURES, POLES P2 (20 FT), AND FOUNDATIONS F2 AT THE SOUTHEAST AND WEST SIDES OF THE CIRCLE DRIVE WEST OF UNIVERSITY HOUSE PER BLUE DOTS LOCATION ON E-101. PROVIDE POWER UNDERGROUND FROM UNIVERSITY HOUSE

BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE



DESIGNER: BCA

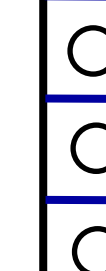
AYRES ELECTRICAL & ENERGY
CONSULTING, LLC

BRUCE C. AYRES, PE, CEM, CPQ
124 AMY LANE RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net

DRAWING TITLE

UNIVERSITY OF LOUISIANA AT
MONROE
EXTERIOR LIGHTING IMPROVEMENTS
AREAS TO BE IMPROVED - DETAILS

REVISIONS



PRJT NO. P1123-002


DATE: AUGUST 15, 2024

SHEET NO. E-102A

OF 6

AREA	PRIORITY	WORK TO BE DONE
K	1	<p>PEDESTRIAN BRIDGE OVER BAYOU - REPLACE 9 POLE TOP FIXTURES WITH TYPE E3 FIXTURE. PER PLAN E-201, REPLACE 5 BOLLARDS IN CIRCULAR SEATING AREA AT EAST END OF PEDESTRIAN BRIDGE WITH TYPE E1 FIXTURES. REPLACE BOLLARDS ALONG TREE-LINED PATH BETWEEN BLDGS 4120 AND 4200 WITH TYPE E1 FIXTURES. REPLACE BOLLARDS IN RECTANGULAR AREA BETWEEN BUILDINGS 4106 AND 4120 WITH TYPE E1 FIXTURES. REMOVE BOLLARDS ALONG SIDEWALKS BETWEEN BUILDINGS OF BAYOU VILLAGE APARTMENTS. PROVIDE FOUNDATIONS F2, POLES P2 (20 FT), AND TYPE E3 FIXTURES PER DETAIL PLAN E-103. PROVIDE POWER TO EACH POLE/FIXTURE VIA REMOVED BOLLARDS CIRCUIT/S. FURNISH AND REPLACE MH BOX FIXTURES ALONG EAST SIDE OF PARKING LOT EAST OF BAYOU VILLAGE APARTMENTS WITH TYPE E5 FIXTURE WITH DISTRIBUTION TYPE V. REPLACE BOLLARDS AT CIRCULAR SIDEWALK AREA SOUTH OF BLDG 4200 WITH TYPE E1 FIXTURES. EAST SIDE OF BAYOU VILLAGE APARTMENTS: FURNISH AND INSTALL FOUNDATIONS, POLES P1 (20 FT), AND TYPE E3 FIXTURES WITH DISTRIBUTION TYPE III. SEE PLAN E-103.</p>
L	2	<p>AREA AROUND MASUR HALL: REPLACE 5 POLE TOP FIXTURES WITH TYPE E3 IN COURTYARD AREA. FURNISH AND INSTALL 3 FOUNDATIONS F2, POLES P2 (20 FT), AND TYPE E5 FIXTURES, DISTRIBUTION TYPE III PER THE BLUE DOTS - 2 NORTH OF THE NORTH PARKING AREA, 1 ON THE WEST SIDE OF THE WEST/FRONT PARKING AREA. PROVIDE POWER FROM A MASUR HALL PANEL.</p>
M	2	<p>AREA AROUND FANT-EWING COLISEUM: REPLACE 17 PARKING LOT FIXTURES (4 EA QUAD, 1 SINGLE ARM) WITH TYPE E5 DISTRIBUTION TYPE V ON NORTH PARKING LOT AND THE SINGLE OVER THE DRIVEWAY ON THE EAST SIDE. SEE THE BLUE DOTS ON PLAN E-101. FURNISH AND INSTALL 2 FOUNDATIONS F2, POLES P2 (20 FT), AND TYPE E5 FIXTURES, DISTRIBUTION TYPE III PER THE BLUE DOTS ON THE WEST SIDE OF FANT-EWING COLISEUM. PROVIDE POWER FROM FANT EWING OR NEARBY LIGHT POLES.</p>
N	1	<p>AREA WEST AND NORTH OF BASEBALL STADIUM. FURNISH AND INSTALL 2 FOUNDATIONS F2, POLES P2 (20 FT), 4 FIXTURES PER POLE TYPE E5 DISTRIBUTION TYPE V IN WEST PARKING LOT PER BLUE DOTS. PROVIDE POWER FROM EXISTING POLE/LIGHTS IN CENTER OF PARKING LOT. FURNISH AND INSTALL 1 FOUNDATION F2, POLE P2 (20 FT), AND FIXTURE TYPE E5 WITH DISTRIBUTION TYPE V PER BLUE DOT, PLAN E-101 ON SOUTH SIDE OF DRIVE NORTH OF BASEBALL STADIUM. PROVIDE UNDERGROUND POWER FROM THE BASEBALL STADIUM OR GOLF FACILITY.</p>
O	3	<p>AREA AROUND MALONE STADIUM: FURNISH AND REPLACE 5 FIXTURES WITH TYPE E5 DISTRIBUTION V ON EXISTING POLES NORTHWEST OF THE FOOTBALL OFFICES BUILDING, NORTH AND WEST AREA OF MALONE STADIUM. FURNISH AND INSTALL 8 FOUNDATIONS F2, POLES P2 (20 FT), WITH 1 TYPE E5 FIXTURE PER POLE DISTRIBUTION TYPE V ON NORTHEAST, EAST, SOUTHEAST, AND SOUTH SIDES OF THE STADIUM PER BLUE DOTS ON PLAN E-101. PROVIDE UNDERGROUND POWER FROM NEAREST MALONE STADIUM PANEL.</p>
P	3	<p>AREA AROUND ACTIVITIES CENTER: FURNISH AND INSTALL 2 FOUNDATIONS F2, POLES P2 (20 FT), WITH 1 TYPE E5 FIXTURE PER POLE, DISTRIBUTION TYPE V ON THE WEST SIDE OF THE ACTIVITIES BLDG PER BLUE DOTS ON PLAN E-101. PROVIDE UNDERGROUND POWER FROM NEAREST ACTIVITIES BLDG PANEL.</p>
CW	1	<p>PEDESTRIAN CROSSWALKS (22) WITH 2 TYPE E11 FIXTURE PER POLE, SOLAR/BATTERY LED, DISTRIBUTION TYPE V. PROVIDE POLE P2 AND FOUNDATION F2 IF NONE ARE NEARBY.</p>

BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE



DESIGNER: BCA

AYRES ELECTRICAL & ENERGY CONSULTING, LLC
BRUCE C. AYRES, PE, CEM, CPQ
124 AMY LANE RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net





DRAWING TITLE
UNIVERSITY OF LOUISIANA AT MONROE
EXTERIOR LIGHTING IMPROVEMENTS
AREAS TO BE IMPROVED - DETAILS

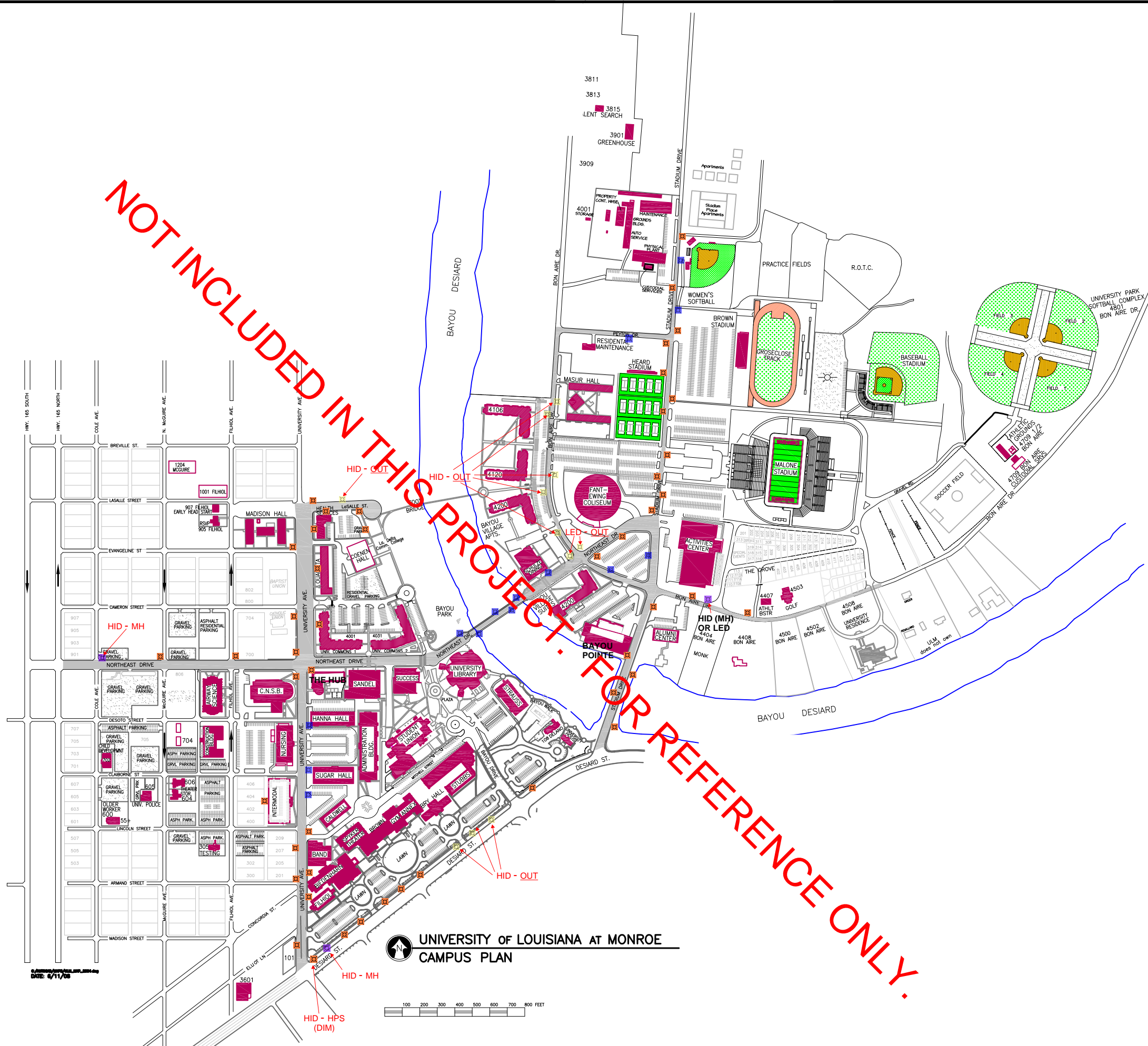
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PRJT NO. P1123-002
DATE: AUGUST 15, 2024

SHEET NO. **E-102B**
OF 6

**LEGEND - CITY
FIXTURES TYPES**

-  FIXTURE OUT
4/23/24
-  HID - HIGH
PRESSURE
SODIUM
-  HID - METAL
HALIDE OR
MERCURY
VAPOR
-  LED



**UNIVERSITY OF LOUISIANA AT MONROE
CAMPUS PLAN**



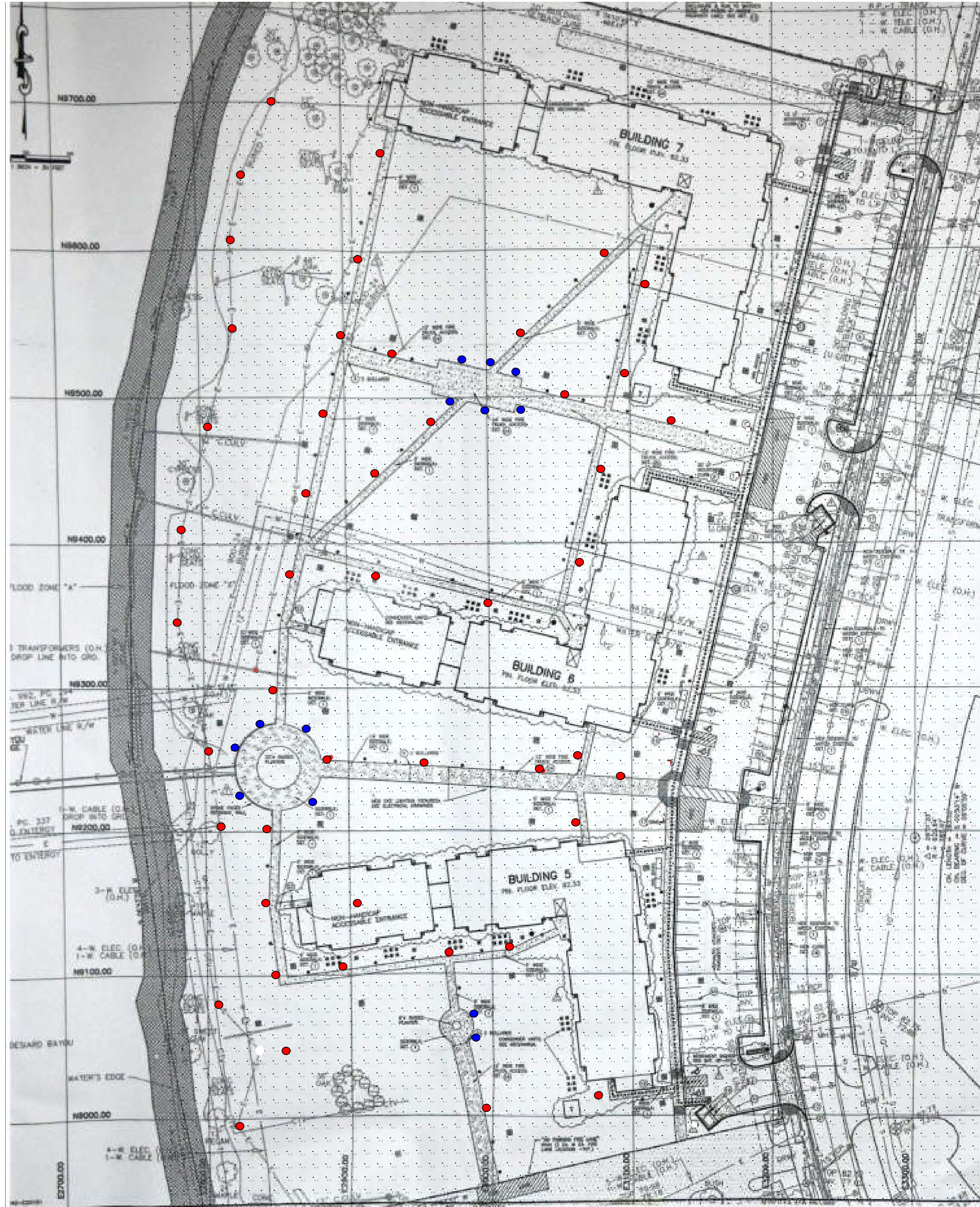
DATE: 6/11/23

BRUCE C. AYRES
REGISTERED PROFESSIONAL
ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CITY OF MONROE
DESIGNER: BCA

AYRES ELECTRICAL & ENERGY CONSULTING, LLC
BRUCE C. AYRES, PE, CEM, CPQ
124 AMY LANE
RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net

**UNIVERSITY OF LOUISIANA AT MONROE
CAMPUS MAP
CITY OF MONROE STREET LIGHTS**

DRAWING TITLE	
REVISIONS	
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PRJT NO. P1123-002	
DATE:	AUGUST 15, 2024
SHEET NO:	E-103
OF	



LEGEND

- FIXTURE E3 TOTAL COUNT: 48
- FIXTURE E1: 13

DRAWING TITLE

**UNIVERSITY OF LOUISIANA AT
MONROE
EXTERIOR LIGHTING IMPROVEMENTS
BAYOU VILLAGE APARTMENTS 5, 6, 7 -
DETAILS**

REVISIONS

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PRJT NO. P1123-002

DATE: AUGUST 15, 2024

SHEET NO. **E-201**

OF 6

BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE



DESIGNER: BCA

**AYRES ELECTRICAL & ENERGY
CONSULTING, LLC**

BRUCE C. AYRES, PE, CEM, CPQ
124 AMY LANE RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net

LIGHTING FIXTURES & RELATED ITEMS SCHEDULE					
MARK	MANUFACTURER	CATALOG NO.	LAMP	MOUNTING	REMARKS
E1	NLS	SSX-4-6R-PR-16L-7-40K-AB-BRZ-VRB	LED	4-BOLT RETROFIT	DOME TOP PARACLIN REFLECTOR, 6" DIAMETER BOLLARD, 10 KV/20 KA SPD, 5 YR WARR.
E2	NLS	SSX-4-8R-PR-16L-7-40K-AB-BRZ-VRB	LED	4-BOLT RETROFIT	DOME TOP PARACLIN REFLECTOR, 8" DIAMETER BOLLARD, 10 KV/20 KA SPD, 5 YR WARR.
E3	NLS	ORX-2-T2-16-7-40K7-UNV-DPT23-8-BRZ	LED	POST TOP TENON 2-3/8" OD	POST TOP, 10 KV/20 KA SPD, 10 YR WARR. DISTRIBUTION - TYPE II OR IV - SEE PLANS
E4	CREE	GWY-M-17L-40K7-4M-UL-BK-W10	LED	PROVIDE FOR EXISTING TYPE	MATCH MOUNTING WITH EXISTING CITY STREET LIGHT, 10 KV, 20KA SPD 10 YR WARR.
E5	NLS	NV-2-T5-80L-40K7-UNV-DPS6-BRZ-RPA5-GL	LED	PROVIDE FOR EXISTING TYPE	PROVIDE MOUNTING HARDWARE FOR EXISTING PARKING LOT POLE, 10 KV, 20 KA SPD, 5 YR WARR.
E6	NLS	SVN-1-LG2-T3-48L-7-40K-UNV-PT-BRZ-FIN	LED	POST TOP TENON 2-3/8"-3" OD	POST TOP, 10 KV/20 KA SPD, 10 YR WARR.
E7	NLS	ORX-2-VCS-32L-53-40K8-UNV-CM-WHT-DPCL	LED	CONCRETE CEILING SURFACE	PROVIDE MOUNTING HARDWARE FOR EXISTING PARKING FACILITY CEILING MOUNT, 10 KV, 20 KA SPD, 5 YR WARR.
E8	N/A				
E9	NLS	NV-F4-85-200W-40K7-UNV-KM-BRZ	LED	KNUCKLE 2-3/8"	10 KV/20 KA SPD, 5 YR WARR.
E10	NLS	NV-F4-85-200W-40K7-UNV-WM-BRZ	LED	WALL SURFACE	10 KV/20 KA SPD, 10 YR WARR. WM-SFA WALL MOUNT BRACKET REQ'D
E11	SOLAS RAY	SOMP-030-40-II-SI-??-BS	LED	ADAPT TO EXISTING POLE OR PROVIDE NEW 20' POLE	PROVIDE MOUNT, LiFePO4 BATTERY, PROVIDE ONE HANDHELD CONTROL UNIT, BIRD SPIKES, 3YR WARRANTY
ARF	AMERLUX	AVI-G3-U-SY-40-P4-MFP	LED	ADAPT TO EXISTING KING LUMINAIRE ACORN	PROVIDE UNIVERSAL MOUNTING PLATE AND LUMINAIRE SEAL, 5 YR WARRANTY
SPD	SCHNEIDER SQUARE D	SDSA1175	N/A	1/2" KO TO SIDE OF CONTACTOR ENCLOSURE	PROVIDE FOR EACH LIGHTING CONTACTOR SUPPLYING EXTERIOR LIGHT FIXTURES, ONE PER PHASE, 1 YR WARRANTY
P1	NLS	SSSP-15-4S-11G-9BC-TR2-BRZ-LAB-APC	N/A		PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 15' POLE
P2	NLS	SSSP-20-4S-11G-9BC-SGL-BRZ-3430-APC	N/A		PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 20' POLE
P3	NLS	SSSP-30-5S-7G-12BC-??-BRZ-136-APC	N/A		PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 30' POLE
F1	CHANCE/HUBBELL	T1122777 (6.625" x 4") C1122611_ _ _	N/A	12" H COLLAR	PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 15' POLE
F2	CHANCE/HUBBELL	T1122850 (6.625" x 5") C1122611_ _ _	N/A	12" H COLLAR	PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 20' POLE
F3	CHANCE/HUBBELL	T1122740 (6.625" x 6") C1122610_ _ _	N/A	24" H COLLAR	PROVIDE FOR EACH NEW LIGHT FIXTURE TO BE MOUNTED ON A 30' POLE



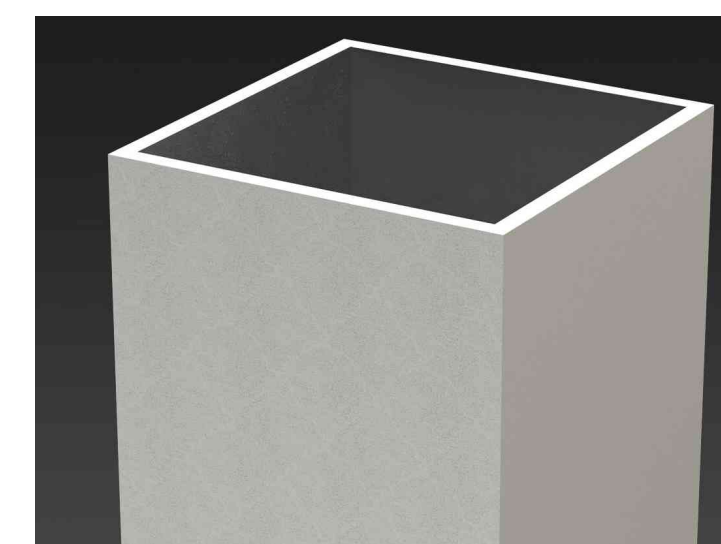
SPD SQUARE D SDSA1175 SURGE PROTECTIVE DEVICE



FLOODLIGHT E9 (KNUCKLE) E10 (WALL) NLS NV-4



SOLAR/BATTERY POWERED FLOODLIGHT E11 (KNUCKLE) SOLAS RAY SOMP-030-40SOMP-030-40



SQUARE STEEL POLE P1 NLS SSSP



Paracline Reflector (PR)

FIXTURES E1 (6") & E2 (8") NLS SSX WITH DOME TOP PARACLIN REFLECTOR



FIXTURE E3 NLS ORGANIX POST-TOP



FIXTURE E4 CREE GWY ROADWAY



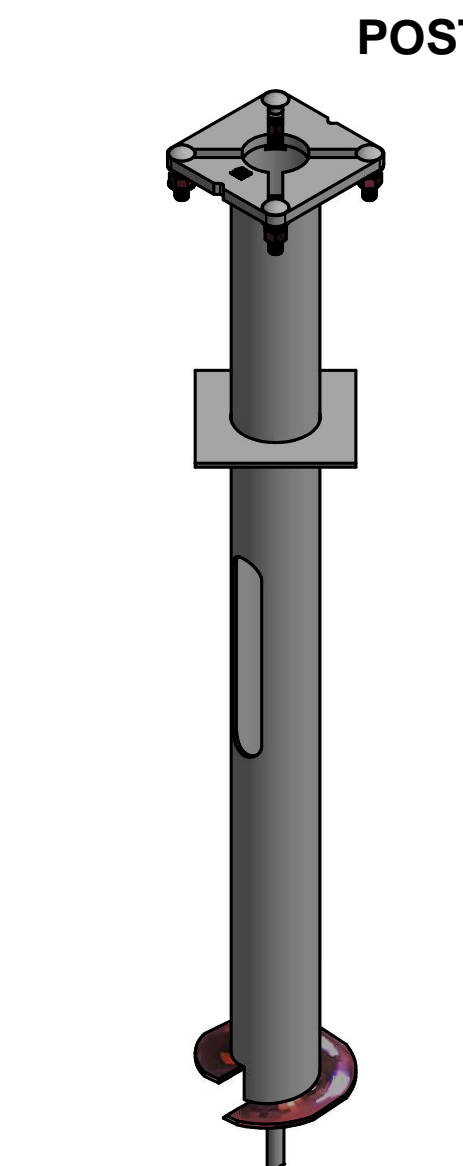
FIXTURE E5 NLS NV-2 PARKING LOT



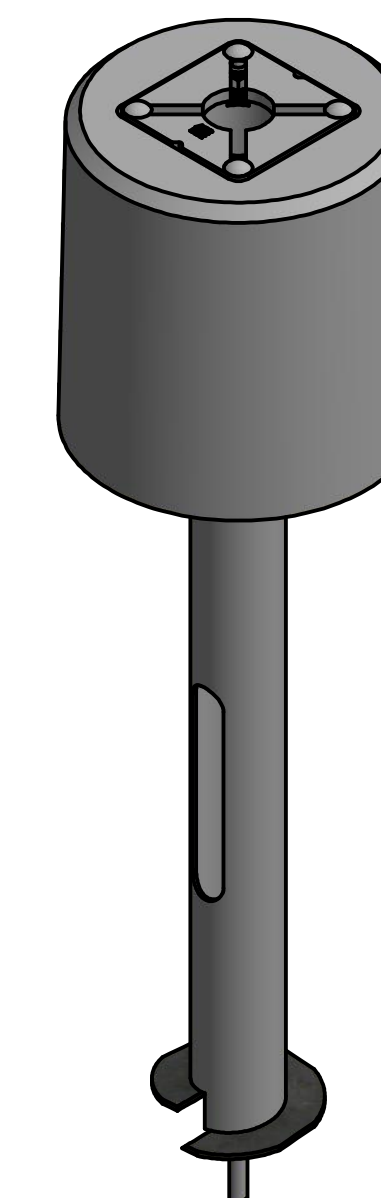
FIXTURE E6 NLS SVN-1 POST TOP



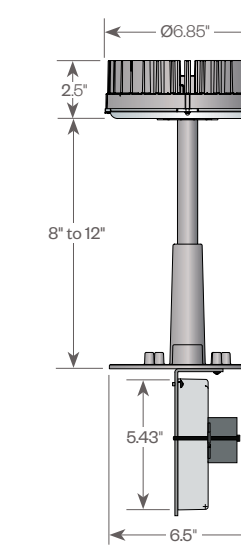
FIXTURE E7 NLS ORX-2 CONCRETE CEILING MOUNT



CHANCE/HUBBELL FOUNDATION F1



CHANCE/HUBBELL AUGER FOUNDATION STEEL SHAFT WITH PRECAST CONCRETE COLLAR F1



RETROFIT FIXTURE ARF AMERLUX AVI-G3

BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE



DESIGNER: BCA

AYRES ELECTRICAL & ENERGY CONSULTING, LLC

BRUCE C. AYRES, PE, CEM, CPQ

124 AMY LANE
RUSTON, LA 71270
PH: 318-614-4260
ayresb@bellsouth.net

DRAWING TITLE

UNIVERSITY OF LOUISIANA AT MONROE
EXTERIOR LIGHTING IMPROVEMENTS
ELECTRICAL SCHEDULES & DETAILS

REVISIONS

-
-
-

PRJT NO. P1123-002

DATE: AUGUST 15, 2024

SHEET NO. E-301

OF



CHANCE CIVIL CONSTRUCTION - STREET LIGHT FOUNDATION CALCULATIONS 9-Aug-24
JOB NAME ULM STREETLIGHTS SLP 2013
JOB DESC Street Light Foundation - 15 FT
JOB NO: C24315

POLE INPUT		ARM / POLE SHAPE FACTORS:	
* Indicated Value was Estimated			
Luminaire Mounting Height:	16 feet	1 = Cylinder (45-1.1)	
Height of Pole:	16 feet	2 = Flat (1.7)	
Outside Diameter of Pole Top:	4 inches	3 = Hexadecagonal (16 sides), (55-1.1)	
Outside Diameter of Pole Bottom:	4 inches	4 = Dodecagonal (12 sides), (79-1.2)	
Arm Length:	0 feet	5 = Octagonal (8 sides) (1.2)	
Arm Tip Outside Diameter:	0 inches	6 = Square (1.45)	
Arm Bottom Outside Diameter:	0 inches	7 = Diamond (1.9)	
Luminaire Weight:	19 pounds		
Luminaire EPA (area x Cd)	0.28 sq. ft.		
Basic Wind Speed:	90 mph	Torque Due to Wind on Arm & Lum	
Minimum Design Life:	25 years	Wind Torque = 1.53302 ft-lbs	
Number of Arms:	0		
Number of Luminares:	1		
Pole Shape (choices upper right)	6	ESTIMATED	
Arm Shape (choices upper right)	6	GL REACTIONS per AASHTO 2013SPEC	
Is This Pole/Found in Alaska?	2 (Y=1, N=2)	Total Res GL Shear 146.25 lbs	
		Total Res GL Mom 1210.84 ft-lbs	
		Res Eccentricity 8.27953 ft	

BROM'S METHOD OF ESTIMATING LATERAL CAPACITY OF CHANCE SLF

Load Eccentricity (ft):	8.27953	Cable Way	EST ALLOWABLE SHAFT MOMENT CAPACITY (ft)				
Water Depth (ft):	50	Width	PIPE SIZE (in)				
(in)		(in)	3"	4"	6"	8"	10"
INPUT	1.25	0	4414	6129	21751	34268	54165
FOUND DIA (in):	6.625	1.25	2623	N/A	N/A	N/A	N/A
FOUND LENGTH (ft):	4	1.5	N/A	3530	N/A	N/A	N/A
		2	N/A	N/A	14181	24922	42144
		2.5	N/A	N/A	12477	22771	39351
		3.0	N/A	N/A	10869	20696	36627

CLAY		SAND	
Cu	Shear Capacity	Shear Capacity	Effective at
(ksf)	(lbs)	(lbs)	(lb/ft ³)
0.25	290.6	1.99	1340.56
0.50	581.2	3.97	1336.26
0.75	871.7	5.96	1334.82
1.00	1162.3	7.95	1334.10
1.25	1452.9	9.93	1333.67
1.50	1743.5	11.92	1333.39
1.75	2034.1	13.91	1333.18
2.00	2324.6	15.90	1333.03

NOTE:
1. Eccentric shapes not included in ARM/POLE SHAPE FACTORS because it is unlikely that the two diameters will be given.
2. The 2013 Specification requires knowledge of corner radii to obtain C_u for square and diamond shapes. Hence, the value of 1.45 from the 1994 code is used exclusively for square shapes. The largest value (1.9) from the 2013 code is used exclusively for the diamond shape.
3. Effect of wind FROM ANY DIRECTION is accounted for in the ground line reactions by use of 1.02 factor per Sect 3.9.3.
4. The ALLOWABLE SHAFT MOMENT CAPACITY for foundations is determined as the Ultimate Moment x 0.66 x 1.33.
5. GROUND LINE REACTIONS account for arm and luminaire gravity loads by calculating the resultant moment load. The shear is due to the wind only.

NOTE:
A.B. Chance Co. is not responsible for use of this program or its results. Results depend on understanding the program, proper use and input data. All responsibility for selection of product or application resides with the requestor.

NOTE: 90MPH WIND LOADING EQUIVALENT 114 MPH - 3 SECOND GUST

CHANCE CIVIL CONSTRUCTION - STREET LIGHT FOUNDATION CALCULATIONS 9-Aug-24
JOB NAME ULM STREETLIGHTS SLP 2013
JOB DESC Street Light Foundation - 20 FT
JOB NO: C24315

POLE INPUT		ARM / POLE SHAPE FACTORS:	
* Indicated Value was Estimated			
Luminaire Mounting Height:	21 feet	1 = Cylinder (45-1.1)	
Height of Pole:	20.75 feet	2 = Flat (1.7)	
Outside Diameter of Pole Top:	4 inches	3 = Hexadecagonal (16 sides), (55-1.1)	
Outside Diameter of Pole Bottom:	4 inches	4 = Dodecagonal (12 sides), (79-1.2)	
Arm Length:	0 feet	5 = Octagonal (8 sides) (1.2)	
Arm Tip Outside Diameter:	0 inches	6 = Square (1.45)	
Arm Bottom Outside Diameter:	0 inches	7 = Diamond (1.9)	
Luminaire Weight:	42 pounds		
Luminaire EPA (area x Cd)	0.61 sq. ft.	Torque Due to Wind on Arm & Lum	
Basic Wind Speed:	90 mph	Wind Torque = 3.49794 ft-lbs	
Minimum Design Life:	25 years		
Number of Arms:	0		
Number of Luminares:	1		
Pole Shape (choices upper right)	6	ESTIMATED	
Arm Shape (choices upper right)	6	GL REACTIONS per AASHTO 2013SPEC	
Is This Pole/Found in Alaska?	2 (Y=1, N=2)	Total Res GL Shear 194.69 lbs	
		Total Res GL Mom 2143.84 ft-lbs	
		Res Eccentricity 11.0113 ft	

BROM'S METHOD OF ESTIMATING LATERAL CAPACITY OF CHANCE SLF

Load Eccentricity (ft):	11.0113	Cable Way	EST ALLOWABLE SHAFT MOMENT CAPACITY (ft)				
Water Depth (ft):	50	Width	PIPE SIZE (in)				
(in)		(in)	3"	4"	6"	8"	10"
INPUT	1.25	0	4414	6129	21751	34268	54165
FOUND DIA (in):	6.625	1.25	2623	N/A	N/A	N/A	N/A
FOUND LENGTH (ft):	5	1.5	N/A	3530	N/A	N/A	N/A
		2	N/A	N/A	14181	24922	42144
		2.5	N/A	N/A	12477	22771	39351
		3.0	N/A	N/A	10869	20696	36627

CLAY		SAND	
Cu	Shear Capacity	Shear Capacity	Effective at
(ksf)	(lbs)	(lbs)	(lb/ft ³)
0.25	386.0	1.98	2320.33
0.50	772.0	3.97	2312.70
0.75	1157.9	5.95	2310.16
1.00	1543.9	7.93	2308.89
1.25	1929.9	9.91	2308.12
1.50	2315.9	11.90	2307.61
1.75	2701.9	13.88	2307.25
2.00	3087.9	15.86	2306.98

NOTE:
1. Eccentric shapes not included in ARM/POLE SHAPE FACTORS because it is unlikely that the two diameters will be given.
2. The 2013 Specification requires knowledge of corner radii to obtain C_u for square and diamond shapes. Hence, the value of 1.45 from the 1994 code is used exclusively for square shapes. The largest value (1.9) from the 2013 code is used exclusively for the diamond shape.
3. Effect of wind FROM ANY DIRECTION is accounted for in the ground line reactions by use of 1.02 factor per Sect 3.9.3.
4. The ALLOWABLE SHAFT MOMENT CAPACITY for foundations is determined as the Ultimate Moment x 0.66 x 1.33.
5. GROUND LINE REACTIONS account for arm and luminaire gravity loads by calculating the resultant moment load. The shear is due to the wind only.

NOTE:
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CHANCE CIVIL CONSTRUCTION - STREET LIGHT FOUNDATION CALCULATIONS 9-Aug-24
JOB NAME ULM STREETLIGHTS SLP 2013
JOB DESC Street Light Foundation - 30 FT
JOB NO: C24315

POLE INPUT		ARM / POLE SHAPE FACTORS:	
* Indicated Value was Estimated			
Luminaire Mounting Height:	30.75 feet	1 = Cylinder (45-1.1)	
Height of Pole:	31 feet	2 = Flat (1.7)	
Outside Diameter of Pole Top:	5 inches	3 = Hexadecagonal (16 sides), (55-1.1)	
Outside Diameter of Pole Bottom:	5 inches	4 = Dodecagonal (12 sides), (79-1.2)	
Arm Length:	0 feet	5 = Octagonal (8 sides) (1.2)	
Arm Tip Outside Diameter:	0 inches	6 = Square (1.45)	
Arm Bottom Outside Diameter:	0 inches	7 = Diamond (1.9)	
Luminaire Weight:	42 pounds		
Luminaire EPA (area x Cd)	0.61 sq. ft.	Torque Due to Wind on Arm & Lum	
Basic Wind Speed:	90 mph	Wind Torque = 3.79037 ft-lbs	
Minimum Design Life:	25 years		
Number of Arms:	0		
Number of Luminares:	4		
Pole Shape (choices upper right)	6	ESTIMATED	
Arm Shape (choices upper right)	6	GL REACTIONS per AASHTO 2013SPEC	
Is This Pole/Found in Alaska?	2 (Y=1, N=2)	Total Res GL Shear 392.35 lbs	
		Total Res GL Mom 5852.13 ft-lbs	
		Res Eccentricity 17.4643 ft	

BROM'S METHOD OF ESTIMATING LATERAL CAPACITY OF CHANCE SLF

Load Eccentricity (ft):	17.4643	Cable Way	EST ALLOWABLE SHAFT MOMENT CAPACITY (ft)				
Water Depth (ft):	50	Width	PIPE SIZE (in)				
(in)		(in)	3"	4"	6"	8"	10"
INPUT	1.25	0	4414	6129	21751	34268	54165
FOUND DIA (in):	6.625	1.25	2623	N/A	N/A	N/A	N/A
FOUND LENGTH (ft):	6	1.5	N/A	3530	N/A	N/A	N/A
		2	N/A	N/A	14181	24922	42144
		2.5	N/A	N/A	12477	22771	39351
		3.0	N/A	N/A	10869	20696	36627

CLAY		SAND	
Cu	Shear Capacity	Shear Capacity	Effective at
(ksf)	(lbs)	(lbs)	(lb/ft ³)
0.25	396.3	1.01	7239.01
0.50	792.7	2.02	7208.03
0.75	1189.0	3.03	7197.70
1.00	1585.4	4.04	7192.54
1.25	1981.7	5.05	7189.44
1.50	2378.1	6.06	7187.37
1.75	2774.4	7.07	7185.90
2.00	3170.7	8.08	7184.79

NOTE:
1. Eccentric shapes not included in ARM/POLE SHAPE FACTORS because it is unlikely that the two diameters will be given.
2. The 2013 Specification requires knowledge of corner radii to obtain C_u for square and diamond shapes. Hence, the value of 1.45 from the 1994 code is used exclusively for square shapes. The largest value (1.9) from the 2013 code is used exclusively for the diamond shape.
3. Effect of wind FROM ANY DIRECTION is accounted for in the ground line reactions by use of 1.02 factor per Sect 3.9.3.
4. The ALLOWABLE SHAFT MOMENT CAPACITY for foundations is determined as the Ultimate Moment x 0.66 x 1.33.
5. GROUND LINE REACTIONS account for arm and luminaire gravity loads by calculating the resultant moment load. The shear is due to the wind only.

NOTE:
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CATALOG NUMBERS WITH 1.0" HARDWARE COMPATIBLE WITH BOLT CIRCLE FROM Ø8.5 TO Ø14.0

CATALOG NUMBERS WITH 3/4" HARDWARE COMPATIBLE WITH BOLT CIRCLE FROM Ø8.0 TO Ø14.5

THICKNESS EQUAL TO HARDWARE DIA

3/4" HARDWARE	1" HARDWARE	"A" DIMENSION	"B" HEIGHT
T1122741	T1122621	23.75	108.0
T1122742	T1122622	11.75	96.0
T1122743	T1122656	23.75	84.0
T1122744	T1122666	11.75	72.0
T1122745	T1122740	23.75	72.0
T1122752		23.75	132.0
T1122837	T1122836	11.75	84.0
T1122849	T1122850	11.75	60.0

VIEW A-A

Ø12.0 HELIX PITCH: 3.0 THICKNESS: 0.375 WITH SHARPENED LEADING EDGE

Ø6.63 .280 WALL THICKNESS

CHANCE HUBBELL POWER SYSTEMS, INC.

FOUNDATION, FOR PRECAST 12 SQ BASEPLATE

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DATE: 2/11/2022 SHEET 1 OF 1

APPLICATION VIEW SEE NOTE 2

DETAIL A

12.5 SQ PLUS DRAFT

45°

Ø24.0 PLUS DRAFT

"A" DIMENSION

"B" HEIGHT

12.5 SQ

R1.0

F1, F2, F3 COLLARS

1.0

1.0

DETAIL A

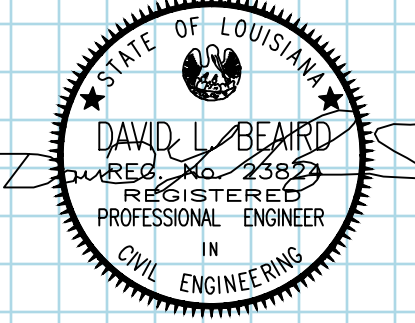
CHANCE HUBBELL POWER SYSTEMS, INC.

FOUNDATION, PRECAST COLLAR 24 DIA, 12 SQ

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DATE: 12/10/19 SHEET 1 OF 1

HUBBELL - CHANCE FOUNDATION AND PRECAST COLLAR PLANS USED BY PERMISSION OF HUBBELL POWER SYSTEMS CONSENT LETTER DATED 8/21/2024, JASON HERRON, P.E., STAFF ENGINEER, CIVIL CONSTRUCTION



DAVID LANE BEARD & ASSOCIATES, INC. CONSULTING ENGINEERS
105 Commercial Parkway West Monroe, Louisiana 71292
Phone: 318.388.3227 Cell: 318.372.2066 Fax: 318.388.3228
dbeard@dlbengineering.com

DESIGNER
BCA

BRUCE C. AYRES
REGISTERED PROFESSIONAL ENGINEER - LA
CERTIFIED ENERGY MANAGER - AEE
CERTIFIED POWER QUALITY PROFESSIONAL - AEE

AYRES ELECTRICAL & ENERGY CONSULTING, LLC
BRUCE C. AYRES, PE, CEM, CPO
124 AMY LANE RUSTON, LA 71270
PH: 318-614-4260 ayresb@bellsouth.net

DRAWING TITLE
UNIVERSITY OF LOUISIANA AT MONROE
EXTERIOR LIGHTING IMPROVEMENTS
LIGHT POLES FOUNDATIONS - DETAILS

REVISIONS
① ADDED HUBBELL - CHANCE PLANS

PRJ# NO: P1123-002
DATE: AUGUST 15, 2024

SHEET NO.
C-101
OF 1