PROJECT MANUAL

A/E PROJECT NO. 24-1130-0049
QUOTE NO. 2025-02

REGALA PARK FLAG FOOTBALL FIELD

ST. JOHN THE BAPTIST PARISH

a company of

meyer
ENGINEERS + ARCHITECTS

thompson
HOLDINGS

MEYER ENGINEERS, LTD.
ENGINEERS AND ARCHITECTS
4937 Hearst Street, Suite 1B
Metairie, Louisiana 70001

FEBRUARY 5, 2025

STATE OF LOUISIANA
DONOVAN P. DUFFY
License No. 41844
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
02/05/2025

SECTION 00001: TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS

* * *

ST. JOHN THE BAPTIST PARISH
PURCHASING & PROCUREMENT DEPARTMENT
1811 W. Airline Highway
LaPlace, LA 70068

REQUEST FOR QUOTES

Quotes will be received until **9:45 AM local time on February 27, 2025**, at p.montz@stjohn-la.gov or at www.centralbidding.com for furnishing all supervision, labor, materials, equipment, etc., and performing all work necessary for:

REGALA PARK FLAG FOOTBALL FIELD

To be a valid delivery, Electronic Quotes must be delivered via emailed to p.montz@stjohn-la.gov or at www.centralbidding.com before **9 :45 AM local time on February 27, 2025. Thereafter, quotes will be read aloud in the St. John the Baptist Parish Council Chambers at 10:00 A.M.**

Electronic Quotes submitted any other way to St. John the Baptist Parish will not be considered.

This project consists of furnishing all supervision, labor, equipment, materials, and other resources necessary to provide **REGALA PARK FLAG FOOTBALL FIELD.**

Contractors should hold a Louisiana Contractors License in **BUILDING CONSTRUCTION OR RECREATION & SPORTING FACILITIES & GOLF COURSES.**

Non-Mandatory Pre-Quote Conference site visit will occur at Regala Park, 194 Regala Park Road, Reserve, LA 70084 at **10:00 AM local time on February 18, 2025.**

Equal Opportunity in Employment: All qualified applicants will receive consideration for employment without regard for race, color, religion, sex, or national origin. Quoters on this work will be required to comply with the President's Executive Order No. 11246, as amended. The requirements for quoters and contractors under this order are explained in the specifications.

Publish:
St. John the Baptist Parish Web Page
Central Bidding

INFORMATION FOR QUOTERS

1. Receipt and Opening of Quotes: The **Parish of St. John the Baptist** (herein called the "Owner"), invites quotes on the form attached hereto. All blanks must be appropriately filled in. Electronic Quotes will be received until **9:45 AM local time on February 27, 2025**, at p.montz@stjohn-la.gov or at www.centralbidding.com and clearly marked **"REGALA PARK FLAG FOOTBALL FIELD".**

2. Preparation of Quotes: Each quote must be submitted on the prescribed form. All blank spaces for prices must be filled in, in ink or typewritten, in both words and figures.

3. Subcontractors: The quoter is specifically advised that any person for or other party to whom it is proposed to award a subcontract under this contract must be acceptable to the Owner.

4. Prices: In the event of a discrepancy between the prices quoted in words and those quoted in figures in the quote, the words shall control. The prices are to include the furnishing of all materials, plant, equipment, tools, and all other facilities, and the performance of all labor and services necessary for proper completion of the work except as may be otherwise expressly provided in the contract documents.

5. Time of Completion and Liquidated Damages: Quoter must agree to provide the specified services for the project **NINETY (90)** consecutive calendar days after receipt of the Notice to Proceed. Thereafter Quoter must agree to pay as liquidated damages the sum of **TWO HUNDRED FIFTY ($250.00)** for each consecutive calendar day thereafter until acceptance is hereinafter provided.

6. Conditions of Work: Each quoter must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful quoter of his obligation to carry out the provisions of his contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

7. Laws and Regulations: The quoter's attention is directed to the fact that all applicable State laws, municipal ordinances and rules and regulations of authorities having jurisdiction over construction of the project shall apply to the contract throughout and will be deemed to be included in the contract the same as written herein in full.

8. Method of Award: The contract, if awarded, will be awarded to the lowest responsible quoter.

9. Obligation of Quoter: With the submitting of quotes, each quoter will be presumed is attesting to that they have inspected the site and have read and to be thoroughly familiar with the contract documents (including all addenda). The failure or omission of any quoter to examine any form, instrument or document shall in no way relieve any quoter from any obligation with respect to his quote.

10. Purchase Order: A Purchase Order will not be issued.

11. Agreement: Upon identification of the lowest responsible quoter the Agreement will be executed by all parties.

12. Notice to Proceed: A written notice to proceed will be issued by the Owner to the Contractor with the date on which the contract time will commence and on which Contractor shall start to perform the Contractor's obligation under the Contract Documents. Once mobilized, work shall continue until complete without interruption. Coordination with the **Peter Montz, Purchasing Director** is required before beginning work.

13. Corporate Resolution: All quotes received shall be accompanied by a corporate resolution identifying the signatory as an authorized signatory agent. An example corporate resolution follows the Instructions to Quoter.

14. Insurance

Quoter shall obtain, pay for and keep in force, at its own expense, minimum insurance effective in all localities where Consultant/Company may perform the work hereunder, with such carriers as shall be acceptable to Council:

A. **Commercial General Liability**, including:
   1. Contractual liability assumed by this agreement
   2. Owner's and Contractor's Protective Liability (if Contractor is a General Contractor) may be required.
   3. Personal and advertising liability
   4. Completed operations
   5. Medical payments

The limits for "A" above shall not be less than:
   1. $2,000,000 each occurrence limit
   2. $2,000,000 products/completed operations limit
   3. $4,000,000 general aggregate limit
   4. $1,000,000 personal and advertising injury limit
   5. $50,000 fire damage limit
   6. $5,000 medical expense limit (desirable but not mandatory)

St. John the Baptist Parish Council will be NAMED as additional insured and WAIVER OF SUBROGATION in favor of St. John the Baptist Parish Council should be indicated on certificate.

Some contracts may require Protection and Indemnity coverage. This should be verified with Insurance Department/Legal Dept.

15. Security for Faithful Performance: Simultaneously with his delivery of the executed contract, the successful quoter shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner. Only those surety companies currently on the U. S. Department of Treasury Financial Management Services list (Circular 570) of approved bonding companies will be accepted. The agent selling the bond must be currently licensed to do business in Louisiana. This will be verified by the Owner.

The successful quoter will be required to file a performance bond in the full amount (100-percent) of the contract price for the full period of the contract and a payment bond in the full amount (100-percent) of the contract price for the full period of the contract.

16. Obligation of Quoter: At the time of the opening of quotes, each quoter will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract

documents (including all addenda). The failure or omission of any quoter to examine any form, instrument or document shall in no way relieve any quoter from any obligation with respect to his quote.

17. Hold Harmless: To the fullest extent permitted by law, Company/Consultant shall indemnify, hold harmless, and defend the Parish Council and all of its Agents and Employees, from and against all claims, damages, losses and expenses, including but not limited to attorney's 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) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of Company.

18. Non-assignability: No Company/Consultant shall assign any interest in this contract by assignment, transfer, or novation, without prior written consent of the Owner. This provision shall not be construed to prohibit the contractor from assigning his bank, trust company, or other financial institution any money due or to become due from approved contracts without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the Parish.

19. Exclusions: Pursuant to Louisiana Revised Statute 38:2227, Company must certify that he has not been convicted of or has not entered into a plea of guilty or nolo contendere to public bribery, corrupt influencing, extortion, money laundering or their equivalent Federal crimes. Consultant must further certify that he has not been convicted of or has not entered into a plea of guilty or nolo contendere to theft, identify theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors' misapplication of payments, malfeasance in office, or their equivalent Federal crimes within the five (5) years prior to submitting the proposal.

20. Disclosure: Company/Consultant must disclose whether it provides services or pays commissions to any employee or elected official of St. John the Baptist Parish. If so, company must disclose to whom services are provided and/or commissions are paid. Both positive and negative responses must be submitted.

21. E-Verify Program: NOT APPLICABLE

22. Invoices / Applications for Payments:

Applications for Payment will be processed by St. John the Baptist Parish.

Itemized invoices for payment of these services shall be submitted to the Purchasing and Procurement Director for approval prior to routing to Accounts Payable. Construction invoices shall be submitted using the AIA Application and Certification for Payment AIA G702 and G703 forms unless otherwise determined.

St. John the Baptist Parish shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, as provided below. All such payments will be measured by the schedule of values established.

St. John the Baptist Parish shall retain the following percentages of each progress payment until payment is due under the terms and conditions governing retainage payment:

CONTRACT AMOUNT	RETAINAGE
$0 - $499,999.99	10%
$500,000.00 – Over	5%

23. Substantial Completion

Substantial Completion shall be granted once the Parish, or its designated design consultant, identifies the project to be at 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. It is the responsibility of the Contractor to notify the Parish, and its designated design consultant, when the Contractor is of the opinion the project is substantially complete. Once determined the Work is identified as substantially complete a Certificate of Substantial Completion AIA G704 will be issued.

24. Changes

No additional changes, enhancements, or modifications to any contract resulting from this BID shall be made without the prior approval of PARISH. Any modifications to the provisions of this contract shall be in writing, signed by all parties and approved the required authorities.

Changes to the contract include any change in compensation; beginning/ ending date of the contract; scope of work; and/or Contractor change through the Assignment of Contract process. Any such changes, once approved, will result in the issuance of an amendment to the contract.

Change Orders shall be submitted using the Change Order AIA G701 form unless otherwise determined.

25. Site Visits: Site visit will occur immediately following the mandatory pre-quote conference. Contractors shall make every effort to attend the scheduled site visit to take any measurements and photographs needed to compile their bid. If additional site visits are needed contact Peter Montz (p.montz@stjohn-la.gov)."

CORPORATE
RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

_____, INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____,
INCORPORATED, DULY NOTICED AND HELD ON _____, 20__,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED.
IT WAS:

RESOLVED. THAT _____, BE AND IS HEREBY APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, QUOTES, CONCERNS AND TRANSACTIONS WITH THE PARISH OF ST. JOHN OR ANY OF ITS AGENCIES, DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO THE EXECUTION OF ALL BIDS, QUOTES, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES, CONTRACTS AND ACTS AND TO RECEIVE AND RECEIPT THEREFOR ALL PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID, QUOTE, OR CONTRACT, THIS CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING AND ACCEPTING EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE AND CORRECT COPY OF AN EXCERPT OF THE MINUTES OF THE ABOVE DATED MEETING OF THE BOARD OF DIRECTORS OF SAID CORPORATION, AND THE SAME HAS NOT BE REVOKED OR RESCINDED.

_____
SECRETARY-
TREASURER

_____
DATE

AGREEMENT

THIS AGREEMENT, made this___day of _____ 2025, by and between **St. John the Baptist Parish, LA** herein called "Owner," acting herein through its Parish President, Jaclyn Hotard, and _____Parish of_____, and State of_____, herein after called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the OWNER to commence and complete the construction described as follows:

REGALA PARK FLAG FOOTBALL FIELD

Hereinafter called the project, for the sum of_____Dollars ($_____) and all extra work in connection therewith, under the terms as stated in the specifications and at his/her (its/their) own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the specifications and contract documents.

Contractor hereby agrees to commence work under this contract on the date on the Purchase Order and to fully complete the project within **NINETY (90)** consecutive calendar days thereafter. The Contractor further agrees to pay, as Liquidated Damages, the sum of **TWO HUNDRED FIFTY** dollars **($250.00)** for each consecutive calendar day thereafter as hereinafter provided for herein.

The Contractor hereby agrees to perform work under this contract in accordance with the contract terms for FEMA Public Assistance Grant Funded or Assisted Projects for a non-federal entity (State agency or agency of a political subdivision of the State), which is attached as part of this agreement.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to additions and deductions.

St. John the Baptist Parish shall retain the following percentages of each progress payment until payment is due under the terms and conditions governing retainage payment:

CONTRACT AMOUNT	RETAINAGE
$0 - $499,999.99	10%
$500,000.00 - Over	5%

IN WITNESS WHEREOF, the parties to these presents have executed this contract in two (2) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

_____

(Owner)

By_____

_____

(Title)

_____

(Contractor)

By_____

_____

(Title)

_____

(Address and Zip Code)

NOTE: Secretary of the Owner should attest. If Contractor is a corporation, Secretary should attest.

QUOTE SHEET

REGALA PARK FLAG FOOTBALL FIELD

OR: St. John the Baptist Parish
1811 W. Airline Highway
LaPlace, LA 70068

We (I) certify that we (I) understand and agree to provide all labor, materials, tools, appliances, and facilities as required to perform all work and services for the execution and completion of the referenced project, all in strict accordance with the quote documents with the submittal of this QUOTE.

Quoters must acknowledge all addenda. The Quoter acknowledges receipt of the following number of **ADDENDA #**_____.

BASE BID

Item No.	Description	Unit of Measure	Quantity	Unit Price	Extension
1	Regala Park Flag Football Field	LS	1	$	$
TOTAL QUOTE BASE BID					**$**

DDITIVE ALTERNATE NO. 1

Item No.	Description	Unit of Measure	Quantity	Unit Price	Extension
1	Subsurface Drainage and Sod	LS	1	$	$
TOTAL QUOTE ADDITIVE ALTERNATE NO. 1					**$**

NAME OF QUOTER: _____

CONTRACTOR LICENSE NUMBER (IF REQUIRED):_____

FEDERAL TAX IDENTIFICATION NUMBER: _____

ADDRESS OF QUOTER: _____

_____

PHONE NO.: _____ **E-MAIL:** _____

NAME OF AUTHORIZED SIGNATORY OF QUOTER: _____

ITLE OF AUTHORIZED SIGNATORY OF QUOTER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF QUOTER** _____

SECTION 01010: SUMMARY OF WORK

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Special and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this section.

1.2 Scope of Work: The Work of this Contract excavating, compacting and laser grading site for the turf installation and associated drainage at the Regala Park Flag Football Field in St. John the Baptist Parish.

1.3 General:

A. The Contractor shall furnish all labor, materials, equipment, tools, services, and incidentals to complete all work required by these Specifications and as shown on the Drawings.

B. The Contractor shall perform the work complete, in place and ready for continuous service, and shall include repairs, replacements, and restoration required as a result of damages caused during this construction.

C. Furnish and install all materials, equipment, and labor which is reasonably and properly inferable and necessary for the proper completion of the work, whether specifically indicated in the Contract Documents or not.

D. Protect all existing work from damage. It is intended that any existing Work in place shall be repaired to original condition if damaged by Work of this Contract.

E. Contractor shall verify all field and job conditions prior to preparing his bid. Any conditions not described in these drawings and specifications shall be brought to the attention of the A/E prior to bid date. Failure to do so shall render the contractor responsible for correction of this condition should he be awarded the contract.

F. The word "Provide" as used in these specifications and on the drawings will be termed to mean "furnish and install" and includes all items necessary for the proper execution and completion of the work.

G. Visit and examine the job site, and with all authorities concerned in order to become familiar with all existing conditions pertinent to the work to be performed thereon. No additional compensation will be allowed for failure to be so informed. Pay all costs and fees for utility connections.

H. All work shall be performed in a neat and workmanlike manner, and in accordance with all codes, standards, and requirements of the industry.

I. Check all specifications and all drawings and bring to attention any conflicts or variations as shown or noted.

J. Specifications and accompanying drawings apply to all material and/or labor for construction of work specified herein and shown on drawings.

K. For any points which are not clear, or from items and/or details which the Contractor feels are in need of clarification, consult the A/E before submission of a proposal.

L. The drawings and the specifications are complementary and what is shown and/or called for one shall be furnished and installed the same as if shown and/or called for in the other.

M. In case of discrepancies and/or ambiguities in the drawings and/or in the specifications, the A/E shall be consulted prior to submission of a proposal. Failure to do so on the part of the successful bidder shall be construed as explicit agreement on his part to abide by the A/E's decision in such matters.

1.4 Contract: Construct Work under single fixed-price (lump-sum) contract.

1.5 Work Sequence: Contractor is responsible for work sequence.

1.6 Contractor Use of Premises:

A. Confine operations at site to areas permitted by law, ordinances, permits, Contract Documents.

B. Do not unreasonably encumber site with materials or equipment. Assume full responsibility for protection and safekeeping of products stored on premises. Move any stored products which interfere with operations of Owner.

C. Do not load structures with weight that will endanger structure.

D. Use of Site: Limit use of site for work and storage. Coordinate parking areas, materials delivery, and storage areas at site with Owner.

E. In no case shall the Work interfere with existing streets, drives, walks, passageways, pedestrian traffic, and the like. Comply with provisions of the Conditions of the Contract and regulatory ordinances.

F. Contractor shall at all times conduct his operations as to insure the least inconvenience to the general public.

1.7 Construction Areas:

A. Contractor shall limit his use of the construction areas for work and for storage to allow for work by other Contractors, Owners use, and Public use as applicable.

B. Coordinate use of work site under direction of Owner.

C. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on site.

D. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.

E. Obtain and pay for the use of additional storage or work areas needed for operation.

1.8 Partial Owner Occupancy: The Contractor shall schedule his operations for completion of portions of the Work, as designated, for the Owner's occupancy prior to Substantial Completion of the entire Work.

1.9 Noise During Construction:

A. The noise generated by construction of this Work may at times create a problem for the Owner.

B. The Owner recognizes and can tolerate the normal level of noise created by a majority of construction activity and, therefore, does not feel any need to set certain hours of the day when noise will be restricted.

C. However, the Owner also recognizes that, during certain construction work, the noise level is unusually higher than normal. These higher levels of noise generation may conflict with a specific activity being simultaneously conducted by the Owner.

D. It is required of the Contractor that agreement be secured from the Owner prior to scheduling any such unusually noise activity, and that the Contractor cooperate if an on-going-activity becomes objectionable by its longevity or overlapping into a program started later by the Owner. It is understood and agreed that both parties will cooperate to the end that neither will unduly inconvenienced by this requirement.

1.10 Miscellaneous Conditions:

A. CAD Drawings: All bidders are advised that the Architect's CAD drawings will not be available for use during construction. This includes all drawings and any variation thereof for piling and foundation location, sprinkler heads, fire alarm systems, etc. The cost of drafting from scratch of any drawings shall be included in the cost of contractor's bid.

B. The A/E shall apply for the building permit and shall apply to the State Fire Marshal. The Contractor shall pick up and pay for the building permit and other required permits.

C. Work Stoppage Due to Publically Declared Emergency: If there is an emergency declared by the Federal, State or Local government in St. John the Baptist Parish or in any portion thereof, then all work on this project shall cease until such time as the contractor is instructed to resume work by Department Director (no one else) who has jurisdiction over the project. If there is any type of work which must proceed to prevent harm to persons or property, or damage to the project itself; then contractor should immediately contact the Department Director for necessary instructions. If contractor is unable to contact the Department Director, contractor may perform the work necessary to prevent such harm in

accordance with industry safety standards. Contactor shall be entitled to an extension of time for the period of the stoppage, but shall not be entitled to any additional compensation by reason thereof.

D. Construction Schedule:
   1. Contractor shall submit a detailed construction schedule to the A/E ten (10) days after receipt of Notice of Award.
   2. Contractor shall submit a revised construction schedule at the Pre-Construction Conference.
   3. Contractor shall submit revised construction schedules to the A/E monthly thereafter.

* * *

SECTION 01011: INSURANCE

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract, (General, Special and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Provisions: A/E shall be named as an additional insured on all policies except as applied to Worker's Compensation Coverage. Contractor shall provide A/E with a Certificate of Insurance. A/E shall be listed as Certificate Holder.

1.3 Submittals: A sample Certificate of Insurance is attached.

ACORD. CERTIFICATE OF INSURANCE

DATE (MM/DD/YY)

PRODUCER

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A

INSURED

Sample

COMPANY B

COMPANY C

COMPANY D

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$
	☐ COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG	$
	☐ CLAIMS MADE ☐ OCCUR				PERSONAL & ADV INJURY	$
	☐ OWNER'S & CONT PROT				EACH OCCURRENCE	$
	☐ _____				FIRE DAMAGE (Any one fire)	$
					MED EXP (Any one person)	$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	☐ ANY AUTO				BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS				BODILY INJURY (Per accident)	$
	☐ SCHEDULED AUTOS				PROPERTY DAMAGE	$
	☐ HIRED AUTOS					
	☐ NON-OWNED AUTOS					
	☐ _____					
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY:	
	☐ _____				EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ UMBRELLA FORM				AGGREGATE	$
	☐ OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				☐ STATUTORY LIMITS	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: ☐ INCL ☐ EXCL				EACH ACCIDENT	$
					DISEASE - POLICY LIMIT	$
					DISEASE - EACH EMPLOYEE	$
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

All required insurance includes Owner and Meyer Engineers, Ltd. as an additional insured except as applied to Worker's Compensation coverage.

CERTIFICATE HOLDER

Meyer Engineers, Ltd.
P.O. Box 763
Metairie, LA 70004

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

ACORD 25-S (3/93)

* * *

SECTION 01030: ALTERNATES

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 General

A. This Section describes the changes to be made under each alternate.

B. Basis of Bid: Bidder must include all alternates shown on bid form; failure to comply may be cause for rejection. No segregated bids or assignments will be considered.

C. The Specifications sections contain the pertinent requirements for material and methods to achieve the work described herein.

D. Coordinate pertinent related Work and modify surrounding work as required to complete the project under each alternate designated in the Owner - Contractor Agreement.

E. The stated sum of Alternates shall not change for a period of 45 days after Notice to Proceed and may be reinstated by Change Order for the Bid sum during this period.

F. See Unit Prices affecting work of this Section.

1.3 Description of Alternates:

ADDITIVE ALTERNATE 1: SUBSURFACE DRAINAGE AND SOD

A. If this Alternate is accepted, add all work associated with the subsurface drainage and sod as indicated on Drawings.

* * *

SECTION 01252: WEATHER DELAYS

PART 1: GENERAL

1.1 Related Documents: The general conditions of the Contract, including (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the work specified in this Section.

1.2 Extensions of Contract Time:

A. If the basis exists for an extension of time in accordance with the General Conditions, an extension of time on the basis of weather may be granted only for the number of weather delay days in excess of the number of days listed as the standard baseline for that month.

1.3 Standard Baseline for Average Climatic Range:

A. The Louisiana Department of Transportation Department has reviewed weather data available from the U.S. National Weather Service (NWS) and defined a Standard Baseline average climatic range for the State of Louisiana.

B. The standard baseline is defined as the normal number of anticipated calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number days each month as listed in the standard baseline is included in the contract time allotted and is not eligible for extension of Contract Time.

C. Standard baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
11	10	8	7	5	6	6	5	4	3	5	8

D. The contractor's request shall be considered only for days over the allowable number of days stated above.

1.4 Adverse Weather and Weather Delays Days:

A. Adverse weather is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour day that prevents construction activity exposed to weather conditions or access to the site:

1. Precipitation (rain, snow, or ice) in excess of 1/2 inch (0.5") liquid measure.
2. Sustained wind in excess of thirty-five (35) m.p.h.

B. Adverse weather may include, if appropriate, "dry-out" or "mud" days:
   1. Resulting from precipitation days that occur beyond the standard baseline;
   2. Only if there is a hindrance to site access or sitework and Contractor has taken all reasonable accommodations to avoid such hindrance; and,
   3. At a rate no greater than 1 make-up day for each day or consecutive days of precipitation beyond the standard baseline that total 1/2 inch or more, liquid measure, unless specifically recommended otherwise by the Designer.

C. A weather delay day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day and critical path construction activities were included in the day's schedule.

D. Contractor shall take into account that certain construction activities are more affected by adverse weather and seasonal conditions than other activities, and that "dry-out" or "mud" days are not eligible to be counted as a weather delay day until the standard baseline is exceeded. Hence, Contractor should allow for an appropriate number of additional days associated with the standard baseline days in which such applicable construction activities are expected to be prevented and suspended.

E. 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 NWS named storm or federally declared weather related disaster directly affecting the project site.

1.5 Documentation and Submittals:

A. Submit daily jobsite work logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.

B. Submit actual weather data to support claim for time extension obtained from nearest NWS station.

C. Use standard baseline data provided in this section when documenting actual delays due to weather in excess of the average climatic range.

D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods and submit to the A/E.

E. If an extension of the Contract Time is appropriate, such extension shall be made by Change Order.

* * *

SECTION 01260: CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

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

1.3 MINOR CHANGES IN THE WORK:

A. A/E will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, in writing (i.e. formal letter, email).

1.4 PROPOSAL REQUESTS:

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

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to A/E.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form acceptable to A/E.

1.5 CHANGE ORDER PROCEDURES:

A. On Owner's approval of a Proposal Request, A/E will issue a Change Order for signatures of Owner and Contractor on form included in Project Manual.

1. Contractor shall be cognizant of all the project funding sources and procedures associated with such funding sources.

B. Reasonable negotiation of Change Proposal Requests shall be expected by all parties prior to agreement to proceed.

C. Claims of delay of non-critical path items outlined in proposals and Change Orders due to the funding review process shall not be considered valid.

D. The A/E reserves the right to accumulate several Change Proposals Requests before the preparation and issuance of a Change Order.

1. If A/E recommended Change Proposal Requests are outstanding for one hundred twenty (120) days or a prorated portion of the contract time, the contractor shall notify the A/E in writing immediately.
2. Claims for delay of non-critical path items outlined in Change Proposal Request shall not be considered valid without proper documentation approved by A/E for such claims of delay.

1.6 CONSTRUCTION CHANGE DIRECTIVE:

A. Construction Change Directive: A/E may issue a Construction Change Directive on form included in Project Manual. Construction Change

Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

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

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

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01260

SECTION 01290: PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

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

1.3 DEFINITIONS:

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

1.4 SCHEDULE OF VALUES:

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
   1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:
      a. Application for Payment forms with continuation sheets.
      b. Submittal schedule.
      c. Items required to be indicated as separate activities in Contractor's construction schedule.
   2. Submit the schedule of values to A/E at earliest possible date but no later than 10 days before the date scheduled for submittal of initial Applications for Payment.
   3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
   1. Identification: Include the following Project identification on the schedule of values:
      a. Project name and location.
      b. Name of A/E.
      c. A/E's project number.
      d. Contractor's name and address.
      e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
   a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
4. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
5. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
6. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT:

A. Each Application for Payment shall be consistent with previous applications and payments as certified by A/E and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. A/E will return incomplete applications without action.
   1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
   2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
   3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
   1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
   2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
   3. Provide summary documentation for stored materials indicating the following:
      a. Materials previously stored and included in previous Applications for Payment.
      b. Work completed for this Application utilizing previously stored materials.
      c. Additional materials stored with this Application.
      d. Total materials remaining stored, including materials with this Application.

F. Transmittal: Submit five (5) signed and notarized original copies of each Application for Payment to A/E by a method ensuring receipt. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of values.
   3. Contractor's construction schedule (preliminary if not final).
   4. Products list (preliminary if not final).
   5. Submittal schedule (preliminary if not final).
   6. List of Contractor's staff assignments.
   7. List of Contractor's principal consultants.
   8. Copies of building permits.
   9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
   10. Initial progress report.
   11. Report of preconstruction conference.

H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
   1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
   2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

SECTION 01310: PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.
   2. Administrative and supervisory personnel.
   3. Coordination drawings.
   4. Requests for Information (RFIs).
   5. Project meetings.

1.3 DEFINITIONS:

A. RFI: Request from Owner, A/E, or Contractor seeking information from each other during construction.

1.4 COORDINATION:

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.

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

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

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

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

1.5 KEY PERSONNEL:

A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
   1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 REQUESTS FOR INFORMATION (RFIs):

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
   1. A/E will return RFIs submitted to A/E by other entities controlled by Contractor with no response.
   2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
   1. Project name.
   2. Project number.
   3. Date.
   4. Name of Contractor.
   5. Name of A/E.
   6. RFI number, numbered sequentially.
   7. RFI subject.
   8. Specification Section number and title and related paragraphs, as appropriate.

9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Form bound in the Project Manual.

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

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

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Use CSI Log Form 13.2B.
1. Project name.
2. Name and address of Contractor.
3. Name and address of A/E.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date A/E's response was received.

1.7 PROJECT MEETINGS:

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and A/E of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, and A/E, within three days of the meeting.

B. Preconstruction Conference: Construction Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and A/E, but no later than 7 days after execution of the Agreement.

1. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise A/E of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   a. Contract Documents.
   b. Options.
   c. Related RFIs.
   d. Related Change Orders.
   e. Submittals.
   f. Review of mockups.
   g. Possible conflicts.
   h. Compatibility problems.
   i. Time schedules.
   j. Weather limitations.
   k. Manufacturer's written recommendations.
   l. Warranty requirements.
   m. Compatibility of materials.
   n. Acceptability of substrates.
   o. Space and access limitations.
   p. Regulations of authorities having jurisdiction.
   q. Testing and inspecting requirements.
   r. Installation procedures.
   s. Coordination with other work.
   t. Required performance results.
   u. Protection of adjacent work.

v. Protection of construction and personnel.

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

D. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and A/E, but no later than 15 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, A/E, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
   a. Preparation of record documents.
   b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
   c. Submittal of written warranties.
   d. Requirements for preparing operations and maintenance data.
   e. Requirements for demonstration and training.
   f. Preparation of Contractor's punch list.
   g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
   h. Submittal procedures.
   i. Owner's partial occupancy requirements.
   j. Installation of Owner's furniture, fixtures, and equipment.
   k. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at biweekly intervals or as otherwise requested by Owner.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and A/E, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
   a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      1) Review schedule for next period.
   b. Review present and future needs of each entity present, including the following:
      1) Interface requirements.
      2) Sequence of operations.
      3) Status of submittals.
      4) Deliveries.
      5) Off-site fabrication.
      6) Access.
      7) Site utilization.
      8) Temporary facilities and controls.
      9) Progress cleaning.
      10) Quality and work standards.
      11) Status of correction of deficient items.
      12) Field observations.
      13) Status of RFIs.
      14) Status of proposal requests.
      15) Pending changes.
      16) Status of Change Orders.
      17) Pending claims and disputes.
      18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
   a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

Advancement of Construction Technology

REQUEST FOR INFORMATION

Project: _____ R.F.I. Number: _____

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

Re: _____ Contract For: _____

Specification Section: Paragraph: Drawing Reference: Detail:

Request: _____

Signed by: Date:

Response:

☐ Attachments

Response From: To: Date Rec'd: Date Ret'd:

Signed by: Date:

Copies: ☐ Owner ☐ Consultants ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐ File

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Start-up construction schedule.
   2. Contractor's construction schedule.
   3. Daily construction reports.
   4. Material location reports.
   5. Field condition reports.
   6. Special reports.

B. Related Sections:
   1. Division 01 Section "Multiple Contract Summary" for preparing a combined Contractor's Construction Schedule.
   2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
   3. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
   1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
   2. Predecessor Activity: An activity that precedes another activity in the network.
   3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by A/E.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

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

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

G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:
   1. PDF electronic file.
   2. One (1) paper copy.

B. Start-up construction schedule.
   1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Start-up Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
   1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
   2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
   3. Total Float Report: List of all activities sorted in ascending order of total float.
   4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.

F. Daily Construction Reports: Submit at monthly intervals.

G. Material Location Reports: Submit at monthly intervals.

H. Field Condition Reports: Submit at time of discovery of differing conditions.

I. Special Reports: Submit at time of unusual event.

J. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of A/E's request.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
   1. Review software limitations and content and format for reports.
   2. Verify availability of qualified personnel needed to develop and update schedule.
   3. Discuss constraints, including **phasing**.
   4. Review delivery dates for Owner-furnished products.
   5. Review schedule for work of Owner's separate contracts.
   6. Review time required for review of submittals and resubmittals.
   7. Review requirements for tests and inspections by independent testing and inspecting agencies.
   8. Review time required for completion and startup procedures.
   9. Review and finalize list of construction activities to be included in schedule.
   10. Review submittal requirements and procedures.
   11. Review procedures for updating schedule.

1.6 COORDINATION

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

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

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

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

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than **30** days, unless specifically allowed by A/E.
   2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
      a. Major items or pieces of equipment.
      b. Building structure and metal siding.
      c. Flooring
   3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
   4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for A/E's administrative procedures necessary for certification of Substantial Completion.
   5. Punch List and Final Completion: Include not more than **30** days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
   1. Phasing: Arrange list of activities on schedule by phase.
   2. Work under More Than One Contract: Include a separate activity for each contract.
   3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
   4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
   5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
   6. Work Restrictions: Show the effect of the following items on the schedule:
      a. Coordination with existing construction.
      b. Limitations of continued occupancies.
      c. Uninterruptible services.
      d. Partial occupancy before Substantial Completion.
      e. Use of premises restrictions.
      f. Provisions for future construction.
      g. Seasonal variations.

h. Environmental control.

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

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

E. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
   1. Refer to Division 01 Section "Payment Procedures" for cost reporting and payment procedures.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
   1. Unresolved issues.
   2. Unanswered RFIs.
   3. Rejected or unreturned submittals.
   4. Notations on returned submittals.

G. Recovery Schedule: When periodic update indicates the Work is one (1) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
   1. Utilize Microsoft Project or Oracle Primavera Software as specified in Division 01 Section "Summary of Work, for Windows XP, Windows Vista and Macintosh OS X operating system.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within 7 days of date established for the Notice of Award.

B. All construction schedules shall be prepared using the latest version of Oracle Primavera Project Management Software or Microsoft Project. Schedules shall clearly show the critical path of the construction project. Contractor is advised that the A/E will not approve Applications for Payment that do not include updated project schedules.

C. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first **90** days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Start-up Network Diagram: Submit diagram within **14** days of date established for **the Notice to Proceed**. Outline significant construction activities for the project duration. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
   1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than **15** days after date established for **the Notice to Proceed**.
      a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of A/E's approval of the schedule.
   2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
   3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
   4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to correlate with Contract Time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.
   1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
      a. Preparation and processing of submittals.
      b. Mobilization and demobilization.
      c. Purchase of materials.
      d. Delivery.
      e. Fabrication.
      f. Utility interruptions.
      g. Installation.
      h. Work by Owner that may affect or be affected by Contractor's activities.
      i. Testing and commissioning.
      j. Punch list and final completion.
      k. Activities occurring following final completion.
   2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
   3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
   4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
      a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
   5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain A/E's approval prior to assigning costs to fabrication and delivery activities. Assign costs under principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, and demonstration and training (if applicable), in the amount of **5** percent of the Contract Sum.
      a. Each activity cost shall reflect an appropriate value subject to approval by A/E.
      b. Total cost assigned to activities shall equal the total Contract Sum.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
   1. Contractor or subcontractor and the Work or activity.
   2. Description of activity.
   3. Principal events of activity.
   4. Immediate preceding and succeeding activities.
   5. Early and late start dates.
   6. Early and late finish dates.

7. Activity duration in workdays.
8. Total float or slack time.
9. Average size of workforce.
10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

2.4 REPORTS

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

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

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

2.5 SPECIAL REPORTS

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

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

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
   1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
   2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

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

C. Distribution: Distribute copies of approved schedule to A/E, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01320

SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

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

1.3 DEFINITIONS:

A. Action Submittals: Written and graphic information and physical samples that require A/E's responsive action. Action submittals, as they are implied are those submittals indicated in individual Specification Sections.

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals, as they are implied are those submittals indicated in individual Specification Sections.

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS:

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

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work those required early because of long lead time for manufacture or fabrication, and all submittals that require color/material selections.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
   a) Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:

a) Scheduled date for first submittal.
b) Specification Section number and title.
c) Submittal category: Action, informational.
d) Name of subcontractor.
e) Description of the Work covered.
f) Scheduled date for A/E's final release or approval.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS:

A. A/E's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by A/E for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

C. A/E reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on A/E receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow fifteen (15) days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. A/E will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow fifteen (15) days for review of each resubmittal.

E. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by A/E.
3. Include the following information for processing and recording action taken:
a) Project name.
b) Date.

c) Name of Construction Manager.
d) Name of Contractor.
e) Name of subcontractor.
f) Name of supplier.
g) Name of manufacturer.
h) Revise first subparagraph below to suit Project and office practice.
i) Number and title of appropriate Specification Section.
j) Drawing number and detail references, as appropriate.
k) Location(s) where product is to be installed, as appropriate.
l) Other necessary identification.

F. Additional Paper Copies: Unless additional copies are required for final submittal, and unless A/E observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to A/E.

G. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. A/E will return submittals, without review, received from sources other than Contractor.
1. Transmittal Form: Use Submittal Transmittal form included in Project Manual.
a) Project name.
b) Date.
c) Destination (To:).
d) Source (From:).
e) Names of subcontractor, manufacturer, and supplier.
f) Category and type of submittal.
g) Submittal purpose and description.
h) Specification Section number and title.
i) Indication of full or partial submittal.
j) Drawing number and detail references, as appropriate.
k) Transmittal number.
l) Remarks.
m) Signature of transmitter.
2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by A/E on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

H. Resubmittals:
1. Make resubmittals in same form and number of copies as initial submittal.
a) Note date and content of previous submittal.
b) Note date and content of revision in label or title block and clearly indicate extent of revision.
c) Resubmit submittals until they are marked with approval notation from A/E's action stamp.

I. Shop Drawings: Revise initial drawings as required and resubmit as specified for initial submittal. Indicate on drawings any changes which have been made other than those requested by A/E.

J. Project Data and Samples: Submit new datum and samples as required for initial submittal.

K. Contractor shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted by A/E have been taken into account. In the event that more than one (1) resubmission is required because of failure of Contractor to account for exceptions previously noted, Contractor shall reimburse the Owner for the charges of the A/E for review of the additional resubmissions.

L. Any need for more than one (1) resubmission, or any other delay in obtaining A/E's review of submittals, will not entitle Contractor an extension of the Contract Time unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of A/E to return any submittal within a reasonable time after its receipt in A/E's office.

M. When the drawings and data are returned marked SUBMIT SPECIFIED ITEM the Contractor shall do so. When the drawings and data are returned marked REVISE AND RESUBMIT, the corrections shall be made as noted thereon and as instructed by the A/E and the required number of corrected copies (or one corrected reproducible copy) resubmitted.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals that are marked with approval notation from A/E's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES:

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Action Submittals: Submit five (5) paper copies of each submittal, unless otherwise indicated. A/E will return two (2) copies.
2. Informational Submittals: Submit two (2) paper copies of each submittal, unless otherwise indicated. A/E will not return copies.
3. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 1 Section "Closeout Procedures."
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   a) Provide a notarized statement on original paper copy certificates and certifications where indicated.

5. Test and Inspection Reports Submittals: Comply with requirements specified in Division 1 Section "Quality Requirements."

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a) Manufacturer's catalog cuts.
      b) Manufacturer's product specifications.
      c) Standard color charts, unless otherwise specified. (printed copies are not acceptable)
      d) Statement of compliance with specified referenced standards.
      e) Testing by recognized testing agency.
      f) Application of testing agency labels and seals.
      g) Notation of coordination requirements.
      h) Availability and delivery time information.
   4. For equipment, include the following in addition to the above, as applicable:
      a) Wiring diagrams showing factory-installed wiring.
      b) Printed performance curves.
      c) Operational range diagrams.
      d) Clearances required to other construction, if not indicated on accompanying Shop Drawings.
   5. Submit Product Data before or concurrent with Samples.
   6. Submit Product Data in the following format:
      a) PDF electronic file.
      b) Five (5) paper copies of Product Data, unless otherwise indicated. A/E will return two (2) copies.

C. Shop Drawings (Action Submittal): Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a) Identification of products.
      b) Schedules.
      c) Compliance with specified standards.
      d) Notation of coordination requirements.
      e) Notation of dimensions established by field measurement.
      f) Relationship and attachment to adjoining construction clearly indicated.
      g) Seal and signature of professional engineer if specified.
   2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (750 by 1067 mm).
   3. Submit Shop Drawings in the following format:

a) Five (5) opaque copies of each submittal. A/E will retain two (2) copies; remainder will be returned.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a) Generic description of Sample.
   b) Product name and name of manufacturer.
   c) Sample source.
   d) Number and title of applicable Specification Section.
3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a) Number of Samples: Submit one (1) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. A/E will return submittal without options selected. Once all submittals requiring color/material selections are submitted, the A/E will make selections per Owners approval. Upon Owners approval A/E will provide a finish selection schedule to Contractor indicating selected finishes.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a) Number of Samples: Submit one (1) set of Samples. A/E will retain one (1) Sample set when deemed necessary, until the completion of construction. Contractor must indicate if sample needs to be returned prior to construction completion.
      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Contractor's Construction Schedule: Comply with requirements specified.

F. Application for Payment: Comply with requirements specified in General Conditions and Division 1 Section "Payment Procedures."

G. Schedule of Values: Comply with requirements specified in General Conditions and Division 1 Section "Payment Procedures."

H. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

I. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

J. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

K. Research Reports: Submit written evidence that product complies with the current version of International Building Code. Include the following information:
   1. Name of evaluation organization.
   2. Date of evaluation.
   3. Time period when report is in effect.
   4. Product and manufacturers' names.
   5. Description of product.
   6. Test procedures and results.
   7. Limitations of use.

L. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."

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

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

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

P. Maintenance Data: Comply with requirements specified in Division 1 Section "Operation and Maintenance Data."

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

2.2 DELEGATED-DESIGN SERVICES:

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to A/E.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
   1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

C. Design professional must be licensed in the State of Louisiana.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW:

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to A/E.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 1 Section "Closeout Procedures."

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

3.2 A/E'S ACTION:

A. General: A/E will not review submittals that do not bear Contractor's approval stamp and will return them without action. Additionally, if during review the A/E determines that the Contractor has not sufficiently reviewed the submittal the A/E shall return the submittal to the Contractor without any action for a more complete and adequate review by the Contractor.

B. Shop Drawings (Action Submittals): A/E will review each submittal for general compliance, and return it. A/E will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
   1. Review submittals with reasonable promptness.
   2. Review for a design concept of project and information given in Contract Documents.
   3. Review of a separate item does not constitute review of an assembly in which the item functions.
   4. Affix stamp and initials or signature certifying to review of submittal.
   5. Return reproducible Shop Drawings and other submittals to Contractor for distribution, or for resubmission. Contractor is responsible for obtaining the number of opaque prints from the reproducible shop drawing as necessary for distribution.
   6. The Design Professional shall review Contractor submittals, such as shop drawings, product data, samples and other data, as required by the Design Professional, but only for the limited purpose of checking for conformance with the design conception and the information expressed in the contract documents. This review shall not include review of the accuracy or completeness of details, such as quantities, dimensions, weights or gauges, fabrication processes, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the sole responsibility of the Contractor. The Design Professional's review shall be conducted with reasonable promptness while allowing sufficient time in the Design Professional's judgement to permit an adequate review. Review of a specific item shall not indicate that the Design Professional has reviewed the entire assembly of which the item is a component. The Design Professional shall not be responsible for any deviations of the contract documents not brought to the attention of the Design Professional in writing by the Contractor. The Design Professional shall not be required to review partial submissions or those for which submissions or correlated items have not been received.

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

D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from A/E.

E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

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

* * *

Advancement of Construction Technology

SUBMITTAL TRANSMITTAL

Project: _____ Date: _____

_____ A/E Project Number: _____

TRANSMITTAL A To (Contractor): _____ Date: _____ Submittal No. _____

From (Subcontractor): _____ By: _____ ☐ Resubmission

Qty.	Reference / Number	Title / Description / Manufacturer	Spec. Section Title and Paragraph / Drawing Detail Reference

☐ Submitted for review and approval
☐ Resubmitted for review and approval
☐ Complies with contract requirements
☐ Will be available to meet construction schedule
☐ A/E review time included in construction schedule
☐ Substitution involved - Substitution request attached
☐ If substitution involved, submission includes point-by-point comparative data or preliminary details
☐ Items included in submission will be ordered immediately upon receipt of approval

Other remarks on above submission: ☐ One copy retained by sender

TRANSMITTAL B To (A/E): _____ Attn: _____ Date Rec'd by Contractor: _____

From (Contractor): _____ By: _____ Date Trnsmt'd by Contractor: _____

☐ Approved
☐ Approved as noted
☐ Revise / Resubmit
☐ Rejected / Resubmit

Other remarks on above submission: ☐ One copy retained by sender

TRANSMITTAL C To (Contractor): _____ Attn: _____ Date Rec'd by A/E: _____

From (A/E): _____ ☐ Other By: _____ Date Trnsmt'd by A/E: _____

☐ Approved
☐ Approved as noted
☐ Not subject to review
☐ No action required
☐ Revise / Resubmit
☐ Rejected / Resubmit
☐ Approved as noted / Resubmit
☐ Provide file copy with corrections identified
☐ Sepia copies only returned
☐ Point-by-point comparative data required to complete approval process
☐ Submission Incomplete / Resubmit

Other remarks on above submission: ☐ One copy retained by sender

TRANSMITTAL D To (Subcontractor): _____ Attn: _____ Date Rec'd by Contractor: _____

From (Contractor): _____ By: _____ Date Trnsmt'd by Contractor: _____

Copies: ☐ Owner ☐ Consultants ☐ _____ ☐ _____ ☐ _____ ☐ One copy retained by sender

SECTION 01400: QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

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

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

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

1.3 DEFINITIONS:

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

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

C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on the project site, consisting of multiple products, assemblies and subassemblies.

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

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

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

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

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

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

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

1.4 CONFLICTING REQUIREMENTS:

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to A/E for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to A/E for a decision before proceeding.

1.5 ACTION SUBMITTALS:

A. Shop Drawings: For mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.

2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS:

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Contractor's Quality-Control Manager Qualifications: For supervisory personnel.

C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

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

1.7 REPORTS AND DOCUMENTS:

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.
   7. Identification of product and Specification Section.
   8. Complete test or inspection data.
   9. Test and inspection results and an interpretation of test results.
   10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
   11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
   12. Name and signature of laboratory inspector.
   13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
   1. Name, address, and telephone number of technical representative making report.
   2. Statement on condition of substrates and their acceptability for installation of product.

3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE:

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

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

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

D. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329 and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

E. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

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

G. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by A/E.
2. Notify A/E seven (7) days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain A/E's approval of mockups before starting work, fabrication, or construction.
   a. Allow seven 7 days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed, unless otherwise indicated.

1.9 QUALITY CONTROL:

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction.

Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

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

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

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

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

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
   1. Access to the Work.

2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION:

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

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

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

END OF SECTION 01400

SECTION 01500: TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

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

1.3 USE CHARGES:

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS:

A. Dust-Control and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust-control and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of the work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air filtration system discharge.
4. Other dust-control measures.
5. Waste management plan.

1.5 QUALITY ASSURANCE:

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS:

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

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized steel bases for supporting posts.

B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10 mils (0.25 mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84.

C. Dust Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).

2.2 EQUIPMENT:

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

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL:

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

3.2 TEMPORARY UTILITY INSTALLATION:

A. General: Install temporary service or connect to existing service.

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

B. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service overhead, unless otherwise indicated.
2. Connect temporary service to Owner's existing power source, as directed by Owner.

3.3 SUPPORT FACILITIES INSTALLATION:

A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
   1. Protect existing site improvements to remain including curbs, pavement, and utilities.
   2. Maintain access for fire-fighting equipment and access to fire hydrants.

B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

C. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
   1. Identification Signs: Provide Project identification signs as indicated on Drawings.
   2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
      a. Provide temporary, directional signs for construction personnel and visitors.
   3. Maintain and touchup signs so they are legible at all times.
   4. Provide Job Sign per Section 015800.

D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 1 Section "Execution" for progress cleaning requirements.

E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
   1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

F. Existing Elevator Use: Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
   1. Do not load elevators beyond their rated weight capacity.
   2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

G. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.

1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION:

A. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

B. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

C. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.

3.5 MOISTURE AND MOLD CONTROL:

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.

6. Discard, replace or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

3.6 OPERATION, TERMINATION, AND REMOVAL:

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

SECTION 01580: JOB SIGN

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 General:

A. Comply with Federal, State, and Local codes and regulations and with utility company requirements.

B. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

1.3 Job Conditions: Install, maintain and protect sign in a manner and at location which will be safe, non-hazardous, and protective of persons and property, and free of deleterious effects.

1.4 Job Sign:

A. Construct and maintain job sign as detailed. All lumber shall be treated pine. Signs shall be 3/4 inch thick exterior grade plywood with "B" or better face.

B. See Project Manual Title Sheet for text of Project Title and Owner's Name(s). Consult A/E for specific requirements within seven (7) days of execution of contract.

C. Locate one (1) job sign where directed by A/E at the site.

D. Lettering and layout on sign shall be done by a professional sign painter. (Helvetica Style).

E. 4 x 4 Treated Pine Posts. Brace as required.

F. Job Sign shall be painted with first coat primer, with second and third coats exterior semi-gloss enamel, as per Painting Specification Section. Colors as selected by A/E.

G. Job Sign shall be erected within two weeks of Notice to Proceed and shall be maintained through duration of project.

H. At his option, Contractor may provide and maintain a separate job sign, approved by the A/E, for listing of subcontractors. If approved, paint by professional sign painter in identical colors as project sign.

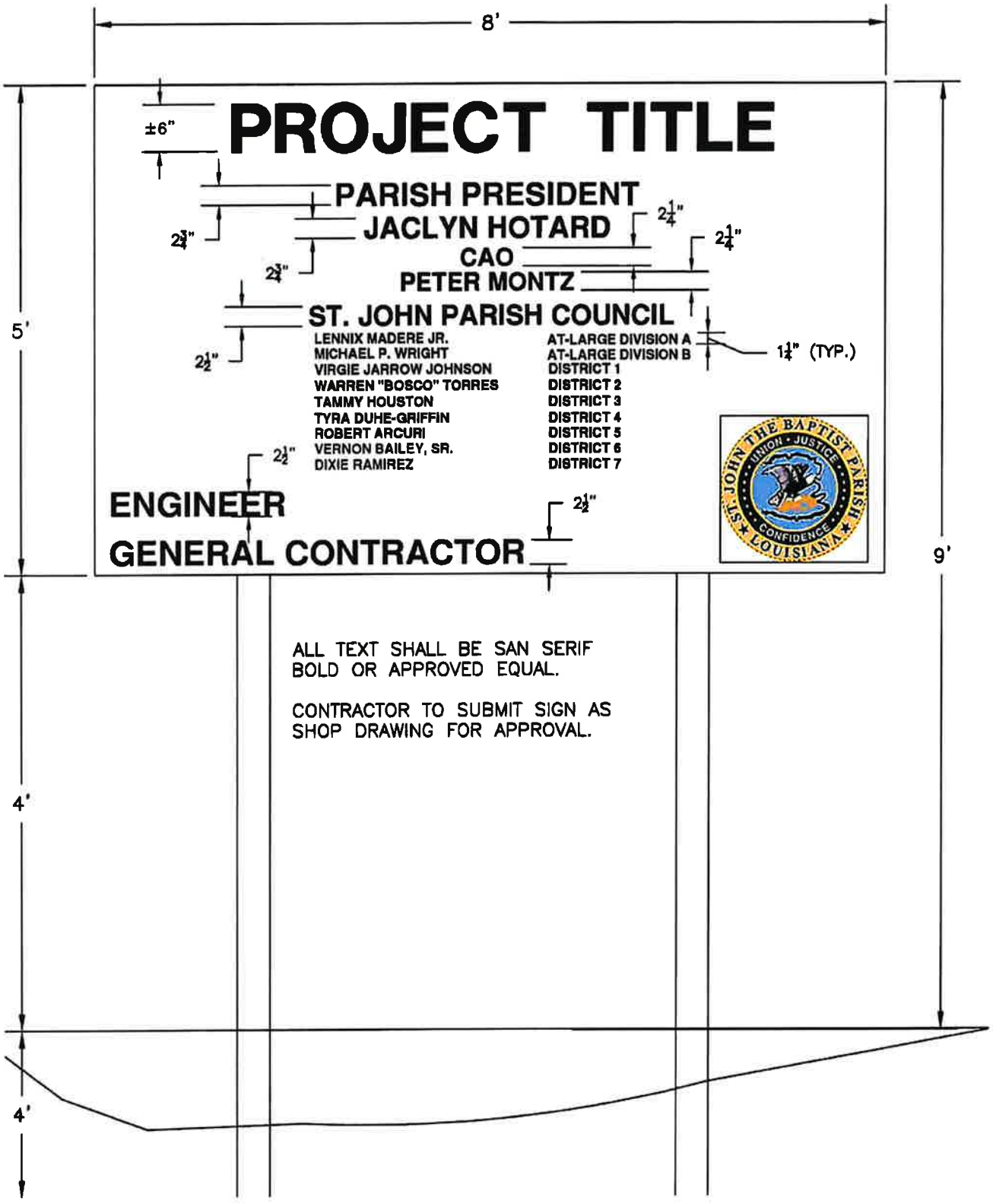
I. Do not allow other signs or advertisements at or near the project site.

1.5 Removal:

A. Completely remove temporary materials and equipment at completion of job or when notified by A/E. Clean and repair damage caused by temporary installations or use of temporary facilities.

B. Restore existing facilities used for temporary services to specified, or to original condition.

C. Restore any permanent facilities used for temporary services to specified condition.



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JOB SIGN DETAIL

N.T.S.

SECTION 01600: PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. 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.

1.3 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.

1.4 ACTION SUBMITTALS:

A. Comparable Product Requests: Shall be submitted in accordance with the General and Supplementary Conditions and Division 1.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. A/E's Action: If necessary, A/E will request additional information or documentation for evaluation within one week of receipt of a comparable product request. A/E will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
   a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
   b. Use product specified if A/E 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 Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE:

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING:

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft 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 materials in a manner that will not endanger Project structure.
   2. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   3. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   4. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   5. Protect stored products from damage and liquids from freezing.

6. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES:

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. In accordance with Louisiana State Law (LSA-R.S. 9:2774) the commencement date for ALL warranties or guarantees of every nature or kind shall be the date of Substantial Completion as certified by the A/E. It shall be the Contractor's sole responsibility to ensure that all written warranties include this commencement time. Also, in accordance with LSA-R.S. 9:2774 the provision of this Section shall not be subject to waiver by contract.
   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 Divisions 2 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES:

A. General Product Requirements: Provide products that comply with 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," A/E will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
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 in accordance with General and Supplementary Conditions and Division 1.
   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 in accordance with General and Supplementary Conditions and Division 1.
   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 A/E's sample", provide a product that complies with requirements and matches A/E's sample. A/E'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 Division 1 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by A/E from manufacturer's full range" or similar phrase, select a product that complies with requirements. A/E 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: A/E will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, A/E 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 A/E's and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

SECTION 01635 - SUBSTITUTION PROCEDURES

PART 1: GENERAL

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

1.2 Summary:

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:

1. Division 1 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
2. Division 2 through 16 sections for specific requirements and limitations for substitutions.

1.3 Definitions:

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 Submittals:

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use copy of form provided in the Project Manual.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable. The burden of proof of the merit of the proposed substitute is upon the proposers.
   a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
   b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
   c. Detailed comparison (point by point) 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.

1) Detailed comparison (point by point) must be included in all substitution request documentation submitted for review by the A/E.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects with project names and addresses and names and addresses of A/Es and owners.

h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

i. Research reports evidencing compliance with building code in effect and indicated UL or documented testing methods.

j. 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.

k. 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. A/E's Action:

a. Prior to the Bid Date: If necessary, A/E will request additional information or documentation for evaluation within seven (7) working days of receipt of a request for substitution. Prior to the bid date the A/E will notify the contractor/supplier of acceptance or rejection of proposed substitution within three (3) working days of the bid date.

1) Forms of Acceptance: Signed "Contractor/Supplier Substitution Required Form, Addendum, Change Order, Construction Change Directive, or A/E's supplementary instructions for minor changes in the work.

2) Use product specified if A/E does not issue a decision on use of a proposed substitution within time allocated.

3) The A/E's decision of approval or disapproval will be final.

b. After Contract Execution: A/E will notify Contractor of acceptance or rejection of proposed substitution during construction within fifteen (15) working days of receipt of

request, or seven (7) working days of receipt of additional information or documentation, whichever is later.

1) Forms of Acceptance: Signed "Contractor/Supplier Substitution Required Form, Addendum, Change Order, Construction Change Directive, or A/E's supplementary instructions for minor changes in the work.
2) Use product specified if A/E does not issue a decision on use of a proposed substitution within time allocated.
3) The A/E's decision of approval or disapproval will be final.

1.5 Quality Assurance

A. The contractor represents that he has personally investigated the proposed substitution and determined that it is equal or superior in all respects to that specified.
B. The contractor represents that he will provide the same warranty for the substitution that he would for that specified.
C. The contractor certifies that the cost data presented is complete and includes all related costs under this Contract but excludes costs under separate contracts, and any additional A/E redesign costs, as well as waives all claims for additional costs related to the substitution which subsequently become apparent.
D. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.
E. Bidders/Contractor is advised that any acceptable substitution that requires a change or modifications to other parts of the project shall be his responsibility including any additional cost required thereof. Any cost associated for other parts of the projects due to a substitution shall be the responsibility of the Contractor.

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

PART 2: PRODUCTS

2.1 Substitutions – Pre-Bid

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than seven (7) working days prior to date for receipt of bids.
   1. Conditions: A/E will consider Supplier's / Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, A/E will return requests without action, except to record noncompliance with these requirements:
      a. Request submitted through a general contractor that has picked up a complete set of bidding documents for the project. Substitutions by a sub-contractor, material

supplier, manufacturer's representative, etc. not submitted through a general contractor will be returned without action.

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

c. Substitution request is fully documented as outlined under submittals and properly submitted on required form.

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

e. Requested substitution provides specified warranty.

B. Substitutions for Convenience: A/E will consider requests for substitution if received within seven (7) working days prior to date for receipt of bids. Requests received after that time will be rejected.

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

a. Request submitted through a general contractor that has picked up a complete set of bidding documents for the project. Substitutions by a sub-contractor, material supplier, manufacturer's representative, etc. not submitted through a general contractor will be returned without action.

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 as outlined under submittals and properly submitted on required form.

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

f. Requested substitution provides specified warranty.

2.2 Substitutions – After Contract Execution

A. In the interest of keeping the project on schedule, the A/E will not continuously and exhaustively review proposed substitutes for each specification section. The A/E will review **only one (1)** proposed substitution per product per specification section. If that proposed substitution is rejected for any reason, the contractor shall use the product specified.

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

1. A/E will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, A/E will return requests without any 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 as outlined under submittals herein and properly submitted on required form.

c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approval 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.

C. Substitutions for Convenience: A/E will consider requests for substitution.

1. Conditions: A/E will consider the Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, A/E 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 A/E 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 as outlined under submittals and properly submitted on the required form.
   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.

* * *

CONTRACTOR / SUPPLIER SUBSTITUTION REQUEST FORM

(Section to be completed by Contractor / Supplier)

Project: _____ Substitution Request Number: _____

_____ From: _____

To: _____ Date: _____

_____ A/E Project Number: _____

Re: _____ Contract For: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone: _____

Trade Name: _____ Model No.: _____

Installer: _____ Address: _____ Phone: _____

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

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

Reason for substitution request: _____

_____

Similar Installation:

Project: _____ Architect: _____

Address: _____ Owner: _____

_____ Date Installed: _____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

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

CONTRACTOR / SUPPLIER SUBSTITUTION REQUEST FORM
(Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

_____

Telephone: _____

Fax: _____

Email: _____

Attachments: _____

_____

_____

_____

SECTION TO BE COMPLETED BY A/E:

A/E's REVIEW AND ACTION

☐ Substitution approved - Provided all Contract Documents requirements are met.
☐ Substitution approved as noted.
☐ Substitution rejected - Does not meet Contract Documents - Use specified materials.
☐ Substitution Request received too late – Not Approved. Received less than seven (7) working days prior to Bid Date. Insufficient time in accordance with R.S. 38:2295.
☐ Substitution rejected – Insufficient information submitted to make determination.
  ☐ Submit model or catalog numbers.
  ☐ Submit information following Specification format in enough detail to make comparison to product specified.

Signed by: Date:

Additional Comments: _____

_____

_____

_____

_____

_____

SECTION 01730: EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Installation of the Work.
   2. Cutting and patching.
   3. Progress cleaning.
   4. Starting and adjusting.
   5. Protection of installed construction.
   6. Correction of the Work.

1.3 DEFINITIONS:

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 QUALITY ASSURANCE:

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: When cutting and patching structural elements, notify A/E of locations and details of cutting and await directions from the A/E before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
   4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in A/E's

opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.5 WARRANTY:

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

1. In accordance with Louisiana State Law (LSA-R.S. 9:2774) the commencement date for ALL warranties or guarantees of every nature or kind shall be the date of Substantial Completion as certified by the A/E. It shall be the Contractor's sole responsibility to ensure that all written warranties include this commencement time. Also, in accordance with LSA-R.S. 9:2774 the provision of this Section shall not be subject to waiver by contract.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the A/E for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION:

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   a. Description of the Work.
   b. List of detrimental conditions, including substrates.
   c. List of unacceptable installation tolerances.
   d. Recommended corrections.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION:

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to A/E according to requirements in Division 01 Section "Project Management and Coordination."

E. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrate to receive subsequent work.

3.3 INSTALLATION:

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
   4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by A/E.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING:

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Temporary Support: Provide temporary support of work to be cut.

C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

D. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If

possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Proceed with patching after construction operations requiring cutting are complete.

E. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
   b. Restore damaged pipe covering to its original condition.
3. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

F. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING:

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
   a. Utilize containers intended for holding waste materials of type to be stored.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in accordance with the law and authorities having jurisdiction.

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION:

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.7 CORRECTION OF THE WORK:

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
   1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01730

SECTION 01741: CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.

1.3 DEFINITIONS:

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01741

SECTION 01770: CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Substantial Completion procedures.
   2. Final completion procedures.
   3. Warranties.
   4. Final cleaning.

1.3 SUBSTANTIAL COMPLETION:

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
      a. All public works contracts shall contain a clause stating that any punch list generated during a construction project shall include the cost estimates for the particular items of work the design professional has developed based on the mobilization labor material and equipment costs of correcting each punch list item. The design professional shall retain his working papers used to determine the punch list items cost estimates should the matter be disputed later. The contracting agency shall not withhold from payment more than the value of the punch list. Punch list items completed shall be paid upon the expiration of the forty five day lien period. The provisions of this section shall not be subject to waiver nor shall these provisions apply to the Department of Transportation and Development.
   2. Advise Owner of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic

documentation, damage or settlement surveys, property surveys, and similar final record information.

6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, A/E will either proceed with inspection or notify Contractor of unfulfilled requirements. A/E will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by A/E, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION:

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of A/E's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by A/E. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, A/E will either proceed with inspection or notify Contractor of unfulfilled requirements. A/E will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST):

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of A/E.
   d. Name of Contractor.
   e. Page number.
4. Submit list of incomplete items in the following format:
   a. PDF electronic file.
   b. Three paper copies of product schedule or list, unless otherwise indicated. A/E will return two copies.

1.6 WARRANTIES:

A. Submittal Time: Submit written warranties on request of A/E for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

1. In accordance with Louisiana State Law (LSA-R.S. 9:2774) the commencement date for ALL warranties or guarantees of every nature or kind shall be the date of Substantial Completion as certified by the A/E. It shall be the Contractor's sole responsibility to ensure that all written warranties include this commencement time. Also, in accordance with LSA-R.S. 9:2774 the provision of this Section shall not be subject to waiver by contract.

B. Partial Occupancy: Submit properly executed warranties within **15** days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including

the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING:

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

g. Sweep concrete floors broom clean in unoccupied spaces.

h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

j. Remove labels that are not permanent.

k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

m. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.

q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

r. Leave Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

3.2 **The A/E shall be responsible for calling for the final Fire Marshal Inspection, NOT THE CONTRACTOR. Additionally, the Fire Marshal Inspection shall not take place until the project has been declared substantially complete. If the contractor calls for the Fire Marshal inspection, the Contractor is advised that**

the A/E will not attend the inspection and will not prepare or sign the Fire Marshal's Certificate of Completion.

END OF SECTION 01770

SECTION 01782: OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
   1. Operation and maintenance documentation directory.
   2. Emergency manuals.
   3. Operation manuals for systems, subsystems, and equipment.
   4. Product maintenance manuals.
   5. Systems and equipment maintenance manuals.

1.3 DEFINITIONS:

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS:

A. Manual Content: Operations and maintenance manual content is specified in individual specification sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
   1. Where applicable, clarify and update reviewed manual content to correspond to modifications and field conditions.

B. Format:
   1. Size: 8 1/2 inches x 11 inches.
   2. Paper: White, for typed pages.
   3. Text: Manufacturer's printed data, or neatly typewritten.
   4. Drawings: Provide reinforced punched binder tab, bind in with text. Fold larger drawings to the size of the text pages.
   5. Provide fly-leaf for each separate product, or each piece of operating equipment. Provide typed description of product; and major component parts of equipment. Provide indexed tabs.
   6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List title of Project, identity of separate structure as applicable, identity of general subject matter covered in the manual.

C. Binders: Commercial quality three-ring binders with durable and cleanable plastic covers. When multiple binders are used, correlate the data into related consistent groupings.

D. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. A/E will comment on whether general scope and content of manual are acceptable.

E. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. A/E will return copy with comments.

1. Correct or modify each manual to comply with A/E's comments. Submit copies of each corrected manual within 15 days of receipt of A/E's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY:

A. Organization: Include a section in the directory for each of the following:
1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS:

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:
1. Subject matter included in manual.
2. Name and address of Project.

3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for A/E.
8. Names and contact information for major consultants to the A/E that designed the systems contained in the manuals.
9. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
2. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
3. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS:

A. Content: Organize manual into a separate section for each of the following:
1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.

2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS:

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.

4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS:

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:
1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.
2. In accordance with Louisiana State Law (LSA-R.S. 9:2774) the commencement date for ALL warranties or guarantees of every nature or kind shall be the date of Substantial Completion as certified by the A/E. It shall be the Contractor's sole responsibility to ensure that all written warranties include this commencement time. Also, in accordance with LSA-R.S. 9:2774 the provision of this Section shall not be subject to waiver by contract.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS:

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
   1. Standard maintenance instructions and bulletins.
   2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
   3. Identification and nomenclature of parts and components.
   4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
   1. Test and inspection instructions.
   2. Troubleshooting guide.
   3. Precautions against improper maintenance.
   4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
   5. Aligning, adjusting, and checking instructions.
   6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
   1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
   2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
   1. Include procedures to follow and required notifications for warranty claims.
   2. In accordance with Louisiana State Law (LSA-R.S. 9:2774) the commencement date for ALL warranties or guarantees of every

nature or kind shall be the date of Substantial Completion as certified by the A/E. It shall be the Contractor's sole responsibility to ensure that all written warranties include this commencement time. Also, in accordance with LSA-R.S. 9:2774 the provision of this Section shall not be subject to waiver by contract.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION:

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals with A/E prior directory preparations.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
   1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
   2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
   1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
   1. Do not use original project record documents as part of operation and maintenance manuals.
   2. Comply with requirements of newly prepared record Drawings in Division 1 Section "Project Record Documents."

G. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01782

SECTION 01783: PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. Section includes administrative and procedural requirements for project record documents, including the following:
   1. Record Specifications.
   2. Record Product Data.
   3. Miscellaneous record submittals.

1.3 CLOSEOUT SUBMITTALS:

A. Record Specifications: Submit 2 copies and 1 annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

B. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
   1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

C. Miscellaneous Record Submittals: Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

D. Reports: Submit written report weekly indicating items incorporated in Project record documents concurrent with progress of the Work, including modifications, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS:

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.
   1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
      a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.

2. Content: Types of items requiring marking include, but are not limited to, the following:
a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Revisions to routing of piping and conduits.
d. Revisions to electrical circuitry.
e. Actual equipment locations.
f. Duct size and routing.
g. Locations of concealed internal utilities.
h. Changes made by Change Order or Construction Change Directive.
i. Changes made following A/E's written orders.
j. Details not on the original Contract Drawings.
k. Field records for variable and concealed conditions.
l. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.

4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Format: Annotated PDF electronic file.
2. Identification: As follows:
a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of A/E.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS:

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file.

2.3 RECORD PRODUCT DATA:

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file.
1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE:

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for A/E's reference during normal working hours.

END OF SECTION 01783

SECTION 02051: SITE DEMOLITION

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all labor, materials, equipment, and incidentals required for demolition and disposal of existing obstructions to the installation of new pipelines and to other work. Obstructions may include but are not limited to existing structures, foundations, slabs, mechanical, electrical, and miscellaneous appurtenances encountered during construction operations.

1.3 General: These specifications call attention to certain activities necessary to maintain and facilitate operation during and immediately following construction and do not purport to cover all of the activities necessary.

1.4 Rules and Regulations:

A. The Building Code of the appropriate governing body shall control the demolition or alteration of the existing buildings, or appurtenances.

B. No building, structure, or appurtenance, or any part thereof, shall be demolished until an application has been filed by the Contractor with the Building Inspector, and a permit issued. The fee for this permit shall be the Contractor's responsibility.

1.5 Traffic and Access:

A. Conduct demolition and removal operations to ensure minimum interference with roads, streets, walks, both on site and off site, and to ensure minimum interference with occupied or used facilities.

B. Do not close or obstruct streets, walks, or other coupled or used facilities without permission from the A/E. Provide alternate routes around closed or obstructed traffic access ways.

1.6 Protection: Conduct operations to minimize damage by falling debris or other causes to adjacent buildings, structures, roadways, and other facilities, including persons. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain.

1.7 Damage: Promptly repair damage caused to adjacent facilities by demolition operations as directed by the A/E at no cost to the Owner.

1.8 Utilities:

A. Maintain existing utilities as directed by the A/E to remain in service and protect against damage during demolition operations.

B. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the A/E. Provide temporary services during interruptions to existing utilities as acceptable to the A/E.

C. The Contractor shall cooperate with the Owner to shut off utilities serving structures of the existing facilities as required by demolition operations.

D. The Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance, re-routing, and/or interruption of all public and private utilities or services under the jurisdiction of the utility companies.

E. All utilities being abandoned shall be disconnected and terminated at the service mains in conformance with the requirement of the utility companies or the governing body owning or controlling them.

1.9 Extermination: If required, before starting demolition, employ a certified rodent and vermin exterminator and treat the facilities in accordance with governing health laws and regulations.

1.10 Pollution Control:

A. For pollution control, use water sprinkling, temporary enclosures, and other suitable methods as necessary to limit the amount of dust and dirt rising and scattering in the air to the lowest level of air pollution practical for the condition of work. Comply with the governing regulations.

B. Clean adjacent structures and improvements of all dust, dirt, and debris caused by demolition operations as directed by the A/E. Return areas to conditions existing prior to the start of work.

PART 2: PRODUCTS (NOT USED)

PART 3: EXECUTION

3.1 Items to be Demolished: Remove and dispose of all items shown on the Drawings or where necessary for the construction of new work.

3.2 Backfill: Cavities or trenches left by demolition, removal, and disposal work shall be backfilled to the level of the surrounding ground and compacted to a minimum of 95% density or as approved by A/E.

3.3 Disposal of Material:

A. Demolished material shall become the Contractors property and must be removed from the site.

B. The storage or sale of removed items on the site will not be allowed.

C. Any equipment and material specified to remain the property of the Owner shall be removed and delivered to a location as designated by the Owner. Equipment and material not retained by the Owner shall become the property of the Contractor and shall be removed from the site by him.

3.4 Salvage Schedule: None.

* * *

SECTION 02111: CLEARING AND GRUBBING

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all labor, materials, equipment, and incidentals required for clearing, grubbing, removing, and disposing of vegetation and debris within the limits of construction.

1.3 Rules and Regulations:

A. State and local code requirements shall control the disposal of trees and shrubs.

B. The Contractor's attention is directed to any Soil Erosion and Sediment Control Ordinances in force by the local governing body. The Contractor shall comply with all existing ordinances.

1.4 Protection: Protect trees and shrubs, streets, roads, adjacent property, survey markers, and other features to remain throughout the Work.

PART 2: PRODUCTS

2.1 Materials: At the Contractor's option.

PART 3: EXECUTION

3.1 Clearing:

A. Limits of clearing shall be as indicated on the Drawings or if not indicated, as directed by the A/E.

B. Remove trees, saplings, shrubs, bushes, vines, and undergrowth within the limits of clearing.

C. If shown on drawings, selectively clear certain areas. A/E, in company of Contractor, will select trees to remain in these areas. If necessary to save selected trees, modify utility lines, walk, fence, etc. slightly from positions indicated; verify all with A/E.

D. Remove stumps to a depth of 8 inches minimum below ground elevation.

E. Carefully and cleanly cut roots and branches of trees to remain, where such roots and branches obstruct new construction.

3.2 Grubbing:

A. Limits of grubbing shall coincide with the limits of clearing.

B. Remove all stumps, roots over 4 inches in diameter, and matted roots within the limits of grubbing to the following depths.
   1. Footings, 18 inches.
   2. Paving and slabs, 12 inches.
   3. Lawn Areas, 8 inches.
   4. In the case of footings, slabs, or other construction on fills, the greater depth shall apply.

3.3 Damage: Promptly repair damage caused to adjacent facilities by clearing and grubbing operations as directed by the A/E at no cost to the Owner.

3.4 Disposal: Burning of materials on the site will not be permitted. Remove material from the site daily as it accumulates.

* * *

SECTION 02114: TEMPORARY EROSION CONTROL

PART 1: GENERAL:

1.1 Related Documents: Section 204 of the Louisiana Standard Specifications for Roads and Bridges, 2016 edition, and latest revisions, is amended as follows:

Subsection 204.07, Construction Requirements: Heading (k), Maintenance of Erosion Control Features. The first paragraph is deleted and the following substituted.

The Contractor shall be responsible for complying with all Federal, State and Local Laws and Policies and shall obtain all necessary and applicable Permits.

1.2 Summary of Work: The Contractor shall furnish, inspect and maintain temporary erosion control devices as described below or replace as directed at no direct pay.

A. Temporary Seeding: The seeded areas shall be inspected after each rainfall. Area showing erosion shall be reseeded if necessary.

B. Mulches: The mulched areas shall be inspected after each rainfall and the mulch shall be repaired or reapplied if necessary.

C. Straw or Hay Bale Barriers: The bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Close attention shall be paid to the repair of damaged bales, "end runs" and undercutting beneath bales.

D. Slope Drains: Slope Drains shall be inspected weekly and after every rainfall and repairs made if necessary. The Contractor shall avoid the placement of any material on and prevent construction traffic across the slope drain.

E. Sediment Check Dams: The check dams shall be inspected after each rainfall and sediment shall be removed when it reaches one-half the height of the check dam. Inspections shall be made to insure that the center of the dam is lower than the edges. Erosion around the edges shall be corrected immediately.

F. Silt Fencing: Sediment deposits shall be removed after each rainfall and must be removed when the deposits reach approximately one-half the height of the fence. If the fabric on the silt fence decomposes or becomes ineffective, the fabric shall be replaced promptly.

1. Temporary Stone Construction Entrance and/or Wash Racks: The gravel on the construction entrance shall be maintained to allow for removal of mud from the tires. The sediment from the wash rack runoff shall be removed periodically.

2. Contractor shall obtain Storm Water Discharge Permit from Louisiana Department of Environmental Quality.

* * *

SECTION 02145: ARTIFICIAL GRASS FIELD BASE

PART 1: GENERAL

A. INSTALLATION--GENERAL

Install in accordance with Manufacturer's instructions. The Base Contractor and the Turf Contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the Manufacturer's on-site representative, and submitted to the Architect/Owner, verifying that the changes do not in any way affect the warranty.

B. Sub-Grade Preparation: The artificial grass sports field system requires a permeable and stable base for outdoor use.

1. All topsoil, organic, and non-compacting materials must be removed.
2. The soil bed or sub-grade must have a minimum slope of 0.5% or more, depending on the soil analysis, from the longitudinal center of the field towards the sidelines.
3. The soil bed or sub-grade must be compacted in both directions to attain the specified compaction rate, which is generally 95% standard, Proctor.
4. The soil bed must be prepared to tolerances of not more than 1/2" from design grade to allow for even drainage.
5. After the existing sub-base has been properly graded, contoured and sloped as required, it shall be compacted using a ten (10) ton vibrating roller, as close as possible to 95% Proctor density.
6. A suitable geo-textile fabric is required to cover the soil subgrade. The fabric shall be a material suitable for the application, a porous non-woven polypropylene stabilization fabric (Marafi 140 NL, or approved equal, if suitable.). Place over the base aggregate overlapping the seams properly.

C. INSTALLATION OF PERIMETER COLLECTORS

1. Excavate perimeter drainage collector trenches minimum 20" wide and 20" deep. The trenches should be constructed with a minimum 0.5% slope commencing at the low point of the collection system and extending to the high points. Collection trenches should be void of all debris.

2. The trenches shall be backfilled using premium materials and compacted by hand tamping (or equivalent machinery) to a minimum 95% of the maximum density.

3. The fabric should be placed in the perimeter trench first. This fabric should be separate from the fabric on the field. Overlap field and trench liners at least 18" in the direction of runoff flow.

4. Overlap all seams a minimum of eight inches. When overlapping fabric, lap in direction the runoff flows.

5. Weight down the fabric with ballast to prevent fabric movement by wind.

6. Perimeter Collector Pipe: Place corrugated, perforated plastic pipes in the perimeter collector trenches. The centerline of the pipe shall coincide with the centerline of the trench. The pipe shall be capable of withstanding the anticipated loading without deformation. Each header should be designed to handle the maximum runoff related to rainfall in that particular locale. Collector headers must

be drained to an acceptable, efficient storm sewer, or approved discharge outlet. Pre-manufactured fittings shall be used for all connections into the collector drainage network.

7. A minimum of 2" clean, drainable crushed stone aggregate shall be placed in the bottom of the collector trenches, on top of the geotextile. The crushed aggregate must be compacted suitably.

8. Place a minimum of 4" clean, crushed aggregate on the sides of the underdrain pipes and headers, and 6" minimum of the aggregate on top of the pipe network. Compact suitably.

D. INSTALLATION OF THE PREFABRICATED COMPOSITE UNDER-DRAIN SYSTEM

1. Install minimum 1" x 12" prefabricated under-drain system as shown on drawings with lines approximately 15' on center and connect to perimeter drains.

2. Install according to the manufacturer's specifications, 1" x 12" Horizontal Strip Drain (Horizontal Drain) by American Drainage Systems, or approved equal, prefabricated flat composite under drain lines to perimeter drain lines according the manufacturer's specifications.

3. The Horizontal Strip Drain is a prefabricated, high-flow soil drainage system that offers better draw down of water than pipe. Strip drain consists of a formed polymeric core surrounded by a geotextile filter fabric. The strip drain filter fabric allows water to pass into the core while restraining soil particles, which might clog the core. The strip drain core allows water to flow to designated drainage exits.

4. The Contractor shall supply all necessary connectors and waterproof tape and is responsible for a proper and secure connection to the collectors.

5. Tape the under drains every 20' to the fabric, or as shown on drawings, using suitable duct tape.

6. Use due care when applying aggregate not to crush or otherwise damage the strip drains.

E. STONE GRADATION

GRADATION SPECIFICATIONS TABLE

%PASSING

Sieves	**Base Stone**	**Finishing Stone**
1½" or 38mm	100	
1" or 25mm	95-100	
¾ or 19mm	80-100	
½" or 12.5mm	60-80	100
3/8" or 9.5mm	30-50	95-100
US #4 or 4.75mm	20-40	70-85
US #8 or 2.36mm	10-30	45-60
US #16 or 1.18mm	7-25	25-40

US #40 or 425mm	5-17	2-12
US #200 or 75mm	0-4	0-3

RESTRICTIONS:

To ensure structural stability: $D_{60}/D_{10} > 5$ and $1 < \frac{D^2_{30}}{D_{10}\, D_{60}} < 3$

Fragmentation must be 100%.

To ensure separation of both stones: $\frac{D_{85} \text{ of finishing stone}}{D_{15} \text{ of base stone}} > 2$

and $3 < \frac{D_{50} \text{ of base stone}}{D_{50} \text{ of finishing stone}} < 6$

To ensure proper drainage: Permeability of base stone > 10 in/hr (7×10^{-3} cm/sec)
Permeability of finishing stone > 10 in/hr (7×10^{-3} cm/sec)
Porosity of both stones > 25%
(Test with stone saturated and compacted to 95% Proctor.)

Depending on the type of rock present in the crushed stone mix, other mechanical characteristics might be necessary for approval

- "Dx" is the size of the sieve (in mm) that lets pass x% of the stone. For example, D_{60} is the size of the sieve that lets 60% of the stone pass. These sizes, for calculation purposes, may be obtained by interpolation on a semi-log graph of the sieve analysis.

F. INSTALLATION OF THE OPEN GRADE CRUSHED STONE BASE COURSE

1. The crushed base stone must be laid without damaging the soil bed, geotextile liner or membrane, or the underlying flat composite drains. It is very important not to create any depressions in the sub-grade with heavy equipment. The specified stone or aggregate supplied must conform to the recommended specifications, as noted above. The finished crushed stone or aggregate base supplied must be stable and permeable. The stone shall be damp when transported to site and shall be kept damp during installation, to minimize segregation of the materials.

2. If the required compacted depth of the base course exceeds 6", the base shall be constructed in 2 or more layers or lifts of approximate equal thickness. Each layer must be compacted in both directions to attain the specified compaction rate.

3. The open graded aggregate base course must be sloped 0.5% from the center longitudinal axis towards the sidelines or as specified on the Plans.

4. The grade of the base course shall not vary from the specified grade by more than ½" from design grade.

5. The base course must be compacted in both directions to attain the specified compaction rate, which is generally 95% standard, Proctor.

G. INSTALLATION OF THE CRUSHED STONE FINISHING LAYER

1. The final lift of aggregate layer should not be more than 2" deep.

2. The final lift material must be sloped 0.5% from the center longitudinal axis towards the sidelines unless otherwise specified.

3. The final grade must be compacted in both directions to attain the specified compaction rate, which is generally 95% standard, Proctor, or as close as possible to the satisfaction of the Engineer/Architect.

4. The final grade of the finishing stone shall not vary from the specified grade by more than 1/4" from design grade, nor by more than ¼" when measured under a 10 ft straightedge, in all directions. Laser guided fine grading is mandatory. This tolerance is required over the entire field. Check the tolerance-to-grade by means of an orbital laser once the stone is fine graded and compacted to proper density. The turf installation company shall not commence work until the base has been tested for compaction, tolerance to grade, and porosity.

SECTION 02210: GRADING

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all materials, labor and equipment for the installation of fill, grading, excavation, compacting, disposal of surplus materials and restoration of existing surfaces as indicated on the Drawings or specified elsewhere herein. Provide all necessary supplementary items for a complete installation intended by documents.

1.3 Protection:

A. Maintain carefully all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed. If found at variance with the Drawings, notify the A/E before proceeding to lie out Work.

B. Protect as may be necessary any existing vegetation, trees, or the like immediately adjacent to the limits of Work which are not stated or directed to be removed. Any such damaged plant shall be replaced at no cost to Owner with like species and size.

C. In the event any excavation must be made immediately adjacent to the existing portion of buildings, covered walks or other Work, which is to remain, thoroughly crib and shore. Any settling or damage to that portion of the existing Work which is to remain, as a direct result of excavation Work, will be the responsibility of Contractor who shall repair the damage at no cost to Owner.

D. Restore all existing curbs and paving damaged in performance of this Work without extra cost to Owner in the manner prescribed by authorities having jurisdiction.

E. Protect all existing fencing and other work to remain, from damage. If damaged, restore or replace at no additional cost to Owner.

F. Where trees are to be left in place in areas to be graded, adequately protect from damage. Natural surface of ground shall be left undisturbed to the drip line of the existing trees.

1.4 Existing Utilities:

A. Follow rules and regulations of the authority having jurisdiction in executing all Work under this article. Adequately protect active utilities shown on the Drawings from damage and remove or relocate only as indicated or specified. Where active utilities are encountered, but are not shown on the Drawings, advise the A/E.

B. Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

C. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities operation. Repair damaged utilities to satisfaction of utility owner.

D. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by A/E and then only after acceptable temporary utility services have been provided.

E. Provide minimum of 48-hour notice to A/E, and receive written notice to proceed before interrupting any utility. Contractor shall be responsible for notifying applicable agency.

F. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

G. Remove, plug or cap inactive and abandoned utilities encountered in excavating and grading operations as directed.

1.5 Compaction Standards:

A. Densities: Required densities of compaction are expressed hereinafter in terms of percentages. Such terms shall mean percentages of maximum density at optimum moisture content, as determined and controlled in accordance with the American Society of Testing and Materials, "Standard Test Methods for Moisture - Density Relationships of Soils and Soil - Aggregate Mixtures" using 5.5 lb. (2.49 kg) Rammer and 12 inch (305mm) Drop.

B. Field density determinations shall be made at locations as directed by the A/E.

C. If tests indicate insufficient density, compact as required and have additional testing performed until required densities are met. The Contractor shall pay for all such additional testing.

1.6 Quality Assurance:

A. Testing Agency: In-place soil compaction tests to be performed by the designated testing laboratory.

B. Reference Standards:

1. Granular Material Reference Standards:
   a. American Society for Testing and Materials (ASTM) D698-78, Moisture-Density Relations of "Soils Using 5.5-lb. (2.49-kg) Hammer and 12-in. (305-mm) Drop.
   b. ASTM D 2487, Classification of Soils for Engineering Purpose.
2. Bedding Material Reference Standards:
   a. American Society for Testing and Materials (ASTM) D4253 for Moisture-Density Relations.

b. ASTM D4254 for calculation of relative density.

C. Contractor is responsible for the payment of all retests.

1.7 Job Conditions: Existing conditions are generally shown on the Drawings. Contractor shall visit the site, familiarize himself with actual conditions and verify existing conditions in the field. The Contractor is required to accept actual conditions at the site and do the Work specified without additional compensation for possible variation from grades and conditions shown, whether surface or sub-surface.

PART 2: PRODUCTS

2.1 Granular Material: Fill shall be AASHTO A-2-4 or better or clean sand well graded from fine to coarse, free of debris, organic or other deleterious matter and approved by A/E. A/E shall approve all fill materials. Legally remove from site, stockpile on site, or waste over lawn areas as directed any material found unsuitable by A/E.

2.2 Topsoil: For final grading of areas adjacent to structure, use existing. Provide topsoil from off-site borrows when on-site topsoil:

A. Is not sufficient to complete the work.
B. Does not meet the requirements set forth below, or
C. Is deemed unsuitable by A/E.

Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, trash or other material over 1-1/2 inches diameter. Topsoil shall be free from viable plants and plant parts. Topsoil shall also be free from debris, noxious weeds, toxic substances, or other materials harmful to plant growth. Topsoil shall have a minimum PI of 4, a maximum PI of 12, a pH of 5.5-8.0, a minimum organic content of 2%, and shall be capable of supporting adequate vegetation. Pump sand may not be used for topsoil under any circumstances.

PART 3: EXECUTION

3.1 Preparation:

A. Lay out and maintain grade stakes as required. Reference layout work to base lines, property lines, easements, and/or rights-of-way as indicated.
B. Where new grades tie into existing grades, verify existing grades. If existing conditions are at variance with the Drawings, notify A/E before proceeding with the Work and make adjustments only as directed by the A/E.
C. The Contractor shall verify that preceding work affecting work of this section has been satisfactorily completed.
D. Correct conditions adversely affecting work of this section.

3.2 Stripping and Stockpiling of Topsoil: Carry out this Work when dry weather exists and the topsoil is reasonably loose and dry. Remove topsoil a minimum of four (4") inches to remove all vegetation, roots, and foreign matter, from areas to receive fill. Pile topsoil in designated or approved locations where it will not interfere with construction operations. Stockpiles shall be of such size and shape as will keep loss of topsoil by erosion and wind to a minimum.

3.3 Disposal of Materials:

A. Excavated material shall be stacked without excessive surcharge on the excavation or obstructing free access to street, drives, walks, utility appurtenances, and private property. Excessive inconvenience to traffic and adjacent property owners shall not be allowed. Excavated material shall be segregated for use in topsoil as specified below.

B. All excavated material which is either unsuitable for topsoil or which will not be used for topsoil in the same location shall be legally removed from the site by the Contractor.

3.4 Excavation:

A. Excavated areas shall be cleared of all debris, water, slush, muck, and soft or loose earth and shall be conditioned to the entire satisfaction of the A/E.

B. All material excavated shall be placed so as to minimize interference with public travel and to permit proper access for inspection of the work.

C. Stumps, roots, and logs, which are encountered within the excavated area, shall be cut to a depth of one (1') foot below the required excavation. The Contractor shall fill this excavated space with granular material.

D. The Contractor shall probe one (1') foot below the established bottom on the excavation. If this probing discovers any stump, roots, logs, etc., the Contractor shall cut them out just as if they had been visible in the trench.

E. Blasting will not be allowed for the removal of stumps.

3.5 Site Grading:

A. Execute all Work in an orderly and careful manner with due consideration for any and all surroundings areas and planting which are to remain. Periodically water as required to allay dust and dirt. Protect any adjacent property and improvements from damage and replace any portions damaged through this operation.

B. Finish grade all areas affected by Work of this project. Accomplish proper and positive surface drainage with no areas that pond water. Provide a sloping earth berm around all construction of this project and swales as required for positive drainage.

C. Do all cutting, filling, compaction of fills, and rough grading to bring the entire project area outside of construction to grades indicated on the Drawings and as required to provide proper and positive drainage away from construction.

D. Where fill is required to rise the existing grades outside of construction to the new elevation required or indicated, place and compact such fill as specified.

E. Remove all debris subject to termite attack, rot, or corrosion, and all other deleterious materials from areas to be filled. The moisture content of the loosened material shall be such that it will readily bond with the first layer of fill material.

F. Place the material in successive horizontal layers in loose depth for the full width of the cross section. Deposit fill in layers not more than nine (9") inches thick under lawn and planted areas. If necessary, moisten soil, or allow to dry to the correct moisture content, before compaction. Do not deposit any fill on a subgrade that is muddy, frozen, or that contains frost.

G. Compact fills under lawns and planting areas to 95% density unless otherwise specified.

3.6 Distribution of Topsoil: Spread stockpiled topsoil that is acceptable to A/E to a depth of four (4") inches over open graded areas to be planted with grass, seeded, or where required elsewhere. After topsoil is spread, remove all hard lumps of clay, stones over one (1") inch in diameter, roots, limbs, and other deleterious matter, which would be harmful, or prevent proper establishment or maintenance of lawn and planting areas.

3.7 Field Quality Control:

A. Rough grading of all areas within the project, including excavated and filled sections and adjacent transition areas, shall be reasonably smooth, compacted, and free from irregular surface changes.

B. Finish all swales and gutters to drain readily, unless otherwise indicated; evenly slope the grade to provide drainage toward public drainage system or as indicated elsewhere at a grade not less than 1/2" to 3/4" per foot or more than two (2") inches per foot.

C. Tolerances of topsoil shall be within 1/2" of grades required.

3.8 Repair: Where any existing lawn areas are damaged, rutted, or otherwise disturbed, repair to original condition.

3.9 Disposal: Burning of materials on the site will not be permitted. Legally remove rubbish and debris from the site as it accumulates.

* * *

SECTION 02220: EXCAVATING, BACKFILLING, AND COMPACTING FOR STRUCTURES AND MINOR UTILITIES AND PAVING

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all necessary materials, labor and equipment for the complete earthwork for construction of foundations for structures, paving, utilities and appurtenances, including excavation, backfilling, filling, compacting, disposal of surplus material and restoration of ground surfaces, as shown on the drawings and specified herein. Provide all necessary supplementary items for a complete installation intended by documents.

1.3 Provisions:

A. Existing conditions are generally shown on the Drawings. Contractor shall visit the site, familiarize himself with actual conditions and verify existing conditions in the field. The Contractor is required to accept actual conditions at the site and do the Work specified without additional compensation for possible variation from grades and conditions shown, whether surface or sub-surface.

B. Execute all Work in an orderly and careful manner with due consideration for any and all surroundings areas and planting which are to remain. Periodically water as required to allay dust and dirt. Protect any adjacent property and improvements from damage and replace any portions damaged through this operation.

C. Finish grade all areas affected by Work of this project. Accomplish proper and positive surface drainage with no areas that pond water. Provide a sloping earth berm around all construction of this project and swales as required for positive drainage.

1.4 Protection:

A. Maintain carefully all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed. If found at variance with the Drawings, notify the A/E before proceeding to lie out Work.

B. Protect as may be necessary any existing vegetation, trees, or the like immediately adjacent to the limits of Work which are not stated or directed to be removed. Any such damaged plant shall be replaced at no cost to Owner with like species and size.

C. In the event any excavation must be made immediately adjacent to the existing portion of buildings, covered walks or other Work, which is to remain, thoroughly crib and shore. Any settling or damage to that portion of the existing Work which is to remain, as a direct result of excavation Work, will be the responsibility of Contractor who shall repair the damage at no cost to Owner.

D. Restore all existing curbs and paving damaged in performance of this Work without extra cost to Owner in the manner prescribed by authorities having jurisdiction.

E. Protect all existing fencing and other work to remain, from damage. If damaged, restore or replace at no additional cost to Owner.

F. Where trees are to be left in place in areas to be graded, adequately protect from damage. Natural surface of ground shall be left undisturbed for a distance of eight feet from tree on all sides except as approved or directed by A/E.

1.5 Existing Utilities:

A. Follow rules and regulations of the authority having jurisdiction in executing all Work under this article. Adequately protect active utilities shown on the drawings from damage and remove or relocate only as indicated or specified. Where active utilities are encountered, but are not shown on the drawings, advise the A/E.

B. Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

C. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities operational. Repair damaged utilities to satisfaction of utility owner.

D. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by A/E and then only after acceptable temporary utility services have been provided.

E. Provide minimum of 48-hour notice to A/E, and receive written notice to proceed before interrupting any utility. Contractor shall be responsible for notifying applicable agency.

F. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

G. Remove, plug or cap inactive and abandoned utilities encountered in excavating and grading operations as directed.

1.6 Compaction Standards:

A. Densities for Materials:

1. Granular Material, Topsoil and Excavation Materials Densities: Required densities of compaction are expressed hereinafter in

terms of percentages. Such terms shall mean percentages of maximum density at optimum moisture content, as determined and controlled in accordance with the American Society For Testing and Materials, "Standard Test Methods for Moisture - Density Relationships of Soils and Soil - Aggregate Mixtures" using 5.5 lb. (2.49kg) Hammer and 12 inch (305mm) Drop. Use relative density test for the bedding material.

2. Bedding Material Densities: Standard Test Methods for Moisture Density Relationships of Soils and Soil-Aggregate Mixtures.
3. Base Course Densities: Standard Test Methods for Laboratory Compaction Characteristics of Soil using Standard Effort (12,400 ft-lb/ft^3)

B. Field density determinations shall be made at locations as directed by the A/E.

C. If tests indicate insufficient density, compact as required and have additional testing performed until required densities are met. The Contractor shall pay for all such additional testing.

1.7 Quality Assurance:

A. Testing Agency: In place soil compaction tests to be performed by the designated testing laboratory.

B. Reference Standards:
1. American Society for Testing and Materials (ASTM):
a. ASTM D698-07, Moisture-Density Relations of Soils Using 5.5-lb. (2.49-kg) Rammer and 12-in 305-mm) Drop.
b. ASTM D 2487, Classification of Soils for Engineering Purpose.

C. Contractor is responsible for the payment of all retests.

1.8 Job Conditions:

A. Time of construction should be kept to a minimum.

B. Sheeting, shoring, and dewatering during construction should be properly designed to keep a stable excavation at all times and to prevent disturbance of the in place soils.

C. As specified in these Specifications, the Contractor shall provide, operate, and maintain all necessary pumps, discharge lines, well points, etc., in sufficient number and capacity to keep all excavation, bases, pits, etc. in conformance with the indicated foundation construction condition at each structure at all times throughout the period of construction.

D. As specified in these Specifications, the Contractor shall assume all responsibility for security of the excavation required, employing bracing, lining, or other accepted means necessary to accomplish same.

E. Excavated areas shall be cleared of all debris, water, slush, muck, and soft or loose earth and shall be conditioned to the entire satisfaction of the A/E.

F. All excavated material unsuitable for use, or which will not be used, shall be disposed of as specified.

G. All excavations encountering stumps, roots, logs, etc. shall be removed of such items by the Contractor and refilled with proper material, as specified.

PART 2: PRODUCTS

2.1 Granular Material: Fill shall be AASHTO A-2-4 or better or clean sand well graded from fine to coarse, free of debris, organic or other deleterious matter and approved by A/E.

2.2 Topsoil: For final grading of areas adjacent to structure, use existing. Provide topsoil from off-site borrows when on-site topsoil:

A. Is not sufficient to complete the work.

B. Does not meet the requirements set forth below, or

C. Is deemed unsuitable by A/E.

Topsoil shall be free from slag, cinders, stones, lumps of soil, sticks, trash or other material over 1-1/2 inches diameter. Topsoil shall be free from viable plants and plant parts. Topsoil shall also be free from debris, noxious weeds, toxic substances, or other materials harmful to plant growth. Topsoil shall have a minimum PI of 4, a maximum PI of 12, a pH of 5.5-8.0, a minimum organic content of 2%, and shall be capable of supporting adequate vegetation. Pump sand may not be used for topsoil under any circumstances.

2.3 Bedding Material: Material shall be limestone and from a source approved by the Owner. Graded aggregate for 16 inch or less pipes shall be No. 67. Graded aggregate for 18 inch or greater pipes shall be No. 57.

The limestone shall meet the following gradations when tested in accordance with DOTD TR 113:

U.S. Sieve	#57 Percent	#67 Percent
1 1/2"	100	---
1"	95 - 100	100
3/4"	---	90 - 100
1/2"	25 - 60	---
3/8"	C	20 - 55
#4	0 - 10	0 - 10
#8	0 – 5	0 - 5

The limestone shall have an absorption rate of not more than 1.5 percent and an abrasion loss of not more than 30 percent when tested in accordance with test method AASHTO T96.

2.4 Select Backfill Material (for Utility Trenching):

A. Composition: Only approved material shall be used for backfill, free from organic matter. Excavated earth free from debris or organic material may be used for backfilling, as specified.

B. Excavated clay soils free of debris, organic material, or large lumps of clay shall be used only when indicated by geotechnical recommendations, when available.

2.5 Base Course: Unless otherwise noted, material shall be crushed stone in accordance with LA DOTD Standard Specification, Section 1003-03(b), 2016 Edition.

PART 3: EXECUTION

3.1 Preparation:

A. Lay out and maintain grade stakes as required. Reference layout work to base lines, property lines, easements, and/or rights-of-way as indicated.

B. Where new grades tie into existing grades, verify existing grades. If existing conditions are at variance with the Drawings, notify A/E before proceeding with the Work and make adjustments only as directed by the A/E.

C. The Contractor shall verify that preceding work affecting work of this section has been satisfactorily completed.

D. Correct conditions adversely affecting work of this section.

3.2 Stripping and Stockpiling of Topsoil: Carry out this Work when dry weather exists and the topsoil is reasonably loose and dry. Remove topsoil a minimum of four (4) inches to remove all vegetation, roots, foreign matter, from areas to receive fill. Pile topsoil in designated or approved locations where it will not interfere with construction operations. Stockpiles shall be of such size and shape as will keep loss of topsoil by erosion and wind to a minimum.

3.3 Disposal of Materials:

A. Excavated material shall be stacked without excessive surcharge on the excavation or obstructing free access to street, drives, walks, utility appurtenances, and private property. Excessive inconvenience to traffic and adjacent property owners shall not be allowed. Excavated material shall be segregated for use in topsoil as specified below.

B. All excavated material which is either unsuitable for topsoil or which will not be used for topsoil in the same location shall be removed from the site by the Contractor.

C. Should conditions make it impractical or unsafe to stack material adjacent to the excavation, the material shall be hauled and stored at a location provided by the Contractor. When required, it shall be rehandled and used in backfilling the excavation.

3.4 Excavation:

A. Excavation shall extend to the width and depth shown on the drawings or as specified. Where not specified, Contractor shall confine his excavation to the least width practicable and shall provide suitable room for installing structures and appurtenances.

B. The Contractor shall furnish and place all sheeting, bracing, and supports and shall remove from the excavation all materials which are unsuitable for backfill or which the A/E may deem unsuitable for backfilling. The bottom of the excavation shall be firm, dry, and in all respects, acceptable. The Contractor shall deposit bedding, or refill for excavation below grade, directly on the bottom of the excavation, immediately after excavation has reached the proper depth, and before the bottom has become softened or disturbed by any cause whatever. It shall also include the wasting or disposal of surplus excavated material in a manner and in locations approved by the A/E. If the bottom of the excavation is carried below the level called for by the Drawings, or made mucky or unstable due to the Contractor's operations or carelessness, the excavation shall be deepened to undisturbed soil. Also, the thickness of bedding material or depth of fill material, as determined by the A/E, shall be increased accordingly, without additional compensation to the Contractor.

C. Shore, sheet-pile, and brace excavations as required to maintain them secure and to safeguard life. Remove shoring as the backfilling progresses, but only when banks are safe against caving or collapse and backfill meets required densities.

D. Control the grading so that ground is etched to prevent water from running into the excavated areas or damaging the structures. Maintain all pits and trenches free of water at all times.

E. Pumping: The Contractor shall keep all excavations free from water, at his own expense, while work is in progress. He shall provide for the disposal of the water removed from excavations in such a manner as not to cause injury to the public health, to public or private property, or to any portion of the work completed or in progress, or shall he cause any impediment to the use of the streets by the public.

F. All material excavated shall be placed so as to minimize interference with public travel and to permit proper access for inspection of the work.

G. All excavation shall be made within an area bounded by lines 5 feet outside of, and parallel to, exterior walls of the structure to allow for correct forming, shoring, and inspection of foundation work. Pouring of concrete against earth sidewalls will not be permitted.

H. Where soil conditions permit, footing trenches may be excavated to the exact dimensions of the concrete footing and side form omitted.

I. When bedding material is to rest on an excavated surface, care shall be taken not to disturb the bottom of the excavation. Final removal and replacement of the foundation material and sub base compaction to grade shall not be made until just before the structure is placed.

J. When any excavation is completed, the contractor shall notify the A/E who will make an inspection of the excavation. No concrete or masonry shall be placed until the excavation has been approved by the A/E.

K. The elevation of the bottoms of footings and base slabs, as shown on the drawings, shall be considered as approximate only and the A/E may order, in writing, such changes in dimensions or elevation of footings as may be necessary to secure a satisfactory foundation.

L. Stumps, roots, and logs, which are encountered within the trench area, shall be cut to a depth of one (1) foot below the bottom of the excavation. The Contractor shall fill this excavated space with bedding material.

M. When so required by the A/E, the contractor shall probe one (1) foot below the established bottom on the excavation. If this probing discovers any stump, roots, logs, etc., the Contractor shall cut them out just as if they had been visible in the excavation.

N. Blasting will not be allowed for the removal of stumps.

3.5 Fill Under Slabs and Paving:

A. Where fill is required to raise the subgrade for concrete placement to the elevations indicated, place and compact as specified.

B. Before depositing fill, remove all loam, vegetation and other unsuitable material from areas to receive fill. In no case shall fill be placed on a subgrade that is muddy, frozen, or that contains frost. Compact subgrade by rolling with spreading equipment uniformly over entire area.

C. Deposit fill material in horizontal layers not exceeding nine (9) inches in depth before compacting. Spread fill evenly and compact each layer by uniformly rolling, pneumatic tamping or other approved equipment over the entire area. If necessary, moisten fill or allow to dry to the correct moisture content before compaction.

D. Bring the finished compacted areas to a reasonably true and even plane at the required elevations.

E. Compact all fill to 95 percent density unless otherwise specified.

3.6 Utility Trench Backfilling:

A. As soon as practicable after the utilities have been laid, jointed, and tested (if required), backfilling shall begin and completed expeditiously. Bedding shall conform to the details on the Drawings. When laying pipe, the groove for the pipe and bell hole must be accurately shaped, and the backfill must be closely packed adjacent to the pipe.

B. Bedding material shall be placed and compacted as shown on the Drawings. All foundation lumber (i.e., planking, sills, and stringers in the trench bottom) shall be suitable for the purpose. Installation of foundation lumber and piling shall be in accordance with the Drawings.

C. Bedding compaction shall consist of the placement in lifts not exceeding 12 inches and compacted by a drum roller or plate vibrating compactor. This mechanical compactor must make a minimum of two passes over every area of the bedding. Compacted bedding shall be enclosed in a filter fabric in areas that require a granular material backfill.

D. Backfill around manholes, catch basins, area drains, and other structures shall be compacted by flooding. All backfill shall be compacted, especially under and over pipes connected to the manholes.

E. All paved surfaces adjacent to backfilling operations shall be broomed and hose-cleaned immediately after backfilling. Dust control measures shall be employed at all times.

F. Compact all bedding material to 75 percent relative density and granular material backfill to 95 percent density. Compact all select backfill material to 90 percent of maximum density.

3.7 Restoring Trench Surface:

A. Where the trench occurs adjacent to paved streets, in shoulders or sidewalks, the Contractor shall thoroughly consolidate the backfill and shall maintain the surface as the work progresses. If settlement takes place, he shall immediately deposit additional fill to restore the level of the ground.

B. The surface of any driveway, paving or other area which is disturbed by the trench excavation shall be restored by the Contractor to a condition at least equal to that existing before work began

C. In sections where the pipeline passes through grassed areas, the Contractor shall regrade and reseed all disturbed areas to a condition at least equal to that existing before work began.

3.8 Site Grading:

A. Do all cutting, filling, compaction of fills, and rough grading to bring the entire project area outside of construction to grades indicated on Drawings and as required to provide proper and positive drainage

away from construction.

B. Where fill is required to rise the existing grades outside of construction to the new elevation required or indicated, place and compact such fill as specified.

C. Remove all debris subject to termite attack, rot, or corrosion, and all other deleterious materials from areas to be filled. The moisture content of the loosened material shall be such that it will readily bond with the first layer of fill material.

D. Place the material in successive horizontal layers in loose depth for the full width of the cross section. Deposit fill in layers not more than nine (9) inches thick under lawn and planted areas. If necessary, moisten soil, or allow to dry to the correct moisture content, before compaction. Do not deposit any fill on a subgrade that is muddy, frozen, or that contains frost.

E. Compact fills under lawns and planting areas to 95 percent density unless otherwise specified.

3.9 Distribution of Topsoil: Spread stockpiled topsoil that is acceptable to A/E to a depth of four (4) inches over open graded areas to be planted with grass. After topsoil is spread, remove all hard lumps of clay, stones over one (1) inch in diameter, roots, limbs, and other deleterious matter which would be harmful, or prevent proper establishment or maintenance of lawn and planting areas.

3.10 Field Quality Control:

A. Rough grading of all areas within the project, including excavated and filled sections and adjacent transition areas, shall be reasonably smooth, compacted, and free from irregular surface changes.

B. Finish all swales and gutters to drain readily.

3.11 Repair: Where any existing lawn areas are damaged, rutted, or otherwise disturbed, repair to original condition.

3.12 Disposal: Burning of materials on the site will not be permitted. Remove rubbish and debris from the site as it accumulates.

3.13 Barricades and Flares: The Contractor shall provide temporary fencing, barricades, flares, signs, etc., as necessary, to protect vehicles and pedestrians at locations where there exists an open excavation, trench, or any other obstacle. Barricades shall bear the Contractor's name and any other information required by the A/E or public authorities. Where on public roadways all barricade signs and flares shall be of a type and located in a manner that conforms to recommendations of the Louisiana Manual on Uniform Traffic Control Devices, latest edition as revised, or as specified herein, subject to the approval of the A/E.

* * *

SECTION 02272: GEOTEXTILE FABRIC (FILTER CLOTH)

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all necessary materials, labor and equipment for the complete installation of geotextile fabric. Provide all necessary supplementary items for a complete installation intended by documents.

1.3 Submittals: The characteristics and properties of the geotextile fabric to be installed shall be submitted to the A/E prior to the installation of the fabric in accordance with Division 1.

PART 2: PRODUCTS

2.1 Materials: Geotextile fabric shall be manufactured and fabricated in strict conformance to ASTM and other industry standards.

A. Underdrains, Bedding, and around Pipe Joints:

Fabric Property	Minimum Specifications
1. Weight, ASTM D-3776-79	3.0 oz./sq. yd.
2. Equivalent Opening Size ASTM D-4751-87	50+
3. Average Grab Tensile, ASTM D-4632-86	90 lb./in.
4. Grab Elongation (any direction), ASTM D-4632-86	70%
5. Permittivity Factor, ASTM D-4491-85	0.8 sec^{-1}

B. Under Base: The fabric shall be installed between the base and subbase layers.

Fabric Property	Minimum Specifications
1. Equivalent Opening Size	40+
2. Permittivity Factor, ASTM D-4491-85	0.2 sec^{-1}
3. UV Radiation Stability, ASTM D-4355	70%
4. Grab Tensile Strength, ASTM D-4632-86	200 lb/in.
5. Grab Elongation, ASTM D-4632-86	30%
6. Puncture Resistance ASTM D-4833-88	85 lbs

7. Mullen Burst Strength
ASTM D-3786-87 400 psi

2.2 Approved Products:

A. Underdrains, Bedding, and around Pipe Joints: Mirafi 140 NL, Mirafi 140 NS, Trevira 1112, or approved equal.

B. Under Base: Mirafi 500X, Mirafi 600X, Trevira 1135, or approved equal.

2.3 Manufacturer: The manufacturer of the geotextile fabric shall have been normally engaged in the manufacture or fabrication of this geotextile fabric for at least five (5) continuous years.

2.4 Fabrication: The geotextile fabric shall be furnished to the Contractor by the manufacturer as a continuous sheet in the widths required for installation in the trench. The length of each sheet shall be such that the total number of sheets to be joined in the field is minimized.

PART 3: EXECUTION

3.1 Handling:

A. The Contractor shall handle and store the sheets in accordance with manufacturer's recommendations to avoid any damage to the sheets. Geotextile fabric shall be stored such that it is not exposed to sunlight.

B. Damaged geotextile fabric will not be acceptable for installation until and unless it has been replaced to the satisfaction of the A/E.

3.2 Installation:

A. The geotextile fabric shall be installed in a prepared area as specified in the Specifications or as indicated on the Plans.

B. Manufacturer's recommendations shall be followed during the installation of the fabric. Care shall be taken during pipe laying, embedment and backfilling operations to avoid damage to the geotextile fabric. Any portion of the fabric damaged during installation shall be removed and replaced or repaired to the satisfaction of the A/E prior to continuing the installation of the geotextile fabric or pipe laying.

1. Field Joints: The number of field joints shall be minimized. Lap joints shall be used to join sections in the field.
2. Lap joints shall be formed by lapping the edges of the fabric sections a minimum of 18 inches.

C. Pipe joints shall be wrapped with geotextile filter cloth for a minimum of 12 inches on each side of the joint. Ends of the cloth shall be lapped at least 10 inches and edges and ends of the cloth shall be suitably secured.

D. Underdrains: Completed trenches for perforated pipe shall be lined with filter cloth. Adjoining sheets of cloth shall be spliced by lapping at least 18 inches and satisfactorily securing, or by use of sewn or heat-bonded splices. A sufficient width of cloth shall be placed in the trench to permit the cloth to lap over the top of the trench for the full width of the trench.

E. Bedding: Completed trenches for bedding material shall be lined with filter cloth, encapsulating the bedding material. Adjoining sheets of cloth shall be spliced by lapping at least 18 inches and satisfactorily securing, or by use of sewn or heat-bonded splices. A sufficient width of cloth shall be placed in the trench to permit the cloth to lap over the bedding material for the full width of the trench.

F. Care shall be taken during placement of the cloth, pipe, bedding material, backfill, and other material to avoid damaging the filter cloth.

G. The Contractor shall satisfactorily repair or replace any damaged filter cloth.

3.3 Field Quality Control: The Contractor is fully responsible for the installation of the geotextile fabric.

* * *

SECTION 02542: ARTIFICIAL GRASS

PART 1 - GENERAL

1.1 Summary:

A. Furnish all labor, materials, tools and equipment necessary to install slit-film/monofilament artificial grass as indicated on the plans and as specified herein; including components and accessories required for a complete installation. including but not limited to:

1. Acceptance of prepared sub-base.
2. Coordination with related trades to ensure a complete, integrated, and timely installation: Aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

1.2 Reference Standards:

A. FM Factory Mutual:

1. P7825 - Approval Guide; Factory Mutual Research Corporation; current edition

B. ASTM – American Society for Testing and Materials.

1. D1577 - Standard Test Method for Linear Density of Textile Fiber
2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering
4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics
5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
6. F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces
7. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity
8. D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
9. F355 - Standard Test Method for Shock-Absorbing Properties of Playing Surfaces.
10. F1936 - Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field

1.3 Submittals:

A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to A/E for approval prior to bidding in accordance Section 01635, Substitution Procedures.

1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.

B. Comply with Section 01300, Submittals. Submit for approval prior to fabrication.

C. Shop Drawings:
   1. Indicate field layout; field marking plan and details for the specified sports, i.e., NCAA Football; roll/seaming layout; methods of attachment, field openings and perimeter conditions.
   2. Show installation methods and construction indicating field verified conditions, clearances, measurements, terminations, drainage.
   3. Provide joint submission with related trades when requested by Architect.

D. Product Data:
   1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
   2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
   3. Submit data in sufficient detail to indicate compliance with the contract documents.
   4. Submit manufacturer's instructions for installation.
   5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.

E. Samples: Submit a synthetic turf sample, 12 x 12 inches, representing the turf carpet portion of the product proposed for this project.

F. Product Certification:
   1. Submit manufacturer's certification that products and materials comply with requirements of the specifications.
   2. Submit test results indicating compliance with Reference Standards.

G. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Specifications and General Requirements.

H. List of existing installations: Submit list including respective Owner's representative and telephone number.

I. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.

J. Submit Bills of Lading/Material Delivery Receipts for synthetic turf infill materials. Bills of lading shall bear the name of the project/delivery address, quantity of materials delivered, source/location of origin of infill materials and/or manufacturer, and date of delivery.

K. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
   1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
   2. Primary & Secondary Backing Weights, ASTM D5848.
   3. Tuft Bind, ASTM D1335.
   4. Grab Tear Strength, ASTM D1682 or D5034.
   5. Water Permeability, ASTM D4491

L. The Turf Vendor shall submit a document holding the Owner and it's representatives harmless as to any liability and or costs of any type, including but not limited to legal costs, royalties, replacement costs, etc. associated with any claim by the Turf Vendor or others associated and with any patents or infringements of any current or future patent issued for the synthetic turf product, infill materials, installation methods or drainage characteristics. It is not the intent of these documents to promote or induce the use of intellectual property belonging to others or promote infringement of any known or currently not known patents, licenses or rights of others.

1.4 Quality Assurance:

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section. The turf contractor and/or the turf manufacturer:
   1. Shall be experienced in the manufacture and installation of slit-film/monofilament grass turf for a minimum of three years. This includes use of a slit-film/monofilament fiber, and the installation method.
   2. Shall have 100 fields in play for at least two years. Fields shall be 65,000 ft^2 or more.
   3. Turf manufacturer shall have installed a minimum of 5 fields that are at least 8 years old, which is equal to the respective warranty period.
   4. Shall have a minimum of 100 installations in North America with a slit-film/monofilament fiber, each field of 65,000 ft^2 or more.

B. Installer: Company shall specialize in performing the work of this section. The Contractor shall provide competent workmen skilled in this specific type of synthetic grass installation.
   1. The designated Supervisory Personnel on the project shall be certified, in writing by the turf manufacturer, as competent in the installation of specified slit-film/monofilament material, including sewing seams and proper installation of the infill mixture.
   2. Installer shall be certified by the manufacturer and licensed.
   3. The installer supervisor shall have a minimum of 5 years' experience as either a construction manager or a supervisor of synthetic turf installations

C. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
   1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
   2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.

D. The Contractor shall verify special conditions required for the installation of the system.

E. The Contractor shall notify the Architect of any discrepancies.

1.5 Delivery, Storage, and Handling:

A. Prevent contact with materials that may cause dysfunction.

B. Deliver and store components with labels intact and legible.

C. Store materials/components in a safe place, under cover, and elevated above grade.

D. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.

E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

1.6 Sequencing and Scheduling:

A. Coordinate the Work with installation of work of related trades as the Work proceeds.

B. Sequence the Work in order to prevent deterioration of installed system.

1.7 Warranty and Guarantee:

A. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third-party insured; prepaid for the entire 8-year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:
   - Pre-Paid 8-year insured warranty from a single source.
   - Maximum per claim coverage amount of $15,000,000.
   - Minimum of fifteen million dollars ($15,000,000) annual.
   - Must cover full 100% replacement value of total square footage installed, minimum of $7.00 per sq. ft. (in case of complete product failure, which will include removal and disposal of the existing surface)
   - Provide a sample copy of insured, non-prorated warranty and insurance policy information.
   - Policy cannot include any form of deductible to be paid by the Owner.

B. The artificial grass system must maintain a G-max of less than 200 for the life of the Warranty as per ASTM F1936

1.8 Maintenance Service:

A. Contractor shall train the Owner's facility maintenance staff in the use of the turf manufacturer's recommended maintenance equipment.

B. Manufacturer must provide maintenance guidelines to the facility maintenance staff.

PART 2 - PRODUCTS

2.1 Acceptable Manufacturer:

A. Approved manufacturers are as follows:

1. FieldTurf USA
   175 N. Industrial Blvd
   Calhoun, GA 30701
   P: 800-724-2969
   Model: FieldTurf Vertex-57
2. AstroTurf
   Model: 3D3 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand
3. Shaw
   Model: Legion 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand
4. Sprinturf
   Model: DFE EXTREME 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand

5. ProGrass
   Model: XtremeTurf BDX 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand
6. A-Turf
   Model: Titan 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand
7. UBU
   Model: Balance Series 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand
8. Motz
   Model: Cross Flex 2.25" – Infill: 3 lbs./sf rubber and 3 lbs./sf sand

2.2 Materials and Products:

A. Base Bid:

1. Artificial grass system materials shall consist of the following:
   a. Carpet made of slit-film/monofilament polyethylene fibers tufted into a perforated backing. Alternating row monofilament and slit-film carpet constructions are not permitted.
   b. Infill: Graded sand and ambient rubber that partially covers the carpet.
   c. Glue, thread, paint, seaming fabric and other materials used to install and mark the artificial grass slit-film/monofilament turf.
2. The installed artificial grass slit-film/monofilament turf shall have the following properties:

Standard	Property	Specification
	Yarn Structure – A	Slit-Film
ASTM D1577	Yarn Denier - A	5,000+
	Yarn Structure – B	Ridged Monofilament
	Yarn Denier – B	11,000+
ASTM D5823	Min. Pile Height	2.25"
ASTM D1577	Fiber Thickness A/B	100+/360 Microns
ASTM D5793	Stitch Gauge	3/8" - 3/4"
ASTM D5848	Pile Weight	43+oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	16+oz/square yard
ASTM D5848	Total Weight	66+oz/square yard
ASTM D1335	Tuft Bind (Without Infill)	8+lbs
ASTM D5034	Grab Tear (Width)	200 lbs./force
ASTM D5034	Grab Tear (Length)	200 lbs./force
ASTM D4491	Carpet Permeability	>40 inches/hour
ASTM F1936	Impact Attenuation (Gmax)	<200
	Min. Infill Material Depth	1.5 inches
	Min. Sand Infill Component	3lbs/square foot
	Min. Rubber Infill	3lbs/square foot
	Total Product Weight	930+oz/square yard

Variation of +/- 5% on above listed properties is within normal manufacturing tolerances

3. Carpet shall consist of slit-film/monofilament fibers tufted into a primary backing with a secondary backing.
4. Carpet Rolls shall be 15' wide rolls.
   a. Rolls shall be long enough to go from field sideline to sideline.

b. Where the playing field is for football, the perimeter white line shall be tufted into the individual sideline rolls.

5. Backing:
   a. Primary backing shall be a minimum double-layered polypropylene fabric.
   b. Secondary backing shall permanently lock the fiber tufts in place.
   c. Perforated (with punched holes), backed carpet are acceptable.
6. Fiber shall be measuring no less than 2 ¼ inches high.
   a. Systems with less than a 2 ¼ inch fibers are unacceptable.
7. Infill materials shall be approved by the manufacturer.
   a. The infill shall consist of a resilient-layered, granular system, comprising selected graded sand and ambient rubber.
8. The sand infill will comply within the following characteristics:
   - Average Particle size between 20 and 30 mesh [calculated based on summing the midpoint of sieve pan fractions times the % retained on given screen fractions]
   - Average Particle shape > 0.4 on the Krumbein scale
   - Particle structure predominantly single grain
   - Produce < 0.4%, -50M in API crush test at 80psig
9. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
10. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
11. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer.

2.3 Quality Control in Manufacturing:
   A. The manufacturer shall own and operate its own manufacturing plant in North America.
   B. The manufacturer's full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, denier, shrinkage, and twist i.e., turns per inch, upon receipt of fiber spools from fiber manufacturer.
   C. The manufacturer shall have its own, in-house laboratory where samples of turf are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.

2.4 Field Groomer & Sweeper:
   A. Supply field groomer as part of the work.
      1. Field Groomer shall include a towing attachment compatible with a field utility vehicle.
      2. Field Groomer shall be a FieldTurf GroomRight
      3. Field Sweeper shall include a towing attachment compatible with a field utility vehicle.
      4. Field Sweeper shall be a FieldTurf SweepRight

PART 3 - EXECUTION

3.1 Examination:
   A. Verify that all sub-base leveling is complete prior to installation.
   B. Installer shall examine the surface to receive the synthetic turf and accept the sub-base planarity in writing prior to the beginning of installation.

1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.

C. Compaction of the aggregate base shall be 95%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-½" from design grade.
D. Correct conditions detrimental to timely and proper completion of Work.
E. Do not proceed until unsatisfactory conditions are corrected.
F. Beginning of installation means acceptance of existing conditions.

3.2 Preparation:
A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.
B. Sub-base acceptance shall be subject to receipt of test results (by others) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.
C. Dimensions of the field and locations for markings shall be measured by a registered surveyor to verify conformity to the specifications and applicable standards. A record of the finished field as-built measurements shall be made.
D. When requested by Architect, installed sub-base shall be tested for porosity prior to the installation of the slit-film/monofilament turf. A subbase that drains poorly is an unacceptable substrate

3.3 Installation - General
A. The installation shall be performed in full compliance with approved Shop Drawings.
B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, topdressing or brushing operations.
C. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the Infill mixture.
D. Designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules, NFHS rules, and/or other rules or standards that may apply to this type of synthetic grass installation. Designs, markings and layouts shall first be approved by the Architect or Owner in the form of final shop drawings. All markings will be in full compliance with final shop drawings.

3.4 Installation:
A. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.
B. The Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the C. Warranty. Infill materials shall be approved by the manufacturer and installed in accordance with the manufacturer's standard procedures.

D. Carpet rolls shall be installed directly over the properly prepared aggregate base. Extreme care shall be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity.
   1. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer.

E. Full width rolls shall be laid out across the field.
   1. Turf shall be of sufficient length to permit full cross-field installation from sideline to sideline.
   2. No cross seams will be allowed in the main playing area between the sidelines.
   3. Each roll shall be attached to the next roll utilizing standard state-of-the- art sewing procedures.
   4. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing surface.

F. Artificial turf panel seams shall be sewn. Other than extension inlays, seams secured by other means including gluing are unacceptable. Installation shall be 99% sewn.
   1. Minimum gluing will only be permitted to repair problem areas, corner completions, and to cut in any logos or inlaid lines as required by the specifications.
   2. Seams shall be flat, tight, and permanent with no separation or fraying.
   3. In the case of all lines and logos, turf carpet must be sheared to the backing (do not cut the backing) and adhered using hot melt adhesives.

G. Infill Materials:
   1. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied. The infill material shall be installed to a depth determined by the manufacturer.
   2. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of a base layer of sand followed by a final application of specifically sized rubber that completes the system. The Infill shall be installed to the depth of minimum 1.5".

H. Non-tufted or inlaid lines and markings shall be painted in accordance with turf and paint manufacturers' recommendations. Number of applications will be dependent upon installation and field conditions.

I. Synthetic turf shall be attached to the perimeter edge detail in accordance with the manufacturer's standard procedures.

J. Upon completion of installation, the finished field shall be inspected by the installation crew and an installation supervisor.

3.5 Field Markings:

A. Field markings shall be installed in accordance with approved shop drawings. If football is designated as the primary sport, all five-yard lines will be tufted-in.

B. Balance of sports markings will be inlaid or painted in accordance with the Drawings.

C. Center field logo shall be either painted or inlaid according to artwork indicated on Drawings and in accordance with manufacturer's standard palette of turf colors.

D. End-zone letters and logos shall be either painted or inlaid according to artwork and fonts indicated on the Drawings, and in accordance with manufacturer's standard palette of turf colors.

3.6 Adjustment and Cleaning:

A. Do not permit traffic over unprotected surface.

B. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.

C. All usable remnants of new material shall become the property of the Owner.

D. The Contractor shall keep the area clean throughout the project and clear of debris.

E. Surfaces, recesses, enclosures, and related spaces shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

3.7 Protection:

A. Protect installation throughout construction process until date of final completion.

* * *

SECTION 02621: PERFORATED PIPE

PART 1- GENERAL

1.1 DESCRIPTION

A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and installing underdrain as shown on the Drawings and the Standard Details.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The type and size of underdrain pipe to furnished shall be as specified on the Drawings.

B. Slotted or perforated and non-perforated corrugated steel pipe shall conform to the requirements of AASHTO M 36.

C. Slotted or perforated and non-perforated corrugated aluminum alloy pipe shall conform to the requirements of AASHTO M 196.

D. Slotted or perforated and non-perforated corrugated polyethylene (CPP) plastic pipe shall conform to the requirements of AASHTO M 252.

E. Slotted or perforated and non-perforated polyvinyl chloride (PVC) plastic pipe shall conform to the requirements of ASTM D 3034.

F. Slotted pipe shall have at least two rows of slots cut perpendicular to the axis of the pipe or at right angles to the pitch of corrugations and with the centerlines of the rows separated by one-third the circumference of the pipe. Slots shall have a width between one-sixteen inch and one-tenth inch and shall have a length, as measured along the inside circumference, of one inch to one and one-fourth- inch. Spacing of the slots shall be between three-fourth-inch and one and one-half-inch along the axis of the pipe. Slots shall be formed in such a way that inflow of water through the slots will not be impeded by excessive residual material from the slotting procedure.

G. Granular backfill material shall be placed to the dimensions as shown on the Drawings or the Standard Details, and shall meet the following gradation:

Sieve Designation	Percent Passing
2-inch	100
No. 4	0-10
No. 100	0-3

H. Filter cloth for underdrain trenches shall be Type A, as specified under Section 31 20 20 – Geotextile Fabric (Filter Cloth).

PART 3 - EXECUTION

3.1 CONSTRUCTION

A. Trenches shall be excavated to the dimensions and grade shown on the Drawings or as directed by the ENGINEER. A nominal two-inch layer of granular backfill material shall be placed and compacted in the bottom of the trench for its full width and length.

B. Filter cloth, if called for on the Drawings, shall be placed as shown on the Drawings and the Standard Details.

C. Perforated pipe shall be placed with the perforations down. The pipe sections shall be joined securely with the appropriate coupling bands or fittings.

D. After the pipe installation has been inspected and approved, granular backfill material shall be placed and compacted to a height of 12 inches above the top of pipe. The remainder of the granular backfill material shall then be placed and compacted in six-inch maximum layers to the required height.

E. Any remaining portion of trench above the granular backfill shall be filled with either granular or impervious material, as may be specified, and thoroughly compacted.

* * *

SECTION 02622E: POLYVINYL CHLORIDE PIPE (PVC) (E)

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: This section covers materials for PVC pipe and fitting for water mains, sewage force mains, gravity sewerage systems, and storm drainage.

PART 2: PRODUCTS

2.1 Materials:

A. Wastewater and Stormwater Gravity Lines

1. Pipe: All PVC pipe shall be specifically designed to carry domestic sewage by gravity flow and shall meet the requirements of ASTM D-3034 (latest revision) with a maximum SDR of 26 and a minimum F/ Y stiffness of 115 psi as tested in conformance with ASTM D-2412 (latest revision) for sizes up to and including 15". Pipes 18" and larger shall meet requirements of ASTM F-679-80.
2. Joints: All joints shall consist of an integral bell with a factory installed "locked in" gasket. The spigot end of each joint shall be factory beveled.
3. Fittings: All fittings shall be standard manufacturer fittings approved by the pipe manufacturer for use on his pipe. All fittings shall meet the requirements of the pipe. All fittings shall be of the same or greater strength as the pipe.
4. Caps and Permanent Plugs: Caps and permanent plugs for sewerage service line shall be as manufactured by Vassalko or approved equal; and shall meet the requirements set forth in ASTM D-3034.

B. Water Lines:

1. 14" and Larger: PVC pipe 14" and larger shall be UNI-B-11-84 minimum pressure 150 psi; maximum DR of 18.
2. 4" thru 12": PVC pipe 4" and greater shall be AWWA C-900 DR18 integral bell with locked gaskets and ductile iron O.D.
3. Smaller than 4:
   a. PVC pipe shall be Schedule 40, conforming to the requirements of ASTM D1784, Type I, Grade I and ASTM D1785.
   b. PVC fittings shall be Schedule 40 socket type, conforming to the requirements of ASTM D1784, Type I, Grade 1 and ASTM D2466.

C. Wastewater Pressure Lines:

1. Pipe: PVC pipe up to and including 12" shall be specifically designed to carry domestic sewage by pumping and shall conform to the requirements of ASTM D2241 for PVC plastic pipe for PR 160 with a maximum SDR of 26. Pipe and fitting compound shall conform to ASTM D1784.
2. PVC pipe 14" to 24" shall conform to UNI-B-11 DR25.
3. PVC pipe 24" to 30" shall conform to UNI-B-11 DR 25.
4. Joints to be locked in gasket type that conforms to ASTM F477.

D. Restrained Joints:

1. Polyvinyl chloride (PVC) pipe (4" to 10") shall be restrained using the Series 5500 mechanical joint thrust restraint as manufactured by EBAA Iron, Inc., or approved equal.
2. Polyvinyl chloride (PVC) pipe (14" to 24") shall be restrained using the Series 1100 PV or 1100 HV MEGALUG mechanical joint thrust restraint as manufactured by EBAA Iron, Inc., or series 1300 or 1350 large diameter restrainers as manufactured by Uni-Flange, a Division of NAPPCO, Inc., or approved equal.
3. The EBAA Iron Series 5500, 1100 PV or 1100 HV MELUG assembly shall be cast completely of closely controlled ductile iron conforming to ASTM A536, latest revision, and furnished with silicon bronze bolts, IFI 140, Grade 655. All bolts made of corrosion resistant steel and ductile iron will not be permitted. All glands and bolts shall be field coated with two (2) coats of coal tar epoxy, Koppers 300-M Bitumastic, or approved equal, with a minimum dry film thickness of eight (8) mils per coat.
4. Restraining glands shall be wrapped with an eight (8) mil thick polyethylene tube for additional protection. The polyethylene wrap shall extend a minimum of two feet (2') in either direction from the gland and secured on the end with circumferential turns of tape.
5. All restrained joints shall be inspected at the job site after installation. Field touch-up and repair if needed shall be made by the Contractor under the supervision and inspection of a representative of the coating supplier.
6. Follow manufacturers' specifications when installing the restrained joints. Using a torque wrench tighten bolts to recommended torque and in the proper sequence. Supplier to provide on-site training in the proper installation of joint restrainers.
7. The Uni-Flange series 1300 or 1350 large diameter restrainer assembly shall be manufactured of structural steel ASTM-A36 and furnished with silicon bronze bolts, IFI 140, Grade 655. All bolts made of corrosion resistant steel and ductile iron will not be permitted. All glands and bolts shall be field coated with

two (2) coats of coal tar epoxy, Koppers 300-M Bitumastic, or approved equal, with a minimum dry film thickness of eight (8) mils per coat.

E. Transition Couplings: Long body transition couplings, 12" minimum length, shall be used to connect new pipe to old pipe.

PART 3: EXECUTION: See other Sections.

* * *

SECTION 02720: STORM SEWERAGE SYSTEMS

PART 1: GENERAL

1.1 Related Requirements: Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all labor, equipment, and incidentals required, and install in the locations shown on the Drawings, all piping, fittings, and appurtenances for storm sewerage systems as specified.

1.3 General: Material and Equipment

A. Conform to applicable specifications and standards.

B. Comply with size, make, type, and quality specified, or as specifically approved in writing by the A/E.

C. Manufactured and Fabricated Products:

1. Design and fabricate, and assemble in accordance with the best engineering and shop practices.
2. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
3. Two or more items of the same kind shall be identical, by the same manufacturer.
4. Products shall be suitable for service conditions.

D. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

E. Comply with all local, state and federal laws and regulations.

F. Furnish all necessary labor, material or equipment necessary for compliance with all requirements of this contract.

1.4 Governing Standards: Installation shall conform to the latest standards of the governing authority. In the event of a conflict between these specifications and the latest standards of the Owner and/or governing authority, the latest standards of the Owner and/or governing authority shall govern.

PART 2: PRODUCTS

Piping and other materials are specified elsewhere.

PART 3: EXECUTION

3.1 Unknown Utilities:

A. The drawings attempt to indicate the location of all known underground facilities within the limits of the work. However, the Contractor shall be responsible to inspect the entire project to verify all underground facilities and determine the existence of any additional facilities conflicting with his work. In addition the Contractor shall be required to prospect ahead of the work to locate and verify all under ground facilities.

B. In the event the Contractor encounters an unknown underground facility in his operations and such an item will interfere with his work and will require removal and replacement or relocation, the Contractor shall immediately notify the A/E and Owner and/or appropriate governing authority, and arrange for relocation.

3.2 Coordination: Removal and replacement of drainage facilities shall be done in close coordination with the Owner and/or governing authority. Removal and replacement or relocation work shall be planned in advance so the inconvenience to the Owner and utility users caused by the disruption of service is minimized.

3.3 Handling:

A. Pipe, fittings, and accessories shall be handled in a manner that will insure installation in sound, undamaged condition. Equipment, tools, and methods used in handling and installing pipe and fittings shall not damage the pipe and fittings. Hooks inserted in ends of pipe shall have broad, well-padded contact surfaces.

B. All pipe coating, which has been damaged, shall be repaired by the Contractor before installing the pipe.

3.4 Cleaning:

A. The interior of all pipe and fittings shall be thoroughly cleaned of foreign matter before being installed and shall be kept clean until the work has been accepted. Before jointing, all joint contact surfaces shall be wire brushed if necessary, wiped clean, and kept clean until jointing is completed.

B. Precautions shall be taken to prevent foreign material from entering the pipe during installation. Debris, tools, clothing, or other materials shall not be placed in or allowed to enter the pipe.

3.5 Inspection: Pipe and fittings shall be carefully examined for cracks and other defects immediately before installation; spigot ends shall be examined with particular care. All defective pipe and fittings shall be removed from the site of the work.

3.6 Laying Pipe:

A. Lay all pipe in straight lines and on uniform grades. Rest pipe on a firm prepared bed with bells laid up grade. Insure position of pipe to proper grade by blocking or other means. Maintain lines laterally so that minimum of 66% of internal area is visible throughout total length of pipe between fittings.

B. Lay pipe with sealed joints in accordance with manufacturer's recommendations; join so that spigot end enters to full depth of socket. No infiltration of soils will be allowed at joints.

C. Install concrete pipe in accordance with applicable provisions of American Concrete Pipe Association "Concrete Pipe Installation Manual", unless otherwise indicated. All joints of pipe greater than 43 inch round and equivalent arch pipe shall be banded with metal straps on three sides in accordance with manufacturers' requirements.

D. Keep pipe lines clean as the laying progresses and keep open ends securely stopped.

E. Make connections into drainage structures with joints thoroughly sealed with mortar, so that no excess mortar remains inside pipe or basin to block flow of water.

F. Pipe shall be protected from lateral displacement by placing the specified pipe embedment material. Under no circumstances shall pipe be laid in water and no pipe shall be laid under unsuitable weather or trench conditions.

G. Pipe shall be laid with the bell ends facing the direction of laying except when reverse laying is specifically authorized by the A/E.

H. Alignment and grade shall be as existed in removed and replaced pipe, unless otherwise indicated on the drawings or directed by the A/E.

3.7 Piping Connections: Where corrugated steel pipe is to be joined with reinforced concrete pipe, corrugated steel pipe shall overlap the concrete pipe using pipe sizes as indicated on the drawings conforming to current local regulatory standards. Required diameters of corrugated steel pipe shall be specially fabricated if not otherwise available. The space between the steel pipe and the concrete pipe where the steel pipe overlaps, shall be filled with grout, except for the upstream 12 inch length of overlap. The upstream 12 inch length of overlay shall be tightened with a corrugated steel band so that there is no space between the corrugated steel pipe and the concrete pipe.

* * *

SECTION 02721: CATCH BASINS, GRATES & FRAMES

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all necessary materials, labor and equipment for the complete installation of catch basins, paved area drainage, site surface drainage and accessories, as shown on the Drawings and specified herein. Provide all necessary supplementary items for a complete installation intended by documents. Make revisions and tie-ins to existing lines, catch basins, grates, etc. as required to produce a complete drainage system and as shown on the Drawings. Modify existing catch basins to lower the top of casting elevation as shown on the Drawings. Clean and flush all existing drainage structures.

1.3 Submittals:
A. Submit Manufacturer's Literature and Installation Instructions.
B. Submit in accordance with requirements of Division 1.

1.4 Product Handling: Protect materials during transportation, storage, and installation to avoid physical damage.

PART 2: PRODUCTS

2.1 Brick: ASTM C 62, Grade SW, common building brick.

2.2 Mortar: ASTM C 270, Type S, cement and mortar.

2.3 Gratings, Curb Inlets, Manhole Covers: East Jordan Iron Works, Neenah, or approved equal, ASTM A 48, Class 30 iron castings. Provide type and sizes with frames as indicated on the Drawings.

2.4 Concrete: As specified elsewhere herein.

2.5 Substitutions: Equivalent equipment and materials of other manufacturers may be substituted on approval of the A/E. Request for substitution shall include manufacturer's descriptive information and evidence of satisfactory past performance. Substitutions shall meet or exceed the specified item in all respects. Submittals shall include comparison of the manufacturer's literature of both the specified item and the proposed substitution; all differences from the specified item shall be annotated. Substitutions, which change the generic type of material or equipment or fail to meet the performance criteria of the specified item, will not be approved.

PART 3: EXECUTION

3.1 Trenching:

A. Verify with A/E exact position of lines and catch basins. Re-route lines if necessary to protect trees, planting, other items to remain.

B. Trenches shall be not less than 1% true to grade shown. Remove unsuitable material and replace with sand or gravel properly compacted.

3.2 Drainage Structures, Headwalls, Catch Basins:

A. Construct in accordance with the requirements of R & B, and with the locations, designs, and dimensions as indicated on the Drawings.

B. Lay bricks in full, close, shove joints of mortar.

C. Plaster inside and outside of structure with a coat or mortar 1/4 inch thick. Surface inverts and benches in structures with a 14 inch thick coat of mortar.

D. Set grates and frames in a full bed of mortar. Extend inlet and outlet pipes through the wall for sufficient distance beyond the outside surface to allow for connections. Construct concrete around them neatly, so as to prevent leakages along the outer surface.

E. No pipes, cables, or other structures shall be built into or through these structures except the attendant drainage pipes, indicated.

3.3 Examination: Notify the A/E in ample time to permit examination of completed underground piping before backfilling is commenced.

3.4 Backfilling: Take necessary precautions in backfilling to prevent disalignment of pipe, longitudinally, laterally, or vertically. Replace pipe damaged during backfilling and compacting. Conform to requirements for fill and backfill.

* * *

SECTION 02932: SEEDING & SODDING

PART 1: GENERAL

1.1 Related Documents: The general provisions of the Contract, including the Conditions of the Contract (General, Supplementary, and other Conditions, Division 0) and Division 1 as appropriate, apply to the Work specified in this Section.

1.2 Scope of Work: Furnish all necessary materials, labor and equipment for the complete installation of seeding and sodding materials at all lawn areas of the site disturbed by work of this contract and over areas to be graded where soil is uncovered or new fill added, as shown on the drawings and specified herein. Existing areas of site with total stand of grass and that are not affected by work of this contract need not be re-seeded or sodded. Provide all necessary supplementary items for a complete installation intended by documents.

1.3 Job Conditions:

A. Existing Conditions: Perform seeding and sodding only after preceding work affecting ground surface is completed.

B. Environmental Requirements: Do not perform seeding when wind exceeds 15 mph. Arrange planting schedule to suit specified seeds.

C. Protection: Restrict foot and vehicular traffic from seeded and sodded areas after planting or placement until lawn areas are established.

1.4 Standards: Meet requirements and recommendations of the applicable portions of the latest editions of Standards listed below:

A. U.S. Department of Agriculture (USDA)

B. Federal Seed Act (FSA)

1.5 Quality Assurance: Conform to all requirements of La. Seed Commission, La. Seed Law Rules and Regulations of the La. Revised Statutes (Title 3, Chapter 2, Part I) as amended by the 1977 session of the Legislature.

PART 2: PRODUCTS

2.1 Materials

A. Grass Seed (between March 31 & September 15): Seed shall be Bermuda Grass (Cynodon dactylon) (Hulled) minimum 82% by weight of pure live seed, maximum 1% by weight weed seed. Seed shall be labeled in accordance with the latest U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.

B. Grass Seed (between September 15 & March 31): Seed shall be half (50%) Fescue, Turf-type tall Fescue (Festuca arundinacea) variety "Winning Colors" minimum 82% by weight of live seed, maximum .05% by weight weed seed. Only if the variety "Winning

Colors" becomes temporarily unavailable, another variety of turf type tall Fescue will be selected by the Owner's Representative. "Winning Colors" is the recommended hybrid variety for use in this area, since it is the best acclimated to this area. The seed shall be a minimum 85% by weight of pure live seed with a maximum of 1% by weight weed seed. The second half (50%) shall be 419 Bermuda Grass (Cynodon dactylon) Non Hulled Seed. It shall be 82% by weight of pure live seed, maximum 1% by weight weed seed. Seeds shall be labeled in accordance with the latest U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.

C. The Owner's Representative reserves the right to reject at or after delivery any seed which does not, in his opinion, meet requirements of these specifications.

D. Sod: Sod shall be 100% Bermuda Grass (Celebration). It shall be field grown. It shall be at least 1 year old, well rooted, and cut to a depth of 3/4" - 1". The sod shall be cut in rectangular strips 42 inches wide (big rolls) to reduce number of seams. Sources of the sod shall be made known to the Consultant at least 5 days prior to cutting. Delivered sod shall be approved by the Owner's Representative prior to installation.

E. Fertilizer and Herbicide: Provide Agriform CRF 16-7-12 (+ Iron), or approved equal, Sierra Chemical Company (local distributor) Burlap Sales Company. New Orleans, LA 70124. These chemicals are necessary to complete the establishment of a healthy dense turf. The following list is a list of the exact chemical names, and concentrations, and the possible vendors.

1. Only M.S.M.A. 6 Selections Post Emergent Weed Control to contain 6.0 pounds M.S.M.A. per gallon with surfactant. 3 Gallons per acre.

   Source:

   Van Water & Rogers
   5229-A Salmen Ave.
   Harahan, LA 70127

   Pennington Seed, Inc.
   1100 Edwards Ave.
   Harahan, LA 70127

   Chembro, Inc.
   P.O. Box 702
   Marrero, LA 70073

   Jefferson Feed & Garden
   4421 Jefferson Hwy.
   Jefferson, LA 70121

2. P.B.I. Trimec Broadleaf Herbicide. 3 Gallons per acre.

   Source:

   Van Water & Rogers

   Pennington Seed, Inc.

5229-A Salmen Ave.
Harahan, La 70127

1100 Edwards Ave.
Harahan, La 70127

Chembro, Inc.
P.O. Box 702
Marrero, La 70073

Jefferson Feed & Garden
4421 Jefferson Hwy.
Jefferson, La 70121

3. Turf Spray Dye (blue) Blazon or Regal Blue Turf colorant in one or five gallon containers. 1 Gallon per gallon of mixture.

Source:

Gulf Shore Turf Supply
P. O. Box 7185
Pensacola, Fl 32504

Chembro, Inc.
P. O. Box 702
Marrero, La 70073

Van Water & Rogers
5229-A Salmen Ave.
Harahan, La 70127

F. Additional Earth Fill: If required for proper seed or sod bed preparation and finish grading operations shall be top soil, clean and free from clay, roots, muck or other objectionable material. See paragraph F. for description of Top Soil.

G. Soil Mixture: Shall be fertile, friable, natural surface soil obtained from a well-drained area and free of all stones, shells, brush, weeds, shale, stumps, roots and other organic litter. The soil shall have at least six (6%) percent organic matter and an acidity range between pH 5.0 and 7.0 inclusive, and not more than 20% clay.

H. Water: Free of matter harmful to plant growth.

PART 3: EXECUTION

3.1 Methods

A. General:

1. The Contractor shall, prior to seeding or sodding operations, repair all ruts, depressions, eroded areas, etc., to the satisfaction of the Owner's Representative.
2. Grade changes within the dripline of trees shall not exceed two inches.

B. Bed Preparation:

1. Any area, within areas to be seeded where existing areas of weeds remain, shall be mowed with blades set to a depth of 1" to 1-1/2."
2. Fertilizer shall be distributed evenly, by mechanical spreader over all areas to be seeded. The rate of application shall be twenty (20) pounds per 1,000 square feet. Fertilizer shall be

applied not more than one week prior to seeding. Fertilizer to be uniformly distributed in the top 2" to 4" inches of seed bed, or sodded area.

C. Finish Grading

1. Immediately prior to seeding or sodding the bed shall be prepared by breaking, disking, harrowing, blading, dragging or other approved methods. The soil shall be thoroughly pulverized to a minimum depth of approximately four (4") inches and smoothed by means of raking or other approved methods. Each area shall then be rolled in two directions perpendicular to each other with a light roller then finely raked. Raking shall be done by hand adjacent to structures, walks, curbing, and trees.
2. The finished surface shall be smooth, finely textured, free of all sticks, debris, rubbish, etc. and shall conform to the lines and grades indicated on the drawings and/or as directed by the Landscape Architect. All humps, depressions or other irregularities shall be corrected prior to seeding.

D. Seeding

1. On the same day that the finish grading operations are performed (with no rain between operations) and after approved by the Owner's Representative of the seed bed, the grass seed shall be applied at the rate of ten (10) pounds each of the specified seed types per 1,000 square feet of seed bed by means of an approved mechanical seed spreader which will provide a depth of 1/8" to 1/4".
2. Seeding shall be done in two (2) directions perpendicular to each other, using half of the specified amount in each application.
3. Immediately after seeding, roll seeded areas with a hand roller weighing not less than 150 pounds nor more than 200 pounds. Care should be exercised to prevent foot prints or other disturbances to the finished surface.

E. Sodding

1. Prior to sodding, the finished surface shall be free of all sticks, debris and rubbish and shall conform to the lines and grades shown on the drawings or as directed by the Engineer.
2. Upon delivery, slab sod shall be transferred and laid properly to avoid gaps and over onto the surface of the soil, rolled or tamped and watered as directed.
3. Inspection of the work to determine its final acceptance will be made by the Owner's Representative. No grass will be accepted unless it is alive and healthy.
4. In the event that sod is laid in place after September 15 and before March 31, the Contractor is required to overseed the sod with the required Hybrid Fescue seed only as stated in

Part 2 Products Section 2.01 Materials B, and all other related horticultural requirements.

3.2 Maintenance and Protection

A. Watering shall be required for all areas which have been seeded except when natural precipitation has provided the necessary moisture as determined by the Landscape Architect. Watering shall be done in a manner which will prevent erosion due to the application of excessive quantities, and the watering equipment shall be of a type that will prevent damage to the finished surface. A minimum amount of rainfall would be two (2) one (1) inch rains per week. If more water is needed, it is the responsibility of the Contractor to provide it.

B. The seeded areas shall be protected against traffic or other use by placing warning signs of a type approved by the Owner's Representative on the various areas where seeding or sodding has been completed or by other means, such as protective fencing, as may be required.

C. The Contractor shall produce dense, vigorous, well-established lawns and shall maintain lawn areas until final acceptance of the work by the Owner. Maintenance shall include, but not be limited to, preparation and reseeding or resodding of all bare areas, proper watering refilling of rain-washed gullies and rutted areas, refertilizing and mowing. At the time of the first cutting, mower blades shall be set 2½" high. At least three (3) mowings shall be completed before the work will be accepted. Any areas which fail to show a uniform stand of grass shall be reworked, and reseeded at the Contractor's expense with the same seed as originally used thereon, and such reseeding shall be replaced until all required areas are covered with a satisfactory stand of grass. A satisfactory stand of grass is defined as a cover of living grass in which gaps larger than 4" do not occur at the time of acceptance by the Owner.

D. The Contractor shall refertilize the lawn areas after eight (8) weeks and the first two grass cuttings have been made, or as otherwise directed by the Owner's Representative.

3.2 Inspection and Guarantees

A. Final Inspection

1. Inspection of work to determine its final acceptance will be made by the Owner's Representative. No plant material, turf included, will be accepted unless they are alive and healthy and all related work conforms to the drawings and specifications, at the conclusion of the one (1) year guarantee period.
2. Should any portion of the work be unacceptable, Contractor shall make all work acceptable and request a reinspection by Owner within five (5) working days.

3. The Contractor will be notified by letter of acceptance within five (5) days after reinspection should the latter be necessary.

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