Specifications

UTTC BUILDINGS 6 & 7 PARKING LOT CONSTRUCTION

Bismarck, North Dakota

Project #

021156.23

January 21, 2026

3479 Lake Elmo Avenue North, Lake Elmo, Minnesota 55042
tel (218) 727-2626 fax (218) 722-7467

dsgw.com

SECTION 00 01 01

PROJECT MANUAL TITLE AND REGISTRATION SHEET

UTTC BUILDINGS 6 & 7 PARKING LOT CONSTRUCTION
BISMARCK, NORTH DAKOTA

DATE: January 21st, 2026

PROJECT NO.: 021156.23

OWNER
UNITED TRIBES TECHNICAL COLLEGE
3315 University Drive
Bismarck, North Dakota 58504
(701) 255-3285 phone

ARCHITECT
DSGW ARCHITECTS
3479 Lake Elmo Avenue North
Lake Elmo, Minnesota 55042
(218) 727-2626 phone

CIVIL ENGINEERS
CMTA
2201 12th Street N, Suite E
Fargo, North Dakota 58102
(701) 280-0500 phone

I hereby certify that these Drawings and Specifications were prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of North Dakota.

Mike Laverdure Reg. No. 2395

END OF SECTION

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BISMARCK, NORTH DAKOTA

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SCHEDULE OF DRAWINGS

UTTC BUILDINGS 6 & 7 PARKING LOT CONSTRUCTION
BISMARCK, NORTH DAKOTA

	SHEET	TITLE
CIVIL		
	--------	Cover
	V100	Existing Conditions
	C100	Site Plan
	C101	Site Temporary Sediment Control Plan
	C102	Site Demolition Plan
	C103	Site Grading Plan
	C500	Site Details

END OF SECTION

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

UTTC BUILDINGS 6 & 7 PARKING LOT CONSTRUCTION
BISMARCK, NORTH DAKOTA

Notice is hereby given that sealed bids for the UTTC Buildings 6 & 7 Parking Lot Construction, Bismarck, North Dakota will be received at United Tribes Technical College, 3315 University Drive, Building 7, Bismarck, ND, until **2:00 p.m., Tuesday, February 17, 2026,** local time, they will be publicly opened and read aloud. Bids will be received for a single prime Contract. All bids received after the scheduled time will be returned to the bidder unopened.

The project consists of the construction of two parking lots with a combined parking space count of approximately 30 spaces. Activities include site demolition, site grading, site and site paving as indicated and specified in the contract documents.

Contractors desiring to submit a bid may obtain an electronic (PDF) copy of the contract documents from DSGW Architecture, Inc., by contacting Jessica Lautigar at 218-471-2000 or jlautigar@dsgw.com.

The project drawings and specifications will also be on file at the following Builder's Exchanges: Bismarck-Mandan Builders Exchange; Bismarck Builders Exchange, Bismarck, ND; Fargo-Moorhead Builders Exchange, Fargo, ND; Minot Builders Exchange, Minot, ND; Construction Industry Center, Rapid City, SD; Minnesota Builders Exchange, Minneapolis, MN; Dodge Data & Analytics and Construct Connect.

Each bid shall be submitted in duplicated copy and enclosed in a sealed opaque envelope upon which there is disclosed the necessary information as required by the Supplementary Instructions to Bidders.

Each bid shall be accompanied by a **separate sealed opaque envelope containing a Bidder's bond** made payable to United Tribes Technical College and executed by the Bidder as principal and by a surety company authorized to do business in North Dakota, in a sum equal to five percent (5%) of the Bidder's highest total bid combination, including all add alternates to the bid items, conditioned that if Bidder's proposal be accepted and the contract awarded to him, he within ten (10) days after notice of such award, will effect and execute a contract in accordance with the terms of his bid and a contractor's bond as required by law and the regulations and determinations of the Owner. AIA Document A310, Bid Bond should be used to execute the bid guarantee.

In compliance with Section 43-07-12 of the North Dakota Century Code, each contractor submitting a bid must have a copy of their North Dakota Contractor's License or certificate of renewal thereof issued by the Secretary of State **enclosed in the bid bond envelope;** must be licensed for the highest amount of his total bid combination including add alternates; and such license must have been in effect at least ten (10) days prior to the date of the bid opening.

No bid will be read or considered which does not fully comply with the provisions herein as to bonds and licenses, and any deficient bid submitted will be resealed and returned to the Bidder immediately.

Federal Regulations: Bidders on this Work will be required to comply with Education Department General Administrative Regulations (EDGAR) Title 34 CFR Part 74 as applicable, including the following provisions:

1. Equal Employment Opportunity — E.O. 11246—Equal Employment Opportunity, as amended by E.O. 11375
2. Copeland "Anti-Kickback" Act (18 U.S.C. and 40 U.S.C. 276c) 874 .
3. Davis-Bacon Act, as amended (40 U.S.C. 276a to a-7).
4. Contract Work Hours and Safety Standards Act (40 U.S.C. 327–333)
5. Rights to Inventions Made Under a Contract or Agreement
6. Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act (33 U.S.C.1251 et seq.), as amended
7. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)
8. Debarment and Suspension (E.O. 12549 and E.O. 12689)

The Owner reserves the right to hold all legitimate bids for a period of Thirty (30) days after the date fixed for the opening thereof. The Owner further reserves the right to reject any and all bids or portions thereof and to waive irregularities, and the Owner shall incur no legal liability for the payment of any monies until the contract is awarded and approved by the proper authorities.

The successful Bidder will be required to furnish a Performance-Payment Bond.

Dated this 21st day of January 2026

Mr. Leander McDonald, President
United Tribes Technical College
3315 University Drive
Bismarck, ND 58504

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

PART I GENERAL

1.01 INSTRUCTIONS TO BIDDERS

A. The "Instructions to Bidders", AIA Document No. A701, copyright 2018 Edition, as published by the American Institute of Architects, Article 1 thru 8, inclusive, are hereby made a part of the Contract Documents to the same extent as if bound herein and as supplemented hereinafter. A copy of A701 is on file in the Architect's office.

B. The "Supplementary Instructions to Bidders", Section 00 22 13, shall modify, replace or define portions of AIA A701, Instructions to Bidders.

END OF SECTION

SECTION 00 22 13

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

THE FOLLOWING SUPPLEMENTARY INSTRUCTIONS TO BIDDERS SHALL MODIFY, REPLACE, OR DEFINE PORTIONS OF THE A.I.A. INSTRUCTIONS TO BIDDERS, A701, 2018 EDITION. THOSE PORTIONS OF THE A.I.A. INSTRUCTIONS TO BIDDERS, A701, WHICH ARE NOT ALTERED BY THESE SUPPLEMENTARY GENERAL CONDITIONS SHALL REMAIN IN EFFECT AS PUBLISHED.

1. ARTICLE 1 - DEFINITIONS

ADD the following Paragraph:

1.10 The word "product" herein means any material, equipment, assembly, manufacturer, brand, trade name, element, item or similar description as applicable. Wherever a product is named on the Drawings or in the Specifications, the phrase "or acceptable substitute in the opinion of the Architect" shall be implied throughout the Specification, whether specifically noted or not.

2. ARTICLE 3 - BIDDING DOCUMENTS

ADD to and modify paragraph 3.1.1 as follows:

3.1.1 **Bidders** may access the documents electronically as noted in the Advertisement for Bids, Section 00 11 13.

ADD paragraph 3.2.4 as follows:

3.2.4 It is the Bidder's (and Contractor's) responsibility to bring all discrepancies, ambiguities, omissions, for matters in need of clarification to the attention of the Architects or interpretation and decision.

ADD the following Subparagraphs after paragraph 3.3.1:

3.3.1.1 Any product or manufacturer used as basis of the Specifications shall generally set the criteria. It shall be expressly understood that any other product or manufacturer listed in the Specification or any addenda as acceptable will be acceptable provided they fully comply with the requirements and match the basic and essential criteria of the product used for base Specification, including the level of workmanship quality, as determined by the Architect. For final acceptance for use in the work, the Architect shall have the right to accept or reject proposed deviations. Should a proposed product be unable to meet requirements, the product shall not be used.

3.3.1.2 Where two or more products are shown or specified, the Bidder and Contractor has his option of which to use, provided the product proposed will meet all requirements of the Specifications and the design criteria. The right is reserved by the Architect to accept or reject proposed deviations in design, function, construction or similar differences that will affect design intent or quality, or,

3.3.1.3 For any same or like product for this Project, only one brand, manufacturer, source or type shall be used, as approved by Architect.

3.3.1.4 For products specified or shown by describing proprietary items, model numbers, catalog numbers, manufacturers, trade names or similar reference, each Bidder obligates himself to submit bids and accept awards of a contract based upon the use of such products. The reference is intended to establish the measure for the quality, which has been determined as requisite and necessary for the Project.

REVISE paragraph 3.3.2 as follows:

3.3.2 No substitutions will be considered prior to receipt of bids unless written request for approval has been received by the Architect at least seven (7) days prior to the Date for receipt of Bids.

ADD the following at the end of paragraph 3.3.3:

...<u>If a written reply is required, the Contractor shall furnish two (2) copies of the request and a self-addressed, stamped envelope</u>. FAX REQUESTS WILL NOT BE ACCEPTED.

ADD paragraph 3.3.6 as follows:

3.3.6 The supplier or manufacturer providing any acceptable product shall bear the cost of any required modifications to spaces, services, utilities and other features as the result of the use of his product, including but not limited to, larger capacity mechanical or electrical service, devices or utilities resulting from acceptance of the product for bidding purposes, as well as to pipes, conduits, ducts, and controls for conveying, distributing, and controlling those services or utilities; as well as insulation, wrapping, coatings, or other integral features of the lines or items conveying those lines, and additional costs of the products installation.

3. ARTICLE 4 - BIDDING PROCEDURES

4.1 FORM AND STYLE OF BIDS

DELETE paragraphs 4.1.1 and ADD the following:

4.1.1 Bids shall be submitted on forms identical to the form included in the Bidding Documents, photocopies will be acceptable. The Bidder shall submit two (2) copies of the bid Form with their Bid. DO NOT REMOVE BID FORMS FROM BIDDING DOCUMENTS.

4. ARTICLE 6 - POST BID INFORMATION

ADD the following paragraph:

6.4 TIME AND COMPLETION

6.4.1 Each Bidder agrees to commence work on or before a date to be specified in a written "Notice to Proceed" signed by the Owner, and to substantially complete the work by the date stated on the Bid Form.

5. ARTICLE 7 - PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.1 BOND REQUIREMENTS

ADD the following paragraph:

7.1.4.1 Performance/Payment Bonds are required.

6. ADDITIONAL LAWS AND REGULATIONS

A. The Bidder's attention is directed to the fact that all applicable State laws, County and municipal ordinances and the Rules and Regulations of all authorities having jurisdiction over the construction of the project shall apply to the contract throughout and they will be deemed to be included in the Contract the same as though written.

END OF SECTION

SECTION 00 40 00

BID FORMS - INSTRUCTIONS

Loose copies or photocopies of the bid form following this Section shall be used by the bidder in submitting their bid (do not remove the attached forms from this document).

The Bidder shall complete all the following items or the bid may be rejected.

1. Date the Bid.
2. Clearly state the amount of the Base Bid in Written and Numerical Form.
3. Acknowledge receipt of all Addenda.
4. Complete any remaining required items.
5. Sign and indicate current mailing address, telephone and telefax numbers.
6. Include all United Tribes Technical College requirements detailed in section 00 11 13.
7. Include number of days of construction (schedule).

END OF SECTION

SECTION 00 41 00

BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. United Tribes Technical College
   1. 3315 University Drive, Building 61
   2. Bismarck, North Dakota

1.02 FOR:

A. UTTC Buildings 6 & 7 Parking Lot Construction
   Bismarck, North Dakota

1.03 DATE: _____ (Bidder to enter date)

1.04 SUBMITTED BY: (Bidder to enter name and address)

A. Bidder's Full Name_____

   1. Address _____

   2. City, State, Zip_____

   3. Phone _____

   4. Contact Person: _____

   5. Email:_____

1.05 BASE BID

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by DSGW Architecture for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

   _____ dollars

   ($_____), in lawful money of the United States of America.

B. All applicable taxes are included in the Bid Sum.

1.06 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for thirty days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we will:
   1. Execute the Agreement within ten days of receipt of Notice of Award.
   2. Furnish the required bonds within ten days of receipt of Notice of Award.
   3. Commence work within seven days after written Notice to Proceed of this bid.

1.07 CONTRACT TIME/LIQUDATED DAMAGES

A. Bidder agrees to commence the work after a "Notice to Proceed" has been issued by the Owner and to substantially complete the work by July 17, 2026.

B. Bidder further agrees to pay the Owner as liquidated damages the sum of $300.00 for each calendar day of delay thereafter as outlined in the agreement.

1.08 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.
   3. Addendum # _____ Dated _____.

1.09 OWNER'S RIGHT TO REJECT

A. In submitting this Bid, the Bidder understands that the right is reserved by the Owner to reject any and all Bids, and to waive any informalities and irregularities in the Bids received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.

1.10 OWNER'S REQUIREMENTS

A. In submitting this Bid, the Bidder must include all information related to United Tribes Technical College requirements included in section 00 11 13.

1.11 BID FORM SIGNATURE(S)

A. The Corporate Seal of

_____
(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

_____
(Authorized signing officer, Title)
(Seal)

_____
(Authorized signing officer, Title)

END OF BID FORM

SECTION 00 43 25

REQUEST FOR APPROVAL OF SUBSTITUTION

Damberg Scott Gerzina Wagner Architects, Inc.

DATE:_____

UTTC BUILDINGS 6 & 7 PARKING LOT CONSTRUCTION
BISMARCK, NORTH DAKOTA

BID DATE:_____

We hereby submit for your consideration the following product to replace the specified item for the above project.

SECTION	**LINE NO.**	**SPECIFIED ITEM**
_____	_____	_____

Proposed Substitution:_____

[ ] Complete technical data, including laboratory tests, if applicable, is attached (include complete information on changes to Drawings and/or Specifications which proposed substitution will require for it's installation).

Does the substitution affect dimensions shown on Drawings? [ ] Yes [ ] No

If Yes Describe:_____

Will the undersigned pay for changes to the building design, including Engineering and detailing costs caused by the requested substitution? [ ] Yes [ ] No

Does substitution affect other trades? [ ] Yes [ ] No

If Yes Describe:_____

Manufacturer's guarantees of the proposed and specified items are different? [ ] Yes [ ] No (Explain on attachment)

Submitted By:

_____
Signature

_____
Firm

_____
Address

Date:_____

Telephone:_____

Email Address:_____

*Written response will be made if stamped self-addressed envelope is submitted with this request.

RESPONSE OF SPECIFIER*

[ ] Request is approved subject to compliance with the Specification and an Addendum will be issued.

[ ] Approval cannot be granted because this request did not reach this office within the specified time.

[ ] Approval cannot be granted at this time.

[ ] Prior Approval for this substitution is not required by the Specification

By:_____
Signature

Date:_____

END OF SECTION

SECTION 00 72 00

GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS INCLUDED BY REFERENCE. A COPY OF THE GENERAL CONDITIONS IS ON FILE AT THE OFFICE OF THE ARCHITECT FOR THOSE WISHING TO VIEW IT.

RELATED REQUIREMENTS

2.01 AIA DOCUMENT A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, 2017 EDITION, IS THE GENERAL CONDITIONS BETWEEN THE OWNER AND CONTRACTOR.

SUPPLEMENTARY CONDITIONS

3.01 REFER TO DOCUMENT 00 73 00 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

1.02 THESE SUPPLEMENTARY CONDITIONS AMEND AND SUPPLEMENT THE GENERAL CONDITIONS DEFINED IN DOCUMENT 00 72 00 AND OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AS INDICATED BELOW. ALL PROVISIONS THAT ARE NOT SO AMENDED OR SUPPLEMENTED REMAIN IN FULL FORCE AND EFFECT.

1.03 THE TERMS USED IN THESE SUPPLEMENTARY CONDITIONS THAT ARE DEFINED IN THE GENERAL CONDITIONS HAVE THE MEANINGS ASSIGNED TO THEM IN THE GENERAL CONDITIONS.

1.04 MODIFICATIONS TO GENERAL CONDITIONS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

MODIFICATIONS TO AIA A201

4.01 ARTICLE 1.1.1 - THE CONTRACT DOCUMENTS

A. Add the following sentence to the end of Subparagraph 1.1.1:
   1. The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

4.02 ARTICLE 1.2 - CORRELATION AND INTENT OF CONTRACT DOCUMENTS

A. Add the following Subparagraph 1.2.4 to Paragraph 1.2:
   1. 1.2.4: If there is an inconsistency in the quality or quantity of Work required by the Contract Documents, the greater quality or quantity of Work indicated shall be provided in accordance with the Architect's interpretation, and no change in the Contract Sum will be permitted.

4.03 ARTICLE 1.5 - OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

A. Add the following Subparagraph 1.5.3 to Paragraph 1.5:
   1. 1.5.3 Contractor's Use of Instruments of Service in Electronic Form.
   2. 1.5.3.1The Architect may, with the concurrence of the Owner, furnish to the Contractor versions of instruments of Service in electronic form. The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.
   3. 1.5.3.2The Contractor shall not transfer or reuse instruments of Service in electronic or machine readable form without prior written consent of the Architect.

4.04 ARTICLE 4.2 - ADMINISTRATION OF THE CONTRACT

A. Add clause 4.2.2.1 to Subparagraph 4.2.2:
   1. 4.2.2.1The Contractor shall reimburse the Owner for compensation to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

4.05 ARTICLE 11 – INSURANCE AND BONDS

A. Add the following Clauses 11.1.1.1 through 11.1.1.3 to Subparagraph 11.1.1:
   1. 11.1.1.1: The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum.

2. 11.1.1.2: The Contractor shall deliver the required bonds to the Owner not later than three days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.
3. 11.1.1.3: The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

B. Add the following Clauses 11.1.2.1 through 11.1.2.4 to Subparagraph 11.1.2:
1. 11.1.2.1: The limits for Worker's Compensation and Employers' Liability insurance shall meet statutory limits mandated by State and Federal Laws. If (1) limits in excess of those required by statute are to be provided or (2) the employer is not statutorily bound to obtain such insurance coverage or (3) additional coverages are required, additional coverages and limits for such insurance shall be as follows:
2. 11.1.2.2: The limits for Commercial General Liability insurance including coverage for Premises-Operations, Products -Completed Operations, Contractual Liability, Personal Injury and Broad Form Property Damage (including coverage for Explosion, Collapse, and Underground Hazards) shall be as follows:
    a. $1,000,000 Each Occurrence
    b. $1,000,000 General Aggregate
    c. $1,000,000 Personal and Advertising Injury
    d. $ 1,000,000 Products-Completed Operations Aggregate
    e. The policy shall be endorsed to have the General Aggregate apply to this Project only.
    f. The Contractual Liability Insurance shall include coverage sufficient to meet the obligations in AIA Document A201-2017 under Paragraph 3.18.
    g. Products and Completed Operations Insurance shall be maintained for a period of at least (1) year(s) after either 90 days following Substantial Completion or final payment whichever is earlier.
3. 11.1.2.3: Automobile Liability insurance (owned, non-owned and hired vehicles) for bodily injury and property damage shall be as follows:
    a. $ 1,000,000 Each Accident
4. 11.1.2.4: Umbrella or Excess Liability coverage shall be as follows:
5. 11.1.2.5 If this insurance is written on a Commercial General Liability policy form, the certificates shall be ACORD form 25-S, completed and supplemented in accordance with AIA Document G715, Instruction Sheet and Supplemental Attachment for ACORD Certificate of Insurance 25-S.

END OF SECTION

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: UTTC Buildings 6 & 7 Parking Lot Construction

B. Architect's Name: DSGW Architecture
   1. 3479 Lake Elmo Avenue North
   2. Lake Elmo, MN 55042
   3. (218) 727-2626 phone

C. Civil Engineering
   1. CMTA
   2. 2201 12th Street N, Suite E
   3. Fargo, ND 58102
   4. (701) 280-0500 phone

D. The Project consists of the construction of two parking lots with a combined parking space count of approximately 30 spaces. Work includes but is not limited to: Site Demolition, Site Grading, Site and Site Paving. See drawings.

1.02 WORK BY OWNER

A. Refer also to document 00 72 00, General Conditions.

B. The Owner reserves the right to let other contracts in connection with this Project. This Contractor shall afford other contractors' reasonable opportunity for the introduction and storage of their materials and execution of their work, and shall properly connect and coordinate his work with theirs.

C. The Owner reserves the right to jointly occupy the premises with the Contractor in the performance of his duties and functions. The Owner also reserves the right to: enter into the Project and premises at all times; make installations of materials and equipment at appropriate times as the Work progresses; install equipment, furniture, and furnishings when spaces are at appropriate stages of completion. Contractor shall coordinate work with the Owner and cooperate with the Owner to minimize undue interferences.

D. If any part, unit, phase, or the entire Project is substantially complete or ready for occupancy, the Owner may, upon notice to the Contractor, and without prejudice to any of the rights of the Owner or Contractors, enter into and make use of the Work that is substantially complete.

1.03 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.04 CONTRACTOR USE OF SITE AND PREMISES

A. Contractors and all other persons connected with this project shall only use parking areas approved.

B. Contractors shall use and maintain in clean condition site access route as designated. No other access shall be used for vehicles or men.

C. Move any stored products which interfere with operations of Owner or other Contractors.

D. Do not load structures with weights which will endanger the structure.

E. Maintain site in safe condition and keep free of construction materials and debris.

F. Maintain fire protection and access at all times. Permit immediate access by firefighting equipment.

G. Hazardous Protection: Warning signals, barricades and other protective measures for hazard shall be in place or operate 24 hours per day.

H. The Contractor shall do all patching of existing property on or adjacent to the site, including but not limited to: walks, pavements, roadways, structures, and utilities which are cut or damaged by construction and are not designated for removal, relocation or replacement in the course of the construction.

I. Work occurring on public property shall be constructed in accordance with all laws, ordinances, rules, regulations and orders of any public authority having jurisdiction.

J. Site Management Requirements:
   1. The Prime Contractor shall coordinate all work on site with the Owner and Architect.
   2. General: Upon commencement of the Work at the site, the Prime Contractor shall assume the site management at areas within construction limits as agreed to by the Owner and Contractor, other areas where work is to be performed and adjacent storage areas, to provide proper direction to all contractors, subcontractors and workmen. Site management shall be coordinated with the Owner and shall include maintaining areas as specified and required to be free of construction activity, parking and storage where it is necessary to provide clear access and areas for the Owner's functions.
   3. Responsibilities: Site management and maintenance shall include, but not be limited to: enforcement of access, parking, delivery, storage, noise and other restrictions; maintenance of fences in good condition; providing and maintaining temporary facilities as specified; dewatering the excavations, except water in trenches and excavations made by subcontractors solely for their own work; protection of adjacent structures as may be damaged caused by water; overall fire and safety management; protection for site features to remain; temporary partitions, closures, dust barriers and similar to separate work areas in existing building spaces; and similar overall or general management of the site and adjacent public and other property to fulfill the obligations of this Contract.
   4. Use of Streets: Where the conduct of the work requires the obstruction or use of a roadway or parking lot, it shall be the responsibility of the respective Contractor to secure all necessary permission from the Owner. Contractors shall be responsible for the protection of the public in the vicinity of the work and nothing in these specifications shall be construed to relieve him of said responsibility. Protective devices shall conform to the requirements of the Highway Department having jurisdiction and/or the proper public authorities and shall be installed as required by the Owner.

K. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

1.05 WORK SEQUENCE

A. Final Completion: Within 30 days after substantial completion.

B. Time of Completion:
   1. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
   2. Delays and Extension of Time: All time limits stated in the Contract Documents are of the essence of the Contract. The Contractor may be granted an extension of time and/or relief of Liquidated Damages because of causes beyond the Contractor's control which constitute a justifiable delay. The Owner will extend the time subject to the following provisions:
      a. Claims for extension of time shall be made per Article 8 of the GENERAL CONDITIONS.

b. Written notice of the delay, an explanation of the cause and an estimate of the length of delay shall be forwarded to the Architect within five days of the beginning of such delay.
c. Claims for extension of time shall be stated in numbers of whole calendar days. The actual dates on which the delay(s) occurred must be stated. In the case of claims for extension of time because unusual inclement weather prevented the execution of major items of the Work on normal working days, calendar days shall be computed by multiplying normal work days (five days per week) by a factor of 1.4. Contractor must provide documentation of all weather related delays and claims for the extension will be allowed only if the weather is distinctly out of line with the ten year average.
d. Any claim for extension of time for strikes or lockouts shall be supported by a situation of facts concerning the strike, including but not limited to, the dates, the craft concerned, and the reason for the strike, efforts to resolve the dispute, and efforts to minimize the impact of the strike in progress.
e. Any claims for extension of time for delays in transportation or for failure of suppliers shall be supported by a citation of facts demonstrating that the delays are beyond the Contractor's control, including, but not limited to, his efforts to overcome such delays.
f. The time extensions for changes in the Work will depend upon the extent, if any, by which the changes cause delay in the completion of various elements of construction.
g. A Change Order granting the time extension may provide that the Contract Completion Date will be extended only for those specific elements so delayed and that the remaining work will not be altered. Further, the amended completion date shall be of essence to this contract and shall be subject to the same conditions as the original completion time.

3. Openings, Blocking, Backing and Grounds:
   a. Each Trade Contractor shall be responsible for providing backing and grounds in all walls and above ceilings necessary for the installation of all contracted work.
   b. Make suitable preparations for the hangers, inserts, anchors, grounds and supports that are to be embedded in concrete, masonry walls, floors, partitions or structural members, or that are to pass through or be attached thereto. Provide and install proper sleeves, boxes, receptacles or chases for all openings or recesses to receive work occurring in or passing through any such members, all of which shall be located accurately and secured firmly in place before any such masonry has been erected, concrete poured or walls/ceilings enclosed.
4. Field Dimensions: The need to obtain accurate file dimensions in ample time to permit fabrication of materials and equipment, for delivery and installation in accordance with the schedule, shall be recognized. Each Contractor and all subcontractors shall cooperate in completing work phases to accommodate the schedule for obtaining dimensions and to prevent fabrication delay. In the event it is impractical to have work in place to permit field dimensions, the Contractor shall guarantee necessary dimensions, before construction, to the various fabricators and be responsible to ensure the dimensions.
5. Reference to Standards and Codes:
   a. Notice of Variance: If a Contractor observes that the drawings and specifications are at variance with any applicable code or regulation of a governmental unit having authority, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for Changes in the Work. If a Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall bear all costs and damages arising therefrom.
   b. Reference Standards: For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes and other standards.

c. Effect of Standards: The standards referred to, such as ASTM, Federal Specifications, NFPA and similar standards, shall have full force and effect as though printed in the Specifications, except as modified in the Specification. These standards are not furnished to bidders and Contractors as it is assumed that these standards are readily available and that the manufacturers and trades involved are familiar with their requirements.

d. Date of Standard: Any material specified by reference to the number, symbol or title of a specific standard, such as ASTM, Commercial Standard, a Federal Specification, a trade association standard, or other similar standard, shall comply with the requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Contract Documents, unless otherwise noted.

e. Certificate: For products specified in accordance with a Federal Specification, ASTM Standard, American National Standards Institute or similar association standards, upon request the Contractor shall provide an acceptable affidavit by independent testing laboratory or other source approved by the Architect, certifying that product furnished for this Project complies with the particular standard specifications. Where necessary, requested or specified, supporting test data shall be submit to substantiate compliance. The manufacturer is subject to Architect's acceptance.

6. Coordination Requirements:

a. General: The nature of the Project makes it imperative the Contractor and all subcontractors and prime trade contractors coordinate their work and cooperate with each other and the Owner from the start of the Project to completion. PRIME CONTRACTOR shall be the Prime Coordinator for the Project and shall establish the overall schedule for the progress of the Project, the sequence of completion and general use of the site.

b. Off-Site Fabrication: With the restricted site, off site fabrication is encouraged as much as possible and schedule of deliveries so materials and equipment can be installed immediately after delivery. The Project Coordination Administrator shall alert and advise subcontractors and suppliers of the need to hold deliveries until they are notified the materials are required on the site.

c. Equipment: With respect to mechanical and electrical features of equipment, complete data must be exchanged directly between the Contractors and subcontractors involved as the progress of the Project requires. The person requesting the information shall advise when it will be required. The suppliers of equipment are expressly required to provide large scale layout drawings showing the required rough-in locations of all services (dimensioned from building features) service characteristics. In the event of incorrect, incomplete, delayed or improperly identified information, the party causing the delay or error shall be responsible and pay for any modifications or replacements necessary to provide a correct, proper and new installation, including relocations required.

1.06 GENERAL PROTECTION AND SAFETY

A. General: In accordance with best construction practices, the Prime Contractor shall be responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the Work. This requirement shall apply continuously 24 hours per day until acceptance of the Work by the Owner and shall not be limited to normal working hours.

1.07 PHOTOGRAPHS / PRESS RELEASES

A. Do not take, or cause any photographs to be taken at the job site without prior approval of the Owner / Architect.

B. Do not issue any press releases or disseminate information concerning the project to the news media without prior approval of the Owner / Architect.

1.08 WORKING HOURS

A. This project shall be scheduled by the Prime Contractor to operate on a 5-day, 40-hour per week basis. Contractors employing trades who work other than the above hours must provide for coordination of their work as it relates to the work of other trades which work the above hours at no additional cost to the Owner. This schedule may be changed or modified with the approval of the Owner / Architect.

1.09 HAZARDOUS MATERIAL REMOVAL

A. If during the construction of the Project hazardous material is suspected or encountered by the Contractor, the Contractor shall promptly notify the Architect and the Owner, with their own forces or by separate contract, shall be responsible for complete removal and disposition of the hazardous material.

B. If the Contractor claims that delay and additional cost is involved because of this action, they shall make claim as provided elsewhere in the Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

1.02 RELATED REQUIREMENTS

A. Document 00 72 00 - General Conditions and Document 00 73 00 - Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.

1.03 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in triplicate within 15 days after date of Owner-Contractor Agreement.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization and bonds and insurance.

E. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

F. Include within each line item, a direct proportional amount of Contractor's overhead and profit.

G. Revise schedule to list approved Change Orders, with each Application for Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Execute certification by signature of authorized officer.

E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.

F. Round off all figures on all progress payments to the nearest dollar, any adjustment required shall be made on the final application for payment.

G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.

H. Submit three copies of each Application for Payment. Upon review and approval, the Architect will sign and forward three (3) copies to the Owner with their recommendations.

I. Include the following with the application:
   1. Affidavits attesting to off-site stored products.
      a. No payment will be made to a contractor on account of materials and equipment in transit or stored at off site locations unless prior approval is received from the Owner and Architect. Proof of proper insurance must be submitted for materials stored of site before approval will be considered.

2. Lien Waivers: Will be required for each payment request by each Contractor and Subcontractor. First lien waivers to be submitted with Payment Request No. 2 covering payment for Payment Request No. 1. They shall then continue with subsequent payment requests covering the preceding payment.
    a. With submission of the final payment request, or upon request for reduction of retainage, the Contractor shall provide lien waivers from all subcontractors and suppliers covering all dollar amounts for which a lien waiver has not yet been submitted.
3. Payroll Records: Will be required for each pay request by each Contractor and Subcontractor carrying out work on the site. Each application for payment submitted shall be accompanied by payroll records current to within twenty-one (21) days of the date of the application.
    a. Final payment to a contractor will not be made until payroll records are submitted covering completed project.

J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 RETAINAGE

A. To ensure the proper performance of the Contract, the Owner will retain FIVE PERCENT of the amount of each Certificate for Payment issued by the Architect. Such amount will be retained by the Owner until Substantial Completion. At substantial completion the withholding amount will be reduced to Two Percent.

B. In event of a very minor amount of work, incomplete or not corrected due to weather, unsuitable conditions for testing or similar conditions preventing the General Contractor from proceeding, the retained amount may be reduced to three times the value of the incomplete work upon recommendation of the Architect and approved by the Owner.

1.06 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 10 days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 60 00.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.

4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. Provide following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. Percentages allowed for Overhead and Profit shall be as listed in the Supplementary General Conditions, Section 00 73 00.

H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

K. Promptly enter changes in Project Record Documents.

1.07 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 70 00.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Progress meetings.

C. Construction progress schedule.

D. Coordination drawings.

E. Submittals for review, information, and project closeout.

F. Electronic submittals.

G. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Document 00 72 00 - General Conditions: Dates for applications for payment.

B. Document 00 73 00 - Supplementary Conditions: Duties of the General Contractor.

C. Section 01 10 00 - Summary: Stages of the Work, Work covered by each contract, occupancy.

D. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

E. Section 01 78 00 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Project Coordinator: General Contractor.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Architect through the Project Coordinator:

1. Requests for interpretation.
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner- Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Designation of personnel representing the parties to Contract, General Contractor, Major Subcontractors, Owner and Architect.
   7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   8. Rules and regulations governing performance of Work.
   9. Procedures for safety and first aid, security, quality control housekeeping, and other related matters.
   10. Scheduling.
   11. Any additional Owner or Architect/Engineer requirements.

D. Record minutes and distribute electronic copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's Superintendent.
   5. Major Subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
   10. Maintenance of quality and work standards.
   11. Effect of proposed changes on progress schedule and coordination.
   12. Other business relating to Work.

E. Record minutes and distribute electronic copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PRE-INSTALLATION CONFERENCES

A. When required in individual specification section, the Architect shall convene a pre-installation conference at work site prior to commencing work of the Section. When possible this shall be scheduled to coincide with a regular progress meeting.

B. Attendance will be required by all parties directly affecting, or affected by, work of the specific Section.

C. Notify all parties seven days in advance of meeting date.

D. The Architect shall, preside at conference, record minutes, and distribute copies to all participants.

E. Review conditions of installation, preparation and installation procedures, and coordination with related work.

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.05 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.

D. Allow for at least two weeks review of submittals to avoid delay of work.

E. Include with submittal preparation, field construction criteria, verification of catalog numbers and similar data, and coordination of Work requirements and Contract Documents.

F. Make all submittals to the Architect through the project coordination administrator unless specified otherwise.

G. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.06 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. No shop drawings of equipment brochures, cuts of fixtures, etc. Such copies of standard manufactured items in the form of manufacturer's catalog sheets showing sizes, dimensions, performance characteristics, capacities, clearances, wiring diagrams, and shall be furnished electronically unless otherwise specified. Electronic copies will be stamped, and electronic copies will be returned to the Project Coordination Administrator for distribution to the subcontractor or supplier. If notations and marks indicate that revised information is required before shop fabrications (or other work represented) can proceed, revised or corrected information shall be submitted.

C. Unless otherwise specified, submit to the Architect two representative samples of size and nature representing typical qualities. Where required, submit a sufficient number of samples to demonstrate the complete range of variations of the material or quality. Written acceptance of the Architect is required prior to ordering any item for which samples are required.

D. Submit samples to Architect securely packaged, with the name of the Project clearly indicated on the package exterior. Firmly attach a label or tag to the sample, with the following information: a) Name of Project; b) Name of Supplier; 3) Name of Trade Contractor, and, d) Product information such as manufacturer's designation, finish, type, class, grade, etc., as is appropriate.

E. Erect field samples and mock-ups at the project site, unless otherwise specified in the Contract Documents, at a location acceptable to the Project Coordination Administrator, Architect and Owner.

F. Review of shop drawings, product data and samples by the Architect or their consultant does not relieve the Contractor, Subcontractor or Supplier of responsibility for compliance with the Contract Documents, confirming and correlating quantities and dimensions, selecting fabrication processes and techniques of construction, coordination of the work represented by each submittal with other trades, performing the work in a safe and satisfactory manner, compliance with the Project Schedule and all other provisions of the agreements.

G. The Architect's/Engineer's notation on the submittals is not an authorization for additional work or additional cost. If any notations represent a change to the Contract Sum, submit a cost proposal to the Architect, through the Project Coordination Administrator for the change in accordance with the procedures specified before proceeding with the work. Notify the Project Coordination Administrator by letter within five days of returned submittal. Resolve such issues before proceeding with the work.

H. The Contractor, Subcontractor or supplier shall not begin fabrication until all specified submittal procedures have been fulfilled.

I. In order to guarantee the delivery of materials for timely completion of the work, and to relieve the Contractor of direct responsibility in the event of materials shortages or transportation delays, the Supplier shall, within two (2) weeks after the receipt of Notice to Proceed, furnish to the Architect, confirmed orders showing the anticipated date of delivery to the site, for materials for all of the principle parts of the work and for such others as the Architect/Engineer or Owner may direct.

J. In addition to Warranty provisions of the General Conditions, provide all extended warranties, bonds and service contracts as required by individual specification sections.

K. Assemble and submit to the Architect warranties, bonds, and service and maintenance contracts as specified in the respective section of the Specifications. In conjunction with the submittals of Section 01 78 00, the table of contents for this submittal shall include the product of work item, the form, with the name of the principal, address and telephone number, scope, date of beginning of the warranty, bond or service maintenance contract, duration, information for the Owner's personnel providing the proper procedure in case of a failure and instances which might affect the validity of the warranty or bond.

L. The beginning date of the warranty will be the date that the project is substantially completed.

M. Reports of inspections, tests and approvals required by the Contract Documents shall be submitted to the Architect, through the Project Coordination Administrator, in the quantities indicated.

N. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.08 ELECTRONIC SUBMITTALS

A. Documents for Review:
   1. Transmit electronic copies of each shop drawing to Project Coordination Administrator.
      a. The Project Coordination Administrator shall generally review shop drawings for compliance with the Drawings and Specification.
      b. Electronic prints of shop drawings individually stamped by Project Coordination Administrator will be sent to Architect for review.
   2. Architect or their consultant will review all shop drawings and will return electronic copies to the Project Coordination Administrator stamped to indicate action taken.
      a. The electronic copies of any shop drawings that are not satisfactory to the Architect or their consultant will be returned to the Project Coordination Administrator for necessary revision and resubmittal.
      b. Electronic copies of shop drawings that do not require major revisions, will have corrections, if any, noted, and will be stamped to indicate Architect's action.

B. Documents for Information: Submit electronic copies.

C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.

D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

A. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

B. Transmit each submittal with a copy of approved submittal form.

C. Transmit each submittal with letter of transmittal.

D. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

G. Deliver submittals to Architect at business address.

H. Schedule submittals to expedite the Project, and coordinate submission of related items.

I. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

J. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

K. Provide space for Contractor and Architect review stamps.

L. When revised for resubmission, identify all changes made since previous submission.

M. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

N. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. References and standards.

B. Submittals.

C. Control of installation.

D. Tolerances.

E. Testing and inspection agencies and services.

F. Control of installation.

G. Tolerances.

H. Manufacturers' field services.

I. Defect Assessment.

J. Mock-Ups.

1.02 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).

B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.

1. Include:
    a. Date issued.
    b. Project title and number.
    c. Name of inspector.
    d. Date and time of sampling or inspection.
    e. Identification of product and specifications section.
    f. Location in the Project.
    g. Type of test/inspection.
    h. Date of test/inspection.
    i. Results of test/inspection.
    j. Conformance with Contract Documents.
    k. When requested by Architect, provide interpretation of results.
2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
   1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
   2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
   1. Submit report in duplicate within 30 days of observation to Architect for information.
   2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
   2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.04 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
   5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
   6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.04 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Project identification sign.

I. Field offices.

1.02 TEMPORARY UTILITIES

A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

B. Temporary Light and Power:
   1. Prime Contractor Responsibilities:
      a. The Prime Contractor shall coordinate temporary light and power during construction phases of the project.
      b. The Prime Contractor shall pay for all electrical energy used.
      c. Coordinate with the sitework contractor.
   2. Electrical Sub-Contractor responsibilities:
      a. Provide temporary ties into an existing panel/panels within the general proximity of the remodeling and new construction.
      b. Provide at least one 20 amp., 120 volt, temporary branch circuit with three grounding, duplex receptacles for each 7500 sq. ft. of floor area. Locate receptacles so that extension cords will not exceed 100 feet in length. The temporary branch circuits may be used for portable tools, portable lights and other small power loads.
      c. Provide at least one 200 watt incandescent lamp, or the equivalent lighting for each 625 sq. ft. of floor area with at least one light in each room. Provide additional lights in corridors and stairwells as necessary to provide adequate illumination. Furnish all light bulbs for the temporary lighting system.
      d. Maintain the temporary electrical service and lighting during the normal work week which is defined as five days a week, including one-half hour before regular working hours and one-half after regular working hours for each trade. (10 hours per day)
      e. Remove the temporary light and power system and the temporary service terminals when no longer required, and repair any damage caused by the temporary system.
   3. Separate Contractor/Subcontractor responsibilities:
      a. If 3-phase power or voltage higher than 120 volts is required, provide the necessary temporary wiring, and pay the cost thereof. Coordinate installation with Electrical Contractor.
      b. Do not use the temporary light and power system for electric welders, hoists, or heating.
      c. Maintain temporary electrical service and lighting if used beyond the normal work week.
      d. Each subcontractor shall make arrangements and pay the costs for electrical service, lighting and power for his field office, storage sheds, and other temporary buildings.
      e. Each Sub-Contractor shall furnish extension cords and contractors requiring supplemental lights shall furnish their own portable lights.

4. Use of permanent electrical system: when installation of the permanent electric system is sufficiently complete to be operated safely and system may be used to provide construction light and power, and testing and operating of permanent equipment.
5. Permanent light and power: The Owner will assume the responsibility and pay the costs of providing electrical light and power including the energy cost on the date of his occupancy or the date of Substantial Completion of the Project, whichever is sooner.

C. Water:
1. Water is available at the site for use by the Contractor. Contractors shall make every effort to conserve the use of water.
2. Water consumption cost will be paid by the Owner.
3. Until such time as the permanent water service utilities are provided to the site EACH TRADE CONTRACTOR shall provide all water required to carry out the work of their contract.
4. After permanent water supply is in place, the General Contractor shall make arrangements for a supply of water as required and water consumption cost will be paid by the General Contractor.
5. Contractors/Subcontractors are responsible for providing their own hoses to bring water from the temporary water source to their work areas. Only heavy duty 3/4" hose in good condition will be permitted. The discharge end of each hose will be equipped with a means of positive shut-off. Do not use hoses which leak at connections or elsewhere throughout their length. Disconnect all hoses from hose bibs when not in use and before the end of the work day.
6. Each Contractor/Subcontractor shall provide remote sanitary drinking water dispensers for use of their own personnel, convenient of work stations.
7. Those using the water shall protect or remove water supply during freezing temperatures.

1.03 CONSTRUCTION HEAT PRIOR TO ENCLOSURE

A. It is not anticipated that construction heat will be required prior to enclosure of the project.

B. Adhere to the approved Project Schedule, regardless of weather conditions, during the period when work is scheduled to be performed. All required work and the cost thereof to meet this obligation will be included in the Contractor's base proposal and in the resulting Contract Sum. No claim for an extension of Contract Time, or for an increase in Contract Sum will be honored by the Owner, if such claim is based upon the cost of providing construction heat as specified above.

C. Each Contractor or Subcontractor to be responsible for providing temporary weather-tight enclosures as approved by the Owner and Architect, as work progresses, and as necessary to provide acceptable working conditions to accomplish their work without causing a delay in the project.

1.04 CONSTRUCTION HEAT AFTER ENCLOSURE

A. For construction heat purposes, the building or portion thereof will be declared enclosed when all enclosing walls are erected, roof or floor construction above is installed, and all doors, windows, or openings in the exterior walls are covered.

B. After enclosure, if required, the General Contractor shall provide, operate, and maintain a temporary system for heating the enclosed area of the building. This system shall consist of direct fired L.P. gas, temporary heat units or other devices as required to maintain the specified temperatures.

C. After enclosure of the building, a minimum temperature of 50 degrees F. shall be maintained at all times. During the placing of interior millwork, resilient flooring, acoustic tile, ceramic tile, plaster, painting and decorating, and similar finish materials, and continuing until the Owner assumes responsibility for heating the building, the minimum temperature shall be 60 degrees F. It shall be the responsibility of each Contractor to coordinate with the General Contractor to assure that all temporary enclosures remain in the closed position.

D. The General Contractor shall arrange for the ventilation of enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gases.

E. This temporary heating and ventilation shall remain in place until the permanent heating and ventilation systems are installed, including ductwork.

1.05 USE OF PERMANENT HEATING AND VENTILATING SYSTEMS

A. If required, the General Contractor and the Heating Contractor shall operate and maintain the equipment during its use for temporary heating.

B. The cost of fuel and utilities used in the operation of the permanent heating system will be paid for by General Contractor.

C. Warranties shall begin upon Substantial Completion.

D. The permanent system shall be operated, after final review and acceptance, with a full complement of disposable filters which shall be replaced by the Mechanical Contractor upon completion of the project.

1.06 VENTILATION

A. The General Contractor shall arrange for the ventilation of enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gases.

1.07 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. The General Contractor shall provide and maintain telephone service within his office for his own use and use by all contractors, subcontractors, and representatives of the Owner and the Architect. Toll charges shall be paid by the party initiating the call using credit cards, watts lines or reverse charges.

C. Each contractor shall be responsible for installation, payment of charges, and removal of any telephone he may require in his office or storage trailer.

D. Use of cellular phones will be permitted.

E. Telecommunications services shall include:

1.08 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

C. The Prime Contractor shall provide & maintain one or more portable “Satellite type” temporary toilets convenient to each major area of construction, for the use of all Contractors, subcontractors, their personnel and employees.

D. Permanent toilet facilities are not to be used by construction personnel.

1.09 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Each Contractor shall furnish and maintain all necessary informational signs required to help maintain the safety and health at the work site such as "Danger" "High Voltage", etc.

C. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.10 FENCING

A. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.11 EXTERIOR ENCLOSURES

A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.12 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.13 CONSTRUCTION ACCESS AND BARRIERS

A. Each Contractor shall provide temporary construction access consisting of OSHA approved ladders and/or scaffolding required to carry out the work of their contract. These shall be placed at a location approved by the General Contractor.

B. Each Contractor and Subcontractor shall provide hoisting facilities for his own use.

C. Each Contractor shall provide temporary sheeting and shore and brace excavations and new construction as necessary for the safe and proper execution of the Work. Remove temporary supports when backfilling is complete or new construction can safely support the loads.

D. The General Contractor shall provide protective fences, barricades and lights as required to prevent unauthorized entry to construction areas to meet all safety requirements of OSHA and to protect existing facilities and adjacent properties from damage from their construction operations.

1. Any contractor carrying out excavation or requiring excavations shall protect excavations, trenches, etc. from accidental access by placing protective fencing around openings.

E. Protective fencing at all excavations shall be provided by the Excavator.

F. Protective fencing at storage areas shall be provided by the Contractor whose materials require fencing.

G. Fencing shall be a minimum of 48 inch high snow fence mounted on steel posts not over six feet on center.

1.14 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

B. The General Contractor shall be responsible for security of the building and site. Exterior openings at which work cannot be completed within one working day's time will be closed to prevent entry into existing buildings or new construction.

C. This shall include those temporary closures as required under Construction Heat after enclosure.

D. Each Contractor will be responsible for the security of his own property.

1.15 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

E. Parking locations will be designated by the General Contractor.

F. Trucks and other vehicles belonging to Contractors, Subcontractors and suppliers may be parked on the site provided space is available and the vehicles are identified. Such parking shall be subject to the direction of the General Contractor.

G. Perform cleaning of concrete equipment at location designated by the General Contractor. Remove from the site all residue accumulated from the cleaning operations of concrete equipment.

H. Contractors failing to adequately clean vehicles or otherwise causing dirt or debris to be deposited on any public street or highway shall be responsible for all costs in connection with the cleaning thereof whether performed by the General Contractor, or at the direction of any public authority having jurisdiction.

I. Access to the site shall be by roadways, approved by the Owner.

J. Access Roads shall be established and maintained by the Earthwork Contractor, as directed the General Contractor.

K. Snow Removal:
   1. General Snow removal from site access roads, parking areas, and building access will be carried out by the General Contractor.
   2. Each Contractor will be responsible for the removal of snow from their work, stored materials, and access to same.

1.16 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

E. Each contractor/subcontractor shall collect waste from the construction areas & dispose of in dumpsters as provided by the Prime Contractor.

F. If contractor/subcontractor does not remove this waste on a timely basis, the Owner/Architect may direct the prime contractor to remove waste and the contractor/subcontractor may be back charged by the prime contractor for this removal.

G. Separate construction waste & recycle dumpsters may be provided, and if so, all contractors shall separate all waste materials as directed and place into proper dumpster.

1.17 WATER AND EROSION CONTROL

A. Any Contractor carrying out excavating or requiring excavations shall protect excavations, trenches, other temporary work, the building, and other work of the Project from damage from water (including ground water, rain water, backing up of sewers, and drains and ice and snow). Keep excavations and trenches free from water during the progress of the Work, and provide temporary enclosures, pumps and equipment and do all grading, pumping, bailing, or other work necessary to ensure this protection.

B. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
   1. Hold the areas of bare soil exposed at one time to a minimum.
   2. Provide temporary control measures such as berms, dikes, drains and silt fences as necessary.

C. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.

D. Protect site from puddling or running water. Provide water barriers and slope protection as required to protect site from erosion.

E. Each Contractor shall provide protection against wind, storms, frost, rain, snow, heat and cold to avoid injury to material in transit, stored material, and Work in place.

F. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.

G. Remove all items not required to remain upon completion of the project and approval of the General Contractor.

H. Clean streets & walks adjacent to the project of dirt, mud or other materials on a weekly basis.

I. Provide silt fences and other runoff control devices as required by agencies having jurisdiction.

1.18 TREE AND PLANT PROTECTION

A. The General Contractor shall arrange for and pay the cost of all tree protection. This shall generally consist of a project boundary fence, which shall be erected immediately upon the start of construction of the Project.

B. Each Contractor/Subcontractor shall be responsible for carefully supervising all work to prevent injury to trees and plants and to replace, or suitably repair, trees and plants which are damaged or destroyed due to construction operations.

1.19 PROTECTION OF INSTALLED WORK

A. Each Contractor shall see to it that protection is provided for work as follows:
   1. Protect installed Work and provide special protection where specified in individual specification Sections.
   2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
   3. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
   4. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
   5. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

B. The Contractor shall arrange for the correction of any damage caused by the operations of himself or any Subcontractor and shall deduct the cost of corrections from monies due the Contract.

1.20 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on Drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.21 FIELD OFFICES

A. None required.

B. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.

C. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

D. If space is available, contractors may provide a field office for their own use, installed at a suitable location on the site as designated by the General Contractor. Provide and pay for all utilities used in conjunction with field office.

E. Locate offices a minimum distance of 30 feet from existing and new structures.

1.22 TEMPORARY STORAGE

A. Contractors may provide storage sheds and/or trailers as their needs may require, and as space is available, coordinate the location with the General Contractor. All temporary structures will be removed before final acceptance of the Work.

B. Limit use of the premises for work and for storage. Cooperation with all separate contractors on the project shall be under the direction of the General Contractor.

1.23 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-use of existing products.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations and procedures.

E. Procedures for Owner-supplied products.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

C. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. Where all other criteria are met, Contractor shall give preference to products that:

1. If used on interior, have lower emissions.
2. If wet-applied, have lower VOC content.
3. Have a published GreenScreen Chemical Hazard Analysis.

C. Provide interchangeable components of the same manufacture for components being replaced.

D. Provide products that meet or exceed requirements that may be related to energy code compliances.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

C. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Replace damaged materials at no additional cost to the owner.

I. Deliver items required to be built into masonry or concrete promptly to the site so they may be built in as the work progresses. Provide templates showing exact locations.

J. Do not deliver materials subject to damage unduly long before they are required in the work and suitable storage facilities are available at the site.

K. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

K. Prevent contact with material that may cause corrosion, discoloration, or staining.

L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

N. Arrange storage of products to permit access for inspection. Periodically inspect to ensure products are undamaged and are maintained under specified conditions.

O. Replace damaged materials at no additional cost to the owner.

END OF SECTION

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

B. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

A. This PROJECT COORDINATION ADMINISTRATOR shall coordinate the work of this project, including the work of his subcontractors.

B. This PROJECT COORDINATION ADMINISTRATOR shall coordinate all work of the project with the Owner, the Architect and other contractors carrying out work at the site.

C. Each Sub-Contractor and Material Supplier shall coordinate the work of his and that of related contractors, subcontractors and material suppliers with the aid of the Project Coordination Administrator.

D. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

E. Notify affected utility companies and comply with their requirements.

F. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

G. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

H. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

I. Coordinate completion and clean-up of work of separate sections.

J. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.

b. Provide temporary connections as required to maintain existing systems in service.

4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Patching work shall be done by skilled mechanics experienced in the particular type of work involved. Patching work shall conform to the standards of the Specifications where applicable and where not specified, work shall conform to the highest standards of the trade.

G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

H. Restore work with new products in accordance with requirements of Contract Documents.

I. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

K. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

L. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.08 PROGRESS CLEANING

A. The Contractor and Subcontractors will be responsible for their own cleanup as specified and removal of their own debris. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

E. Do not throw waste material and rubbish down from upper levels.

F. Hammer in or bend over flush with the wood protruding nails in boards, planks, timbers, etc.

G. Dispose of hazardous wastes in accordance with applicable laws and regulations.

H. Promptly remove from the work area all waste materials and rubbish resulting from the performance of the work. Clean up on a day-to-day basis throughout the construction period.

I. Perform continuous clean-up of flammable debris to prevent accumulation.

J. Contractors and Subcontractors shall provide for the removal of stains and overages caused by operations, such as mastics, mortar, concrete, joint compounds, paint, caulking, etc.

K. The Contractor shall provide periodic broom cleaning of project areas using sweeping compound as required to prevent airborne dust.

L. The Architect may require the Contractor to broom clean any area or areas of the project at any time he feels there is excess dust or dirt, which inconveniences building occupants or finishing operations.

M. If the premises and the site are not maintained properly at all times, the Owner may have any accumulation of waste materials or trash removed and charge the cost to the Contractor who is responsible.

N. In addition to cleaning above, each Contractor or Subcontractor shall thoroughly clean and vacuum floors prior to the installation of the finish flooring, such as sealing exposed slabs, ceramic or quarry tile, sheet vinyl flooring, V.C.T., carpet, etc.

3.09 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

E. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.13 FINAL CLEANING

A. At Completion of the Work promptly remove tools, equipment, machinery, and surplus materials from the Project site.

B. The Masonry Trade Contractor is responsible for final cleaning of all masonry surfaces.

C. Use cleaning materials that are nonhazardous.

D. Leave all surfaces broom clean and ready for final cleaning unless otherwise required by the Specifications.

E. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

F. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

G. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

H. The Mechanical Contractor shall clean all ductwork and grills (in and out), and polish all plumbing fixtures, trim, etc.

I. If air handling equipment is operated during construction, filters for air handling equipment shall be replaced or thoroughly cleaned according to manufacturer's instructions, by the HVAC contractor. Clean filters of operating equipment.

J. The electrical subcontractor shall wash, vacuum, dust or otherwise clean light fixtures and other electrical work in finished spaces as necessary to remove all stains, dust and dirt. Other electrical equipment in mechanical rooms, transformer vaults, switch gear rooms, and similar unfinished spaces shall be left "broom clean". Burned out lamps shall be replaced.

K. All areas within lights, ducts, chases and other items, areas or equipment which will be "closed up" by the Contractor, as a part of the work of their contract, shall be thoroughly cleaned by the Contractor prior to closing up.

L. Clean debris from roofs, overflow drains, area drains, and drainage systems.

M. Clean site; sweep paved areas, rake clean landscaped surfaces.

N. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

O. The Contractor shall arrange for professional cleaners or experienced workmen for other final cleaning, to remove dust, dirt, finger prints and labels from all interior and exterior surfaces and to polish glossy surfaces to a clear shine.

P. The Work shall be maintained in a clean condition until the Architect determines that the Project is substantially complete.

Q. Cleaning required by subsequent work done after Substantial Completion shall be carried out by the Contractor or Subcontractor of the required work and shall be accomplished prior to Final Completion.

3.14 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Substantial Completion.
   1. When the Work is considered Substantially Complete, as defined in the General Conditions THE PRIME OR PRIME TRADE CONTRACTOR shall submit to the Architect:
      a. A written notice that the Work, or designated portion thereof, is substantially complete.
      b. A list of items to be completed or corrected.
   2. Within a reasonable time after receipt of such notice, Architect will make a pre-final inspection to determine the status of completion.
   3. Should the Architect determine that the Work is not Substantially Complete:
      a. Architect will promptly notify the Contractor in writing, giving the reasons therefor.
      b. Contractor will remedy the deficiencies in the Work, and send a second written notice of Substantial Completion to the Architect.
      c. The Architect will reinspect the Work.

D. Should the Architect determine that the Work is not Substantially Complete:
   1. Architect will promptly notify the Contractor in writing, giving the reasons therefor.
      a. Contractor will remedy the deficiencies in the Work, and send a second written notice of Substantial Completion to the Architect.
      b. The Architect will reinspect the Work.
      c. When the Architect finds that the Work of all Contractors is Substantially Complete, the Architect will execute and deliver to Certificates of Substantial Completion to the Prime contractor with a revised list of items to be completed or corrected before final payment.

E. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
   1. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
   1. When the Work is considered complete, submit written certification to the Architect along with a copy of the punch list confirming completion of each individual item listed, that:
      a. Contract Documents have been reviewed.
      b. Work has been inspected for compliance with Contract Documents.
      c. Work has been completed in accordance with Contract Documents.
      d. Equipment and systems have been tested in the presence of the Owner's Representative and are operational.
      e. Work is clean and ready for final inspection.
   2. Upon receipt of the above certification, the Architect/Engineer shall set a date for final inspection to be made only when the project is complete and when all deficiencies of the pre-final inspection have been corrected.
   3. One week prior to this date, the Architect will inform the Owner and contractors of this inspection in writing.
   4. Immediately following this inspection, the Architect shall prepare a written report listing the names of all persons present at the inspection and the Architect shall prepare a punch list of all deficiencies for completion and correction. Copies of this report will be provided to the Owner, General contractor and the bonding company.
   5. Should Architect consider that the Work is incomplete or defective:
      a. Architect will promptly notify the Contractor or Contractors in writing, listing the incomplete or defective work.

b. Contractor will take immediate steps to correct the stated deficiencies, and send a second written certification to Architect that the Work is complete.
c. Architect will re-inspect the Work.
d. Contractor or Contractors will be responsible for any reinspection cost incurred by Owner due to the necessity of the Architect's re-inspection.

H. Final Completion:
1. Test Reports and Certificates: Provide all test reports and certificates required in the technical sections, prior to final payment. Provide a check list of required reports and certificates, by Specifications sections.
2. Retention of Records: Retain all records as required by law and good business practice.
3. Remove all temporary utilities as the job progress permits.
4. Temporary Facilities: As the job progresses and facilities are no longer needed, they shall be removed by the Contractor. Prior to final payment, remove temporary sheds, fences, barricades, surplus materials, debris and other material or items not part of the Project.

I. Closeout Submittals:
1. When the Owner has determined that the Work is acceptable under the Contract Documents and the Contract fully performed, Contractor shall prepare and submit final Application for Payment to the Architect together with the following:
a. Insurance: Refer to Section 00 73 00.
1) The specified Property Insurance (Multiple Peril Builder's Risk) shall be maintained until final acceptance by the Owner of the entire Project.
b. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706.
c. Consent of surety to final payment of Consent of Surety Company to Final Payment, AIA Document G707. The Consent of the Surety Company must be obtained prior to any reduction of retained percentage and prior to final payment.
d. Minnesota Department of Revenue "Withholding Affidavit for Contractors" document IC-134, fully completed and certified.
e. Evidence of Compliance with requirements of governing authorities:
1) Certificate of Inspection from all required agencies and departments.
2) Certificate of Occupancy.
f. Operating and Maintenance Data, Instructions to Owner's Personnel.
g. Warranties and Bonds.
h. Project Record Documents.
i. Special tools required for Owner maintenance.
2. Submit four copies each of Items #2 and #3 above, and two copies each of Items # 1 and 4 through #6.

J. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

K. Final Adjustment of Accounts:
1. Submit a Final Statement of accounting to the Architect.
2. Reflect all adjustments to the Contract Sum in the statement as follows:
a. The original Contract Sum.
b. Additions and deductions resulting from:
1) Previous Change Orders
2) Unit Prices.
3) Deductions for uncorrected Work.
4) Deductions for Re-inspection Payments.
5) Other Adjustments.
c. Total Contract Sum, as adjusted.
d. Previous Payments.
e. Sum Remaining Due.
3. Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

L. Corrective Work & Follow-Up Inspections: The Owner shall notify the Contractor of required corrective work after completion, and the Contractor shall actively supervise such Work. The Institution shall not be inconvenienced as to prompt service and/or corrections by the Contractor that may be necessary.

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Construction surveying by Contractor.

1.02 DESCRIPTION OF SERVICES

A. Specific services listed in this section are in addition to, and do not supersede, general Execution and Closeout Requirements.

B. Sole responsibility for establishing all locations, dimensions and levels of items of work.

C. Sole responsibility for provision of all materials required to establish and maintain benchmarks and control points, including batter boards, grade stakes, structure elevation stakes, and other items.

D. Provision of facilities and assistance necessary for Owner's Representative to check lines and grade points placed by Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify layout information shown on drawings in relation to property survey and existing benchmarks.

B. Notify Owner’s representative and Owner's Representative of discrepancies immediately in writing before proceeding to lay out work.

C. Locate and protect existing benchmarks, base lines, and demarcations. Preserve permanent reference points during construction.

3.02 CONSTRUCTION SURVEYING

A. General: Perform surveying as applicable to specific items necessary for proper execution of work.

1. Provide 'blue tops' (flagged surface subgrade hubs) for final subgrade and top of aggregate base elevations.
   a. A licensed surveyor shall place 'blue tops'
   b. Street construction.
      1) Provide 'blue tops' at 50ft intervals on centerline and edges of subgade for street construction.
         (a) Include additional at 'low' and 'high' points along vertical alignment.
   c. Parking Lot construction.
      1) Provide at 'low' and 'high' points.
      2) Provide at 20ft intervals, minimum, along 'New Grade Slope & Direction of Flow' shown on the drawings.

d. To be inplace to visually verify elevations prior to placement of next pavement section layer.
e. Surveyor shall be paid for by Contractor.

END OF SECTION

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Prepare data in the form of an instructional manual for use by the Owner's personnel.
   2. Format shall conform to the following:
      a. Size 8-1/2" x 11"
      b. Text: Manufacturer's printed data, or neatly typewritten.
      c. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
         1) Title of Project
         2) Identity of separate structure as applicable.
         3) Identity of general subject matter covered in the manual.
      d. Provide fly-leaf for each separate product, or each piece of operating equipment.
         1) Provide typed description of product, and major component parts of equipment.
         2) Provide indexed tabs.
      e. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
         1) Title of Project
         2) Identity of separate structure as applicable.
         3) Identity of general subject matter covered in the manual.
   3. Binders
      a. Commercial quality three-ring binders with durable and cleanable plastic covers.
      b. When multiple binders are used, correlate the data into related consistent groupings.

C. Content of Manual:
   1. Arrange neatly a typewritten table of contents for each volume, in the following systematic order.
      a. Trade Contractor, name of responsible principal, address and telephone number.
      b. A list of each product required to be included, indexed to the content of the volume.
      c. List, with each product, the name, address and telephone number of:
         1) Trade Contractor or installer
         2) Maintenance contractor, as appropriate
         3) Identify the area of responsibility of each
         4) Local source of supply for parts and replacement

d. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

2. Product Data
   a. Include only those sheets which are pertinent to the specific product.
   b. Annotate each sheet to:
      1) Clearly identify the specific product or part installed.
      2) Clearly identify the data applicable to the installation.
      3) Delete references to inapplicable information.
3. Written text, as required to supplement product data for the particular installation:
   a. Organize in a consistent format under separate headings for different procedures.
   b. Provide a logical sequence of instructions for each procedure.
   c. Do not use Project Record Documents as maintenance drawings.
4. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
5. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
6. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
7. Submit two sets of revised final documents in final form within 10 days after final inspection.

D. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
4. Copy of each warranty, bond and service contract issued.
   a. Provide information sheet for Owner's personnel, give:
      1) Proper procedures in the event of failure.
      2) Instances which might affect the validity of warranties or bonds.
   b. Provide a logical sequence of instructions for each procedure.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.
7. Architect/Engineer Field Orders or written instructions.
8. Field test records.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Maintain record documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

F. Make record documents and samples available at all times for inspection by Architect and/or Owner.

G. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

H. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Changes made by Field Order or by Change Orders.
   6. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports.

P. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

D. Prepare data in the form of an instructional manual.

E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

L. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

M. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   3. Part 3: Project documents and certificates, including the following:
      a. Shop drawings and product data.
      b. Air and water balance reports.
      c. Certificates.
      d. Photocopies of warranties and bonds.

N. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

O. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 41 13
SITE SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of built site elements.

1.02 SUBMITTALS

A. Project Record Documents: Accurately record actual locations of capped and active utilities discovered during construction.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 PREPARATION

A. Protect existing utilities from damage.
   1. The contractor shall contact ND One-Call at 800-795-0555 prior to beginning any excavation.
      a. Also contact the Owner's Representative for private site utility locations.
   2. The contractor shall notify the various utility companies if work will expose, affect, or endanger any existing utility.
   3. The contractor shall support, protect or relocate existing utilities affected by the work.
      a. Means and methods shall be approved by the utility owner.

3.02 SCOPE

A. Remove all items shown on the Site Demolition Plan.
   1. All removals shall include removal of associated concrete footings/foundations.

3.03 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Do not begin removal until receipt of notification to proceed from Owner.
B. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures and/or equipment.
   3. Stop work immediately if adjacent structures and/or equipment appear to be in danger.
C. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
D. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.
   1. Sawcut edge of existing pavement, including ends of curb & gutter, in areas of partial pavement removal and where new pavement will abut against existing pavements.
      a. Sawcut concrete pavements to a minimum depth of 1/3 of the pavement thickness.
         1) Concrete pavements shall be sawcut at the nearest joint to the removal limit.
      b. Sawcut asphalt pavements full depth.
         1) 'Knifing' through the pavement is not accepted.
E. Backfill depressions with material in accordance with 31 23 24.

3.04 EXISTING UTILITIES

A. Coordinate work with Owner.
   1. Notify Owner before starting work.
B. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
C. Protect existing utilities to remain from damage.
D. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without prior notification to Owner.
E. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove all demolition materials, debris, rubbish, non-reusable soil, etc., from the site.
   1. All the above shall become property of the Contractor.
   2. Do not bury the materials on-site.
B. Leave site in clean condition, ready for subsequent work.

END OF SECTION

SECTION 10 14 53

SITE TRAFFIC SIGNS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Accessible Parking Signage.

1.02 REFERENCE STANDARDS

A. Federal Highway Administration's Manual on Uniform Traffic Control Devices - M.U.T.C.D. latest edition.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

PART 2 PRODUCTS

2.01 COMPONENTS

A. Sign Backing Material.
   1. Sign backing shall be flat sheet aluminum alloy meeting 5052-H38.

B. Reflective Sheeting.
   1. All accessible parking signs shall be Engineering Grade sheeting, minimum.

C. Sign Faces.
   1. All letters, numerals, symbols, and borders shall meet the requirements per Reference 1.02.A and the plan details.

D. Posts.
   1. Square Steel Tube Sign Post.
      a. Shall meet ASTM A570, Grade 50.
      b. Shall be galvanized conforming to ASTM A553, designation 690.
      c. Cross section shall be a square tube formed of 12 gauge steel.
      d. Holes shall be 7/16 inch diameter on 1 inch on center, on all four sides.

E. Hardware.
   1. Bolts, nuts, and washers shall be corrosion resistant.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions and the details shown in the Plans.

B. Install neatly, with horizontal edges level.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Removal of existing vegetation as necessary to meet construction requirements.

B. Removal of existing trees.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 VEGETATION

A. Remove existing vegetative turf, trees, and other vegetation in areas designated in the Drawings to be removed and/or within areas to be regraded.

1. Completely remove stumps and roots to a minimum of 3ft below pavement subgrade elevations.
    a. Extend removal limits a minimum of 2ft beyond edge of pavement subgrade limits.
2. Fill holes left by removals as per Section 31 23 24 Site Fill.
3. Do not burn, bury, or leave on site.

B. Restoration: Replace existing vegetation damaged or destroyed due to construction operations at no cost to the Owner.

3.02 DEBRIS

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 31 22 00

SITE GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Removal of topsoil.

B. Rough grading the site.

C. Subgrade Preparation-Pavements.

D. Finish grading.

1.02 DEFINITIONS

A. Subgrade: Top of excavation or fill material located at the bottom of the aggregate at pavement areas or bottom of topsoil or landscape material in non-pavement areas.

PART 2 PRODUCTS

2.01 MATERIALS

A. Topsoil: Topsoil excavated on-site.

1. Graded.
    a. Topsoil shall be fine graded to particle sizes not exceeding 1/2 inch.
2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
3. Contractor shall remove existing topsoil and import new topsoil material necessary for project if unable to fine grade existing salvaged topsoil.
4. Import topsoil if necessary for quantity.

PART 3 EXECUTION

3.01 PREPARATION

A. Protect existing utilities from damage.

1. The contractor shall contact ND One-Call at 800-795-0555 prior to beginning any excavation.
    a. Also contact the Owner's Representative for private site utility locations.
2. The contractor shall notify the various utility companies if work will expose, affect, or endanger any existing utility.
3. The contractor shall support, protect or relocate existing utilities affected by the work.
    a. Means and methods shall be approved by the utility owner.

B. Identify required lines, levels, contours, and datum.

C. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.

D. Protect site features to remain, including but not limited to paving, from damage by grading equipment and vehicular traffic.

3.02 SITE GRADING

A. Remove topsoil and organic soils from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.

B. Do not remove topsoil when wet.
C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
D. Do not remove wet subsoil , unless it is subsequently processed to obtain optimum moisture content.
E. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.
F. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack surface water control.
G. Grade to project's subgrade elevations.
H. Compaction methods and finish densities shall meet requirements listed in Sections 31 23 24.

3.03 SUBGRADE PREPARATION-PAVEMENT

A. Compact and shape the subgrade to produce the required density and stability of the subgrade at the required elevation.
   1. Density and stability shall be in-place at the time the aggregate base and/or geotextile fabric is placed.
   2. The required stability shall be such that no rutting or displacement of the subgrade shall occur from construction equipment.
B. Provide temporary means and methods, as required, to remove all water from subgrade. Remove and replace soils which are excessively moist due to lack of dewatering or surface water control at no cost to Owner.
C. Compaction Density as per ASTM D698-Standard Proctor, unless otherwise specified or indicated.
   1. Scarify the soils at the new subgrade elevation and recompact the soils to a minimum 98 percent of maximum dry density.
      a. 12 inches, minimum, within vehicular pavement areas (or remove and replace, if necessary, to reach 12 inch depth)
         1) Recompact with a large roller with a minimum drum diameter of 3-1/2 feet.
      b. 3 inches, minimum, in pedestrian (sidewalk) pavement areas.
      c. Moisture condition the soils as necessary after scarifying and prior to recompacting.
D. The required stability shall be such that no rutting or displacement of the subgrade shall occur from construction equipment.
E. Proofroll vehicular pavement subgrades prior to placing geotextile fabric and/or aggregate.
   1. Proofroll shall be observed by a geotechnical engineer to determine if the results of the procedure meet the project specifications.
      a. Proofroll with a fully aggregate loaded tandem-axle truck.
      b. The Contractor shall correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative.

1) Corrections shall include, as necessary, moisture conditioning and recompaction, and subcutting and replacement of soil.

F. Tolerances
   1. Completed subgrade shall be within 1/2 inch of plan elevation.
      a. Refer to Section 01 71 23 - Field Quality for 'Blue Topping'.

G. Placement of aggregate and/or geotextile fabric shall not take place until results of the proofroll are known, the final elevations have been checked, and given notice to proceed from the Owner's Representative.

3.04 SOIL REMOVAL

A. Remove excess topsoil from site.

3.05 FINISH GRADING TOPSOIL AREAS

A. Before Finish Grading:
   1. Verify subgrade has been compacted.

B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size.

C. Where topsoil is to be placed, scarify surface to a minimum depth of 3 inches.

D. Place topsoil in areas not designated in the Drawings as pavement areas.
   1. Include all areas graded as part of this project as well as all adjacent turf areas disturbed by construction

E. Place topsoil where required to level finish grade.

F. Place topsoil to the following compacted thicknesses:
   1. Areas to be seeded or sodded with Grass: 4 inches, minimum.

G. Place topsoil during dry weather.

H. Remove roots, weeds, rocks, and foreign material while spreading.

I. Fine grade topsoil.
   1. Rake, chain drag and lightly roll topsoiled areas, remove all ridges and fill all depressions.
   2. Use hydraulic power box rake or similar mechanical equipment to remove soil lumps, rocks and debris, fill and level low areas; and correct other grading deficiencies in preparation of seed or sod bed.
   3. Maintain profiles and contour of subgrade.
   4. Lightly compact placed topsoil to prevent sinkage pockets when watered.

3.06 TOLERANCES

A. Top Surface of Subgrade: Plus or minus 0.04 foot (1/2 inch) from required elevation.

B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).

3.07 REPAIR AND RESTORATION

A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.

3.08 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control testing, as specified in Section 01 40 00.

B. Results will be evaluated in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor").

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

D. Proof roll compacted fill at subgrade elevation surfaces that will be under vehicular paving.

1. By Contractor with observation by Owner' Testing Agency Representative.

E. If tests indicate work does not meet specified requirements, remove work, replace and retest.

END OF SECTION

SECTION 31 23 17

SITE EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Excavating for improvements shown on Civil Drawings.

1.02 DEFINITIONS

A. Subgrade: Top of excavation or fill located at the bottom of the aggregate at pavement areas or bottom of topsoil or landscape material in non-pavement areas.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Contact North Dakota One-Call at 800-795-0555 prior to starting any excavation work.

1. Also contact the Owner's Representative for private site utility locations.

C. Locate, identify, and protect utilities that remain and protect from damage.

3.03 EXCAVATING

A. Excavate to accommodate construction operations.

B. Do not interfere with 45 degree bearing splay of foundations.

C. Hand trim excavations. Remove loose matter.

D. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 31 23 24.

E. Grade top perimeter of excavation to prevent surface water from draining into excavation.

F. Remove unsuitable and organic existing soils encountered during excavation operations.

G. Provide temporary means and methods, as required, to remove all water from excavations. Remove and replace soils which are excessively moist due to lack of dewatering or surface water control at no cost to Owner.

H. Subgrade Preparation.

1. Per Specification 31 22 00 Site Grading.

I. Remove excavated material that is unsuitable for re-use from site.

J. Remove excess excavated material from site.

3.04 PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

END OF SECTION

SECTION 31 23 24

SITE FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Filling and compacting for work shown on the Civil Drawings.

1.02 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

B. Subgrade Elevations: Top of excavation or fill material located at the bottom of the aggregate at pavement areas bottom of topsoil of landscape material in non-pavement areas.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill: Subsoil excavated on-site.

1. Graded.
2. Free of lumps larger than 3 inches, rocks larger than 2 inches, organic materials/soils and debris.

B. Imported Subsoil to be used as General Fill, if necessary.

1. Natural, non-organic soils native to the project area.
   a. Similar to existing on-site subsoils.
2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.

PART 3 EXECUTION

3.01 PREPARATION

A. Compaction Density as per ASTM D698-Standard Proctor, Unless Otherwise Specified or Indicated:

1. Scarify a minimum of 8 inches of the exposed soils at existing grade prior to placing fill and recompact the soils to a minimum 95 percent of maximum dry density.
   a. Maintain optimum moisture content of fill materials to attain required compaction density.

3.02 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches loose lifts or less when heavy, self propelled compaction equipment is used.

1. 4 to 6 inches in loose thickness when hand-guided equipment (ie. jumping jack, plate compactor, etc.) is used.

F. Correct areas that are over-excavated.

G. Compaction Density as per ASTM D698-Standard Proctor, Unless Otherwise Specified or Indicated:
   1. 98 percent of maximum dry density within 3 feet of subgrade elevations at pavement areas, minimum.
   2. At other locations: 95 percent of maximum dry density, minimum.

H. Subgrade Preparation.
   1. Per Specification 31 22 00 Site Grading.

3.03 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Completed subgrade shall be within 1/2 inch of plan elevation.

3.04 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition.

END OF SECTION

SECTION 32 05 19

SITE GEOTEXTILE FABRIC

GENERAL

1.01 SECTION INCLUDES

A. Site Geotextile Fabric.

1. This section is applicable to the use of a geotextile to prevent mixing of subgrade soil and the aggregate base material of the vehicular pavement section.
2. In some installations, the geotextile may also provide reinforcement.

1.02 RELATED SECTIONS

A. Section 32 11 23 - Site Aggregate Courses.

1.03 SUBMITTALS

A. Manufacturer's product information and installation recommendations.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Geotextile labeling, shipment and storage shall follow ASTM D4873.

B. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

C. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

D. The protective wrapping shall be maintained during periods of shipment and storage. If the wrapping is damaged prior to installation, the outer wrap of geotextile material must be discarded before installation.

E. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: Site construction damage, extended exposure to ultraviolet (UV) radiation, precipitation, chemicals that are strong acids or strong bases, flames, sparks, temperatures in excess of 71 deg C (160 deg F) and any other environmental condition that might damage the geotextile.

PRODUCTS

2.01 MANUFACTURERS

A. GEOTEX 200ST, by Propex Geosynthetics.

B. WINFAB 200W, by Willacoochee Industrial Fabrics.

C. LINQ GTF-200.

D. or equal.

2.02 MATERIALS

A. Geotextile Fabric.

1. Shall be Woven Geotextile Fabric.

2. Shall be polymeric filaments or yarns such as polypropylene, polyethylene, polyester, or polyamide formed into a stable network such that the filaments/yarns retain their relative position to each other.
3. Shall be delivered to the Project with an opaque plastic covering to prevent degradation due to ultraviolet rays of the sun or contamination with mud, dirt, dust or debris.
4. Rolled geotextile shall be identified by manufacturer, product name, and roll number, both on the outside wrap and inside core as well as other requirements of ASTM D 4873.
5. Shall have a minimum Grab Tensile Strength of 200 pounds as per ASTM D 4632.
6. Shall have a maximum Apparent Opening Size of 40 U.S. Standard Sieve Size.

EXECUTION

3.01 PREPARATION

A. Unsuitable areas shall be identified during subgrade preparation and corrected if necessary.

3.02 INSTALLATION

A. Install geotextile in accordance with manufacturer's instructions.
B. Place on full area of finished vehicular subgrade where called for in the Drawing Details.
C. Aggregate Placement.
    1. Place by end dumping adjacent to geotextile or over previously placed aggregate.
    2. Dumping on geotextile is not permitted.
    3. Traffic directly on geotextile is not permitted.
    4. Compact first lift of base aggregate with a tracking dozer and then compact with smooth-drum vibratory roller to obtain minimum compacted density.
        a. Vibratory compaction shall not be used on initial lift over geotextile.
D. The geotextile shall be laid smooth without wrinkles or folds on the prepared subgrade in the direction of construction traffic.
E. Adjacent geotextiles rolls shall be overlapped a minimum of 3 feet.
F. On curves, the geotextile may be folded or cut to conform to the curves.
    1. The fold or overlap shall be in the direction of construction and held in place by pins, staples, or piles of fill or rock.
G. Damaged areas shall be repaired immediately by covering the damaged area with a geotextile patch that extends an amount equal to the required overlap beyond the damaged area.
H. If required, staple or pin geotextile at overlaps to maintain position during construction activities. Use 10 to 12 in long nails placed at minimum 50 ft on center for parallel rolls and 5 ft on center for roll ends.
I. When geotextile intersects an existing pavement area, extend geotextile to edge of old system. For widening or intersecting existing roads where geotextiles have been used, anchor geotextile at roadway edge.

3.03 PROTECTION

A. Atmospheric exposure of the geotextile to the elements following laydown shall be limited to 14 days to prevent damage.

B. Turning not permitted on first lift of base aggregate.

1. Construct turnouts at roadway edge to facilitate construction.

END OF SECTION

SECTION 32 11 23
SITE AGGREGATE COURSES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aggregate Base Course.

1.02 RELATED REQUIREMENTS

A. Section 31 22 00 - Site Grading.

B. Section 32 05 19 - Site Geotextile Fabric.

1.03 REFERENCE STANDARDS

A. Standard Specifications for Road and Bridge Construction, North Dakota Department of Transportation, 2025 Edition.

1.04 SUBMITTALS

A. Sieve analysis of aggregate prior to start of construction and during construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aggregate Base.

1. Coarse aggregate, conforming to Reference 1.03.A.
    a. The Contractor shall have the option of replacing the Aggregate Class 5 with Salvaged Base as per Section 817 of Reference 1.03.A.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.02 PREPARATION

A. Correct irregularities in subgrade gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.03 INSTALLATION

A. Place aggregate in maximum 6 inch layers and compact to specified density.

1. Compact to a minimum of 98 percent of maximum dry density as per ASTM D698.
    a. Use mechanical tamping equipment in areas inaccessible to compaction equipment.
    b. Maintain optimum moisture content of fill materials to attain required compaction density.
2. Proofroll surface of aggregate base prior to placing pavements.
    a. Proofroll shall be observed by a geotechnical engineer to determine if the results of the procedure meet the project specifications.
        1) Proofroll with a fully aggregate loaded tandem-axle truck.

2) The Contractor shall correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative.
   (a) Corrections shall include, as necessary, moisture conditioning and recompaction, and removal and replacement of aggregate.

b. Reshape and re-compact the subgrade after the proofroll.

c. Level and contour surfaces to elevations and gradients indicated.

3. The required stability shall be such that no rutting or displacement of the aggregate surface shall occur from construction vehicles and equipment used during the placement of the next layer of the pavement section.

3.04 TOLERANCES

A. Flatness: Maximum variation of 1/2 inch measured with 10 foot straight edge.

B. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

C. Scheduled Compacted Thickness: Within 1/2 inch.

D. Variation From Design Elevation: Within 1/2 inch.

1. Refer to Section 01 71 23 - Field Quality for 'Blue Topping'.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for general requirements for testing.

B. Proof roll compacted fill at subgrade elevation surfaces that will be under paving.

1. By Contractor with observation by Owner's Testing Agency Representative.

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.06 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION

SECTION 32 12 16
SITE ASPHALT PAVEMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Plant Mixed Asphalt Paving.

B. Bituminous Tack Coat.

1.02 REFERENCE STANDARDS

A. Standard Specifications for Road and Bridge Construction - North Dakota Department of Transportation, 2025 Edition.

1.03 SUBMITTALS

A. Asphalt mix design.

1.04 QUALITY ASSURANCE

A. Obtain materials from same source throughout.

PART 2 PRODUCTS

2.01 ASPHALT PAVING MIXES AND MIX DESIGN

A. Asphalt mixtures per Reference 1.02.A.

1. Asphalt Cement: PG58H-34.
2. Aggregates: Meet gradations perTable 430-01.
3. Superpave FAA 42.
    a. Air Voids.
        1) Modify (increase) the asphalt content in the original mix design to target air voids at 3%.

B. Tack Coat.

1. CSS-1 or CSS-1h.
2. Shall meet ASTM D2397.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that compacted aggregate base is dry and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.02 PREPARATION - TACK COAT

A. Apply tack coat between lifts at uniform rate of 0.05 gal/sq yd.

1. Tack coat will be diluted prior to application with water at a 50-50 ratio.

B. Apply tack coat to contact surfaces of curbs, gutters and edge of abutting pavements.

3.03 PLACING ASPHALT PAVEMENT

A. Place asphalt course within 24 hours of applying tack coat.

B. Compact pavement per Section 430.04.I of Reference 1.02.A.

1. Ordinary Compaction per Section 430.04.I.3 and the following.

a. Owner's Testing Agency shall test locations with a portable nuclear density testing device.
b. Suspend rolling when additional passes no longer increase density at these locations.
c. Use this rolling pattern and number of passes for remainder of lift placement.

C. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.04 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

B. Compacted Thickness: Within 1/4 inch of specified or indicated thickness.

C. Variation from True Elevation: Within 1/2 inch.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.

B. Compaction density testing will be performed on compacted asphalt pavement.

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.06 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury for 2 days or until surface temperature is less than 140 degrees F.

END OF SECTION

SECTION 32 13 13

SITE CONCRETE PAVEMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete for site pavements.

1.02 DEFINITIONS

A. Site Concrete Pavement: All site concrete pavements including concrete vehicular pavements, concrete sidewalk, concrete pavement edge curb, and concrete valley gutter.

1.03 SUBMITTALS

A. Product Data: Provide data on joint filler, admixtures, curing compound, and all other materials specified.

B. Concrete Mix Design.

1. Employ independent testing laboratory to test proposed aggregate and design concrete mixes for each type of concrete required.
    a. Submit aggregate test reports and mix designs.
        1) Test each type of fine and coarse aggregate for conformance to ASTM C33.
2. Fly Ash Certificate of Compliance, if applicable.

PART 2 PRODUCTS

2.01 FORM MATERIALS

A. Form Materials: Conform to ACI 301.

B. Preformed Joint Filler:

1. Thickness: 1/2 inch.
2. Shall be one of the following:
    a. Non-extruding bituminous type preformed joint filler meeting ASTM D1751.
    b. Semi-rigid, closed-cell polypropylene foam, preformed joint filler meeting ASTM D8139.

2.02 REINFORCEMENT

A. Reinforcing Steel: ASTM A615, Grade 60 - 60,000 psi yield strength; deformed billet steel bars; unfinished.

2.03 CONCRETE MATERIALS

A. Obtain cementitious materials from same source throughout.

B. Cement: ASTM C150 Normal - Type I portland type, grey color.

C. Fine and Coarse Mix Aggregates: ASTM C33.

1. Coarse Aggregate shall meet Size Number 57 or 67.
2. The following percentages shall not be exceeded for the Course Aggregate.
    a. Shale.
        1) Sidewalks.
            (a) Maximum 0.5% by weight of the plus No. 4 fraction.

2) All other.

(a) Maximum 3% by weight of the plus No. 4 fraction.

b. Iron Oxide Particles.

1) Maximum 4.0% by weight of the plus No. 4 fraction.

D. Fly Ash: ASTM C618, Class C or F.

E. Water: Clean, and not detrimental to concrete.

F. Air-Entraining Admixtures: ASTM C260.

G. Chemical Admixtures: ASTM C494, Type A - Water Reducing.

1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
   a. Admixtures containing calcium chloride is prohibited.

2.04 ACCESSORIES

A. Rebar Chairs.

1. Rebar shall be held in-place with manufactured bar chair supports with base.

B. Curing Compound: ASTM C309, Type 2, Class A.

C. Joint Sealer

1. One-part, cold applied, non-sag silicone sealant.
   a. ASTM D5893, Type NS.
2. Movement capability.
   a. 100% extension.
   b. 50% compression.
3. Weather and UV Resistant.
4. Shall be tooled.
5. Color: Gray.
6. Shall be one of the following.
   a. Dow Corning 888 Non-Sagging Silicone.
   b. Tremco Spectrum 800.
   c. Or equal.

2.05 CONCRETE MIX DESIGN

A. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.

B. Concrete Properties:

1. Compressive strength, when tested in accordance with ASTM C39 at 28 days; 4500 psi.
2. Fly Ash Content: Maximum 30 percent of cementitious materials by weight.
3. Cement Content: Minimum 564 lb per cubic yard.
4. Water-Cement Ratio: Maximum 45 percent by weight.

5. Total Air Content: 7 percent (Mix Design Target) , determined in accordance with ASTM C173.
    a. Placed concrete shall be within -1.5 to +2 percentage points of target value.

2.06 MIXING

A. Concrete shall be Ready-Mixed concrete, mixed and delivered in accordance with ASTM C94.

B. Transit Mixers: Comply with ASTM C94.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify compacted aggregate base is acceptable and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

A. See Section 32 11 23 for construction of base course for work of this Section.

3.03 PREPARATION

A. Moisten base to minimize absorption of water from fresh concrete.

3.04 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.

C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.05 REINFORCEMENT

A. Place reinforcement at midheight of slabs-on-grade.

3.06 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI 305R when concreting during hot weather.

B. Follow recommendations of ACI 306R when concreting during cold weather.

C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

3.07 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

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

C. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

3.08 TEMPORARY CONCRETE WASHOUT

A. Provide at a defined area on site or to an area designated for cement washout.

B. Shall be of sufficient size to contain the wash water and residual cement.

3.09 JOINTS

A. Place Isolation and Contraction Joints at locations shown in the drawings and as per the drawing details.
   1. Provide early-entry cutting of contraction joints while concrete is in its 'green' state to reduce the potential for random micro-cracking.
   2. Do not seal contraction joints.
B. Construction Joints shall be placed as per the drawing details.
   1. Seal construction joints.

3.10 FINISHING

A. Do not add water to surface of concrete during finishing operations.
B. Vehicular Paving: Light broom, texture perpendicular to pavement direction.
C. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.
D. Concrete Pavement Edge Curb: Light broom.
E. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.
   1. Contractor shall ensure spraying equipment supplies an even and 100% coverage of curing compound to the concrete surface.

3.11 TOLERANCES

A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
B. Maximum Variation From True Position: 1/4 inch.

3.12 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 - Quality Requirements.
   1. Provide free access to concrete operations at project site and cooperate with appointed firm.
   2. Submit proposed mix design of each class of concrete to testing firm for review prior to commencement of concrete operations.
   3. If tests indicate work does not meet specified requirements, remove work, replace and retest.

3.13 PROTECTION

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

3.14 PERFORMANCE

A. Remove and replace all concrete pavements (pavement, sidewalk, concrete pavement edge curb, etc.) where uncontrolled cracks have occurred within the first year of installation at no cost to the Owner.
   1. Remove and replace panel or section to the nearest joint.

END OF SECTION

SECTION 32 17 23

SITE PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking lot markings, including parking bays.

1.02 RELATED REQUIREMENTS

A. Section .

1.03 SUBMITTALS

A. Manufacturer's Product Data.

1.04 FIELD CONDITIONS

A. Do not install products under environmental conditions outside manufacturer's absolute limits.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 40 degrees F.

1. Surface shall be completely dry with no dew or frost.

PART 2 PRODUCTS

2.01 MATERIALS

A. Line and Zone Marking Paint:

1. Shall meet or exceed Federal Specification TT-P-1952E & F, Type I & II.
2. Shall be be Diamond Vogel UC-1509 (White) and UC-7503 (Blue)
   a. or equal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Owner's Representative of unsatisfactory preparation before proceeding.

C. Surface shall be clean and dry.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation.

1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.

C. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.

3.03 INSTALLATION

A. Follow manufacturer's recommendations based on pavement type.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than or more than .

C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.

1. Application equipment shall be that approved by the product manufacturer.

D. Comply with FHWA MUTCD manual (http://mutcd.fhwa.dot.gov) for details not shown.

E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.

F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on drawings.

1. Shall have crisp distinct edges and clean cutoff at the end of each line.
2. Apply paint in one coat only.
3. Wet Film Thickness: , minimum.
4. Length Tolerance: Plus or minus .
5. Width Tolerance: Plus or minus .

3.04 DRYING, PROTECTION, AND REPLACEMENT

A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.

B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.

C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.

D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.

E. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.

F. Replace removed markings at no additional cost to Owner.

END OF SECTION

SECTION 32 92 19

SITE SEEDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Seeding, mulching and fertilizer.

1.02 SUBMITTALS

A. Seed mixture, fertilizers, and mulch product information.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.

PART 2 PRODUCTS

2.01 SEED MIXTURE

A. Seed Mixtures:

1. Shall be labeled in accordance with USDA Rules and Regulations under the Federal Seed Act.
2. Wet, moldy or otherwise damaged seed will not be accepted.
3. Weed seed not to exceed 0.5 percent of total mixture.
4. Mixture and minimum purity requirements shall be as follows:
   a. Percent by weight/Purity/Percent Live Seed:
      1) Kentucky Bluegrass:35/98/85
      2) Creeping Red Fescue: 35/98/85.
      3) Fine Leaf Perennial Rye Grass: 30/95/90.
5. Seed Mixture shall be 'Classic Shade/Sun Brand' as manufactured by Agassiz Seed & Supply, or equal.

2.02 SOIL MATERIALS

A. Topsoil: As specified in Section 31 22 00.

2.03 ACCESSORIES

A. Fertilizer: Recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, as indicated by analysis.

B. Mulch material shall be a wood fiber (not sawdust). The mulch shall have an approved tacking and bonding agent to ensure long lasting stabilization and reduce erosion potential. The mulch material be shall be installed as per the manufacturer's recommendation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that prepared soil base is ready to receive the work of this Section.

B. All areas that are topsoiled per Specification 31 22 00 or are disturbed by construction are to be seeded, fertilized, and covered with mulch.

3.02 PREPARATION

A. Submit topsoil samples, after fine grading, for testing to determine necessary phosphorus and potassium fertilizer recommendations.
   1. Sample and submit as required by a soil testing agency.

3.03 FERTILIZING

A. Apply nitrogen fertilizer at a minimum rate of 0.5 lb/1000 sq ft.
   1. Incorporate the fertilizer 1/2 to 1 inch into surface of the soil.
B. Apply phosphorus and potassium fertilizer at the rates recommended by the soil testing agency.
   1. Incorporate the fertilizer into the soil 4 to 6 inches from the surface.
C. Apply after smooth raking of topsoil .
D. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
E. Lightly water to aid the dissipation of fertilizer.

3.04 SEEDING

A. Apply seed at a rate of 5 lbs per 1000 sq ft evenly in two intersecting directions. Rake in lightly.
B. Do not seed areas in excess of that which can be protected from erosion on same day.
C. Do not sow immediately following rain, when ground is too dry, or during windy periods.

3.05 MULCHING:

A. The mulch shall be uniformly applied at a minimum rate of fifty pounds per 1000sf and shall cover 100% of the seedbed area.
B. After application, the mulch shall permit percolation of water to the underlying soil.

3.06 MAINTENANCE

A. Water to prevent grass and soil from drying out.
   1. Keep grass uniformly moist to a depth of 4 inches until an acceptable lawn is established as determined by the Owner's Representative, but not less than 3 weeks from beginning of watering operations and not less than 1 inch per week.
      a. May require multiple waterings per day.
         1) Keep soil moist, but do not oversaturate.
B. Immediately reseed areas that show bare spots.

END OF SECTION