

DIVISION 01 – GENERAL REQUIREMENTS

The Consultant to include this section in their specifications as part of the Division 01 Technical Project Specifications for all Capital Projects:

01 1000 –SUMMARY OF WORK SECTION

A. CONTRACTOR USE OF PREMISES

1. General

- a. Contractor shall at all times conduct the work so as to impose no hardship on the University or others engaged in the University's work nor cause any unreasonable delay or hindrance thereto.
- b. Construction activities will be scheduled to minimize disruption to the University and to Campus users.
- c. The Contractor may not interrupt any Campus utilities without prior written permission from the University. Requests for utility shutdowns shall be submitted a minimum of 14 calendar days in advance of the requested shutdown date. UND PM to coordinate with all users who would be affected by the shutdown.
- d. The Contractor will be allowed to stage and store equipment within the project site provided existing utilities are protected in place and the approved SWPPP is followed.

2. Surrounding Site Condition Survey

- a. Prior to commencing the work, the Contractor and UND PM shall tour the Project Site together to examine and record damage to existing buildings, landscape, hardscape, and other improvements, both on and adjacent to the project site. The resulting record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed parties involved in the tour. Any damage to existing improvements not noted in the original survey, but subsequently discovered, shall be reported to the UND PM immediately.

3. Protection of Existing Structures and Utilities

- a. Locate all known existing utility installations before proceeding with construction operations which may cause damage to such installations. The existing utilities shall be protected and maintained in continual service at the Contractor's expense. Where existing utilities cross or are adjacent to the work of this contract, the Contractor shall notify the UND PM a minimum of 48 hours in advance of commencement of work. The Contractor shall locate the existing utility(s) by hand digging; repair of damage to existing utility(s) shall be at the Contractor's expense.
- b. In the event that undocumented existing structures or utilities are encountered, the contractor shall immediately notify the University Representative and request direction concerning how to proceed with the work.
- c. Should the Contractor damage any existing structure or utility, the Contractor shall take immediate action to ensure the safety of both persons and property.
- d. Contractor shall visit the project site and thoroughly familiarize itself with existing conditions. Existing record drawings are available for Contractor review at UND Facilities Management offices.

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- e. Contractor shall include all necessary pipe offsets, fittings, etc. as required to complete the work in the base bid. No additional costs due to the Contractor's failure to survey existing conditions and review available record drawings will be allowed.
 - f. Contractor shall note all utility items (utility meters, junction boxes, valve boxes, post indicator valves, manhole covers, etc.) at or above grade in the vicinity of the project site prior to commencing with trenching operations. These items indicate the presence of underground utilities in the area which shall be located and kept in continual service. This requirement shall apply regardless of inclusion of these utilities on existing record documents.
 - g. When cutting, removal or alteration of existing work is required to form connections with new work or otherwise to meet the requirements of the contract documents, perform such work so as not to damage the work that will remain in place.
 - h. Contractor shall provide all necessary materials, equipment, and labor to adequately protect existing structures, floors, architectural finishes, utilities, landscape, and hardscape which may be impacted by the work of this contract.
4. Allowable Work Schedule
- a. Normal construction activities shall be performed Monday through Friday between the hours of 7:00 am and 6:00 pm, excluding holidays.
 - b. Shutdown of existing utilities or other activities which impact Campus operations shall be scheduled in advance with the UND PM in accordance with paragraph above, and shall be scheduled during off-hours at the discretion of the University and at no additional cost to the University.
 - c. Contractor shall submit to UND PM a minimum of 72 hours prior to any anticipated weekend or holiday work. UND PM will then notify users, campus police that work outside of normal working hours will be commencing at the dates agreed to.
5. Site Decorum
- a. Contractor is to control the conduct of labor forces and prevent unwanted interaction initiated by workers with the University staff, students, or other individuals other than those associated with the project.
 - b. In the event that any worker initiates unwanted interaction, utilizes profanity, or (in the opinion of the UND PM) conducts him/herself in an offensive or unprofessional manner, the Contractor shall immediately remove the worker from the project and replace said worker with another of equivalent technical skill at no additional cost to the University.
 - c. No smoking is allowed within any University facility, including new buildings under construction which have reached a point in construction where the building is partially enclosed.
 - d. No radios, other than 2-way communication type, shall be allowed on the project site.

B. SUPERINTENDENT/SUPERVISORY STAFF

1. Requirements

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- a. The Contractor shall employ a competent Superintendent able to read, write and communicate fluently in English. The Superintendent shall be on site at all times during which work occurs on the project site and shall be fully authorized to represent Contractor in all matters pertaining to the work of this contract. All communications and agreements with the Superintendent shall be binding upon Contractor. The Superintendent shall be acceptable to UND and shall continue in the capacity of Superintendent for the duration of the project unless the Superintendent ceases employment with Contractor or UND otherwise agrees. The Superintendent shall not be employed on any other project by the Contractor during the course of this project.
- b. Work shall not occur on the site except under the direct supervision of the Superintendent. Failure to maintain a Superintendent on the Project site at all times that work is occurring will result in the issuance of a stop work notice by the UND PM. Any schedule impact resulting from said stop work order shall be the responsibility of the Contractor; no additional costs for delay will be due Contractor, nor will assessment of liquidated damages be suspended to account for the work stoppage.
- c. The Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the contract documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but the Contractor shall not be solely responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence, or procedure of construction that is indicated in and required by the construction documents.
- d. The Contractor shall be responsible to see that the completed Work complies with the contract documents.
- e. Whenever the superintendent is not present on any particular part of the work where the Owner's Representative may desire to inform the Contractor relative to interpretation of the drawings and specifications or to disapproval or rejection of materials or work performed, the Owner's Representative may so inform the foreman or other worker in charge of the particular part of the Work in reference to which the information is given. Information so given shall be as binding as if given to the superintendent.

C. CONSTRUCTION SURVEY STAKING

See Section 015100

D. ENVIRONMENTAL PROTECTION PLAN

1. The requirements of the Article are in addition to those of Article 4.02 of the Contract General Conditions.
2. During the progress of the work, keep the premises occupied in a neat and clean condition and protect the environment both on site and off site, throughout and upon completion of the construction project.
3. In coordination with the Campus, develop an Environmental Protection Plan in detail and submit to the UND PM within 30 calendar days from the date of commencement specified in the Notice to Proceed. Distribute the approved plan to all employees and to all subcontractors and their employees. The Environmental Protection Plan shall include, but not be limited to, the following items:

- a. Copies of required permits.
 - b. Proposed sanitary landfill site.
 - c. Other proposed disposal sites.
 - d. Noise Control.
 - e. Dust Control.
 - f. Erosion and Sediment Control.
 - g. Copies of any agreements with public or private landowners regarding equipment, materials storage, borrow sites, fill sites, or disposal sites. Any such agreement made by the Contractor shall be invalid if its execution causes violation of local or regional grading or land use regulations.
 - h. Hazardous waste disposal procedures.
 - 1) An EPA Form 8700-22, the Uniform Hazardous Waste Manifest must be utilized in this process.
 - 2) Compliance with NDAC 33020, North Dakota Solid Waste Management Rules must be followed.
 - 3) Contact North Dakota Department of Health prior to any removal at the Division of Waste Management Hazardous Waste Program 701-328-5166
4. Requirements: All operations shall comply with all federal, state and local regulations pertaining to water, air, solid waste and noise pollution.
5. Definitions of Contaminants:
- a. Sediment: soil and other debris that have been eroded and transported by runoff water.
 - b. Solid waste: rubbish, debris, garbage and other discarded solid materials resulting from construction activities, including a variety of combustible and non-combustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves and tree trimmings.
 - c. Chemical waste: includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, disinfectants, organic chemicals and inorganic wastes. Some of the above may be classified as "hazardous."
 - d. Sanitary wastes:
 - 1) sewage: domestic sanitary sewage.
 - 2) garbage: refuse and scraps resulting from preparation, cooking, dispensing and consumption of food.
 - e. Hazardous materials: except as otherwise specified, in the event the Contractor encounters on the site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), or other hazardous materials which have not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Trustees in writing. The Work in the affected area shall not thereafter be resumed

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except by written agreement of the Trustees and Contractor if in fact the material is asbestos, PCB, or other hazardous materials and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos, PCB, or other hazardous materials, or when such materials have been rendered harmless.

6. Protection of Natural Resources

a. General

1) It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their existing condition or be restored to an equivalent or improved condition upon completion of the work. Confine construction activities to areas defined by the public roads, easements, and work area limits shown on the drawings. Return construction areas to their pre-construction elevations except where surface elevations are otherwise noted to be changed. Maintain natural drainage patterns. Conduct construction activities such that ponding of stagnant water conducive to mosquito breeding habitat will not occur at any time.

b. Land Resources

- 1) Do not remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not remove, deface, injure or destroy trees within the work area without permission from the Engineer. Such improvements shall be removed and replaced, if required, by the Contractor at his own expense.
- 2) Protection: protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or be attached to any existing nearby trees or shrubs for anchorages. No vehicles or equipment shall be parked within the extents of the canopy of any tree.
- 3) Trimming: refer to Tree and Plant Protection Section.
- 4) Excavation Around Trees: refer to Tree and Plant Protection
- 5) Repair or Restoration: repair or replace any trees or other landscape feature scarred or damaged by equipment or construction operations as specified below. The repair and/or restoration plan shall be reviewed and approved by the University and Architect prior to its initiation.
- 6) Temporary Construction: remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Architect. Level all temporary roads, parking areas and any other areas that have become compacted or shaped. Any unpaved areas where vehicles are operated shall receive a suitable surface treatment or shall be periodically wetted down to prevent construction operations from producing dust damage and nuisance to persons and property, at no additional cost to the Trustees. Keep haul roads clear at all times of any object which creates an unsafe condition. Promptly remove any contaminants or construction materials dropped from construction vehicles. Do not drop mud and debris from construction equipment on public streets. Sweep clean turning areas and pavement entrances as necessary.

- c. Water Resources
 - 1) Investigate and comply with all applicable federal, state and local regulations concerning the discharge (directly or indirectly) of pollutants to the underground and natural waters. Perform all work under this Contract in such a manner that any adverse environmental impacts are reduced to a level that is acceptable to the Architect and regulatory agencies. Refer to Earthwork Section, paragraph on control of water for "dewatering" water disposal requirements.
 - 2) Oily Substances: at all times, special measures shall be taken to prevent oily or other hazardous substances from entering the ground, drainage areas or local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable impact upon the areas. Any soil or water which is contaminated with oily substances due to the Contractor's operations shall be disposed of in accordance with applicable regulations.

01 2300 – ALTERNATES

A. SUMMARY

- 1. Included in this Section: non-technical descriptions of Alternates listed by number only on the Bid Proposal.
- 2. Included in other Sections: technical specifications for work revising or adding/deducting from Base Bid work by Alternates.
- 3. Unless otherwise specifically provided, the work described in Alternates shall be completed with no increase in Contract Time.
- 4. The additional cost or credit for each Alternate shall represent the total adjustment to the contract sum associated with said Alternate.
- 5. Refer to the Bid Proposal Form for information concerning order of acceptance of alternates.
- 6. All labor, material, equipment, accessories, and incidental items required for a complete installation shall be included, whether or not specifically mentioned as part of the Alternate. Contractor shall perform necessary modifications or adjustments to affected adjacent work, whether new or existing, in order to fully and properly integrate the Alternate work into the Project. These necessary modifications and adjustments shall be included in the Alternate price.

01 2500 - CUTTING AND PATCHING

A. DEFINITIONS

1. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
2. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

B. MATERIALS

1. General: Comply with requirements specified in other Sections.
2. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
3. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

C. EXAMINATION

1. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
2. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

D. PREPARATION

1. Temporary Support: Provide temporary support of Work to be cut.
2. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
3. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

E. PERFORMANCE

1. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
2. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - a. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

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3. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
4. Concrete Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
5. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations. Proceed with patching after construction operations requiring cutting are complete.
6. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
7. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
8. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - c. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
9. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
10. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
11. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

01 3100 – PROJECT MANAGEMENT AND COORDINATION

- A. **PRE-CONSTRUCTION MEETING**: UND will schedule and furnish the agenda for a preconstruction meeting after award of construction contract delivery method; attendance will be required for the Consultant and successful bidders. Among items to be discussed are provisions specified in this division of the specifications.

1. Contractor's use of premises
2. Designation of personnel representing UND, Contractor and Architect
3. Procedures for Oral and written communication between the project team members
4. Procedures for maintaining record documents
5. Construction Facilities and Controls
6. Temporary Utilities
7. Security and Construction area clearing
8. Materials testing and inspection
9. Requirements for start-up trades
10. Project Layout
11. Safety Program
12. Coordination of construction impacts on Campus
13. Preliminary Construction Schedule
14. Progress Payments
15. Change Order Procedure
16. Project Close-Out

- B. **PROGRESS MEETING:** Include the following in the specifications; edit and revise to suit job conditions. "The Project Manager for UND shall schedule a weekly job progress meeting with other prime contractors and major subcontractors and shall notify the Consultant of the time and place of the meeting. Subsequent meetings shall be held on the same day and hour of the week for the duration of the construction period; except, upon instructions of the Consultant, the scheduled meetings may be increased or decreased as required by the progress of the work. The Consultant shall take minutes at each meeting. Typed copies of the minutes shall be distributed to all concerned parties." Standard Agenda as follows:

1. Project Schedule
2. Four-week look ahead construction schedule. Updated on a weekly basis.
 - a. Status of contractor Master Schedule submittal
 - b. Long-lead procurement items affecting schedule
 - c. UND – induced delays if any
 - d. Contractor - caused delays if any
 - e. Contractor recovery plan should construction progress indicate that the project is behind schedule
 - f. Coordination of work performed under a separate contract.
3. Project Document Status
4. RFI status review
5. Shop Drawing / submittal status review
6. Change document status review
7. Old Business
8. New Business
9. Non-Conformance items
10. Status of As-Built Drawings
11. Other Current Problem areas/Resolutions
12. Environmental/Safety Considerations
13. Minutes may be distributed via email.

- C. **PRE-INSTALLATION MEETINGS:** Conduct pre-installation meetings at the project site for each activity that requires coordination with other trades and construction systems. Agenda as follows:

1. Review shop drawings and product data

2. Review mock ups and samples
3. Compatibility concerns
4. Acceptability of substrates
5. Protection of adjacent surfaces
6. Weather limitations
7. Manufacturer recommendations
8. Warranty requirements
9. Installation schedule
10. Minutes may be distributed via email.

D. PROJECT TRANSITIONAL MEETINGS– REFER TO SECTION 01 77 50

01 3216 – CONSTRUCTION PROGRESS DOCUMENTATION

This section covers the requirements for submittal of a critical path method (CPM) construction schedule, associated reports and work plan.

A. CPM CONSTRUCTION SCHEDULES AND REPORTS

1. Initial Construction Schedule
 - a. Submit a “Draft” Four-Week Look-ahead Schedule at the Pre-Construction Meeting.
 - b. Within 30 calendar days after issuance of Notice to Proceed, Contractor shall submit a detailed Initial Construction Schedule which includes all construction activities, from Notice to Proceed through Project completion.
 - c. Within 15 calendar days, the UND PM will review the Initial Construction Schedule and provide comments.
 - d. Contractor shall revise the Initial Construction Schedule in accordance with UND PM comments and resubmit within 15 calendar days. Upon approval by UND PM the schedule shall be designated as the Contract Construction Schedule.
 - e. No change to the content or CPM logic of the Contract Construction Schedule shall be made by Contractor without prior approval by UND PM.

B. SCHEDULE UPDATES

1. The Contract Construction Schedule shall be updated and submitted monthly in accordance with Contract General Conditions.
 - a. The updated Contract Construction Schedule shall accurately represent the as-built condition of all completed and in-progress work activities as of the schedule data date.
 - b. The Contract Construction Schedule shall use activity codes which allow for logical summarization of like activities. A Summary Schedule of not less than 20 activities shall be submitted monthly with the detailed Contract Construction Schedule.
 - c. Prior to preparing the first update of the approved Contract Schedule, Contractor shall designate the approved Contract Schedule as the baseline, or “target schedule”. All schedule updates shall include the original (i.e. target) information, including start dates, finish dates, durations, successors, predecessors, etc. for each activity. The actual progress for each activity shall be shown directly below the target bar.
 - d. Monthly submittals shall include the following items.

- 1) Schedule diskette(s)
 - 2) Detailed network diagram (D size)
 - 3) Summary schedule (8-1/2" x 11")
 - 4) Detailed bar chart graphics (8-1/2"x 11")
 - 5) Tabular reports (8-1/2" x 11")
2. A four-week look-ahead schedule, derived directly from the Contract Construction Schedule, shall be updated and submitted for review during each weekly progress meeting. The four-week look-ahead schedule shall be a sub-network of the Contract Construction Schedule; hand drawn schedules, marked-up versions of previous schedules, or schedules generated using alternate scheduling software will not be accepted.

C. BASIC REQUIREMENTS OF CONTRACTOR'S SCHEDULING SYSTEM

The system shall be operated by on-site personnel at terminals located in Contractor's site office. On-site management shall be capable of using the system to address all project activities and resources on a real time interactive basis, and capable of rapidly evaluating alternative means and methods in response to job conditions and as required to optimize project management.

D. CPM SCHEDULE FORMAT

1. Include activities and milestones as requested for work completed by UND under separate contract, UND furnished materials, move in, etc.
2. The schedule duration shall be calculated using Critical Path Method for the Initial Construction Schedule, Contract Construction Schedule, and all schedule updates.
3. Contractor shall work in conjunction with each subcontractor and supplier to ensure that all relevant submittal, procurement, delivery and installation dates for the various trades are accurately represented in the Initial Construction schedule and each subsequent schedule update.
4. Contractor's Superintendent shall be integrally involved in production of the Initial Construction Schedule and each subsequent update.
5. Include activities for all project submittals as required under Section 013300 and the technical specifications (Div. 2 through 48).
6. Failure by Contractor to include any element of the work required for performance of the Contract shall not relieve Contractor of the obligation to complete the entire Work of the Contract in accordance with the Contract Completion Date.

E. CONSTRUCTION ANALYSIS

1. The Contractor shall provide the UND PM the following minimum information in the Initial Construction Schedule and subsequent Four-Week Lookahead Schedule Updates:
 - a. Activity identification code keyed to Summary and Detailed Construction Schedules.
 - b. Activity description
 - c. Status date and remaining duration
 - d. Activity duration

- e. Early start/early finish and late start/late finish
- f. Total float
- g. Free float
 - 1) Predecessor and successor activity for each individual activity
 - 2) A listing of all constraints for each individual activity
 - 3) A comparison between the current update and the Initial Construction Schedule (baseline schedule).
 - 4) No more than 20% of the total project activities shall be critical or near critical (less than 5 working days of total float).
- 2. The Initial Construction Schedule and subsequent Four-Week Look-ahead Schedule Updates shall include, but not limited to, the following major milestones:
 - a. NTP Date, mobilization, coordination review and detailing activities.
 - b. Submittal preparation by Contractor and review and approval by the Architect and UND PM, including shop drawings, technical manuals and all other submittals. Contractor shall allow at least 30 calendar days for review of submittals.
 - c. Order, manufacture, fabrication, delivery and check-out of all long lead and major construction material.
 - d. Demolition of existing structures
 - e. Clearing, grubbing and stripping
 - f. Roadway, Storm Drainage Control – excavation, backfill and compaction
 - g. Settlement and Surcharge
 - h. Foundation
 - i. Electrical, telecommunications
 - j. Roadway – pavement, curbs, gutters, hardscape
 - k. Storm Drain
 - l. Waterlines – recycled, potable
 - m. Traffic Signal
 - n. Signing and Striping
 - o. All utility interfaces
 - p. Landscaping and Irrigation
 - q. Punch List
 - r. Performance and acceptance testing
 - s. Contractor close-out documentation and training

- t. Contractor punch list corrective work
- u. Final clean-up
- v. Identification of all holidays and non-working days.

F. RESPONSIBILITY FOR COMPLETION

1. Should any monthly or weekly update of the Contract Construction Schedule indicate that the critical path has been extended, thus impacting the Contract Completion Date, Contractor shall submit a written action plan for bringing the schedule into compliance with the Contract Completion Date. Contractor shall initiate corrective actions, as approved by the UND PM, at no additional cost. These actions shall include, but not be limited to, one or more of the following:
 - a. Increase construction manpower in certain or all trades in order to bring the completion date into compliance with Contract requirements.
 - b. Increase the number of labor shifts, working hours per shift, or working days per week as required to bring the completion date into compliance with Contract requirements.
 - c. Reschedule activities in order to achieve the maximum number of concurrent work activities.
 - d. Arrange and pay for acceleration of fabrication schedules for long lead material items.
 - e. Arrange and pay for alternate shipping or delivery methods in order to expedite material procurement.
2. Comments provided by the UND PM concerning the Initial Construction Schedule, Contract Construction Schedule, or any schedule update shall not relieve Contractor from the responsibility for compliance with the entire requirements of the Contract Documents.

G. CONTRACTOR WORK PLAN

1. General
 - a. Contractor shall submit comprehensive written work plans for all activities affecting UND operations, including but not limited to, the following:
 - 1) Barricade and Fencing locations.
 - 2) Haul routes.
 - 3) Routing of vehicular and pedestrian traffic around specific construction area(s).
 - 4) Utility shutdowns/tie-in to existing utilities.
 - 5) Disabled access routes.
 - 6) Fire Department access.
 - 7) Construction site and contractor parking access.
 - 8) Large equipment access (cranes, loaders, backhoes, etc.)

- 9) Work within pedestrian thoroughfares and campus roads.
 - 10) Work within the inner-Campus area.
2. Contractor shall cooperate with UND to minimize conflicts and facilitate UND operations.
 - a. Off-hours and weekend work may be required for existing utility shutdowns and other work of major impact to UND. No additional costs shall be paid by UND due to this requirement.

H. FORMAT/SUBMITTAL REQUIREMENTS

1. Contractor's work plans shall be in the form of marked-up drawings, sketches and/or original drawings which clearly convey the nature and location of Contractor's planned activities. Drawings shall be supplemented by written descriptions of the work. Work plans shall be submitted in written narrative form where without drawings where deemed adequate by the UND PM to fully describe construction activities, impacts and protection measures.
2. Work plans shall be submitted in accordance with the requirements of Section 013300.

01-3233 – PHOTOGRAPHIC DOCUMENTATION

- A. UND PM to coordinate with project team members the specific requirements for photographic documentation.
- B. The Historic District contained within the UND campus, including associated objects and landscapes that are listed on the National Register of Historic Places require photo documentation. These historic properties also may require documentation to meet National Park Service Historic American Building Survey record standards. Consultation with UND PM prior to initiating documentation is required.

01-3300 – SUBMITTALS

A. SUBMITTALS

The UND PM will provide a schedule of all required submittals at the Pre-Construction Meeting. Contractor shall input anticipated submission dates for each submittal item. Within 21 calendar days after award of Contract, and before submitting items for review, submit 2 copies of the completed submittal schedule. The submittal numbers designated by UND PM shall be used for identification of all submittals.

1. All required submittals, with the exception of O&M manuals, close-out submittals, and mock-ups required to be installed concurrent with specific construction activities, shall be submitted within 100 calendar days after award of contract.
2. Allow 30 calendar days for University Representative's and Architect's review of submittals following receipt of submittal.
3. Coordinate schedule with subcontractors and material suppliers.
4. Upon acceptance by University Representative and Architect, adhere to submission dates listed in submittal schedule except when specifically otherwise permitted.

B. REVISIONS

Revisions to original submittal list and schedule will only be accepted by UND PM and Architect when revisions are required by circumstances not reasonably anticipated by Contractor during preparation of

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original schedule. Submit revisions not later than 20 calendar days following the date that the need for revision became necessary.

C. SUBMITTAL PROCEDURES

1. Coordinate preparation and processing of submittals with performance of construction activities.
 - a. Make submittals in groups containing associated items to ensure that information is available for checking each item when received.
 - 1) Partial submittals may be rejected as not complying with requirements of Contract Documents and Contractor shall be liable for any resulting delays.
2. Requests for deviations from Contract Documents shall be submitted for consideration before submittal of affected items. Submit in accordance with substitution requirements of Section 013505. Only deviations which have been previously accepted in writing shall be included in submittals.

D. PLACE PERMANENT LABEL OR TITLE BLOCK ON EACH SUBMITTAL FOR IDENTIFICATION.

Indicate name of entity preparing each submittal in label or title block.

1. Include following information, as appropriate:
 - a. Identify project.
 - b. Name and address of Engineer/Architect.
 - c. Name and address of Contractor.
 - d. Name and address of subcontractor.
 - e. Name and address of supplier.
 - f. Name of manufacturer.
 - g. Number and title of appropriate Specification Section.
 - h. Drawing number and detail references, as appropriate.
2. Provide space on label or beside title block to record Contractor's, UND PM's and Architect's review and approval markings and action taken.

E. CONTRACTOR'S REVIEW

1. Review submittals for accuracy, completeness, and conformity with Contract Documents.
 - a. Submittal shall be construed as stipulating Contractor has thoroughly and completely reviewed and coordinated data.
 - b. Submittals which indicate less than Contractor's full compliance will be returned without action.
 - c. Delays caused by failure to comply will not be acceptable basis for extension of Completion Time.
2. Certify submittals have been reviewed and coordinated by adding following affidavit to each submittal:

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"The undersigned certifies this submittal has been reviewed, approved, and coordinated in compliance with requirements of Section 01335 of the Project Manual."

Signature _____ Date _____

Name Printed _____ Title _____

Contractor Name _____

3. Submittals not certified by being stamped and signed by Contractor will be returned without action, as will submittals which, in UND PM's or Architect's opinion, have not been adequately reviewed and coordinated by Contractor.

F. ALLOW SUFFICIENT REVIEW TIME: so that installation will not be delayed as result of time required to process submittals, including time for resubmittals.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related elements of Work so processing will not be delayed by need to review submittals concurrently for coordination.
 - a. UND PM and Architect reserve right to withhold action on submittal requiring coordination with other submittals until related submittals are received.
3. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.
4. If intermediate submittal is necessary, process same as initial submittal.
5. Allow same time for reprocessing each submittal as allowed for processing original submittal.
6. No extension of Contract Time will be authorized because of failure to transmit submittals to UND PM sufficiently in advance of Work to permit processing.

G. PACKAGE EACH SUBMITTAL: appropriately for transmittal and handling. Transmit each submittal from Contractor to UND PM using Submittal Transmittal form attached at the end of this section.

1. Submittals received from sources other than Contractor will be returned without action.
2. Number each submittal and resubmittal as indicated in approved Submittal Schedule.
3. Submittals forwarded without a completed Submittal Transmittal form will be returned without review.

H. ENGINEER / ARCHITECT REVIEW

1. Each submittal will be stamped and original or reproducible returned to Contractor indicating appropriate action as follows:
 - a. Action 1 (no exception taken): Means fabrication, manufacture, or construction may proceed providing submittal complies with Contract Documents.
 - b. Action 2 (make corrections noted; no resubmission required): Means fabrication, manufacture, or construction may proceed providing submittal complies with Architect's notations and Contract Documents. If Contractor cannot comply with notations, make revisions and resubmit as described for submittals stamped Action 3.

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- c. Action 3 (make corrections noted; submit corrected copy): Means fabrication, manufacture, or construction may proceed; however, submittal did not fully demonstrate full extent of all conditions, details and coordination with other surrounding work and therefore requires additional information and rework as noted. Resubmit shop drawings for final Action 1 or 2. Should Contractor proceed with fabrication, manufacturing or construction, it shall do so at its own risk.
 - d. Action 4 (rejected, revise and resubmit): Means submittal does not comply with design intent of Contract Documents. Do not use submittals stamped Action 4. Make revisions and resubmit.
 - e. Action 5 (rejected, submit specified item): Means submittal varies from specified item or system specified in Contract Documents and is not acceptable for use on the project. Do not use submittals stamped Action 5. Make revisions and resubmit.
 - f. Action 6 (resubmit with related assembly items): Means submittal of related assembly item(s) are required in conjunction with the submittal for proper review.
 - g. Action 7 (rejected; incorrect transmittal): Means the Submittal Transmittal form specified for use on the Project was not included, incomplete, or incorrectly completed.
 - h. Action 8 (No Action): Means documents have not been reviewed by Architect and submittal is returned to Contractor for several possible reasons: submittal not requested, submittal not complete, submittal not coordinated, or submittal bears no resemblance to design intent.
 - i. Action 9 (submitted to consultant for review): This code is for the use of the UND PM and Architect to indicate routing to various A/E consultants. Any submittals marked Action 9 by Contractor will be returned to Contractor without review. Contractor's action shall indicate review and approval of submittal (status 1 or 2).
 - j. Action 10 (returned to Contractor): This code shall be used by the UND PM to indicate completion of the routing cycle and return of the submittal to Contractor
 - k. Record Submittals: Specifications require certain information and calculations be submitted for record purposes only. Such submittals will not be acted upon, stamped or returned to Contractor.
- 2. Submittals will be reviewed for general conformance with design concept and general compliance with information given in Contract Documents only.
 - 3. Review of separate item shall not indicate acceptance of assembly of which item is part.
 - 4. Review shall not relieve Contractor from responsibility for errors or deviations from requirements of Contract Documents.
 - a. Acceptance of submittals with deviations shall not relieve Contractor from responsibility for additional costs of changes required to accommodate such deviations.
 - b. Deviations included in submittals without prior acceptance are excepted from review of submittals whether noted or not on returned copy.
 - 5. Submittals designated for information only will be reviewed and returned, or not reviewed and not returned, at discretion of UND PM or Architect.

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6. When professional certification of performance criteria of materials, systems or equipment is required by Contract Documents, UND PM and Architect shall be entitled to rely upon accuracy and completeness of such calculations and certifications.
7. Notations by UND PM or Architect which increase contract cost or time of completion shall be brought to UND PM's and Architect's attention before proceeding with Work.

I. SUBMITTAL LOG

1. Maintain accurate submittal log for duration of Contract. Indicate current status of all submittals at all times. Submit log at progress meeting and as otherwise requested by UND PM or Architect.

J. RESUBMITTALS

1. Subject to same terms and conditions as original submittal.

K. REVISIONS

1. Make only those revisions required or accepted by UND PM or Architect.

L. SHOP DRAWINGS

1. Submit one (1) electronic copy.
2. Submit newly prepared information. Highlight, encircle, or otherwise indicate deviations from Contract Documents. Reference to individual Specification Sections.
 - a. Do not reproduce Contract Documents or copy standard information as basis for shop drawings.
 - b. Each shop drawing detail shall reference the corresponding Contract Drawing detail number.
 - c. Prepare shop drawings accurately to scale sufficiently large to indicate pertinent aspects of item and method of connection to other work.
 - d. Make particular note of field-measured dimensions, as-built conditions, and conditions requiring special coordination with other contractors and requirements of Trustees' activities.
 - e. Prints shall be blackline, blueline or xerox reproductions. Blueprints are unacceptable.

After review, reproduce and distribute to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities, and for Record Documents described in Section 01700.

M. PRODUCT DATA

1. Submit one electronic copy.
 - a. When contents of submitted literature from manufacturers include data not pertinent to submittal, clearly indicate which portion of contents is being submitted for review.

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- b. After review, distribute to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities, and for Record Documents described in Section 01700.

N. SAMPLES

1. Submit samples to illustrate functional and aesthetic characteristics of Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
2. Preliminary Submittals:
 - a. Unless precise color, pattern, and texture or similar characteristics are specifically described, submit full set of choices for material or product.
 - b. Preliminary submittals will be reviewed and returned with University Representative's and Engineer/Architect's marks indicating selection and other action.
 - c. University Representative and Engineer/Architect reserve right not to make individual determination or selections until all samples of all materials are submitted.
 - d. Submit samples of all selected colors, patterns, textures or other similar characteristics as selected by Architect.

O. Submit number of samples required by Contractor plus 3, two of which will be retained by UND PM and one by Engineer/Architect.

1. Where variation in color, pattern, texture or other characteristics are inherent in material or product, submit multiple units (not less than 3), that show approximate limits of variations.
 - a. Each pair: Represent maximum acceptable variability in product and demonstrate worst conditions, defects, and deviations acceptable.
2. Accepted samples will form standard of comparison for finished Work.
 - a. Defects, and deviations in excess of those in accepted samples, are unacceptable and are subject to rejection of completed Work.

P. Include identification on each sample, or tag permanently attached to sample where size or configuration of sample precludes direct attachment. Provide full Project information, including:

1. Project name and location.
2. Manufacturer and supplier.
3. Name, finish, and composition of material.
4. Location where material is to be used.
5. Specification Section number.
6. Submittal number.
7. Contractor's review stamp.
8. Space for Architect's review stamp.
 - a. Reviewed samples which may be used in the Work are indicated in individual specification Sections.
 - b. Provide field samples as required by individual Sections. Install samples in locations as directed, complete and finished.

Q. MANUFACTURER'S INSTRUCTIONS

1. When specified in individual Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
2. Identify conflicts between manufacturers' instructions and Contract Documents.

R. CERTIFICATES

1. When specified in individual specification Sections, submit manufacturers' certificates to Engineer/Architect through UND PM for review in quantities specified for Product Data.
2. Submit in form of letter or company standard forms, signed by officer of manufacturer.
3. Each certification shall include following:
 - a. Project name and location.
 - b. Contractor's name and address.
 - c. Quantity and date or dates of shipment or delivery to which certificate applies.
 - d. Manufacturer's name.

S. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

T. Certificates may be recent or previous test results on material or Product, but must be acceptable to University Representative and Engineer/Architect.

01-3305 - PRODUCT SUBSTITUTION PROCEDURES

A. Substitutions: Changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by Contractor after award of Contract are considered to be requests for substitutions. Following are not considered to be requests for substitutions:
Substitutions requested during bidding period, and accepted by Addendum prior to award of Contract, are included in Contract Documents and are not subject to requirements specified in this Section for Substitutions.
Revisions to Contract Documents requested by UND PM or Architect.
Specified options of products and construction methods included in Contract Documents.
Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

B. SUBMITTALS

1. Requests for substitutions will not be considered before selection of Contractor. Substitutions will not be considered when:
 - a. Indicated on shop drawings or product data submittals without separate formal "Substitution Request Form" (included at the end of this section).
 - b. Requested directly by subcontractor or supplier.
 - c. Acceptance will require revision of Contract Documents.

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- d. Proposed changes are not in compliance with general intent of Contract Documents.
2. Requests for substitutions will be considered only within 35 days after Notice to Proceed. Other requests will be considered only when:
 - a. Specified product or method of construction cannot be provided within Contract Time. Architect or UND PM will not consider request if product or method cannot be provided as result of failure to pursue Work promptly or coordinate activities properly.
 - b. Subsequent information or changes indicate specified product will not perform as intended.
 - c. Requested substitution offers UND substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities UND must assume. UND's additional responsibilities include compensation to Engineer/Architect for redesign and evaluation services, compensation to UND PM for additional processing and evaluation services, increased cost of other construction by UND, and similar considerations.
 - d. Specified product or method of construction cannot receive necessary approval by governing authority, and requested substitution can be approved.
 - e. Specified product or method of construction cannot be provided in manner that is compatible with other materials and where Contractor certifies that substitution will overcome incompatibility.
 - f. Specified product or method of construction cannot be coordinated with other materials and where Contractor certifies that proposed substitution can be coordinated.
 - g. Specified product or method of construction cannot provide warranty required by Contract Documents and where Contractor certifies that proposed substitution provides required warranty.
3. Do not order or install substitute products without written acceptance.
4. Only 1 request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
5. Engineer/Architect will determine acceptability of substitutions.
6. Submit 2 copies of each request to Engineer/Architect through UND PM on Substitution Request Form at end of Section. Submit separate form for each substitution.
 - a. Identify products by Specification Section and Article numbers.
 - b. Provide manufacturer's name and address, trade name of products, and model or catalog number.
 - c. List fabricators and suppliers as appropriate.
 - d. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents including independent laboratory testing reports, approval numbers, listings, and approved assembly descriptions as requested by UND PM or Engineer/Architect, or as required by agencies having jurisdiction.
 - e. Attach product data as specified in Section 013300.
 - f. Give itemized comparison of proposed substitution with specified product, listing variation, and reference to Specification Section and Article numbers.
 - g. Give quality and performance comparison between proposed substitution and specified product.
 - h. Submit written certification from manufacturer that proposed substitution is appropriate for this application.
 - i. List availability of maintenance services and replacement materials.
 - j. State effect of substitution on construction schedule, and changes required in other Work or products.
7. By making requests for substitutions, Contractor:

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- a. Represents that Contractor has personally investigated proposed substitute product and determined that it is equal to or superior in all respects to that specified.
 - b. Represents that Contractor will provide same warranty for substitution that Contractor would for that specified.
 - c. Will coordinate installation of accepted substitute, making such changes as may be required for Work to be compatible with substrates and adjacent materials, and complete in all respects.
 - d. Waives claims for additional time related to substitution which may later become apparent.
 - e. Certifies that cost data presented is complete and includes related costs under this Contract, including redesign costs, and waives claims for additional costs related to substitution which may later become apparent.
8. Modification of Documents: Where substitution requires changes to design of Work as indicated on accepted Shop Drawings for proper installation, furnish drawings and specifications prepared by and bearing seal of licensed architect and engineers as appropriate, revising Shop Drawings.
- a. Submit revised Documents for acceptance in accordance with Section 013300.
 - b. Revised Drawings shall be sufficiently complete for proper installation of substitution and related Work.
 - 1) Include details of connection to and relationship with adjacent materials.
 - c. If, in Engineer/Architect's sole judgment, proposed substitution is of such significance or deals with product or system affecting basic design or aesthetics, pay Engineer/Architect for changes required to Contract Documents as follows:
 - 1) Reimburse Owner for Engineer/Architect's account for time spent in changing Contract Documents at rate of 2.5 times rate of Direct Personnel Expense (DPE). Direct Personnel Expense is defined as direct salaries of Architect's personnel engaged on Project and portion of costs of mandatory, and customary contributions and benefits related thereto, including employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions, and similar contributions and benefits.
 - d. Contractor is responsible for cost of revised Documents, obtaining and paying for review and plan check by authorities having jurisdiction, and cost of revised construction.
 - e. Submit revised drawings with Record Documents in accordance with Section 017000.

C. SUBMITTAL PROCEDURES

1. Engineer/Architect's and UND PM's Action: If necessary, Engineer/Architect through UND PM will request additional information or documentation for evaluation within 1 week of receipt of request for substitution. Architect will notify Contractor of acceptance or rejection of substitution within 2 weeks of receipt of request, or 1 week of receipt of additional information or documentation, whichever is later. Acceptance will be in form of Change Order, should a change in Contract cost or time be associated with the substitution.
 - a. Engineer/Architect or UND PM will not make exhaustive attempt to determine products proposed for substitution are equivalent to, or can be modified in order to be equivalent to specified products.
 - b. Where extensive investigation is required by UND PM or Engineer/Architect, as determined by UND PM or Architect, Contractor shall reimburse University for UND PM's or Engineer/Architect's account for time spent in processing additional resubmittals at rate of 2.5 times rate of Direct Personnel Expense(DPE). Direct Personnel Expense is defined as direct salaries of Architect's or UND PM's personnel engaged on Project and portion of costs of mandatory, and customary contributions

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and benefits related thereto, including employment taxes and other statutory employee benefits, insurance, sick leave, holidays, vacations, pensions, and similar contributions and benefits.

- c. Use product specified if Engineer/Architect and UND PM cannot make decision on use of proposed substitute within time allocated.
- d. If accepted by Engineer/Architect and UND PM, products proposed for substitution are accepted subject to modifications by manufacturer, if necessary, to meet detailed requirements of Drawings and Specifications.

For Accepted Products: Submit shop drawings, product data, and samples in accordance with Section 013300.

Contractor's submittal, and Engineer/Architect's and UND PM's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with Contract Documents do not constitute acceptable or valid request for substitution, nor do they constitute approval.

01-4000 – QUALITY REQUIREMENTS

Section Includes: Administrative and procedural requirements for quality control services.

- A. Quality control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by UND PM. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
 1. Specific quality control requirements for individual activities are specified in Sections relative to those activities.
 2. Specified inspections, tests, and related actions do not limit Contractor's quality control procedures that facilitate compliance with Contract Document Requirements.
 3. Requirements for Contractor to provide quality control services required by University Representative, Architect, or authorities having jurisdiction are not limited by provisions of this Section.
- B. **RESPONSIBILITIES**
 1. Unless otherwise indicated as the responsibility of another identified entity, Trustees will employ and pay for services of independent testing laboratory to perform inspections, tests, and other quality control services specified elsewhere in Contract Documents and required by authorities having jurisdiction.
 - a. Where individual Sections specifically indicate that certain inspections, tests, and other quality control services are Contractor's responsibility, Contractor shall employ and pay qualified independent testing agency to perform quality control services. Costs for these services are included in Contract Sum.
 2. Retesting: Contractor is responsible for retesting where results of inspections, tests, or other quality control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether original test was Contractor's responsibility.
 - a. Cost of retesting Work, revised or replaced by Contractor, is Contractor's responsibility where required tests performed on original Work indicated noncompliance with Contract Document requirements.
 3. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in

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advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

- a. Provide access to Work.
 - b. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - c. Assist as requested in taking quantities of representative samples of materials that require testing or assist testing agency in taking samples.
 - d. Provide facilities for storage and curing of test samples.
 - e. Provide security and protection of samples and test equipment at Project Site.
4. Duties of Testing Agency: Independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with University Representative, Engineer/Architect, and Contractor in performance of agency's duties. Testing agency shall provide qualified personnel to perform required inspections and tests.
- a. Agency shall notify University Representative, Engineer/Architect, and Contractor promptly of irregularities or deficiencies observed in Work during performance of its services.
 - b. Agency is not authorized to release, revoke, modify, alter, interpret, or expand requirements of Contract Documents or approve or accept any portion of Work.
 - c. Agency shall not perform any duties of Contractor.

C. INSPECTIONS

General: All construction work shall be subject to inspection by UND and the Engineer/Architect, and all such construction or work shall remain accessible and exposed for inspection purposes until approved by UND.

- a. UND will provide project personnel, including inspectors, to be available at the project site.
 - b. Approval as a result of an inspection shall not be construed to be an approval of any violation of the provisions of the building code or of other ordinances of Agencies having jurisdiction over this project, including plans and specifications. Inspections presuming to give authority to violate or cancel the provisions of code or contract documents shall not be valid.
 - c. It shall be the duty of the contractor to cause the work to remain accessible and exposed for inspection purposes. Neither the Inspector, UND, nor Engineer/Architect shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.
2. Inspection Requests: It shall be the duty of Contractor to notify the Inspector that specific work is ready for inspection.
3. Approval Required: Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the Inspector. The Inspector, upon notification, shall make the requested inspections and shall either indicate in writing that a specific portion of the construction is satisfactory as completed, or shall notify the Contractor that same fails to comply with plans and specifications. Any portions which do not comply shall be corrected by the Contractor prior to the end of the workday, or a Deficiency Notice will be issued by the Inspector placing the Contractor on notice that the work does not conform with the requirements of the

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Contract Documents. Such portion shall not be covered or concealed until authorized by the Inspector.

4. There shall be a final inspection and approval of all buildings and structures when completed and ready for occupancy and use.

01-5000 – TEMPORARY FACILITIES AND CONTROLS

A. TEMPORARY UTILITIES

1. UND operates electric, telephone, steam and water distribution networks. Before the final Design Development Phase concludes the A/E and/or CMAR shall provide preliminary assessment of the temporary utilities required for construction. The A/E and/or CMAR shall coordinate the locations of and capacity for temporary utility connections with UND. This assessment shall include:
 - a. Estimating the amount of service for construction
 - b. Determining if the point of connection is a UND system or a public utility system
 - c. Determining if the UND system needs upgrading prior to the point of connection
 - d. Confirming with UND’s PM how the costs for any upgrades to the utility system is addressed in the project budget. UND may pay these costs directly or include them in the projects scope of work.
2. The contractor is responsible for the cost of the installation and removal of the temporary utility systems from the contractor point of connection forward. Materials furnished by the contractor for the temporary system shall remain the contractor’s property.
3. To ensure that the long-term, expensive research experiments conducted throughout UND are not disrupted, specify that the utility outages associated with connection and disconnection of the temporary service must be scheduled with UND’s PM a minimum of 14 days in advance of the outage occurring.

B. UNDERGROUND UTILITIES

1. Locates
 - a. UND shall provide personnel and equipment to locate and mark existing UND owned and operated utilities. Locates are scheduled through the Facilities Service Office at 777-2591 Monday through Friday 8:00am – 3:00pm except during UND holidays. Locates shall be scheduled 48 hours in advance.
 - b. The contractor shall contact and coordinate all required public utility locates.
 - c. Marking shall be accomplished by color coding in accordance with the Uniform Color Code of the American Public Works Association. Locates shall be marked as follows:

UTILITY	GROUND PAINTING	FLAGS
Electric	Red	Red with White Lettering
Telephone	Orange with White Center	Orange with White Lettering
Natural Gas	Yellow	Yellow with Black Lettering
Steam	Yellow with Blue Center	Yellow with Blue Lettering
Domestic Water	Blue with White Lettering	Blue
Chilled Water	Blue with Red Center	Blue with Red Lettering
Sanitary Sewer	Black with Green Center	Green with Black Lettering
Storm Sewer	White with Green Center	Green with White Lettering

- d. Contractor shall assign one person to work with the City, Campus locator.
 - e. The accuracy of the locates shall be plus or minus three feet in plan view. Depth of buried line vary. Contractor shall be responsible for all construction in the area of existing utilities.
 - f. Contractor shall be responsible for locating the following utilities not owned by the University of North Dakota.
 - 1) Telephone – US West
 - 2) Cable TV – Adelphia Cable
 - 3) Natural Gas – Grand Forks Utility
 - 4) Water – Grand Forks Utility
 - 5) Electrical – Grand Forks Utility
2. Existing Utilities and Structures
- a. The Contractor shall exercise care to protect underground pipelines, and duct banks from heavy vehicular traffic. Heavy wooden or steel protection shall be used where required. When the construction would necessitate heavy traffic over an existing tunnel, the Contractor shall provide adequate engineered shoring.
 - b. The Contractor's attention is directed to the extensive network of existing underground pipelines, tunnels, manholes, and electric conduit. It shall be the Contractor's responsibility to become acquainted with the extent and location of these underground structures.
 - c. Excavation adjacent to underground structures shall be done with care, and then only after first determining the exact location of them. Where new excavation is below the support line of existing structures, sheeting or other approved procedure shall be utilized.
 - d. The Contractor shall verify the locations of existing utilities before starting trench cutting operations. Excavation shall be performed by hand digging around utilities to locate and prevent damage. Cost of repairing any damages to existing utilities shall be paid by the Contractor without expense to UND. UND reserves the right to repair any existing utility damaged by the Contractor, at the Contractor's expense.
 - e. Existing utilities shall be adequately protected from damage due to construction by Contractor. This shall include any hand digging required, shoring, planking, support material, temporary fill or protection necessary for utilities to remain in continuous service.
 - f. Existing utilities which are shown on the drawings or field located and are damaged by the Contractor shall be repaired or replaced, at UND's sole option, entirely at the cost of the Contractor. Where damage necessitates a utility outage, contractor shall work continuously on a 24 hour, around the clock basis until the damaged utility is placed into service again. All costs to be the responsibility of the contractor.
 - g. If existing utilities are encountered during construction which are not shown on the plans, and which have not been field located, contractor shall immediately stop work in the area and notify UND PM. PM will make a determination as to nature of utility and direct contractor as to what action is to be taken.
 - h. No valve, switch or other control of the existing utility systems shall be operated for any purpose by the contractor without prior approval of UND
 - i. Contractor shall document on As-Built Drawings the location and invert elevations of encountered utilities and every 50 feet of new utility installations. Measurements shall be taken in plan from permanent structures such as exterior building walls. Final

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acceptance of contract shall be contingent upon As-Built review and approval from UND PM.

3. Newly Constructed Utilities
 - a. Contractor to provide at the time of installation of all utilities an underground utility detectable metallic marking tape for all new services. This marking tape to meet all APWA standards.
 - b. Contractor to provide a GIS mapping of all new utilities constructed, review with UND PM for compatible format with Facility Management locators.

C. PAYMENT OF UTILITY CHARGES

1. The contractor shall pay for metered charges incurred during construction until the date of Substantial Completion.
 - a. Abuse: Abuse of a UND provided temporary service will result in UND billing the contractor for those utilities being abused. Prior notification will be provided to the Contractor of abuse to cease the abuse, and UND will make final decision on who the abuser was and the amount of wasted service.
 - b. Electrical Power Service:
 - 1) **PROHIBITED:** The use of UND electrical energy for temporary electric heating on the job site.
 - 2) The contractor shall have the temporary power service inspected prior to being energized.
 - 3) Power will be available to the site from a nearby transformer or building and will be metered with a UND meter
 - 4) UND will read the meter and bill the contractor accordingly.
 - 5) Depending on the job size power may be supplied without cost at the discretion of UND.
 - 6) Construction Site Lighting: Provide temporary exterior lighting with 0.3 foot-candles around the perimeter fence line of construction sites for the safety of pedestrians traveling to and from adjacent facilities.
 - c. Water Service:
 - 1) Water will be available to the site from a nearby UND water distribution source and will be metered with a UND meter. Contractor shall provide a back-flow prevention device between the existing water system and the temporary construction system.
 - 2) UND will read the meter and bill the contractor accordingly
 - 3) The contractor shall maintain the system in a manner that will prevent freezing, flooding or contamination.
 - 4) Depending on the job size water may be supplied without cost at the discretion of UND.
 - d. Heat and Steam Service:
 - 1) **PROHIBITED:** Using completed portions of the permanent system for construction purposes without the expressed written consent of UND. This prohibited item is to ensure that the permanent HVAC system in a building is clean and dust-free and that its one-year correction period begins on the date of Substantial Completion.
 - 2) For new construction projects, the contractor shall provide temporary construction heat, including temporary enclosures for heat retention.

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- 3) For remodeling projects, the temporary construction heat may be an extension of the existing building heating system if it is adequate for the purpose. The A/E and/or CMAR shall specify if it is adequate. If the existing building heating service is inadequate, the contractor shall provide temporary construction heat.
 - 4) Through an agreement with UND, depending on the job size, a contractor may buy steam from the main campus steam distribution system.
 - 5) Usage of the steam will be billed back to the contractor based on a value per thousand pounds of steam condensate measured through a UND supplied condensate meter. The contractor shall pipe condensate back to UND's return mains.
- e. Telephone, Internet:
- 1) UND operates telephone/data lines on campus. The contractor shall be billed for telephone and data service to each field office as may be needed for the labor time and materials required for the installation. Basic monthly service includes local and toll services.
- f. Toilets:
- 1) **PROHIBITED:** Contractors or subcontractors using toilet facilities in existing buildings, except when specifically approved by UND's PM.
 - 2) The contractor shall provide portable self-contained units. Where UND's PM approves the use of existing toilet facilities, the contractor shall clean the facilities daily and at the final completion of the project.
- g. Dust Control:
- 1) The A/E and/or CMAR shall specify measures to control construction related dust, contaminants and odors within the construction limits. Construction related dust, contaminants and odors shall not interfere with normal UND activities and operations.
 - 2) All impacted roads shall be swept at the end of each day during construction if visible soil material is carried over to adjacent roads.
- h. Weather Protection:
- 1) To protect facilities during remodeling or new construction from damage due to weather, the A/E and/or CMAR shall specify the following. This language is required whenever roofs, walls or windows are distributed as part of a remodeling project, or when exterior work may impact existing drainage systems.
 - a) Provide necessary measures to protect temporary and final work, existing and adjacent buildings, material and equipment from weather damage. This includes groundwater, rainwater, wind, ice, snow and the backing up of sewers and drains.
 - b) Provide temporary weather-tight enclosures, pumps, equipment, grading, bailing or other work necessary to ensure this protection.
 - c) Provide temporary insulated weather-tight enclosures of all openings in exterior walls and roofs.
 - d) Provide temporary enclosures to withstand gale force wind.
 - e) The contractor shall inspect, protect, maintain and ensure constant operation of existing roof drains.
 - f) The contractor shall protect areas of partial demolition until area is enclosed and weather-tight
 - g) The contractor shall inspect, protect, maintain and ensure intended operation of existing interior building floor drains in the construction area.

- h) The contractor shall inspect, protect, maintain and ensure intended operation of existing site drainage, exterior catch basins and areaway drains within the construction site so water does not pond.
- i. Temporary Erosion and Sediment Control:
 - 1) General Requirements: Contractor shall comply with all requirements of NDPES all local, state and federal regulations and permits. If erosion, sedimentation disturbance occurs due to non-compliance with any of these permits or regulations, the contractor shall restore impacted areas at no cost to UND. These requirements will include, but limited to, silt fences, storm inlet protection and entry/exit provisions to minimize tracking and stabilize exposed soil.
 - 2) Silt Fences: Silt fences must be installed down gradient from all disturbed areas prior to beginning construction. The A/E and/or CMAR shall identify on the construction plans specifically where the silt fences shall be installed to control sediment migration for the construction site. Install silt fences with posts 4 feet apart or shorter. Drive posts at least 2 feet into the ground. Anchor the silt fence in a trench that is at least 6" wide and 6" deep on the upside slope of the posts. Lay fabric in trench, backfill trench and compact it. Make splices in fabric at fence posts. Overlap fabric at least 6 inches. Silt fence post shall be at least 2 inch square or larger hardwood pine, T-section or U section steel posts that weigh no less than 1 pound per lineal foot.
 - 3) Storm Inlet Protection: **PROHIBITED** – Bales or fabric under grates. Install inlet protection at all catch basins and storm sewer inlets that could possibly receive runoff from the construction site. Catch basin inserts or staked silt fences are preferred.
 - 4) Street Sweeping – Remove all soil and sediment tracked or otherwise deposited on public or private pavement areas. Remove soil and sediment on a daily basis. Street washing is only allowed after sweeping or shoveling sediment from the areas.
 - 5) Construction Site Vehicle Entry/Exit: Before beginning construction, install a temporary rock construction exit(s) at each point where vehicles exit the construction site. Use 1-inch – 2 inch diameter rock. Place aggregate in a layer at least 6 inches thick across the entire width of the exit(s). Extend the aggregate at least 50 feet into the construction site. Use geotextile fabric beneath the fabric to prevent migration of soil into the rock from below.
 - 6) Inspections: At a minimum, the contractor shall inspect each erosion and sediment control device after it rains or weekly, whichever is applicable. The contractor shall keep copies of inspection logs in the site trailer that identify which items were inspected and what corrections were made.
 - 7) Discharge: **PROHIBITED:** Concrete Truck washout and other construction generated wastes being discharged into storm sewers.
 - a) Any storm water discharge from a construction site must be visibly free of sediment and contain only rainwater.
 - 8) Maintenance: The contractor shall maintain all temporary erosion and sediment control measures until the project is complete or final site stabilization. The contractor shall replace or repair damaged or defective erosion and sediment control measures. The contractor also shall remove all said measures upon completion of the project or final site stabilization.

01-5526- VEHICULAR ACCESS AND PARKING

A. DESCRIPTION

This section describes procedures for traffic regulation and temporary steel plate bridging during construction in public streets and highways.

Submittals

The Contractor shall prepare and submit a traffic control not less than 14 working days prior to start of construction operations. Preparation of any additional traffic control plans or detail that may be required during the course of the work shall be the Contractor's responsibility. No work shall begin involving traffic control until a traffic control plan is approved by UND PM.

B. GENERAL

1. Provide safe and continuous passage for pedestrian and vehicular traffic at all times.
2. Control traffic at those locations indicated and in conformance with the approved traffic control plans and specifications.
3. Furnish, construct, maintain, and remove detours, road closures, traffic signal equipment, lights, signs, barricades, fences, K-rail, flares, solar-powered flashing arrow signs, miscellaneous traffic devices, flagmen, drainage facilities, paving, and such other items and services as are necessary to adequately safeguard the public from hazard and inconvenience. All such work shall comply with the ordinances, directives, and regulations of authorities with jurisdiction over the public roads in which the construction takes place and over which detoured traffic is routed by the Contractor. After devices have been installed, maintain and keep them in good repair and working order until no longer required. Replace such devices that are lost or damaged, to such an extent as to require replacement, regardless of the cause of such loss or damage.
4. Prior to the start of construction operations, notify the police and fire department in whose jurisdiction the project lies, giving the expected starting date, completion date, and the names and telephone numbers of two responsible persons who may be contacted at any hour in the event of a condition requiring immediate emergency service to remove, install, relocate, and maintain warning devices. In the event these persons do not promptly respond or the authority deems it necessary to call out other forces to accomplish emergency service, the Contractor will be held responsible for the cost of such emergency service.
5. Provide a minimum of 72 hours' notice to the City of Grand Forks for any work which may affect signal loops, equipment, or devices. In the event that any underground utilities, traffic devices, pipes, or conduits are damaged and require emergency repair all costs incurred, shall be paid by the Contractor.
6. Post temporary "No Parking - Tow Away" signs 48 hours prior to work in areas where parking is normally permitted. The University Parking Department shall be notified 48 hours prior to the posting of any temporary parking.
7. Coordinate the relocation of public bus and school bus routes, bus stops, and trash collection services with the agencies listed on the plans in advance of construction activity.
8. Post the construction information signs specified in affected streets at least two weeks prior to construction.
9. Notify each postal address at least two working days prior to restricting parking along the project route via first class United States mail of the nature and duration of the parking restriction.

C. TRAFFIC CONTROL DEVICES AND SIGNS

1. Traffic control devices, temporary striping, and construction signs shall conform to the latest edition of the FHA publication "Standard Highway Signs".
2. Signs shall be illuminated or reflectorized when they are used during hours of darkness. Cones and portable delineators used for night lane closures shall have reflective sleeves. Equip barricades used in the diversion of traffic with flashers if in place during hours of darkness.
3. During the duration of a detour, cover existing signs not in accordance with the traffic control plan. Relocate existing signs that are in force to provide visibility from all relocated traffic lanes.

D. TEMPORARY STEEL PLATE BRIDGING, WITH A NONSKID SURFACE

1. When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a workday, provide steel plate bridging with a nonskid surface and shoring to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:
 - a. Steel plates used for bridging shall extend a minimum of 12 inches beyond the edges of the trench.
 - b. Install steel plate bridging to operate with minimum noise.
 - c. Shore the trench to support the bridging and traffic loads.
 - d. Use temporary paving with cold asphalt concrete to feather the edges of the plates if plate installation by Method 2 is used.
 - e. Secure bridging against displacement by using adjustable cleats, shims, or other devices.
2. Maintain the steel plates, shoring, and asphalt concrete ramps.

E. VEHICULAR TRAFFIC CONTROL

1. Complete backfill, compaction, testing, and the first lift of permanent paving to a point not to exceed 1,000 feet behind the working heading. Shoring members, beams, or other obstructions shall not be permitted within a 2-foot clearance between the edge of excavation and the edge of any traffic lane. At construction areas where an open trench exists and/or where traffic detour will be in existence during night hours, replace delineators with barricades or K-rail.
2. Accomplish construction in phases by detouring traffic from its normal patterns. Restore traffic to normal patterns in each phase before proceeding to the next phase.
3. Transition traffic lane transitions from permanent lanes to construction zone patterns in accordance with the requirements for the normal posted speed limit and as shown in the drawings.
4. Unless allowed by the University, limit construction activities to 7 a.m. to 5 p.m. Monday through Friday. Return roadways and sidewalks to unrestricted vehicle and pedestrian usage when construction is not underway.
5. During the peak traffic volume hours of the day, from 6:00 a.m. to 8:30 a.m. and 3:30 p.m. to 7:00 p.m. on weekdays only, limit construction activities within the construction zone to those which will not impact the free movement of vehicular traffic in its detoured pattern. Construction

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equipment or trucks shall not use or travel adjacent to traffic lanes during these time periods. Truck operations in and out of construction and staging areas shall be controlled by flagmen at all times.

F. PEDESTRIAN TRAFFIC CONTROL

1. Maintain and delineate a minimum of one 4-foot-wide pedestrian walkway along each public street at all times during construction. Maintain existing pedestrian accesses at intersections at all times. When existing crosswalks are blocked by construction activity, install signs directing pedestrian traffic to the nearest alternative crosswalk.
2. Erect a fence or provide other means of securement to preclude unauthorized entry to any excavation during all nonworking hours on a 24-hour basis including weekends and holidays. Said fence shall be a minimum of 6 feet high around the entire excavation, consisting of a minimum 9-gauge chain-link type fence fabric and shall be sturdy enough to prohibit toppling by children or adults. There shall be no openings under the wire large enough for any child to crawl through. Lock any gates if no adult is in attendance.

G. ACCESS TO ADJACENT PROPERTIES

1. Maintain reasonable access from public streets to adjacent properties at all times during construction. Prior to restricting normal access from public streets to adjacent properties, notify each property owner or responsible person, informing him of the nature of the access restriction, the approximate duration of the restriction, and the best alternate access route for that particular property.

H. PERMANENT TRAFFIC CONTROL DEVICES

1. Existing permanent traffic control signs, barricades, and devices shall remain in effective operation unless a substitute operation is arranged for and approved as a portion of vehicular traffic control above. Traffic signal modification and restoration work shall be in accordance with Section 86 of the State Specifications.
2. Contact UND PM 48 hours prior to work affecting traffic signal phasing or vehicular detection loops.
3. Completely restore traffic signals affected by the construction to its original operation immediately upon completion of the work requiring the signal modification.
4. Restriping of Streets: Permanent restriping shall be in accordance with the requirements of the agencies having jurisdiction. Place and remove temporary striping required for traffic control during construction by sandblasting. Temporary striping includes any striping required on any pavement replaced prior to the final surface course. Replace any damaged or obliterated raised pavement markers in accordance with the standards of the agency having jurisdiction.

01-5700 – TRAFFIC, PEDESTRIAN AND PARKING CONTROL

A. SUMMARY

1. Section specifies requirements for construction activities impacting the Campus Community outside the designated construction site, as well as requirements for Contractor ingress to and egress from the project site. Section includes, but is not limited to the following:
 - a. Construction activities within or adjacent to pedestrian walkways and thoroughfares.
 - b. Construction within landscape and hardscape areas outside the designated Project site area.
 - c. Procedures for work within city streets and campus roads.
 - d. Haul routes and temporary traffic Control.
 - e. Contractor parking.

B. WORK WITHIN AREAS OF PEDESTRIAN ACCESS

1. General: These requirements apply to all work required on the Campus outside the designated Project Site. Requirements also apply to activities occurring on the Project Site, which impact adjacent areas of the Campus.

Fencing of Work Areas:

- a. All work areas shall be fenced with minimum 6' chain link portable fence sections, with 1-1/2" top, bottom and side rails. All fencing shall be covered with baseball windscreen from www.allcourtcovers.com Armor Mesh – Color – Kelly Green telephone 877.393.9726, secured to top, bottom and side rails with integral metal eyelets. Fencing materials shall be maintained in good, damage free condition at all times.
 - 1) Fencing shall extend around and enclose entire work area, as well as stored materials and equipment.
 - 2) Fencing shall be secured in a closed condition when not required to be open to allow completion of the work. Fencing shall be secured each day at the close of work.
 - 3) The use of alternate materials such as barricades, delineators and caution tape to enclose or delineate work areas will not be accepted.
3. Sidewalk closures and restrictions
 - a. Use reflectorized signage where required to indicate closure of sidewalks, temporary revisions to crosswalks and other impacts to normal pedestrian walk routes.
 - b. Where sidewalks which are partially restricted due to construction activities, a minimum width of 48" shall be maintained.
 - c. Bases for temporary fencing shall not extend into the required walk area.
 - d. Where portions of a sidewalk are temporarily closed, temporary fencing shall be placed at the nearest intersection to prevent the site impaired from traveling in a direction which will require them to eventually stop and return to said intersection. Pedestrian detour signs and "sidewalk closed" signs shall also be provided at the point of closure.
4. Access for construction equipment and material deliveries
 - a. All haul routes and delivery routes shall conform to the routes designated in Contractor's approved Work Plans. Reference Section 01310 for requirements.

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- b. Times for delivery of materials and hauling shall comply with the requirements of the Contract Documents and approved Contractor Work Plans.
 - c. No staging or parking of vehicles or construction equipment will be allowed outside the Project Site, except within the work areas designated in the approved Contractor Work Plans.
 - d. Flagman Requirements
 - 1) All major vehicles and equipment using approved haul routes which travel over intercampus pedestrian thoroughfares shall be escorted by at least one flagman until the vehicle or equipment is within the confines of the project site. Contractor is advised that the Campus Community includes a large volume of students and staff with disabilities, including but not limited to wheel chair users, persons with hearing impairments, and persons with sight impairments; for this reason, escorting of equipment and vehicle traffic will be strictly enforced.
 - 2) Flagman shall be trained and shall direct pedestrians and traffic in accordance with the requirements set forth in section 1.04 below.
 - 3) Entry and exit gates to the project site shall be left in a closed position at all times, unless a flagman is stationed at the gate to control unauthorized entry into the project site.
5. Maintenance of thoroughfares
- a. Pedestrian thoroughfares and crossings shall be maintained in a safe, clean condition, free of dirt, gravel and other debris resulting from construction operations at all times.
 - b. Where work occurs on or adjacent to pedestrian thoroughfares, Contractor shall employ adequate measures (such as sandbagging, earthen barriers, etc.) to ensure that walks are protected from overflow of construction materials or runoff into the pedestrian area.
 - c. Where work occurs on or adjacent to pedestrian thoroughfares, Contractor shall employ adequate measures to ensure that walks are protected from overhead hazards, such as falling debris. Provide covered walkway structures and other measures as required to comply with O.S.H.A. standards.
 - d. Contractor shall confirm local Fire Dept. requirements for access to the construction site and other Campus facilities impacted by the Work throughout the course of construction. Where Fire Dept. access must be maintained at specific areas, Contractor shall tailor the Work Plan and provide necessary temporary measures to accommodate same.
6. Trenching Operations
- a. Where trenching occurs through, across or adjacent to pedestrian thoroughfares, the work shall comply with the approved Work Plan for the area in question.
 - b. Temporary pedestrian crossings required due to trenching operations:
 - 1) Steel plating shall be placed across trenches and trench bracing shall be installed.

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- 2) Min. 6' high chain link fencing sections (per section 1.02.B above) shall be installed inside the edge of the plating on each side to clearly delineate the path of travel and prevent pedestrians from stepping into trench area.
- 3) All steel plating shall have beveled edges and shall comply with A.D.A. requirements for path of travel. Edges of plates at each approach shall be painted with a 1" safety yellow contrasting band.
- 4) The use of barricades, delineators and or caution tape in lieu of the required temporary fencing sections is unacceptable.

C. WORK WITHIN ROADWAYS AND PARKING AREAS

1. General Requirements
 - a. Where trenches, excavations or other work is required within streets, the Work shall be scheduled so as to maintain a minimum of one open traffic lane at all times. A minimum of two lanes as required to allow safe 2-way traffic shall be restored prior to completion of Contractor's operations each day.
 - b. All work within Campus roadways and Parking areas requires approval of Contractor's Work Plan prior to commencement. Reference Section 01310 for Work Plan requirements.
2. Flagman requirements
 - a. Whenever existing traffic lanes are altered, contractor shall provide properly equipped and trained flagmen to direct traffic.
 - b. Whenever a section of two-way traffic is temporarily reduced to one lane, a minimum of two flagmen shall be provided to ensure proper traffic control in each direction. 2-way radio devices shall be used for communication between the flagmen where both direct line of site and audible communication cannot be maintained.
 - c. Flagmen shall be dedicated solely to traffic and pedestrian control and shall not perform additional duties while assigned as flagmen.
3. Signage
 - a. Traffic control signage shall be provided as required for safe and proper direction of vehicles.
 - b. All signage shall be reflectorized.
4. Haul Routes
 - a. Haul Routes for Construction activities and delivery of materials shall strictly adhere to routes designated in the contract documents. All vehicles and equipment are required to use designated routes only. Deviations from designated haul routes shall only be permitted where previously authorized in Contractor's approved Work Plans.
 - b. Continuous or major hauling on campus roads shall be restricted to the hours of 7:00 am through 6:00 p.m. unless otherwise authorized by the University Representative.
 - c. Contractor shall comply with hauling and truck traffic requirements on all City roads and shall obtain all required permits and authorizations. Weight loads carried by vehicles shall be within capacity recommended by manufacturer and shall comply with applicable laws and regulations relating to allowable capacities for specific roads.

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- d. Roads shall be maintained in a clean condition at all times. Sweeping of roads shall occur at minimum on a daily basis, or more often as required by continual hauling operations or construction traffic.
 - e. All loads shall be covered with secured tarpaulins when gravel, asphalt, debris, or other loose materials are removed from or hauled into the Campus.
 - f. Truck staging shall not occur on any campus road, or City road within the Campus, unless prior authorization is received through approval of the Contractor's Work Plan.
 - g. Provide protection against damage to existing sidewalks, curbs and gutters and other improvements at locations where construction vehicles enter. Contractor shall be responsible for repair of all damage resulting from its operations. Damage to concrete shall be repaired by replacement of full sections to the nearest existing construction joint in each direction.
5. Emergency Response Access
- a. Contractor shall maintain adequate provisions for passage of emergency response vehicles (ambulances, fire trucks etc.) over campus roads and inner-campus thoroughfares at all times.
 - b. At all times that work is occurring which requires trenching, excavations, or other blockages of any fire lane or emergency access location, Contractor shall have traffic plating and other materials and equipment on hand as required to permit immediate passage of response vehicles in the case of an emergency. At no time shall said blockages be left unmanned.

D. PARKING CONTROL

- 1. Contractor and its subcontractors and suppliers shall park within the Construction site and other authorized areas as identified in the Contract Documents.
- 2. Any parking in University lots or stalls outside the authorized areas identified in the Contract Documents requires payment of the current University parking fees as evidenced by display of a valid UND parking permit.
- 3. Contractor, subcontractors and suppliers shall at no time park any vehicle on the inner-campus, outside the confines of the construction site as designated in the Contract Documents. Vehicles in non-compliance will be cited and towed.

01-5739 – TEMPORARY TREE AND PLANT PROTECTION

- A. **PROHIBITED:** Using trees that are to remain for crane stays, guy anchors or other fastenings.
- B. **PROHIBITED:** Lighting fires, storing materials, piling debris or parking motorized equipment within the spread of the branches of the any tree.
- C. **PROHIBITED:** Placing excavated material against shrubs or tree trunks.
- D. Provide a fence 3'-0" beyond the drip line of trees and plantings, nothing may be placed within the fence line.

01-5800 – PROJECT IDENTIFICATION AND SIGNS

A. GENERAL

1. Confirm with UND PM if a project identification sign is required and if so it will follow the standard illustrated below in which the following apply.
 - a. 48” x 96” size for exterior signage displaying capital project
 - b. 24” x 48” size for interior signage displaying capital remodel project
 - c. All green color on signage, not rendering, must adhere to the campus standard of using Pantone 347 – Consult with UND PM
 - d. Identify major A/E firms, contractor and Facility Management.
 - e. Provide UND logo in bottom right portion of sign.
2. The contractor may have a sign on the field office stating the contractor’s name and address.
3. Smaller signs to direct traffic or deliveries may be erected as needed.
4. All campus directories, maps and directory listings shall be updated as part of the project.



01-7419 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

A. HAZARDOUS WASTE MANGEMENT

1. General – Evaluation, on-site storage, transportation, disposal, abatements, chemical disposal from Labs and other aspects of Hazardous Waste Management shall comply with the North Dakota Department of Health Environmental Health Section, www.ndhealth.gov
2. Hazardous Waste from Construction Activities: The contractor is responsible for the proper management of hazardous waste generated by his or her construction activities. Such waste is

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considered excess or unwanted hazardous construction-related materials, including, but not limited to, aerosols, paints, activators, adhesives, Lab chemicals and caulks. In no case shall such hazardous waste be co-mingled with demolition hazardous waste. In no case shall such construction hazardous waste be co-mingled with non-hazardous construction or demolition waste.

a. Submittals

- 1) The contractor shall submit the Demolition and Construction Hazardous Waste Management Plan to the UND PM 10 days prior to the start of construction. The Plan shall include the following elements:
 - a) The facilities to be used, indicating which of the targeted wastes are to be received, projected volumes and documented permit status of each.
 - b) Maintenance of a Demolition and Construction Hazardous Waste Log. The log shall include dates, facility, transporter, weights and a file of waste receipts and shipping papers for all waste shipped off-site.
- 2) The contractor shall maintain the Demolition and Construction Hazardous Waste Log and submit the completed log to the UND PM at the end of demolition and at the end of construction.

B. SOLID WASTE MANAGEMENT PLAN

1. General – Manage Construction and demolition waste through reuse, recycling and reduction methods. Typical designated waste streams are land clearing, debris, concrete and masonry, metals, dimensional wood and lumber, wooden pallets, gypsum wallboard, paper and cardboard. Depending upon the project, other large volume wastes may be included such as bricks and asphalt.
2. A specified percentage of the waste shall be collected, segregated and sent for recycling or reuse. Documented waste reduction strategies shall be credited toward the percentage of waste goal.
3. Specifications of the Solid Waste Management Plan shall include standard instructions for handling designated wastes. The instructions shall stress the need for not contaminating the recyclable wastes.
4. Definitions
 - a. Reduction: Eliminating excess material or waste by ordering materials to fit the module of the design. Two ways to achieve reduction is to eliminate cut-off waste from lumber, drywall or carpeting; and working with suppliers to eliminate or reduce packaging.
 - b. Reuse: Salvaging components from remodeling or demolition projects. These components are then resold or transferred to salvage business, non-profits, material exchange networks or used in new construction at the same site or elsewhere. Reusable items include plumbing and mechanical equipment, doors, windows, fixtures and trim. Other reuse strategies include returning unused products or shipping containers/pallets to vendors.
 - c. Recycling: Recovering materials that have existing and stable markets that can be used as raw materials for manufacturing new products. Examples include cardboard, metals and concrete.
5. Submittals: The contractor shall submit the Solid Waste Management Plan to UND PM 10 calendar days prior to the start of construction. The plan shall include the following elements:
 - a. Whether construction waste shall be recycled or reused by source separation, time-based separation or co-mingled for delivery to an off-site separation facility.
 - b. The targeted materials for recycling and reuse, the projected volume and their destination. Identify recyclable or other recoverable materials that shall not be targeted in this project, and provide reasons why they shall not be recycled/recovered.

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- c. The goal of what percentage of waste shall be diverted from landfills or incinerators to be established per project between contractor and UND PM.
- d. The landfill and recycling facilities to be used. Indicate the targeted wastes to be received and the projected volumes. Document the permit status.
- e. Maintenance of a construction waste log that includes dates, facility, transporter and weights. Also include a file of receipts for waste shipped off-site.

C. IMPLEMENTATION

- 1. The contractor shall conduct a pre-construction waste management conference to discuss the plan requirements, schedules and procedures. Attendees should include the UND PM, architect, waste management personnel from the contractor's firm and suppliers when appropriate.
- 2. The contractor shall designate an on-site party that is responsible for implementing the plan and instructing workers during orientation and safety meetings. The party shall provide instruction on separation, handling and recovery methods and distribute the plan to site foreman and each subcontractor.

01-7700 – CLOSEOUT PROCEDURES

A. Upon completion of the project and before final payment is made to either the contractor and/or A/E consultant, the requirements of sections 017700 – 017900 must be completed to the satisfaction of UND PM.

B. All documents required in these sections shall be organized by the contractor and reviewed/approved by A/E consultant prior to review by UND PM.

C. SUBMITTALS

- 1. It is not uncommon for UND to have difficulty obtaining final submittal items from the contractor, A/E unless the contractor, A/E works on them from the beginning of the project: Therefore:
 - a. The A/E shall advise UND PM throughout construction as to the status of the contract closeout submittals including but not limited to:
 - 1) The ongoing development of the maintenance and operations manuals
 - 2) Record Drawings
 - 3) Equipment data and instructions
- 2. Project Closeout Checklist
 - a. Required for Occupancy
 - 1) Final Inspection Punch List to UND PM
 - 2) State Fire Marshal Inspection – if applicable
 - 3) Certificate of Substantial Completion
 - 4) Certificate of Occupancy
 - b. Required for Notice of Completion
 - 1) HVAC Balance Report
 - a) Final inspection by UND will not be conducted prior to delivery of all air balance and performance data, operating instructions and descriptive literature that contains complete numbered replacement parts list.
 - 2) Keys/Keying
 - a) Returning of UND Keys
 - 3) Training
 - 4) Final Inspection Punch List Completed
 - 5) Special Inspection Final Report – if applicable

- 6) Elevator Inspection – if applicable
- 7) Removal of Temporary Facilities
- 8) Final Cleaning
- 9) Commissioning
- 10) Certificate of Completion executed by all parties.
- c. Required for Release of Retention
 - 1) Spare Parts/Materials
 - 2) Warranties & Insurance
 - 3) As-Built Documents
 - a) Field notes “Red lined” set.
 - b) One hard set of drawings that reflect all change orders, field changes and revisions. Handwritten notations are NOT acceptable, they need to be transferred digitally to these final As-Built drawing.
 - c) BIM – Revit model – Agreement AIA G202 to be included as an exhibit within the final Owner/Architect agreement
 - d) Electronic .dwg files for ALL disciplines that include all final As- Built conditions.
 - 4) O&M Manuals
 - a) One hard copy and one digital that is searchable with TOC
 - 5) Claims Resolved or Funds Held
 - 6) Stop Notice Closed
 - 7) Release of Retention by UND PM
 - a) Consent of Surety

01-77 50 – TRANSITIONAL MEETINGS

A. GENERAL:

1. **3 Months Minimum** prior to substantial completion the contractor shall begin Transitional Meetings for the purposes of turning this facility over to UND Facilities/Operations. The following is a minimum of what the agenda for those meetings will be comprised of, UND PM will organize the appropriate representatives, coordinators and supervisors from UND Operations for each of the following:
 - a. Building Automation
 - 1) Review/plan for installation of controls and review the latest as-built drawings
 - 2) Network equipment for automation review, schedule delivery
 - 3) Fire Alarm Automation installation review, requirements
 - a) **Building Fire Alarm must report to UND Operations prior to Occupancy.**
 - b. Fire Alarm and Sprinkler Remote
 - 1) Review/plan for functional Data Room with switches on-line
 - 2) Wire from fire panel to controller review
 - 3) Testing of system
 - c. Card Access and Programming
 - 1) Access Control needs to be available immediately at turn over to Facilities to mitigate or limit the issuance of keys
 - 2) FOB’s, I.D. cards etc...to be determined and reviewed for access, what doors need access.
 - 3) Door contacts to be reviewed and ordered in a timely manner for installation prior to substantial completion.

- 4) Electronic Door Access Systems
 - a) Shall be on a server managed and maintained by VPFO IT
 - b) The location license for each physical and virtual electronic door shall be purchased as part of the project.
 - c) A/E to indicate locations on Construction Documents
 - d) At a minimum, electronic door access will be used at the identified entrances and exits of the facility.
- d. Keying
 - 1) Coordinate requirements with UND Operations
- e. IT Network / Computer Set-Up
 - 1) Confirm delivery date for equipment, review equipment
 - 2) Data Rooms to be lockable for Network installation
 - 3) Access points to be determined along with wireless routers needed
- f. Phones
 - 1) Coordinate/Review with Faculty, Staff, end user phone access, appropriate locations based on new/remodeled spaces. Coordinate also with furniture installation.
- g. Custodial
 - 1) Verify / review custodial equipment purchasing and delivery along with supplies needed.
 - 2) Review restroom layouts for verification of restroom accessory quantities and locations.
 - 3) Review custodial facilities to ensure they meet the campus design standards.
 - 4) Verify / review room finish schedule with Custodial staff.
- h. Video Surveillance Systems – if applicable
 - 1) Video recording for IP cameras shall be on a server managed and maintained by VPFO IT
 - 2) Video license for each camera shall be purchased as part of the project
 - 3) A/E to indicate camera/equipment locations on Construction Documents
 - 4) The video surveillance will cover at a minimum the entrances and exits of the facility, any long corridors, point of sale locations, any area identified as a high security zone (i.e. vault, cash room, secure file room, EHS sensitive area, etc.)
- i. Moving Schedule and Furniture installation- if applicable

01-7823 – OPERATION AND MAINTENANCE DATA

A. GENERAL

- 1. **Final Operational and Maintenance Data must be turned for UND review 2 weeks prior to Demonstration and Training.**

B. SUBMITTALS

- 1. The contractor shall assemble and submit one hard copy of Operations and Maintenance Manual delivered to A/E. A/E to review, comment and if acceptable present to the UND PM for review.
 - a. Arrange manual according to the numbers used in the specification sections of the project manual.
 - b. Operation and Maintenance Manual shall contain:
 - 1) A copy of the executed Certificate of Substantial Completion to inform all necessary UND personnel about the starting date of the one-year correction period.

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- 2) Final approved shop drawings, including product data, data sheets and catalog information
 - 3) The manufacture's required preventative maintenance inspections, testing, service, lubrication, maintenance instructions and schedules.
 - 4) Documentation of manufacturer's initial setup
 - 5) Operating instructions, including typical start up and shutdown procedures.
 - 6) Emergency instructions
 - 7) Parts list and local service organizations
 - 8) Signed record copy of bonds, guarantees and warranties required in the contract documents
 - 9) Wiring and piping diagrams
 - 10) Electrical System Protection Device Study
2. The contractor shall assemble and submit a digital file containing Operations and Maintenance Manual that is searchable with a Table of Contents provided. Submit to A/E for review and if approved, A/E to forward to UND PM

01-7839 – PROJECT RECORD DOCUMENTS

A. CONTRACT DRAWINGS:

1. Maintain a clean, undamaged copy of contract drawings to use as the original project record drawings
2. Contractor to maintain one other set of contract documents at the job site, on which variations shall be accurately marked with RED erasable pencil on a daily basis. Record all changes as a result of change orders, architects ASI, contractor change directives, etc...
3. Pay particular attention to recording concealed elements that will be difficult to measure and record later.
4. The A/E shall NOT receive final payment until UND receives and accepts contract drawings.

B. CONTRACT SPECIFICATIONS / MANUAL:

1. Maintain a clean, undamaged copy of contract specifications to use as the original project record specifications.
2. Include one copy of addenda and other written documents issued during the construction period such as change orders, RFIs and PRs with the record manual
3. The A/E shall NOT receive final payment until UND receives and accepts contract manual.

01-7875 – EXTRA STOCK MATERIALS

- A. A complete replacement set of HVAC air-cleaning devices provided must be supplied at the completion of the project.
- B. Extra quantities of the products mentioned in Division 9 shall be made available to UND, at five (5%) percent of the total use, for future use to replace damaged materials.
- C. Contractor to notify UND PM the location of extra stock material so that arrangements can be made for its proper storage.

01-7895 – FINAL CLEANING

A. GENERAL

1. This section includes cleaning during construction and final cleaning on completion of the work.
2. At all times maintain areas covered by the contract and adjacent properties and public access roads free from accumulations of waste, debris, and rubbish caused by construction operations.
3. Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws. Do not burn or bury rubbish or waste materials on project site. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains. Do not dispose of wastes into streams or waterways.
4. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. CLEANING DURING CONSTRUCTION

1. During execution of work, clean site, adjacent properties, and public access roads and dispose of waste materials, debris, and rubbish to assure that buildings, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
2. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
3. Provide containers for collection and disposal of waste materials, debris, and rubbish.
4. Cover or wet excavated material leaving and arriving at the site to prevent blowing dust. Clean the public access roads to the site of any material falling from the haul trucks.

C. SITE CLEANING PRIOR TO LANDSCAPING

1. Remove concrete, concrete wash, stucco splatter, gunite overspray, and all other wastes and debris prior to final grading and landscaping.

D. FINAL CLEANING

1. At the completion of work and immediately prior to final inspection, clean the entire project site as follows.
 - a. Clean, sweep, wash, and polish all work and equipment including finishes.
 - b. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior finished surfaces; polish surfaces.
 - c. Repair, patch, and touch up marred surfaces to match adjacent surfaces.
 - d. Broom clean paved surfaces; rake clean landscaped areas.
 - e. Remove from the site temporary structures and materials, equipment, and appurtenances not required as a part of, or appurtenant to, the completed work.

01-7900 – DEMONSTRATION AND TRAINING

- A. **Training must be completed before UND Facilities/Operations accepts control the building. Training will not take place until adequate review of As-built documents have been completed.**

- B. Provide as a submittal the sign in sheet listing all UND employees at the training functions.
- C. Equipment Operating Instructions: All Engineers used within the scope of the work for this project will, through the UND PM, set up training sessions for their respective products/equipment.

End of Section