

SECTION 01300 SUBMITTALS

- 01300-1 GENERAL:
1. REQUIREMENTS INCLUDED:
A. Procedures.
B. Construction Progress Schedules.
C. Shop Drawings.
D. Product Data.
E. Samples.
2. PROCEDURES:
A. No submittals should be made for items which are to be provided per plans and specifications unless specifically required by the specifications or requested by Owner.
B. Delivery Address: Deliver submittals to Owner at address listed on Invitation to Bid.
C. Transmittal Form and Identification: Identify project, Contractor, subcontractor, major supplier, identify pertinent Drawing sheet and detail number, and Specification Section number, as appropriate. Identify deviations from Contract Documents. Provide space for Contractor and Owner/Architect review stamps.
D. Review:
1. Contractor:
a. General: Review submittals prior to transmittal, determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents. Submittal information deviating from requirements of contract documents shall be clearly circled in red.
b. Coordination: Coordinate submittals with requirements of Work and of Contract Documents.
c. Certification: Apply stamp and sign or initial each sheet of shop drawings and product data, and each sample label to verify compliance with requirements of Contract Documents. Notify Owner in writing of any deviation from requirements of Contract Documents.
2. Owner:
a. General: Owner will review shop drawings, product data, and samples and return submittals within 14 days.
b. Acceptance and Fabrication: Do not fabricate products or begin work which requires submittals until return of submittal with Owner's acceptance.
E. Revisions: After Owner review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
F. Distribution: Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

- 01300-1.3 CONSTRUCTION PROGRESS SCHEDULES:
A. Construction Schedule: Along with the Invitation to Bid, the Owner will submit to Contractor copies of his Anticipated Construction Schedule.
B. Type: Network analysis system using the critical path method, generally as outlined in Associated General Contractors of America (AGC) publication "Construction Planning and Scheduling" is preferred, but a horizontal bar chart with separate bar for each major trade or operation, identifying first work day of each week is acceptable.
C. Sequence of Construction: Show complete sequence of construction by activity, identifying work of separate stages and other logically grouped activities.
D. Percentage of Completion: Show projected percentage of completion for each item of work as of time of each Application for Payment.
E. Submittal Dates: Submit submittal dates required for shop drawings, product data, and samples, and product delivery dates, including those furnished by Owner.
F. Copies Required: Submit three copies within 10 days after date of notice to proceed. After review by Owner, revise and resubmit as required.
2. Revised: Submit three copies with each Application for Payment, reflecting changes since previous submittal.

- 01300-1.4 SHOP DRAWINGS:
A. General: Present in a clear and thorough manner. Title each drawing with Project name and number, identify each element of drawings by reference to sheet number and detail, schedule, or room number of Contract Documents. Identify field dimensions; show relation to adjacent critical features or work or products.
B. Copies Required: Submit four (4) copies of each sheet.
C. Reproduction and Distribution: After Owner review and acceptance, reproduce and distribute in accord with procedures above. Owner will make and retain copies required for his own use.

- 01300-1.5 PRODUCT DATA:
A. General: Submit only pages which are pertinent, mark each copy of standard printed data to identify pertinent products, reference to Project Manual Section and Article number. Show reference standards, performance characteristics, and capacities, wiring and piping diagrams and controls, component parts, finishes, dimensions, and required clearances.
B. Modifications: Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the work. Delete information not applicable.
C. Copies Required: Submit number Contractor requires, plus three copies for Owner's use.

- 01300-1.6 SAMPLES:
A. General: Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, including colors, textures, and patterns. Submit samples to illustrate functional characteristics of products, including parts and attachments.
B. Identification: Label each sample with identification required for transmittal letter.
C. Number Required: Two sets of samples, charts, color plates and manufacturer's data.

- 1. EFS:
A. Provide 12-inch by 12-inch (300mm by 300mm) samples of applied finish coating materials for coating, color and texture selection per Section 01300 "Submittals".
B. Product Data: Submit manufacturer's product specifications and data on system materials, product characteristics, performance criteria and limitations. Include handling, installation and repair instructions.

- 2. BRICK:
A. General: Provide shapes indicated and as follows for each form of brick required:
1. Provide units without cores or frogs and with exposed surfaces finished for ends of sills and caps and for other applications that would otherwise expose unfinished brick surfaces.
B. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
1. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
C. Face Brick, ASTM C 216, Grade SW, Type FBS, and as follows:
1. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced".
2. Surface Coloring: Brick with surface coloring, other than flashed or sand finished brick, shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet.
3. Size: As indicated on the drawings.
4. Application: Use where brick is exposed, unless otherwise indicated.
5. Where shown to "match existing," provide face brick matching color, grade, texture, and size of existing adjacent brickwork.
6. Products: As scheduled on the drawings.
D. Building (Common) Brick: ASTM C 62, Grade SW, and as follows:
1. Size: Manufactured to the following actual dimensions:
a. Match size specified for face brick.
2. Application: Use where brick is indicated for concealed locations. Face brick complying with requirements indicated for building brick may be substituted for building brick.

- 3. FRP:
A. Submit four samples, per Submittals Section, of each material proposed to the Architect for acceptance. If substituting other than specified item for approval of a substitution.

- 4. PAINTING:
A. Provide color match sample(s) to the Architect for acceptance.

- 5. TILE:
A. Submit two samples, per Submittals Section, of each material proposed to the Architect for acceptance.

- 6. CEILING:
A. Submit two samples of the acoustical ceiling panel and metal ceiling panel.

- 7. WOOD FLOORING:
A. Product Data: Submit manufacturer's detailed technical product data and installation instructions for each type of wood flooring. Include instructions for handling, storage, installation, finishing, protection, and maintenance.
B. Samples: Submit sets of range samples for each type of wood flooring. Include sample finishes for selection by the Architect of size to provide total appearance, and minimum sample of each type of required accessory item such as wood or floor grates, reducer strips, baseboard, trim molding, and nosings.

- 8. DRYWALL:
A. Provide 12-inch by 12-inch (300mm by 300mm) samples of applied finish coating materials for coating, color and texture selection.
B. Product Data: Submit manufacturer's product specifications and data on system materials, product characteristics, performance criteria and limitations. Include handling, installation and repair instructions.

- 9. Concrete Submittals:
A. Product Data: For each type of manufacturer's material, provide technical characteristics of materials, project conditions, field test results, or other manufacturer's warranted adjustments.
B. Indicate amount of mix water to be withheld from each additional at Project site.
C. Inform: Contractor shall provide details of placement, bending, and placement, preparation, curing, and protection of concrete. Details of placement, bending, and placement, preparation, curing, and protection of concrete. Details of placement, bending, and placement, preparation, curing, and protection of concrete.
D. Formwork: Formwork to be erected by or under the supervision of a qualified professional engineer design fabricator, assembly, and support of formwork. Design and engineering of formwork are Contractor's responsibility.

- 10. Mechanical Work:
A. Submittal Data:
1. The submittal data shall be handled as hereinbefore specified in the "General Conditions" section of these specifications or as specifically stated in the drawings.
2. Before submittal of all data, the Contractor shall check each piece of apparatus, equipment and accessory to insure compliance with requirements of the plans and specifications and shall clearly mark each submittal with his signature to indicate that they are in full compliance. Any submittals received without the Contractor's signature may be returned without being checked. It shall be the Contractor's responsibility to point out all deviations before submittal.
3. Each set of data from any one manufacturer shall be bound in an individual folder properly indexed and marked to indicate job, Contractor, supplier and purpose for which data enclosed is submitted. The Contractor shall check each requirement of the plans and specifications and shall clearly mark each submittal with his signature to indicate that they are in full compliance. Any submittals received without the Contractor's signature may be returned without being checked. It shall be the Contractor's responsibility to point out all deviations before submittal.
4. Submittal data (manufacturer's catalog data) shall include the following:
a. Fire protection system components and devices (when applicable to project).
b. Insulation.
c. Domestic water heaters.
d. Plumbing fixtures and equipment.
e. Packaged roof top cooling/heating units.
f. Exhaust Fans.
g. Testing, adjusting and balancing.

- 11. Shop Drawings:
A. Each Contractor shall submit shop drawings whenever equipment proposed varies in physical size and arrangement of equipment space, where tight spaces require extreme coordination between ductwork, piping, and other equipment where called for elsewhere in these specifications, and where specifically requested by the Owner. Shop drawings shall be made at no additional charge.
B. All required shop drawings, except as hereinafter specified shall be prepared at a scale of not less than 1/4 inch equals one foot by the Contractor. He shall submit prints as hereinbefore described under "submittal data".
C. Shop drawings shall be prepared on the following items:
1. For installation of roof top units and duct systems where units furnished differ in physical size and arrangement from those scheduled and shown.
2. In other locations, as directed by the Owner.
3. Complete fire sprinkler system drawings, including indication of proper coordination with ceiling pattern. Drawings shall be approved by required government and insurance authorities before submittal.
4. Each Contractor shall submit shop drawings as herein listed. These drawings shall be complete working drawings prepared in a neat reproducible form and shall indicate the work of all trades the areas involved. Unless otherwise directed, they shall be prepared by the Heating, Ventilating and Air Conditioning Contractor who shall be responsible for the coordination with other trades.

- 12. Electrical Work:
A. Submittal Data:
1. The submittal data shall be handled as hereinbefore specified in the "General Conditions" section of these specifications as specified in the "Shop Drawings".
2. Before submittal of all data, the Contractor shall check each requirement of the plans and specifications and shall clearly mark each submittal with his signature to indicate that they are in full compliance. Any submittals received without the Contractor's signature may be returned without being checked. It shall be the Contractor's responsibility to point out all deviations between the plans and specifications and the materials submitted.
3. Each set of data from any one manufacturer shall be bound in an individual folder properly indexed and marked to indicate job, Contractor, Architect, Engineer, supplier and purpose for which data enclosed is being offered. Data submitted shall show proposed equipment only and shall not be catalogs showing manufacturer's complete line. Each sheet shall indicate the name of manufacturer of the equipment being submitted. Sufficient data shall be included to provide compliance with the specifications as far as schedule, capacity, efficiencies, physical size, quality of materials and all other pertinent specifications. Data shall include manufacturer's name for each item of equipment submitted.
4. Each Contractor shall submit shop drawings as herein listed. These drawings shall be complete working drawings prepared in a neat reproducible form and shall indicate the work of all trades the areas involved. Unless otherwise directed, they shall be prepared by the Heating, Ventilating and Air Conditioning Contractor who shall be responsible for the coordination with other trades.

- 13. Electrical Work:
A. Submittal Data:
1. The submittal data shall be handled as hereinbefore specified in the "General Conditions" section of these specifications as specified in the "Shop Drawings".
2. Before submittal of all data, the Contractor shall check each requirement of the plans and specifications and shall clearly mark each submittal with his signature to indicate that they are in full compliance. Any submittals received without the Contractor's signature may be returned without being checked. It shall be the Contractor's responsibility to point out all deviations between the plans and specifications and the materials submitted.
3. Each set of data from any one manufacturer shall be bound in an individual folder properly indexed and marked to indicate job, Contractor, Architect, Engineer, supplier and purpose for which data enclosed is being offered. Data submitted shall show proposed equipment only and shall not be catalogs showing manufacturer's complete line. Each sheet shall indicate the name of manufacturer of the equipment being submitted. Sufficient data shall be included to provide compliance with the specifications as far as schedule, capacity, efficiencies, physical size, quality of materials and all other pertinent specifications. Data shall include manufacturer's name for each item of equipment submitted.
4. Each Contractor shall submit shop drawings as herein listed. These drawings shall be complete working drawings prepared in a neat reproducible form and shall indicate the work of all trades the areas involved. Unless otherwise directed, they shall be prepared by the Heating, Ventilating and Air Conditioning Contractor who shall be responsible for the coordination with other trades.

- 01300-1.7 CONSTRUCTION CLEAN UP CHECK-LIST:
A. Upon completion of work of this Section, remove related debris from the premises.
01300-2 PRODUCTS:
Not used.
01300-3 EXECUTION:
Not used.

- 01300-3 EXECUTION:
Not used.

- SECTION 01520 SECURITY
01520-1 GENERAL:
01520-1.1 SCOPE OF WORK:
A. Perform all work required for Soil Poisoning, i.e. Termitic Control, indicated herein.

- 01520-1.2 QUALITY ASSURANCE:
A. All work shall be performed by a licensed and certified applicator with termitic control chemicals.
B. Special requirements of regulatory agencies (i.e., state certification and local codes, ordinances and Environmental Protection Agency (EPA) control and Forest Control Association (N.P.C.A.).
2. System is to comply with all VOC (Volatile Organic Compounds) program and regulations of the EPA Occupational Safety and Health Administration (OSHA), State, County, City and Local Air Control District.
3. Materials to be Low Volatile Restrictive Use Products (RUP).

- 01520-1.3 HANDLING, DELIVERY AND STORAGE:
A. Chemicals shall be delivered and stored in containers as intended use.
B. Toxic materials shall be stored in a secure container as to be inaccessible to persons other than licensed applicators.

- 01520-1.4 JOB CONDITION:
A. All areas to be treated shall be inspected to determine soil composition, dosage and type of termitic control shall be selected to suit these conditions.
B. It shall be the responsibility of the Contractor to coordinate and schedule the termitic control application with the earthwork, concrete footing, and concrete work to provide a smooth and orderly progression of the work.
C. Indicate areas where the treated concrete slabs are in place, voids, etc. are covered or exposed prior to the application of termitic control, the Contractor shall do all drilling, rodding, voiding required to insure proper application at no additional cost to Owner or delay in schedule.

- 01520-1.5 PROJECT IDENTIFICATION AND SIGNS:
01520-1.5.1 GENERAL:
01520-1.5.1.1 PROJECT SIGN FRAME:
A. Within seven days of notice to proceed, furnish and erect one (1) project identification sign, in a location directed by the Owner. Sign shall consist of 4x4 inch plywood supporting 4" x 8" high by 8" wide sheet of 3/4 inch thick exterior PVC plywood. Locate position of ends of plywood framing on drawings.
B. Framework shall receive a fabric sign to be furnished by the Contractor and installed by General Contractor. Installation of sign will be by wrap and staple method; long staples, do not space on back side.

- 01520-1.5.2 CONTRACTOR SIGNS AND ADVERTISING:
A. Contractor and subcontractors shall erect signs at the construction site and office, at Contractor's expense. If, so desired, N.C. traffic standing signs or advertising of any kind other than "warning" signs and signs required by law will be permitted on the site or about the premises.
B. If a permit is required, the Contractor is responsible for obtaining the permit.

- 01520-1.5.3 PRODUCTS:
Not used.

- 01520-1.5.4 EXECUTION:
Not used.

- SECTION 02100 DEMOLITION FOR REMODELING
DIMENSION 2 SITEWORK
SECTION 02102 MASONRY
PART 1 - GENERAL
SECTION INCLUDES
A. Removal of existing construction indicated on Drawings and/or required by work specified in other Sections of these Specifications.
B. Capping and identifying of all Utilities.
C. Protection of persons and property.

- 1.02 SUBMITTALS
A. Submit condition and removal procedures and schedule per Submittals Section.

- 1.03 COORDINATION
A. Contractor is solely responsible for coordination of work of this Section with work of his subcontractors and Owner's employees or subcontractors for work of other Sections of these Specifications.

- PART 2 - PRODUCTS
Not used.

- PART 3 - EXECUTION
3.01 GENERAL
A. Maintain protected and access at all times. Use of explosives is prohibited.
3.02 PREPARATION
A. General: Erect and maintain weatherproof closures for exterior openings. Erect and maintain temporary partitions to prevent spread of dust, fumes, noise, and smoke. Protect existing Utilities which are not indicated to be altered.
B. Extinguish flames: Disconnect, remove and cap designated utility services within demolition areas. Mark locations of discovered utilities. Verify all gas shut off valve locations prior to beginning removal. Identify and indicate capping locations on Project Record Documents.

- 3.03 PROTECTION
A. Persons: Erect and maintain fences, planning, bracing, shoring, lights, barricades, warning signs and guards required for protection of workmen and the public.
B. Property: Use care and appropriate means to protect construction and property which is not part of Work of Contract. Repair, refinish, and/or replace damaged construction and property at no additional cost to Owner.

- 3.04 EXECUTION
A. General: Demolish in orderly and careful manner with least possible disturbance to public and to adjacent property. Repair all demolition performed in excess of that required, for proper completion of work.
B. Ownership of Items Removed: Equipment and materials resulting from demolition work is property of Contractor, unless noted otherwise on the Drawings.

- 3.05 CLEANING AND DISPOSAL
A. Except where noted otherwise, immediately remove and dispose of demolished materials and related debris away from site. All disposal of materials off site shall be performed in accordance with all federal, state, and local regulations. Do not burn or bury materials on site.
B. Upon completion of work of this section, remove related debris from the premises.

- END OF SECTION
SECTION 02210 GRADING
02210-1 GENERAL:
02210-1.1 SCOPE OF WORK:
A. Rough grading and contouring of site.
B. Finish grading and topsoil.

- 02210-2 PRODUCTS:
02210-2.1 MATERIALS:
A. Subsoil: Excavate or equal borrow material, graded free of lumps larger than 6 inches, rocks larger than 3 inches, and debris.
B. Topsoil: Either excavated material from site or imported, blends loose, free of subsoil rocks, grass, weeds, stone, and foreign matter; acidity range (pH of 5.5 to 7.5) containing minimum of 4 percent and maximum of 25 percent organic matter.

- 02210-3 EXECUTION:
02210-3.1 INSPECTION:
A. Verify site conditions and note irregularities affecting work of each phase of this Section. Beginning work of each phase of this Section means acceptance of existing conditions.

- 02210-3.2 PREPARATION:
A. Rough Grading:
1. General: Identify required lines, levels, contours, and datum.
2. Utilities: Identify known below grade utilities. Stake and flag locations. Identify and flag above grade utilities. Maintain and protect existing utilities remaining which pass through work area. Notify utility company to remove and/or relocate utilities. Upon discovery of unknown utility or concealed conditions, discontinue affected work, notify Owner.
B. Finish Grading:
1. General: Eliminate uneven areas and low spots. Remove debris, roots, branches, stones in excess of 1/2 inch in size.
2. Scarifying: Scarify subgrade to depth of 6 inches where topsoil is required. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

- 02210-3.4 PROTECTION:
A. Protect trees, shrubs, lawns, and other features to remain as portion of final landscaping. Protect bench marks, existing construction and above or below grade utilities which are to remain. Repair damage at no additional cost to Owner.

- 02210-3.5 GRADING:
A. Rough, Cut or fill and machine grade site as shown on the Drawings, to drain as indicated, allowing for thickness of paving sub-base and paving. Where fill is required, use suitable excavated clean material, product of cut operation and/or furnish open borrow if excavated material is not adequate for use. Place fill in horizontal lifts not in excess of 8 inches thick after compaction by rolling and/or tamping. Rough grade to a tolerance of plus or minus one inch.
B. Finish:
1. General: Establish grades by means of grade stakes placed at corners of units at abrupt changes of grade and elsewhere as required.
2. Topsoil:
a. General: Provide a 6 inch layer of topsoil, unless shown otherwise on the Drawings. In areas noted "planting" and in other areas where existing topsoil has been disturbed or otherwise made unusable.
b. Planting: Use topsoil in relatively dry state. Place during dry weather. Fine grade eliminating ruts or low areas. Maintain levels, profiles, and contours of subgrade. Remove stone, roots, grass, weeds, debris, and foreign material while spreading. Manually spread around trees, plants, buildings, etc. to prevent damage. Lightly compact placed topsoil.
C. Tolerance: Top of topsoil, plus or minus 1/2 inch.

- 02210-3.6 CLEANUP:
A. Upon completion of work of this Section, remove related debris from the premises.
END OF SECTION
SECTION 02281 TERMITE CONTROL
02281-1 GENERAL:
02281-1.1 SCOPE OF WORK:
A. Perform all work required for Soil Poisoning, i.e. Termitic Control, indicated herein.

- 02281-1.2 QUALITY ASSURANCE:
A. All work shall be performed by a licensed and certified applicator with termitic control chemicals.
B. Special requirements of regulatory agencies (i.e., state certification and local codes, ordinances and Environmental Protection Agency (EPA) control and Forest Control Association (N.P.C.A.).
2. System is to comply with all VOC (Volatile Organic Compounds) program and regulations of the EPA Occupational Safety and Health Administration (OSHA), State, County, City and Local Air Control District.
3. Materials to be Low Volatile Restrictive Use Products (RUP).

- 02281-1.3 HANDLING, DELIVERY AND STORAGE:
A. Chemicals shall be delivered and stored in containers as intended use.
B. Toxic materials shall be stored in a secure container as to be inaccessible to persons other than licensed applicators.

- 02281-1.4 JOB CONDITION:
A. All areas to be treated shall be inspected to determine soil composition, dosage and type of termitic control shall be selected to suit these conditions.
B. It shall be the responsibility of the Contractor to coordinate and schedule the termitic control application with the earthwork, concrete footing, and concrete work to provide a smooth and orderly progression of the work.
C. Indicate areas where the treated concrete slabs are in place, voids, etc. are covered or exposed prior to the application of termitic control, the Contractor shall do all drilling, rodding, voiding required to insure proper application at no additional cost to Owner or delay in schedule.

- 02281-1.5 PROJECT IDENTIFICATION AND SIGNS:
02281-1.5.1 GENERAL:
02281-1.5.1.1 PROJECT SIGN FRAME:
A. Within seven days of notice to proceed, furnish and erect one (1) project identification sign, in a location directed by the Owner. Sign shall consist of 4x4 inch plywood supporting 4" x 8" high by 8" wide sheet of 3/4 inch thick exterior PVC plywood. Locate position of ends of plywood framing on drawings.
B. Framework shall receive a fabric sign to be furnished by the Contractor and installed by General Contractor. Installation of sign will be by wrap and staple method; long staples, do not space on back side.

- 02281-1.5.2 CONTRACTOR SIGNS AND ADVERTISING:
A. Contractor and subcontractors shall erect signs at the construction site and office, at Contractor's expense. If, so desired, N.C. traffic standing signs or advertising of any kind other than "warning" signs and signs required by law will be permitted on the site or about the premises.
B. If a permit is required, the Contractor is responsible for obtaining the permit.

- 02281-1.5.3 PRODUCTS:
Not used.

- 02281-1.5.4 EXECUTION:
Not used.

- SECTION 02100 DEMOLITION FOR REMODELING
DIMENSION 2 SITEWORK
SECTION 02102 MASONRY
PART 1 - GENERAL
SECTION INCLUDES
A. Removal of existing construction indicated on Drawings and/or required by work specified in other Sections of these Specifications.
B. Capping and identifying of all Utilities.
C. Protection of persons and property.

- 1.02 SUBMITTALS
A. Submit condition and removal procedures and schedule per Submittals Section.

- 1.03 COORDINATION
A. Contractor is solely responsible for coordination of work of this Section with work of his subcontractors and Owner's employees or subcontractors for work of other Sections of these Specifications.

- PART 2 - PRODUCTS
Not used.

- PART 3 - EXECUTION
3.01 GENERAL
A. Maintain protected and access at all times. Use of explosives is prohibited.
3.02 PREPARATION
A. General: Erect and maintain weatherproof closures for exterior openings. Erect and maintain temporary partitions to prevent spread of dust, fumes, noise, and smoke. Protect existing Utilities which are not indicated to be altered.
B. Extinguish flames: Disconnect, remove and cap designated utility services within demolition areas. Mark locations of discovered utilities. Verify all gas shut off valve locations prior to beginning removal. Identify and indicate capping locations on Project Record Documents.

- 3.03 PROTECTION
A. Persons: Erect and maintain fences, planning, bracing, shoring, lights, barricades, warning signs and guards required for protection of workmen and the public.
B. Property: Use care and appropriate means to protect construction and property which is not part of Work of Contract. Repair, refinish, and/or replace damaged construction and property at no additional cost to Owner.

- 3.04 EXECUTION
A. General: Demolish in orderly and careful manner with least possible disturbance to public and to adjacent property. Repair all demolition performed in excess of that required, for proper completion of work.
B. Ownership of Items Removed: Equipment and materials resulting from demolition work is property of Contractor, unless noted otherwise on the Drawings.

- C. Special attention shall be directed to the treatment of any voids, joints, sleeves, etc. within the building perimeter to insure treatment of all critical termite entry points.
2. Second treatment shall be applied after final grading has been completed, but prior to installation of final grading. Second treatment shall be applied to the exterior grade perimeter within four (4) feet of the building line.
a. Treatment shall be applied in any area where additional soil material has been deposited after application of first treatment (i.e., fill aggregate base for pavement topsoil, etc.) or where grade changes indicate termite treatment may have been disturbed.
b. Termitic control chemicals shall be applied in strict accordance with manufacturer's printed instructions. Water additives must be carefully controlled to assure proper finished mix of the chemical compound. Uniform application of the chemical is essential to proper treatment. Care shall be exercised to ensure the proper rate of application.
c. Treatment shall be applied at least twelve (12) hours prior to concrete slab placement. Apply topsoil after substrate preparation for slab is complete. Treatment shall not be made when soil or fill is excessively wet. Do not disturb treated areas.

- 02281-2 PROTECTION:
A. Detailed instructions appear on all labels and shall be strictly complied with.
1. Provide facilities and supplies to remove accidental exposure or spillage of chemicals.
2. Chemicals are to be used only when wind is calm.
3. Keep chemicals out of any body of water. Do not apply chemicals where runoff is likely to occur. Avoid contamination of water during cleanup operation.

- 02281-3 CLEANUP:
A. Remove all chemical containers and application equipment from the job site upon completion of termite treatment. Empty drums shall be returned to a drum reconditioner or other approved manner of disposal and are not to be reused or disposed of on site.
B. Upon completion of work of this Section, remove related debris from the premises.

- END OF SECTION
DIVISION 3 CONCRETE
SECTION 03010 CONCRETE WORK
03010-1 GENERAL:
03010-1.1 RELATED DOCUMENTS:
A. Drawings, Specifications, Division 1 and Contract.

- 03010-1.2 DESCRIPTION OF WORK:
A. The extent of concrete work shown on drawings.

- 03010-1.3 QUALITY ASSURANCE:
A. Comply with provisions American Concrete Institute 318 "Building code Requirements for Reinforced Concrete" and 301 "Structural Concrete Buildings" except where otherwise specified.
B. Form all footings and foundations: continuous placement of concrete is not allowed.
C. Conform to ACI 305R when concreting during hot weather.
D. Conform to ACI 306R when concreting during cold weather.

- 03010-2 PRODUCTS:
03010-2.1 FORM MATERIALS:
A. Forms for Concrete Structures: Plywood, lumber, and other industry standard materials.
B. Provide commercial formulation form-coating compounds that will not bond or stain nor adversely affect concrete surfaces.
C. Topsoil.

- 03010-2.2 REINFORCING MATERIALS:
A. Reinforcing Bars: ASTM A 603, Grade 60, deformed.
B. Reinforcing Wire Fabric: Heavy, diamond welded steel wire, A-185.
C. Provide metal bolsters, chairs and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place.

- 03010-2.3 CONCRETE MATERIALS:
A. Portland Cement: ASTM C 150, Type I or II.
B. Weight of concrete: 145 pcf, with maximum 1 1/2" for footing and other mass concrete and 3/4" maximum for other concrete.
C. Water: Clean and not detrimental to concrete.
D. Calcium Chloride: Not permitted.
E. Admixtures: Do not use without approval of Structural Engineer.

- 03010-2.4 ACCESSORIES:
A. Provide 10 mil polyethylene vapor barrier cover over prepared base material for all floor placement.
B. Provide course for all floor slabs of evenly graded natural gravel 3/8" maximum to 1/8" minimum (1/2" over gravel) or natural sand.
C. Non-shrink primer: Minimum Coat Below Column Base Plates: Non-metallic, flowable, high strength epoxy primer, complying with CRD-C821.
D. Membrane Curing Compound: ASTM C209.
E. Absorptive Mats: ASTM C171.
F. Bonding Agent: Polymer resin emulsion.

- 03010-2.5 PROPORTIONING AND DESIGN OF MIXES:
A. Use proprietary standard design mix that meets the following qualities and furnish schedule, location, grade, weight, volume, and quantity of each mixer truck with a delivery ticket noting type of concrete and materials. Note placement location of each load on these tickets and file all tickets on the job site.
B. Provide concrete placement tickets to design strengths indicated on drawings.

- 03010-2.6 CONCRETE MIXES:
A. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.
1. Addition of water to the batch with insufficient slump is not permitted.
2. When air temperature is between 65 degrees F (19 degrees C) and 90 degrees F (32 degrees C) reduce mixing and delivery time from 1 1/2 hours to 75 minutes, and when air temperature is above 90 degrees F (32 degrees C), reduce mixing and delivery time to 60 minutes.

- 03010-3 EXECUTION:
03010-3.1 FORMS:
A. Arrange and assemble form work which is readily removable without damage to cast-in-place concrete surfaces and adjacent materials.
B. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grade, level and plumb work. Support bracing and maintain form work to support vertical and lateral loads until such loads can be supported by concrete.
C. Use only fabric-cast, adjustable-length, removable or snap-off metal form lines.
D. Provide openings in concrete form work to accommodate work of other trades.

- 03010-3.2 PLACING REINFORCEMENT:
A. Accurately position, support and secure reinforcement against displacement by form work, construction, or concrete placement operations.
1. All bars shall be continuous in longest length possible with minimum 36 bar diameter lap.
2. Bent corner reinforcing shall be provided to lap and match horizontal reinforcement.
3. Minimum coverage for any reinforcing steel shall be 2". Verify actual minimum w/cover codes.
4. Welding for fabrication and installation and is not permitted.
5. Install welded wire fabric as long lengths as practicable. Lap adjoining pieces at least two full mesh and lap splice with lap.

- 03010-3.3 INSTALLATION OF EMBEDDED ITEMS:
A. Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast in place concrete.

- 03010-3.4 PREPARATION OF FORM SURFACES:
A. Coat contact surfaces of forms with a form coating compound before reinforcement is placed.

- 03010-3.5 FORM CLEANING:
A. Clean forms to remove foreign matter within forms.
B. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless form work and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

- 03010-3.6 CONCRETE PLACEMENT:
A. Comply with American Concrete Institute 304, and herein specified.
B. Install vapor barrier under interior slabs on grade. Lap joints minimum 6 inches and seal watertight.
C. Place concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness.
D. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand spreading, rodding or tamping (except for slabs).
E. Deposit and consolidate concrete slabs in a continuous operation.
F. Finish slab surfaces to correct level, texture, and strike off. Use bull floats or darbies to smooth surface, free of humps or hollows.
G. Maintain mesh reinforcing in approximately the middle of slab during concrete placement operations.
H. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures.
I. Do not use calcium chloride and other materials containing antifreeze agents or chemical accelerators.
J. When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with American Concrete Institute 305R.
K. When cold weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with American Concrete Institute 306R.

- 03010-3.7 FINISH OF FORMED SURFACES:
A. Concrete surfaces exposed to view in the finish work shall not have texture imparted by form binding material used. Repair and patch tie holes and defective areas and chip off fins and other projections exceeding 1/4" in height.

- 03010-3.8 MONOLITHIC SLAB FINISHES:
A. Apply float finish to monolithic slab surfaces. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Finish floating when surface water has disappeared or when concrete has sufficiently hardened to permit operation of power driven floats. Check and level surface plane to a tolerance not exceeding 1/4" in 10' when tested with a 10' straightedge.
B. Provide 1/2" pitch in 4' 0" diameter of all floor drains.

- 03010-3.9 CONCRETE 1/2" SLAB CURING AND PROTECTION:
A. Protect freshly placed concrete from premature drying and excessive cold or hot weather.
B. Provide moisture curing by one of the following methods for a period of 7 days:
1. Cover concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet.

- 2. Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width.
3. Curing compounds in accordance with ASTM C-309 may be used as directed by the Owner.

- 03010-3.10 REMOVAL OF FORMS:
A. Formwork shall be removed in less than 5 days or until concrete has attained sufficient strength to carry loads.

- 03010-3.11 CONCRETE SURFACE REPAIRS:
A. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by rods and bolts, down to solid concrete, but in no case, to a depth of less than 1" Make edges of cutouts perpendicular to surface. Repair with clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
B. Excessive honeycomb or embedded debris in concrete is unacceptable.

- END OF SECTION
DIVISION 5 METALS
SECTION 05120 STRUCTURAL STEEL
05120-1 GENERAL:
A. Drawings, Specifications, Division 1 and Contract

- 05120-1.2 DESCRIPTION OF WORK:
A. Structural steel, bolts, and welds.

- 05120-1.3 QUALITY ASSURANCE:
A. Fabricate structural steel members in accordance with AISC Code of Standard Specifications.
B. Conform welding with AWS D1.1.
C. Use welders holding valid certificates issued by recognized