

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the WORK or to:
1. Make its several parts fit together properly.
  2. Uncover portions of the WORK to provide for installation of ill-timed WORK.
  3. Remove and replace defective WORK.
  4. Remove and replace WORK not conforming to requirements of Contract Documents.
  5. Remove samples of installed WORK as specified for testing.
  6. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 SUBMITTALS

- A. Submit a written request to ENGINEER well in advance of executing any cutting or alteration which affects:
1. WORK of the OWNER or any separate CONTRACTOR.
  2. Structural value of integrity of any element of the project.
  3. Integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.
  4. Efficiency, operational life, maintenance or safety of operational elements.
  5. Visual qualities of sight-exposed elements.
- B. Request shall include:
1. Identification of the project.
  2. Description of the affected WORK.
  3. The necessity for cutting, alteration or excavation.

**SECTION 01045  
CUTTING AND PATCHING**

4. Effect on WORK of OWNER or any separate CONTRACTOR, or on structural or weatherproof integrity of project.
  5. Description of proposed WORK:
    - a. Scope of cutting, patching, alteration, or excavation.
    - b. Trades who will execute the WORK.
    - c. Products proposed to be used.
    - d. Extent of refinishing to be done.
  6. Alternatives to cutting and patching.
  7. Cost proposal, when applicable.
  8. Written permission of any separate CONTRACTOR whose WORK will be affected.
- C. Should conditions of WORK or the schedule indicate a change of products from original installation, CONTRACTOR shall submit request for substitution as specified in Section 01600.
- D. Submit written notice to ENGINEER designating the date and time the WORK will be uncovered.

**PART 2 - PRODUCTS**

2.01 **MATERIALS**

- A. Comply with specifications and standards for each specific product involved.

**PART 3 - EXECUTION**

3.01 **INSPECTION**

- A. Inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering the WORK, inspect conditions affecting installation of products, or performance of WORK.
- C. Report unsatisfactory or questionable conditions affecting installation of products, or performance of WORK.

3.02 **PREPARATION**

**SECTION 01045  
CUTTING AND PATCHING**

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of WORK.
- B. Provide devices and methods to protect other portions of project from damage.
- C. Provide protection from elements for that portion of the project which may be exposed by cutting and patching WORK, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other WORK, and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other WORK.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified product, functions, tolerances and finishes.
- D. Restore WORK which has been cut or removed; install new products to provide completed WORK in accordance with requirements of Contract Documents.
- E. Fit WORK airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
  - 1. For continuous surfaces, refinish to nearest intersection.
  - 2. For an assembly, refinish entire unit.

3.04 MEASUREMENT AND PAYMENT

There shall be no special measurement or payment for the WORK under this section, it shall be included in the unit price bid of any item requiring cutting and patching, including pavement restoration.

END OF SECTION 01045

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR shall provide and pay for field Engineering and Survey services required for the project except as noted below in paragraph 1.04.
- B. ENGINEER will identify existing control points and property line corner stakes indicated on the drawings, as required.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEER

Qualified Engineer or registered Land Surveyor, acceptable to ENGINEER and OWNER.

1.04 SURVEY REFERENCE POINTS

- A. OWNER will provide basic horizontal and vertical control points for the construction project including:
  - 1. Permanent coordinate reference points with horizontal and vertical control, located and staked as shown on the plans.
- B. Locate and protect control points prior to starting site construction WORK, and preserve all permanent reference points during construction.
  - 1. Make no changes or relocations without prior written notice to OWNER's Representative.
  - 2. Report to OWNER's Representative when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
  - 3. CONTRACTOR's surveyor shall replace project control points which may be lost or destroyed.
    - a. Establish replacements based on original survey control.

1.05 PROJECT SURVEY REQUIREMENTS

- A. CONTRACTOR's surveyor shall establish a minimum of two permanent bench marks on site, referenced to data established by survey control points.
- B. CONTRACTOR shall establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:

**SECTION 01050**  
**FIELD ENGINEERING**

1. Stakes for grading and fill placement.
  2. Controlling lines and levels as required.
- C. From time to time, verify layouts by same methods.
- 1.06 RECORDS
- A. Maintain a complete, accurate log of all control and survey WORK as it progresses.
  - B. On completion of construction WORK, prepare a certified survey showing all dimensions, locations and elevations of project.
- 1.07 SUBMITTALS
- A. Submit name and address of Surveyor and Professional Engineer to OWNER's Representative.
  - B. On request of OWNER's Representative, submit documentation to verify accuracy of field Engineering WORK.
  - C. Submit certificate signed by Registered Engineer or Surveyor certifying that elevation and locations of WORK are in conformance, or non-conformance, with Contract Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01050

**SECTION 01060**  
**REGULATORY REQUIREMENTS & PERMITS**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR shall comply with all building codes appropriate to the project, including those of:
  - 1. National Electric Code.
  - 2. Florida Building Code, Current Broward Edition.
- B. CONTRACTOR shall comply with these codes, laws, regulations, rules, directives of all agencies, boards, districts, and governmental bodies having jurisdiction.
- C. CONTRACTOR shall obtain all building permits, fees, tie-in or connection charges associated with the project. CONTRACTOR shall not be responsible for water and sewer correction fees to existing structures.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 MEASUREMENT AND PAYMENT

- A. There shall be no special measurement or payment for the WORK under this section, it shall be included in the lump sum price.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01060

**SECTION 01070**  
**ABBREVIATIONS OF INSTITUTIONS**

PART 1 - GENERAL

1.01 GENERAL

Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these Specifications, the following acronyms or abbreviations which may appear in these Specifications shall have the meanings indicated herein.

1.02 ABBREVIATIONS

AAMA	Architectural Aluminum Manufacturer's Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BCEED	Broward County Environmental Engineering Division
BCDNRP	Broward County Department of Natural Resource Protection
BCOES	Broward County Office of Environmental Services

**SECTION 01070**  
**ABBREVIATIONS OF INSTITUTIONS**

BCPHU	Broward County Public Health Unit
BCTED	Broward County Traffic Engineering Division
BCWRMD	Broward County Water Resource Management Division
BHMA	Builders Hardware Manufacturer's Association
CBM	Certified Ballast Manufacturers
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association
ETL	Electrical Test Laboratories
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FBC	Florida Building Code, Current Broward Edition
FM	Factory Mutual System
FPL	Florida Power & Light
FS	Federal Specifications
HI	Hydronics Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MBMA	Metal Building Manufacturer's Association
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NLGI	National Lubricating Grease Institute
NMA	National Microfilm Association
NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Administration



**SECTION 01070**  
**ABBREVIATIONS OF INSTITUTIONS**

PCA	Portland Cement Association
PPI	Plastics Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SB	Southern Bell
SFWMD	South Florida Water Management District
SMA	Screen Manufacturers Association
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry, Inc.
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction
TAPPI	Technical Association of the Pulp and Paper Industry
TFI	The Fertilizer Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WEF	Water Environment Federation
WIC	Woodwork Institute of California
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01070

**SECTION 01090**  
**REFERENCE STANDARDS**

PART 1 - GENERAL

1.01 GENERAL

- A. **Titles of Sections and Paragraphs:** Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. **Applicable Publications:** Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the WORK is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.
- C. **Specialists, Assignments:** In certain instances, specification text requires (or implies) that specific WORK is to be assigned to specialists or expert entities, who must be engaged for the performance of that WORK. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of WORK is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the CONTRACTOR.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all WORK specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.
- B. References herein to "Building Code" shall mean "Florida Building Code, Current Broward Edition". Reference to "Uniform Building Code" shall mean Uniform Building Code of the International Conference of Building Officials (ICBO). Similarly, references to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the WORK is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.
- C. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the ENGINEER for clarification and directions prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall bid for the most stringent requirements.

**SECTION 01090**  
**REFERENCE STANDARDS**

- D. The CONTRACTOR shall construct the WORK specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.
  - E. **Applicable Standard Specifications:** References in the Contract Documents to "Standard Specifications" or SSPWC shall mean the Standard Specifications for Public Works Construction, 1991 Edition.
  - F. References herein to "OSHA Regulations for Construction" shall mean **Title 29, Part 1926, Construction Safety and Health Regulations**, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
  - G. References herein to "OSHA Standards" shall mean **Title 29, Part 1910, Occupational Safety and Health Standards**, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
  - H. References to "Minimum Standards" shall mean **Broward County Engineering Division, Department of Public Works-Minimum Standards** and **Broward County Office of Environmental Services, Department of Public Works-Minimum Design and Construction Standards**.
- 1.03 REGULATIONS RELATED TO HAZARDOUS MATERIALS
- A. The CONTRACTOR is responsible that all WORK included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.
  - B. Where no specific regulations exist, all chemical, hazardous, and petroleum product piping and storage in underground locations must be installed with double containment piping and tanks, or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the OWNER.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01090

**SECTION 01200  
PROJECT MEETINGS**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR shall schedule and administer weekly progress meetings on a day established by the OWNER's Representative each week and specially called meetings throughout progress of the WORK.
1. Prepare agenda for meetings.
  2. Distribute written notice of each meeting five (5) days in advance of meeting date.
  3. Make physical arrangements for meetings.
  4. Preside at meetings.
  5. Record the minutes; include significant proceedings and decisions.
  6. Reproduce and distribute copies of minutes within three days after each meeting.
    - a. To participants in the meeting.
    - b. To parties affected by decisions made at the meeting.
    - c. Furnish three copies of minutes to OWNER's Representative.
- B. Representative of CONTRACTOR, subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. ENGINEER shall attend all meetings.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 PRE-CONSTRUCTION MEETING

- A. Schedule date of Notice to Proceed at preconstruction meeting.
- B. Location: A central site, convenient for all parties, designated by OWNER's Representative.

**SECTION 01200  
PROJECT MEETINGS**

C. Attendance:

1. The CONTRACTOR and its superintendent.
2. ENGINEER and his professional consultants.
3. Resident Project Representative.
4. Representatives of the OWNER.
5. Major subcontractors.
6. Major Suppliers.
7. Governmental representatives as appropriate.
8. Others as requested by CONTRACTOR, OWNER or ENGINEER.

D. Suggested Agenda:

1. Distribution and discussion of:
  - a. List of major subcontractors and suppliers.
  - b. Projected Construction Schedules.
  - c. Shop drawings and other submittals.
  - d. Traffic maintenance plan.
  - e. Community Public Relations.
2. Critical WORK sequencing.
3. Procurement of major equipment and materials requiring a long lead time.
4. Project Coordination
  - a. Designation of responsible personnel.
5. Procedures and processing of:
  - a. Field decisions.
  - b. Proposal requests.
  - c. Submittals.
  - d. Change Orders.

**SECTION 01200  
PROJECT MEETINGS**

- e. Applications for Payment
- 6. Adequacy of distribution of Contract Documents.
- 7. Procedures for maintaining Record Documents.
- 8. Use of premises:
  - a. Office, WORK and storage areas.
  - b. OWNER's requirements.
- 9. Construction facilities, controls and construction aids.
- 10. Temporary utilities.
- 11. Safety procedures.
- 12. Security procedures.
- 13. Housekeeping procedures.

1.04 PROGRESS MEETINGS

- A. CONTRACTOR shall schedule regular weekly meetings on a day established by the OWNER's Representative each week as required.
- B. Hold called meetings as required by progress of the WORK.
- C. Location of the meetings: Project field office of OWNER's Representative.
- D. Attendance
  - 1. OWNER's Representative and his professional consultants as needed.
  - 2. ENGINEER.
  - 3. Subcontractors as active on the site.
  - 4. Suppliers as appropriate to the agenda.
  - 5. Governmental representatives as appropriate.
  - 6. Others, as requested by CONTRACTOR, OWNER or ENGINEER.
- E. Suggested Agenda:

**SECTION 01200  
PROJECT MEETINGS**

1. Review, approval of minutes of previous meeting.
2. Review of WORK progress since previous meeting.
3. Field observations, problems, conflicts.
4. Problems which impeded Construction Schedule.
5. Review of off-site fabrication, delivery schedules.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to Construction Schedule.
8. Progress, schedule, during succeeding WORK period.
9. Coordination of schedules.
10. Community Public Relations.
11. Review submittal schedules; expedite as required.
12. Maintenance of quality standards.
13. Pending changes and substitutions.
14. Review proposed changes for:
  - a. Effect on Construction Schedule and on completion date.
  - b. Effect on other contracts of the Project.
15. Other business.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01200

**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Submit Shop Drawings, Product Data and Samples required by the Contract Documents.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.
- C. Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed Shop Drawings, Product Data and Samples will be needed.

1.03 SHOP DRAWINGS

- A. Drawings shall be presented in a clear and thorough manner.
  - 1. Details shall be identified by reference to Project Number, sheet, detail, and schedule numbers shown on Contract Drawings.

1.04 PRODUCT DATA

- A. Preparation
  - 1. Clearly mark each copy to identify pertinent products or models.
  - 2. Show performance characteristics and capacities.
  - 3. Show dimensions and clearances required.
  - 4. Show wiring or piping diagrams and controls.
- B. Manufacturer's standard schematic drawings and diagrams:
  - 1. Modify drawings and diagrams to delete information which is not applicable to the WORK.
  - 2. Supplement standard information to provide information specifically applicable to the WORK.



**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

1.05 SAMPLES

- A. Office samples shall be of sufficient size and quantity to clearly illustrate:
  - 1. Functional characteristics of the product with integrally related parts and attachment devices.
  - 2. Full range of color, texture and pattern.

1.06 CONTRACTOR RESPONSIBILITIES

- A. Review Shop Drawings, Product Data and Samples prior to submission.
- B. Determine and verify:
  - 1. Field measurements.
  - 2. Field construction criteria.
  - 3. Catalog numbers and similar data.
  - 4. Conformance with specifications.
- C. Coordinate each submittal with requirements of the WORK and of the Contract Documents.
- D. Notify the OWNER's Representative in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.
- E. Begin no fabrication or WORK which requires submittals until return of submittals with OWNER's Representative or ENGINEER's approval.

1.07 SUBMISSION REQUIREMENTS

- A. CONTRACTOR shall furnish to the ENGINEER for review, 8 copies of each shop drawing submittal. The term "Shop Drawing" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items.
- B. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the ENGINEER.
- C. Except as may otherwise be indicated herein, the ENGINEER will return prints of each submittal to the CONTRACTOR with its comments noted thereon, within fifteen (15) calendar days following their receipt by the ENGINEER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the second submission of a submittal item. The OWNER reserves the right to withhold monies due the contractor to cover additional costs of the

**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

ENGINEER's review beyond the second submittal. The ENGINEER's maximum review period for each submittal, including all resubmittals, will be 15 days per submittal. In other words, for a submittal that required two resubmittals before it is complete, the maximum review period for that submittal could be 45 days.

- D. If 3 copies of a submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.
- E. If 3 copies of a submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said submittal will not be required.
- F. If a submittal is returned to the CONTRACTOR marked "REVISE AND RESUBMIT" or "AMEND-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- G. If a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT", the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- H. Fabrication of an item shall be commenced only after the ENGINEER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED." Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements.
- I. All CONTRACTOR shop drawing submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR, prior to submission to the ENGINEER. Each submittal shall be dated, signed, and certified by the CONTRACTOR, as being correct and in strict conformance with the Contract Documents. In the case of shop drawings, each sheet shall be so dated, signed, and certified. No consideration for review by the ENGINEER of any CONTRACTOR submittals will be made for any items which have not been so certified by the CONTRACTOR. All non-certified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- J. The ENGINEER's review of CONTRACTOR shop drawing submittals shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions. The CONTRACTOR shall assume all responsibility and risk for any misfits due to any errors in CONTRACTOR submittals. The CONTRACTOR shall be responsible for the dimensions and the design of adequate connections and details.
- K. **Shop Drawing Distribution:** Shop drawings shall be reviewed by the ENGINEER and marked either as "NO EXCEPTIONS TAKEN, "MAKE CORRECTIONS NOTED," "AMEND -RESUBMIT", or "REJECTED-RESUBMIT." The distribution of processed shop drawings shall be as follows:
  - 1. Shop drawings marked "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".

3 copies returned to CONTRACTOR  
2 copies transmitted to the OWNER

**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

1 copy to remain with the ENGINEER  
2 copies for the Resident Project Representative

2. Shop drawings marked "AMEND-RESUBMIT" or "REJECTED-RESUBMIT"

2 copies returned to CONTRACTOR  
2 copies remain with the ENGINEER  
4 copies to be discarded

L. Submittals shall contain:

1. The date of submission and the dates of any previous submissions.
2. The Project title and Project number.
3. Contract identification.
4. The names of:
  - a. CONTRACTOR
  - b. Supplier
  - c. Manufacturer
5. Identification of the product, with the specification section number.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the WORK or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Identification of deviations from Contract Documents.
10. Identification of revisions on resubmittals.
11. An 8" x 3" blank space for CONTRACTOR and OWNER's Representative/ENGINEER's stamps.
12. CONTRACTOR's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the WORK and of Contract Documents.

1.08 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by OWNER's Representative and resubmit until approved.
- B. Shop Drawings and Product Data:

**SECTION 01340**  
**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

1. Revise initial drawings or data, and resubmit as specified for the initial submittal.
2. Indicate any changes which have been made other than those requested by the OWNER's Representative.

C. Samples: Submit new samples as required for initial submittal.

1.09 DISTRIBUTION

A. Distribute reproduction of Shop Drawings and copies of Product Data which carry the OWNER's Representative's or ENGINEER's stamp of approval to:

1. Job site file.
2. Record Documents file.
3. Other affected CONTRACTORS.
4. Subcontractors
5. Supplier or Fabricator.

B. Distribute samples which carry the OWNER's Representative's or ENGINEER's stamp of approval as directed by the OWNER's Representative or ENGINEER.

1.10 ENGINEER DUTIES

A. Review submittals with reasonable promptness and in accord with schedule.

B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or approval of submittal.

C. Return submittals to CONTRACTOR for distribution, or for resubmission.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01340

PART 1 - GENERAL

1.01 GENERAL

Refer to contract for construction photography requirements.

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work.
- B. Section 00400 Construction Contract
- C. Section 01730: Project Record Documents.

1.03 PHOTOGRAPHY REQUIRED

Refer to contract for construction photography requirements.

1.04 COSTS OF PHOTOGRAPHY

- A. CONTRACTOR shall pay costs for specified photography and prints.
  - 1. Parties requiring additional photography or prints will pay photographer directly.

PART 2 – PRODUCTS

2.01 PRINTS

- A. Color:
  - 1. Paper: Single weight, color print paper.
  - 2. Finish: Smooth surface, glossy.
  - 3. Size: 8-inch x 10-inch.
- B. Identify each print on back, listing:
  - 1. Name of Project.
  - 2. Specific Location.
  - 3. Date and time of exposure.
  - 4. Name and address of photographer.
  - 5. Photographer's numbered identification of exposure.

**PART 3 - EXECUTION**

**3.01 TECHNIQUE**

- A. Factual presentation.
- B. Correct exposure and focus.
  - 1. High resolution and sharpness.
  - 2. Maximum depth-of-field.
  - 3. Minimum distortion.

**3.02 VIEWS REQUIRED**

- A. Photograph from locations that adequately illustrate condition of construction and state of progress.
- B. Photographs shall include aerial photograph showing the entire construction area.

**3.03 DELIVERY OF PRINTS**

- A. Delivery of prints to the ENGINEER to accompany each Application for Payment.
- B. Distribution of prints, as soon as processed, is anticipated to be as follows:
  - 1. CITY.
  - 2. ENGINEER.
  - 3. Project Record File.
  - 4. CONTRACTOR.

**3.04 MEASUREMENT AND PAYMENT**

There shall be no special measurement or payment for the WORK under this section, it shall be included in the lump sum price bid for Item 1 - Mobilization.

**END OF SECTION 01380**

PART 1 - GENERAL

1.01 DEFINITION

Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.02 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.
- B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for furnishing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.03 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the ENGINEER will insure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such WORK in accordance with the General Conditions.

1.04 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
  - 1. OWNER will appoint, employ, and pay for services of an independent firm to perform inspection and testing or will perform inspection and testing itself.
  - 2. The OWNER or independent firm will perform inspections, testings, and other services specified in individual specification sections and as required by the ENGINEER.

**SECTION 01400**  
**QUALITY CONTROL**

3. Reports will be submitted to the ENGINEER in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
4. The CONTRACTOR shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
5. The CONTRACTOR shall notify ENGINEER 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.
6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.
7. For samples and tests required for CONTRACTOR'S use, the CONTRACTOR shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the CONTRACTOR'S use shall be included in the Contract Price.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 INSTALLATION

- A. **Inspection:** The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation, and reject damaged and defective items.
- B. **Measurements:** The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. **Manufacturer's Instructions:** Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION 01400



**SECTION 01410  
TESTING LABORATORY SERVICES**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. OWNER will employ and pay for the services of an Independent Testing laboratory to perform certain specified testing: (All other required testing services under the contract Documents shall be provided by the CONTRACTOR):
1. CONTRACTOR shall cooperate with the laboratory to facilitate the execution of its required services.
  2. Employment of the laboratory by the OWNER for specific testing shall in no way relieve the CONTRACTOR's obligations to perform the WORK of the Contract as specified.
  3. OWNER shall pay only for initial testing. The cost of any retesting necessitated by failure of materials or methods shall be deducted from the CONTRACTOR's monthly payment request.
  4. The following tests will be provided by the OWNER.
    - a. Density
    - b. Proctor
    - c. LBR
    - d. Carbonate Content
    - e. Gradation
    - f. Plastic Index and Liquid Limit
    - g. Organic Content
    - h. Concrete Compressive Strength and Slump
    - i. Asphalt Extraction

- B. CONTRACTOR shall pay for all other testing including bacteriological testing.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

1.03 QUALIFICATION OF LABORATORY

- A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.
- B. Meet basic requirements of ASTM E-329.
- C. Authorized to operate in the state in which the project is located.

**SECTION 01410  
TESTING LABORATORY SERVICES**

- D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of Natural Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.
- E. Testing Equipment
  - 1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
    - a. National Bureau of Standards.
    - b. Accepted values of natural physical constants.

1.04 LABORATORY DUTIES

- A. Cooperate with OWNER's Representative and CONTRACTOR; provide qualified personnel after due notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction:
  - 1. Comply with specified standards.
  - 2. Ascertain compliance of materials with requirements of Contract Documents.
- C. Promptly notify OWNER's Representative and CONTRACTOR of observed irregularities of deficiencies of WORK or products.
- D. Promptly submit written report of each test and inspection; one copy each to OWNER's Representative, OWNER, CONTRACTOR, and one copy to Record Document File. Each report shall include:
  - 1. Date issued.
  - 2. Project title, number and Parcel number.
  - 3. Testing laboratory name, address and telephone number.
  - 4. Name and signature of laboratory inspector.
  - 5. Date and time of sampling or inspection.
  - 6. Record of temperature and weather conditions.
  - 7. Date of test.
  - 8. Identification of fill product and specification section.
  - 9. Location of sample or test in the project.
  - 10. Type of inspection or test.

**SECTION 01410**  
**TESTING LABORATORY SERVICES**

11. Results of tests and compliance with Contract Documents.
12. Interpretation of test results, when requested by OWNER's Representative.

E. Perform additional tests as required by the OWNER's Representative.

1.05 LIMITATION OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract documents.
2. Approve or accept any portion of the WORK.
3. Perform any duties of the CONTRACTOR.

1.06 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel, provide access to WORK.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other material mixes which require control by the Testing Laboratory.

D. Furnish copies of Products test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to WORK to be tested.
2. To obtain and handle samples at the project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, reimburse OWNER for laboratory personnel and travel expenses incurred due to CONTRACTOR's negligence.

PART 2 - PRODUCTS (Not Applicable)

**SECTION 01410**  
**TESTING LABORATORY SERVICES**

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01410

PART 1 - GENERAL

1.01 GENERAL

- A. Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; temporary buildings, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include the following principal items:
1. Moving on to the site of all CONTRACTOR's equipment required for first month operations.
  2. Installing temporary construction power, wiring, and lighting facilities.
  3. Developing construction water supply.
  4. Providing field office trailers for the CONTRACTOR, complete with all specified furnishings and utility services including telephones, telephone appurtenances, and copying machine. (as required by contractor)
  5. Providing all on-site communication facilities, including telephones and radio pagers.
  6. Providing on-site sanitary facilities and potable water facilities.
  7. Arranging for and erection of CONTRACTOR's WORK and storage yard.
  8. Obtaining all required permits.
  9. Having all OSHA required notices and establishment of safety programs.
  10. Having the CONTRACTOR's superintendent at the job site full time, during construction activities.
  11. Submitting initial submittals.
  12. Audio-Visual preconstruction record.

1.2 PAYMENT FOR MOBILIZATION

- A. The CONTRACTOR's attention is directed to the condition that no payment for mobilization, or any part thereof will be approved for payment under the Contract until all mobilization items listed above have been completed as specified.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01505

**SECTION 01510  
TEMPORARY UTILITIES**

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. **Types:** The types of utility services required for general temporary use at the project site include the following:

Water service (potable for certain uses)  
Storm drainage  
Sanitary sewer  
Electric power service  
Telephone service

- B. It shall be the CONTRACTOR's responsibility to provide equipment that is adequate for the performance of the WORK under this Contract within the time specified. All equipment shall be kept in satisfactory operating condition, shall be capable of safety and efficiently performing the required WORK, and shall be subject to inspection and approval by the OWNER's representative at any time within the duration of the Contract. All WORK hereunder shall conform to the applicable requirements of the OSHA Standards for Construction.

1.02 JOB CONDITIONS

**Scheduled Uses:** The CONTRACTOR shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility or facility; at earliest feasible time, and when acceptable to OWNER and ENGINEER change over from use of temporary utility service to permanent service as applicable.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 INSTALLATION OF POWER DISTRIBUTION SYSTEM

**Power:** The CONTRACTOR shall provide all necessary power required for its operations under the Contract, and shall provide and maintain all temporary power lines required to perform the WORK in a safe and satisfactory manner.

3.02 INSTALLATION OF LIGHTING

**Construction Lighting:** All WORK conducted at night or under conditions of deficient daylight shall be suitable lighted to insure proper WORK and to afford adequate facilities for inspection and safe working conditions.

3.03 WATER SUPPLY

**SECTION 01510  
TEMPORARY UTILITIES**

- A. **General:** The OWNER will make available reasonable quantities of water required by the CONTRACTOR in performance of the WORK under the Contract; however, the CONTRACTOR shall provide all facilities necessary to convey the water from the OWNER-designated source to the points of use in accordance with the requirements of the Contract Document. The CONTRACTOR shall pay all water charges.
- B. **Potable Water:** All drinking water on the site during construction shall be furnished by the CONTRACTOR and shall be bottled water or water furnished in acceptable dispensers.
- C. **Water Connections:** The CONTRACTOR shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the CONTRACTOR shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The CONTRACTOR shall pay all permit and water charges.
- D. **Removal of Water Connections:** Before final acceptance of the WORK on the project, all temporary connections and piping installed by the CONTRACTOR shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the ENGINEER and to the agency owning the affected utility.

3.04 INSTALLATION OF SANITARY FACILITIES

- A. **Toilet Facilities:** Fixed or portable chemical toilets shall be provided wherever needed for the use of CONTRACTOR's employees. Toilets at construction job sites shall conform to the requirements of the OSHA Standards for Construction.
- B. **Sanitary and Other Organic Wastes:** The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wasted from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the ENGINEER and in accordance with all laws and regulations pertaining thereto.

3.05 INSTALLATION OF FIRE PROTECTION

**Fire Protection:** The construction of the WORK shall be connected with the CONTRACTOR's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the WORK, and responsible persons shall be designated and instructed in the operation such fire apparatus so as to prevent or minimize the hazard of fire. The CONTRACTOR's fire protection program shall conform to the requirements of Subpart F of the OSHA Standards for Construction.

3.06 INSTALLATION OF COMMUNICATIONS

**SECTION 01510**  
**TEMPORARY UTILITIES**

- A. **Telephone Services:** The CONTRACTOR shall provide and maintain at all time during the progress of the WORK not less than one telephone in good working order, at or near the site of the WORK included in the Contract. Each such telephone shall be connected to an established exchange for local and long distance service.
- B. **Telephone Use:** The CONTRACTOR shall permit the ENGINEER, the OWNER, or their authorized representatives or employees free and unlimited use of said telephone facilities for all calls that do not involve published toll charges. Calls originated by the ENGINEER, the OWNER, their authorized representatives or employees which involve toll or message unit charge shall be billed to the OWNER by the CONTRACTOR at the rates charged by the telephone company.

END OF SECTION 01510



**SECTION 01520  
CONSTRUCTION AIDS**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Furnish, install and maintain required construction aids, remove on completion of WORK.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the WORK; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
  - 1. Refer to respective sections for particular requirements for each trade.
  - 2. Provide protective coverings for finished surfaces.
- B. Maintain facilities and equipment in first-class condition.

PART 3 - EXECUTION

3.01 PREPARATION

Consult with OWNER's Representative, review site conditions and factors which affect construction procedures and construction aids including adjacent properties and public facilities which may be affected by execution of the WORK.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 through 4 (as applicable).
- B. Relocate construction aids as required by progress of construction, by storage or WORK requirements, and to accommodate legitimate requirements of OWNER and other Contractors employer at the site.

3.03 REMOVAL

**SECTION 01520  
CONSTRUCTION AIDS**

- A. Completely remove temporary materials, equipment and services:
  - 1. When construction needs can be met by use of permanent construction.
  - 2. At completion of project.
- B. Clean, repair damage caused by installation or by use of temporary facilities.
  - 1. Remove foundations and underground installations for construction aids.
  - 2. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.
- C. Restore permanent facilities used for temporary purposes to specified condition.

END OF SECTION 01520

**SECTION 01530  
PROTECTION OF EXISTING FACILITIES**

PART 1 - GENERAL

1.01 GENERAL

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The CONTRACTOR shall verify the exact locations and depths of all utilities shown and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the WORK. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's WORK. When such exploratory excavations show the utility location as shown to be in error, the CONTRACTOR shall so notify the ENGINEER.
- C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.02 RIGHTS-OF-WAY

The CONTRACTOR shall not do any WORK that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor shall the CONTRACTOR enter upon the rights-of-way involved until notified by the ENGINEER that the OWNER has secured authority therefore from the proper party. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin WORK, if required by said party, and shall remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that WORK on one contract may interfere with that on another, the OWNER shall determine the sequence and order of the WORK. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the OWNER to the CONTRACTOR so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for delay or damage, except as provided for temporary suspension of the WORK in the General Conditions of the Contract.

1.03 PROTECTION OF STREET OR ROADWAY MARKERS

The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the CONTRACTOR shall be accurately restored after WORK has been completed.

**SECTION 01530  
PROTECTION OF EXISTING FACILITIES**

1.04 RESTORATION OF PAVEMENT

- A. **General:** All paved areas cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement OWNER. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. **Temporary Resurfacing:** Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.
- C. **Permanent Resurfacing:** In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.
- D. **Restoration of Sidewalks or Private Driveways:** Wherever sidewalks or private roads have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

1.05 EXISTING UTILITIES AND IMPROVEMENTS

- A. **General:** The CONTRACTOR shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. **Utilities to be Moved:** In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the CONTRACTOR, be notified by the OWNER to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the ENGINEER a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.
- C. Where the proper completion of the WORK requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the ENGINEER and the OWNER of the facility. In all cases of such

**SECTION 01530  
PROTECTION OF EXISTING FACILITIES**

temporary removal or relocation, restoration to former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

- D. **OWNER's Right of Access:** The right is reserved to the OWNER and to the OWNERS of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this Contract.
- E. **Underground Utilities Indicated:** Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the CONTRACTOR.
- F. **Underground Utilities Not Indicated:** In the event that the CONTRACTOR damages any existing utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a written report thereof shall be made immediately to the ENGINEER at no additional cost to the Owner. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR.
- G. All costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the WORK which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such WORK will be paid for as extra WORK in accordance with the provisions of the General Conditions.
- H. **Approval of Repairs:** All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement OWNER and the ENGINEER before being concealed by backfill or other WORK.
- I. **Maintaining in Service:** All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the WORK shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
- J. **Existing Water Services:** CONTRACTOR shall protect and provide temporary support for existing water services. Any water service damaged by the CONTRACTOR, shall be replaced at the CONTRACTOR's expense, with a new water service complete with new water main tap.

1.06 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

**SECTION 01530  
PROTECTION OF EXISTING FACILITIES**

- A. **General:** The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or the OWNER. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.
- B. **Trimming:** Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.
- C. **Replacement:** The CONTRACTOR shall immediately notify the jurisdictional agency and/or the OWNER if any tree is damaged by the CONTRACTOR's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at its own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the CONTRACTOR shall pay to the OWNER of said tree a compensatory payment acceptable to the tree OWNER, subject to the approval of the jurisdictional agency or OWNER. The size of the trees shall be not less than 1-inch diameter nor less than 6 feet in height.

1.07 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the CONTRACTOR shall notify the respective authorities representing the OWNERS or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said OWNERS or agencies can be present during such WORK if they so desire. The CONTRACTOR shall also notify the Sunshine State One Call Center 1-800-432-4770 at least 2 days, but no more than 14 days, prior to such excavation.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 FENCING

Materials to CONTRACTOR's option, minimum fence height = 6 feet.

2.03 BARRIERS

Materials to CONTRACTOR's option, as appropriate to serve required purpose.

PART 3 - EXECUTION

**SECTION 01530**  
**PROTECTION OF EXISTING FACILITIES**

3.01 GENERAL

- A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by progress of construction.

3.02 TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants adjacent to WORK areas.
- B. Consult with ENGINEER and remove agreed-on roots and branches which interfere with WORK.
  - 1. Employ qualified tree surgeon to remove branches, and to treat cuts.
- C. Protect root zones of trees and plants.
  - 1. Do not allow vehicular traffic and parking.
  - 2. Do not store materials or products.
  - 3. Prevent dumping of refuse or chemically injurious materials or liquids.
  - 4. Prevent puddling or continuous running water.
- D. Carefully supervise all WORK to prevent damage.
- E. Replace trees and plants which are damaged or destroyed due to WORK operations under this contract.

3.03 REMOVAL

- A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by OWNER's Representative.
- B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area.

END OF SECTION 01530

PART 1 - GENERAL

1.01 HIGHWAY LIMITATIONS:

The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.

1.02 TEMPORARY CROSSINGS:

- A. **General:** Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300 feet shall be provided. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time.
- B. **Temporary Bridges:** Wherever necessary, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the CONTRACTOR shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the ENGINEER prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.
- C. **Street Use:** Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized WORK of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the ENGINEER and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the ENGINEER or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.
- D. **Traffic Control:** For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of Broward County and the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).



**SECTION 01550  
SITE ACCESS AND STORAGE**

The CONTRACTOR shall take all necessary precautions for the protection of the WORK and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the Florida Department of Transportation.

The CONTRACTOR shall submit 3 copies of a traffic control plan to the ENGINEER for approval a minimum of 2 weeks prior to construction. The ENGINEER reserves the right to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes shall supersede these plans and be done solely at the CONTRACTOR's expense.

The CONTRACTOR shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

1.03 CONTRACTOR'S WORK AND STORAGE AREA:

- A. The CONTRACTOR shall designate and arrange for the use of a portion of the property, adjacent to the WORK for its exclusive use during the term of the Contract as a storage and shop area for its construction operations relative to this Contract.
- B. The CONTRACTOR shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK.
- C. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
  - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.
  - 2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
  - 3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
  - 4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the site.
  - 5. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.

**SECTION 01550**  
**SITE ACCESS AND STORAGE**

6. All hazardous materials which are delivered in containers shall be stored in the original containers until use. Hazardous materials which are delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.04 PARKING:

A. The CONTRACTOR shall:

1. Direct its employees to park in designated areas secured by the CONTRACTOR.
2. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01550

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow on haul routes, at site entrances, on-site access roads, and construction within the right-of-way and parking areas.
- B. Remove temporary equipment and facilities when no longer required, restore grounds to original, or specified conditions.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals or signs required to direct and maintain an orderly flow of traffic in all areas under CONTRACTOR's control, or affected by CONTRACTOR's operations.

1.04 FLAGPERSON

- A. Provide qualified and suitably equipped flagperson when construction operations encroach on traffic lanes, as required for regulation of traffic.

1.05 FLARES AND LIGHTS

- A. Provide flares and lights during periods of low visibility:
  - 1. To clearly delineate traffic lanes and to guide traffic.
  - 2. For use of flagperson in directing traffic.
- B. Provide illumination of critical traffic and parking areas:
  - 1. Maintain free vehicular access to and through parking areas.
  - 2. Prohibit parking on or adjacent to access roads, or in non-designated areas.

1.06 MAINTENANCE AND PROTECTION OF TRAFFIC

- A. The CONTRACTOR shall provide all necessary traffic control devices in order to redirect, protect, warn or maintain existing vehicular and pedestrian traffic during the course of construction. CONTRACTOR shall keep an ATSSA (American Traffic Safety Services Association) Certified work site traffic supervisor on site at all times to be responsible for jobsite M.O.T.

**B. TRAFFIC CONTROL**

1. The "Maintenance of Traffic" plan shall include pedestrian traffic as well as vehicular traffic.

A traffic maintenance plan indicating proposed street closings, schedules, and alternate routes which has been approved by the ENGINEER and applicable agencies, should be submitted to all affected agencies for coordination and routing purposes.

Materials and equipment shall be stored in a fenced or otherwise enclosed area during non-working hours. Pipe and material shall not be strung out along installation routes for longer than two (2) weeks prior to installation.

A safe walk route for all schools within the vicinity of the construction zone shall be maintained during the arrival and dismissal of school. CONTRACTOR shall not block bus access to schools during school hours.

It shall be the responsibility of the CONTRACTOR for any necessary Construction, Pavement Marking and Signage or any Pedestrian Signalization and/or Signal Modification to accommodate an alternate safe walk route.

Thirty (30) days prior to the beginning of construction the CONTRACTOR shall notify the "School Safety Coordinator" at Broward County Traffic Engineering Division (954) 484-9600, to set up a pre- work meeting.

2. The CONTRACTOR, at all times, shall conduct the work in such a manner as to insure the least obstruction to traffic as is practical. Convenience of the general public and of the residents adjacent to the work shall be provided for in a satisfactory manner, as determined by the ENGINEER.
3. Sidewalks, gutters, drains, fire hydrants and private drives shall, insofar as practical, be kept in condition for their intended uses. Fire hydrants on or adjacent to the work shall be kept accessible to fire apparatus at all times, and no material or obstruction shall be placed within twenty (20) feet of any such hydrant.
4. Construction materials stored upon the public street shall be placed so as to cause as little obstruction to the general public as is reasonably possible.
5. Streets shall not be closed, except when and where directed by the ENGINEER and, whenever the street is not closed, the work must be conducted with the provision for a safe passageway for traffic at all times. The CONTRACTOR shall make all necessary arrangements with the ENGINEER concerning maintenance of traffic and selection of detours required.
6. All existing stop signs will be maintained as long as deemed necessary by the ENGINEER.
7. The CONTRACTOR shall furnish a sufficient number of protective devices to protect and divert the vehicular and pedestrian traffic from working areas closed to traffic, or to protect any new work. Failure to comply with this requirement will result in the ENGINEER shutting down the work until the CONTRACTOR provides the necessary protection.

**SECTION 01555  
TRAFFIC REGULATIONS**

8. Any time traffic is diverted for a period of time that will exceed one work day temporary pavement markings will be required. Existing pavement markings that conflict with the new work zone traffic pattern must be obliterated. Painting over existing pavement markings (black out) is not permitted.

1.07 HAUL ROUTES

- A. Consult with OWNER and governing authorities, establish public thoroughfares which will be used as haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

1.08 MEASUREMENT AND PAYMENT

- A. There shall be no special measurement and payment for work under the section, it shall be included in the lump sum price bid for item 'maintenance of traffic'.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01555

**SECTION 01560  
TEMPORARY CONTROLS**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Provide and maintain methods, equipment, and temporary construction, as necessary, to provide controls over environmental conditions at the construction site and related area under CONTRACTOR's control; remove physical evidence of temporary facilities at completion of WORK.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 NOISE CONTROL

- A. Provide all necessary requirements for noise control during the construction period.
  - 1. Noise procedures shall conform to all applicable OSHA requirements and local ordinances having jurisdiction on the WORK.
  - 2. Noise levels during night time hours shall not exceed 55 db measured at the property line of a residence.
  - 3. Must comply with all City ordinances.

1.04 DUST CONTROL

Provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.05 WATER CONTROL

- A. Provide methods to control surface water to prevent damage to the project, the site, or adjoining properties.
  - 1. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.
- B. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.
- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas.

1.06 PEST CONTROL

- A. Provide pest control as necessary to prevent infestation of construction or storage area.

**SECTION 01560  
TEMPORARY CONTROLS**

1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
  2. Should the use of pesticides be considered necessary, submit an informational copy of the proposed program to OWNER with a copy to ENGINEER. Clearly indicate:
    - a. the area or areas to be treated.
    - b. the pesticide to be used, with a copy of the manufacturer's printed instructions.
    - c. the pollution preventative measures to be employed.
- B. The use of any pesticide shall be in full accordance with the manufacturer's printed instructions and recommendations.
- C. To be applied by licensed person.
- 1.07 RODENT CONTROL
- A. Provide rodent control as necessary to prevent infestation of construction or storage area.
1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties
  2. Should the use of rodenticide be considered necessary, submit an informational copy of the proposed program to OWNER with a copy to OWNER's Representative. Clearly indicate:
    - a. the area or areas to be treated.
    - b. the rodenticide to be used, with a copy of the manufacturer's printed instructions.
    - c. the pollution preventative measures to be employed.
- B. The use of any rodenticide shall be in full accordance with the manufacturer's printed instructions and recommendations.
- 1.08 DEBRIS CONTROL
- A. Maintain all areas under CONTRACTOR's control free of extraneous debris.
- B. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking area, or along access roads and haul routes.
1. Provide containers for deposit of debris as specified in Section 01710 - Cleaning.
  2. Prohibit overloading of trucks to prevent spillage on access and haul routes.
    - a. Provide periodic inspection of traffic areas to enforce requirements.

**SECTION 01560  
TEMPORARY CONTROLS**

- C. Schedule periodic collections and disposal of debris as specified in Section 01710 - Cleaning.
  - 1. Provide additional collections and disposal of debris whenever the periodic schedule is inadequate to prevent accumulation.
- D. Must comply with City ordinances.

1.09 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids.
  - 1. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
  - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
  - 1. Prevent toxic concentrations of chemicals.
  - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. Must comply with all applicable laws and codes.

1.10 EROSION CONTROL

- A. Plan and execute construction and earthwork, by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas to prevent erosion and sedimentation.
  - 1. Hold the areas of bare soil exposed at one time to a minimum.
  - 2. Provide temporary control measures such as berms, dikes and drains.
  - 3. Provide silt screens as required to prevent surface water contamination.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.



**SECTION 01560  
TEMPORARY CONTROLS**

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01560

**SECTION 01580**  
**PROJECT IDENTIFICATION AND SIGNS**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain project identification sign.
- B. Remove signs on completion of construction.
- C. Allow no other signs to be displayed.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 PROJECT IDENTIFICATION SIGN

- A. One painted sign, of not less than 32 square feet area, with painted graphic content to include: CONTRACTOR to obtain any required City permits.
  - 1. Title of project.
  - 2. Name of OWNER.
  - 3. Names and titles of:
    - a. ENGINEER.
    - b. Professional Consultants.
    - c. Authorities and Titles.
  - 4. General CONTRACTOR.
  - 5. Major subcontractors.
  - 6. Funding sources.
- B. Graphic design, style of lettering, and colors: As designated by ENGINEER.
- C. Erect on the site at a lighted location of high public visibility, adjacent to main entrance to site, as approved by ENGINEER.

1.04 INFORMATIONAL SIGNS

**SECTION 01580**  
**PROJECT IDENTIFICATION AND SIGNS**

- A. Painted signs and painted lettering, or standard products.
  - 1. Size of signs and lettering: As required by regulatory agencies, or as appropriate to usage.
  - 2. Colors: As required by regulatory agencies, otherwise of uniform colors throughout project.
- B. Erect at appropriate locations to provide required information.

1.05 QUALITY ASSURANCE

- A. Sign Painter: Professional experience in type of WORK required.
- B. Finishes, Painting: Adequate to resist weathering and fading for scheduled construction period.

PART 2 - PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and Framing: May be new or used, wood or metal, in sound condition structurally adequate to WORK and suitable for specified finish.
- B. Sign Surfaces: Exterior softwood plywood with medium density overlay, standard large sizes to minimize joints.
  - 1. Thickness: As required by standards to span framing members, to provide even, smooth surface without wave or buckles.
- C. Rough Hardware: Galvanized
- D. Paint: Exterior quality.
  - 1. Use Bulletin colors for graphics.
  - 2. Colors for structure, framing, sign surfaces and graphics: As selected by ENGINEER.

**SECTION 01580**  
**PROJECT IDENTIFICATION AND SIGNS**

PART 3 - EXECUTION

3.01 PROJECT IDENTIFICATION SIGN

- A. Paint exposed surfaces of supports, framing and surface material; one coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes and colors selected.

3.02 INFORMATIONAL SIGNS

- A. Paint exposed surfaces: One coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes and colors selected.
- C. Install at a height for optimum visibility, on ground-mounted poles or attached to temporary structural surfaces.

3.03 MAINTENANCE

- A. Maintain signs and supports in a neat, clean condition; repair damages to structure, framing or sign.
- B. Relocate informational signs as required by progress of the WORK.

3.04 REMOVAL

Remove signs, framing, supports and foundations at completion of project.

3.05 MEASUREMENT AND PAYMENT

There shall be no special measurement or payment for the WORK under this section, it shall be included in the lump sum price bid for item 1 - mobilization.

END OF SECTION 01580

**SECTION 01600  
MATERIAL AND EQUIPMENT**

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Material and equipment incorporated into the WORK:

1. Conform to applicable specifications and standards.
2. Comply with size, make, type and quality specified, or as specifically approved in writing by the OWNER's Representative.
3. Manufactured and fabricated products:
  - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
  - b. Manufacture like parts of duplicate units to standard sizes and gauges to be interchangeable.
  - c. Two or more items of the same kind shall be identical, by the same manufacturer.
  - d. Products shall be suitable for service conditions.
  - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of WORK shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation, including two copies to OWNER's Representative.
  1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements.
  1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with OWNER's Representative for further instructions.

**SECTION 01600  
MATERIAL AND EQUIPMENT**

2. Do not proceed with WORK without clear instructions.

C. Perform WORK in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

**1.04 TRANSPORTATION AND HANDLING**

A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with WORK and conditions at the site. Products shall be delivered to the job site on an "as needed" basis.

1. Deliver products in undamaged condition, in manufacturers' original containers or packaging, with identifying labels intact with legible markings.

2. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

3. Pipe and materials shall not be strung out along installation routes for longer than two (2) weeks prior to installation.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

C. Coordinate deliveries to avoid conflict with WORK and conditions at site:

1. WORK of other contractors, or OWNER.

2. Limitations of storage space.

3. Availability of equipment and personnel for handling products.

4. OWNER's use of premises.

D. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.

E. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

F. Immediately on delivery, inspect shipment to assure:

1. Product complies with requirements of Contract Documents and reviewed submittals.

2. Quantities are correct.

3. Containers and packages are intact, labels are legible.

**SECTION 01600  
MATERIAL AND EQUIPMENT**

- 4. Products are properly protected and undamaged.
- G. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.
- H. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- I. Handle products by methods to prevent bending or overstressing.
- J. Lift heavy components only at designated lifting points.

1.05 STORAGE

- A. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
  - 1. Store products subject to damage by the elements in weather-tight enclosures.
  - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
  - 3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.
- B. Exterior Storage
  - 1. Provide substantial platforms, blocking or skids to support fabricating products above ground, prevent soiling or staining.
    - (a) Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
  - 2. Store loose granular materials on solid surface such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.
    - (a) Provide surface drainage to prevent flow or ponding of rainwater.
    - (b) Prevent mixing of refuse or chemically injurious materials or liquids.

1.06 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
  - 1. State of storage facilities is adequate to provide required conditions.
  - 2. Required environmental conditions are maintained on continuing basis.
  - 3. Surfaces of products exposed to elements are not adversely affected.

**SECTION 01600  
MATERIAL AND EQUIPMENT**

- (a) Any weathering of products, coatings and finishes is not acceptable under requirements of Contract Documents.
  - B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.
- 1.07 PROTECTION AFTER INSTALLATION
- A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of WORK.
  - B. Control traffic to prevent damage to equipment and surfaces.
  - C. Provide coverings to protect finished surfaces from damage.
    - 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent WORK.
    - 2. Protect finished floors and stairs from dirt and damage.
      - (a) In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.
      - (b) For movement of heavy products, lay planking or similar materials in place.
      - (c) Cover wall and floor surfaces in the vicinity of construction personnel activities and all finished surfaces used by construction personnel.
  - D. Waterproofed surfaces
    - 1. Prohibit use of surfaces for traffic of any kind, and for storage of any products.
    - 2. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.
      - (a) Install recommended protection, remove on completion of that activity.
      - (b) Restrict use of adjacent unprotected areas.
  - E. Lawns and landscaping
    - 1. Prohibit traffic of any kind across planted lawn and landscaped areas, except as required for construction of WORK.
  - F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.



**SECTION 01600  
MATERIAL AND EQUIPMENT**

1.08 SUBSTITUTIONS AND PRODUCT OPTIONS

A. Limitations on substitutions.

1. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by Subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.
2. Substitute products shall not be ordered or installed without written acceptance.
3. Only one (1) request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

B. Products List

1. Within 15 days after Contract Date submit to ENGINEER a complete list of major products proposed to be used, with the name of the manufacturer and the installing Subcontractor.

C. Contractors Options

1. For products specified only by reference standard, select any product meeting that standard.
2. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named, which complies with the Specifications.
3. For products specified by naming one or more products or manufacturers and "or approved equal," CONTRACTOR must submit a request as for substitutions for any product or manufacturer not specifically named.

D. Substitutions

1. For a period of 15 days after Contract Date, ENGINEER will consider written request from CONTRACTOR for substitution of products.
2. Identify product by specification Section and Article Numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
3. List similar projects using product, dates of installation, and names of ENGINEER and OWNER.
4. List availability of maintenance services and replacement materials.
5. Submit a separate request for each product, supported with complete data, with drawings and samples as appropriate, including:
  - a. Comparison of the qualities and performance of the proposed substitution with that specified.

**SECTION 01600  
MATERIAL AND EQUIPMENT**

- b. Changes required in other elements of the WORK because of the substitution.
  - c. Effect on the construction schedule.
  - d. Cost data comparing the proposed substitution with the product specified.
  - e. Any required license fees or royalties.
  - f. Availability of maintenance services, and source of replacement materials.
6. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the CONTRACTOR.
  7. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the ENGINEER's decision shall be final.
  8. The ENGINEER may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute.
  9. The OWNER may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.
  10. Acceptance by the ENGINEER of a substitute item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
  11. The CONTRACTOR shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the CONTRACTOR work, the WORK of its Subcontractors and of other Contractors, and shall effect such changes without cost to the OWNER.
- E. Contractors Representation:
1. A request for a substitution constitutes a representation that CONTRACTOR:
    - a. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
    - b. Will provide the same guarantees or bonds for the substitution as for the product specified.
    - c. Will coordinate the installation of an accepted substitution into the WORK, and make such other changes as may be required to make the WORK complete in all respects.
    - d. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.
- F. Submittal Procedures

**SECTION 01600**  
**MATERIAL AND EQUIPMENT**

1. Submit three (3) copies of request for substitution.
2. ENGINEER will review requests for substitutions with reasonable promptness, and notify CONTRACTOR, in writing, of the decision to accept or reject the requested substitution.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01600

**PART 1 - GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Furnish and install products specified, under options and conditions for substitutions stated in this section.

**1.02 RELATED REQUIREMENTS**

- A. Information for Bidders, general and special conditions.
- B. Section 01010 - Summary of Work
- C. Section 01730 - Project Record Documents

**1.03 PRODUCTS LISTS**

- A. Within 14 days after award of contract, submit to LANDSCAPE ARCHITECT and CITY five copies of complete list of major products which are proposed for installation.
- B. Tabulate products by specification section number and title.
- C. For products specified only by reference standards, list for each such product:
  - 1. Name and address of manufacturer
  - 2. Trade Name
  - 3. Model or catalog designation
  - 4. Manufacturer's data:
    - a. Reference Standards
    - b. Performance Test Data

**1.04 CONTRACTOR'S OPTIONS**

- A. For products specified only by reference standard, select product meeting that is standard by any manufacturer.
- B. For products specified by naming several products or manufacturers, select any one of the products and manufacturers named which complies with the specifications.
- C. For products specified by naming only one or more products or manufacturers and stating "or equal", submit a request as for any substitutions for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product or manufacturer, there is no option and no substitution will be allowed without a pre-bid qualification.

1.05 SUBSTITUTIONS AND PREQUALIFICATION OF SIMILAR METHODS

- A. Within a period of 20 days after award of contract, LANDSCAPE ARCHITECT will consider formal requests from the CONTRACTOR for substitutions of products in place of those specified.
  - 1. After the end of that period, request will only be considered in case of product unavailability or other conditions beyond the control of the CONTRACTOR.
  
- B. Submit separate requests for each substitution. Support each request with:
  - 1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
    - a. Product identification, including manufacturer's name and address
    - b. Manufacturer's literature; identify:
      - 1) Product description
      - 2) Reference standards
      - 3) Performance and test data
    - c. Samples, as applicable
    - d. Name, phone number of contact persons and address of two or more similar projects on which the product has been used in the area. Date of each installation with contact references and quantities installed. Indicate scope and size of referenced projects.
  - 2. Itemized comparison of the proposed substitution with product specified; list significant variations, including any cost savings.
  - 3. Data relating to changes in construction schedule.
  - 4. Any effect of substitution on separate contracts.
  - 5. List of changes required in other work or products.
  - 6. Accurate cost data comparing proposed substitution with product specified.
  - 7. Designation of required license fees or royalties.
  - 8. Designation of availability of maintenance services, sources of replacement materials.
  
- C. Substitutions will not be considered for acceptance when:
  - 1. They are indicated or implied on shop drawings or product data submittals without a formal request from the CONTRACTOR.

**SECTION 01630  
SUBSTITUTIONS AND PROJECT OPTIONS**

2. They are requested directly by a SUBCONTRACTOR or supplier
3. Data relating to changes in construction schedule
4. Any effect of substitution on separate contracts.
5. List of changes required in other work or products.
6. Acceptance will require substantial revision of contract documents or drawings.

D. Substitute products shall not be ordered or installed without written acceptance of the LANDSCAPE ARCHITECT.

E. LANDSCAPE ARCHITECT and the CITY will determine acceptability of proposed substitutions.

1.06 CONTRACTOR'S REPRESENTATION

A. In making formal request for substitution CONTRACTOR represents that:

1. CONTRACTOR has investigated proposed product and has determined that it is equal to or superior in all respects to that specified.
2. CONTRACTOR will provide same warranties or bonds for substitution as product specified.
3. CONTRACTOR will coordinate installation of accepted substitution into the work, and will make such changes as may be required for the work to be completed in all respects.
4. CONTRACTOR waives claims for additional costs caused by substitution, which may subsequently become apparent.
5. Cost data is complete and includes related costs under his contract, but not:
  - a. Costs under separate contracts.
  - b. ARCHITECT's costs of redesign or revisions of Contract Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01630

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the WORK.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 SUBSTANTIAL COMPLETION

- A. When CONTRACTOR considers the work is substantially complete, he/she shall submit to the ENGINEER.
  - 1. A written notice that the WORK, or designated portion thereof, is substantially complete.
  - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the ENGINEER will make an inspection to determine the status of completion.
- C. Should the ENGINEER determine that the WORK is not substantially complete:
  - 1. ENGINEER will promptly notify the CONTRACTOR in writing, giving the reasons therefore.
  - 2. CONTRACTOR shall remedy the deficiencies in the WORK, and send a second written notice of substantial completion to the ENGINEER.
  - 3. The ENGINEER will reinspect the WORK.
- D. When the ENGINEER concur that the WORK is substantially complete, the ENGINEER will:
  - 1. Prepare a Certificate of Substantial Completion accompanied by CONTRACTOR's list of items to be completed or corrected.
  - 2. Submit the Certificate to the OWNER and the CONTRACTOR for their written acceptance of the responsibilities assigned to them in the Certificate.

1.04 FINAL INSPECTION

- A. When CONTRACTOR considers the work is complete, he shall submit written certification that:
  - 1. Contract Documents have been reviewed.

**SECTION 01700  
CONTRACT CLOSEOUT**

2. WORK has been inspected for compliance with Contract Documents.
  3. WORK has been completed in accordance with Contract Documents.
  4. Equipment and systems have been tested in the presence of the OWNER's Representative and are operational.
  5. WORK is completed and ready for final inspection.
- B. OWNER's Representative and ENGINEER will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should OWNER's Representative and ENGINEER consider that the WORK is incomplete and defective:
1. ENGINEER will promptly notify the CONTRACTOR, in writing, listing the incomplete or defective WORK.
  2. CONTRACTOR shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the ENGINEER that the WORK is complete.
  3. OWNER'S Representative and ENGINEER will reinspect the WORK.
- D. When the ENGINEER find that the WORK is acceptable under the Contract Documents, he/she shall request the CONTRACTOR to make closeout submittals.

1.05 REINSPECTION FEES

- A. Should OWNER's Representative perform reinspections due to failure of the WORK to comply with the claims of status of completion made by the CONTRACTOR:
1. CONTRACTOR will compensate OWNER's Representative and ENGINEER for such additional services.
  2. OWNER will deduct the amount of such compensation from the final payment to the CONTRACTOR.

1.06 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER/OWNER'S REPRESENTATIVE

- A. Evidence of compliance with requirements of governing authorities.
1. Certificate of Occupancy.
  2. Certificates of Inspection.
    - (a) Mechanical
    - (b) Electrical



**SECTION 01700  
CONTRACT CLOSEOUT**

- (c) Other, as may be required.
  - B. Project Record Documents: To requirements of Section 01720.
  - C. Operating and Maintenance Data, Instructions to OWNER's Personnel: To requirements of Section 01730.
  - D. Guarantees and Bonds: To requirements of Section 01740.
  - E. Evidence of Payment and Release of Liens: To requirements of General and Supplementary General Conditions.
  - F. Certificate of Insurance for Products and Completed Operations.
- 1.07 FINAL ADJUSTMENT OF ACCOUNTS
- A. Submit a final statement of accounting to OWNER's Representative.
  - B. Statement shall reflect all adjustments to the Contract Sum:
    - 1. The original Contract Sum.
    - 2. Additions and deductions resulting from:
      - (a) Previous Change Orders.
      - (b) Allowances.
      - (c) Unit Prices.
      - (d) Deductions for uncorrected WORK.
      - (e) Penalties and Bonuses.
      - (f) Deductions for liquidated damages.
      - (g) Deductions for reinspection payments.
      - (h) Other adjustments.
    - 3. Total Contract Sum, as required.
    - 4. Previous payments.
    - 5. Sum remaining due.
  - C. ENGINEER will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

**SECTION 01700**  
**CONTRACT CLOSEOUT**

1.08 FINAL APPLICATION FOR PAYMENT

CONTRACTOR shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01700

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Execute cleaning, during progress of the WORK, and at completion of the WORK, as required by the General Conditions.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 DISPOSAL REQUIREMENTS

Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the WORK, the site and adjacent properties free from accumulation of waste material, rubbish and windblown debris, resulting from Construction WORK.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish. In accordance with City of Sunrise ordinances.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.
- D. The OWNER's Representative reserves the right to direct the CONTRACTOR to remove waste materials

3.02 DUST CONTROL

**SECTION 01710  
CLEANING**

- A. Perform operations so that dust and other contaminants resulting from Construction WORK operations will not cause any damages or maintenance problems to adjacent properties.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

3.03 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Polish glossy surfaces to a clear shine.
- D. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- E. Prior to final completion, or OWNER occupancy, CONTRACTOR shall conduct an inspection of sight-exposed interior and exterior surfaces, and all WORK areas, to verify the entire WORK is clean.
- F. All storage and staging areas shall be cleaned and returned to prior conditions or better as per requirements of this section.
- G. Contractor to pressure clean existing paver areas to cleanliness of newly installed pavers.

END OF SECTION 01710

**PART 1 - GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. CONTRACTOR shall provide and pay for field Engineering and Survey services required for the project except as noted below in paragraph 1.05.
- B. ENGINEER will identify existing control points and property line corner stakes indicated on the drawings, as required.

**1.02 SUMMARY**

- A. The CONTRACTOR shall provide construction stakeout sufficient to construct the proposed improvement in accordance with the approved construction plans.
- B. All stakeout services shall be completed under the direct supervision of a Professional Surveyor & Mapper licensed in the State of Florida.
- C. The OWNER shall provide the following prior to the commencement of any stake-out services:
  - 1. Construction site drawings and associated electronic files. Any plan released to the CONTRACTOR via electronic media is for as-built use only. They have not been geometrically calculated by a surveyor. This applies to all aspects of the plans including, but not limited to, ROW, roads, utilities and drainage.
  - 2. Copies of the topographic survey that the approved site plans, if applicable, have been based on. The topographic survey shall include a minimum of two benchmarks, which shall be used for vertical control;
  - 3. Copies of the boundary survey that the approved site plans, if applicable, have been based on. The boundary survey shall be closed and monumented. These monuments shall be used for horizontal control.

**1.03 RELATED REQUIREMENTS**

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

**1.04 QUALIFICATIONS OF SURVEYOR OR ENGINEER**

- A. Qualified Engineer or Registered Professional Surveyor & Mapper registered in the State of Florida, acceptable to ENGINEER and OWNER.

**1.05 SURVEY REFERENCE POINTS**

- A. ENGINEER will provide basic horizontal and vertical control points for the construction project including:
  - 1. Permanent coordinate reference points with horizontal and vertical control, located and staked as shown on the plans.

**SECTION 01720  
PROJECT SURVEY AND LAYOUT**

- B. The CONTRACTOR shall locate and protect control points prior to starting site construction work, and preserve all permanent reference points during construction.
  - 1. Make no changes or relocations without prior written notice to OWNER's Representative.
  - 2. Report to OWNER's Representative when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
  - 3. CONTRACTOR's surveyor shall replace project control points which may be lost or destroyed.
    - a. Establish replacements based on original survey control.

1.06 PROJECT SURVEY REQUIREMENTS

- A. CONTRACTOR's surveyor shall establish a minimum of two permanent bench marks on site, referenced to data established by survey control points.
- B. CONTRACTOR shall establish lines and levels, locate and layout, prepare a horizontal and vertical control plan for the purpose of construction staking by instrumentation and similar appropriate means:
  - 1. Stakes for grading and fill placement.
  - 2. Controlling lines and levels as required.
- C. From time to time, verify layouts by same methods.
- D. Horizontal and vertical control plan shall be made available to CONSULTANT in ACAD R2000 format or most current release.

1.07 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.
- B. On completion of construction work, prepare a certified survey showing all dimensions, locations and elevations of project.

1.08 SUBMITTALS

- A. Submit name and address of Professional Surveyor & Mapper and Professional Engineer to OWNER's Representative.
- B. On request of OWNER's Representative, submit documentation to verify accuracy of field Engineering work.
- C. Submit certificate signed by Registered Engineer or Professional Surveyor & Mapper certifying that elevation and locations of work are in conformance, or non-conformance, with Contract Documents.

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

- A. The CONTRACTOR/Surveyor shall supply all stakeout materials.

**2.02 EQUIPMENT**

- A. The CONTRACTOR/Surveyor shall supply all equipment necessary to accomplish the work.

**PART 3 - EXECUTION**

**3.01 MINIMUM PERFORMANCE STANDARDS**

**A. Building Layout**

- 1. Set a minimum of 4 building corners (to be the outer most building limits or as requested by the CONTRACTOR) with 2 (10 foot minimum) offsets per corner. A minimum of two benchmarks or a finished floor benchmarks will be set within close proximity to the proposed building.

**B. Building Pad/Limits Certification**

- 1. Grade elevations for the building limits (finished floor elevation) shall be provided at a 20 foot grid for subgrade acceptance, stone base acceptance, and prior to slab placement.

**C. Detention/Retention Ponds**

- 1. The CONTRACTOR shall provide an as-built survey of all constructed detention/retention ponds and associated drainage structures prior to final acceptance, including a written certification verifying the constructed pond volume from top of bank and inverts of the proposed drainage structures.

**D. Curb Layout**

- 1. Stakes shall be located at a minimum of 25 feet and a maximum of 50 feet intervals and also at points of curvature, points of tangency, radius points, and transitions, high and low points, and deflections. Offsets will be at 3 feet from back of curb. Elevations of top of curb to be provided at this 3 foot offset.

**E. Storm, Sanitary Structures, Catch Basins and Curb Inlets**

- 1. Stake centerline structure and offset stakes in the same direction from centerline, perpendicular to the direction of excavation. Provide sufficient bench marks away from excavations for elevation control.

**F. Curb Inlet Tops**

- 1. Set hubs and tacks at 10 foot offsets to centerline of structure at the edge of pavement alignment

G. Utility Layout

1. Water - Stakes shall be located at 50 foot intervals along centerline of pipe, at all mechanical fittings and at deflections with no offsets. One 10 foot offset stake to the center of hydrant with a grade ring elevation will be provided;
2. Lighting - Centerline of lighting structure with a 5 foot offset will be staked. Offset stake elevation will be marked at finished grade.

H. Roadway Layout

1. Subgrade stakeout
  - a. Grade stakes shall be located at centerline of roadway at 50 foot intervals, including point of curvature, point on curve, point of tangency, and points of vertical curves. Grades shall be at finished grade.
2. Rock installation.
  - a. Grade stakes shall be located at 2 foot offset to edge of pavement at 50 foot intervals, including point of curvature, point on curve, point of tangency, and points of vertical curves. Grades shall be at top of rock grade. An as-built survey indicating the top of rock elevations shall be provided and approved by Engineer prior to paving.

I. Wall Layout

1. Stakes with 10 feet offset shall be provided at 50 feet intervals, deflections, beginning and end of wall. Additional stakes may be required, depending on wall height and conditions.

J. Limits of Disturbance

1. Clearing limits shall be staked at 100 feet ± intervals and at all critical areas.

K. Grade Stakes - Site balancing

1. Stakes will be provided at a 50 foot grid. Grade elevations shall be to finished grade.

L. Canals / Mitigation Areas

1. The CONTRACTOR shall provide an as-built survey of all canals and mitigation areas prior to final acceptance.
2. Canals shall be as-built at the proposed cross-section locations. Canals shall be as-built subsequent to placement of organic material.

3.02 CONTRACTOR VERIFICATION

- A. CONTRACTOR will field verify the utility location, size and invert elevations at points of connection in area of conflict, prior to construction and protect them from damage.



**SECTION 01720  
PROJECT SURVEY AND LAYOUT**

1. Finished subgrades shall be verified by the CONTRACTOR to ensure proper elevation and conditions for construction above subgrade;
  2. Protect subgrade from excessive construction traffic and wheel loading including concrete and dump trucks; and,
- B. Notify OWNER if it is necessary to destroy or remove control points and/or benchmarks due to construction. CONTRACTOR shall be responsible for the protection of benchmarks, including the cost for relocation as required.
- C. Advise OWNER of any discrepancies between plans and field layout.
- 3.03 QUALITY ASSURANCE
- A. The survey crew shall discuss all layout procedures with the CONTRACTOR's supervisor prior to commencing work.
- B. A survey crew daily report detailing that day's work, shall be completed and signed by the CONTRACTOR's supervisor at the end of that day's layout.
- C. Copies of field notes, sketches, cut sheets, etc. shall be provided to the CONTRACTOR by the beginning of the next workday.
- D. All costs related to re-staking due to construction or CONTRACTOR's work resulting in destruction or movement of stakes, shall be paid for by the CONTRACTOR and at no additional expense to the OWNER.
- E. Building dimensions shall be obtained only from the approved architectural/structural drawings. Dimensions are to be obtained only from the appropriate approved (engineering, architectural and structural) drawings. The surveyor shall report any conflicts to the CONTRACTOR and OWNER.

END OF SECTION 01720

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Maintain at the site a record copy of:
  - 1. Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Change Orders and other modifications to the Contract.
  - 5. Approved Shop Drawings, Product Data and Samples.
  - 6. Field Test Records.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in CONTRACTOR's field office apart from documents used for construction.
  - 1. Provide files and racks for storage of documents.
  - 2. Provide locked cabinet or secure storage space for storage of samples.
- B. File documents and samples in accordance with CSI format.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by OWNER's Representative.

1.04 MARKING DEVICES

Provide felt tip marking pens for recording information in the color code designated by OWNER's Representative.

1.05 RECORDING

**SECTION 01730  
PROJECT RECORD DOCUMENTS**

- A. Label each document, "PROJECT RECORD" in neat large printed letters, or by rubber stamp.
- B. Record information concurrently with construction progress. Do not cover up any WORK until required information is recorded.
- C. Drawings: Legibly mark to record actual construction:
  - 1. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 2. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
  - 3. Field changes of dimension and detail.
  - 4. Changes made by Field Order or by Change Order.
  - 5. Details not on original Contract Drawings.
- D. Specifications and Addenda; Legibly mark each Section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each produce and item of equipment actually installed.
  - 2. Changes made by field order or by Change Order.

1.06 AS-BUILT PLANS (RECORD DRAWINGS)

- A. The CONTRACTOR shall maintain full size (24"X36") field drawings to reflect the "as-built" items of WORK as the WORK progresses. Upon completion of the WORK, the CONTRACTOR shall prepare a record set of "as-built" drawings on full-size, reproducible material. One set of full size design drawings on reproducible material will be furnished to the CONTRACTOR by the design ENGINEER at the current square foot price.
- B. The cost of maintaining record changes, and preparation of the Record Drawings shall be included in the unit prices bid for the affected items. Upon completion of the WORK, the CONTRACTOR shall furnish the ENGINEER the reproducible Record Drawings. The completed Record drawings shall be delivered to the ENGINEER at least 48 hours prior to final inspection of the WORK. The Final Inspection will not be conducted unless the Record Drawings are in the possession of the ENGINEER.
- C. The completed (or final) record drawings shall be certified by a Professional Land Surveyor registered in the State of Florida. This certification shall consist of the surveyor's embossed seal bearing his registration number, the surveyor's signature and date on each sheet of the drawing set. In addition,

**SECTION 01730  
PROJECT RECORD DOCUMENTS**

the key sheet, cover sheet or first sheet of the plans set shall list the business address and telephone number of the surveyor.

D. Representative items of WORK (as applicable) that should be shown on the record drawings as: verified, changed or added are shown below:

1. Plans:

- a. Structure types, location with grade of rim and flow-line elevations.
- b. Sewer type, length, size and elevations.
- c. Utility type, length, size and elevation in conflict structures.
- d. All manholes, valves and hydrants within right-of-way.
- e. Spot (critical) elevations at plateaued intersections.
- f. Sewer laterals shall be stationed between manholes.

2. Pavement Marking and Signing Plans: Sign location where installed if different from plans.

3. Water and Sewer Plans: Location (horizontal and vertical) of all pipe lines, structures, fittings, valves and appurtenances.

E. The CONTRACTOR shall submit one set of progress record drawings with each application for payment. These drawings shall accurately depict the WORK completed and for which payment is being requested.

1.07 SUBMITTAL

A. At Contract closeout, deliver Record Documents to ENGINEER/OWNER's Representative.

B. A complete set of "As-Built" Drawings shall be prepared and delivered to the ENGINEER. WORK shall be performed by a registered land surveyor and shall include, but not be limited to the following:

1. Valve boxes, splice boxes, pull boxes, all underground utilities-waterlines, electrical runs, irrigation system, storm drainage pipe and structures, finished necessary grades, benches, curbs, fences walls signs, light fixtures and other items as necessary.

C. Accompany submittal with transmittal letter in duplicate, containing:

1. Date.
2. Project title and number.
3. CONTRACTOR's name and address.
4. Title and number of each Record Document.
5. Signature of CONTRACTOR or his authorized representative.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01720

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified guarantees and bonds.
- B. Compile specified services and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to ENGINEER for review and transmittal to OWNER.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 SUBMITTAL REQUIREMENTS

- A. Assemble guarantees, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and Subcontractors.
- B. Number of original signed copies required: Three each.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
  - 1. Product or WORK item.
  - 2. Firm, with name of principal, address and telephone number.
  - 3. Scope.
  - 4. Date of beginning warranty, bond or service and maintenance contract.
  - 5. Duration of warranty, bond or service maintenance contract.
  - 6. Provide information for OWNER's personnel:
    - a. Proper procedure in case of failure.
    - b. Instances which might affect the validity of warranty or bond.
  - 7. CONTRACTOR, name of responsible principal, address and telephone number.

1.04 FORM OF SUBMITTALS

**SECTION 01740  
GUARANTEES AND BONDS**

- A. Prepare in triplicate packets.
- B. Format:
  - 1. Size 8-1/2 in. x 11 in., punch sheets for standard 3-ring binder. Fold larger sheets to fit into binders.
  - 2. Cover: Identify each packet with typed or printed title "GUARANTEES AND BONDS". List:
    - a. Title of Project.
    - b. Name of CONTRACTOR.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.05 TIME OF SUBMITTALS

- A. Make submittals within ten days after Date of Substantial Completion, prior to final request for payment.
- B. For items of WORK, where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of guarantee period.

1.06 SUBMITTALS REQUIRED

- A. Submit guarantees, bonds, service and maintenance contracts for periods other than one year as specified in respective specific sections of the Specifications, (if applicable).
- B. The General CONTRACTOR shall submit on the entire Project the one year guarantee as per AIA, Document A-201 General Conditions, (except for certain portions of the WORK, where longer periods of time are specified in the specific applicable sections of the Specifications).

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01740