

**CITY OF BELLE GLADE
MAIN STREET LANDSCAPING IMPROVEMENTS
SCOPE OF WORK & TECHNICAL SPECIFICATIONS**

SCOPE OF WORK

1.0 PROJECT LOCATION

This Project is located at various sites along N and S Main St near the limits of Gator Blvd/NW Ave L and SE Ave G within the City of Belle Glade, Florida. More specifically, as defined and set forth in the “City of Belle Glade – Beautification Project N & S Main Street Landscaping Improvements” maps and exhibits.

2.0 SCOPE OF WORK

A. GENERAL SCOPE OF WORK:

1. Provide and pay for labor, materials, equipment, tools, construction equipment, applicable taxes, other facilities, and services necessary for the execution, testing and completion of the WORK under these CONTRACT DOCUMENTS.
2. The Work to be performed by the CONTRACTOR includes furnishing all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, mobilization, maintenance of traffic (MOT) and all other services, facilities and other related construction items of every nature whatsoever necessary to modify, construct, complete, deliver and place into operation the subject WORK at the various sites as described on the “City of Belle Glade – Beautification Project N & S Main Street Landscaping Improvements,” “Schedule of Values” and/or as herein described/specified. All WORK shall be in accordance with these CONTRACT DOCUMENTS, City of Belle Glade Ordinances and regulations, Florida Statutes, Florida Department of Transportation (“FDOT”) Standard Specifications for Road and Bridge Construction (latest edition), FDOT Design Standards (latest edition) and any other applicable FDOT specifications (herein, collectively, the “FDOT Specifications”).
3. **The selected CONTRACTOR shall submit a “Landscaping Design & Layout Plan” using the items quantified in the “Schedule of Values” to be reviewed and approved by the CITY.**
4. The scope of WORK for this project includes the removal of all existing landscaping, disconnection, and abandonment of existing irrigation system(s), clearing and grubbing of existing planting beds and installation of “drought tolerant” plants as specified on the attached exhibits and “Schedule of Values.”
 - a. The CONTRACTOR shall be responsible for mobilization and demobilization to the site including all required site cleanup and disposal of debris, all required permits, insurances, payments, and maintenance bonds as well as coordination with the CITY and/or local businesses for a temporary storage facility(s).
 - b. The CONTRACTOR shall be responsible for all required Maintenance of Traffic (MOT) operations as per necessary FDOT Specifications and required certificates.
 - c. **The CONTRACTOR shall conduct and submit for approval pre-construction video recordings before starting any construction activities.**

- d. The CONTRACTOR shall be responsible for applying and obtaining all required permits for the construction of this project, including but not limited to: all required FDOT, SFWMD and any other regulatory agency permits, as applicable. The contractor shall include all permitting fees within the "Mobilization & Demobilization" Lump Sum bid item. A City Building Department permit will be required, however, all City permitting fees will be waived.
 - e. The CONTRACTOR shall obtain all required erosion control permits; supply and install all necessary erosion control operations/plans as per FDOT, SFWMD, City, NPDES and SWPPP requirements.
 - f. The CONTRACTOR shall be responsible for all clearing and grubbing operations for all areas of the proposed project. Including the removal and disposal of all items necessary to perform and complete this project.
5. The specified existing landscaped medians and plant beds are to be reworked and improved upon per the methods and specifications listed below, in accordance with applicable construction guidelines, FDOT Specifications and as described on the "City of Belle Glade – Beautification Project N & S Main Street Landscaping Improvements" maps/exhibits and "Schedule of Values."
6. All proposed landscaped medians and plant beds may not be reconstructed, as funding is limited. The CITY shall have the right to add or remove areas per the allotted funding.
7. **The CONTRACTOR is responsible for visiting each site to confirm the CITY supplied area values prior to submitting a Bid. By submitting a Bid, the CONTRACTOR agrees/confirms that all pre-bid site investigations have been performed. Any discrepancies shall be brought to the attention of the Purchasing Manager according to the provisions and *TIME FRAMES* of Instructions to Bidders, Article 21, Interpretations and Addenda and /or Article 31, Substitute or Equal Items during the bidding process and prior to submitting a Bid.**
8. **Once a Bid is received, the awarded CONTRACTOR shall be responsible for fully removing all landscaping within the existing plant beds for the locations specified at the "Clearing & Grubbing" Lump Sum value submitted. No additional pavements shall be given due to discrepancies or adjustments in the CITY supplied dimensions/values once the project is awarded. However, in the case that the CITY removes some locations from the project, the CITY may ask for a breakdown in the "Clearing & Grubbing" Lump Sum value for a deduct on that Bid Item.**
9. The price for each landscaping item provided in the "Schedule of Values" shall include all labor, equipment, and materials necessary to furnish, install and construct said items in accordance with these CONTRACT DOCUMENTS. Each item shall include but not be limited to the removal and disposal of existing landscaping, grasses and debris as well as replacement and installation of new fill and potting soil, as necessary.
10. An addition to the CONTRACTOR's workmanship warranty, the CONTRACTOR shall also provide a mandatory one-year, minimum, "Maintenance and Monitoring Program." The monitoring program shall include quarterly inspections of all installed items documenting the growth and survivorship of all plants including upkeep for promoting good health of all plant species and for the removal of weeds. Each quarterly inspection shall assess the species, numbers, locations, and heights of all items installed.
11. An addition to the CONTRACTOR's workmanship warranty, the CONTRACTOR shall also provide a mandatory one-year, minimum, "Survivorship Warranty." This warranty shall include replacement of any item(s) installed that does not survive after each quarterly inspection. Items

scheduled for replacement shall be documented in "Maintenance and Monitoring Program" report for satisfying the 90% survivorship requirement.

B. GENERAL LANDSCAPE REQUIREMENTS

1. *CONTRACTOR's WORK:*

- a. The CONTRACTOR's scope of WORK shall include, but not limited to, the furnishing and preparations of soils (top and underlying), production of planting mixtures, grades, plant material, plants (installation of trees, palms, shrubs, groundcover, etc.), watering, staking, guying and mulching (as necessary).
- b. The CONTRACTOR shall maintain all landscaped WORK until substantial completion and/or final acceptance is issued, in writing, by the CITY or ENGINEER. Maintenance of WORK shall include, but not be limited to, watering, weeding, cultivating, pruning, cutting, mowing, trimming, fertilizing and protection from insets, diseases, and heat/dehydration and any other operations necessary to ensure normal growth and proper health of all items installed. Any plants showing signs of settlement shall be reset and saucers reshaped. All defective items shall be corrected before the CITY takes possession of any WORK.
- c. The CONTRACTOR shall notify the CITY or ENGINEER upon completion of the WORK and request a final inspection. All items considered to be incomplete or unacceptable by the CITY or ENGINEER shall be corrected by the CONTRACTOR within 10 workdays.

2. *Quality Control (trees, palms, shrubs, groundcover, sod, planting material, etc.):*

- a. Plant species and sizes shall be per the Schedule of Values/Bid Schedule. Nomenclature shall confirm to standard plant names and/or as specified. All stock shall be per Florida Department of Agriculture and Consumer Services nursery plants parts I and II, latest edition grades and standards or as specified. All plants shall be per Florida Division of plant Industry, Florida Grade No. 1 or better.
- b. The CONTRACTOR shall keep all work areas free from accumulation of waste and debris caused by the construction tasks or workers. Upon completion of the WORK and/or each phase, the CONTRACTOR shall remove all waste, debris, surplus plant material, empty containers and all other equipment from the project site in a timely manner.
- c. All planting beds are to be properly prepped prior to the installation of any plantings (trees, shrubs, groundcover, etc.). All areas shall be free of weeds and nuisance or invasive species.
- d. The CONTRACTOR shall notify the CITY or ENGINEER if torpedo grass (*Panicum Repens*) is pre-existing or encountered during any stage of this project. The CONTRACTOR shall cease all installation activities until demonstrating that it has been completely eradicated.
- e. No substitution of plant material, size or type shall be permitted without written authorization from the CITY or ENGINEER.
- f. All plants shall be robust and in healthy growing condition.
- g. All field grown trees shall be carefully staked and pruned during the growing period, providing a clean stem and central leader with a well-developed branch structure and heavy caliper.

- h. All field grown trees and palms shall be vigorously root pruned and bagged with a root system sufficient for excellent transplanting performance and continued growth without resulting in shock.
 - i. All container grown plants shall be well-rooted such that the root mass retains its shape/holds together when removed from its container.
 - j. All trees and palms shall be free from all marks or scars.
 - k. All plastic wrapping materials shall be removed at the time of installation or shortly thereafter.
 - l. All trees shall be spiked in utilizing water and a tree bar.
 - m. All plants shall be watered promptly after notice from CITY or ENGINEER and as necessary.
 - n. All shrubs, trees and ground cover plants shall have additional planting mixture placed in the planting pit at the time of installation (top dressing only is not allowed). Planting mixture shall be slightly compacted around rootball to eliminate air pockets from forming.
 - o. Planting mixture shall contain recycled organics mixed with existing native soils (40% muck, min. and 60% sand, max.).
 - p. The CONTRACTOR shall, as necessary, replace existing soils determined by the CONTRACTOR, CITY and/or ENGINEER to be unsuitable for landscaping (road base, pavement, large rocks, debris, etc.). All landscaped islands and planting beds shall be free of shell rock and foreign construction debris. When necessary, the CONTRACTOR shall excavate to a depth of 30" (or to clean/native soil layer) and backfill with approved planting mixture.
 - q. Replacement planting mixtures shall contain 40% muck, min. and 60% sand, max. Muck shall be screened to 1/2-inch and sand shall be screened to 1/4-inch. All replacement soils shall be 100% clean/native materials mixed and inspected prior to delivery.
 - r. All planting areas shall receive 3" of shredded mulch.
3. *Fertilizing Requirements:*

- a. Apply fertilizers at the following rates:

<u>Plant Size</u>	<u>16-7-12</u>	<u>Agriform tablets (21-g)</u>
1 Gal.	1/4-lb	1
3 Gal.	1/3-lb	3
7-15 Gal.	1/2-lb	6
1"-6" caliper	2-lbs/1" caliper	2 per 1" caliper
6" and larger	3-lbs/1" caliper	2 per 1" caliper

- b. Tree and/or shrub fertilizers shall be either tablet or granular.
- c. Tablet fertilizers shall be 21-g, min. size, and comply with the following percentages: 20% nitrogen, 10% phosphorus and 5% potassium.
- d. Granular fertilizers shall be dry, free-flowing, uniform in nature and in its original unopened packaging containing the manufacturer's statement of analysis when delivered to the

project site and shall comply with the following compositions: 16% nitrogen, 7% phosphorus, 12% potassium, plus iron.

- e. All labor and material for soil amendments and fertilizer that is required to ensure the successful establishment and survival of the proposed vegetation, as well as all the costs for the removal of unsuitable and excess backfill material, shall be included in the contractor's bid price to perform the WORK represented in these CONTRACT DOCUMENTS.
- f. Backfill mixture fertilizer shall consist of milorganite activated sludge mixed at a rate of 50-lbs per cubic yard, min.
- g. For sod installations, prepare topsoil by fertilizing over the area to be sodded at a rate of 10-lbs per 1,000-sf using a calibrated machine. Once completed, mix fertilizer into the top 2" layer.
- h. Do not fertilize in wind speeds exceeding 15-MPH when spreading solids or spraying liquids.

4. *Planting Trees and Palms:*

- a. Excavate planting pit per "Typical Planting Detail," 6-inches deeper than the rootball height and twice its diameter OR 2-ft larger than its diameter for rootballs wider than 2-ft.
- b. Carefully backfill around rootball by slightly compacting planting mixture to reduce voids, watering every 6" lift to further reduce voids and eliminate air pockets. Install 6" high planting mixture berm around planting pit. Install mulch layer (3" thick) while keeping a 6" clear-zone between trunk and mulch.
- c. Prune tree using proper techniques (and accordance with ISA standards) to improve natural shape, thin out structure and removal all broken or damaged branches. Do not prune back terminal leader or remove more than 15% of branches.
- d. Guy and stake tree per "Typical Planting Detail" immediately after planting, when necessary.

5. *Planting Shrubs:*

- a. Layout shrubs in planting bed before starting any excavation activities. Shrubs shall be evenly spaced creating a visibly smooth planting edge line. Fill in additional shrubs by staggering behind and between the spaces of the shrubs in the front line (typical).
- b. Excavate planting pit per "Typical Planting Detail," 4-inches deeper than the container height and twice its diameter OR large enough to allow the spreading of roots.
- c. Carefully backfill around root structure by slightly compacting planting mixture to reduce voids, adjusting the shrub's height, as necessary. Thoroughly apply water once pit is completely backfilled to further eliminate air pockets. Form slight planting mixture berm around planting pit. Install mulch layer (3" thick) while keeping a 3" clear-zone between planting stems and mulch.
- d. Prune shrubs using proper techniques (and accordance with ISA standards) to improve natural shape, thin out structure and remove all broken or damaged branches. Do not remove more than 15% of branches.

6. *Planting Groundcover:*

- a. Till area to a depth of 4" below grade in areas where topsoil has been installed.
- b. Layout plants in planting bed before starting any excavation activities. Space plants as indicated on the Construction Drawings or as per acceptable spacing for the species being installed.
- c. Excavate planting pit per "Typical Planting Detail," slightly deeper than the container height and twice its diameter OR large enough to allow the spreading of roots.
- d. Carefully backfill around root structure by slightly compacting planting mixture to reduce voids, adjusting the plant's height, as necessary. Thoroughly apply water once pit is completely backfilled to further eliminate air pockets. Form slight planting mixture berm around planting pit. Install mulch layer (3" thick) over entire planting area, lifting plant stems/foilage above mulch.
- e. Remove all broken, damaged, or dead stems/foilage.
- f. Provide protective shade/cover, as necessary, for several days after planting to allow plantings to acclimate during periods of intense heat or high winds.

7. *Planting Sod:*

- a. Till area to a depth of 4" below grade in areas where topsoil is pre-existing or has been installed.
- b. Grade area to provide finish design elevations once sod is installed.
- c. Sodding shall be machine stripped no more than twenty-four hours prior to installation.
- d. Sod shall be delivered to the site on pallets.
- e. Do not deliver more sod than what can be installed within a twenty-four-hour period.
- f. Do not stack sod more than 2-ft deep.
- g. Protect sod from dehydration, contamination, heating and exposure to wind and direct sun.
- h. Sod shall be per the type specified on the Bid Schedule, Construction Drawings or the surrounding sod type which the WORK is connecting to (precedence given in that order).
- i. Sod shall be installed by carefully placing sections. Do not throw or toss sections into place.
- j. Install sod sections without gaps between joints and do not overlap sections. Stagger sections to offset joints from adjacent sections and sift planting mixture over entire area (filling in any small cracks that may exist). Remove excess soil deposits, lightly roll and water thoroughly without causing ponding or muddy conditions.
- k. Sod shall be pinned or staked in place when installed on slopes greater than 3:1. Roll or stamp sod lightly and water with fine sprayer immediately after installation.
- l. All sod and seed shall be weed and insect free.

8. *Miscellaneous Work:*

- a. The CONTRACTOR shall provide a six (6) month workmanship warranty guaranteeing all WORK from the date of written final acceptance issued by the CITY or ENGINEER. Any plants (trees, palms, shrubs, groundcover, sod, etc.) which no longer adhere to the Florida No. 1 conditions during this six (6) month warranty period shall be replacement within ten (10) workdays. The CONTRACTOR shall be responsible for maintaining all WORK up to the written final acceptance date unless a separate written agreement with the CITY provides otherwise (like in the case of a "Maintenance and Monitoring Program" or "Survivorship Warranty"). Deaths or damages resulting from acts of god (automobile accidents, vandalism, lightning strikes, etc.) or from the CITY's negligence shall not be borne by the CONTRACTOR.
- b. The CITY has **NOT** obtained any permits for this project. The CONTRACTOR shall be responsible for obtaining all required permits, including by limited to, any applicable Conservancy District(s), FDOT, FPL, FDEP, SFWMD, NPDES, SWPPP, USACE, etc. Any delays to the project time due to permitting may be reimbursed to the contract time; however, the CONTRACTOR shall be solely responsible for documenting and following all proper procedures and requests for additional contract time/days.
- c. Call before you dig (Sunshine One Call services)! The CONTRACTOR shall notify Florida's One Call service for buried utility locates 48-hours prior to any excavation. The CONTRACTOR shall be responsible for identifying all existing utilities and/or other obstructions which may interfere with the improvement operations. The CONTRACTOR shall also be responsible for any damages to existing utilities and coordination with all utility CITYs.
- d. The CONTRACTOR shall maintain 6-ft, minimum, separation between all proposed landscaping improvements and all existing above ground and underground utilities.
- e. The CONTRACTOR shall maintain all applicable setbacks to existing electrical facilities per FPL guidelines and requirements. The CONTRACTOR is also responsible for obtaining any required permits, agreements, safety requirements and/or approvals from FPL.
- f. The CONTRACTOR shall provide proper clearances around all above ground and at grade improvements (monuments, utilities, fire hydrants, meters, equipment, light poles, etc.) per local fire and utility agency requirements.
- g. The CONTRACTOR shall provide and maintain corner clip and visibility triangles with unobstructed views 30" – 96" height for clear sign visibility (excluding tree and palm trunks).
- h. Root barriers shall be installed, as necessary, by local regulatory agencies and utility CITYs (Note: Palm Beach County owns all water and sewer facilities in Belle Glade).
- i. The CONTRACTOR is responsible for shaping, grading, and sloping all planting beds to promote proper drainage.

SPECIFICATION SECTIONS

SECTION 01550: TRAFFIC CONTROL

PART 1: GENERAL

1.01 SUMMARY

- A. The CONTRACTOR shall maintain traffic on existing roads affected by the construction and protect the traveling public from damage to person and property for the duration of the contract.

1. Abide by applicable laws, regulations, and codes thereof pertaining to Maintenance of Traffic (MOT) on public streets, detour of traffic, traffic control and other provisions as may be required for this Project.
 2. Comply fully with the MOT provisions contained in the permits.
 3. Work shall be in accordance with Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction", latest edition, and the "Roadway and Traffic Design Standards" Index No. 600-651, latest edition, including preparation of a proposed Maintenance of Traffic Plan.
- B. The CONTRACTOR shall assume responsibility for MOT on public streets, detour of traffic (including furnishing and maintaining regulatory and informative signs along the detour route), traffic control, and other provisions, throughout the Project, as required by the local Department of Public Works, Roads Department, or FDOT, as applicable.
1. Maintain traffic over a reasonably smooth traveled way which shall be so marked by signs, delineators, guiding devices, and other methods that a person who has no knowledge of conditions may safely and with a minimum of discomfort and inconvenience ride, drive, or walk, day or night, over the roadway where traffic is to be maintained.
 2. Work shall conform to the drawings and to the requirements of the local Department of Public Works, Roads Department, or FDOT, as applicable.

1.02 STANDARDS AND REGULATIONS

- A. Applicable Standards
1. Occupational Safety and Health Administration.
 2. FDOT "Standard Specifications for Road and Bridge Construction", latest edition, and the "Roadway and Traffic Design Standards" Index Nos. 600 to 651, latest edition, including preparation of a proposed Maintenance of Traffic Plan.
- B. Governmental Agencies: Work shall comply with the applicable standards of the appropriate governing body.

1.03 Roadway Physical Conditions

- A. Surface: Maintain the surface condition of the traveled way so it is consistent with the appropriate speed limits.
- B. Drainage: Maintain the drainage facilities and other highway elements, old or new including detours.
- C. Temporary Roads: Provide temporary relocated roads to maintain the required right-of-way.
- D. Intersecting Roads: Provide ingress and egress to and from intersecting roads, buildings, and other facilities.
- E. Haul Roads: Repair damage from CONTRACTOR's hauling operations along existing roads, and such operations shall be conducted with minimum interference to public traffic, as directed by the local Department of Public Works, Roads Department, or FDOT, as applicable.
- F. Dust Control and Spillage:

1. Control dust and keep the traveled way free from material spilled from hauling equipment.
2. This shall also apply to dust control and spilled material resulting from the CONTRACTOR's operations in the areas outside the contract limits.

G. Flagmen

1. Provide the necessary repairs to existing pavement and Flagmen for adequate traffic control on the traveled way.
2. Sign paddles are required.

H. Delineation and Guiding Devices

1. Provide and maintain delineation and guiding devices which shall include delineators, drums, cones, railing, temporary curb and other similar materials or methods indicated or directed.
2. The installation or moving of delineators or guiding devices together with removal of existing pavement markings shall be included in the work.

I. Project Site Patrol

1. Provide personnel to patrol the contract area as necessary to ensure that conditions on the site are adequate for public safety and convenience.

J. Construction Sign Barriers, Construction Barricades, and Lighting for Construction Barricades

1. Furnish, install, move, and maintain construction signs, barriers, construction barricades with warning lights, necessary arrow boards and signs, to warn motorists of the work throughout the Project.
2. Erected and maintained adequate approved devices to detour traffic away from the project during work.

PART 2: EXECUTION

2.01 CONSTRUCTION

- A. Notify the local Department of Public Works, Roads Department, or FDOT, as applicable, 48 hours in advance of the construction date.
- B. Pavement markings damaged during construction shall be remarked promptly by the CONTRACTOR as required by the local Department of Public Works, Roads Department, or FDOT, as applicable.

2.02 DRAINAGE

- A. Keep drainage facilities fully operative.
 1. Provide ditches to adequately drain the traveled way and the remainder of the right-of-way.

2.03 INGRESS AND EGRESS

- A. Provide and maintain safe and adequate ingress and egress for intersecting points.

2.04 EXISTING PAVEMENT MARKINGS

- A. Remove, as soon as practical, existing pavement markings, as required by local Department of Public Works, Roads Department, or FDOT, as applicable.

2.05 QUALITY CONTROL

- A. Establish and maintain quality control for operations under this section to assure compliance with contract requirements and maintain records of his quality control for materials, equipment, and construction operations, including but not limited to the following:
 - 1. Scheduling and traffic control.
 - 2. Temporary pavement and drainage provisions.
 - 3. Traffic control devices.
 - 4. Maintaining traveled way.
 - 5. Maintaining drainage.

SECTION 01560: TREE AND PLANT PROTECTION

PART 1: GENERAL

1.01 SUMMARY

- A. Remove trees as noted in the Drawings.
- B. Abide by requirements and conditions of the governing authority.
- C. Assume full responsible for maintaining, in good condition, cultivated grass plots, trees, and shrubs.
 - 1. Where maintained shrubbery, grass strips or area must be removed or destroyed incident to the construction operation, replace or restore to the original condition destroyed or damaged shrubbery or grass areas.
 - 2. Tree limbs which interfere with equipment operation and are approved for pruning shall be neatly trimmed and the tree cut coated with a tree paint.
- D. Grass areas shall be solid sodded with sod to match the existing grass and shall first be leveled, and debris, rocks and other matter removed.
- E. The sod shall be placed with closely abutting joints and shall completely cover the areas shown in the Drawings to be grassed.
 - 1. The top of the new sod shall coincide with the top of pavement and sidewalk, both existing and proposed.
 - 2. The sod shall be covered with a light top dressing of topsoil and shall then be thoroughly watered.

- F. Weeded areas need not be replaced with grass sod but shall be restored to a “green” area by dressing the area with a layer of topsoil, and sowing a variety of permanent type grass seed, over the area as approved by the ENGINEER.

- 1. Water and maintain the seeded area until the ENGINEER is assured a good grass growth has developed, but not to exceed a maximum period of 60 days.

1.02 STANDARDS AND REGULATIONS

- A. Work shall conform to the applicable standard.

SECTION 02220: SITE DEMOLITION

PART 1: GENERAL

1.01 SUMMARY

- A. This section includes furnishing labor, materials, equipment, and incidentals required for the demolition, relocation and/or disposal of building materials and equipment to be removed from the project.
- B. This section provides for the complete or partial removal and disposal of specified existing structures, foundations, slabs, piping, mechanical, electrical, existing (to be abandoned) piping and miscellaneous appurtenances encountered during construction operations.
- C. This Section calls attention to certain activities necessary to maintain and facilitate operation during and immediately following construction and do not purport to cover of the activities necessary.
 - 1. Diligently direct activities toward maintaining continuous operation of the existing facilities and minimizing operation inconvenience.
 - 2. Develop a Demolition and Removal Plan in accordance with Paragraph 1.06 of this Section.
- D. Demolition includes:
 - 1. Demolition, partial removal and cutting of existing masonry as required for the new construction.
 - 2. Distribution of salvageable and excess unacceptable material as specified below.
 - 3. Off-site disposal of excess and unacceptable materials.
- E. Examine the drawings regarding the existing system, visit the site and determine the extent of the WORK and operational conditions under which the work is to be perform.

1.02 PERMITS AND NOTICES

- A. Permits and Licenses:
 - 1. Obtain necessary permits and licenses for performing the work and furnish a copy to the ENGINEER prior to commencing the work.
 - 2. Comply with the requirements of the permits.

B. Notices:

1. Issue written notices of planned demolition to companies or local authorities owning utility conduit, wires or pipes running to or through the project site.
2. Submit copies of the notices to the ENGINEER.

C. Utility Services:

1. Notify utility companies or local authorities furnishing gas, water, electrical, telephone, or sewer service to remove equipment owned by them in structures to be demolished and to remove, disconnect, cap, or plug their services to facilitate demolition.

1.03 CONDITIONS OF STRUCTURES

- A. The CITY and the ENGINEER assume no responsibility for the actual condition of the structures to be demolished or modified.
- B. Conditions existing at the time of inspection for bidding purposes will be maintained by the CITY insofar as practicable.
 1. However, variations within the structure may occur prior to the start of demolition work.

1.04 RULES AND REGULATIONS

- A. The Standard Building Codes shall control the demolition, modification or alteration of the existing buildings or structures.
- B. No blasting shall be done on site.
 1. Do not bring to or store explosives on the project site.

1.05 DISPOSAL OF MATERIAL

- A. Salvageable or specifically requested material is the property of the CITY.
 1. Dismantle material to such a size that it can be readily handled, and deliver the salvageable material requested by the CITY to a storage area designated by the CITY.
- B. Materials that the CITY rejects shall become the CONTRACTOR's property and must be removed from the site.
- C. Haul concrete, concrete block, and unsalvageable brick to a waste disposal site.
- D. Haul other material to a waste disposal site.
- E. On site storage or sale of removed items is not allowed.

1.06 SUBMITTALS

- A. Submit to the ENGINEER for approval, copies of the proposed Demolition and Removal Plan for the structures and modifications specified below prior to the start of work.
 1. Include in the coordination of shutoff, capping and continuation of utility service as required.

2. Include in the Demolition and Removal Plan, the following:

a. A detailed sequence of demolition and removal work to ensure the uninterrupted progress of the CITY's operations, and the expeditious completion of the CONTRACTOR's work.

b. Evidence (by signature) of approval of the CITY of the work plan.

B. Before commencing demolition work, modifications necessary to bypass the affected structure will be completed.

1. Actual work will not begin until the ENGINEER has inspected and approved the modifications and authorized commencement of the demolition work.

C. The above procedure must be followed for each individual demolition operation.

1.07 TRAFFIC AND ACCESS

A. Conduct demolition and modification operations, and the removal of equipment and debris to ensure minimum interference with roads, streets, walks (both on-site and off-site) and to ensure minimum interference with occupied or used facilities.

B. Relocation of the CONTRACTOR's materials, labor, or equipment due to uncoordinated interruption will be at the CONTRACTOR's expense.

C. Do not close or obstruct streets, walks or other occupied or used facilities without permission from the CITY or ENGINEER.

1. Provide alternate routes around closed or obstructed traffic in access ways.

1.08 DAMAGE

A. Promptly repair damage caused to adjacent facilities by demolition operations as directed by the ENGINEER and at no cost to the CITY.

1.09 UTILITIES

A. Maintain existing utilities to remain in service and protect against damage during demolition operations.

B. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the ENGINEER.

1. Provide temporary services during interruptions to existing utilities as acceptable to the ENGINEER.

C. Cooperate with the CITY to shut off utilities serving structures of the existing facilities as required by demolition operations.

D. Assume responsibility for making necessary arrangements and performing work involved in connections with the discontinuance or interruption of public and private utilities or services under the jurisdiction of the utility companies.

E. At the service mains disconnect and terminate utilities being abandoned

1. Maintain conformance with the requirement of the utility companies or the municipality

owning or controlling them.

1.10 POLLUTION CONTROL

- A. For pollution control, use water sprinkling, temporary enclosures, and other suitable methods as necessary to limit the amount of dust and dirt rising and scattering in the air to the lowest level of air pollution practical for the conditions of work.
 - 1. Comply with the governing regulations.
- B. Clean structures and improvements of dust, dirt and debris caused by demolition operations as directed by the ENGINEER.
 - 1. Return areas to conditions existing prior to the start of work.

1.11 QUALITY CONTROL

- A. Protect existing materials and equipment to be salvaged or reused from damage.
- B. Cap or plug pipelines to be abandoned.
 - 1. Place covers and label junction boxes, conduits and wire as abandoned.
- C. Leave exposed ends of pipe and conduit or junction boxes covered and safe.

PART 2: EXECUTION

2.01 SEQUENCE OF WORK

- A. The sequence of demolition and renovation of existing facilities will be in accordance with the approved Demolition and Removal Plan as specified in Paragraph 1.06 of this Section.
- B. Reduce the out of service time for the equipment to be removed, refurbished, and relocated.

2.02 REMOVAL OF EXISTING PROCESS EQUIPMENT, PIPING, AND APPURTENANCES

- A. Clean, flush, and drain equipment, piping, and appurtenances.
 - 1. Equipment to be retained by the CITY as specified in Paragraph 1.05 above shall be dismantled sufficiently to permit thorough cleaning and draining.
 - 2. Leave valves open.
 - 3. Cap and sleeve abandoned piping.
 - 4. Plug and seal openings remaining after removal of the existing equipment, piping, and appurtenances, as directed by the ENGINEER.

2.03 STRUCTURES TO BE COMPLETELY DEMOLISHED

- A. Demolish existing structures as shown in the Drawings.
 - 1. Demolish above ground structures to make room for construction or new facilities, unless otherwise shown in the Drawings.
 - 2. Remove demolished material and equipment from site.

3. Remove mechanical, electrical, instrumentation, piping, and miscellaneous appurtenances before commencing structural demolition.

B. Removal of existing structures by blasting will not be acceptable.

SECTION 02231: CLEARING AND GRUBBING

PART 1: GENERAL

1.01 SUMMARY

- A. Supply equipment, materials, and labor and performing functions required for clearing and grubbing the work site in preparation for the Construction.
- B. Clear and grubbing the area within the limits of construction as required, including utility easements.

1.02 STANDARDS AND REGULATIONS

- A. Comply with regulations and ordinances of the State of Florida, County, and City regarding burning and disposal of debris resulting from the clearing and grubbing operation.

1.03 SUBMITTALS

- A. Submit for approval, the location of sites to be used for disposal of debris resulting from the clearing and grubbing operation.

1.04 MEASUREMENT AND PAYMENT

- A. Measurement and payment will be included in the lump sum prices bid for each Construction Work Section, as shown on the Bid Schedule, for which price and payment shall constitute full compensation for furnishing materials, equipment and performing work in connection therewith.

PART 2: EXECUTION

2.01 CONSTRUCTION

- A. The work of clearing and grubbing shall include the removal and satisfactory disposal of structures and of other obstructions, including underground obstructions, except for work which might be specifically included for removal under other items of work.
- B. Protect from injury property obstructions which are to remain in place, such as buildings, sewers, drains, water, or gas pipes, except for unusual cases when so directed by the ENGINEER.
- C. Areas of the right-of-way outside of the limits of construction may be shown in the Drawings or designated by the ENGINEER to be landscaped.
- D. Clearing and grubbing shall include removal of undesirable trees, stumps, undergrowth, and vegetation within the areas of work.
- E. Save natural growth and trees for landscaping as the ENGINEER directs.

- F. Standard clearing and grubbing shall consist of the complete removal and disposal of sidewalks, drives, trees, shrubs, walls, timber, brush, stumps, roots, grass, weeds, sawdust, rubbish, and other obstructions resting on or protruding through the surface of the existing ground and the excavated areas.
- G. Remove stumps, roots, and other debris from excavation for construction of roadway embankment, roadway base, or building pads, to a depth of at least one (1) foot below the ground surface.
- H. Plow the surface to a depth of not less than six (6) inches and remove stumps and roots thereby exposed to a depth of at least one (1) foot.
- I. Remove stumps and roots protruding through or appearing on the sides and surface of the completed excavation to a depth of at least one (1) foot.

2.02 DISPOSAL OF MATERIALS

- A. Timber, stumps, brush, roots, rubbish, and other objectionable material resulting from clearing and grubbing shall be disposed of by the CONTRACTOR in locations and by methods approved by the ENGINEER.
- B. Burning shall be subject to applicable laws, ordinances, and regulations and shall be done at locations where trees and shrubs adjacent to the cleared area will not be harmed.
 - 1. Obtain necessary permits for on-site burning.
- C. Where burning is prohibited by law, ordinance, or regulation, dispose of the materials within approved areas or hauled to the county landfill in accordance with local laws and regulations.
- D. Applicable landfill or dumping fees will be paid by the CONTRACTOR.

SECTION 02300: EARTHWORK

PART 1: GENERAL

1.01 SUMMARY

- A. Furnish equipment, materials, and labor and performing functions required for earthwork as specified in the Drawings and Specifications as well as unspecified earthwork necessary to complete the work as specified, including removal of unsuitable material(s), excavating, filling, grading, compaction, and disposal of excess material.
- B. Any list of equipment and/or materials set forth in this section shall not be taken to exclude other incidentals necessary to complete the work in accordance with the Drawings and Specifications for the intended use.

1.02 STANDARDS AND REGULATIONS

- A. Florida Department of Transportation - Standard Specifications for Road and Bridge Construction - Latest Edition.
- B. American Association of State Highway and Transportation Officials (AASHTO).

1.03 SUBMITTALS

- A. Submit a schedule of earthwork activities together with an estimated list of equipment to be used.
- B. The schedule shall be subject to approval by the ENGINEER and shall be updated periodically as requested by the ENGINEER.

1.04 MEASUREMENT AND PAYMENT

- A. Measurement and payment will be compensated on a unit and/or lump sum price as delineated in the Proposal Bid Form for which price and payment shall constitute full compensation for furnishing labor, equipment, and materials to perform work in connection therewith.

1.05 GUARANTEES

- A. Guarantee materials and work performed for a period of one (1) year from the date of substantial completion.
- B. Take corrective action to eliminate defective materials or workmanship for the guarantee period.

1.06 EXISTING CONDITIONS

- A. The CITY has not obtained project borings and/or soils report(s). The CONTRACTOR is responsible for obtaining said reports, at the CONTRACTOR's expense, if the CONTRACTOR deems necessary.
- B. The CONTRACTOR is responsible for visiting the site(s) prior to submitting a bid to confirm all existing conditions and conformance with the supplied maps/exhibits.

PART 2: EXECUTION

2.01 EXISTING OBSTRUCTIONS

- A. The exact location of pipes, conduits, wires, mains, footings and other underground structures and obstructions encountered in trenching or excavating shall be determined.
- B. The obstructions shall be protected adequately from damage or displacement.
- C. Damage thereto shall be promptly and properly repaired, and displacements shall be corrected all at the CONTRACTOR's expense.
- D. Survey monuments or benchmarks which are to be disturbed by this work shall be carefully witnessed before removal and replaced upon completion of the work by a Registered Land Surveyor.
- E. Pavement cut or damaged in connection with the WORK shall be rebuilt or repaired per FDOT Specifications.

2.02 STOCKPILING OF SUITABLE EXCESS MATERIAL

- A. Excavated material not required or not satisfactory for backfill shall be removed from the site and shall be disposed of in designated or spoil areas.
- B. Excess suitable material shall be carefully stockpiled for use in other portions of the WORK.

- C. Debris and excess material shall be disposed of off-site, as approved by the ENGINEER.

SECTION 02310: GRADING

PART 1: GENERAL

1.01 SUMMARY

- A. Perform grading work within the limits, elevations and grades indicated in the Drawings and as specified herein.
- B. This Section specifies material and placement of fill above existing grades that is not to be located under roads or under structures.

1.02 QUALITY CONTROL

- A. Grade the site to the required elevations.
- B. Provide from off-site sources additional fill material required to complete the embankments.

PART 2: PRODUCTS

2.01 FILL

- A. Fill material shall meet the requirements as described in the "SCOPE OF WORK" section.
- B. Fill material shall be reviewed by the ENGINEER prior to use.
- C. Determine the volume of material required for the site.

PART 3 EXECUTION

3.01 GRADING AND COMPACTION

- A. Place fill as described in the "SCOPE OF WORK" section

3.02 FINE GRADING

- A. Fine grade disturbed areas after unsuitable materials have been removed and suitable materials have been installed.
- B. Remove lumber, undesirable materials, and rocks larger than the 3-inch size from the surface.
- C. Minor adjustments to line and grade may be required as the work progresses to satisfy field conditions.

SECTION 02315: EXCAVATION AND FILL

PART 1: GENERAL

1.01 SUMMARY

- A. Furnish labor, materials, equipment, and incidentals necessary to perform excavation, backfill, fill and grading to complete the WORK.

- B. The WORK shall include, but not necessarily be limited to: excavation, backfilling, fill, grading and disposal of surplus and unsuitable materials; and related work such as water handling.
- C. No claims for additional monies will be allowed or considered based on substrata or ground water conditions.
- D. Prior to commencing the excavation, submit a plan of proposed operations to the ENGINEER for review.

1.02 JOB CONDITIONS

- A. Assume responsibility for variations of sub-soil quality or conditions at locations other than places shown and at the time the investigation was made.
- B. Existing Utilities: Locate existing underground utilities in the areas of work.
 - 1. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
 - 2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the ENGINEER and the CITY of such piping or utility immediately for directions.
 - 3. Cooperate with CITY and utility companies in keeping respective services and facilities in operation.
 - 4. Repair damaged utilities to satisfaction of utility CITY.
 - 5. Demolish and completely remove from site existing underground utilities indicated in the Drawings to be removed.
- C. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.
 - 1. Operate warning lights as recommended by authorities having jurisdiction.
- D. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Provide suitable materials as described in the "SCOPE OF WORK" section.

PART 3: EXECUTION

3.01 GENERAL

- A. Excavation, backfill, and grading necessary to complete the work shall be made by the CONTRACTOR and this cost shall be included in the Contract price.
- B. Material shall be used or furnished as required from offsite sources and hauled to site, if necessary.

- C. Take necessary precautions to maintain the work area in a safe and workable condition.
- D. Protect work by flagging, marking, lighting, and barricading.
- E. Preserve and protect above and underground structures, pipelines, conduits, cables, drains, or utilities which are existing at the time he encounters them.
- F. Failure of the Drawings to show the existence of these obstructions shall not relieve the CONTRACTOR from this responsibility.
- G. The cost of repair of damage which occurs to these obstructions during or as a result of construction shall be borne by the CONTRACTOR without additional cost to the CITY.

3.02 GRADING

- A. Unacceptable material encountered, of whatever nature within the limits indicated, shall be removed, and disposed of as directed.
- B. During the process of excavation, the grade shall be maintained in a well-drained condition.
- C. If at the time of excavation, it is not possible to place material in its proper section of the permanent structure, it shall be stockpiled in approved areas for later use.
- D. No extras will be considered for the stockpiling or double handling of excavated material.
- E. The right is reserved to make minute adjustments or revisions in lines or grades if found necessary as the work progresses, due to discrepancies in the Drawings or in order to obtain satisfactory construction.
- F. Stones or rock fragments larger than 3-inches in their greatest dimensions will not be permitted in the top 6-inches of the subgrade line of fills or embankments.
- G. Fill slopes shall be uniformly dressed to the slope, cross-section and alignment, or as directed by the ENGINEER.
- H. Loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope.

3.03 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

- A. Surplus and unsuitable excavated material shall be disposed of at the CONTRACTOR's cost in one of the following ways as directed by the ENGINEER.
 - 1. Transport to soil storage area on CITY's property and stockpile or spread as directed by the ENGINEER.
 - 2. Transport from CITY's property and legally dispose of.
 - 3. Permits required for the hauling and disposing of this material beyond CITY's property shall be obtained prior to commencing hauling operations.
 - 4. Copies of required permits shall be provided to the ENGINEER.
 - 5. Suitable excavated material may be used for fill if it meets the Specifications for common fill and is approved by the ENGINEER.

6. Excavated material so approved may be neatly stockpiled at the site where designated by the ENGINEER provided there is an area available where it will not interfere with the operation of the facility nor inconvenience traffic or adjoining property CITYs.

SECTION 02919: TOPSOIL

PART 1: GENERAL

1.01 SUMMARY

- A. The work covered by this section consists of furnishing labor, equipment, and material needed to provide finished ground cover by the placing and spreading of topsoil.

1.02 RELATED SECTIONS

- A. Refer to the sections within the "SCOPE OF WORK" section.

1.03 REFERENCES

- A. Standards - Federal Specifications (FS) 0-F-241C.
- B. Requirements of Regulating Agencies: Comply with requirements of the State Department of Agriculture.

1.04 SUBMITTALS

- A. Test Report - Results of seed purity and germination tests.
- B. Certificates - Manufacturer's certification that materials meet specification requirements.

1.05 MEASUREMENT AND PAYMENT

- A. Payment will be made at the unit price bid for topsoil or as per the appurtenant Lump Sum Item(s), which price and payment shall constitute full compensation for furnishing materials and performing work in connection therewith and incidental thereto.

PART 2: PRODUCTS

2.01 WATER

- A. Free or matter harmful to plant growth.

2.02 TOPSOIL

- A. As described in the sections within the "SCOPE OF WORK" section.
- B. Material used for topsoil shall be material supplied by CONTRACTOR from off-site sources or from existing areas if suitable for this use.
- C. Topsoil mixture shall be suitable for plant growth and free from hard clods, stiff clay, hardpan, gravel, brush, large roots, refuse or other deleterious material, and shall be of reasonably uniform quality.
- D. Rocks larger than 3-inch in diameter shall be removed.

PART 3: EXECUTION

3.01 CONDITIONS

- A. Check that preceding work affecting ground surface is completed.
- B. Do not start work until conditions are satisfactory.

3.02 PREPARATION

- A. Stockpiled topsoil shall be spread as described in the "SCOPE OF WORK" section.
 - 1. The resulting ground elevation shall be as required to match existing grades/conditions.
- B. Till fertilizer as described in the "SCOPE OF WORK" section.
- C. Water dry topsoil to depth of five (5) inches at least forty-eight (48) hours prior to seeding to obtain a loose friable seed bed and as described in the "SCOPE OF WORK" section.

END SECTION