

## SECTION 02900 - LANDSCAPING/IMPROVEMENTS

### PART 1 GENERAL

#### 1.01 DESCRIPTION

- A. Furnish and install landscape materials and a landscape irrigation system. The extent of landscaping shall be the minimum amount required for municipal approval. Provide materials, which require minimal maintenance and are geographically suited to their local and surrounding conditions.
  - 1. The extent of landscaping is shown on the drawings.
  - 2. Furnish and install the landscape irrigation system at all landscaped areas complete with all valves, controls, accessories and electrical components.
- B. Include all excavation, filling and grading required.
- C. Provide a separate, municipally monitored water meter for the landscape irrigation system.

#### 1.02 QUALITY ASSURANCE

- A. All works to be performed by a single firm specializing in landscape work.
- B. All landscape materials shall be free of defects, disease, insects/larvae/eggs, injuries and disfigurement. Provide plant materials rated between 1 and 4 per OPALS (Ogren Plant Allergy Scale).
- C. Erosion Control: At landscaped slopes of 3:1 (horizontal: vertical) or greater, provide erosion control acceptable to Walgreens. Slopes greater than 3:1 must be identified on the site plans and approved by Walgreens Project Architect.
- D. Landscape Irrigation: a person licensed in the state in which the store is located shall design System. The system designer shall perform hydraulic and friction loss calculations to provide balanced pressure and flow and optimum operating efficiency.

#### 1.03 SUBMITTALS

- A. Landscaping Plan; indicating placement of all materials including legends describing plant name and size.
- B. Irrigation Plan and Zone Map; Wall mounted 8 ½" x 11" or 11" x 17", indicating location of all controls, piping, heads (including type), valves and connection to water service.
- C. Maintenance Manuals; indicating proper care of plant material and operation/maintenance of irrigation system.

#### 1.04 GUARANTEE

- A. Warranty lawns after installation and for 30 days following acceptance of site by Walgreens.

- B. Warranty trees and shrubs for one year following acceptance of site by Walgreens. Maintain materials after installation and for 30 days following acceptance of site by Walgreens.
- C. Replace all unhealthy or dead plant materials found during warranty period.
- D. Warranty irrigation system materials and labor for one year following acceptance of site by Walgreens.

## PART II - PRODUCTS

### 2.01 PLANT MATERIALS

- A. Topsoil: Provide friable natural loam, free from rocks, stones, weeds, brush, clay lumps, roots, twigs, litter and environmental contaminants.
- B. Trees and shrubs as indicated on the landscape plan.
- C. Sod: Provide strongly rooted drought resistant sod, not less than 2 years old, free of weeds and undesirable native grasses and machine cut to pad thickness of 3/4" (+ 1/4"), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant).
- D. Weed Barrier Fabric: Provide black polypropylene sheet 27 mils thick, 4 oz./sq. yd., grab tensile strength per ASTM D-4632; 90LB (machine direction) 50 lbs. (cross machine direction). Provide DeWitt "Weed Barrier" or approval equal.
- E. Mulch: Provide minimum 2" thick layer of shredded bark mulch or rubber landscape mulch. Pine straw mulch is prohibited.
  - 1. Rubber Mulch: 95% passing a 1-1/2 inch sieve and not more than 5% passing a 1/2 inch sieve.
  - 2. Rubber Mulch Manufacturers: American Technologies, Inc. "RubberStuff", Ground Scape Technologies, "Ground Scape", Place Safe Surfacing, Inc., Rubber Resources, Inc. "Everlast".
- F. Pre-Emergent: Provide a mixture with active ingredients consisting of "a-a-a-trifluoro-2,6-dinitro-n, n-dipropyl-p-toluidine" (1.75% of total mixture) and inactive ingredients (98.25% of total mixture). Manufacturer: "Green Gold" by Lebanon Chemical Corp. or equal.

### 2.02 IRRIGATION SYSTEM:

- A. Manufacturer: Provide products of one of the following:
  - Hunter Industries, Inc.
  - LR Nelson Corp.
  - Rain Bird Sprinkler Mfg. Corp.
  - The TORO Co., Irrigation Div.
  - Weather-Matic Div./Telso Industries
- B. Pressure main line piping from water source to zone valves: PVC class 315 for pipe larger than 2 inches. PVC schedule 40 for 2 inch and smaller.

1. Pipe shall be NSF approved, Type 1, Grade 1, PVC conforming to ASTM D 1785. All pipe shall comply with ASTM D 2441 with an appropriate standard dimension ratio (SDR), solvent weld pipe.
  2. All PVC pipe shall bear the following markings:
    - a. Manufacturer's name
    - b. Nominal pipe size
    - c. Schedule or class
    - d. Pressure rating (PSI)
    - e. NSF
    - f. Date of extrusion
- C. Non-pressure lateral line piping (downstream from circuit valves): PVC Schedule 40 with solvent weld joints.
1. Pipe shall be NSF approved, Type 1, Grade 11 PVC conforming to ASTM D1784. All pipe shall comply with ASTM D2441 with an appropriate standard dimension ration (SDR).
  2. Except as specified herein, all requirements for non-pressure lateral line pipe shall be the same as for solvent-weld pressure main line pipe.
- D. PVC pipe fittings: All solvent weld fittings shall conform to ASTM D2466, schedule 40 and shall bear the manufacturer's name, material designation, size, applicable I.P.D., schedule and NSF seal.
1. Threaded fittings shall conform to ASTM D2464, schedule 40.
  2. PVC gasketed fittings shall conform to ASTM D3139. Gaskets shall conform to ASTM F477.
- E. PVC flexible pipe shall be pressure rated with standard outside diameters compatible with PVC IPS solvent weld fittings.
- F. PVC cement shall conform to ASTM D2564. PVC cleaner shall comply with ASTM F656.
- G. Valves: Toro 252 Series solenoid valves, flow range 5.0 to 180.0 gpm.
- H. Backflow Preventer: Manufacturers standard to suit project conditions.
- I. Sprinkler Heads: Manufacturers standard, to provide uniform coverage at available water pressure.
- J. Drip Tubing/Accessories: Manufacturers standard, self cleaning, self flushing pressure compensating components and polyethylene tubing with 12" or 18" dripper spacing.
- K. Automatic Controls: Provide exterior/interior boxes with locking covers.
- L. Transformers as required for low voltage system.
- M. Wiring: Not less than 14 gauge. Provide direct burial type for buried wire. Use waterproof wire nuts throughout.
- N. Circuit Control with switch for manual or automatic control of each circuit.
- O. Timing Device: 24 hour, 7 day, weekly or biweekly and even/odd interval watering adjustment, with provision for manual or semi-automatic operation and hard wired rain sensor which will suspend watering when ground is wet from rain.

- P. Rain Sensors: Provide hard wired units manufactured by one of the following; "Rain-Clik™" by Hunter Industries, "Rain-Trip™" by Nelson Turf or "RSD Series Rain Sensor" by Rain Bird®.

### PART III - EXECUTION

#### 3.01 PLANTING TREES/SHRUBS AND GROUND COVER

- A. Place materials in properly prepared holes, plumb, staked as required for proper growth. Remove burlap from root balls. Dish back soil as required to receive mulch collar.
- B. Plant ground cover not more than 24" O.C. Plant ground cover in areas too narrow or impractical for mowing grass or in areas where grass will not thrive (brick pavers acceptable to Walgreens may be considered as an alternate in these areas).
- C. Topsoil: Install 4 inches minimum depth at planting beds and lawn areas, 12 inches minimum below trees. In locations with high clay content, apply gypsum additives to break down the clay.
- D. Mulch: Install 2 to 3 inch thick in planting beds recessed 2 inches. Mulch shall be used only as tree collars and around shrubbery, but not to extend greater than 12 inches beyond the drip line of shrubbery unless specifically approved by Walgreens Project Architect. Do not install mulch on slopes exceeding 10:1 (horiz.: vert.)
- E. Weed control: Apply pre-emergent to mulch in planting areas to prohibit weed growth. If weeds appear in treated areas during the first year, landscaper shall return to remove all weeds at no cost to Walgreens.
- F. Weed Barrier Fabric: Apply to planting beds below mulch and to un-mulched areas to receive decorative cover (rock is prohibited). Do not install weed barrier fabric in areas to receive ground cover plantings.
- G. Remove and replace improperly pruned or mis-formed stock.

#### 3.02 PLANTING SOD

- A. Do not install if sod is dormant or ground is frozen.
- B. Lay sod with tightly fitting joints, no overlaps with staggered strips to offset joints.
  - 1. Anchor sod on slopes to prevent slippage. Do not exceed 3:1 slope.
  - 2. Water thoroughly immediately after planting.

#### 3.03 IRRIGATION SYSTEM

- A. Provide minimum water coverage as follows:
  - 1. Turf area 100%.
  - 2. Other planting areas 100%.
- B. Run under pavements and walks. Do not cut pavements or walks. All water lines under sidewalks or paving shall be sleeved. All wiring under paving shall be installed in conduit.

- C. Use dielectric fittings whenever dissimilar metals are joined.
- D. All wiring shall be installed using proper, code compliant practice and all wiring between controller and zone valves shall be continuous. All required splices, connections and terminations shall occur within water tight boxes with watertight connections.
- E. Zone valves shall not be located within 3 feet of any driveway, traffic aisle, island, etc., where they could be damaged by vehicles driving over the curbs.
- F. Testing: Perform operational testing and train store personnel on proper use.
- G. Place copy of zone map, with all zone valve locations shown and approved irrigation plan, in protective jacket, with the main control panel.
- H. Use pressure compensating dripper systems or pressure compensating low trajectory nozzles only in locations where water has high iron content and only at areas adjacent to buildings to prevent water spray and rust from staining buildings.
- I. Provide a ¾" dia. blow down drain tee to allow water to be blown from irrigation system.

END OF SECTION

