PART 1 - GENERAL

1.01 SUMMARY

A. The domestic water, sanitary drain, storm water, natural gas, and compressed air piping and connections shall be made under this Division of the Specifications.

B. Related work specified elsewhere includes but is not limited to:

1. Section 15410 - Plumbing Fixtures

C. All material listed in the Plumbing Fixture Schedules as “Bathroom in a Box” material shall be purchased per the requirements of Section 15410. Any required material not listed as “Bathroom in a Box” material is the plumbing contractor’s responsibility to supply, and may be procured through any distributor of the contractors choice (other than Home Depot’s retail competitors) per this section.

1.02 WARRANTY

A. Warranty service shall be provided for a period of one (1) year after Grand Opening date.

1.03 MAINTENANCE

A. Furnish special wrenches and other devices necessary for servicing plumbing fixtures and trim to Owner with receipt. Furnish one (1) device for every forty (40) units, but in no case less than two (2) devices.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Acceptable manufacturers of drainage products are: Wade, Zurn, Josam, J.R. Smith, ANCON.

B. Acceptable manufacturers of valves are: Crane, Hammond, Stockham, Nibco, Jenkins, Kennedy, Mueller Walworth, Rockwell, Nordstrom, Milwaukee.

C. Acceptable manufacturers of plumbing specialties are: Watts, A.W. Cash, Robert Shaw, Nidel.

2.02 DOMESTIC WATER AND GARDEN CENTER IRRIGATION SYSTEMS

A. Provide complete systems of cold and hot piping and accessories so that every piece of water using equipment will be furnished with a water supply. Extend to points indicated on the Drawings.

B. Piping and Fittings:

1. Pipe and fittings shall be as listed herein and shall be used on the services indicated.
2. Type "L" hard drawn copper tubing, Fed. Spec. No. WW-T-799, with soldered joints and wrought copper socket fittings for: all above ground water piping 3" in size and smaller.
3. Type "K" hard drawn copper tubing, Fed. Spec. No. WW-T-799, with brazed joints and wrought copper socket fitting for: all below ground copper piping.

C. Joints:

1. Solder joints for Type "L" copper tubing shall be made using 95-5 tin-antimony solder with a compatible flux.
2. Brazed joints shall use a BCUP-5 brazing alloy with a compatible flux.
3. Solder for potable waterpiping shall be lead free.

D. Dielectric Adapters:

1. Dielectric adapters shall be provided between copper and iron pipe connections and between ferrous and non-ferrous piping or equipment.

2.03 SANITARY, WASTE AND VENT SYSTEM

A. General:

1. Provide complete system of sanitary, waste and vent piping to points indicated on the drawings.

B. Pipe and Fittings:

1. Pipe and fitting shall be as listed herein and shall be used for the services indicated.
2. Service weight coated cast iron soil pipe and fittings. ASTM A74, with hub and spigot joints for: all sanitary, waste, vent and roof drainage piping below ground. Above ground use hubless pipe with stainless steel clamps and

neoprene gaskets on piping 2" in size or larger. Couplings: "Husky" heavy duty stainless steel clamps from Anaheim Foundry Company, conforming with Cast Iron Soil Pipe Institute Pamphlet 100. No coupling shall have less than 4 clamp rings. No substitutions on couplings. Underground piping, where allowed by Code, may be SDR-35 with solvent cemented joints.

3. Extra strength vitrified clay pipe and fittings, ASTM C700 with plastic collar joints, ASTM C594 for sanitary sewer from 5'-0" beyond the building wall.
4. Exposed piping shall be Schedule 40 PVC with drainage pattern fittings and solvent-cemented joints and exterior piping shall be PVC with gasketed joints, SDR-35 minimum wall thickness.

C. Joints:

1. Joints for cast iron pipe below the floor shall be made with a mixture of graphite and oil oakum and molten lead or neoprene compression gaskets. Hubless piping shall have neoprene gaskets and 24 ga. stainless steel bands and clamps. Torque 125 in. lbs., 150 in. lbs. for vandal proof. Equal to Clamp-All.
2. Threaded joints for steel pipe shall be made with a mixture of graphite and oil applied to male threads only. After cutting, but prior to threading, pipe shall be reamed and have burrs removed.
3. Joints for PVC interior piping shall be solvent cemented. Exterior PVC piping shall be gasketed.

D. Drains:

1. Floor drains shall be set flush with the floor. All floor drains shall be vandal proof.
2. Drains in the Houseplant Area and Garden Center shall have extra heavy duty cast iron heel proof pedestrian grates.

2.04 STORM WATER PIPING

A. Basic Pipe, Tube and Fittings:

1. Aboveground Piping, 8" size and smaller:
   a. No-Hub Cast Iron soil pipe, CISPI 301.
      i. Pipe Class: Service weight (SW).
      ii. Fittings: No-Hub cast iron soil pipe fittings, with stainless steel clamps and neoprene gaskets.
      iii. Gaskets: Neoprene gasket joints, ASTM C-564.
      iv. Couplings: "Husky" heavy duty stainless steel clamps from Anaheim Foundry Company. No coupling shall have less than 4 clamp rings. No substitutions.
      v. Galvanized Steel pipe, ASTM A-53, type E or S, grade A or B, Schedule 40.
      vi. Where indicated on drawings, PVC schedule 40 piping may be utilized, including in garden center.
2. Underground Building Drain Piping:
   a. Cast Iron hub and spigot soil pipe, ASTM A-74.
      i. Pipe Class: Service weight (SW).
      ii. Fittings: Cast iron, hub and spigot soil pipe fittings.
      iii. Gaskets: Neoprene compression gasket joints, ASTM C-564.
   b. PVC plastic pipe, ASTM D-2665, Schedule 80.
3. Interior above grade piping where allowed by code may be Schedule 40 PVC. Couplings as stated for no-hub cast iron.
4. Underground piping, where allowed by Code, may be SDR-35 PVC with solvent cemented or gasketed joints.

B. Special Expansion Compensation:

1. Expansion joints shall be cast-iron body, adjustable bronze sleeve, bronze bolts with wing nuts; for vertical installation only.
2. Subject to compliance with requirements, provide expansion joints of one of the following:
   a. Josam Mfg. Co.
   b. Wade Div., Tyler Pipe
   c. Zurn Industries, Hydromechanics Div.

C. Execution

1. Install storm water piping pitched to drain at minimum slope of 1/4" per foot (2%) for piping 3" and smaller, and 1/8" per foot (1%) for piping 4" and larger, unless shown or noted otherwise.

2.05 NATURAL GAS PIPING

A. Gas piping from the outlet of the gas meter shall extend to all equipment requiring gas.

B. Piping shall be Schedule 40 black steel with X-heavy black malleable iron banded screwed or weld pattern fittings as applicable (ASA-B16.3).

C. All piping and fittings located outdoors and above grade shall be cleaned free of rust and painted with aluminum base paint as specified in painting specification section.

D. Apply two coats of asphaltum base paint to piping buried underground.

E. Each piece of equipment shall be provided with lubricated plug valve with a handle, union and drip leg at the unit connection.

F. Provide a pressure regulator for each piece of gas fired equipment for all delivery pressures 1/4 PSI or greater. Regulators shall be as specified on drawings.

2.06 PLUMBING SYSTEMS VALVES

A. Valves shall have the name or trademark of the manufacturer and the working pressure stamped or cast on the valve body.

B. Domestic Water System:

1. Gate valves 3" in size and smaller shall have bronze body, non-rising stem, solid wedge, and solder ends for 200 pounds W.O.G. Valves shall be Crane No. 1324, or equal.
2. Check valves 3" in size and smaller shall be horizontal swing type with bronze body, composition disc, and solder ends for 200 pound W.O.G. Valves shall be Crane No. 1342, or equal.
3. Globe valves shall have bronze body, rising stem, composition disc and solder ends for 200 pound W.O.G. Valves shall be Crane No. 1310 or equal.

C. Valves for Natural Gas Systems

1. Lubricated plug valves 3" in size and larger shall be the semi-steel type with cast iron body, lubricated cast iron plug, flanged ends, and wrench operated for 175# WOG. Valves shall be:
   a. Rockwell Nordstrom No. 143
   b. Walworth 1797F
2. Lubricated plug valves (2-1/2" in size and smaller) shall have bronze body and plug, threaded ends, and square head for 125# WOG. Valves shall be:
   a. Crane No. 250
   b. Walworth 554
3. Lubricated plug valves shall be lubricated at the factory and sealant shall be suitable for natural gas. Provide six (6) sticks or tubes of sealant utilized and turn such over to the Owner's Representative.
4. Provide one (1) valve wrench for each size and type of valve head and turn such wrenches over to the Owner's Representative.

2.07 CONDENSATE DRAINAGE

A. Basic pipe, tube and fittings:

1. Pipe inside and outside building shall be schedule 40 PVC with solvent cemented joints. Fittings shall be schedule 40 PVC.

B. Installation of piping:

1. Install condensate drainage piping pitched to drain at minimum slope of 1/4" per foot (2%) for piping 3" and smaller, and 1/8" per foot (1%) for piping 4" and larger.

2.08 PLUMBING SYSTEM INSULATION

A. All insulation shall be applied in a neat and workmanlike manner. Remove and replace all insulation not applied in strict accordance with manufacturer's specifications or not presenting a neat appearance. Insulation shall be continuous through wall and ceiling openings and sleeves. All insulation shall be applied by contractor specialized in insulation application, in accordance with best trade practices and as guided by manufacturer's printed installation directions.

B. Work Included: Pipe covering for domestic hot water, cold water, interior roof drain piping, and interior condensate piping.

C. Materials and Installation: No pipe insulation shall be applied until piping has been pressure tested and approved. All insulation shall be applied strictly in accordance with the manufacturer's recommendations. Materials as manufactured by Johns Manville, Fiberglass, Phillip Carey, or Armstrong will be acceptable if equal to those specified. All insulation on indoor work shall have composite fire and smoke hazard ratings as tested by procedure NFPA 255 not exceeding: Flame Spread 25, Fuel Contributed 50, Smoke Developed 50.

D. Accessories such as adhesives, mastics, cements, tapes, and cloth for fitting, shall have the same component ratings as listed above. Insulation shall have an average thermal conductivity not to exceed 0.25 BTU/inch of thickness per square foot per 1 degree F. at a mean temperature of 75 degrees F.

CALIFORNIA PROJECTS: Accessories such as adhesives, mastics, cements, tapes, and cloth for fitting, shall have the same component ratings as listed above. Insulation shall have an average thermal conductivity not to exceed 0.25 BTU/inch of thickness per square foot per 1 degree F. at a mean temperature of 100 degrees F.

E. Domestic Hot Water Piping: All domestic hot water piping shall be insulated with 1" thick fiberglass pipe insulated with foil-kraft laminate vapor barrier fastened with pressure sensitive tape and lapped 12" minimum. All fittings, valves, flanges, etc. shall be covered with PVC fitting cover, taped and tacked fastened.

F. Cold Water Lines: All domestic interior cold water piping shall be insulated with 1" thick fiberglass insulated with foil kraft laminated vapor barrier fastened with pressure sensitive tape and lapped 12" minimum. All fittings, valves, strainers, flanges, etc. shall be covered with PVC fitting cover, taped and tacked fastened.

G. No insulation shall be installed on any piping before building is adequately closed in. Where necessary to install any insulation before it is protected by building enclosures, permission shall be secured first. Where permission is granted, the covering must be effectively protected by roofing felt, wired on the covering to make an absolute waterproof protection for the pipe covering.

H. Roof Drain Lines: Roof drain lines and sumps shall be insulated the same as cold water lines above.

I. All condensate lines within building shall be insulated the same as cold water lines above.

J. Where shown on the drawings or required by governmental agencies having jurisdiction, at lavatories for handicapped persons provide “Handi Lav-Guard” 102, color white, as manufactured by Truebro, Inc., Ellington CT (203/875-2868).

2.09 HANGERS AND SUPPORTS

A. Furnish and install all piers, foundations, supporting material, hangers, clamps, inserts, etc., necessary for the installation of all pipes and equipment.

B. Soil, waste and vent stacks shall be well supported at the base of the riser.

C. Supports for copper pipes, 2 1/2" or larger shall be placed on 12' centers. Supports for smaller pipes shall be placed on 8 foot centers. Supports for vertical pipe shall be placed at top and bottom of pipe on each floor and shall be Grinnel or Elcen. Insulation shall run continuous through all hangers and supports.

2.10 COMPRESSED AIR PIPING

A. Provide complete system of compressed air piping complying with ASME B31.9, “Building Services Piping”.

B. Piping and Fittings:
1. Copper tube, wrought –copper fittings, and brazed joints.
2. Schedule 40, black-steel pipe, threaded malleable-iron fittings and threaded joints.
3. Valveless Quick Coupling, straight through brass body with stainless steel or nickel plated operating parts;
   a. Socket end: with o-ring or gasket seal, without valve, and with serrated inlet for attaching hose.
   b. Plug End: with serrated outlet for attaching hose.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Unions shall be provided at all piping connections to equipment.

B. Changes in water pipe size shall be made with reducing fittings. No bushings will be allowed.

C. Horizontal soil and waste piping 2 1/2" in size and smaller shall be sloped a minimum of 1/4" per foot. Horizontal soil and waste piping 3" in size and larger shall be sloped at a minimum of 1/8" per foot.

D. Soil, waste and vent piping changes in pipe size shall be made with reducing fittings and changes in pipe direction shall be made with fittings. No bushings shall be allowed.

E. Hubs on all drainage and vent piping shall have the open hub end facing against the direction of the flux.

3.02 TESTING

A. General:

1. Concealed, underground and insulated piping shall be tested in place before concealing, burying, or covering. Equipment, materials and instruments required for tests shall be furnished by the Contractor without additional cost to the Owner.

B. Plumbing Systems:

1. Soil, waste and vent piping shall be tested with water before installing fixtures. Water test shall be applied to the system either in its entirety or in sections. If the test is applied to the entire system, all openings in the piping shall be closed except the highest opening, and the system shall be filled with water to the point of overflow.
2. The entire hot and cold water piping systems shall be tested at a hydrostatic pressure of not less than 100 pounds per square inch gauge (before insulation is applied), and proved tight at this pressure for not less than 30 minutes in order to permit inspection of all joints.

3.03 DISINFECTION OF DOMESTIC WATER PIPING

A. Prior to starting work, verify system is complete, flushed and clean. Disinfection procedure shall comply with all local requirements.

B. Ensure PH of water to be treated is between 7.4 and 7.6 by adding alkali or hydrochloric acid.

C. Inject disinfectant, free chlorine in liquid, powder, tablet or gas form, throughout system to obtain 50 to 80 mg/L residual.

D. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.

E. Maintain disinfectant in system for 24 hours.

F. If final disinfectant residual tests less than 25 mg/L, repeat treatment.

G. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Provide Plumbing Fixtures as indicated on Drawings and as specified herein.

B. Related work specified elsewhere includes but is not limited to:

1. Section 01011 - Special Purchase Program
2. Section 01012 - Preferred Purchasing
3. Section 15400 - Plumbing

1.02 SPECIAL PURCHASE PROGRAM (SPP)

A. The Home Depot has a National Accounts arrangement with the manufacturer or suppliers of specific equipment as listed on drawings. The Contractor must purchase products from the listed manufacturer or supplier, as defined under this section and per the requirements of Section 01011. The Contractor shall cooperate with SPP vendors, and shall be responsible under this section to provide supervision, equipment, material storage and handling, or warranty for materials. Contractor shall review and coordinate all modifications in SPP Documents that impact the scope of work for the Contractor.

B. Vendor Contact: Contractor is to contact the Vendor at least six (6) weeks prior to the scheduled start date of installation.

Southern Pipe & Supply Co., Inc.
340 River Street
Ellijay, GA 30540
Office: (706) 636-5488, Fax: (706) 636-5489
E-Mail: Homedepot@southernpipe.com

C. All material listed in the Plumbing Fixture Schedules as “Bathroom in a Box” material shall be purchased by the contractor though the SPP vendor. Any required material not listed in the construction drawing schedules as “Bathroom in a Box” material is the plumbing contractor’s responsibility to supply per the requirements of Section 15400.

D. The plumbing contractor shall specify the mix of material and the required date of delivery. The Plumbing Contractor shall be permitted a maximum of three deliveries. Plumbing Contractor shall be responsible for the quantity of fixtures for the project.

1.03 WARRANTY

A. Warranty service shall be provided for a period of one (1) year after Grand Opening date.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

A. Provide Plumbing fixtures of manufacturer and model numbers per drawings

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install all plumbing fixtures per the requirements of Section 15400

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Provide a complete and operational above ground irrigation system as indicated in the construction drawings. The installation shall be complete with all fixtures, fittings, trim and accessories. The system is designed and should be installed to provide the proper amount of water each type of plant material on a predetermined schedule.

1.02 SUBMITTALS

A. The irrigation plans and specifications are to be given to each individual store manager for his review prior to commencement of the system installation. Any questions can be answered at this time.

B. Samples of materials may also be requested by the store manager prior to commencement.

1.03 PROJECT CONDITIONS

A. Protect existing buildings, walks, walls, roof tresses, plant and material racks and saleable goods from damage. All damage resulting from negligence shall be repaired or replaced by the contractor to the satisfaction of the Home Depot store manager or his superiors.

B. The irrigation system is being installed in a retail garden center and the appearance of its fixtures and their installations shall be in accordance with standard Home Depot store construction specifications.

1.04 WARRANTY

A. The irrigation system will be warranted to be free of defects in materials and workmanship for a period of one (1) year from the date of the final acceptance. The warranty will not cover damage to materials from obvious vandalism, theft or acts of providence including but not limited to lighting, flooding, freezing and wind damage.

PART 2 - PRODUCTS

2.01 HOME DEPOT VENDORS

A. All materials specified are available through Home Depot or its vendors. Whenever possible the materials should be utilized. Available materials include but are not limited to controller, valves, pipe, heads, wire and hanging hardware.

2.02 CONTROLLER AND VALVES

A. The irrigation timer shall be a Rain Bird ESP 12LX commercial controller. This controller has 4 separate programs, which will be necessary for the irrigation system. The controller is to be located per the drawings. A 110-volt power outlet is to be provided by Home Depot. It is up to the irrigation contractor to continuous power at the outlet. Some of the power outlets are controlled by a timer. Install timer as per the details.

B. The automatic control valves shall be Rain Bird DV100 (1”). The valves are to be installed as per the details with filters and pressured regulators as needed.

2.03 ROTOR HEADS

A. Rotor heads will be Rain Bird T-Bird series or K-Rain 4” gear driven. Install heads per the details.

2.04 SPINNERS/DRIP EMITTERS

A. All spinners and drip emitters will be supplied by DIG Corporation. Most of these materials come pre-assembled.

PART 3 - INSTALLATION

3.01 GENERAL

A. Drain valves will be installed at the end of each zone and an air compressor port will be installed at the manifold. The purpose of this is for winterization of the system.

B. All materials and equipment will be installed as per manufacturer’s recommendations and the construction drawings.

3.02 OPEN GARDEN AREA

A. The open garden area is to be irrigated with gear driven rotors. There will also be two separate zones depending on the available water pressure. Each rotor will use 3.4 gallons per minute and will have a radius of 36 to 46 feet.

B. All heads in this area are to be spaced at 36' on center or more. One head will be installed in each of the four corners and the remaining heads will be placed accordingly. This will produce on overlapping pattern to allow for 100% coverage.

C. The lateral lines that run along he outside will be secured to the fence with 1 1/4" single hole EMT straps and nylon straps where necessary. The heads in this section will be mounted to the material racks inside a 3" schedule 40 PVC sleeve as shown in the details.

D. The Lateral lines that run along the roof will be secured to the underside of the roof truss using nylon straps and metal hose clamps where necessary. The heads in the section will be mounted the roof truss with a 6" "L" bracket as shown in details.

E. The open garden section should be watered for a period as required for the plant types and the region in which the store is located.

3.03 PICK UP LANE

A. This is the section located along the front fence of the garden and usually has plant material located in it located from the fence forward to the edge of the pavement. Provide full irrigation coverage for this section utilizing gear driven rotors or fixed spray heads for smaller areas.

B. There will be one zone for this section of either 4 or 5 rotors depending on the size of the garden center. Each rotor will use 3.4 gallons per minute and will have a radius of 36 to 38 feet.

C. All heads in this area are to be spaced 27' on center or less. One head will be installed in each corner and the remaining heads will be spaced accordingly. This will produce an overlapping pattern to allow for 100% coverage.

D. The lateral lines will run along the fence and will secured with 1 1/4" single hole EMT straps and nylon straps where necessary.

3.04 SHADE CLOTH AREA

A. The shade cloth area contains 4 to 10 annual racks that will be irrigated using spinner heads as shown on the drawings and details. The spinner heads will be installed using 1/2" poly tube that will be suspended from the ceiling. The poly tube will be suspended from the ceiling utilizing 1/8" single hole EMT straps and nylon straps where necessary.

B. The spinner heads will be spaced at 48" on center and will be run parallel with the annual tables. The heads will hand down 24" from the underside of the ceiling.

C. There are to be no other spinner heads installed in this area other than the annual tables.

3.05 HANGING BASKET RACKS

A. Coverage will be provided to two large hanging basket racks using a single drip emitter as shown in drawings. There can and will be many different variables to the location, quantity and size of the racks. There may also be several racks that are suspended from the ceiling in the shade cloth area.

B. The drip emitters will be installed using a 1/2" poly tube that will be mounted to the bottom of the rail that the baskets are hanging on. The emitters will be placed approximately 3" on center depending upon size of the rack.

C. The drip emitters will be on a separate zone and can operate during the day if necessary. It is important to instruct the store manager on how the baskets need to be placed on the racks to ensure that they will get watered.

3.06 FINAL INSPECTION

A. Upon final completion of the system a final inspection is to be performed with the store manager. The district manager may also be present. This is to be set up by a knowledgeable representative of the contractor no more than 48 hours after completion.

B. A product knowledge class should also be given at this time to demonstrate the complete operation of the irrigation system with the store manager, assistant store manager, the garden center manager and the assistant garden center manager. Anyone else interested in the system operation should also attend.

C. Supply the store manager with as built drawings, product manuals and any special tools. Also, supply the manager with emergency phone numbers for the contractor.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes engineering, fabricating, furnishing, and installing:

1. Rainwater Harvesting System(s).
   a. Roof rainwater collection system.
   b. Condensate collection system.

B. Related work specified elsewhere:

1. Division 2 – landscaping and irrigation sections
2. Section 05501 – Metal Fabrications
3. Division 7 – Roofing, Flashing and Sheetmetal sections
4. Division 15 – Plumbing
5. Section 15430 - Above Ground Irrigation System (if applicable)
6. Division 16 – Electrical

1.02 DEFINITIONS

A. Rainwater Harvesting System: An assembly that collects, stores, and distributes rainwater for use on site; including water treatment as appropriate to intended use.

1.03 SUBMITTALS

A. Product Data: Submit product data on all components of the rainwater harvesting system[s]. Unless otherwise indicated, include the following for each type of product provided under work of this Section:

1. Manufacturer's brochure indicating equipment model(s).

B. Shop Drawings: For each system, include plans, sections, details, and attachments to other work, for the following:

1. Pumps.
2. Storage Tank(s).
3. Connection to collection system(s).
4. Connection to irrigation system.

C. Calculations: For each system, submit the following:

1. Maximum water capacity.
2. Collection data: Include the following:
   a. average rainfall rate (inches annually)
   b. total collection area (s.f.)
   c. potential collection (s.f.= gallons)
   d. peak gallons @ 5"/hour
   e. peak gallons @ 5 min. duration
   f. available gallons
3. Water Demand: Include the following:
   a. application rate / week (high) gallons
   b. application rate /week (low) gallons
   c. gallons required

D. Designer/Installer Qualifications.

E. Operation and Maintenance Manuals Submittals: Provide the following:

1. Operation and maintenance procedures, including variations of procedures appropriate for normal climatic conditions anticipated throughout an annual cycle of operations.
2. Water testing laboratory contact information.
3. Water testing requirements, schedule, kits, and equipment.

F. Reports for Field Quality Control: Submit test reports and inspection reports to Architect or Record.

1. System Inspections.
2. Water Quality Tests.

G. Closeout Submittals:

1. Warranty.

1.04 QUALITY ASSURANCE

A. Designer/Installer Qualifications: For work of this Section, engage an experienced Climate, LLC rainwater consultant who has specialized in systems similar to those required for this Project and with a record of successful in-service performance. Consultant shall:

1. be a member in good standing of The American Rainwater Catchment Systems Association.
2. have a minimum 5 years of experience designing and constructing rainwater catchment systems similar to requirements for this Project.
3. Be an accredited professional

B. Single-Source Responsibility: To the greatest extent possible, obtain the system components from one source and from a single manufacturer, Climate, LLC.

C. Installer shall contact the Owner's Civil and Stormwater Manager as indicated below

D. Shad Kazerooni, P.E., Sr. Mgr. Civil / Stormwater
2455 Paces Ferry Road, N.W., C-19
Atlanta, Georgia 30339-4024
Phone: 770-384-2280
Mobile: 404-444-7388
david_kazerooni@homedepot.com

1.05 SEQUENCING AND SCHEDULING

A. Coordinate the Work with installation of associated roofing, waterproofing, flashings, and roof accessories specified under other sections as the Work of this Section proceeds.

B. Coordinate the Work with installation of associated irrigation and plumbing systems specified under other sections as the Work of this Section proceeds.

1.06 WARRANTY

A. Warranty: Warrant the system against defects including equipment failure and leakage, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period.

1. Warranty Period: one (1) year after date of Substantial Completion

PART 2 - PRODUCTS

2.01 SYSTEM COMPONENTS

A. System Manufacturer/Supplier

Climate, LLC
150 Pearl Industrial Ave
Hoschton, Georgia 30548
678-250-4430 O
216-496-0970 C
Rex Hayes
Rex.Climate@gmail.com
www.ClimateIncorp.com

B. Catchment Area:

1. Roofing as indicated.

C. Downspout Collection

1. Provide nested gutter design as indicated in drawings. Supply and install 6" and 4" downspout piping and fittings to route the down spouts to the tank pre filtration.
2. Supply and install a 3P Technik filter on the downspout pipe before the tank.

D. Condensate Collection from HVAC units as specified in drawings"

1. PVC piping 2" and 1-1/4", route around back of building and then into tank at the Garden Center or as indicated in drawings.
2. Rooftop pump may need to be added to system to get condensate to flow to tank (refer to drawings)
3. Home Depot will provide where applicable one 3 way valve after all RTU's and after where the condensate lines are

combined for ease of access and turn off when RTU's are being cleaned. Route drain line of three way valve down rear of building in PVC line to ground.

4. Home Depot will clean and flush RTU condensate pans and condensate lines with chlorinated water before making final connection with tank .
5. Provide and install all necessary hangers, supports, and braces for new piping.

E. Storage:

1. Tank: sized as appropriate to water demands of facility. Above ground design. Climate Galvanized Bolted Steel Tank. System design shall indicate load requirements for tank foundation. Tanks shall be accessible for routine maintenance.
   a. Standard Tank Size: +/-4,500 gallon
   b. 6ft diameter minimum to fit within one bay of the racking or in applicable designated area within close proximity to the garden canopy or directly to the main building.
   c. 21ft tall maximum height to be under the height of the canopy.
   d. Wind Rated at a minimum 150 mph with anchor brackets.
   e. Supply and install two pipe bollards, without guard rail between as indicated in drawings
2. Cisterns (only if shown in construction drawings): Below ground design; accessible for cleaning and maintenance. Provide screens for all openings.

F. Water Treatment:

1. Filtration. Include catchment tank/pump system to pre-filter water prior to entry to storage tank. Carbon is not permitted.

G. Conveyance:

1. Submersible or Centrifugal Pump: 1-1/2 hp minimum, 15 amp, electric sized as appropriate to water demands of the system.
2. Floating extractor on the intake side of pump -1-1/4" course screen.
3. Check valve (BFP / backup water solenoid valve to make up waterline).
4. Pump controller switch, controlled by pressure drop to sense the need for water.
5. 1-1/4" pressure PVC piping and fittings to route rainwater feed from tank to sprinkler system.
6. 1-1/2" backflow preventer on irrigation supply line supplied by Home Depot plumber.
7. Piping. Overflow pipe shall empty into a non-flooding area. Include removable filter lid for intermittent treatment as is deemed necessary on basis of regular inspection/testing.

H. Accessories:

1. Water meter mounted on the supply side of the tank piping.
2. Float switch to control three-way valve placed on municipal water line.
3. 24 volt adapter for float switch.
4. Low voltage wire from tank to municipal water valve placement.
5. Joint Sealants: Non-toxic and as specified in Division 7.
6. Fasteners: compatible with materials being fastened.

I. Signage

1. All signage prepared, printed, and distributed to the contractor by Home Depot.
2. Decal with Climate's information displayed on the outside of the galvanized tank.

J. Lead components are not permitted.

2.02 FABRICATION

A. Design prefabricated components and necessary field connections required for installation to permit easy assembly, repair and maintenance, and disassembly.

B. Design and construct to comply with applicable regulatory requirements.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions under which system will be installed, with Designer/Installer present, for compliance with requirements.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's written instructions, approved shop drawings, and applicable regulatory requirements.
B. Permitting is separate and not required under initial installation. Home Depot will provide all required permitting as needed. Installer is not required to permit.

3.03 FIELD QUALITY CONTROL

A. General: Comply with requirements of agencies having jurisdiction and as specified herein.

B. System Inspection: System Designer/Installer shall inspect system installation and submit reports to Architect of Record. Notify Architect of Record and Owner 48 hours in advance of the date and time of inspection.

1. Provide site inspection of system at Substantial Completion.
2. Provide site inspection of system immediately after storm event that may be severe enough to affect the system; Home Depot will create work orders for all inspections before inspections can commence.

3.04 SYSTEM MAINTENANCE

A. Installer to provide from completion of installation one (1) year of semi-annual maintenance (second visit shall be before the one (1) year guarantee period ends or if not done within time shall become the final inspection of the guarantee period).
1. Inspect and clean out sediment, debris, and trash from components of system.
2. Inspect condensate lines so they are not damaged, detached and are flowing condensate to the tank.
3. Inspect that signs are still visible and intact.
4. Inspect water meters and other valves for good working conditions.
5. Inspect all components within the garden center that are part of the rainwater harvesting system.
6. Note any required repair items after one (1) year guarantee period and e-mail list to Owner's Civil and Stormwater Manager.

END OF SECTION