5.27. Car Top Railings

5.27.1 Provide standard railings complying with ASME A17.1 on car tops where required by ASME A17.1.HOISTWAY ENTRANCES

5.28. 2.9 MATERIALS and fabrication

5.28.1 **Materials and Fabrication**: Provide manufacturer's standard labeled units but not less than the following:

5.28.1.1 Sills: Extruded metal, with grooved surface, 1/4 inch thick. Provide polished finish on nickel silver.

5.28.1.2 Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, non-gaseous grout complying with ASTM C 1107.

5.28.1.3 Hoist way Door and Frames

5.28.1.3.1 Provide manufacturer's standard labeled units.

5.28.1.3.2 Stainless-Steel Frames: Formed stainless-steel sheet.

5.28.1.3.3 Stainless-Steel Clad

5.28.1.3.4 Doors and Transoms: Flush, hollow-metal construction, clad with stainless steel.

5.28.1.3.5 Elevator identification tactile at each landing.

5.28.2 Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, non-gaseous grout complying with ASTM C 1107.

5.29. Pit Ladder

5.29.1 At each hoist way: provide a vertical ladder of non-combustible material extending 42" minimum, (48" minimum for A17.1-2000 areas) at the same height, above sill of access door or hand-grips.

## 6. PART 3 - EXECUTION

6.1. EXAMINATION

6.1.1 Examine elevator areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

6.2 INSTALLATION

6.2.1 General:

6.2.1.1 Install each equipment item in accordance with accepted Manufacturers procedures, referenced codes, and specifications.

6.2.1.2 Install elevator and machine equipment with clearances in accordance with referenced codes and specifications.

6.2.1.3 Install items so they may be easily removed for maintenance and repair.

6.2.1.4 Coordinate with other trades for proper time and sequence to avoid delays.

6.2.1.5 Establish benchmarks, lines and levels to ensure dimensional coordination of work.

6.3. Welded Construction: Provide welded connections for installing elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts.

6.3.1 Comply with AWS standards for workmanship and for qualifications of welding operators.

6.3.2 Jack welds must be made by a Certified Welder.

6.4. Electrical Runs. All wire and conduit shall run outside the hoist way.

6.5. Scheduling and Coordination:

6.5.1 Elevator hoist beam(s) (when required by MRL manufacturer) to be provided at top of elevator shaft. Beam must be able to accommodate proper loads and clearances for elevator installation and operation.

6.5.2 Pit floor shall be level and free of debris. Reinforce dry pit to sustain normal vertical forces from rails and buffers.

6.5.3 Install bevel guards at 75° on all recesses, projections or setbacks over 2" (4" for A17.1 2000 areas) except for loading or unloading.

6.5.4 Provide rail bracket supports at pit, each floor and roof (or as directed on elevator shop drawings). For guide rail bracket supports, provide divider beams between hoistway at each floor and roof.

6.5.5 Pit floor shall be level and free of debris. Reinforce dry pit to sustain normal vertical forces from rails and buffers.

6.5.6 Install and furnish finished flooring in elevator cab.

6.5.7 Finished floors and entrance walls are not to be constructed until after sills and door frames are in place. Consult elevator contractor for rough opening size. The general contractor shall supply the drywall framing so that the wall fire resistance rating is maintained, when drywall construction is used.

6.5.8 Where sheet rock or drywall construction is used for front walls, it shall be of sufficient strength to maintain the doors in true lateral alignment. Drywall contractor to coordinate with elevator contractor

6.5.9 Before erection of rough walls and doors; erect hoist way sills, headers, and frames. After rough walls are finished; erect fascias and toe guards.

6.5.10 To maintain legal fire rating (masonry construction), door frames are to be anchored to walls and properly grouted in place.

6.5.11 The elevator wall shall interface with the hoist way entrance assembly and be in strict compliance with the elevator contractor's requirements.

6.6. Sound Isolation: Mount rotating and vibrating equipment on vibration-isolating mounts designed to effectively prevent transmission of vibrations to structure and thereby eliminate sources of structure-borne noise from elevator system.

6.7. Lubricate operating parts of systems as recommended by manufacturers.

6.8. Alignment: Coordinate installation of hoist way entrances with installation of elevator guide rails for accurate alignment of entrances with cars. Where possible, delay installation of sills and frames until car is operable in shaft. Reduce clearances to minimum, safe, workable dimension at each landing.

6.9. Leveling Tolerance: 3 mm (

6.10. 1/8 inch), up or down, regardless of load and direction of travel.

6.11. Set sills flush with finished floor surface at landing. Fill space under sill solidly with non-shrink, nonmetallic grout.

6.12. Performance Criteria -- Times shall be adjustable.

6.12.1 Door open time 1.5 seconds

6.12.2 Door Close time

6.12.3 2.5 seconds

6.12.4 Door open dwell time on a car call

6.12.5 5.0 seconds

6.12.6 Door open dwell time on a hall call

6.12.7 5.0 seconds

6.12.8 Activation of door close button shall cancel dwell time

6.12.9 Zip or Shuttle dispatch system

6.12.10Floor to floor times, contract speed with leveling zone of

6.12.114 to 6 inches maximum either direction

6.12.12Limited Hall button response / doors closing will ignore second hall button activation

6.13. FIELD QUALITY CONTROL

6.13.1 Acceptance Testing: On completion of elevator installation and before permitting use (either temporary or permanent) of elevators, perform acceptance tests as required and recommended by ASME A17.1 and by governing regulations and agencies.

6.13.2 Advise Owner's Representative and AHJ (Authorities Having Jurisdiction) in advance of dates and times tests are to be performed on elevators. Provide a written list of potential building issues affecting the acceptance to the General Contractor and Owner's Representative at least 3 days prior to the AHJ inspection.

6.13.3 Provide a copy of the test results to Owner's Representative at the same time they are provided to the PCA.

6.13.4 The project will be inspected by a Publix Representative, an Elevator Consultant or both.Any deficiency list to be addressed and completed within 30 days of receipt.

6.14. DEMONSTRATION

6.14.1 Instruct Owner's personnel in proper use, operations, and daily maintenance of elevators. Training shall be scheduled and may take up to a day. Includes all functions of securing the elevators, and special security operations.

6.14.2 Provide two (2) Training Sessions: First training session is at Turnover; and Second training session is determined by Publix and is to occur during the Warranty Period.

6.14.3 Provide three (3) Procedure Manuals for training.

6.14.4 Review emergency provisions, including emergency access and procedures to be followed at time of operational failure and other building emergencies.

6.14.5 Train Owner's personnel in procedures to follow in identifying sources of operational failures or malfunctions.

6.14.6 Provide a copy of ASME 17.4 or a specific evacuation plan for on- site use per code.

6.14.7 Make final check of each elevator operation with Owner's personnel present and before date of Store Turnover. Determine that systems and devices are operating properly.

6.15. PROTECTION

6.15.1 Temporary Use: Do not use passenger elevators for construction purposes. Protect finishes from damage.

6.15.[illegible] Provide protective coverings, barriers, devices, signs, or other procedures to protect elevators. If, despite such protection, elevators become damaged, engage elevator installer to restore damaged work so that no evidence remains of correction work. Return items that cannot be refinished in the shop; make required repairs and refinish entire unit, or provide new units as required.

6.16. ELECTRIC TRACTION - CUSTOM ELEVATOR schedule

6.16.1 Customer Traction Elevator: (Store [illegible] Elevator)

6.16.1.1 **Type**: Electric Traction MRL

6.16.1.2 **Platform Size**: As required for inside cab clear "nominal" 6'-9" wide x 4'-4" deep.

6.16.1.3 **Hoistway Clear Inside**:

6.16.1.4 [illegible] by manufacturer

6.16.1.5 **Rated Load**: 2500 lb.

6.16.1.6 **Rated Speed**: 100-150 FPM

6.16.1.7 **Openings**: front only, each floor level – refer to drawings

6.16.1.8 **Number of Stops**: Refer to drawings.

6.16.1.9 **Travel Distance**: Refer to drawings

6.16.1.10 **Operation System**: OEM – see above in specifications.

6.16.1.11 **Power Characteristics**. 208 Volt - 3 Phase. Confirm with electrical drawings.

6.16.1.12 **Hoistway Entrances**:

6.16.1.12.1 Width: 4'-0" preferred, will accept 3'-6"

6.16.1.12.2 Height: 8'-0" preferred, will accept 7'-0"

6.16.1.12.3 Type: Two speed, side opening.

6.16.1.12.4 Frames: Stainless Steel.

6.16.1.12.5 Doors: Stainless Steel

6.16.1.12.6 Sills: Nickel Silver

6.16.1.13 **Door Protection**: Infrared array.

6.16.1.14 **Car Enclosure**:

6.16.1.14.1 Height:

6.16.1.14.2 Cab - canopy 9'-0.

6.16.1.14.3 Ceiling – 8'-0"

6.16.1.14.4 Ceiling Finish: paneled, stainless steel suspended mirrored panels.

6.16.1.14.5 Front Wall (return): Stainless steel 5WL with integral car door frames.

6.16.1.14.6 Side and Rear Walls: Stainless steel 5WL.

6.16.1.14.7 Door Faces (Interior): Stainless steel 5WL.

6.16.1.14.8 Base: Vented, stainless steel.

6.16.1.14.9 Door Sills: Nickel silver.

6.16.1.14.10Handrails and Bumper Rails: Two flat bar and one 1-1/2" diameter, stainless steel, on sidewalls and rear wall of cars, as indicated on Drawings. Angle bumper rails to front and rear walls as indicated on Drawings.

6.16.1.14.11Floor: Aluminum checker plate.

6.16.1.14.12Door Sills. Nickel silver.

6.16.1.14.13Car

6.16.1.14.14 Lighting:

6.16.1.14.15Car Lighting: LED lighting OEM's standard system. Require a minimum of 20 foot candles at car floor.

6.16.1.15 Car Stations:

6.16.1.15.1 Stainless steel, single station, mounted on side panel, as indicated on Drawings. Car Station shall include items as specified.

6.16.1.16 Hall Fixtures:

6.16.1.16.1 Hall Lanterns: Locate at each door at each floor, with audible sound, once for up direction and twice for down direction calls.

6.16.1.16.2 Hall Pushbuttons: Locate two at each ingress landing. Install between elevators 1 and 2, and one between 3 and 4

6.16.1.16.3 Floor Designation Plates: Locate on door jambs, two per landing

6.16.1.16.4 Elevator identification tactile. Locate on hall button sight line jamb at each opening.

6.16.1.17 Emergency Communication System:

6.16.1.17.1 In-car hands free telephone programmed to Contractor's 24 hour help line at no charge through the warranty period.

6.16.1.17.2 Phone monitoring

6.16.1.18 Additional Features:

6.16.1.18.1 Automatic floor call registration on Car Station.

6.16.1.18.2 "Pass-thru" operation with staggered door operation as specified.

6.16.1.18.3 Car top inspection station with railing.

6.16.1.18.4 Battery powered emergency car lighting, ventilation and alarm.

6.16.1.18.5 Battery powered lowering and door operation.

6.16.1.18.6 Firefighters' service including alternate return feature.

6.16.1.18.7 Hoist way access switches.

6.16.1.18.8 Independent service feature.

6.16.1.18.9 Installation and hook-up of security camera in each elevator car - provide CAT5 in the traveling cable to controller location; and supply 110 volt power supply in car - camera supplied by owner. Coordinate mount location with the owner

6.16.1.18.10Elevator identification, engraved stainless steel plate with floor number, mounted to entrance jambs

6.16.1.18.11Publix Super Markets, Inc. engraved signage.

6.16.1.18.12Emergency Power operation. Contractor shall identify any delay required between normal and emergency power operation and from emergency power back to normal power.

**END OF SECTION 14 21 55**

## Section 21 00 00

**Fire Suppression**
**V04162013**

### 1. General

1.1 Submit LOIs in accordance with Section 01 33 00 Submittal Procedures

1.2. System Description:

1.2.1 Construction Documents indicate the Design of a Fire Sprinkler System that complies with the intent of Publix. Information contained in these Documents shall be the only basis for Bid.

1.2.2 Publix is the approver of all systems.

1.2.3 Design Changes:

1.2.3.1 It is recognized that there are several ways to obtain the protection intended by Publix Super Markets. If changes can be made to the Design to achieve cost or time savings, these shall be submitted to Publix Super Markets for approval before requesting approval by the Authority Having Jurisdiction.

1.2.3.2 Work shall not begin on the assumption of approvability of changes to the Design.

1.2.3.3 If Publix approves design changes, submit Change Order request for inclusion in Contract.

1.3. Scope of Work:

1.3.1 Provide complete overhead sprinkler system as shown on the Drawings and described herein.

1.3.2 Make connection to the underground supply at the "Point of Service" as shown on the Drawings.

1.3.3 Provide back flow preventer and OS&Y Valve assembly at location shown in the Site Documents

1.3.4 Locate Fire Department Connection as directed by the Authority Having Jurisdiction.

1.3.5 Provide Dry Pipe System for exterior heads at locations north of Florida State Highway 60, with under-canopy heads as indicated, and concealed heads as required.

1.3.6 Provide interconnections to systems provided under separate contract or by Owner.

1.3.7 Provide other systems and apparatus as needed for security of components, ease of access by Fire Fighters and Officials, and as required for a complete, integrated system.

1.4. Related Work by Others:

1.4.1 Connection to mains:

1.4.1.1 Underground fire sprinkler water supply system shall be approved by the Publix Super Markets Engineer and the Authority Having Jurisdiction, including an acceptable outlet at a "Point of Connection" within 5 ft. of the building, lateral from the fire main, backflow preventer, furnished and installed by outside utility contractor.

1.4.1.2 All work Fire Sprinkler work shall be accomplished by the Sprinkler Contractor duly registered in the state of the work and qualified by experience in work of similar scope to that described in the Contract Documents. Such work shall include, but not be limited to, connections to mains, underground supply, backflow preventer, valves, [illegible] and other appurtenances required to connect the water supply to the sprinkler system.

1.4.2 Combination alarm system, complete as shown on Drawings, furnished and installed under separate contract.

1.5. Design Requirements

1.5.1 Minimum requirements for the design, manufacture, testing and methods of installing all materials, apparatus and equipment shall conform to the requirements of NFPA Standards 24 and 13 and, in some cases, that of FM Global.

1.5.2 Conform to the requirements of the local building code and the Authority Having Jurisdiction. If conflicts occur between the requirements of the above referenced codes and authorities, the most stringent shall govern.

1.5.3 Obtain a hydrant flow test, performed within the previous 6 month time period, and ensure its acceptability by all Authorities Having Jurisdiction prior to basing calculations and proposal on the results of the test.

1.5.4 Provide inspector's test connection at most remote point from riser. Provide minimum 1 per riser.

1.5.5 Spacing of sprinklers shall not exceed 130 sq. ft. per sprinkler, without written permission from Publix.

1.5.6 Sprinkler location: All sprinklers shall be located as shown on Engineer's Drawings, and as required by codes, including vestibules and canopy attic areas.

1.5.7 Storage Areas, Ordinary Hazard Group II: Provide a hydraulically designed wet system to provide 0.30 gpm/sq. ft. including the most remote 2000 sq. ft. Spacing of sprinklers shall not exceed 100 sq. ft. per sprinkler.

1.5.8 Sales Areas, Work Areas, Ordinary Hazard Group II: Provide a hydraulically designed wet system to provide 0.18 gpm/sqft for all areas including the most remote 2500 sq. ft.

1.5.9 Hydraulic calculations shall include a total allowance of 250 gpm for outside and inside hose streams.

1.6. Shop Drawings, Calculations and Approvals

1.6.1 Do not begin work until the shop drawings and calculations have been approved by Publix Super Markets and by the Authority Having Jurisdiction.

1.6.2 Any proposed value engineering changes must be submitted to the Publix Engineer prior to submitting any shop drawing and calculations.

1.6.3 Submit shop drawings and calculations simultaneously to the Publix Super Markets Engineer and the Authority Having Jurisdiction for approval, and to Marsh Consulting for review.

1.6.4 Upon receiving approval of the Authority Having Jurisdiction, submit evidence of this approval to the Publix Super Markets Engineer.

1.7 Quality:

1.7.1 Subcontractor:

1.7.1.1 The Fire Sprinkler Subcontractor shall be a reputable firm regularly engaged in this type of work, employing skilled workmen, and with proper equipment. Work shall be performed by a firm licensed as a Class I or II Fire Sprinkler Contractor.

1.7.1.2 Upon request, Subcontractor shall show evidence of at least two similar jobs, of comparable size and character, installed and operating within the two years prior to bid opening.

1.7.1.3 Publix reserves the right to refuse any Subcontractor with or without disclosing cause.

1.7.2 Personnel:

1.7.2.1 Employ an experienced Superintendent to oversee all operation.

1.7.2.2 Work shall not proceed without adequate supervision present at all times. Foreman shall be a Journeyman Sprinkler Fitter.

1.7.2.3 Work shall be performed by workers certified in their trade as journeymen, and apprentices in accordance with regulations of the governing authority or customary practice. Utilize workers with skills in proportion to complexity of tasks required.

1.7.2.4 Publix reserves the right to refuse assignment of workers to Publix work with or without disclosing cause.

1.7.3 Quality Standards

1.7.3.1 Work shall be accomplished to ensure leak-proof installation

1.7.3.2 Work will be judged by Publix in comparison to work of similar types. Substandard construction as judged by Publix Representative will not be accepted.

1.7.3.3 Neatness counts. Make all joints, connections, unions, etc. with proper care to insure that tight connections are made without excess material, well secured to supports

1.7.3.4 Install piping with runs straight, accurately formed radii at bends, and adequate supports

1.8. Pressure Test:

1.8.1 Perform testing as required by NFPA 13 and Authorities Having Jurisdiction. Test results shall be certified by these agencies.

1.8.2 As a minimum, test all piping and equipment under hydrostatic pressure of 200 pounds per square inch for a 2 hour continuous period.

1.8.3 Correct all defects revealed by test.

1.8.4 Retest as required until system is leak free under test conditions.

### 2. Products

2.1. Heads

2.1.1 All sprinkler heads shall be UL listed, Factory Mutual approved, and the product of one manufacturer.

2.1.2 Approved manufacturer's:

Viking
Victaulic
Tyco
Reliable
Globe

2.1.3 Sprinkler heads shall be standard response thermosensitive glass bulb style, standard pressure rated to 175 PSI.

2.1.4 Sprinklers with 1/2" orifices shall have 1/2" NPT connections, 17/32" orifices shall have 3/4" NPT connections, dry pendant heads shall have 1" NPT connections.

2.1.5 Areas with suspended ceilings: Use chrome recessed or semi-recessed type sprinklers rated at 155 degrees F. unless otherwise noted on the plan.

2.1.6 In areas with exposed structure:

2.1.6.1 Sales/Customer Areas: Use brass upright type sprinklers rated at 155 degrees F. Where suspended ceiling occurs use chrome pendant type sprinklers rated at 155 degrees F. Provide chrome two-piece escutcheons.

2.1.6.2 Storage, and other areas not used by customers: Use brass upright type, rated at 155 degrees F.

2.1.7 Cooler/Freezer Areas: Provide 175 degree F dry pendant sprinklers. Seal pipe penetration and insulate pipe to 1'-0" above top of cooler/freezer insulation panel. Minimum barrel length shall be 18".

2.1.7.1 Approved Manufacturers: Viking & Reliable

2.2 Provide spare sprinkler heads and wrenches. Provide number of cabinets, spare sprinkler heads in locations required by NFPA 13. Minimum cabinet size shall be for 12 heads.

2.3 Dry Systems: Where required by local authorities, the system shall be controlled by a separate wall or post indicator valve and dry pipe valve. Valves are to be equipped with an air compressor, low air trouble alarm, and supervisory switches. Control valves for either shall be located 4'-6" above finished floor.

2.3.1 Air compressors for dry systems will be direct drive, electric motor driven, air cooled, with thermal overload protection. Units shall be fully automatic, with a UL listed pressure switch, check valve and safety valve, oil-less piston compressor, and permanently lubricated bearings. Include air filters and riser mounting kits. See construction drawings for power requirements.

2.3.1.1 Approved manufacturer: General Air Products.

2.4. Back Flow Devices: Provide a Factory Mutual approved back flow device where required by local codes. At stores located north of Florida Route 60, set assembly in insulated below-ground concrete vault or provide means of freeze protection.

2.5 Inspector's test connection shall be piped to floor level on the inside of the building, then stubbed through the wall and piped to grade. Conform to requirements of NFPA 13 and Factory Mutual.

2.6. Riser assembly shall include alarm valve with DPDT water flow switch, water motor alarm, electrically supervised gate valve, main drain [illegible] gauges. Water flow switch and tamper switch. Riser assembly shall be located in rear of store. All risers shall be interior risers. System control valve shall be a wall or post indicator type

2.7. Provide pipe sleeves for all pipes passing through concrete floors and for all pipes passing through concrete and masonry walls.

2.8. Provide escutcheons for all exposed pipes passing through floors and walls. Escutcheons shall be chrome plated steel or stainless steel, two piece hinged, fastened with set screw, size to suit. Where subject to corrosion (outside) use stainless steel only.

2.9. Tamper Switches: Provide System Sensor Supervisory switch OSY2 for outside screw and yoke gate valves, or PIBV2 for post indicator gate valves, to be wired by others.

2.10. All fittings shall be U.L. and Factory Mutual approved, stamped and shall conform to the requirements of NFPA #13 and the Factory Mutual Approval Guide, except that no "slip" type fittings are to be used.

2.11. Piping:

2.11.1 Piping shall conform to the requirements of NFPA #13 and the Factory Mutual Approval Guide. Piping may be grooved, threaded and/or welded if all components and methods are Factory Mutual approved.

2.11.2 Underground Service Piping:

2.11.2.1 Pipe: AWWA C900, PVC, AWWA C151, Ductile Iron Pipe

2.11.2.2 Fittings and Joints: AWWA C110 & C115, Ductile Iron Pipe ANSI B16.1 Cast Iron Pipe, for sizes 3"-48"

2.11.3 Above ground Service Piping:

2.11.3.1 Sprinkler Piping: ASTM-A795 and ASTM A35 for black and hot dipped, zinc coated (galvanized) welded and seamless steel pipe. ASTM A135 for electric resistance welded steel pipe.

2.11.3.1.1 Exterior Wet/Dry Sprinkler Piping & Fittings: Galvanized steel.

2.11.3.1.2 Interior Wet Sprinkler Piping & Fittings: Black steel.

2.11.3.1.3 Interior Dry Sprinkler Piping & Fittings: Galvanized steel.

2.11.3.2 Pipe sizes 1"-2" shall be Schedule 40.

2.11.3.3 Pipe sizes 2 1/2" - 6" shall be Schedule 10

2.11.4 Fire Department Connection Piping:

2.11.4.1 Interior: Same as Interior Sprinkler Piping above.

2.11.4.2 Exterior: Same as Exterior Service Piping above. Where stubbed-up for connections above grade, use standard weight galvanized steel pipe with galvanized malleable iron screw fittings.

2.11.5 Drain Piping: Schedule 40 galvanized steel screwed pipe with cast iron drainage pattern screw fittings.

2.12. Valves:

2.12.1 Drain valves, test valves, and control valves shall be fitted with FM approved enameled signs indicating their use.

2.12.2 Gate Valves

2.12.2.1 Non Rising Stem: 4" - 12", iron body, 175 lb. service rating, flanged connections. UL listed, Factory Mutual approved. Bolted bonnet indicator, bolt patter, solid bronze or resilient wedge.

Nibco F609

2.12.2.2 Outside Screw and Yoke: 4" - 12" iron body 200 lb. service rating, flanged connections. UL listed, Factory Mutual approved. Epoxy coated interior/exterior. Pregrooved stem for supervisory switch, resilient wedge.

Nibco F607RW

2.12.2.3 Other approved manufacturer's:

Mueller
Kennedy
Stockham
Watts

2.12.3 Alarm Check Valves. 3" - 8" iron body, 175 lb. service rating, flanged or grooved connection. UL listed, Factory Mutual approved. Vertical mounted with complete trim for variable pressure. Bolted hand hole cover. EPDM rubber clapper seal.

2.12.3.1 Wet Alarm Check Valves:

Central Model F or G
Viking Model J-1
Reliable Model E

2.12.3.2 Retard Chambers:

Central Model F
Viking C-1
Reliable Model E-1

2.12.3.3 Dry Alarm Check Valves:

Central Model C
Viking F-1
Victaulic Series 756 Firelock

2.12.3.4 Accelerators and Exhausters:

Central Model A
Viking Model E-1
Victaulic Series 746

2.12.4 Double Check Detector Assembly: Iron body, 175 lb. service rating. UL listed Factory Mutual approved. Epoxy coated interior/exterior. Ductile iron or stainless steel clapper, EPDM rubber seal. Resilient wedge outside screw and yoke gate valves.

FEBCO 856, Watts 757DCDA - OSY or equal as approved by Publix Engineer.

2.12.5 Indicator Posts: Iron body. UL listed, factory Mutual approved for use with non-rising stem gate valves:

NIBCO NIP1AJ upright post or NIP2AJ wall post
Grinnell
Kennedy
Mueller
Stockham

2.12.6 Drain Valves: Angle or globe type as required.

Jenkins 108-A angle or 106A globe or equal as approved by Publix Engineer.

2.12.7 Check Valves: Factory Mutual approved swing check valves installed horizontally, iron body, bronze mounted, 175 pound service rating.

2.13. Riser and Fire Department Connection

2.13.1 Riser: Provide riser where indicated on the drawings. Riser shall have alarm valve, complete with valve trimmings, gauges, and all required accessory equipment. Provide approved electric flow switch where indicated on the drawings.

2.13.2 Inspector's Test Connection: 1" inspectors test valve, drain valve and pipe extending to drain indicated on drawings. System shall also be connected into the central fire alarm system.

2.13.3 Fire Department Connections: Factory Mutual approved flush type Fire Department connections 4" F.I.P.T. outlet and two 2-1/2" NSHT inlets with lettered nameplate. All exposed parts shall be rough brass and polished trim; plate shall be lettered "Automatic Sprinkler", "Fire Department Connections".

2.14. Gauges

2.14.1 Pressure gauges shall be installed as required by code, Factory Mutual approved 4-1/2" dial type, and shall have a maximum limit of not less than twice the normal working pressure at the point where installed.

2.14.2 Control valves, drain valves, check valves, identification tags and drain piping shall be approved for fire service and shall conform to the requirements set forth in NFPA. #13.

### 3. Execution

3.1. General

3.1.1 Architectural and Structural Drawings shall be used for building construction, dimensions and specific locations.

3.1.2 Perform all cutting and fitting required for work of this Section in rough construction of the building, and in areas of existing buildings and structures as required by alterations and connections to existing.

3.1.3 All patching of finished construction of new and existing buildings shall be by the General Contractor under the Sections of Specifications covering those materials.

3.1.4 Subcontractor shall perform all excavation and backfill required for services, inside and outside the building. Cutting of curbs, walks, concrete and paving required by the excavation shall be done by Subcontractor. Any rock shall be excavated 3 inches below the laying depth, and the trench shall be backfilled with sand 3 inches deep. Over excavation shall be added in 12 inch layers and mechanically compacted. Flooding or puddling not permitted. All piping which will be under walks, planters, arcades, parking lots, concrete or asphalt shall be mechanically compacted in 12 inch layers. Pipe under roadways shall have a minimum cover of 3 ft.

3.1.5 Verify all field dimensions and locations of equipment and fixtures in the layout as established by the General Contractor to insure close, [illegible] other trades work.

3.1.6 No underground piping shall be covered until approved by Publix Representative and Authority Having Jurisdiction.

3.1.7 Where the work is dependent upon work of other trades [illegible] already in place for its proper installation, examine such other work [illegible] in the condition and state of completion before continuing the installation.

3.1.8 Include services of an experienced Superintendent, who shall be constantly in charge of the work, together with qualified journeymen required to properly unload, install, adjust, start and operate and test the work involved, including equipment and materials furnished by others and by Owner. All work shall be executed in a workmanlike manner. Workmanship that, in the opinion of Publix, is inferior or shoddy, shall be removed and replaced with acceptable work at no cost to Publix.

3.1.9 Follow drawings in laying out work and check Drawings of other trades to verify spaces in which work will be installed. Coordinate work with other trades. Maintain maximum headroom and space conditions at all points. Where headroom or space conditions appear inadequate, notify Architect before proceeding with installation.

3.2. Area of horizontal runs by trades: See Section 01 11 00 Summary of Work.

3.3. Conceal all piping above suspended ceiling where practical.

3.4. If directed by Architect, the Subcontractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

3.5. Provide qualified installers. Install materials, apparatus and equipment in neat, workmanlike manner.

3.6. Cooperate with the work of other trades to prevent conflict or interference and to aid rapid completion of the overall project.

3.7. Protect materials, apparatus and equipment from damage, moisture, dirt, debris and work of other trades. Do not install damaged materials and equipment; remove them from the site.

3.8. Install drops for sprinkler heads in areas with finished ceiling. Sprinkler heads in tile ceilings shall be located within 1 1/2" of the center of tile. Coordinate the exact location of the ceiling grid with the ceiling contractor.

3.9. Examine all work of others. If any conditions exist which will prevent satisfactory installation of materials or equipment the Architect shall be notified in writing. Starting of work without notification indicates acceptance, and any or all changes required will be at Contractor's expense.

3.10. Keep the job site free from accumulations of waste materials and rubbish. Leave the job site and work in clean, orderly and acceptable condition. Clean all materials and equipment of dirt, dust, spots and stains, soil marks and other foreign matter.

3.11. The inside sprinkler piping shall be installed in such a manner that there will be no leakage.

3.12. There shall be no on site welding of sprinkler piping.

3.13. Install, test and flush the fire protection underground from the "Point of Service" to the building in accordance with NFPA. 24.

3.14. Requirements for Final Acceptance and Payment:

3.14.1 The entire system shall be tested under hydrostatic pressure. This pressure shall be 50 psi greater than pressure in the main, but in no case less than 200 psi. The test pressure shall be maintained for two (2) hours. Properly executed test certificate shall be sent to Factory Mutual Engineering Association and Publix' Representative upon Completion.

3.14.2 Furnish Publix' Representative with a complete set of all manufacturer's warranties and instructions, and with two sets of as-built drawings.

3.14.3 Obtain Final Inspection and test required by the authorities having jurisdiction for their acceptance of the system; provide adequate advance notice to Publix' representative of such inspection and test; furnish Publix' Representative with evidence of acceptance of the system by the local authority having jurisdiction.

3.14.4 Contractor's Material and Test Certificates for Underground Piping/ Aboveground Piping shall be completed on the appropriate NFPA 13 form and submitted to the Owner and the Authority Having Jurisdiction.

3.14.5 The system, upon completion and testing, shall be inspected and accepted by the Owner and the Authority Having Jurisdiction.

3.15. Guarantee

3.15.1 All equipment shall be tested, adjusted and placed in proper operating condition by the subcontractor. Both the Contractor and the Engineer shall advise the Architect in writing that the systems are installed according to the Specifications and Drawings and are operating satisfactorily. The Owner shall receive written warranty covering all defects in workmanship and material for a period of one (1) year from the date of Final Acceptance.

3.15.2 All defects within this period shall be repaired without cost to the Owner. This shall include adjustments, and all regular and preventative maintenance.

3.15.3 The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's warranty.

3.16. Final Inspection

3.16.1 All of the following items shall be completed prior to final inspections. No exceptions will be made and no final payment will be made until all items are completed.

3.17. Cleaning Equipment and Premises:

3.17.1 Thoroughly clean all exposed parts of the apparatus and equipment. Exposed parts which are to be painted shall be thoroughly cleaned of cement, plaster, and other material and all oil and grease spots shall be removed. Repaint or touch up as required to make look like new. Such surfaces shall be carefully wiped and all cracks and corners scraped out.

3.17.2 Exposed metal work shall be carefully brushed down with steel brushes to remove rust and other spots and touched up with primer.

3.18. Identification, Operating Instructions and Service Manual:

3.18.1 Provide a permanent non-corrosive metallic placard indicating hydraulic design and demand information, securely affixed to riser, one required each riser.

3.18.2 Manual:

3.18.2.1 Provide two (2) neatly bound copies of maintenance and instructions book, parts lists pertaining to all equipment furnished. Submit to the Architect for approval.

3.18.2.2 Each section shall be indexed and include parts lists, instruction books, suppliers' phone numbers and addresses, and individual equipment guarantees all in separate sections.

**End of Section 21 00 00**

## Section 22 40 00

**Plumbing**
**V10092017**

### 1. General

1.1. Summary

1.1.1 Provide all materials and equipment and perform all labor required to install plumbing complete as indicated, as required by code, and as specified herein. All sizes, etc. are Publix minimum and if local code requirements are higher, the work shall be bid and installed accordingly.

1.1.1.1 Obtain and pay for all permits, bonds, inspection.

1.1.1.2 Provide 2-1/2" water service line, with water meter and 2-1/2" backflow preventer.

1.1.1.3 Provide hot and cold water mains and distribution piping, all overhead and concealed except main water supply into building and where indicated on the Drawings. No PVC pipe allowed above floor slab, (except plumbing waste piping, unless not code approved).

1.1.1.4 Provide a system of soil and waste drains, vents, and connections to all sewer, and water mains and all fixtures.

1.1.1.5 Plumbing Fixtures: Provide and adjust, except as herein specified.

1.1.1.6 Provide Grease Interceptors as specified and as required by local codes.

1.1.1.7 Provide all piping hanging and hangers.

1.1.1.8 Provide gas piping and all indirect drains required for equipment furnished in other sections, and by Owner, except provide indicated drains (floor drains, hub drains, floor sinks, etc.) for refrigerated cases, walk-in coolers, and freezers.

1.1.1.9 Provide rough-in plumbing for fixtures indicated as furnished by Publix or others, and make required connections. Include uncrating equipment, moving into place, and installing complete.

1.1.1.10 Coordinate plumbing work with all other trades including Refrigeration Contractor's work

1.1.1.11 Provide all other materials and services required for a complete working installation described in Contract Documents.

1.1.2 All apparatus shall be installed at exact height and locations as shown on the Architectural Drawings, or if not shown, at heights and locations determined by applicable codes and laws.

1.1.3 Perform all excavation and backfill required for services [illegible] plumbing and work inside and outside the building. Cutting of curbs, walks, concrete and paving required for excavation shall be done by appropriate trades.

1.1.4 All store cases, coolers, and freezers will be furnished and set in place by Publix. The Refrigeration Contractor shall make all condensate waste connections to Plumbing Contractors stub ups. Check equipment drawings against Drawings in order to verify exact locations. Provide gas piping as indicated.

1.2. Definitions: Explanation and Precedence of Documents:

1.2.1 For purposes of clarity and legibility, Plumbing Drawings are essentially diagrammatic and although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all Contract Documents.

[illegible] The Drawings indicate sizes, connections, points and routes of pipes but not intended, however, that all offsets, rises and drops are shown. Install piping as required to fit structure, avoid obstructions and retain clearance, headroom, openings and passageways.

1.2.3 Carefully examine all existing conditions, existing piping and premises and compare the Drawings with the existing conditions. Submittal of bid indicates that the Contractor has examined the site and Drawings and has included all required work in his bid. No allowances will be made for any error resulting from Contractor's failure to visit Job Sites and to review Drawings.

1.2.4 Conflicts, discrepancies, interferences and omissions in documents shall be brought to the attention of the Publix Engineer for clarification prior to commencement of work.

1.3. Submittals.

1.3.1 Submit LOI in accordance with Section 01 33 00 Submittal Procedures.

1.3.2 Within 30 days of Contract Commencement (Authorization to Proceed), submit for Publix' Architect's approval:

Fixtures and trim with cuts including rough-in dimensions.
Equipment (water heaters, expansion tanks, other items)
Drains and cleanouts (floor and wall)
Valves, stops, hose bibbs
Miscellaneous
Roof flashing
Hangers and Seismic Bracing
Piping, piping diagrams
Other items required to complete the Work

1.3.3 Submit two (2) identical bound copies of all items. Arrange categories in order listed above.

1.3.4 All cuts for the above shall have rough-in dimensions, connection sizes, and any special installation requirements. In addition, furnish motor horsepower voltage and phase for all equipment

1.3.5 Project Record Drawings. Comply with Section 01 78 39.

1.3.6 Do not order materials or proceed with work untill all submittals have been reviewed, and approved.

1.3.7 Confirm electrical and other requirements with other contractors.

1.4. Quality:

1.4.1 Subcontractor.

1.4.1.1 The Plumbing Subcontractor shall be a reputable firm regularly engaged in this type of work, employing skilled workmen, and with proper equipment.

1.4.1.2 Upon request Subcontractor shall show evidence of at least two similar jobs, of comparable size and character, installed and operating within the previous two years prior to bid opening.

1.4.1.3 Publix reserves the right to refuse any Subcontractor with or without disclosing cause.

1.4.2 Personnel:

1.4.2.1 Employ an experienced Superintendent to oversee all operation.

1.4.2.2 Work shall not proceed without adequate supervision present at all times.

1.4.2.3 Work shall be accomplished by workers certified in their trade as masters, journeymen, and apprentices in accordance with regulations of the governing authority or customary practice. Utilize workers with skills in proportion to complexity of tasks required.

1.4.2.4 Publix reserves the right to refuse assignment of workers to Publix work with or without disclosing cause.

1.4.3 Quality Standards

1.4.3.1 Work shall be accomplished to ensure leak-proof installation.

1.4.3.2 Work will be judged by Publix in comparison to work of similar types. Substandard construction as judged by Publix Representative will not be accepted.

1.4.3.3 Neatness counts. Make all joints, connections, unions, etc. with proper care to insure that tight connections are made without excess material, well secured to supports.

1.4.3.4 Install piping with runs straight, accurately formed radiuses at bends, and adequate supports.

1.4.4 Regulations: Comply with applicable provisions of the following codes (latest version adopted by governing agencies):

State Sanitary Code
Local Building Code
ASME Code for Unfired Pressure Vessels
International Plumbing & Gas Code
Florida State Plumbing & Gas Code
Georgia State Plumbing & Gas Code
North Carolina State Plumbing & Gas Code
OSHA - for construction
Other applicable laws and regulations.

1.4.5 Coordination: Work shall be accomplished along with the work of other trades. Cooperate with others to benefit the job as a whole.

1.4.6 Participate in the Pre-Construction Conference.

1.5. Sequencing:

1.5.1 Notify General Contractor, or any others, of all required chases, sleeves and openings required so that the work can be accomplished without delay. Provide necessary sleeves, etc., to be installed. Otherwise, Plumber shall pay for appropriate trades to perform cutting and patching.

1.5.2 Joists, girders, beams, columns or reinforcing steel shall not be cut.

1.5.3 Where construction necessitates the routing of piping through structural members, framing or under footings, permission to make such installation shall first be obtained from the Publix Field Representative

1.6. Temporary Operation:

1.6.1 The Owner may require operation of parts or all of the installation prior to Final Acceptance.

1.6.2 Cost of utilities for such operation shall be paid by the Contractor. This operation does not constitute acceptance of the Contractor's work.

1.6.3 All gas and water used for construction shall be paid for by the General Contractor. Furnish and install all temporary water piping required for construction purposes and remove piping when use is no longer required. Restore site and piping to original conditions

1.7. The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee nor relieving the Contractor of his responsibilities during the guarantee period.

1.8. Operating Instructions and Service Manual:

1.8.1 Provide two (2) neatly bound copies of maintenance and instructions book, parts lists pertaining to all equipment furnished

1.8.2 Each section shall be indexed and include parts lists, instruction books, suppliers' phone numbers and addresses, and individual equipment guarantees all in separate sections.

1.8.3 Representatives of the Owner shall be instructed by the Contractor as to complete care and operation of the plumbing system. Inform the Architect in writing as to the persons who received the instructions and the date that this was done

1.9. Polypropylene Piping and Products Warranty.

1.9.1 Manufacturer shall warranty pipe and fittings for 10 years to be free of defects in materials or workmanship.

1.9.2 Warranty shall cover labor and material costs of repairing and/or replacing defective materials and repairing any incidental damage caused by failure of the piping system due to defects in materials or workmanship

### 2. Products:

2.1. Materials:

2.1.1 All materials shall be new, full weight, of the best quality with the same brand or manufacturer used for each class of materials or equipment. All similar materials such as valves, pumps, boilers, fixtures, shall be of the same type and manufacturer unless otherwise designated.

2.1.2 All plumbing fixtures shall be "first quality" as defined and set forth in Commercial Standard CS 20-36 As Promulgated By The U.S. Department of Commerce.

2.2. Fixtures

2.2.1 Provide vitreous white china fixtures (unless otherwise noted).

2.2.2 Support wall-mounted fixtures w/ manufacturer approved carriers.

2.2.3 American Standard product designations have been used for consistency. Equivalent fixtures by Crane, Kohler, [illegible], Sloan, or Toto may be accepted.

2.2.4 Install all owner furnished fixtures as listed on the plumbing fixture schedule. provide all the necessary components as required for a complete installation.

2.3. Equipment

2.3.1 Grease Interceptor: [illegible] pre-cast concrete [illegible] in accordance with [illegible] and local codes. Two cast [illegible] tops with [illegible] cast iron clean-outs as required. Tanks and lids shall be designed for an H-20 traffic load. Tanks shall be reinforced with welded wire fabric and steel bars. Compressive strength of concrete shall be a minimum of 5[illegible] at 28 days. Provide additives or coatings to protect tank interiors to a minimum PH of 3

2.3.2 Drains, clean-outs. As scheduled. Approved manufacturers:

[illegible] Smith
[illegible]

2.4. Pipe and Fittings:

2.4.1 Hot and cold water piping:

2.4.1.1 ASTM B88 type "L" seamless copper tubing. Main service type "K" with coal tar seal cote coating, or approved equal.

2.4.1.2 Fittings: Wrought copper solder fittings, solder with silvaloy, streamline 122, phos-copper or approved equal no-lead solder

2.4.1.3 Alternate: Copper press fittings shall conform to the material and sizinge requirements of ASME B16.18 or ASME B16.22. O-rings for copper press fittings shall be EPDM. Approved Manufacturers:

Viega

2.4.2 Gas Piping: Shall be schedule 40-A-120 black steel pipe with black banded malleable iron fittings, pipe shall be welded. Grounding by Electrical Contractor.

2.4.2.1 Indoors: ASTM A53 steel pipe, schedule 40, black forged steel weld fittings.

2.4.2.2 Outdoors: ASTM A53 steel pipe, schedule 40, mill galvanized, fittings as required.

2.4.3 Plastic Gas Piping: Used underground only. Shall conform to the requirements of ASTM D2513 for medium-density polyethylene pipe and tubing. Fittings shall comply with the requirements of ASTM D2683 for socket type, ASTM D3261 for butt fusion and ASTM F1055 for electrofusion. Pipe shall be yellow and marked in accordance with ASTM D2513.

2.4.4 Soil, Waste, Vent Pipe:

2.4.4.1 PVC DWV pipe (where allowed by codes): PVC schedule 40 solid wall pipe and PVC DWV fittings used in sanitary drain, waste, and vent (DWV) and storm drainage applications. Pipe shall be IPS conforming to ASTM D1785 and ASTM D2665. Fittings shall conform to ASTM D2665. Solvent cement shall conform to ASTM D2564.

2.4.4.2 ABS DWV pipe (where allowed by codes): Unplasticized, ASTM D2661, Type I, Grade 1, solvent cement joints, DWV fittings. schedule 40 unless indicated otherwise on the Drawings, all elbows shall be long sweep type. Use only where indicated on the drawings.

2.4.4.3 Cast Iron Pipe: Coated service weight cast iron soil pipe using coated service weight cast iron fittings.

2.4.4.4 Vent Piping Option: All vent piping above grade may be copper DWV, with copper drainage fittings, solder as for hot and cold water

2.4.5 Provide field fabricated DWV copper or cast brass traps with an integral clean out at bottom of traps for stainless steel utility sinks, except those which discharge to a floor sink.

2.5. Valves, Stops, Specialties

2.5.1 Materials: Valves 3" and smaller shall be bronze with threaded or soldered ends. Furnish unions adjacent to all screwed central valves and at all connections to equipment. Valves shall be made in the USA. All water service valves, stops and specialties shall be lead free.

2.5.2 Approved Manufacturers:

Apollo
Hammond/Milwaukee
Mueller
Nibco
Watts
Wilkins

2.5.3 Gate Valves: 1/4"-3", bronze body, solid bronze wedge, rising stem, union bonnet, 300 psi non-shock CWP, MSS-80.

2.5.3.1 Basis of design: Nibco T/S-111-LF

2.5.4 Check Valves:

2.5.4.1 Swing Check Valves: 1/4"-2", bronze body, horizontal swing, Y-pattern renewable seat and PTFE disc, 200 psi non-shock CWP, MSS-SP-80.

2.5.4.1.1 Basis of design: Nibco T/S-413-Y-LF

2.5.4.2 Lift Check Valves: 1/2"-2", bronze body, inline lift, PTFE discs, stainless steel spring, MSS-SP-80.

2.5.4.2.1 Basis of design: Nibco T/S-480-Y-LF

2.5.5 Ball Valves: 1/4"-2", two piece bronze body, full port, bronze trim, chrome plated brass ball, blow out proof stem, 600 psi non-shock CWP, MSS-SP-110

2.5.5.1 Basis of design: Nibco T/S-585-66-LF

2.5.6 Gas Valves: 1/4"-3", two piece bronze body, full port, bronze trim, chrome plated brass ball, blow out proof stem, 600 psi non-shock CWP, MSS-SP-110, ASME B16.33.

2.5.6.1 Basis of design: Nibco T-585-70-UL (1/4"-1")

2.5.6.2 T-580-70-UL (1-1/4"-3")

2.5.7 Mechanical Gas Valve with Remote Pull: ASCO Automatic Switch Co., Model as indicated on Drawings.

2.5.8 Mixing Valves: Anti-scald, thermostatic point of use. Bronze body, locking control, integral check valves, ASSE 1070 approved.

2.5.8.1 Approved Manufacturers:

Apollo
Bradley
Lawler
Powers
Watts
Wilkins
Zurn

2.5.9 Interior Hose Bibbs and Stops

2.5.9.1 Stops: Quarter turn, angle ball stop valve, all brass construction. Brasscraft, McGuire, Eastman

2.5.9.2 Interior Hose Bibbs:

Chicago #387 Brass 3/4" R.C.P W/Watts No. 8BC Vacuum Breaker, or T&S Brass B-0737-POL.

2.5.10 Exterior Hose Bibbs and Hydrants:

2.5.10.1 Description: All shall have integral vacuum breakers and an integral stop valve. If an integral stop valve is not available, provide an in-line gate valve.

2.5.10.2 Approved Manufacturers.

Acorn
J.R. Smith
Zurn.

2.5.11 Flush Valves:

2.5.11.1 Description: Cast brass or bronze body with corrosion-resistant internal components; non-hold open, control stop with check valve; vacuum breaker and copper or brass tubing; polished, chrome-plated finish on exterior parts; vandal-resistant stop cap; ADA compliant handle.

2.5.11.2 Manufacturers:

Toto
Sloan - Sloan
Zurn - Z6000AV

2.5.12 Faucets:

2.5.12.1 Description: Cast brass body with corrosion-resistant internal components; polished, chrome-plated finish.

2.5.12.2 Manufacturers:

Chicago Faucet
T & S Brass
Sloan-Basys EPX-250-500 (lavatories only)

2.5.13 Drain Valves

2.5.13.0.1 Description: Cast brass body stainless steel ball dual teflon seals, vandal resistant stainless steel strainer. 1/4" turn lever handle.

2.5.13.0.2 Manufacturers:

Drain King

2.5.14 Hand Sinks:

2.5.14.1 Description: Wall hanging. 18 gauge, 304 stainless steel, polished finish, basin with radius corners; back for faucet. integral side support panels, approximate size - 17"x16"x5" with 2-3/16" drain outlet.

2.5.14.2 Manufacturers:

Elkay
Just
Amtekco

2.5.15 Storage Water Heaters:

2.5.15.1 Electric: Where indicated to be connected, provided tanks shall be glass-lined steel, 2" foam insulation and enamel finish on metal outer jacket. Electric heating elements shall be low watt density, screw-type, ceramic terminal blocks, heavy duty contactors and internal power circuit fusing. Element operation shall be linear sequence, corrosion resistant drain valve, replaceable anode rod.

2.5.15.2 Gas: Where indicated to be connected, provided tanks shall be glass-lined steel, 2" foam insulation and enamel finish on metal outer jacket. Sealed combustion chamber with helical heat exchanger, integral intelligent control panel. Corrosion resistant drain valve, replaceable anode rod.

2.5.15.3 Approved Manufacturers:

A.O. Smith/State
Rheem/Ruud

2.6. Miscellaneous:

2.6.1 Faucet (Janitor Room): Sink faucet with top brace, 9" - 10" rigid spout with bucket hook vacuum breaker and integral stops. at 36" above floor.

T&S Brass
Chicago Faucet

2.6.2 Vacuum Breakers, Backflow Preventers, Dual Check Valves. Bronze body, lead free threaded connections for 2" NPS and smaller. Shall be installed on all fixtures where required.

Apollo
Watts
Wilkins

2.6.3 Unions: Malleable iron ground joint equivalent and similar to Crane 519, up to and including 2 inch. Over 2 inch shall be cast iron flanged with a Garlock 7022 Gasket.

2.6.4 Reducing and Regulation: Water, air, gas. Watts or approved equal, model as indicated on the Drawings.

2.6.5 A shut off valve shall be placed near the building on the water main. It shall be placed in a box or tile pipe and have a removable plate cover of cast iron, equal to Mckinley Iron Works, Fort Worth, Texas; Type MB14, for 8000# loading.

2.7. Pipe Insulation

2.7.1 Rigid fiberglass pipe insulation:

2.7.1.1 Heavy density molded insulation from inorganic glass fibers bonded with a thermosetting resin. jacketed with a reinforced, wrinkle-resistant, all-service vapor retarder facing and a factory-applied longitudinal double-pressure adhesive closure system. Use factory butt strips to complete joints. Thermal conductivity ['K' Factor (BTU-inch/ft²-hr-°F) at 75°F mean] shall be 0.23 maximum.

2.7.1.2 Manufacturers:

Owens-Corning
Johns Manville
CertainTeed

2.7.2 Flexible polyethylene/polyolefin pipe insulation:

2.7.2.1 Unicellular polyethylene thermal plastic, preformed pipe insulation; white color, 25/50 rated, pre-slit with factory-applied adhesive on both surfaces. Use factory adhesive for giving butt joints. Thermal conductivity ['K' Factor (BTU-inch/ft²-hr-°F) at 75°F mean] shall be 0.27 maximum.

2.7.2.2 Manufacturers:

Armacell
Nomaco

2.7.3 Insulation thickness:

2.7.3.1 For domestic hot water:

| Diameter | Thickness |
|---|---|
| <= 1" | 0.5" |
| >= 1 1/4" | 1.0" |

2.8. Pipe Hangers and Supports:

2.8.1 Piping shall be held firmly in place by adjustable galvanized carbon steel band or clevis hangers which comply with MSS-SP-69. Hangers shall be located adjacent to fittings, at each offset or change of direction, at ends of branches over 5 feet long, at riser pipes, and along piping where necessary to prevent sags, bends or vibrations.

2.8.2 Band Hangers: Steel and PVC piping equal to Empire fig. 310G. Copper and PPR piping equal to Empire fig. 310CTI.

2.8.3 Clevis Hangers: Steel and PVC piping equal to Empire fig. 110EG. Copper and PPR piping equal to Empire fig. 110CTI.

2.8.4 Stainless steel pipe straps and hangers shall be used for all exposed piping and underslab piping where structural slabs are provided.

2.8.5 Pipe straps shall be heavy gauge galvanized iron factory fabricated to fit against supporting surface when installed. Makeshift devices are not acceptable. No plumbing tape is allowed. Use insulation shields at each pipe hanger and support.

2.8.6 The maximum spacing between hangers or supports measured along the piping shall be as listed below:

| | Steel | | Copper | | PVC/ Polypropylene | |
|---|---|---|---|---|---|---|
| | H | V | H | V | H | V |
| 1/2" and 3/4" | 12 ft. | 15 ft. | 6 ft. | 10 ft. | 4.0 ft. | 10 ft. |
| 1" and 1-1/4" | 12 ft. | 15 ft. | 6ft. | 10 ft. | 4.0 ft. | 10 ft. |
| 1-1/2", 2" & 2-1/2" | 12 ft. | 15 ft. | 10 ft. | 10 ft. | 4.0 ft. | 10 ft. |
| 3" | 12 ft. | 15 ft. | 10 ft. | 10 ft. | 4.0 ft. | 10 ft. |
| 4" | 12 ft. | 15 ft. | 10 ft. | 10 ft. | 4.0 ft. | 10 ft. |
| 6" | 12 ft. | 15 ft. | 10 ft. | 10 ft. | 4.0 ft. | 10 ft. |

2.9. Roof flashings: All vent and roof drains shall be flashed by Roofing Contractor with lead flashing furnished by the Plumbing Contractor. Flashing shall turn down 2" into vent pipes.

2.10. Isolating Couplings: Provide dielectric protection for gas and water main risers inside building. Isolate connections of copper and steel pipe with cathodic isolating unions. Acceptable Manufacturers:

EPCO
W & K Dielectric
F.H. Maloney

2.11. Polypropylene Pipe and Piping Products (PPR):

2.11.1 Polypropylene pipe and fittings shall be manufactured from a P-R resin meeting the short-term properties and long-term strength requirements meeting the short-term properties and long-term strength requirements of ASTM F 2389. The pipe shall contain no rework or recycled materials except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. All pipe shall be made in a three layer extrusion process. Domestic hot water and heating piping shall contain a fiber layer (faser) to restrict thermal expansion. All piping shall comply with the rated pressure requirements of ASTM F 2389. All pipe shall be certified by NSF International as complying with NSF 14, NSF 61, and ASTM F 2389 or CSA B137.11. Valves with brass components shall be manufactured in accordance with the manufacturer's specifications and shall be certified by NSF International as complying with NSF 61.

2.11.2 Polypropylene hot water piping shall be insulated as required to meet the equivalent insulation rating indicated for copper piping systems.

2.11.3 Acceptable Manufacturer:

Aquatherm Greenpipe, Aquatherm, Inc.
Aquatherm Faser, Aquatherm, Inc.

### 3. Execution

3.1. Examination.

3.1.1 Verify all field dimensions and locations of equipment and fixtures within the layout as established by the General Contractor to insure close, neat fit, with other trades work.

3.1.2 Examine all work of others. Notify Architect in writing if any conditions exist which will prevent satisfactory installation of materials or equipment. Start of work without notification indicates acceptance of work in place.

3.2. Excavation:

3.2.1 Perform excavation for trenches under slab and outside building lines as required for installation. Excavate true to lines and grades shown to achieve

**Publix**
SUPER MARKETS

CORPORATE OFFICES, FACILITIES DESIGN
BOX 407, LAKELAND, FL 33802
(863) 680-5295
PHYSICAL ADDRESS:
3300 PUBLIX CORPORATE PARKWAY
LAKELAND, FL 33811-3311

PUBLIX FACILITIES
DESIGN DEPARTMENT

DAVID TAULBEE, AIA
ARCHITECT FL REG. [illegible]18

DAVID RUBIN
ARCHITECT FL REG. [illegible]2557
GA REG. 11881
SC REG. 7477
AL REG. 6234
TN REG. 103497
NC REG. 12432
VA REG. 0401017097

JOHN W. KITCHENS, PE
CIVIL/STRUCTURAL FL REG. 45277
GA REG. 020251
SC REG. 16340
AL REG. 20382
TN REG. 101507

PAUL C. HARMAN, PE
STRUCTURAL FL REG. 51959
GA REG. 27740
SC REG. 21754
AL REG. 24905
TN REG. 107882
NC REG. 39673
VA REG. 0402055022

JOHN J. CARAMALIS, PE
MECHANICAL FL REG. 43889
GA REG. 021246
SC REG. 16521
AL REG. 20581
TN REG. 108507
VA REG. 0402055478

ANTHONY CLEMENTI, PE
MECHANICAL FL REG. 54781
GA REG. 31882
SC REG. 25591
AL REG. 28469
TN REG. 111382
NC REG. 039664
VA REG. 0402056137

RAYMOND J. SIRIANNI, PE
ELECTRICAL FL REG. 54085
GA REG. 025636
SC REG. 19743
AL REG. 23065
TN REG. 108038
NC REG. 039963
VA REG. 0402055379

© COPYRIGHT 2018
PUBLIX SUPER MARKETS, INC.

THESE CONSTRUCTION DOCUMENTS ARE THE PROPERTY OF PUBLIX SUPER MARKETS, INC. AND ARE NOT TO BE COPIED OR REUSED FOR ANY SPECIFIC BUILDING WITHOUT WRITTEN PERMISSION. THESE DRAWINGS SHALL NOT BE DUPLICATED WITHOUT PRIOR WRITTEN PERMISSION OF PUBLIX SUPER MARKETS, INC.

THE DESIGN INDICATED IN THESE CONSTRUCTION DOCUMENTS DOES; TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF; COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

PLOT DATE:
August, 21 2018

| No. | Description | Date |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

STORE NUMBER
1687
Tattersall Park

US 280 & Highway 19
Hoover
Shelby Co., AL

48.10
V0514-2018

SIENNA LITE
~~PROJECT MANUAL~~
V07262018



Order Plans @ WWW.LDILine.com