

Part 1 - General

1.1 SUMMARY

- .1 This Section includes requirements for selective demolition and removal of plumbing, and related mechanical components and incidentals required to complete work described in this Section.

1.2 REFERENCE STANDARDS

- .1 Canadian Standards Association (CSA):
 - .1 CSA S350 M1980 [(R2003)], Code of Practice for Safety in Demolition of Structures.

1.3 DEFINITIONS

- .1 Demolish: Detach items from existing construction and legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.
- .2 Remove: Planned deconstruction and disassembly of electrical items from existing construction including removal of conduit, junction boxes, cabling and wiring from electrical component to panel taking care not to damage adjacent assemblies designated to remain; legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.
- .3 Remove and Salvage: Detach items from existing construction and deliver them to Departmental Representative, ready for reuse.
- .4 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- .5 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed and salvaged, or removed and reinstalled.
- .6 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB's, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handled improperly as defined by the Federal Hazardous Products Act (RSC 1985) including latest amendments.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Action Submittals: Provide the following in accordance with Section 01 33 00 - Submittal Procedures before starting work of this Section:
 - .1 Construction Waste Management Plan (CWM Plan): Submit plan addressing opportunities for reduction, reuse, or recycling of materials prepared in accordance with Section 01 74 19 - Waste Management and Disposal.

- .2 Landfill Records: Indicate receipt and acceptance of selective demolition waste, and hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination: Coordinate work of this Section to avoid interference with work by other Sections.

1.6 SITE CONDITIONS

- .1 Existing Conditions: Refer to section 02 82 00.01 for asbestos abatement minimum precautions.

Part 2 - Products

2.1 REPAIR MATERIALS

- .1 General Patching and Repair Materials: Refer to Section 02 41 19 for listing of patching and repair materials incidental to removal or demolition of components associated with work of this Section.
- .2 Plumbing Repair Materials: Use only new materials required for completion or repair matching materials damaged during performance of work of this Section; new materials are required to meet assembly or system characteristics as existing systems indicated to remain and carry CSA approval labels required by the Authority Having Jurisdiction.
- .3 Firestopping Repair Materials: Use firestopping materials compatible with existing firestopping systems where removal or demolition work affects rated assemblies, restore to match existing fire rated performance.

2.2 SALVAGE AND DEBRIS MATERIALS

- .1 Material Ownership: Demolished materials become Contractor's property and will be removed from Project site; except for items indicated as being reused, salvaged, or otherwise indicated to remain Departmental Representative's property.
- .2 Salvaged Materials: Carefully remove materials designated for salvage and store in a manner to prevent damage or devaluation of materials.

Part 3 - Execution

3.1 EXAMINATION

- .1 Verification of Existing Conditions: Visit site, thoroughly examine and become familiar with conditions that may affect the work of this Section before tendering the Bid; Departmental Representative will not consider claims for extras for work or materials necessary for proper execution and completion of the contract that could have been determined by a site visit.

3.2 PREPARATION

- .1 Protection of Existing Systems to Remain: Protect systems and components indicated to remain in place during selective demolition operations and as follows:
 - .1 Prevent movement and install bracing to prevent settlement or damage of adjacent services and parts of existing buildings scheduled to remain.
 - .2 Notify Department Representative and cease operations where safety of buildings being demolished, adjacent structures or services appears to be endangered and await additional instructions before resuming demolition work specified in this Section.
 - .3 Prevent debris from blocking drainage and piping inlets/outlets.
 - .4 Protect mechanical systems that must remain in operation.

3.3 EXECUTION

- .1 Demolition / Removal: Coordinate requirements of this Section with information contained in Section 02 41 19, 02 80 00 and 02 80 00.01, and as follows:
 - .1 Disconnect and cap mechanical services in accordance with requirements of local Authority Having Jurisdiction.
 - .2 Do not disrupt active or energized utilities without approval of the Departmental Representative.
 - .3 Demolish parts of existing building to accommodate new construction and remedial work as indicated.
 - .4 At end of each day's work, leave worksite in safe condition.
 - .5 Perform demolition work in a neat and workmanlike manner:
 - .1 Remove any tools or equipment after completion of work, and leave site clean and ready for subsequent renovation work.
 - .2 Repair and restore damages caused as a result of work of this Section to match existing materials and finishes.

3.4 CLOSEOUT ACTIVITIES

- .1 Demolition Waste Disposal: Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site or recycle centre), except where explicitly noted otherwise for materials being salvaged for re use in new construction.
- .2 Hazardous Substances Disposal: Arrange for disposal of hazardous substances in accordance with requirements of Section 02 80 00 and 02 80 00.01.

END OF SECTION

Part 1 - General

1.1 REFERENCES

- .1 American National Standards Institute (ANSI).
 - .1 ANSI/ASME B16.15-1985, Cast Bronze Threaded Fittings, Classes 125 and 250.
 - .2 ANSI B16.18-1984, Cast Copper Alloy Solder Joint Pressure Fittings.
 - .3 ANSI/ASME B16.22-1989, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings.
 - .4 ANSI B16.24-1979, Bronze Pipe Flanges and Fittings, Class 150 and 300.
 - .5 ANSI/AWWA C111/A21.11-85, Rubber Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings.
 - .6 NSF/ANSI 61-2008, Drinking Water System Components – Health Effects.
- .2 American Society for Testing and Materials (ASTM).
 - .1 ASTM A307-89, Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile.
 - .2 ASTM B88M-89, Specification for Seamless Copper Water Tube (Metric).
 - .3 ASTM B32-89, Specification for Solder Metal.
 - .4 ASTM B306-88, Specification for Copper Drainage Tube (DWV).
 - .5 ASTM C564-88, Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
 - .6 ASTM D2235-89, Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
 - .7 ASTM D2564-88, Specification for Solvent Cements for Poly (Vinyl-chloride) (PVC) Plastic Pipe and Fittings.
- .3 Canadian Standards Association (CSA).
 - .1 CSA B67-1972, Lead Service Pipe, Waste Pipe, Traps, Bends and Accessories.
 - .2 CAN/CSA-B70-M91, Cast Iron Soil Pipe, Fittings and Means of Joining.
 - .3 CAN/CSA-B125-M89, Plumbing Fittings.
 - .4 CAN/CSA-B181.1-M90, ABS Drain, Waste and Vent Pipe and Pipe Fittings.
 - .5 CAN/CSA-B181.2-M90, PVC Drain, Waste and Vent Pipe and Pipe Fittings.
 - .6 CAN/CSA-B182.1-M87, Plastic Drain and Sewer Pipe and Pipe Fittings.
- .4 Manufacturers Standardization Society (MSS).
 - .1 MSS-SP-67-1990, Butterfly Valves.
 - .2 MSS-SP-70-1984, Cast Iron Gate Valves, Flanged and Threaded Ends.

- .3 MSS-SP-71-1984, Cast Iron Swing Check Valves, Flanged and Threaded Ends.
- .4 MSS-SP-80-1987, Bronze Gate, Globe, Angle and Check Valves.

1.2 PRODUCT DATA

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit data for following: valves.

1.3 MAINTENANCE DATA

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 POTABLE WATER SYSTEMS

- .1 All potable water systems and components, including solder, shall be free of lead.

Part 2 - Products

2.1 DOMESTIC WATER PIPING AND FITTINGS

- .1 Domestic hot, cold, and recirc systems.
 - .1 Above ground within building: copper tube, hard drawn, type L: to ASTM B88M.
- .2 **FITTINGS:**
 - .1 Bronze pipe flanges and flanged fittings, Class 150 and 300: to ANSI B16.24.
 - .2 Cast bronze threaded fittings, Class 125 and 250: to ANSI/ASME B16.15.
 - .3 Cast copper, solder type: to ANSI B16.18.
 - .4 Wrought copper and copper alloy, solder type: to ANSI/ASME B16.22.
- .3 Joints:
 - .1 Rubber gaskets, 1.6 mm thick: to ANSI/AWWA C111/A21.11.
 - .2 Bolts, nuts, hex head and washers: to ASTM A307, heavy series.
 - .3 Solder/brazing: lead free 95.5/4/0.5 Tin-Copper-Silver solder.
 - .1 Acceptable Material: "Silvabrite 100"; Aquasol.
 - .4 Teflon tape: for threaded joints.

2.2 SANITARY, VENT, CONDENSATE DRAIN PIPING, TUBING AND FITTINGS - CAST IRON AND COPPER

- .1 Above ground sanitary and vent Type DWV to: ASTM B306.

- .1 Fittings.
 - .1 Cast brass: to CAN/CSA B125.
 - .2 Wrought copper: to CAN/CSA B125.
 - .3 For condensate drains and pan drains use type M hard drawn copper tubing with wrought copper fittings.
- .2 Solder/brazing: lead free 95.5/4/0.5 Tin-Copper-Silver solder.
- .2 Above ground sanitary and vent: to CAN/CSA-B70.
 - .1 Mechanical joints.
 - .1 Neoprene or butyl rubber compression gaskets: to ASTM C564 or CAN/CSA-B70.
 - .2 Stainless steel clamps.
 - .2 Hub and spigot.
 - .1 Caulking lead: to CSA B67.
 - .2 Cold caulking compounds.

2.3 SANITARY AND VENT PIPING AND FITTINGS - PLASTIC

- .1 Joints
 - .1 Solvent weld for PVC: to ASTM D2564.
- .2 For above ground PVC
 - .1 CAN/CSA-B181.2 for Fire Resistive PVC DWV

2.4 SWING CHECK VALVES

- .1 NPS 2 and under, soldered:
 - .1 To MSS SP-80, Class 125, 860 kPa bronze body, bronze swing disc, screw-in cap, regrindable seat.
 - .2 Acceptable Material: Crane 1342, Jenkins 4093J, Milwaukee 1509-T.
- .2 NPS 2 and under, screwed:
 - .1 To MSS SP-80, Class 125, 860 kPa bronze body, bronze swing disc, screw-in cap, regrindable seat.
 - .2 Acceptable Material: Crane 37, Jenkins 4092J, Milwaukee 509-T.

2.5 BALL VALVES

- .1 50mm and under, screwed:
 - .1 Class 150.
 - .2 Bronze two piece body, chrome plated brass or stainless steel ball, PTFE Teflon adjustable packing, brass gland and PTFE Teflon seat, steel lever handle.
 - .3 Acceptable Material: Crane 9202; Jenkins 901BJ; Milwaukee BA-100; Watts B-6000-01, Nibco.

- .2 50mm and under, soldered:
 - .1 To ANSI B16.18, Class 150.
 - .2 Bronze two piece body, chrome plated brass or stainless steel ball, PTFE Teflon adjustable packing, brass gland and PTFE Teflon seat, steel lever handle, with NPT to copper adaptors.
 - .3 Acceptable Material: Crane 9222; Jenkins 902B; Milwaukee BA-150; Watts B-6001-01, Nibco.

2.6 FLOW BALANCING VALVES

- .1 General:
 - .1 Y style globe valve, designed to provide precise flow measurement and control, with valved ports for connecting to differential pressure meter.
- .2 Accuracy:
 - .1 Readout to be within plus or minus 2% of actual flow at design flow rate.
- .3 50mm and under:
 - .1 Bronze or brass copper alloy (Ametal) construction; maximum WP: 1720 kPa; Max temp: 121°C screwed ends, Teflon disc, screwed in bonnet.
 - .2 Flow control: at least four (4) full turns of handwheel with digital hand wheel and tamperproof concealed mechanical memory.
 - .3 For flows 3.8 L/m or less, use a reduced flow type unit.
- .4 Standard of Acceptance: B&G Circuit Setter Type "RF" for low flow applications and B&G Circuit Setter elsewhere, Armstrong, Danfoss, Oventrop.

Part 3 - Execution

3.1 INSTALLATION

- .1 Install in accordance with National Plumbing Code 2010 and Departmental Representative, except where specified otherwise.
- .2 Cut square, ream and clean tubing and tube ends, clean recesses of fittings and assemble without binding.
- .3 Assemble all piping using fittings manufactured to ANSI standards.
- .4 Install piping and tubing parallel and close to building structure to minimize furring, conserve headroom and space. Group exposed piping and run parallel to walls and/or floor joists as applicable.
- .5 Connect to fixtures and equipment in accordance with manufacturer's instructions unless otherwise indicated.
- .6 Vent sanitary sewer in accordance with the National Plumbing Code.

3.2 VALVES

- .1 Isolate domestic water system equipment, fixtures and branches with ball valves.
- .2 Balance domestic hot water recirculation systems using balance valves provided. Mark settings and record drawings on completion.

3.3 DISINFECTION OF POTABLE WATER SYSTEMS

- .1 Flush out and clean all potable water piping systems as per the following;
 - .1 Prior to disinfecting, remove all screens from faucets and strainers and flush until all dirt or other contaminants have been thoroughly removed. Screens of faucets and strainers should not be reinstalled until after completion of the disinfection process.
 - .2 Disinfection should be done with either chlorine gas or liquid. Calcium or Sodium Hypochlorite or another Departmental Representative approved disinfectant. Use non-hazardous material that can be drained into the municipal sewer system.
 - .3 A service cock should be provided and located at the water service entrance. The disinfecting agent should be injected into and through the system from this cock only.
 - .4 The disinfecting agent should be injected using a proportioning pump or device through the service cock slowly and continuously at an even rate. During disinfecting, flow of the disinfecting agent into the main connection to the municipal water supply IS NOT PERMITTED.
 - .5 All sectional valves should be open during disinfection. All outlets should be fully opened at least twice during injection and residual checked with orthotolidin solution.
 - .6 If chlorine is used, when the chlorine residual concentration, calculated on the volume of water in the pipe will contain, indicates no less than 50 parts per million (ppm) or per milligram per litre (mg/L) at all outlets, then all outlets should be closed and secured.
 - .7 The residual chlorine should be retained in the piping system for a period of not less than 24 hours.
 - .8 After the retention, the residual should not be less than 5 ppm. If less, then the process should be repeated per above.
 - .9 If satisfactory, then all fixtures should be flushed with clean potable water until residual chlorine by orthotolidin test is not greater than that of the incoming water supply. (this may be zero)
 - .10 All work and certification should be performed by a Departmental Representative approved applicator or qualified person with chemical and laboratory experience. Certification of performance should indicate the following;
 - .1 Name, location and date when disinfection was performed.
 - .2 Material used for disinfection
 - .3 Retention period of disinfectant in piping system

- .4 Ppm (mg/L) chlorine during retention
- .5 Ppm (mg/L) chlorine after flushing
- .6 Statement that disinfection was performed as specified
- .7 Signature and address of company / person performing disinfection.
- .11 The contractor shall submit three copies of final report to Departmental Representative.
- .12 Under no circumstances is any portion of the domestic water system is to be used until flushed, disinfected and accepted by the Departmental Representative.

3.4 FLOW BALANCING VALVES

- .1 Install flow balancing valves on DHWR lines as indicated on drawings.
- .2 Remove handwheel, if applicable, after installation and TAB is complete to satisfaction of the Departmental Representative.

3.5 BALANCING

- .1 Refer to Section 20 05 93 – Testing Adjusting and Balancing (TAB) of Mechanical Systems and Section 20 04 00 – Mechanical General Requirements.

3.6 TESTING

- .1 Test piping system before concealing. Notify the Departmental Representative 24 hours prior to testing. Test to National Plumbing Code.

END OF SECTION

Part 1 - General

1.1 REFERENCES

- .1 American Society for Testing and Materials (ASTM).
 - .1 ASTM A126-84, Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.
 - .2 ASTM B62-90, Specification for Composition Bronze or Ounce Metal Castings.
- .2 American Water Works Association (AWWA).
 - .1 ANSI/AWWA C700-77, Cold Water Meters - Displacement Type.
 - .2 ANSI/AWWA C7011-88, Cold Water Meters - Turbine Type for Customer Service.
 - .3 ANSI/AWWA C702-86, Cold Water Meters - Compound Type.
- .3 Canadian Standards Association (CSA).
 - .1 CAN/CSA-B64 Series-M88, Backflow Preventers and Vacuum Breakers.
 - .2 CAN/CSA-B64.10-M88, Backflow Prevention Devices - Selection, Installation Maintenance and Field Testing.
 - .3 CAN3-B79-M79, Floor Drains and Trench Drains.
- .4 Plumbing & Drainage Institute (PDI)
 - .1 PDI-WH201-77, Water Hammer Arrestors.

1.2 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate dimensions, construction details and materials for following.

1.3 MAINTENANCE DATA

- .1 Provide maintenance data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
- .2 Data to include:
 - .1 Description of plumbing specialties and accessories, giving manufacturers name, supplier's name and address, type, model, year and capacity.
 - .2 Details of operation, servicing and maintenance.
 - .3 Recommended spare parts list.

Part 2 - Products

2.1 FLOOR DRAINS

- .1 Floor drains and trench drains: to CAN3-B79.
- .2 All floor drains to be installed with temporary covers and screws to prevent construction debris from entering the drainage system. The practice of taping over the drain grate will not be acceptable.

- .3 FD-1: Dura-Coated cast iron body, bottom outlet, 127 mm round, adjustable head, polished nickel bronze strainer, invertible membrane clamp and adjustment collar, stainless steel screws.
 - .1 Approved Product: Zurn ZN-415-B. Mifab, Jay R. Smith.
- .4 LD-1: Fabricated linear stainless steel shower drain, 1200mm long, vertically adjustable anchoring support legs, anti-ponding V-shaped channel with 50mm no-hub center outlet, adjustable secured leveling frame with built-in tile edge, integral membrane flange for glue-on waterproofing membrane, and secured light duty, slotted heel-proof grate..
 - .1 Approved Product: Zurn ZS-880-48.

2.2 CLEANOUTS (CO)

- .1 End of pipe cleanouts (CO-1):
 - .1 Standard PVC gas and water tight cleanout plug.
- .2 Cleanout in wall (CO-2): PVC body, gas and water tight ABS tapered thread plug, c/w 100mm diameter stainless steel access cover.
 - .1 Approved Product: Zurn Z-1666-1, Mifab, Jay R. Smith.

2.3 WATER HAMMER ARRESTORS (WHA)

- .1 Stainless steel bellows or copper piston construction: to PDI-WH 201.
 - .1 Standard of Acceptance: Zurn Series 1700 bellows or Series 1705 piston; Ancon, Precision Plumbing Products.

2.4 VACUUM BREAKERS (VB)

- .1 To CAN/CSA-B64 Series.
- .2 Testable pressure vacuum breaker:
 - .1 Standard of Acceptance: Zurn 460XL, Watts, Febco.

2.5 TRAP PRIMER STATION

- .1 Electronic trap primer assembly with atmospheric vacuum breaker, pre-set 24-hour clock, manual override switch, normally closed solenoid valve, galvanized steel cabinet and door, serves 13-20 drains, and NPS 3/4" inlet connection.
 - .1 Standard of Acceptance: Precision Plumbing Products PTS-1320.
- .2 Tubing: NPS 1/2", Type K, soft annealed copper tubing connection between trap primer valve and floor drain.

2.6 THERMOSTATIC MIXING VALVE (TMV)

- .1 Point of use thermostatic controllers for single lavatory fixtures;
 - .1 Lead-Free Bronze, C/w integral backflow checks.
 - .2 High temperature limit of 50 degC.
 - .3 Manual temperature adjustment. Setpoint 43 degC.
 - .4 Minimum flow rate – 8 L/Min @ 310 kPa.
 - .5 Standard of Acceptance: Lawler TMM1070.

2.7 DRINKING FOUNTAIN (DF-1)

- .1 One-piece stamped basin with low profile design
- .2 12-gauge type 304 stainless steel, with stain resistant satin finish
- .3 Internally mounted 32dia. drain and trap.
- .4 Front mounted chrome-plated push button, removable for access to stream adjustment, water control cartridge, and water supply strainer.
- .5 Standard of Acceptance: Haws 1107L

Part 3 - Execution

3.1 INSTALLATION

- .1 Install in accordance with National Plumbing Code and local Departmental Representative except where specified otherwise.
- .2 Install in accordance with manufacturer's instructions, and as specified.

3.2 FLOOR DRAINS

- .1 Floor drains to be installed flush with finished floor and per manufacture's recommendations.
- .2 All floor drains to be installed with temporary covers and screws to prevent construction debris from entering the drainage system. The practice of taping over the drain grate will not be acceptable.
 - .1 Remove the grate and install a temporary cover of similar thickness before floor drain has been installed. Secure cover with screws similar to grate screws.
 - .2 Cover to fit tight, void of large gaps where debris can collect.
 - .3 Prior to Consultant's substantial review, remove temporary covers and screws and replace with manufacturer's specified grate and screws.

3.3 CLEANOUTS

- .1 In addition to those required by code, install at base of all soil and waste stacks, and where indicated.
- .2 Bring cleanouts to wall or finished floor if not serviceable from below floor. Inform Departmental Representative immediately upon discovery of Cleanout(s) that are unable to be installed below floor.
- .3 Building drain cleanout and stack base cleanouts: line size to maximum NPS 4.

3.4 WATER HAMMER ARRESTORS

- .1 Install on branch supplies to each fixture or group of fixtures and where indicated.

3.5 VACUUM BREAKERS

- .1 Install in accordance with CSA B64.10, where indicated and elsewhere as required by code.
- .2 Install as required for proper functioning of equipment and/or systems.
- .3 Pipe discharge to over nearest drain.

3.6 COMMISSIONING

- .1 After start-up, test, adjust and prove operation of all equipment and accessories to suit site conditions including but not limited to:
 - .1 Clean out strainers periodically until clear.
 - .2 Clean out and prime all floor drain traps using trap seal primers or other means acceptable to the National Plumbing Code.
 - .3 Prove freedom of movement of cleanouts. Cleanouts covers of clean-outs and floor drain strainers.
 - .4 Vacuum Breakers: Confirm operation of vacuum breakers, with test procedures in accordance with CSA B64.10 and Departmental Representative.
 - .5 Thermostatic mixing valves: Verify in writing maximum temperature settings as specified for each valve.
 - .6 Maximum temperature settings to be verified using a digital thermometer.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- .1 CSA C22.2 No.141-02, Unit Equipment for Emergency Lighting.
- .2 CSA C860-01(December 2002), Performance of Internally-Lighted Exit Signs.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 Submit shop drawings and product data in accordance with Section 01 33 00 - Submittal Procedures.

1.3 OPERATION AND MAINTENANCE DATA

- .1 Provide operation and maintenance data for emergency lighting equipment for incorporation into manual in accordance with Section 01 33 00 - Submittal Procedures.

2 Products

2.1 PICTOGRAM EXIT SIGNS

- .1 Edge lit "Running Man" exit signs to CSA C22.2 No 141.
 - .1 White powdercoat finish steel housing, universal mounting. Finish colour to be confirmed with shop drawing review.
 - .2 120 volt, LED light source, 90 minute Ni-CAD battery.
 - .3 Solid state transfer and charger.
 - .4 Standard of acceptance: Aimlite catalogue number RPDBWHT-BAT.

3 Execution

3.1 INSTALLATION

- .1 Connect fixtures to exit light circuits.
- .2 Ensure that exit light circuit breaker is locked in ON position.
- .3 Test battery operation.

END OF SECTION