

GENERAL SPECIFICATIONS

1. IT IS RECOMMENDED THAT THE CONTRACTOR EXAMINE THE SITE AFFECTING THE PROJECT. EXAMINE THE COMPLETE SET OF CONTRACT DOCUMENTS TO ENSURE THAT THE WORK CAN BE CARRIED OUT WITHOUT SIGNIFICANT CHANGES TO THE INTENT OF THE DOCUMENTS. NO FUTURE ALLOWANCE WILL BE MADE FOR CHANGES UNLESS THE ENGINEER HAS BEEN NOTIFIED IN WRITING OF ANY DISCREPANCIES OR INTERFERENCES PRIOR TO CONSTRUCTION. NO ALLOWANCE WILL BE MADE FOR ITEMS THAT SHOULD HAVE BEEN NOTED PRIOR TO CONSTRUCTION.

2. THE LOCATION, ROUTING AND ELEVATIONS OF ALL NEW SERVICES AND UTILITIES AS SHOWN ON THE DRAWINGS ARE TO BE CONSIDERED AS APPROXIMATIONS ONLY. VERIFY THE EXACT LOCATIONS, ROUTINGS AND ELEVATIONS OF ALL SERVICES PRIOR TO COMMENCING WORK, AND ASSUME RESPONSIBILITY FOR LAYING OUT ALL WORK. THE CONTRACTOR SHALL RETAIN RESPONSIBILITY FOR ANY DAMAGE TO EXISTING SERVICES AND UTILITIES.

3. ALL ASPECTS OF THE INSTALLATION MUST COMPLY WITH THE MOST STRINGENT OF THE APPLICABLE BUILDING CODES, FIRE CODE, PLUMBING CODE, LOCAL REGULATIONS, AND BY-LAWS. BEFORE PROCEEDING WITH THE WORK, OBTAIN APPROVED DRAWINGS AND SPECIFICATIONS FROM THE AUTHORITIES HAVING JURISDICTION.

4. PROVIDE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS, PAY ALL FEES REQUIRED BY LAW, AND ARRANGE FOR ALL INSPECTIONS RELATED TO THE PERFORMANCE OF THE SPECIFIED WORK.

5. PROVIDE ALL MATERIALS, LABOUR AND EQUIPMENT REQUIRED TO COMPLETE THE WORK AS SHOWN AND AS SPECIFIED, SO AS TO LEAVE THE CITY (THE OWNER) WITH A COMPLETE AND FUNCTIONING SYSTEM. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND C.S.A. APPROVED, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL SIMILAR EQUIPMENT AND OR MATERIALS SHALL BE BY THE SAME MANUFACTURER.

6. REQUEST FOR APPROVAL OF SUBSTITUTE MATERIAL AND/OR EQUIPMENT FOR THAT SPECIFIED, SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR WITH A STAMPED SELF-ADDRESSED ENVELOPE OR RETURN FAX NUMBER. REQUESTS SHALL INCLUDE ALL PERFORMANCE SPECIFICATIONS, PHYSICAL DATA AND OTHER PERTINENT INFORMATION REQUIRED FOR THE CONTRACT ADMINISTRATOR TO MAKE A COMPLETE COMPARISON.

7. PROVIDE SHOP DRAWINGS FOR REVIEW BY THE CONTRACT ADMINISTRATOR. THE REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEW SHALL NOT MEAN APPROVAL OF THE DETAILED DESIGN INHERENT IN THE EQUIPMENT, THE RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR. THE REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REMAIN RESPONSIBLE FOR CONFIRMING AND CORRELATING THE DIMENSIONS ON THE JOBSITE, AND FOR INFORMATION THAT PERTAINS TO THE FABRICATION PROCESS, CONSTRUCTION TECHNIQUES, AND INSTALLATION DETAILS, AND FOR COORDINATING ALL WORK OF THE RELATED SUB-TRADES.

8. ALL CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

9. EACH CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS IN ORDER TO AVOID CONFLICTS.

10. NEATLY STORE ALL MATERIALS, AND CLEAN UP REFUSE ON A REGULAR BASIS. PROTECT AND MAINTAIN ALL WORK UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE CITY.

11. THE INSTALLATION SHALL BE COMPLETELY TESTED, DEMONSTRATING THAT THE EQUIPMENT AND SYSTEMS INSTALLED ARE PERFORMING IN THE MANNER INTENDED.

12. AT THE COMPLETION OF THE INSTALLATION, PROVIDE TWO MARKED-UP COPIES OF THE CONTRACT DOCUMENTS FOR RECORD PURPOSES. PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS. PAY ALL COSTS ASSOCIATED WITH THE PRODUCTION OF THE "RECORD" DRAWINGS AND THE MANUALS. SUBMIT THE DOCUMENTS TO THE CONTRACT ADMINISTRATOR FOR REVIEW, AND MAKE ANY REQUESTED CHANGES BEFORE DELIVERING THEM TO THE CITY.

13. REVIEW THE OPERATION AND MAINTENANCE OF THE SYSTEMS WITH THE CITY'S MAINTENANCE PERSONNEL AND PROVIDE WRITTEN AND/OR VERBAL INSTRUCTIONS AS REQUIRED.

14. FURNISH CERTIFICATES CONFIRMING THAT THE WORK HAS BEEN INSTALLED TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION. NO CERTIFICATE ISSUED, PAYMENT MADE, OR PARTIAL OR ENTIRE USE OF THE SYSTEMS BY THE CITY, SHALL BE CONSTRUED AS ACCEPTANCE OF DEFECTIVE WORK OR MATERIALS.

15. THE CONTRACTOR SHALL PROVIDE A ONE YEAR LABOR AND MATERIAL WARRANTY ON ALL NEW EQUIPMENT AND COMPONENTS, COMMENCING UPON THE DATE OF ACCEPTANCE BY THE CITY. REPLACE AT NO CHARGE TO THE CITY, ALL ITEMS WHICH FAIL OR PROVE DEFECTIVE WITHIN A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY THE CITY, PROVIDED THAT THE FAILURE IS NOT DUE TO IMPROPER USAGE BY THE CITY. MAKE GOOD ALL DAMAGES INCURRED AS A RESULT OF THE FAILURE AND OF THE REPAIRS.

16. PROVIDE TEMPORARY HEATING AS REQUIRED. DO NOT USE NEW EQUIPMENT FOR THIS PURPOSE WITHOUT THE EXPRESS CONSENT OF THE CONTRACT ADMINISTRATOR.

17. SCHEDULING OF ALL WORK SHALL BE ARRANGED WITH THE CITY. COORDINATE THE SHUT-DOWN OF EXISTING UTILITIES AND SERVICES AS REQUIRED FOR CONNECTIONS OF NEW WORK. WORK WITHIN THE BUILDING MAY HAVE TO BE PERFORMED DURING NON-REGULAR HOURS, AND MUST CONFORM TO THE WORK RULES OF THE BUILDING, AS DIRECTED BY THE CITY.

18. THE DRAWINGS FOR THE MECHANICAL WORK ARE PERFORMANCE DRAWINGS, DIAGRAMATIC AND APPROXIMATELY TO SCALE, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE LOCATIONS OF APPARATUS, FIXTURES AND PIPE/DUCT RUNS. THESE DRAWINGS DO NOT INTEND TO SHOW ARCHITECTURAL AND STRUCTURAL DETAILS.

19. EVEN THOUGH SOME PIPING AND/OR DUCTWORK IS NOT COMPLETELY SHOWN SCHEMATICALLY, AND ALL DETAILS ARE NOT SHOWN OR SPECIFIED, IT IS EXPECTED THAT THE CONTRACTORS BE FAMILIAR ENOUGH WITH THEIR FIELDS OF WORK TO COMPLETE THE PROJECT TO THE STANDARDS GENERALLY ADHERED TO BY THE LOCAL INDUSTRY, INCLUDING GOOD WORKMANSHIP AND COMMON SENSE. THE CONTRACT ADMINISTRATOR RESERVES THE RIGHT TO FURNISH ANY ADDITIONAL DETAIL DRAWINGS, WHICH IN THE JUDGEMENT OF THE CONTRACT ADMINISTRATOR, MAY BE NECESSARY TO CLARIFY THE WORK, AND SUCH DRAWINGS SHALL FORM PART OF THIS CONTRACT. THE WORK FOR SUCH CLARIFICATIONS SHALL BE AT NO COST TO THE CITY.

MECHANICAL SPECIFICATIONS

SECTION 15100 GENERAL

1. PROVIDE ONE SET OF SPECIAL TOOLS REQUIRED TO SERVICE EQUIPMENT, AS RECOMMENDED BY THE MANUFACTURERS/SUPPLIERS.

2. PROVIDE DI-ELECTRIC COUPLINGS WHEREVER PIPES OF DISSIMILAR METALS ARE JOINED.

3. HOISTING AND PLACING OF MECHANICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE SUB-CONTRACTOR PROVIDING THE EQUIPMENT.

4. PIPE HANGERS SHALL BE GRINNELL FIGURE 65 FOR STEEL PIPE AND FIGURE CP65 FOR COPPER PIPE, WITH FIGURE 140 THREADED ROD. THREADED ROD SHALL BE ATTACHED TO FIGURE 117 EXPANSION CASE SET IN HOLES DRILLED IN CONCRETE, OR ATTACHED TO FIGURE 225 OR FIGURE 227 CLAMP ATTACHED TO ROOF/FLOOR JOISTS. FOR INSULATED PIPING, PROVIDE FIGURE 167 PROTECTION SADDLES. SIZE HANGERS AND SADDLES TO SUIT INDIVIDUAL PIPE SIZES, INCLUDING INSULATION WHERE APPLICABLE.

5. PIPE HANGERS MAY BE PERFORATED GALVANIZED STEEL STRAP HANGERS FOR 2" (50mm) AND SMALLER PIPING IN CONCEALED SPACES. USE THE FOLLOWING SCHEDULE FOR MINIMUM HANGING STANDARDS FOR HORIZONTAL PIPING:

COPPER PIPE

Table with 3 columns: SIZE, ROD DIAMETER, MAXIMUM SPACING. Rows include 1" AND SMALLER, 1.25" TO 2"

6. PROVIDE ACCESS DOORS AS REQUIRED TO INSTALL, MAINTAIN AND ADJUST EQUIPMENT AND CONTROLS. ACCESS DOORS IN CEILINGS AND WALLS SHALL HAVE PIANO HINGES AND SCREWDRIVER CAM LOCKS.

7. PROVIDE FIRESTOPPING AND/OR INTUMESCENT DONUTS, AS REQUIRED, WHERE PIPING PASSES THROUGH FIRE SEPARATIONS.

SECTION 15180 INSULATION

1. DOMESTIC COLD WATER: PROVIDE 1/2" (12mm) THICK, IMOCA "IMCOLOCK" FLEXIBLE, CLOSE CELL POLYOLEFIN, SEAL ALL JOINTS CONTINUOUSLY WITH "FUSE SEAL" JOINT METHOD.

2. DOMESTIC HOT WATER: PROVIDE 3/4" (19mm) THICK, RIGID, PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION.

3. PLUMBING VENT AND STORM WATER PIPING: PROVIDE 1/2" (12mm) THICK, FOIL-FACED RIGID PRE-FORMED FIBREGLASS EXTERNAL THERMAL PIPE INSULATION FOR 10' (3000mm) ON WARM SIDE OF A PENETRATION THROUGH A WALL OR CEILING/ROOF TO A COLD SPACE, AND FOR FULL LENGTH IN COLD ATTIC SPACES.

4. GENERAL EXHASUT DUCTWORK: PROVIDE 1" (25mm) THICK, FOIL-FACED RIGID (FIBREGLASS OR FIBREBOARD) OR FLEXIBLE FIBREGLASS EXTERNAL THERMAL INSULATION FOR 15'-0" (4.5M) ON THE WARM SIDE OF A PENETRATION THROUGH A WALL/FLOOR/CEILING/ROOF TO A COLD SPACE.

5. OUTDOOR AIR INTAKE DUCT: PROVIDE 1" (25mm) THICK, FOIL-FACED RIGID (FIBREGLASS OR FIBREBOARD) OR FLEXIBLE FIBREGLASS EXTERNAL THERMAL INSULATION FOR ENTIRE LENGTH ON THE WARM SIDE OF A PENETRATION THROUGH A WALL/FLOOR/CEILING/ROOF TO A COLD SPACE.

6. ALL JOINTS AND ELBOWS SHALL BE COMPLETELY INSULATED.

7. ALL VALVES AND UNIONS SHALL BE COMPLETELY INSULATED.

8. SEAMS OF FOIL-FACED THERMAL INSULATION SHALL BE SEALED WITH ALUMINUM DUCT TAPE.

9. COVER BUTT JOINTS WITH A STRIP OF THE SAME MATERIAL AS THE JACKET.

10. FLEXIBLE INSULATION SHALL BE INSTALLED IN A MANNER THAT DOES NOT REDUCE ITS THICKNESS.

11. INTERNAL DUCT INSULATION SHALL BE MYLAR ENCASED FIBREGLASS DUCT LINER, INSULATION TO BE COATED WITH AN IMMOBILIZED, EPA-REGISTERED ANTI-MICROBIAL AGENT SO THAT IT WILL NOT SUPPORT THE GROWTH OF FUNGUS OR BACTERIA, AS DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C 1071 AND ASTM G21 AND G22.

12. ON ALL ACOUSTICALLY LINED DUCTWORK, THE EXTERNAL DUCT DIMENSIONS SHALL BE INCREASED BY THE THICKNESS OF THE LINING. ALL DUCTWORK WHERE SHOWN CROSS-HATCHED, SHADED, OR AS NOTED ON THE DRAWINGS, SHALL HAVE 25 mm (1") INSULATION.

13. WHERE 1" ACOUSTIC INSULATION IS PROVIDED, 1" OF THERMAL INSULATION MAY BE DELETED.

14. PROVIDE FIRESTOPPING AND/OR INTUMESCENT DONUTS, AS REQUIRED, WHERE PIPING PASSES THROUGH FIRE SEPARATIONS.

SECTION 15400 PLUMBING

1. DOMESTIC WATER PIPING ABOVE GROUND SHALL BE TYPE 'L' HARD COPPER FOR 1-1/4" AND ABOVE, WITH SOLDERED COPPER JOINTS AND FITTINGS. USE LEAD-FREE SOLDER. 1" AND UNDER PEX DOMESTIC WATER PIPE APPROVED BY MANITOBA PLUMBING CODE.

2. DRAIN AND VENT PIPING ABOVE GROUND SHALL BE PVC DWV. JOINTS SHALL BE SOLVENT WELDED FOR PVC.

3. DRAIN AND VENT PIPING BELOW GROUND SHALL BE PVC DWV. JOINTS SHALL BE SOLVENT WELDED FOR PVC.

4. DOMESTIC WATER VALVES SHALL BE BALL TYPE.

5. PROVIDE CHROME PLATED ESCUTCHEONS WHERE VISIBLE PIPING PASSES THROUGH WALLS AND PARTITIONS.

6. PROVIDE UNIONS WHERE PIPING CONNECTS TO EQUIPMENT. UNIONS SHALL BE LOCATED SO THAT THE PIPING DOES NOT HAVE TO BE ADJUSTED IN ORDER TO REMOVE THE EQUIPMENT.

7. DURING CONSTRUCTION, OPEN ENDED PIPING SHALL BE TEMPORARILY CAPPED TO PREVENT THE ENTRY OF DIRT AND DEBRIS. ON COMPLETION, PIPING SYSTEMS SHALL BE FLUSHED TO REMOVE ANY FOREIGN MATERIAL.

8. SLOPE ALL DRAIN LINES AT A MINIMUM OF 1/8" PER FOOT (1%) UNLESS A GREATER SLOPE IS REQUIRED BY CODE, OR A LESSER SLOPE IS NOTED ON THE DRAWINGS.

SECTION 15500 FIRE PROTECTION

1. PORTABLE FIRE EXTINGUISHERS SHALL BE 10 LB. ABC DRY CHEMICAL TYPE.

SECTION 15800 - VENTILATION

1. ALL DUCTWORK AND RELATED ACCESSORIES SHALL BE INSTALLED AS PER THE LATEST SMACNA STANDARDS.

2. DUCTWORK SHALL BE GALVANIZED SHEET METAL UNLESS NOTED OTHERWISE, AND SHALL BE 24 GAUGE.

3. BALANCING DAMPERS SHALL BE PROVIDED FOR EACH SUPPLY AIR OUTLET AND RETURN/EXHAUST AIR INLET. DAMPERS MOUNTED AT GRILLES SHALL BE MULTI-BLADE TYPE. BUTTERFLY DAMPERS IN DUCTWORK SHALL BE CONSTRUCTED OF SHEET METAL, TWO GAUGES HEAVIER THAN THE DUCTWORK. DUCT DAMPERS SHALL HAVE LOCKING QUADRANTS AND POSITION INDICATORS.

4. ALL DUCTWORK SHALL BE SEALED WITH DUCT SEALANT.

5. PROVIDE 4" (100mm) WIDE FLEXIBLE FABRIC DUCT CONNECTIONS AT INLETS AND OUTLETS OF FANS.

6. FIRE DAMPERS SHALL BE INSTALLED AT ALL LOCATIONS WHERE DUCTWORK PASSES THROUGH A RATED SEPARATION, WHETHER SHOWN ON THE DRAWINGS OR NOT. CONFIRM ALL SEPARATION LOCATIONS WITH THE ARCHITECTURAL DRAWINGS.

8. PROVIDE DUCT ACCESS DOORS AT ALL LOCATIONS REQUIRED FOR INSTALLATION, MAINTENANCE OR ADJUSTMENT OF EQUIPMENT OR CONTROLS. ACCESS DOORS SHALL HAVE GASKETS, PIANO HINGES AND THUMB LATCHES. DOORS SHALL BE INSTALLED TO ALLOW FOR INSTALLATION OF INTERNAL OR EXTERNAL INSTALLATION AS REQUIRED.

9. SUPPORT HORIZONTAL DUCTWORK AT MAXIMUM 8'-0" (2400mm) ON CENTRE

SECTION 15990 TESTING AND BALANCING

1. BALANCE EACH FAN AND EACH AIR OUTLET AND INLET TO THE AIR QUANTITY NOTED.

2. TEST EACH FIRE DAMPER TO ENSURE PROPER ACCESS AND PERFORMANCE. TAG EACH FIRE DAMPER WITH THE DATE OF TESTING.

3. PROVIDE A WRITTEN REPORT TO THE ENGINEER REGARDING THE TESTING AND BALANCING. MAKE ANY REQUESTED CHANGES TO THE REPORT BEFORE DELIVERING THREE FINAL COPIES TO THE CITY.

4. TESTING AND BALANCING COMPANY SHALL BE A MEMBER IN GOOD STANDING WITH A.A.B.C., OR SHALL PROVE EQUIVALENCY TO THE CONTRACT ADMINISTRATOR.

HVAC EQUIPMENTS:

FU-1: CEILING HORIZONTAL MOUNTED ELECTRICAL FURNACE, ALLIED EFC20DC, 15.0 KW ELECTRICAL HEATING CAPACITY, 230V/1PH, 1750 CFM @ 0.6" W.C. EXTERNAL STATIC PRESSURE, 3/4 HP, FILTER SECTION, PROGRAMMABLE HEATING THERMOSTAT, INTERLOCK HRV-1 WITH FURNACE FU-1 BLOWER.

HRV-1: HEAT RECOVERY VENTILATOR, LIFEBREATH MODEL 350 DCS, 400 CFM AT 0.3" WG, 85% AVERAGE RECOVERY EFFICIENCY AT DESIGN AIR FLOW RATE, COMPLETE WITH SUPPLY AIR BYPASS ROUTE DEFROST SYSTEM, FIVE SPEED MOTOR CONTROLLER, DEFROST TIMER, WASHABLE FILTERS. 99-LS01 PROGRAMMABLE CONTROL INTERLOCK HRV-1 WITH FU-1 BLOWER. PROVIDE SEPARATE 99-DH01 DEHUMIDISTAT IN CRAWLSPACE.

DH-1: ELECTRICAL DUCT HEATER ON OUTDOOR AIR INTAKE DUCT OF HRV-1, THERMOLEC TER-10-3230, 3.0 KW HEATING CAPACITY, 230V/1 PH, 10" DIAMETER DUCT COLLAR CONNECTION, FULL RANGE HEATING OUTPUT, BUILT-IN AIR PROVING SWITCH, HIGH LIMIT, DUCT TEMPERATURE SENSOR WITH REMOTE TEMPERATURE ADJUSTER. SET TEMPERATURE AT 25F.

B-1: ELECTRICAL MODULATING BOILER FOR INDOOR IN-FLOOR HEATING, THERMOLEC B-10TMB, 10.0 KW HEATING CAPACITY, 230V/1PH, ADJUSTABLE AQUASTAT, OUTDOOR RESET CONTROL, TEMPERATURE AND PRESSURE GAUGES, DRAIN VALVE.

P-1: IN-FLOOR HEATING PRIMARY LOOP RE-CIRCULATING PUMP, BELL & GOSSETT SERIES PL-30, IN-LINE CONFIGURATION, BRONZE FITTED, 7 US GPM AT 18 FT HEAD, 2650 RPM, FRACTIONAL HP, VOLTAGE TO SUIT, MECHANICAL SEAL.

ET-1: IN-FLOOR HEATING LOOP EXPANSION TANK, BELL & GOSSETT MODEL HFT-60, 7.6 GALLONS TOTAL VOLUME, VERTICAL ORIENTATION WITH BOTTOM CONNECTION, FULL REPLACEABLE DIAPHRAGM MATERIAL TO SUIT FLUID, ASME STAMPED.

GMP-1: PROPYLENE GLYCOL (30%) MAKE-UP PACKAGE: AXIOM SF100, CAPACITY: 1.8 GPM @ 30 PSI; PRESSURE RANGE: 20-50 PSI; SOLUTION CONTAINER: 53 GAL.; FULLY AUTOMATIC, C/W LOW LEVEL CUTOFF & ALARM ARRANGEMENT, NECESSARY VALVES, STRAINER, PRESSURE TANK WITH PRESSURE CONTROL, REDUCING VALVE & GAUGE, POLYETHYLENE SOLUTION CONTAINER WITH LID, MAGNETIC STARTER, MOTOR & CONTROLS, 120V/1PH.

CONTROL SEQUENCE OF IN-FLOOR HEATING SYSTEM B-1 AND P-1:

AUTOMATICALLY AND PROPORTIONALLY MAINTAIN 30% PROPYLENE GLYCOL SUPPLY TEMPERATURE BETWEEN THE MAXIMUM 110i°F AND MINIMUM 90i°F WHEN THE OUTDOOR TEMPERATURE IS BETWEEN 14i°F AND -30i°F (ADJUSTABLE).

CIRCULATING PUMP P-1 STARTS TO RUN WHEN OUTDOOR TEMPERATURE IS LOWER THAN THE BOILER INITIATE POINT.

CIRCULATING PUMP P-1 STARTS TO RUN WHEN ON A CALL ZONE FLOOR TEMPERATURE SENSOR (TEKMAR SLAB SENSOR 079) AND TEKMAR THERMOSTAT 509 TO MAINTAIN SLAB TEMPERATURE SETPOINT.

PLUMBING FIXTURES

WC-1: BARRIER FREE FLOOR MOUNTED WATER CLOSET, AMERICAN STANDARD MADERA FLOWISE ELONGATED FLUSHOMETER, 3249. 001 BACK SPUD, AMERICAN STANDARD 5905 100 EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER WITH STAINLESS STEEL CHECK HINGE. DELTA 83T241 CONCEALED FLUSH VALVE, PROVIDE TWO 9T400 STAINLESS STEEL ACCESS PANELS, ONE FOR VALVE AND ONE FOR OSCILLATING HANDLE.

LAV-1: WALL HUNG WASH BASIN, FRANKЕ WHB2221-7-RS, 18 GAUGE STAINLESS STEEL CONSTRUCTION, RADIUS COVED BOWL CORNERS, WALL HANGER BRACKET, 3 HOLES 4" ON CENTER, SHROUD COVER, T&S B-0805-VR-VF05 SLOW SELF CLOSING METERING FAUCET, 1.0 GPM FLOW RATE. CAST BRASS GRID STRAINER AND ADJUSTABLE TRAP WITH CHROME PLATE, ANGLE STOPS. TRUEBRO LAV GUARD MODEL 103 E-Z P-TRAP INSULATION.

UR-1: WATERLESS URINAL, STAINLESS-AD WL1U, SEAMLESS WELDED STAINLESS STEEL CONSTRICTION, VANDAL RESISTANT, WALL ANCHORS, DRAIN ACCESSORIES.

SK-1: WALL HUNG WASH BASIN, FRANKЕ WHB2221-7-RS, 18 GAUGE STAINLESS STEEL CONSTRUCTION, RADIUS COVED BOWL CORNERS, WALL HANGER BRACKET, 3 HOLES 4" ON CENTER, SHROUD COVER, T&S B-0805-VR-VF05 SLOW SELF CLOSING METERING FAUCET, 1.0 GPM FLOW RATE. CAST BRASS GRID STRAINER, ANGLE STOPS, DRAIN DIRECTLY TO ABOVE AREA DRAIN FD-2 WITHOUT TRAP.

HB-2 : FEET WASH FAUCET, T&S B-0700-01 SILL AND HEAVY DUTY FAUCET, WALL MOUNTED.

DF-1: WALL MOUNTED DRINKING FOUNTAIN, HAWS 1109.14BP, BARRIER FREE STAINLESS STEEL CONSTRUCTION, PUSH BUTTON VALVE, BRASS BUBBLER HEAD AND WASTE STRAINER.

FD-1: FLOOR DRAIN. WATTS FD-100-C-A, 3" PIPE OUTLET, 5" NICKEL BRONZE STRANER.

FD-2: FLOOR AREA DRAIN, WATTS FD-510, 3" PIPE OUTLET, ALL STAINLESS STEEL CONSTRUCTION, VANDAL PROOF GRATE, SEDIMENT BUCKET.

WH-1: ZURN ZN-1320 ENCASED NON FREEZE WALL HYDRANT, WITH APPROVED SELF DRAINING VACUUM BREAKER, COPPER CASING, ALL BRONZE INTERIOR PARTS, STAINLESS STEEL FACE, CERAMIC DISC CARTRIDGE, 20 (3/4") STRAIGHT THREAD HOSE OUTLET CONNECTION, COMBINATION 20 (3/4") SOLDER AND 20 (3/4") MALE NPT INLET CONNECTION, NICKEL BRONZE BOX AND HINGED COVER WITH OPERATING KEY LOCK.

DHWT-1: ELECTRICAL DOMESTIC HOT WATER TANK, BRADFORD WHITE M-2-65R6D5, 65 US GALLON STORAGE CAPACITY, 4.5 KW HEATING CAPACITY, 240V/1PHASE, BRASS DRAIN VALVE, T/P RELIEF VALVE AND DRAIN PAN.

HB-1: HOSE BIBB, ENCASED INDOOR HOT/COLD WALL HYDRANT, BRONZE BODY AND BRASS PARTS, STAINLESS STEEL BOX WITH LOCK COVER, CONTROL BOX.

ET-2: POTABLE WATER EXPANSION TANK, INSTALL ON HOT WATER SIDE BY DOMESTIC HOT WATER TANK, BELL & GOSSETT PT-12, 4.4 GALLON VOLUME, 3.2 GALLON ACCEPTANCE VOLUME, SUITABLE FOR DOMESTIC WATER APPLICATION.



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