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PLUMBING NOTES

PART 1 – GENERAL

1.1 DESCRIPTION

A. FURNISH ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT AND SERVICES NECESSARY TO COMPLETE THE WORK SHOWN.

1.2 EXCAVATION, SHORING AND BACKFILL

A. EXCAVATION SHALL BE PERFORMED TO INSTALL PIPING AND EQUIPMENT INDICATED OR SPECIFIED.

B. WATER AND SLUDGE SHALL BE REMOVED FROM TRENCHES BEFORE LAYING PIPING.

C. SHORING SHALL BE PROVIDED IN ACCORDANCE WITH SAFETY STANDARDS.

D. BACKFILL SHALL BE MECHANICALLY TAMPED IN 6 INCH LAYERS, AND SURPLUS EARTH SHALL BE REMOVED. COMPACT TO 95%.

E. WALLS OR FOOTINGS SHALL NOT BE UNDERMINED WHEN TRENCHES ARE PARALLEL WITH FOOTING.

1.3 PROTECTION

A. ALL EQUIPMENT AND APPURTENANCES SHALL BE PROTECTED FROM DEBRIS AND DAMAGE BEFORE AND DURING CONSTRUCTION, AND DURING AND AFTER INSTALLATION.

1.4 SCOPE OF WORK

A. SANITARY SEWER: SHALL BE INSTALLED COMPLETE AND CONNECTED TO SYSTEM WHERE INDICATED ON DRAWINGS.

B. POTABLE WATER: SHALL BE INSTALLED COMPLETE AND CONNECTED TO MAIN AS SHOWN.

C. STORM SEWER WITH ROOF DRAINAGE SYSTEM SHALL BE INSTALLED COMPLETE AND CONNECTED TO EXISTING AS SHOWN ON DRAWINGS.

D. NATURAL GAS PIPING SHALL BE 7-INCH WATER COLUMN.

1.5 SUBMITTALS

A. SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 15016.
CW

PART 2 – PRODUCTS

2.1 MATERIALS

A. SEWER AND VENTS (STANDARDS REFERRED TO SHALL BE LATEST EDITION).

1. INTERIOR

A. BELOW GRADE (SOIL, WASTE, STORM AND VENT) SHALL BE SERVICE WEIGHT CAST IRON SOIL PIPE AND HUB & SPIGOT FITTINGS (CS-188) OR PVC SCHEDULE 40.

B. ABOVE GRADE (SOIL, WASTE, STORM AND VENT)

1) EXPOSED SHALL BE D.W.V. SOLDERED JOINTS, CAST IRON HUB & SPIGOT. SCHEDULE 40 PVC PIPING MAY BE USED EXCEPT IN PLENUMS.

C. POTABLE WATER

1. INTERIOR SHALL BE HARD DRAWN COPPER WATER TUBE (ASTM B88) WITH SOLDERED JOINT FITTINGS (ASA-A40.3) WITH TYPE "K" USED BELOW GRADE AND TYPE "L" ABOVE GRADE. SUPPLY PIPING FROM FLOOR OR WALLS TO FIXTURES SHALL BE BRASS PIPE 85-15% COMPOSITION CHROME PLATED.

2. WATER PIPING UNDER SLAB ON GRADE FLOORS SHALL BE SINGLE LENGTH OF COPPER TYPE "K" TUBING WITH NO JOINTS OR FITTINGS.

D. NATURAL GAS PIPING: GAS PIPING SHALL BE BLACK STEEL SCHEDULE 40 WITH WELDED JOINTS. MALLEABLE SCREW FITTINGS MAY BE USED FOR PIPING 2 INCHES OR SMALLER. PROVIDE GAS COCKS AND UNIONS AT ALL EQUIPMENT CONNECTIONS.

E. COUPLINGS AND NIPPLES

1. DIELECTRIC COUPLINGS AND NIPPLES SHALL BE USED.

2. ALL COUPLINGS SHALL BE SAME MATERIAL AS CONNECTING PIPING.

E. INSULATION

1. ALL DOMESTIC WATER PIPING SHALL BE INSULATED AS FOLLOWS:

A. EXPOSED:

COLD WATER PIPE:
I) 1-INCH AND BELOW SHALL BE OWENS CORNING 3/4 INCH 25-ASJ
II) 1 1/4-INCH TO 4-INCH SHALL BE OWENS-CORNING 3/4-INCH 24-ASJ WITH K-VALUE OF .22 @ 75°F.

B. HOT WATER PIPE:
I) 1-1/2" INCH AND BELOW SHALL BE OWENS-CORNING 1-1/2" INCH 25-ASJ.
II) 2-INCH AND ABOVE SHALL BE OWENS-CORNING 2-INCH 24-ASJ.

C. CONCEALED: SHALL BE OWENS-CORNING 1-INCH WFRJ.

D. FITTINGS SHALL BE INSULATED WITH WRAPPED ON FIBERGLASS, WHEN WRAPPED WITH GLASS MESH FABRIC TAPE EMBEDDED IN "INSULKOTE". COVERINGS SHALL FINISH FLUSH WITH PIPE COVERING. EXPOSED FITTINGS SHALL HAVE AN EXTRA 8 OZ. OR TWO LAYERS OF 4 OZ. CANVAS JACKET PASTED ON WITH MIRACLE NO. 127 ADHESIVE. CONTRACTOR MAY, AT HIS OPTION, USE ZESTON, PRE-MOLDED FIBERGLASS PVC INSULATION.

2. ALL HORIZONTAL ABOVE GRADE STORM DRAINS SHALL BE INSULATED WITH 1-INCH OWENS-CORNING 25 ASJ, INCLUDING THE DRAIN PAN UNDER ROOF WILL BE INSULATED WITH FIBERGLASS INSULATION. RIGID WHERE EXPOSED TO VIEW. PLUS 8 OZ. CANVAS WHERE EXPOSED.

3. INSULATE ALL HANDICAPPED LAVATORY SUPPLIES AND DRAINS UNDER LAVATORY. PROVIDE PRE-MOLDED TRAP AND VALVE INSULATION AS MANUFACTURED BY OWENS-CORNING, DOW OR C.S.G.

2.2 PLUMBING FIXTURES AND EQUIPMENT

A. PLUMBING FIXTURES: SHALL BE AS SPECIFIED ON DRAWINGS.

B. SHOCK ABSORBERS: SHALL BE SCHOCKTROL WHERE INDICATED ON DRAWINGS.

C. FLOOR DRAINS: SHALL BE JOSAM SERIES 30000A, JAY R. SMITH OR ZURN OF SIZE SHOWN ON DRAWINGS. INSTALL TRAP PRIMERS. AUTOMATIC TRAP PRIMERS WHERE REQUIRED BY WATER AUTHORITY.

D. WATER HEATER: REFER TO DRAWINGS

2.3 CLEANOUTS

A. PROVIDE CLEANOUTS ON ALL SOIL AND WASTE PIPES AS REQUIRED BY CODE.

B. CLEANOUTS INSIDE THE BUILDING (BY JOSAM, J.R. SMITH OR ZURN):

1. IN VINYL COMPOSITION TILE: JOSAM #58010 SECURED COVER FOR TERRAZZO, SATIN FINISH NIKALOY RIMS, FLUSH WITH FINISH TILE.

2. IN CERAMIC TILE, QUARRY TILE: CONCRETE FLOORS WITHOUT OTHER FINISH: JOSAM # 58360, SECURED COVER, FLUSH WITH FLOOR FINISH, SATIN FINISH NICKALOY.

3. CLEANOUTS IN WALL CONSTRUCTION: JOSAM #58710 WITH STAINLESS STEEL CLEANOUT COVER SECURED.

4. CLEANOUTS IN PIPING: EXPOSED OR ABOVE ACCESSIBLE CEILINGS AND NOT EXTENDED THROUGH THE FLOOR ABOVE SHALL BE JOSAM #58500.

5. TRAPS SHALL BE CAST BRASS WITH CLEANOUTS AND THREADED OUTLETS.

PART 3 – EXECUTION

3.1 INSTALLATION OF PIPING

A. GENERAL – INSTALL PIPING WITHOUT STRESS OR STRAIN WHERE SHOWN, WITH PIPING RUN PARALLEL TO CEILING AND/OR WALLS IN A NEAT MANNER, PROVIDING FOR EXPANSION, CONTRACTION AND STRUCTURAL SETTLEMENT. PIPE SIZES ARE NOMINAL SIZE. "PIPING" MEANS PIPE, FITTINGS, NIPPLES, VALVES AND APPURTENANCES. INSTALL PIPING AS SOON AS EXCAVATION HAS BEEN FINISHED SO TRENCHES WILL BE OPEN AS SHORT A TIME AS POSSIBLE.

1. CHECK ALL PECULIARITIES AND LIMITATIONS OF SPACE AVAILABLE FOR INSTALLATION OF MATERIAL UNDER THIS CONTRACT. VALVES AND APPURTENANCES NECESSARY FOR OPERATION AND MAINTENANCE MUST BE EASILY ACCESSIBLE.

2. EXACT LOCATIONS AND ELEVATIONS OF EXISTING SERVICES SHALL BE ESTABLISHED AT POINTS OF CONNECTION BY FIELD MEASUREMENTS BEFORE CONSTRUCTION IS STARTED. IF ELEVATIONS ARE SUCH THAT NEW SERVICES CANNOT BE CONNECTED, NOTIFY ARCHITECT.

3. PIPING SHALL BE ARRANGED TO CLEAR DUCTS, CONDUITS, PASSAGES OR DOORWAYS, ETC., WITH SUFFICIENT HEAD ROOM MAINTAINED.

4. PIPE REDUCING FITTINGS SHALL BE USED FOR CHANGING PIPE SIZES.

5. PIPE FITTINGS SHALL BE THOROUGHLY INSPECTED FOR DEFECTS IN WORKMANSHIP.

6. CHANGES OF RUN IN WASTE, SOIL, VENT AND DRAIN LINES SHALL BE MADE WITH "Y" BRANCHES, SANITARY TEES, AND 1/8 OR 1/16 BENDS.

B. GRADE OF PIPING

1. SEWERS (SANITARY AND STORM)

A. INTERIOR SHALL NOT BE LESS THAN 1/4-INCH PER FOOT, OR AS SHOWN ON THE PLANS.

2. VENTS SHALL BE FREE FROM DROPS AND SAGS, AND GRADE TO DRAIN CONDENSATE BACK TO SOIL, WASTE OR VENT STACK BY GRAVITY.

3. WATER PIPING SHALL HAVE UNIFORM PITCH TO LOW POINTS.

C. JOINTS

1. BRASS PIPE JOINTS SHALL BE MADE WITH BEST QUALITY PURE RED LEAD AND LINSEED OIL. THREADED PIPING SHALL BE REAMED AND PIPE JOINT COMPOUND APPLIED ON MALE THREADS ONLY.

2. SOLDER JOINTS:

A. FOR POTABLE WATER PIPING SHALL BE LEAD FREE 95% TIN ANTIMONY SOLDER LEAD FREE.

B. FOR WASTE VENT PIPING SHALL BE AS FOR POTABLE WATER. NO SOLDER CONTAINING LEAD TO BE ALLOWED ON JOB SITE.

D. COUPLINGS AND UNIONS SHALL CONNECT PIPING TO FIXTURES AND EQUIPMENT SO THEY MAY BE REPLACED WITHOUT INJURY TO PIPE. PLACE ADJACENT TO VALVES. LONG SCREWS ARE NOT PERMITTED.

E. VALVES SHALL BE INSTALLED WHERE SHOWN AND REQUIRED FOR CONTROL OF SYSTEMS.

1. SHUTOFF VALVES SHALL BE PROVIDED FOR WATER CONNECTIONS TO FIXTURES, EQUIPMENT AND ALL BRANCHES FROM MAIN. PROVIDE INDIVIDUAL SHUTOFF VALVES FOR ALL WALL HYDRANTS.

2. DRAIN VALVES SHALL BE PROVIDED AT ALL LOW POINTS OF POTABLE WATER SYSTEM. INSTALL CAPS ON ALL DRAINS.

3.2 PROTECTION OF FIXTURES

A. PROTECT ALL NEW PLUMBING FIXTURES FROM DIRT, FOREIGN OBJECTS, AND DAMAGE DURING THE CONSTRUCTION PERIOD. ALL FIXTURES ARE NEW.

B. DO NOT USE WARPED OR OTHERWISE IMPERFECT FIXTURES.

C. DO NOT USE INSTALLED FIXTURES FOR ANY PURPOSE, EXCEPT TESTING, PRIOR TO FINAL ACCEPTANCE BY THE OWNER.

D. REPLACE DAMAGED FIXTURES AT NO ADDITIONAL COST TO THE OWNER.

E. INSTALL VACUUM BREAKERS ON WATER SUPPLY PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.

3.3 FIXTURE CARRIERS

A. SUPPORTS FOR LAVATORIES SHALL BE BY MEANS OF STEEL PLATES BOLTED TO WALLS WITH STEEL RODS FOR THOSE LAVATORIES MOUNTED ON EXISTING WALLS. FOR LAVATORIES IN NEW WALLS PROVIDE STEEL PLATES WITH STEEL SUPPORTING RODS OR CHAIR CARRIERS.

3.4 TESTING

A. ENTIRE PLUMBING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS. ANY DEFICIENCIES NOTED DURING TESTING SHALL BE CORRECTED AND SYSTEM SHALL BE RETESTED AT NO COST TO OWNER.

3.5 DISINFECTION

A. ENTIRE DOMESTIC WATER DISTRIBUTION SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH LOCAL CODES AND REGULATIONS. PROVIDE CERTIFICATE OF COMPLIANCE BY COMPANY CERTIFIED IN THIS FIELD. PLUMBING CONTRACTOR SHALL CERTIFY DOMESTIC WATER SYSTEM TO BE LEAD FREE AT TIME OF COMPLETION OF PROJECT.

3.6 SITE VISIT

A. CONTRACTOR SHALL VISIT SITE TO DETERMINE CONDITION BEFORE SUBMITTING HIS BID. FAILURE TO DO SO WILL IN NO WAY RELIEVE HIM FROM PERFORMING WORK SHOWN OR SPECIFIED DUE TO CONDITIONS ENCOUNTERED AT SITE. SHOULD CONDITIONS EXIST THAT MAKE INSTALLATION IMPOSSIBLE, ARCHITECT IS TO BE NOTIFIED PRIOR TO BID DATE.

PLUMBING SYMBOLS LIST

SYMBOLS	ABBV.	DESCRIPTION
	S	NEW SANITARY PIPE
	V	VENT PIPE
	CW.	COLD WATER
	HW.	HOT WATER
	S.V.	SHUT-OFF VALVE
	SA	SHOCK ABSORBER
	VTR	VENT THRU ROOF
	S	EXISTING SANITARY PIPE.
		POINT OF CONNECTION BEWTEEN NEW AND EXISTING.
		PIPE CONTINUES
		PIPE TURNS DOWN
		PIPE TURNS UP
		SHUT-OFF VALVE, BALL TYPE

SHOCK ABSORBER SELECTOR CHART

ITEM	P.D.I. SYMBOLS	FIXTURE UNIT RATING	MODEL
SA-A	A	1-11	ZURN Z-1700-100
SA-B	B	12-32	ZURN Z-1700-200
SA-C	C	33-60	ZURN Z-1700-300

NOTE:
SIMILAR PRODUCTS BY JAY R. SMITH AND JOSAM ARE ACCEPTABLE.

PLUMBING FIXTURE SPECIFICATION

ITEM	DESCRIPTION	DRAINAGE		WATER		SPECIFICATION
		WASTE	VENT	COLD	HW	
WB	WASHER CONNECTION BOX	2"	1½"	½"	½"	PROVIDE ENAMELED STEEL LAUNDRY VALVE AND DRAIN BOX EQUAL TO GUY GRAY T1200
DF ♿	HI-LO ELECTRIC WATER COOLER	2"	1½"	½"	---	ELKAY MODEL NO. EZSTL8C-S BARRIER-FREE TWO LEVEL WALL MOUNT WATER COOLER. PROVIDE PROVIDE 1½" "P" TRAP AND ⅜" ANGLE SUPPLIES WITH STOP.

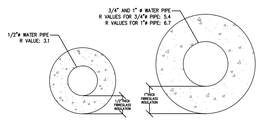
NOTES:
1 SIMILAR PRODUCTS BY CRANE KOHLER, SLOAN, ELJER, SYMMONS, HALSEY TAYLOR OR STERN WILLIAMS ARE ACCEPTABLE.
2 LOCATE WATER ROUGH-IN FOR HANDICAPPED TOILETS SO THAT FLUSH VALVE HANDLE IS IN THE WIDE SIDE OF THE STALL.

GREASE INTERCEPTOR SPECIFICATION
GREASE INTERCEPTOR SHALL BE JOSAM MODEL 60308A, BELOW GRADE MOUNTED

DIMENSIONS:
42-3/8" LONG x 25-7/8" WIDE x 22½" DEEP.
FLOW RATE: 50 GALLONS

CAPACITY:
LIQUID 45 GALLONS
GREASE 100 LBS.

GREASE INTERCEPTOR CALCULATIONS
1. (3) COMPARTMENT SINK:
1.1 VOLUME:
3 x 20" x 16" x 15" DEEP = 14,400 CU.IN.
1.2 CAPACITY IN GALLONS (1 GALLON = 231 CU.IN):
14,400 CU.IN./231 = 63 GALLONS
1.3 ACTUAL DRAINAGE LOAD (75%)
63 GALLONS x .75 = 48 GALLONS
1.4 FLOW RATE (TWO MINUTES PERIOD)
48 GALLONS/2 = 24 GALLONS PER MINUTE
2. PRE-RINSE:
2.1 FLOW RATE: 1.5 GALLONS PER MINUTES
3. GREASE INTERCEPTOR FLOW RATE:
3.1 1.4 + 2.1 FLOW RATE: 25.5 GALLONS PER MINUTES



WATER PIPE INSULATION DETAIL
NOT TO SCALE

NOTE
FIELD VERIFY EXACT LOCATION OF UTILITIES AND EXACT POINT OF CONNECTION PRIOR TO BID AND START WORK.

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PLUMBING NOTES, SYMBOLS, DETAILS & SCHEDULES

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DATE:	11/21/2019 ISSUE FOR PERMIT

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PLANS NOT FOR CONSTRUCTION UNLESS THEY ARE BEARING THE DOCUMENTED APPROVAL(S) BY THE BUILDING PERMIT DEPARTMENT OF THE APPLICABLE JURISDICTION.