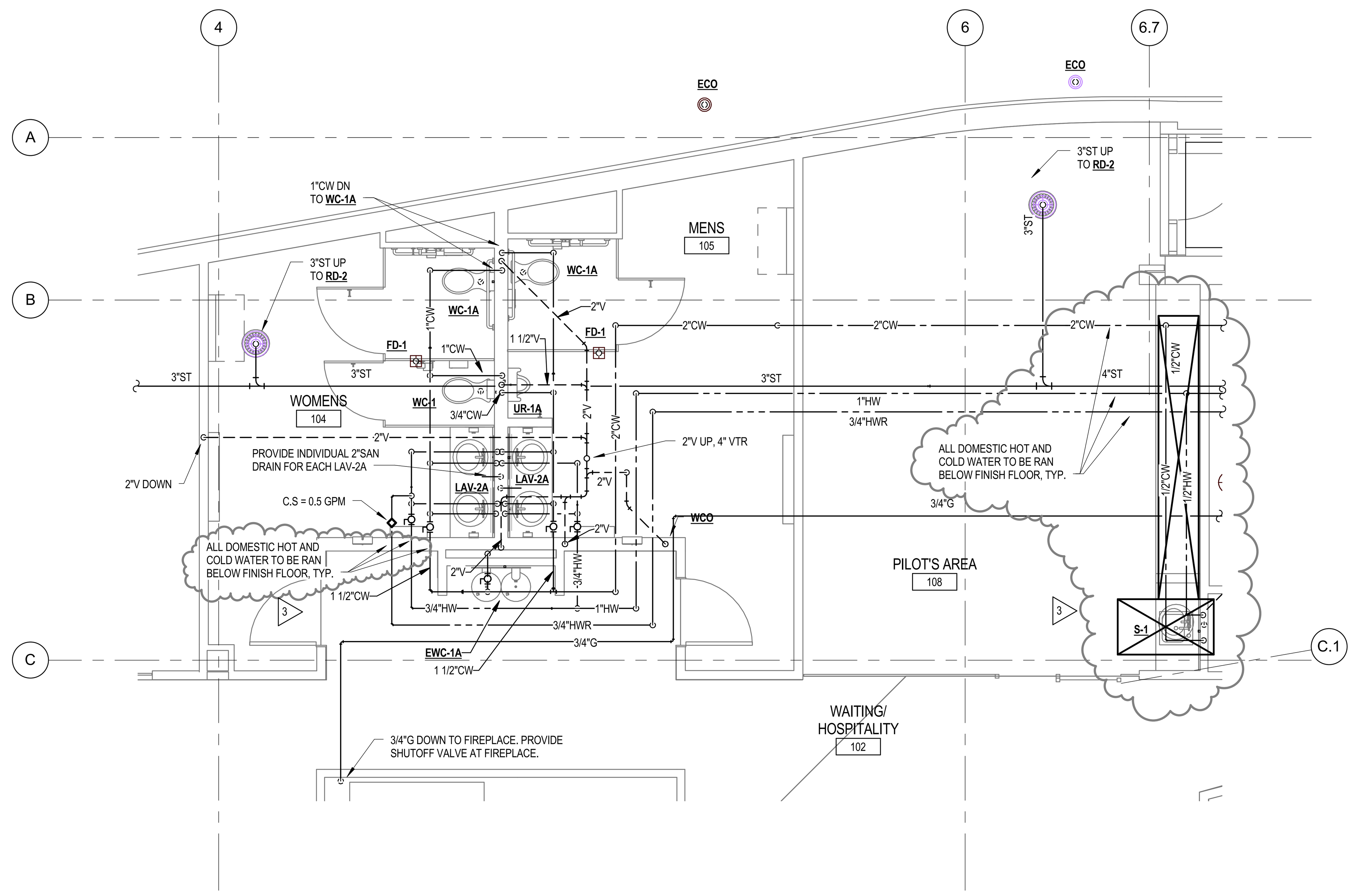
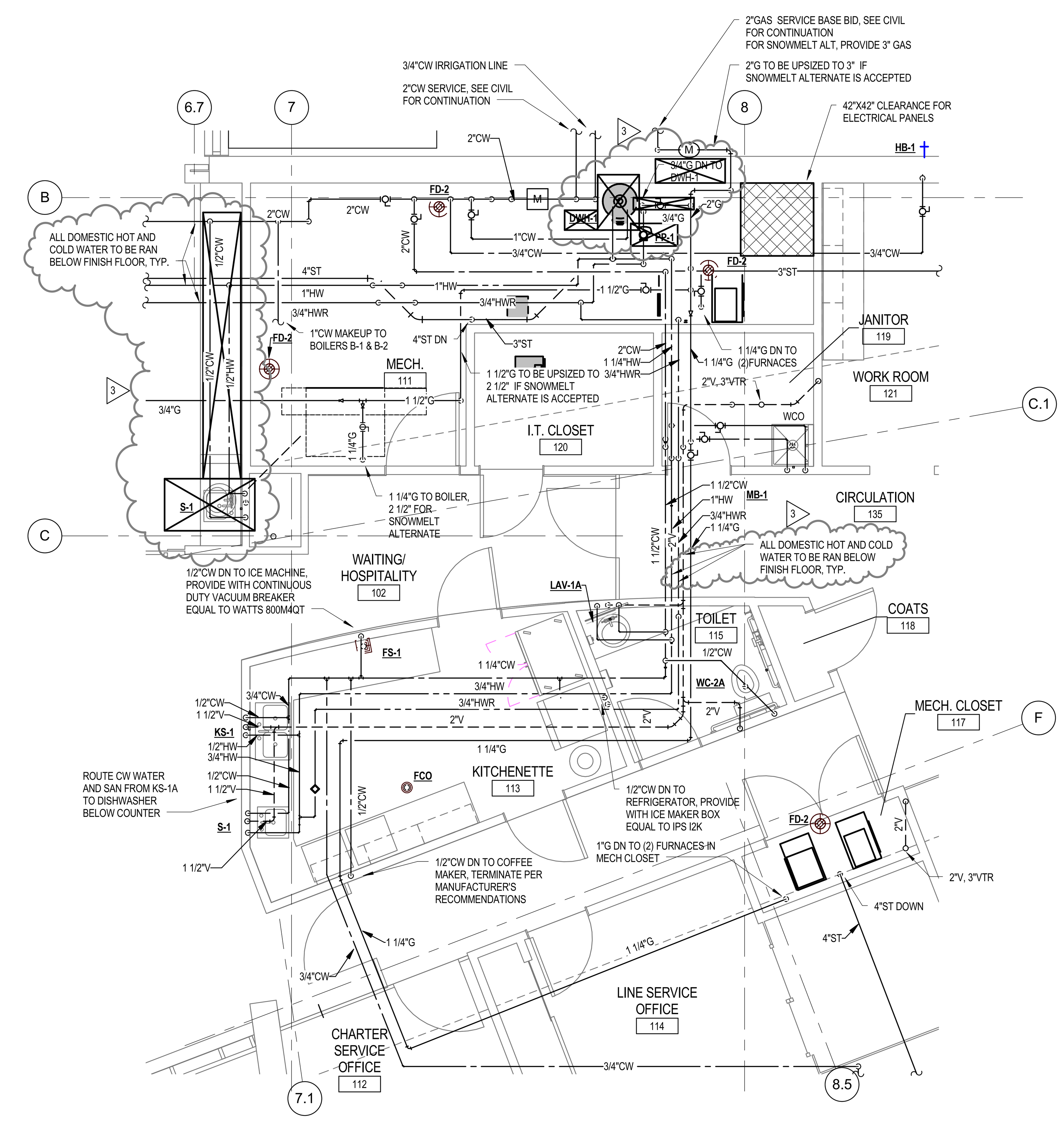
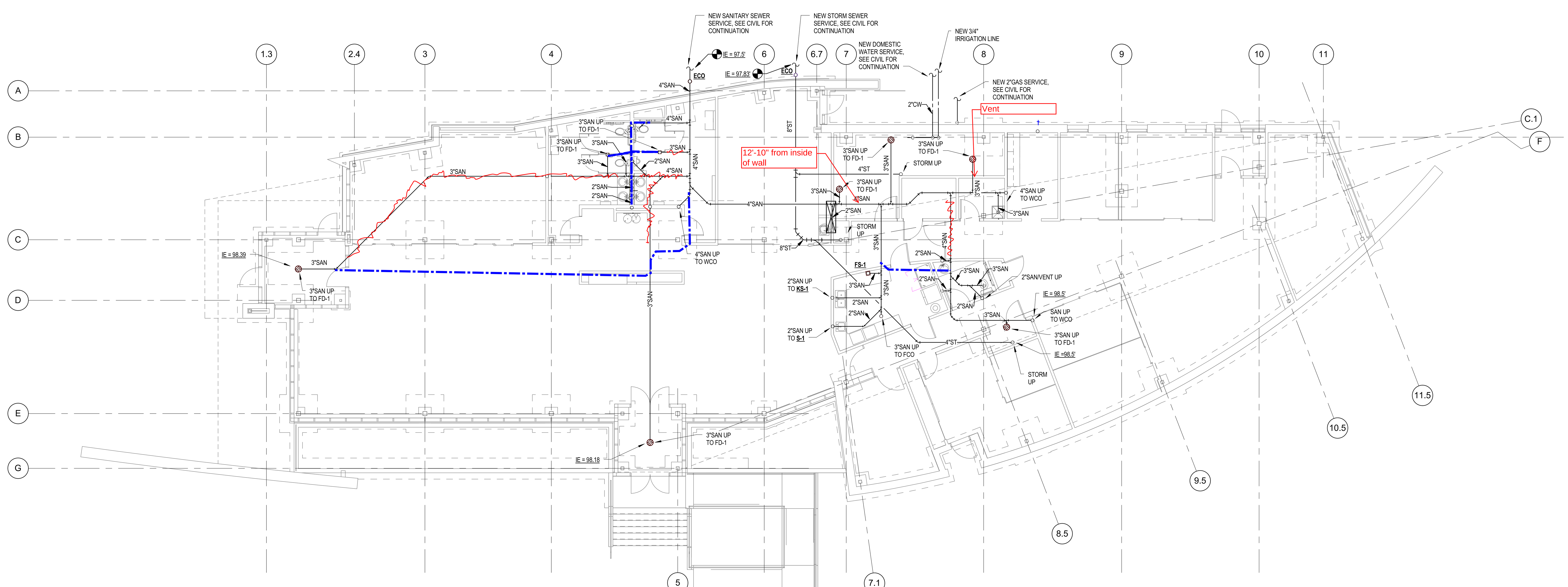


2 ENLARGED TOILET ROOM PLUMBING PLAN
MH101 1/4" = 1'-0"



1 ENLARGED KITCHENETTE/MECH ROOM PLUMBING PLAN
MH101 1/4" = 1'-0"



UNDERGROUND PLUMBING PLAN
1/8" = 1'-0"

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MIDFIELD TERMINAL BUILDING
WEST MICHIGAN REGIONAL AIRPORT
60 GEURINK BLVD
HOLLAND, MI 49423

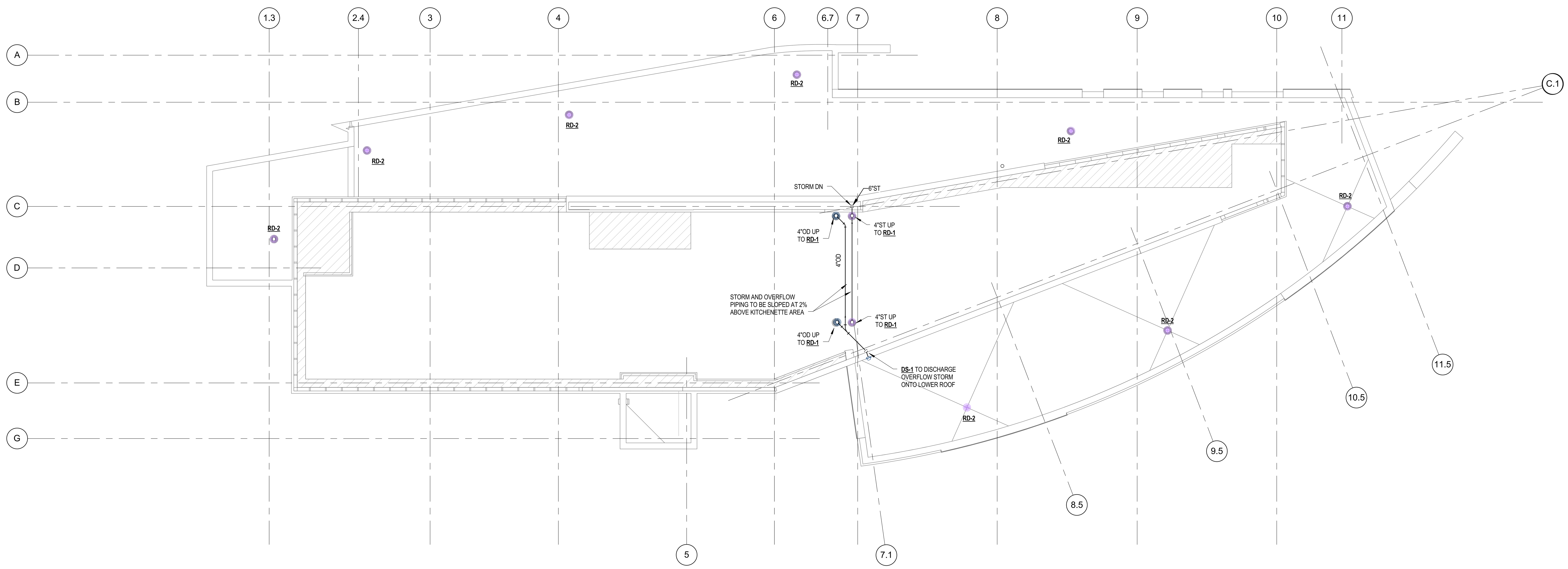
ISSUANCES
FOR CONSTRUCTION
08/24/2015

REVISIONS

NO.	DATE	DESCRIPTION
1	05/19/15	ADDENDUM 1
3	08/24/15	CONSTRUCTION

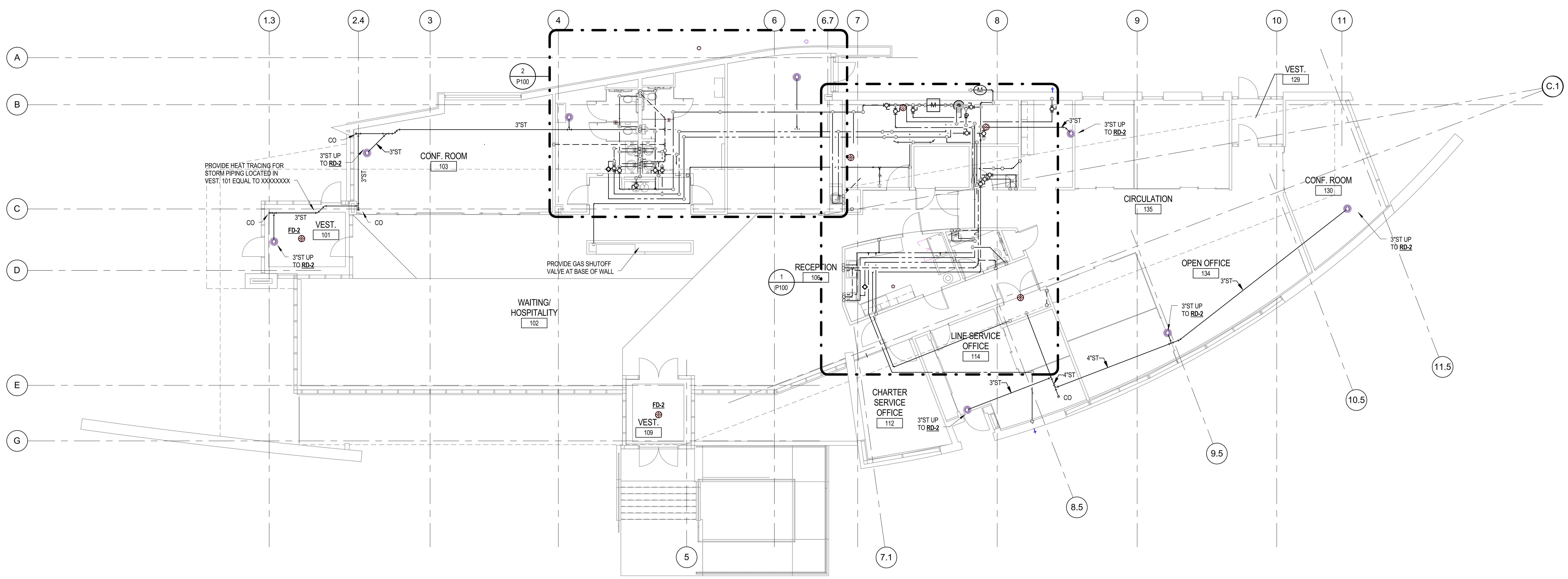
FILE NO	74370001
DRAWN BY	DEW
JC/ENG BY	DEW
CHECKED BY	LGH
PROJECT MGR	KB

UNDERGROUND PLUMBING PLAN
P100



CLERESTORY PLUMBING PLAN

1/8" = 1'-0"



FIRST FLOOR PLUMBING PLAN

1/8" = 1'-0"

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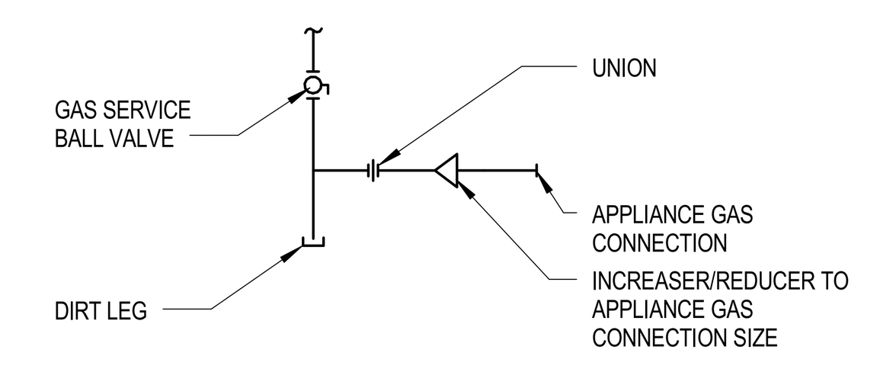
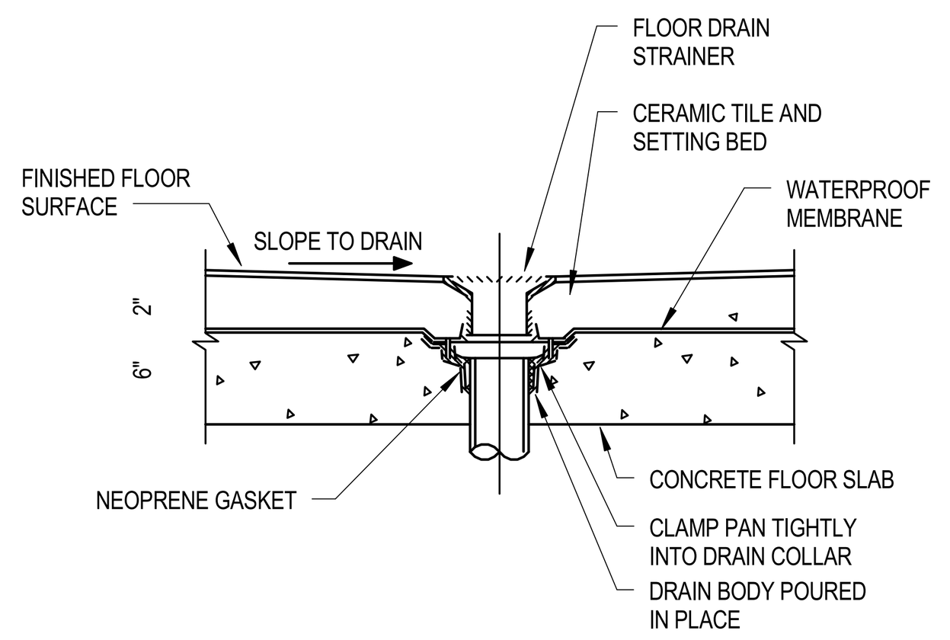
FIRST FLOOR PLUMBING PLAN

P101



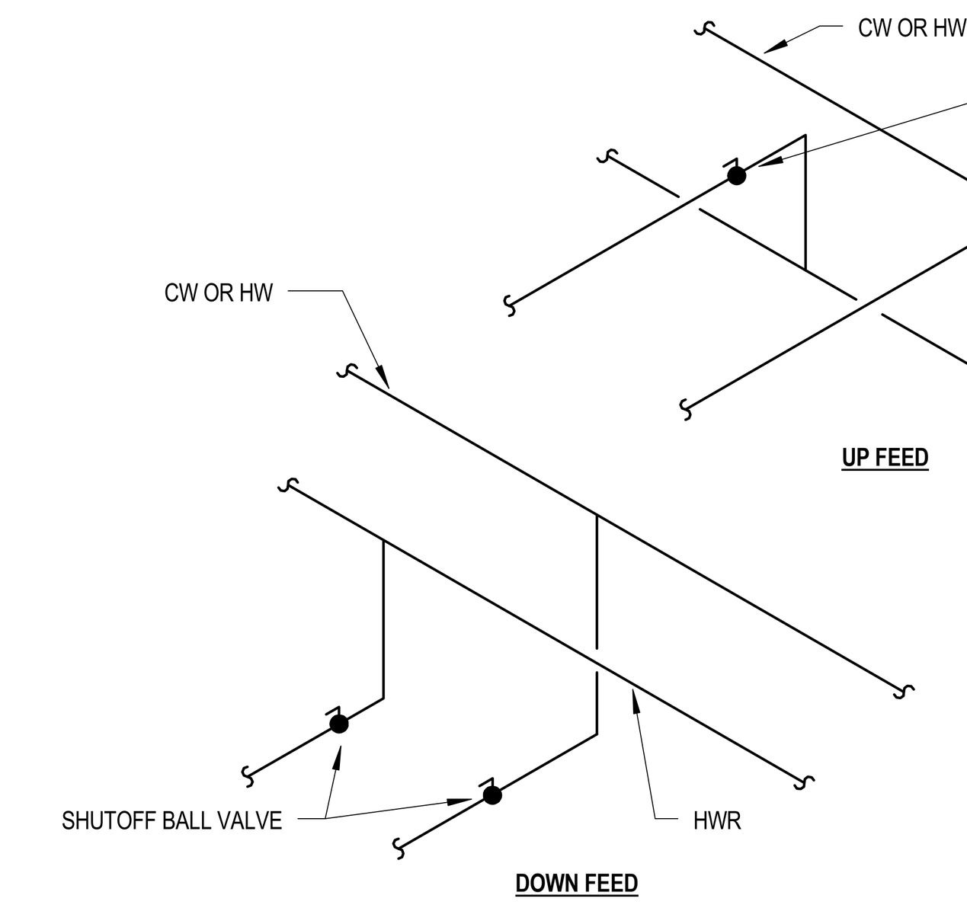
GAS PIPING DIAGRAM

NOT TO SCALE



FLOOR DRAIN IN OPEN AREA

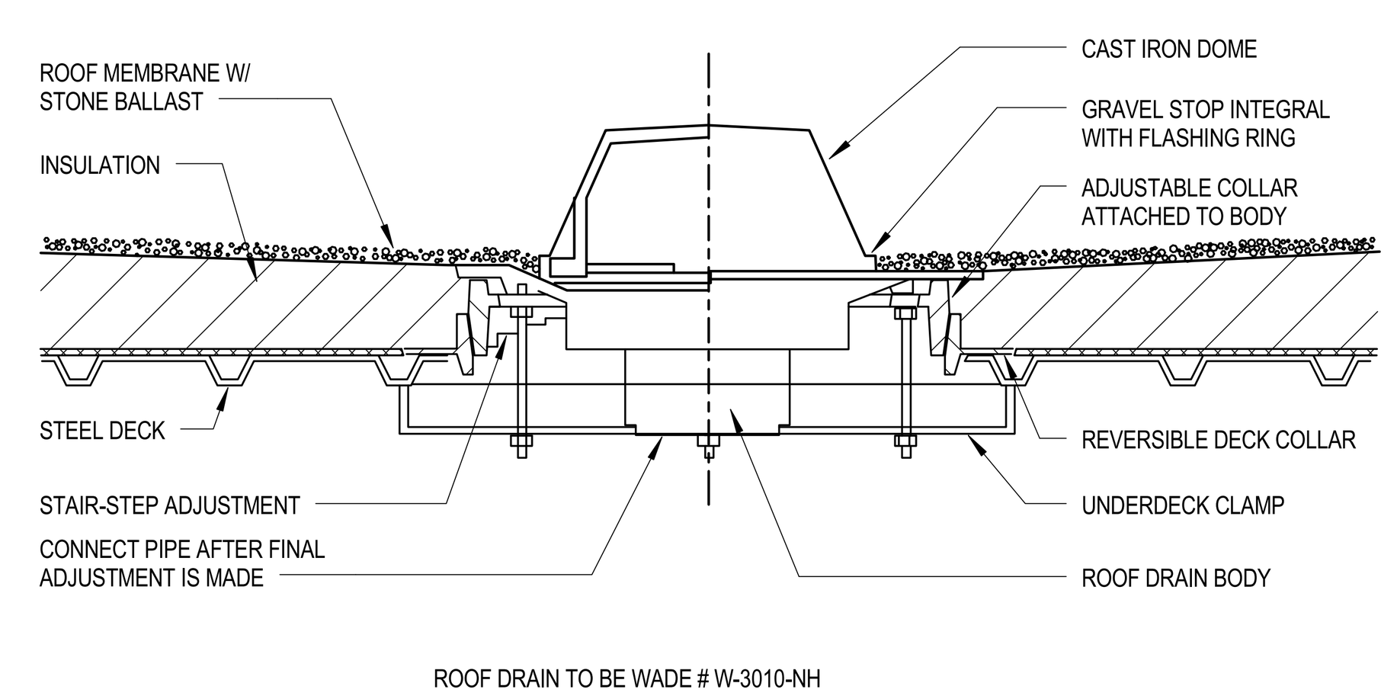
NOT TO SCALE



NOTES:
1. MAKE ALL TAKE OFFS WITH SWING JOINTS.
2. DOWN FEED TO BE USED UNLESS INDICATED OTHERWISE.
3. ALL FIXTURES TO HAVE INDIVIDUAL HW & CW ISOLATED SHUT-OFF VALVES.

DOMESTIC WATER PIPING TAKEOFF DETAIL

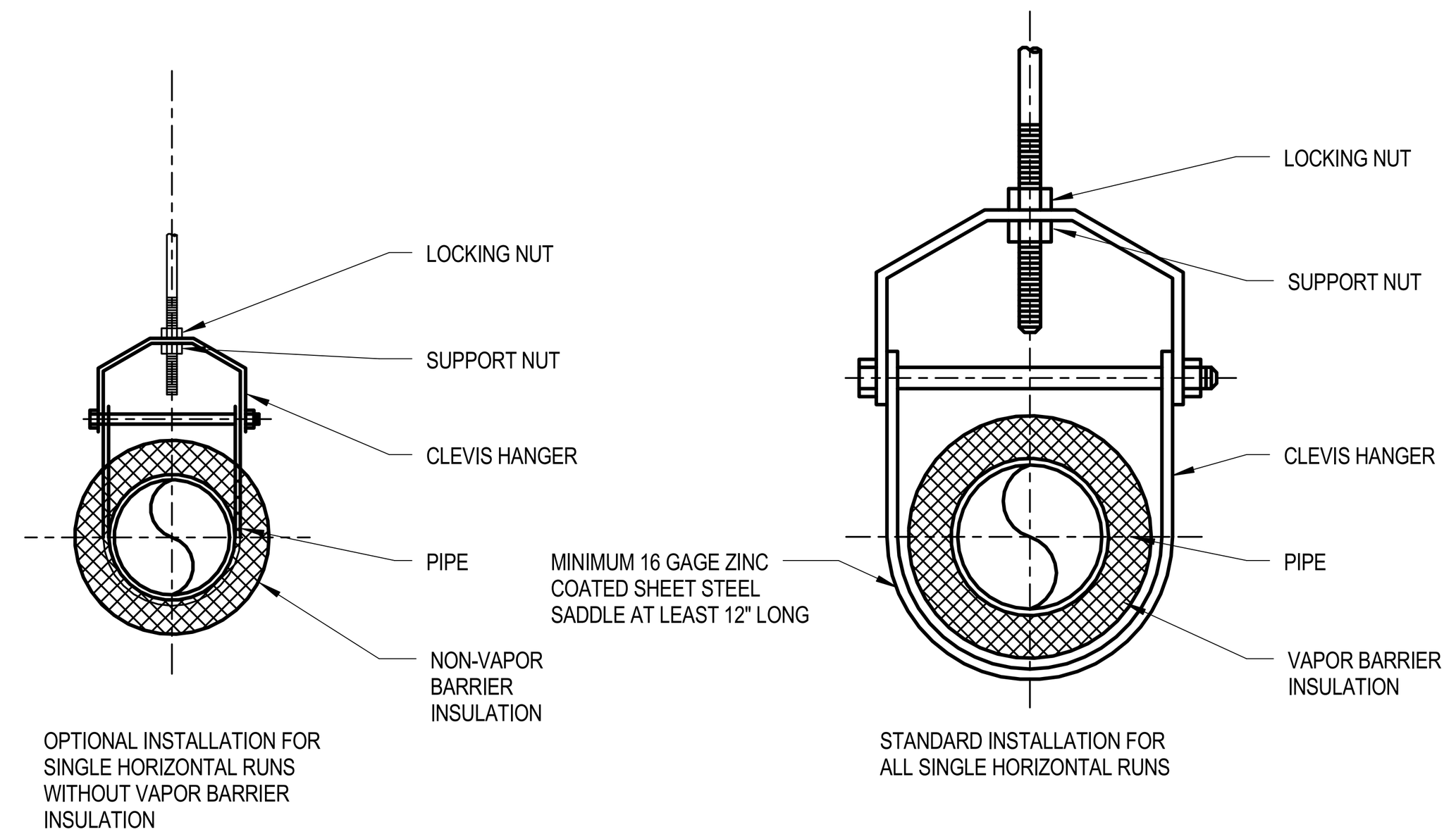
NOT TO SCALE



ROOF DRAIN TO BE WADE # W-3010-NH

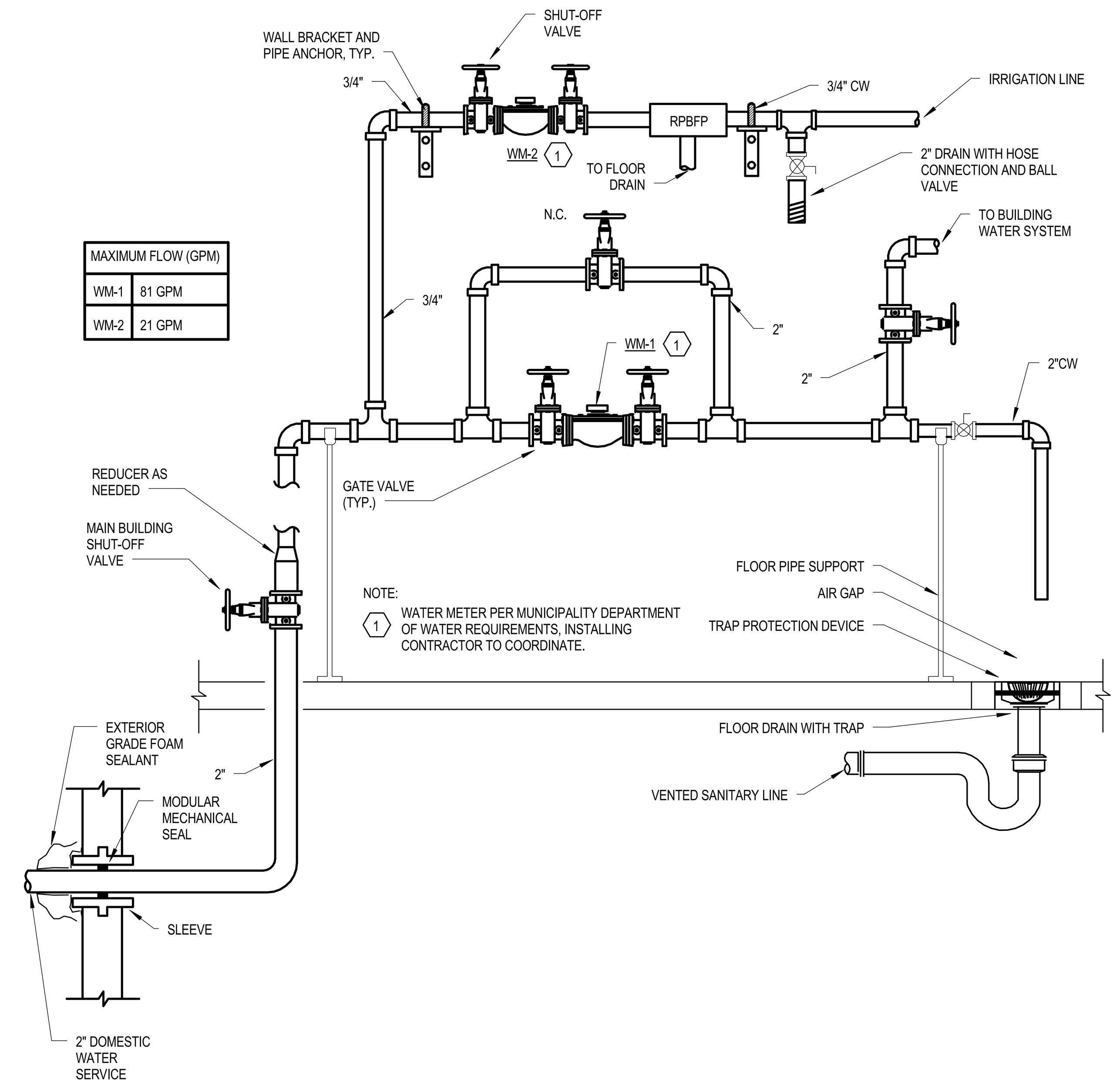
ROOF DRAIN DETAIL

NOT TO SCALE



PIPE HANGER DETAIL

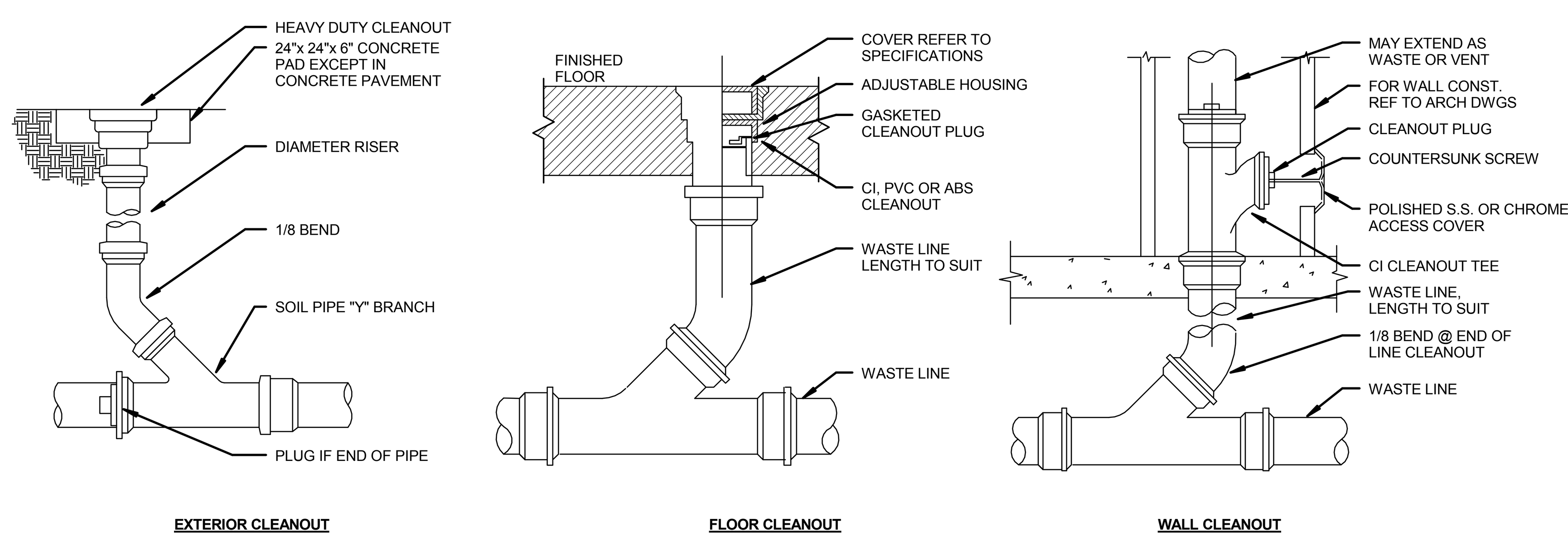
NOT TO SCALE



MAXIMUM FLOW (GPM)	
WM-1	81 GPM
WM-2	21 GPM

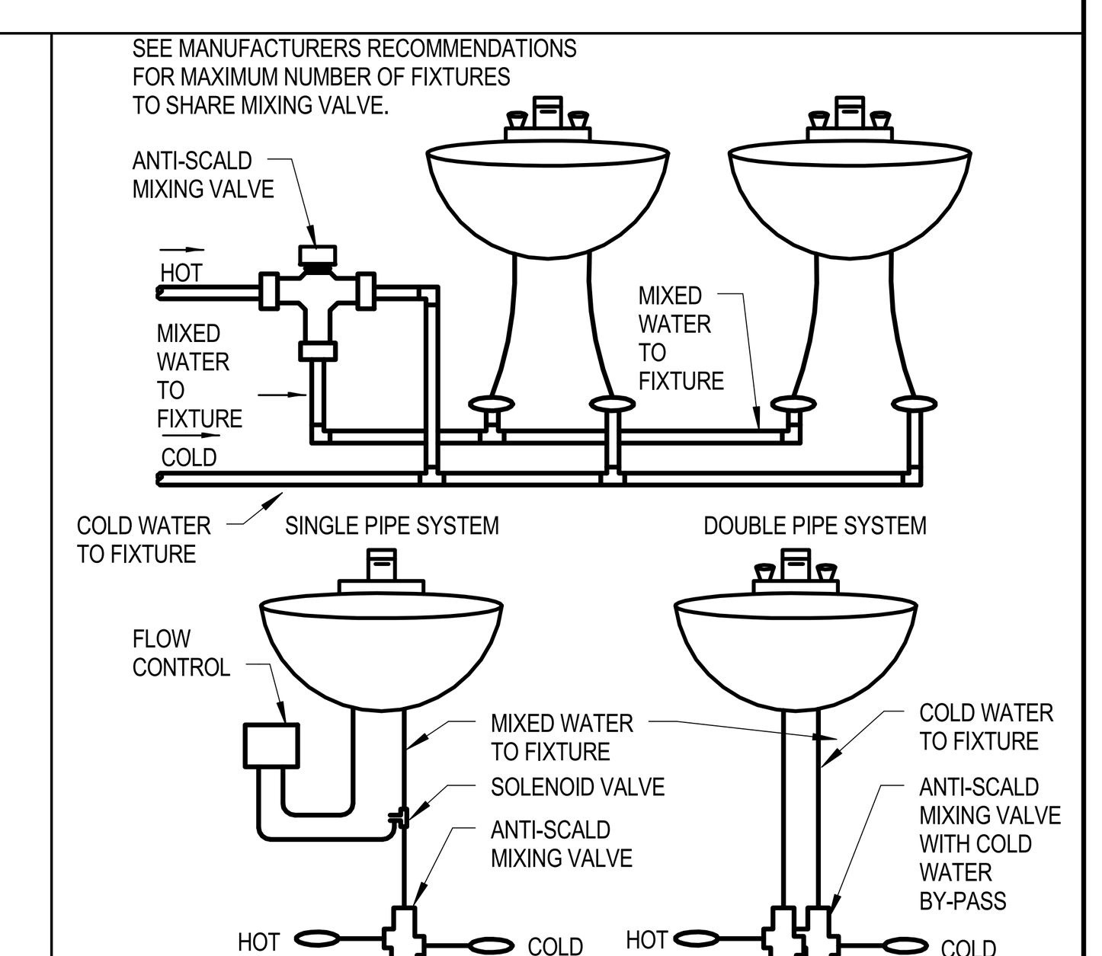
DOMESTIC MAIN WATER METER DETAIL

NOT TO SCALE



STANDARD CLEANOUT DETAILS

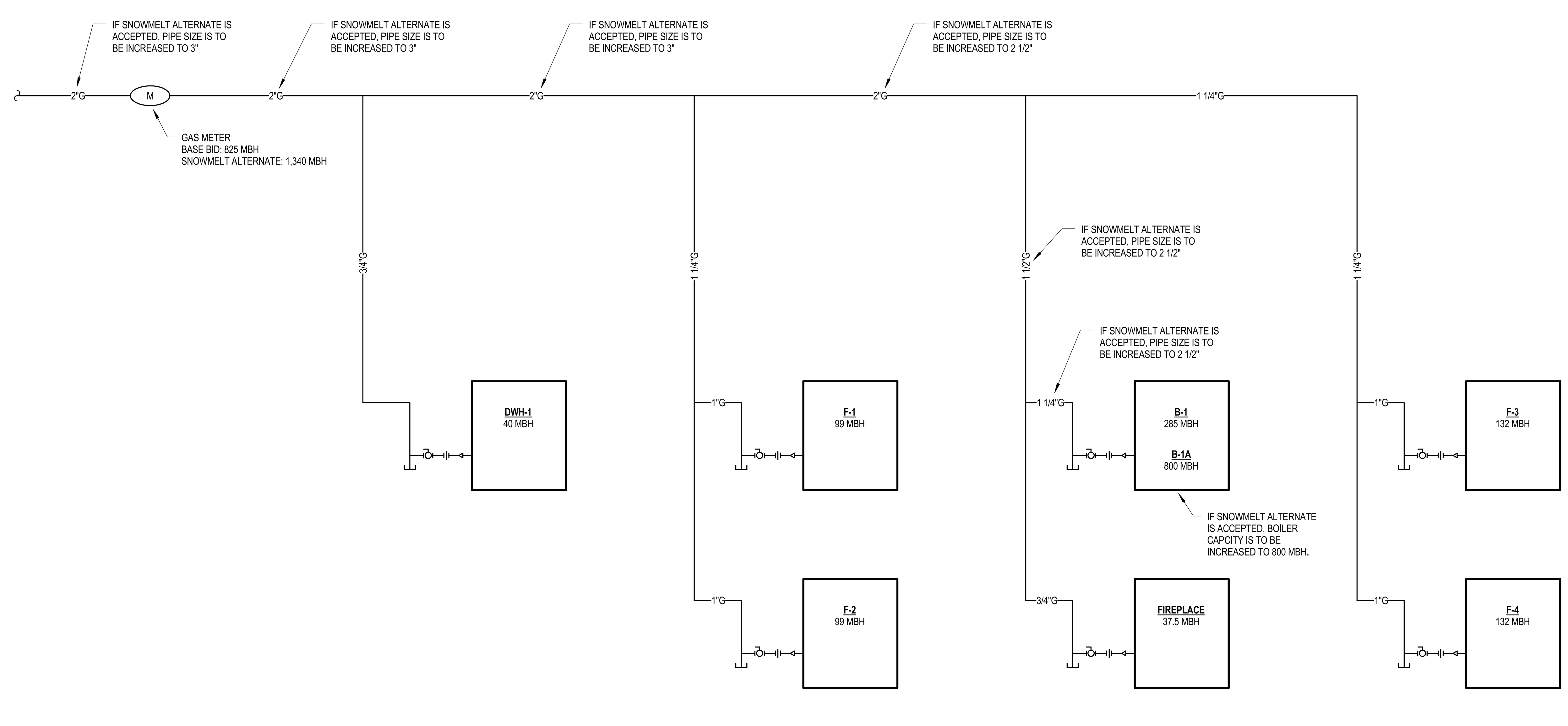
NOT TO SCALE



NOTE:
ADA FIXTURES USING HOT WATER SHALL COMPLY WITH ASSE 1070 BY USE OF MIXING VALVE (SIMILAR TO APOLLO 34D AND 34B)

POINT OF USE MIXING VALVE DETAIL

NOT TO SCALE



NATURAL GAS PIPING DIAGRAM

NOT TO SCALE

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PLUMBING DETAILS

P501

ABBREVIATIONS - HVAC

Φ	FLAT OVAL DUCT
AC	AIR COMPRESSER
AC	ARCHITECTURAL CONTRACTOR
ACL	ACOUSTICALLY LINED
ACU	AIR CONDITIONING UNIT
ACV	AIR CONTROL VALVE
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AFS	AIR FLOW SWITCH
AFT	AIR FLOW TRANSMITTER
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
AQ-STAT	AQUA STAT
AS	AMP SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
ATT	SOUND ATTENUATOR
AVS	ACID VENT STACK
AW	ACID WASTE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BBD	BOILER BLOWDOWN
BC	BOOSTER COIL
BDD	BACKDRAFT DAMPER
BFP	BOILER FEEDWATER PUMP
BHP	BREAK HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BP	BACKFLOW PREVENTER
C	CONVECTOR
CAB	CABINET
CAP	CAPACITY
CC	COOLING COIL
CD	COLD DECK
CD	CONDENSATE DRAIN
CF	CEILING FAN
CF	CUBIC FOOT
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CLR	CLEAR, CLEARANCE
CMP	CORRUGATED METAL PIPE
CMPR	COMPRESSOR
CNR	CONDENSER WATER RETURN
CNS	CONDENSER WATER SUPPLY
COMP	COMPARTMENT
COND	CONDENSATE
CONV	CONVECTOR
COORD	COORDINATE
CP	CIRCULATING PUMP
CT	COOLING TOWER
CTR	COOLING TOWER RETURN
CTS	COOLING TOWER SUPPLY
CU	COPPER
CV	CONTROL VALVE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DB	DRY BULB
DB	DIALYSIS WASTE & SUPPLY BOX
DDC	DIRECT DIGITAL CONTROLS
DDTU	DUAL DUCT TERMINAL UNIT
DIFF	DIFFUSER
DISC	DISCONNECT
DPR	DAMPER
DT	DOUBLE THROW
EA	EXHAUST AIR
ECH	ELECTRIC CABINET HEATER
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EG	EXHAUST AIR GRILLE
EHC	ELECTRIC HEATING COIL
EM	EMERGENCY
ENT	ENTERING
ERC	ENERGY RECOVERY COIL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXP	EXPLOSION PROOF
F&T	FLOAT & THERMOSTATIC STEAM TRAP
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FDS	FUSED DISCONNECT SWITCH
FM	FORCEMAIN
FPB	FAN POWER BOX TERMINAL UNIT
FPM	FEET PER MINUTE
FSEC	FOOD EQUIPMENT SERVICE CONTRACTOR
FT	FIN TUBE
G	GAS
GEN	GENERATOR
GLR	GROUND LOOP RETURN
GLS	GROUND LOOP SUPPLY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HC	HEATING COIL
HG	REFRIGERATION HOT GAS
HP	HORSEPOWER
HP STM	HIGH PRESSURE STEAM
HPR	HEAT PUMP WATER RETURN
HPS	HEAT PUMP WATER SUPPLY
HR	HEATING WATER RETURN, HOUR
HS	HEATING WATER SUPPLY
HSKP	HOUSEKEEPING PAD
HTG	HEATING
HTP	HEAT PUMP
HTR	HEATER
HUM	HUMIDIFIER
HW	HOT WATER
HWP	HYDRONIC WATER PUMP
HX	HEAT EXCHANGER
HZ	HERTZ
INS	INSULATE, INSULATION
IR	INFRARED
KVAR	KILOVOLT-AMPERES REACTIVE
L	REFRIGERATION LIQUID
LAB	LABORATORY
LAT	LEAVING AIR TEMPERATURE
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MOP BASIN
MBH	THOUSAND BRITISH THERMAL UNIT
MCA	MINIMUM CIRCUIT AMPS
MD	MOTORIZED DAMPER, MOTION DETECTOR
MOP	MAXIMUM OVERCURRENT PROTECTION
NC	NORMALLY CLOSED
NF	NONFUSED
NFDS	NONFUSED DISCONNECT SWITCH
NG	NATURAL GAS
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OHD	OVERHEAD DOOR
OPG	OPENING
ORD	OVERFLOW ROOF DRAIN
OV	OUTLET VELOCITY
P	PUMP
P/T	PETE'S PLUG
PC	PUMPED CONDENSATE
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP
PF	PUMP - FIRE PROTECTION
PH	PHASE
PP	PUMP - PLUMBING
PR	PERIMETER RADIATION
PRV	PRESSURE REDUCING VALVE
PRV	POWER ROOF VENTILATOR
PSIG	POUNDS PER SQUARE INCH GAUGE
R	RISER
RA	RETURN AIR
RAF	RETURN AIR FAN
RC	RE-HEAT COIL
RCP	RADIANT CEILING PANEL
RG	RETURN AIR GRILLE
RP	RADIANT PANEL
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RR	REST ROOM
RTU	ROOFTOP UNIT
RV	RELIEF VENT
S	REFRIGERATION SUCTION
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAT	SATURATED
SC	STEAM COIL
SD	SUPPLY AIR DIFFUSER
SG	SUPPLY AIR GRILLE
SG	SPECIFIC GRAVITY
SK	SINK
SM	SURFACE MOUNTED
SMM	SNOW MELT MANIFOLD
SMR	SNOW MELT RETURN
SMS	SNOW MELT SUPPLY
SR	SUPPLY AIR REGISTER
STL	STEEL
STM	STEAM
STOR	STORAGE
TD	TRANSFER DUCT
TF	TRANSFER FAN
TG	TRANSFER AIR GRILLE
THERM	100 CUBIC FEET OF NATURAL GAS
TOC	TOP OF CURB
TR	TAMPER RESISTANT
TSE	TOP OF STEEL ELEVATION
TU	TERMINAL UNIT
U/V	UNIT VENTILATOR
UH	UNIT HEATER
V	VOLTS
VAV	VARIABLE AIR VOLUME
VCD	VOLUME CONTROL DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VI	VIBRATION ISOLATOR
VOL	VOLUME
WB	WET BULB
WHTR	WATER HEATER
XFER	TRANSFER

MECHANICAL SYMBOLS

- SD# ### — SUPPLY DIFFUSER, SD#, ### CFM ARROWS INDICATE DIRECTION OF THROW
- SD# ### — SUPPLY DIFFUSER (4-WAY)
- RG# ### — RETURN OR EXHAUST REGISTER TYPE 'RG#' ### CFM
- EG# ### — EXHAUST REGISTER TYPE 'EG#' ### CFM
- ### ### — SIDEWALL SUPPLY, RETURN, OR EXHAUST REGISTER TYPE ### , ### CFM
- SUPPLY DUCT UP
- SUPPLY DUCT DOWN
- RETURN DUCT UP
- RETURN DUCT DOWN
- EXHAUST DUCT UP
- EXHAUST DUCT DOWN
- AIRFLOW, SA — SUPPLY AIR BRANCH CONNECTION WITH VOLUME DAMPER
- AIRFLOW, EA/RA — RETURN AIR/EXHAUST AIR BRANCH CONNECTION WITH VOLUME DAMPER
- HORIZONTAL FIRE DAMPER
- VERTICAL FIRE DAMPER
- FS — COMBINATION FIRE/SMOKE HORIZONTAL FIRE DAMPER
- FS — COMBINATION FIRE/SMOKE VERTICAL FIRE DAMPER
- ATT-# — SOUND ATTENUATOR
- #P-### — PUMP(SCHEMATIC)
- ###-# — MECHANICAL EQUIPMENT (EXAMPLE ACV-##) SEE SCHEDULE FOR ADDITIONAL
- FT-## — FINNED TUBE RADIATION (SEE DETAIL AND SCHEDULE)
- CUH-# — CABINET UNIT HEATER, TYPE 'CUH-#'
- C-# — CONVECTOR, TYPE 'C-#'

MECHANICAL GENERAL NOTES

1. COMPLY WITH ALL APPLICABLE LOCAL, STATE AND/OR REGULATORY AGENCIES, CODES AND REGULATIONS FOR NEW WORK.
2. DO NOT INSTALL EQUIPMENT, PIPING OR DUCTWORK OVER ANY ELECTRICAL EQUIPMENT OR COMMUNICATION ROOMS.
3. DO NOT RUN ANY PIPING OR DUCTWORK INTO THE ELECTRICAL ROOM UNLESS DEDICATED TO SERVE THAT ROOM.
4. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH A MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
5. LOCATE THERMOSTAT/TEMPERATURE SENSORS 48" ABOVE FINISHED FLOOR OR AS NOTED ON THE PLANS.
6. INSTALL SMOKE DETECTOR IN DUCTWORK AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.
7. VERIFY ALL CONDITIONS IN FIELD BEFORE START OF CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THEIR WORK WITH OTHER TRADES AND WITH THE CONSTRUCTION MANAGER.
9. COORDINATE ANY REQUIRED SHUTDOWN OF SERVICES OR EQUIPMENT WITH OWNER'S REPRESENTATIVE OR CONSTRUCTION MANAGER, MINIMIZE INTERRUPTION OF EXISTING SERVICES.
10. PROVIDE ALL MISCELLANEOUS STEEL AND ITEMS REQUIRED FOR THE PROPER INSTALLATION OF ALL PIPE, SHEET METAL AND EQUIPMENT.
11. COORDINATE FLOOR, WALL & ROOF PENETRATIONS ETC. WITH ARCHITECTURAL TRADES.
12. FIRESTOP SHALL BE PROVIDED IN HOLES AND PENETRATIONS IN RATED ASSEMBLIES.

SHEETMETAL NOTES

1. THE INSTALLATION OF ALL DUCTWORK SHALL BE CLOSELY COORDINATED WITH NEW PLUMBING, ELECTRICAL, AND STRUCTURAL CONDITIONS. NOT ALL REQUIRED OFFSETS AND FITTINGS ARE INDICATED ON DRAWINGS, BUT SHALL BE PROVIDED. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CLEARANCES. ALTERNATE DUCT ROUTING SHALL BE APPROVED BY ARCHITECT/ENGINEER BEFORE PROCEEDING IN ORDER TO ENSURE THAT THE AVAILABLE STATIC PRESSURE REMAINS ADEQUATE. DUCTWORK LOCATION SHALL TAKE PRECEDENCE OVER HVAC AND FIRE PROTECTION PIPING AND ELECTRICAL CONDUIT AND CABLE TRAY.
2. REFER TO DUCT TAKEOFF DETAILS. SPIN-IN TYPE WITH SCOOPS SHALL NOT BE ACCEPTED. A MINIMUM OF 2 FEET SHALL BE PROVIDED BETWEEN RUNOUT TAKEOFFS FROM TRUNK DUCTS.
3. THERMOSTAT AND SENSORS LOCATIONS WITHIN DUCTWORK SHALL BE VERIFIED WITH ARCHITECT/ ENGINEER BEFORE ROUGH -IN.
4. RUNOUT BALANCING DAMPERS SHALL BE MOUNTED AS CLOSE TO MAIN DUCT AS POSSIBLE.
5. DUCTWORK LAYOUT HAS BEEN DESIGNED TO ABSORB NOISE. ALL FITTINGS SHALL BE PROVIDED AS INDICATED.
6. TERMINAL UNITS SHALL BE MOUNTED TO NOT IMPAIR ACCESS TO FILTERS, COILS AND CONTROLS.
7. WATERTIGHT CONCRETE CURBS SHALL BE PROVIDED AROUND ELEVATED FLOOR SLAB PENETRATIONS.
8. DUCTWORK AND ASSOCIATED COMPONENTS SHALL CLEAR DOORS AND WINDOWS.
9. UNLESS OTHERWISE NOTED, ALL DUCTWORK ABOVE CEILING OR EXPOSED IS OVERHEAD AND AS HIGH AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION WHERE REQUIRED.
10. LOCATE MECHANICAL EQUIPMENT SUCH THAT THERE IS UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS AND VALVING.
11. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS CONNECTED TO MECHANICAL EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE NOTED.
12. DUCTWORK SIZES ARE INSIDE CLEAR DIMENSIONS.
13. ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS UNLESS OTHERWISE NOTED. RADIUS ELBOWS SHALL HAVE CENTERLINE RADIUS OF CURVATURE 1.5 TIMES THE DUCT DIAMETER OR WIDTH IN THE PLANE OF TURN. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
14. DUCTS CONNECTED TO EQUIPMENT SHALL EQUAL EQUIPMENT CONNECTION SIZE UNLESS NOTED OTHERWISE.
15. MAXIMUM LENGTH ON FLEXIBLE DUCT SHALL BE 5'-0", UNLESS OTHERWISE NOTED ON DETAILS OR SPECIFICATION.
16. REFER TO ARCH REFLECTED CEILING PLANS FOR EXACT DIFFUSER LOCATIONS IN AREAS WITH A CEILING. COORDINATE DIFFUSER LOCATIONS WITH SYSTEMS FURNITURE WALLS.
17. PROVIDE MANUAL BALANCING DAMPERS AT ALL BRANCH TAKE-OFFS TO DIFFUSERS.
18. PROVIDE MANUAL BALANCING DAMPERS AT ALL RETURN AIR OPENINGS.

HYDRONIC PIPING SYMBOLS

- ANGLE RELIEF VALVE
- ANGLED STOP CHECK VALVE
- BALANCING VALVE
- BUTTERFLY VALVE
- BALL VALVE
- CHECK VALVE W/ARROW INDICATING FLOW
- GATE VALVE
- GLOBE VALVE
- LINEAR STOP CHECK VALVE
- GAS VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- SOLENOID VALVE
- PNEUMATIC CONTROL VALVE - TWO WAY
- PNEUMATIC CONTROL VALVE - THREE WAY
- MOTORIZED CONTROL VALVE - 2-WAY
- MOTORIZED CONTROL VALVE - 3-WAY
- FLOW MEASURING DEVICE
- HOSE BIBB
- MANUAL AIR VENT
- PRESSURE INDICATOR
- TEMPERATURE INDICATOR
- THERMOMETER
- ANCHOR
- CAP
- STRAINER
- UNION
- EXPANSION COMPENSATOR OR EXPANSION JOINT
- FLEXIBLE PIPE CONNECTOR
- PIPE GUIDE
- MH — MANHOLE

HYDRONIC PIPING SYMBOLOGY

HS	HYDRONIC HEATING SUPPLY
HR	HYDRONIC HEATING RETURN
STM(15#)	STEAM (15 PSI)
COND	STEAM CONDENSATE
SMS	SNOW MELT SUPPLY
SMR	SNOW MELT RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
CNS	CONDESER SUPPLY
CNR	CONDENSER RETURN
CTS	COOLING TOWER SUPPLY
CTR	COOLING TOWER RETURN
PC	PUMPED CONDENSATE
GYS	GLYCOL SUPPLY
GYR	GLYCOL RETURN
REF	REFRIGERANT PIPING (SINGLE DX)
GLS	GROUND LOOP SUPPLY
GLR	GROUND LOOP RETURN
HPS	HEAT PUMP SUPPLY
HPR	HEAT PUMP RETURN

SHEETMETAL SYMBOLOGY

SA	SUPPLY AIR
HDS	HOT DECK SUPPLY AIR
CDS	COLD DECK SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
LHEA	LAB HOOD EXHAUST AIR
GHEA	GENERAL LAB HOOD EXHAUST AIR
OA	OUTSIDE AIR
REL	RELIEF AIR
MA	MIXED AIR

HYDRONIC PIPING NOTES

1. THE INSTALLATION OF ALL PIPING SHALL BE CLOSELY COORDINATED WITH SHEET METAL, ELECTRICAL, AND STRUCTURAL CONDITIONS. NOT ALL REQUIRED OFFSETS AND FITTINGS ARE INDICATED ON DRAWINGS, BUT SHALL BE PROVIDED. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CLEARANCES.
2. ALL PIPING SHALL BE INSTALLED TO FACILITATE COIL REMOVAL, FILTER REPLACEMENT AND OPENING OF ACCESS PANELS.
3. INSTALL MAINS AS HIGH AS POSSIBLE. MANUAL AIR VENTS SHALL BE PROVIDED AT ALL PIPING HIGH POINTS AND END OF PIPING LOOPS. PROVIDE REMOVABLE INSULATION PLUG.
4. PIPE ANCHORS, EXPANSION LOOPS, AND GUIDES SHALL BE PROVIDED AS REQUIRED. REFER TO SPECIFICATIONS.
5. SLEEVE AND SEAL EXTERIOR WALL AND ROOF PENETRATIONS TO A WEATHER TIGHT CONDITION. SLEEVE AND SEAL INTERIOR FLOOR PENETRATIONS TO A WATER TIGHT CONDITION.
6. PROVIDE MINIMUM OF 3/4" PIPE FOR ALL PIPING UNLESS SHOWN OTHERWISE.
7. ALL VALVES ARE TO BE FULL LINE SIZE EXCEPT CONTROL AND BALANCING VALVES.
8. PROVIDE 1/2" DRAIN VALVES WITH HOSE-END CAPS AT ALL LOW POINTS IN PIPING. PROVIDE MINIMUM PITCH SUFFICIENT TO INSURE ADEQUATE DRAINING. PROVIDE REMOVABLE INSULATION PLUG.
9. ELEVATIONS AS SHOWN ON THE DRAWINGS ARE TO THE BOTTOM OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING UNLESS OTHERWISE NOTED.
10. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD AND AS HIGH AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE OR SLAB, WITH SPACE FOR INSULATION WHERE REQUIRED.
11. PIPING AND ASSOCIATED APPURTENANCES SHALL NOT INTERFERE WITH DOORS AND WINDOWS.
12. INSTALL PIPING WITHOUT FORCING OR SPRINGING.
13. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. PROVIDE OFFSETS IN PIPING AROUND OBSTRUCTIONS ENCOUNTERED IN FIELD.
14. PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO, AND WITHIN 50 FEET OF ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS) THROUGHOUT MECHANICAL EQUIPMENT ROOMS.
15. FOR BALANCING 3-WAY VALVES, BALANCE BY-PASS WITH VALVE AT 50% POSITION SUCH THAT TOTAL FLOW DOES NOT EXCEED 100%.
16. AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH UNIT'S DRAIN PAN SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET WITH "P" TRAP. CONDENSATE WATER PIPING SHALL BE A MINIMUM OF 3/4". SEE THE DETAILS SHOWN IN THE DRAWINGS OR MANUFACTURER'S LITERATURE FOR THE DEPTH OF THE AIR CONDITIONING CONDENSATE TRAP. PITCH DOWN IN DIRECTION OF FLOW, MINIMUM 1 INCH PER 10 FEET.
17. INSTALL PIPING SO ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
18. PROVIDE PRESSURE/TEMPERATURE (P/T) PLUGS, WITH CAPS UP AND DOWNSTREAM OF ALL EQUIPMENT, AT THE SUPPLY AND RETURN TAPS OF ALL PIPING BRANCHES AND/OR WHERE INDICATED. PROVIDE EXTENDED PLUGS AND LABELS WHERE PIPING IS INSULATED.
19. PROVIDE FLUSHING VALVES AND TEES AT BOTH ENDS OF ALL EQUIPMENT. TAPS SHALL MATCH EQUIPMENT PIPING UP TO 1". FOR LARGER EQUIPMENT AND PIPE LOOPS, PROVIDE 1-1/2" TAPS AND VALVES.
20. ALL HYDRONIC PIPING BRANCH TAKEOFFS FROM MAINS SHALL BE MADE WITH SWING JOINTS.
21. USE THE FOLLOWING TABLE FOR PIPING RUNOUT SIZES TO HEATING AND COOLING ELEMENTS. REFER TO SCHEDULE FOR SPECIFIED GPM.

GPM RANGE	PIPE SIZE
0.5 - 2.5	3/4"
2.6 - 6.0	1"
6.1 -10.0	1 1/4"
10.1 - 17.0	1 1/2"
17.1 - 35.0	2"

MECHANICAL SHEET INDEX

NUMBER	DESCRIPTION
M001	GENERAL MECHANICAL INFORMATION
MH101	FIRST FLOOR HVAC PLAN
MP101	FIRST FLOOR HYDRONIC PIPING PLAN
M501	MECHANICAL DETAILS
M502	MECHANICAL PIPING DIAGRAMS
M601	MECHANICAL SCHEDULES
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ISSUANCES
FOR CONSTRUCTION
08/24/2015

REVISIONS

NO.	DATE	DESCRIPTION
3	08/24/15	CONSTRUCTION

FILE NO	74370001
DRAWN BY	MMK
JC/ENG BY	MMK
CHECKED BY	LGH
PROJECT MGR	KB

GENERAL MECHANICAL INFORMATION
M001

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