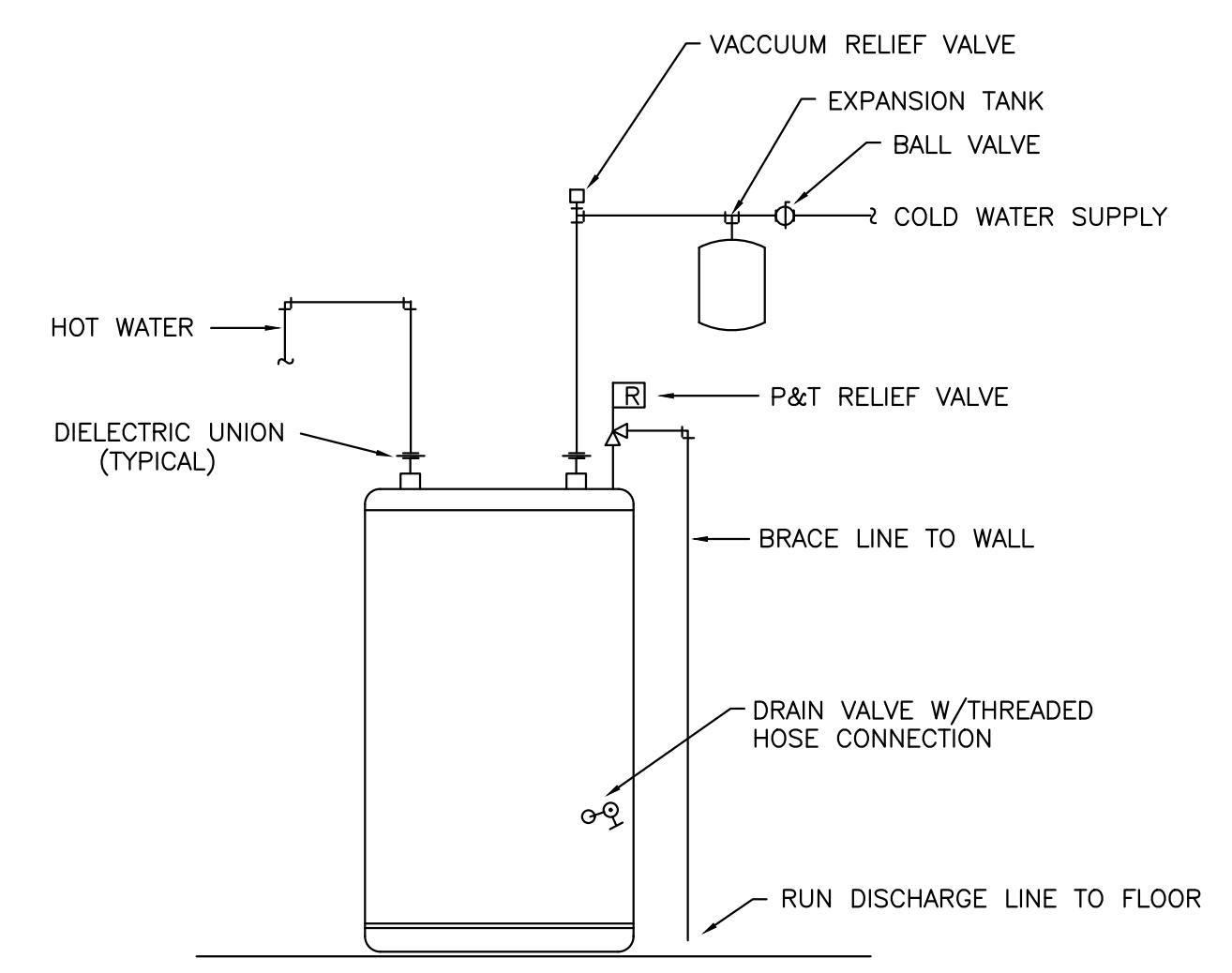
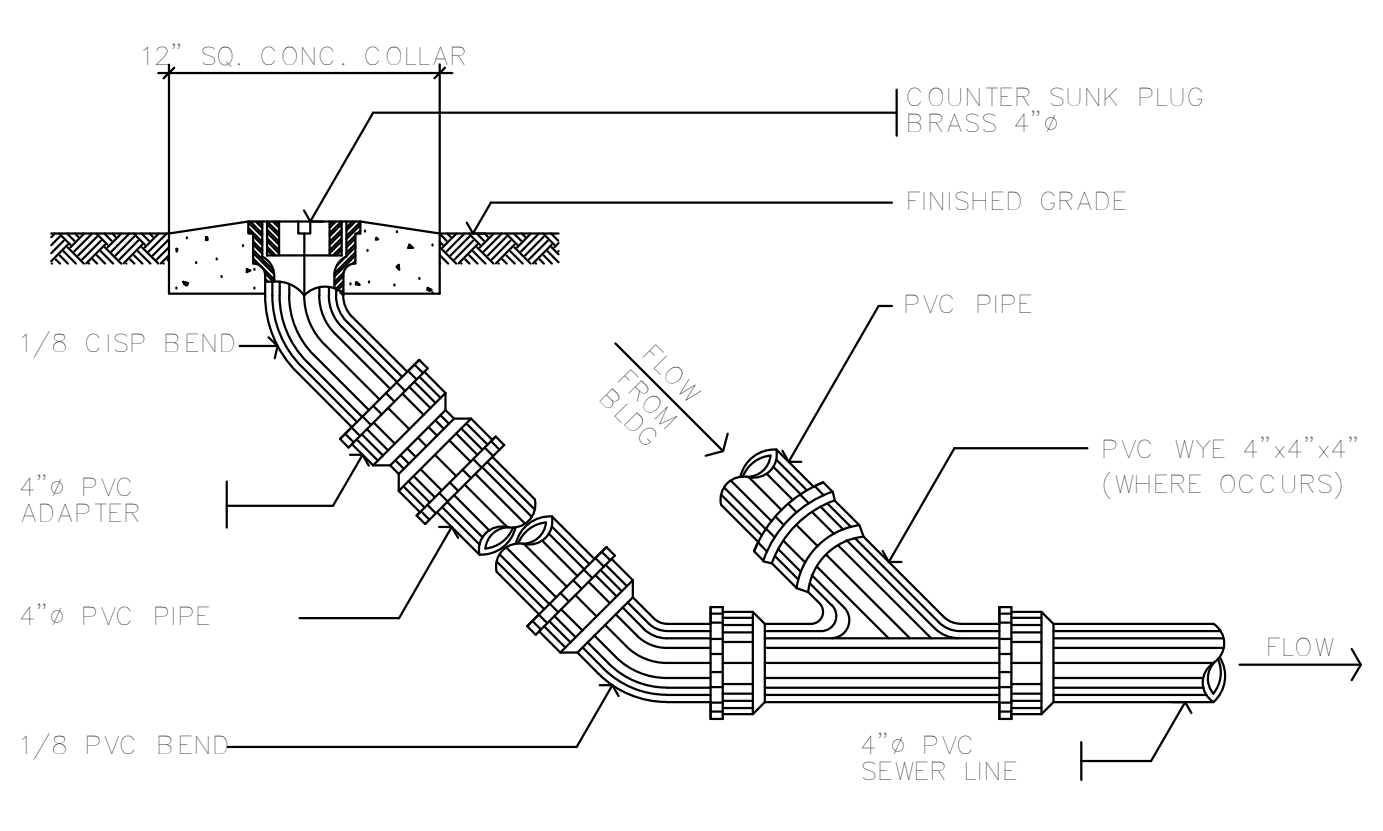
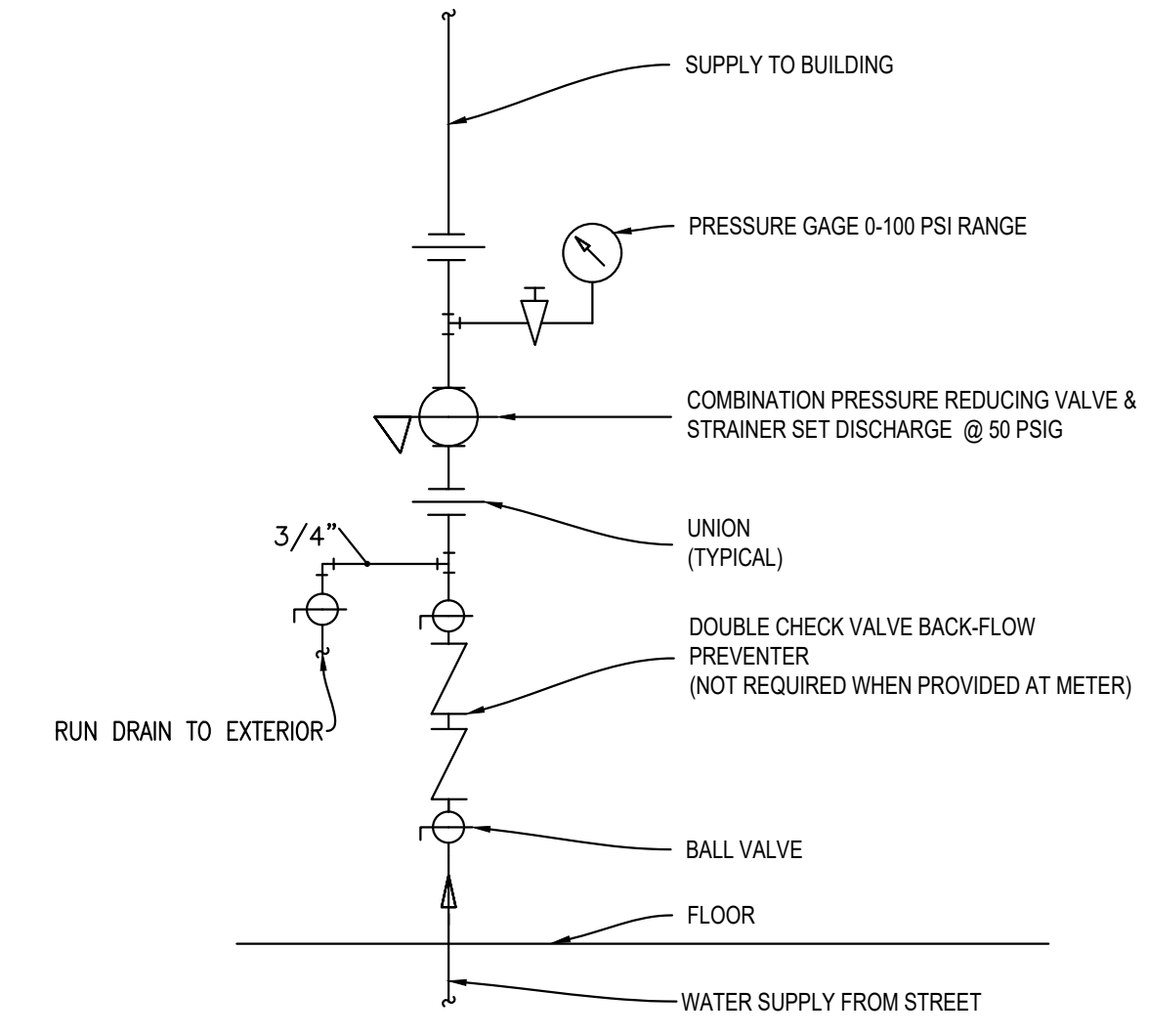
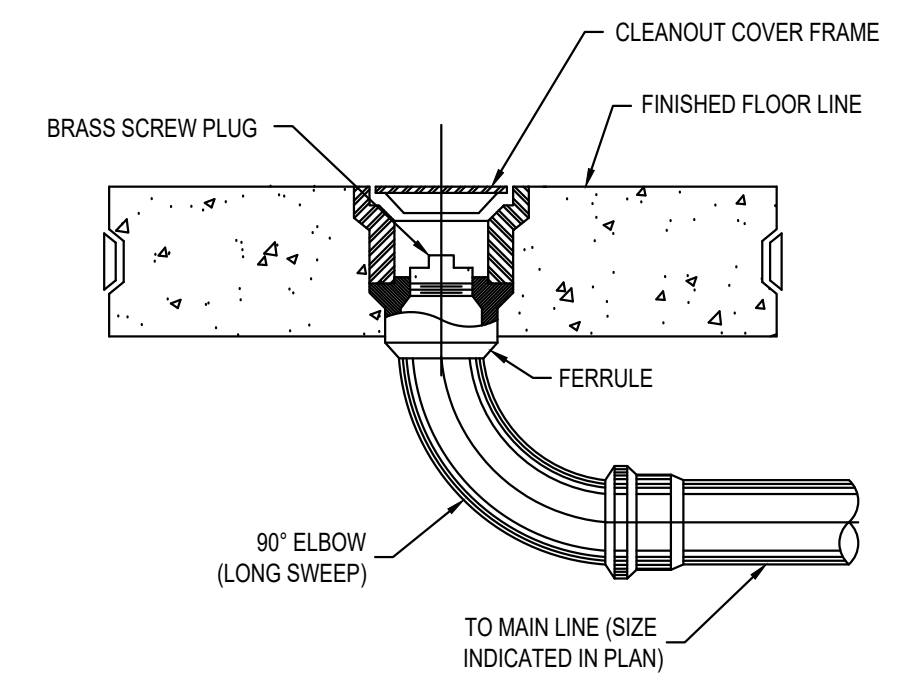


FIXTURE	NUMBER	WFU	TOTAL
Kitchen sink, w/grinder	1	4.00	4.00
Lavatory 1-1/4" Trap	2	1.40	2.80
Water Closet, Private flush tank	2	2.20	4.40
TOTAL BUILDING FIXTURE UNITS		11.20	WFU
Flow for Flush Valve System		27	GPM
Flow for Flush Tank System		8	GPM
Incoming Size for Flush Tank		0.75	INCH

WASTE CALCULATIONS			
NUMBER	DFU	TOTAL	
Kitchen sink, w/grinder	1	2.0	2.0
Lavatory 1-1/4" Trap	2	1.0	2.0
Water Closet, Private flush tank	2	6.0	12.0
TOTAL BUILDING FIXTURE UNITS		16.00	x 22.5 GALLONS PER DAY =
			360.00 EFFLUENT / DAY (GALLONS)
			3" @ 1/8" SLOPE

Mark	Fixture	Manufacturer Model	Description	Piping Connection Sizes				
				CW	110° HW	140° HW	Waste	Vent
P-1H	Water Closet - ADA, Flush Tank	Kohler #K-3589	Floor Mounted, Elongated Bowl, Church 10CT 000 Elongated Toilet Seat, ADA Compliant, 1.6 GPF Water Saving, K-9466-L Left-Hand Trip Lever & K-9470-R right Hand Trip Lever, provide supply tubes and wax rings.	1 1/2"	-	-	3"	2"
P-2	Urinal - ADA	Kohler #K-5452-ET-0	Wall Mounted, Commercial Washout, High Eff. K-78318-CP 0.5 gpf washdown urinal	3/4"	-	-	1 1/2"	1 1/2"
P-4	Lavatory, Wall Mounted - ADA	Kohler #K-2054-0	Wall Mounted, ADA Comp., W/ Symmons #S-9612-STN-1.5 Faucet, W/ Tempering Valve 7-210-CK	3/4"	1/2"	-	1 1/2"	1 1/2"
P-5b	Kitchen Sink	Kohler #K-4015-1-NA	Taccato™ 33" x 22" x 6" top-mount double-bowl kitchen sink w/ Peerless P1929LF Single-hole kitchen sink faucet	1/2"	-	1/2"	1 1/2"	1 1/2"
P-6	Ice Maker Box	QATEY 39140	Metal Ice Maker Box with Hammer Arrestor	1/2"	-	-	-	-
P-7	Bi Level Water Cooler	OASIS P8AC-SL	Wall Hung, ADA, Low on Left	1/2"	-	-	1 1/2"	1 1/2"
P-8	Washer Box	QATEY 38993	Metal washer box with water hammer arrestors	1/2"	1/2"	-	2"	1/2"
P-9b	Shower	Symmons BP-56-300-B30	Integral stops on valve, Hand Shower w/ Hose, Vacuum Breaker, matching shower head	1/2"	1/2"	-	-	-
FD-1	Floor Drain	Zum #Z4155	8"x8" Adjustable Nickel Type "S" Strainer & Trap Primer	-	-	-	4"	1 1/2"
GCO	Grade Clean Out	Zum #Z1470	Bronze Clean Out Plug	-	-	-	4"	-
FCO	Floor Clean Out	Zum #1400	Cast iron body with gas and watertight ABS tapered thread plug and round scoriated cast iron extra-heavy-duty secured top adjustable to finished floor	-	-	-	4"	-
HB-1	Hose Bibb	Woodford #24C	Mounted at 24" AFF	1/2"	-	-	-	-
TP-1	Trap Primer	Precision Plumbing #PR-500	Mounted at 24" AFF	3/4"	-	-	-	-
FPWH-1	Freezeless Wall Hydrant	Woodford #65	Mounted at 24" AFF	3/4"	-	-	-	-
EW-1	Electric Water Heater	Rheem PROE20 1 RH POU	20 Gal., 3.0 KW, 240V., 12 GPH @ 100° Rise	1/2"	1/2"	-	-	-
AAV	Air Admittance Valve	Studor Model 20346	ABS Plastic, White Color/Finish Pipe Dia. 1 1/2-2 In., For Use With PVC, Threaded Connection, Includes Protective Cover	-	-	-	-	1 1/2"

- ### PLUMBING SPECIFICATIONS
- INTENT: THESE OUTLINE SPECIFICATIONS AND ACCOMPANYING DRAWINGS DESCRIBE SCOPE OF WORK REQUIRED FOR PLUMBING SYSTEMS. INASMUCH AS BIDS WILL BE LIMITED TO SELECTED CONTRACTORS, COMPREHENSIVE SPECIFICATIONS AND DETAILED INSTRUCTIONS ARE DEEMED UNNECESSARY. LABOR AND MATERIAL SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE, WORKMANLIKE INSTALLATION OF ALL SYSTEMS SHOWN ON DIAGRAMMATIC DRAWINGS AND/OR AS SPECIFIED HEREIN.
 - DEFINITION: THE WORD "CONTRACTOR" AS USED IN THESE OUTLINE SPECIFICATIONS REFERS TO PLUMBING SUB-CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
 - SCOPE OF WORK TO BE PROVIDED BY THIS CONTRACTOR INCLUDES:
 - PLUMBING FIXTURES COMPLETE WITH TRIM.
 - SOIL, WASTE AND VENT PIPING.
 - HOT AND COLD WATER SERVICE PIPING.
 - NATURAL GAS PIPING.
 - FINAL PLUMBING CONNECTIONS TO ALL ITEMS REQUIRING PLUMBING SERVICE.
 - CODES, PERMITS, AND INSPECTIONS: ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES AND NFPA RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED, GIVE ALL LEGAL NOTICES, AND HAVE ALL WORK INSPECTED AS REQUIRED BY LOCAL OR STATE LAW.
 - WORKMANSHIP: COMPETENT SKILLFUL WORKMEN SHALL DO ALL WORK IN A FINISHED, THOROUGHLY SUBSTANTIAL AND CRAFTSMANLIKE MANNER. THIS IS INTENDED TO REFER PARTICULARLY TO SMALLER DETAILS NECESSARY BUT USUALLY NOT SPECIFIED OR INDICATED ON THE DRAWINGS. ALL SUB-STANDARD WORK INSTALLED BY THIS CONTRACTOR SHALL BE REPLACED BY THIS CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. IF THIS CONTRACTOR DAMAGES EXISTING WORK, HE SHALL PAY THE COST OF REPLACEMENT OF THE DAMAGED WORK AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - SUPERVISION: CONTRACTOR SHALL CONSTANTLY SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
 - PROGRESS OF WORK: DILIGENTLY PERFORM THE WORK AS RAPIDLY AS POSSIBLE. COORDINATE WITH OWNER'S SCHEDULE CLOSELY. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THIS PROJECT.
 - EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT. DO NOT SCALE DRAWINGS. COORDINATE CLOSELY WITH G.C. SUPT. AND OWNER.
 - EQUIPMENT SUPPORTS: PROVIDE ALL NECESSARY SUPPORTS FOR MOUNTING ALL EQUIPMENT. SUCH SUPPORTS TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. CARE TAKEN THAT BUILDING STRUCTURE IS NOT OVERLOADED. FIRMLY AND RIGIDLY WELDED OR BOLTED IN PLACE.
 - INTERFERENCES: PLANS ARE GENERALLY DIAGRAMMATIC. CONTRACTOR SHALL AVOID INTERFERENCES WITH CONDUITS, PIPING, EQUIPMENT, DUCTS, ARCHITECTURAL AND STRUCTURAL WORK. NECESSARY OFFSETS IN PIPES, FITTINGS, ETC., REQUIRED TO PROPERLY INSTALL EQUIPMENT SO AS TO TAKE UP A MINIMUM SPACE SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - UNDERWRITERS LABORATORIES APPROVAL: ALL EQUIPMENT FURNISHED SHALL BE UL APPROVED AND SHALL BE LABELED OR LISTED BY UL. NO EQUIPMENT SHALL BE APPROVED WHICH FAILS TO MEET THESE CONDITIONS.
 - HANGERS, SUPPORTS AND ANCHORS: SUPPORT AND FASTEN ALL ABOVE GROUND HORIZONTAL AND VERTICAL PIPING, EQUIPMENT ETC., SECURELY IN PLACE. SPACE, SECURE AND ADJUST HANGERS WITHOUT DEFLECTION OR SAG. THESE DEVICES SHALL BE FACTORY FABRICATED BY F&M, GRINNELL, ELCOEN OR SIMILAR MANUFACTURERS. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS OR WOOD PLUGS ARE PROHIBITED. PROVIDE STEEL SUPPORTS, ANCHORS, FRAMES, BRACKETS, PLATES, BOLTS, NUTS, WASHERS, ETC., INCIDENTAL TO INSTALLATION OF WORK AS SPECIFIED OR REQUIRED. SUPPORT EQUIPMENT FROM THE STRUCTURE IN AN APPROVED MANNER. NO PORTION OF THE STRUCTURE SHALL BE OVERSTRESSED BY THE HANGING OPERATION OR BY THE FINAL SUPPORTS. PROVIDE AUXILIARY STRUCTURAL MEMBERS WHERE REQUIRED BETWEEN MEMBERS OF THE STRUCTURE. ALL EQUIPMENT, UNLESS SHOWN OTHERWISE, SHALL BE SECURELY ATTACHED TO THE BUILDING STRUCTURE IN AN APPROVED MANNER. ATTACHMENTS THAT ARE IN THE OPINION OF THE ENGINEER, INADEQUATE SHALL BE REPLACED AS DIRECTED.
 - PIPING, VALVES AND FITTINGS:
 - DOMESTIC HOT AND COLD WATER PIPING (INTERIOR - ABOVE GROUND):
 - TYPE "L" HARD DRAWN COPPER TUBING WITH SOLDER JOINTS; WROUGHT COPPER FITTINGS; LEAD FREE SOLDER. ALL EXPOSED FIXTURE CONNECTION PIPING SHALL BE CHROME PLATED. (TYPE "K" BELOW GRADE). "PEX" MAY BE SUBSTITUTED WITH PRIOR OWNER APPROVAL.
 - BELOW GRADE OR UNDER SLAB: SERVICE WEIGHT CAST IRON, M-G COUPLING, OR COMPRESSION SEAL GASKET SYSTEM OR SCHEDULE 40 PVC-DIW.
 - ABOVE GRADE: CAST IRON "NO-HUB" JOINT SYSTEM, OR SCHEDULE 40 PVC-DIW WHEN NOT IN CEILING PLENUM RETURN.
 - VENT PIPING SHALL BE AS DESCRIBED FOR ABOVE GRADE WASTE PIPING. (VENT PER CODE AND MINIMIZE ROOF PENETRATIONS.)
 - ALL PIPING, FITTINGS, ETC., SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - GAS PIPE (ACCESSIBLE) SHALL BE SCHEDULE 40 CARBON STEEL PIPE, THREAD AND COUPLED MALLEABLE IRON FITTINGS OR TYPE K COPPER TUBING.
 - GAS PIPE (CONCEALED) SHALL BE SCHEDULE 40 CARBON STEEL PIPE, SOCKET WELDED FITTINGS OR TYPE K COPPER TUBING.
 - PIPING INSULATION SHALL BE PROVIDED FOR ALL DOMESTIC HOT AND COLD WATER PIPING ABOVE GRADE. INSULATION TO BE 1" FIBERGLASS WITH ALL SERVICE JACKET.
 - PLACING IN SERVICE, TESTS, INSTRUCTIONS AND MAINTENANCE: CONTRACTOR SHALL MAKE ALL NECESSARY TESTS, TRIAL OPERATIONS, ETC., REQUIRED AND DIRECTED BY THE ENGINEER TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. ALL COSTS OF TESTS SHALL BE BORNE BY THIS CONTRACTOR. AFTER ALL FIXTURES, EQUIPMENT, ETC., HAVE BEEN INSTALLED, THE ENTIRE SYSTEM SHALL BE THOROUGHLY CLEANED. ALL PIPE FITTINGS, EQUIPMENT, ETC., SHALL BE CLEANED OF PIPE JOINT COMPOUND, GREASE, METAL SHAVINGS, ETC., WHICH HAVE ACCUMULATED THEREON. ALL DAMAGE OR DISCOLORATION OF FIXTURES OR BUILDING DUE TO FAILURE TO CLEAN UP THOROUGHLY OR FLUSH OUT PIPING PROPERLY SHALL BE CORRECTED WITHOUT ADDITIONAL COST TO THE OWNER. SHOULD TEST REVEAL ANY DEFECTIVE MATERIAL OR WORKMANSHIP, SUCH WORK SHALL BE REPLACED AND TESTS REPEATED. ALL CORRECTIONS IN PIPING SHALL BE MADE USING NEW MATERIALS.
 - WARRANTY: CONTRACTOR SHALL CORRECT ANY DEFECTS IN WORKMANSHIP AND/OR MATERIAL THAT WARRANTY CERTIFICATE WILL COMMENCE UPON OCCUR DURING THE FIRST YEAR OF OPERATION. DATE OF ACCEPTANCE OF WORK BY OWNER. SUBMIT WRITTEN CERTIFICATE WITH MAINTENANCE DATA.
 - COOPERATION AND COORDINATION: CONTRACTOR SHALL PLAN AND SCHEDULE HIS WORK TO MAINTAIN PROGRESS WITH OTHER CONTRACTORS ON THE JOB. COORDINATE EXACT LOCATIONS AND CLEARANCE REQUIREMENTS FOR ALL PLUMBING EQUIPMENT, DEVICES, ETC.
 - ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - MAJOR EQUIPMENT AND SPECIALTIES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURERS SHOWN OR NOTED ARE INTENDED FOR REFERENCE AS TO THE QUALITY AND TYPE OF EQUIPMENT DESIRED. COMPARABLE EQUIPMENT WILL BE CONSIDERED FOR APPROVAL BY THE OWNER CONTRACTOR SHALL VERIFY INCOMING WATER PRESSURE. MAXIMUM PRESSURE WITHOUT PRV WILL BE 80 PSI. THE MINIMUM PRESSURE INCOMING SHALL BE 20 PSI WITHOUT BOOSTER EQUIPMENT.
 - VERIFY LOCATION OF EXISTING EQUIPMENT TO BE RE-USED AND PIPE ROUTING. COORDINATE WITH OWNER'S REPRESENTATIVE FOR EXACT LOCATION OF NEW EQUIPMENT.



LEGEND	
-SS-	UNDER GROUND SANITARY SEWER (SS)
SS	ABOVE GROUND SANITARY SEWER (SS)
-V-	SANITARY VENT
-CW-	CITY WATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
DN	DOWN
BFF	BELOW FINISHED FLOOR
FD	FLOOR DRAIN
AFF	ABOVE FINISHED FLOOR
VTR	VENT THROUGH ROOF
W/	WITH
CO	CLEAN OUT
INV.	INVERT
GCO	GRADE CLEAN OUT
TYP.	TYPICAL
P-?	FIXTURE NUMBER (REFER TO SCHEDULE FOR INFORMATION)
UNO	UNLESS NOTED OTHERWISE
WFU	WASTE FIXTURE UNITS
CFH	CUBIC FEET PER HOUR
REDUCER	CHECK VALVE
CIRCUIT SETTER	
PRESSURE REGULATOR	
FLOOR DRAIN	WATER HAMMER ARRESTOR
CONNECT TO EXISTING	

REV	DESCRIPTION	DATE	BY

PLOT SCALE: 1:1 PLOT DATE: 4/20/2023

Plumbing

Notes, Schedules, Legend & Details

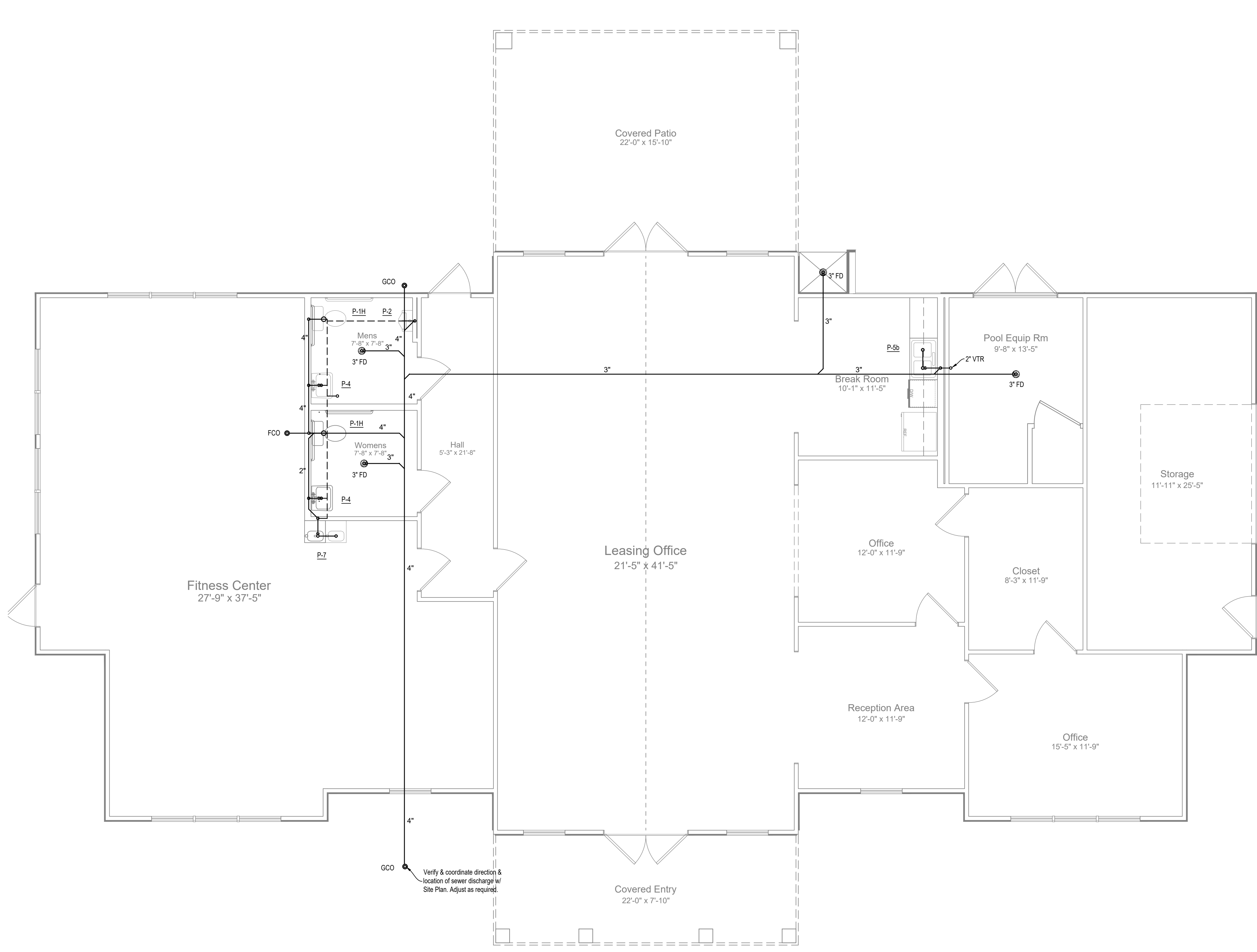
PLUMBING
DeBoer & Gabriel Builders, Inc
Legacy at Haw River Apts Clubhouse
 Burlington, North Carolina

ENGINEERING SERVICES PROVIDED BY
HOLLEMAN CORPORATION
 6772 KELSEY COURT, GIBSONVILLE, NC 27249
 (336) 337-6334; fax: (336) 446-7476
 email: hollemancorp@earthlink.net
 This Drawing is Private And Confidential; All Use Is Forbidden
 Except By Written Consent Of Holleman Corporation

DRAWN BY: JCV
DATE: 04/18/2023
JOB NO.: HC23036
SCALE: AS NOTED

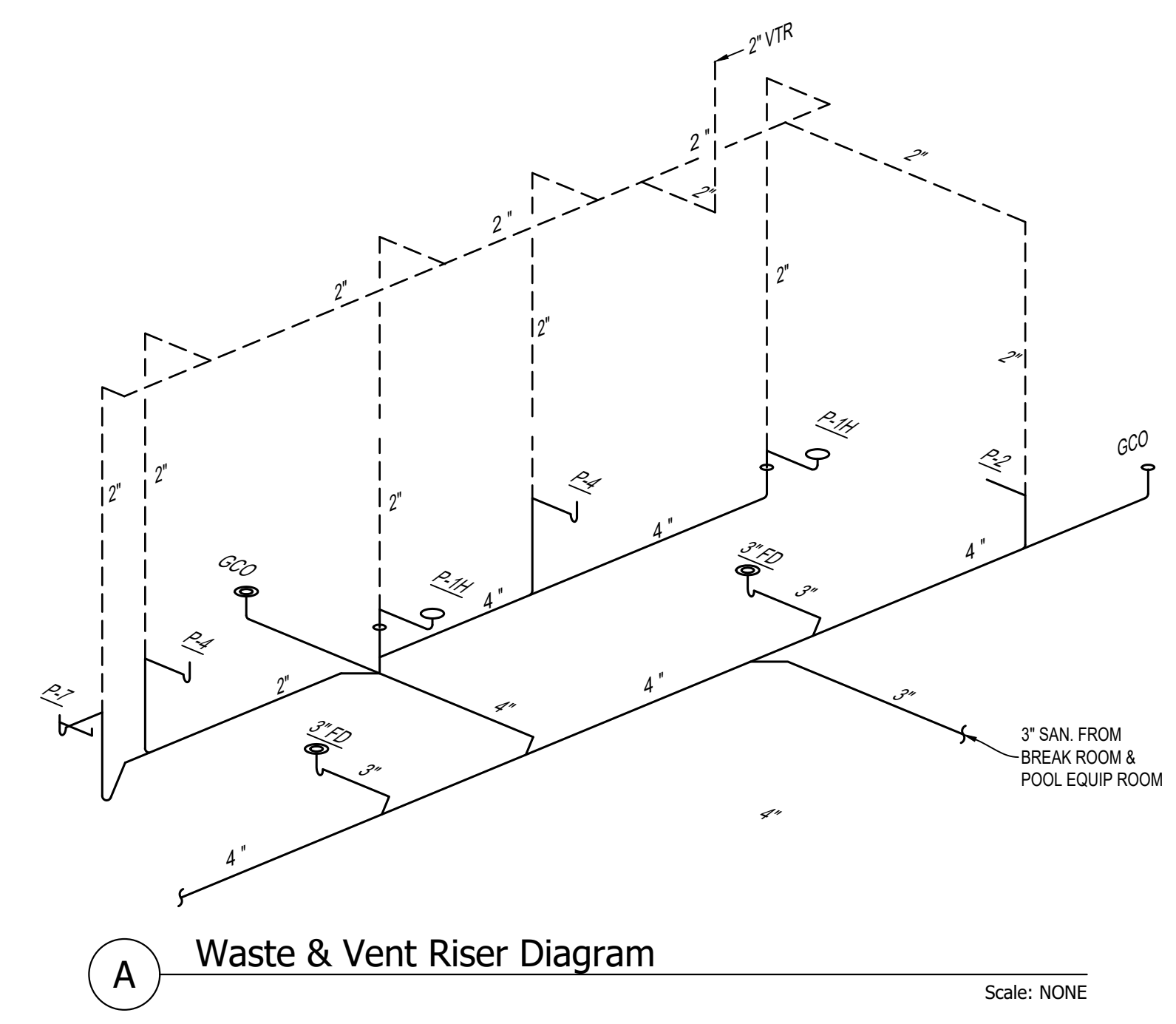
CHECKED BY: TDH
APPROVED BY: TDH
ACAD NO.: HC23036PLBG CH
DWG. NO.: P-1

04/18/2023



1 Floor Plan -Waste & Vent

Scale: 1/4"=1'-0"

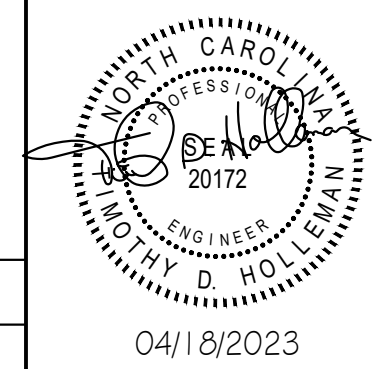


Final Drawing - Released for construction

**PLUMBING
First Floor Plan**

**PLUMBING
DeBoer & Gabriel Builders, Inc
Legacy at Haw River Apts Clubhouse**
Burlington, North Carolina

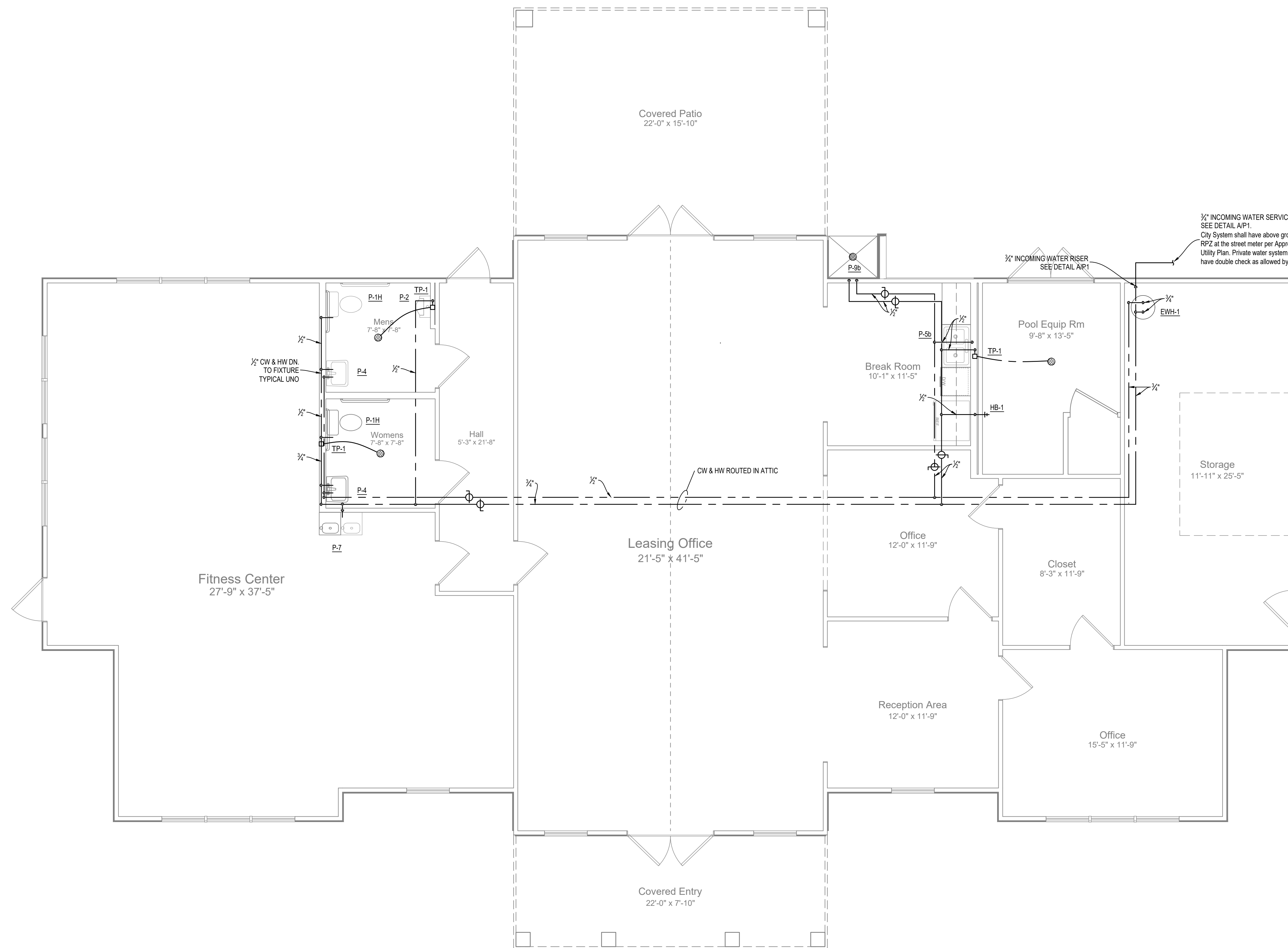
ENGINEERING SERVICES PROVIDED BY
HOLLEMAN CORPORATION
6772 KELSEY COURT, GIBSONVILLE, NC 27249
(336) 337-6334; fax: (336) 446-7476
email: hollemancorp@earthlink.net
This Drawing Is Private And Confidential; All Use Is Forbidden
Except By Written Consent Of Holleman Corporation



REV	DESCRIPTION	DATE	BY

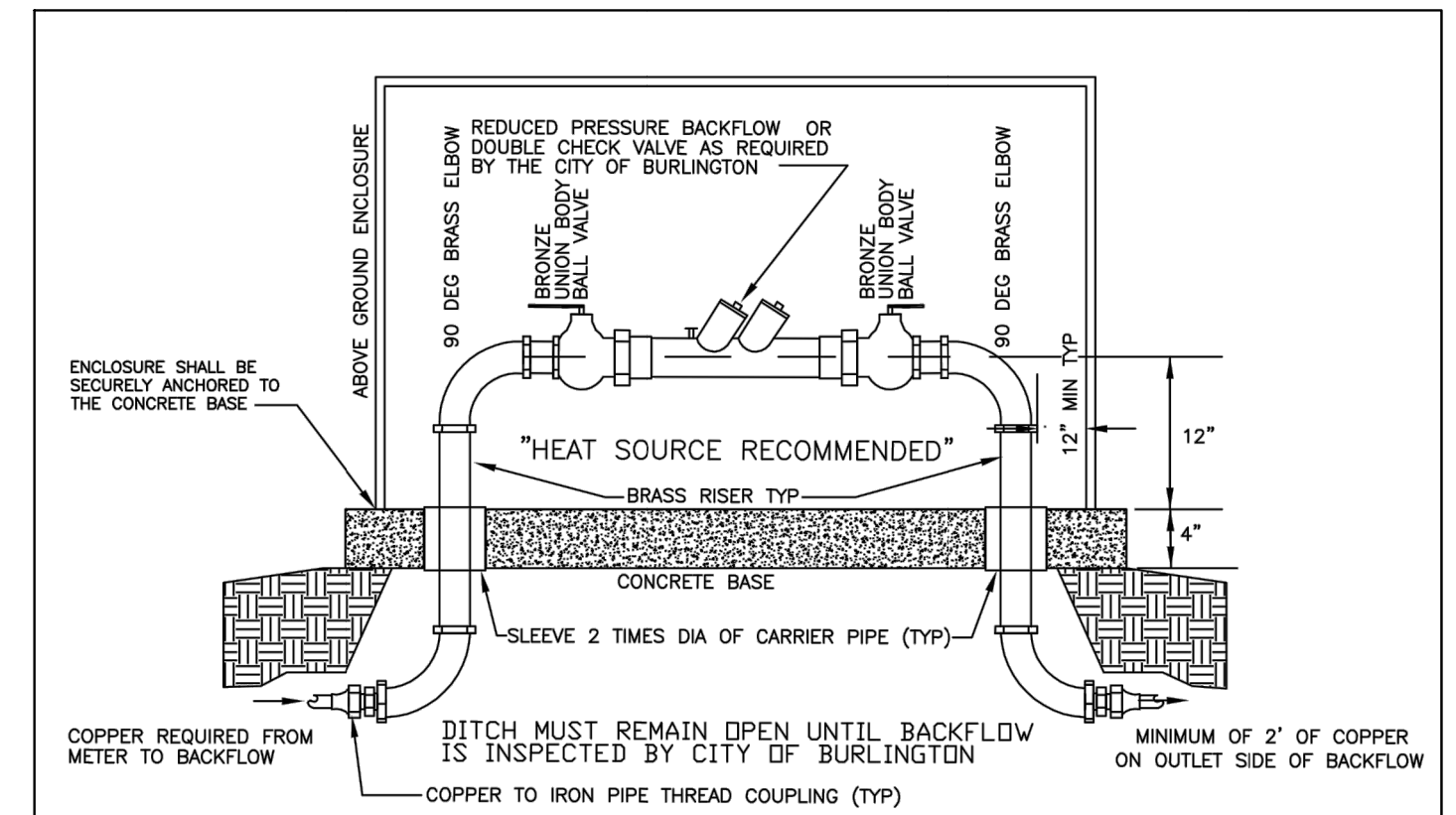
PLOT SCALE: 1:1 PLOT DATE: 4/20/2023

DRAWN BY: JCV	CHECKED BY: TDH
DATE: 04/18/2023	APPROVED BY: TDH
JOB NO.: HC23036	ACAD NO.: HC23036PLBG CH
SCALE: AS NOTED	DWG. NO.: P-2



1 Floor Plan - Water Service

Scale: 1/4"=1'-0"



1. THE BACKFLOW DEVICE SHALL BE WITHIN 10' OF AND ON THE PROPERTY SIDE OF THE METER. ENCLOSURE SHALL NOT OBSTRUCT SITE DISTANCE AT ROAD CROSSINGS.
2. ALL BACKFLOW DEVICES SHALL BE INSTALLED ABOVE GROUND IN A HORIZONTAL POSITION UNLESS OTHERWISE PREAPPROVED BY THE CITY OF BURLINGTON.
3. SHUT OFF VALVES SHALL BE FULL PORT, LINE SIZE, LEVERTYPE, AND 1/2 TURN BRONZE BALL VALVES.
4. DEVICES SHALL HAVE TWO RESILIENT SEAT BRONZE UNIONS BETWEEN THE SHUT OFF VALVES FOR REMOVAL OF THE DEVICE.
5. APPROVED ABOVE GROUND ENCLOSURES: "HOT BOX", HYDRODOWL, OR SMI MODEL # B-30-SZD, B41-SZD, B51-SZD. ENCLOSURE MUST HAVE A DRAIN
6. TANDEM BACKFLOWS REQUIRED IF SERVING MULTIPLE USERS OR SERVICE CANNOT BE INTERRUPTED
7. BY-PASS OF BLACKFLOW DEVICE, TEMPORARY OR PERMENTENT, WILL NOT BE ACCEPTABLE



DATE	REVISED	SCALE	DETAIL
8/16/04	6/23/05	NOT TO SCALE	SC-40

ABOVE GRADE BACKFLOW PREVENTER, 3/4" - 2"
CITY OF BURLINGTON, NORTH CAROLINA
ENGINEERING DEPARTMENT

A Reduced Pressure Zone Backflow Preventer Detail

Scale: None

**Plumbing
First Floor Plan**

**PLUMBING
DeBoer & Gabriel Builders, Inc
Legacy at Haw River Apts Clubhouse**
Burlington, North Carolina

ENGINEERING SERVICES PROVIDED BY
HOLLEMAN CORPORATION
6772 KELSEY COURT, GIBSONVILLE, NC 27249
(336) 337-6334; fax: (336) 446-7476
email: hollemancorp@earthlink.net
This Drawing Is Private And Confidential; All Use Is Forbidden
Except By Written Consent Of Holleman Corporation

DRAWN BY:	JCV	CHECKED BY:	TDH
DATE:	04/18/2023	APPROVED BY:	TDH
JOB NO.:	HC23036	ACAD NO.:	HC23036PLBG CH
SCALE:	AS NOTED	DWG. NO.:	P-3

REV	DESCRIPTION	DATE	BY

PLOT SCALE: 1:1 PLOT DATE: 4/20/2023