


1 SITE UTILITY PLAN
P1.0

1/32" = 1'-0"

CONSULTANTS

DUFFY ENGINEERING AND ASSOCIATES, INC.
STRUCTURAL - CIVIL - SURVEYING -
MECHANICAL - ELECTRICAL
350 Highway 10 South Suite 101 St.
Cloud, MN 56304
Phone: (320) 259-6575
Fax: (320) 259-6991
Email: mail@duffyeng.com


Assembly of God
14201 Cedar Avenue South
Apple Valley, MN 55124
952.432.4332

FLUMLING CODE REVIEW	8-8-07
REVISION	DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.


Perry R. Nisler, P.E.
Date: 2-09-07 License No. 22468

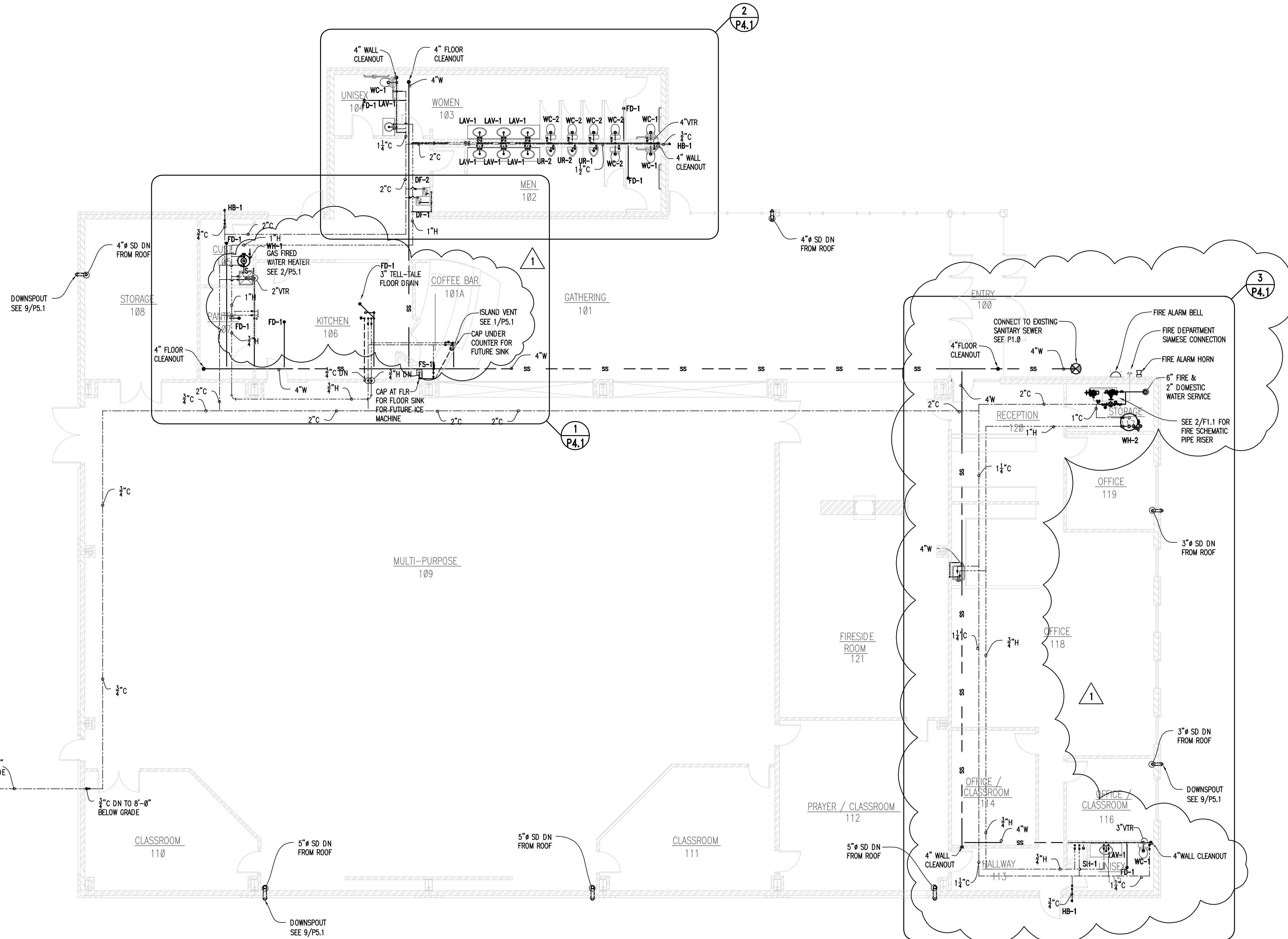
SITE UTILITY PLAN

PROJECT NO.:	06752
SCALE:	AS NOTED
DATE:	2-09-07
DRAWN BY:	DJD
CHECKED BY:	PRN

P1.0

PLUMBING NOTES

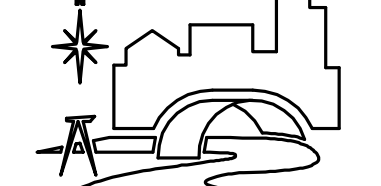
- STANDPIPE RECEPTORS SHALL BE INDIVIDUALLY VENTED. TRAP TO VENT DISTANCE SHALL MEET THE REQUIREMENTS OF MINNESOTA RULES.
- EQUIPMENT USED FOR HEATING WATER OR STORING HOT WATER SHALL BE PROTECTED BY APPROVED SAFETY DEVICES IN ACCORDANCE WITH MINNESOTA RULES.
- ALL EXTERNAL SILCOCKS AND WALL HYDRANTS SHALL BE PROVIDED WITH SEPARATE SHUT-OFF VALVES INSIDE THE BUILDING. FAUCETS EQUIPPED WITH THREADED HOSE CONNECTIONS SHALL BE PROVIDED WITH APPROVED BACKFLOW PREVENTERS.
- DOUBLE WYES SHALL NOT BE USED FOR DRAINAGE FITTINGS IN THE HORIZONTAL POSITION.
- MATERIALS USED FOR WATER DISTRIBUTION PIPING SHALL COMPLY WITH MINNESOTA RULES. ALL SOLDER AND FLUX USED FOR THE POTABLE WATER DISTRIBUTION SYSTEM SHALL CONTAIN LESS THAN 0.2 PERCENT LEAD. USE OF 50-50 SOLDER OR FLUX CONTAINING MORE THAN 0.2 PERCENT LEAD IS PROHIBITED IN POTABLE WATER DISTRIBUTION SYSTEMS. ANY SOLDER OTHER THAN 95-5 TIN-ANTIMONY OR 96-4 TIN-SILVER MUST BE SPECIFICALLY APPROVED BY THE ADMINISTRATIVE AUTHORITY PRIOR TO USE.
- MATERIALS USED FOR DRAIN, WASTE, AND VENT SYSTEMS SHALL COMPLY WITH MINNESOTA RULES. IF PLASTIC PIPE IS USED FOR THE DRAIN, WASTE AND VENT SYSTEM:
 - ABS PLASTIC PIPE SHALL COMPLY WITH ASTM STANDARD D 2661 OR F 628.
 - PVC PLASTIC PIPE SHALL COMPLY WITH ASTM STANDARD D 2665, D 2949 OR F 891.
 - IT SHALL BE INSTALLED IN ACCORDANCE WITH MINNESOTA RULES.
 - ABOVE-GRADE HORIZONTAL RUNS OF PLASTIC WASTE AND VENT PIPE SHALL NOT EXCEED 35 FEET IN TOTAL LENGTH. ABOVE-GRADE VERTICAL STACKS CONSTRUCTED OF PLASTIC PIPE SHOULD EXCEED 35 FEET IN TOTAL HEIGHT ONLY IF AN APPROVED EXPANSION JOINT IS USED.
 - SOLENT WELD JOINTS IN PVC AND CPVC PIPE SHALL INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT (SEE MINNESOTA RULES, PART 4715.0810, SUBPART 2).
- COPPER MATERIALS USED FOR WATER SERVICE SHALL BE TYPE K SOFT TEMPER OR TYPE L SOFT TEMPER. ALL UNDERGROUND SECTIONS OF BUILDING DRAIN AND BUILDING SEWER PIPE LOCATED WITHIN 10 FEET HORIZONTALLY OF UNDERGROUND WATER SERVICE PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MINNESOTA RULES.
- THE PLUMBING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH MINNESOTA RULES.
- THE WATER PIPING SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH MINNESOTA RULES.
- ALL HOT AND COLD WATER LINES, EXPOSED OR IN CEILING SPACE SHALL BE INSULATED WITH MINIMUM 1/2" INSULATION.



1 **MAIN FLOOR PLUMBING PLAN**
P1.1 WASTE & VENT
 DOMESTIC HOT & COLD WATER

1/8" = 1'-0"

CONSULTANTS



DUFFY ENGINEERING AND ASSOCIATES, INC.
 STRUCTURAL - CIVIL - SURVEYING -
 MECHANICAL - ELECTRICAL
 350 Highway 10 South Suite 101 St.
 Cloud, MN 56304
 Phone: (320) 259-6575
 Fax: (320) 259-6991
 Email: mail@duffyeng.com

Mount
Olivet
 Assembly of God
 14201 Cedar Avenue South
 Apple Valley, MN 55124
 952.432.4332

PLUMBING CODE REVIEW	
REVISION	DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nisler, P.E.
 Date 2-09-07 License No. 22468

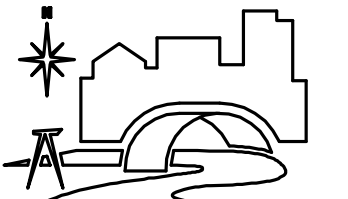
MAIN FLOOR PLUMBING PLAN

PROJECT NO.:	06752
SCALE:	AS NOTED
DATE:	2-09-07
DRAWN BY:	JRM
CHECKED BY:	PRN

P1.1

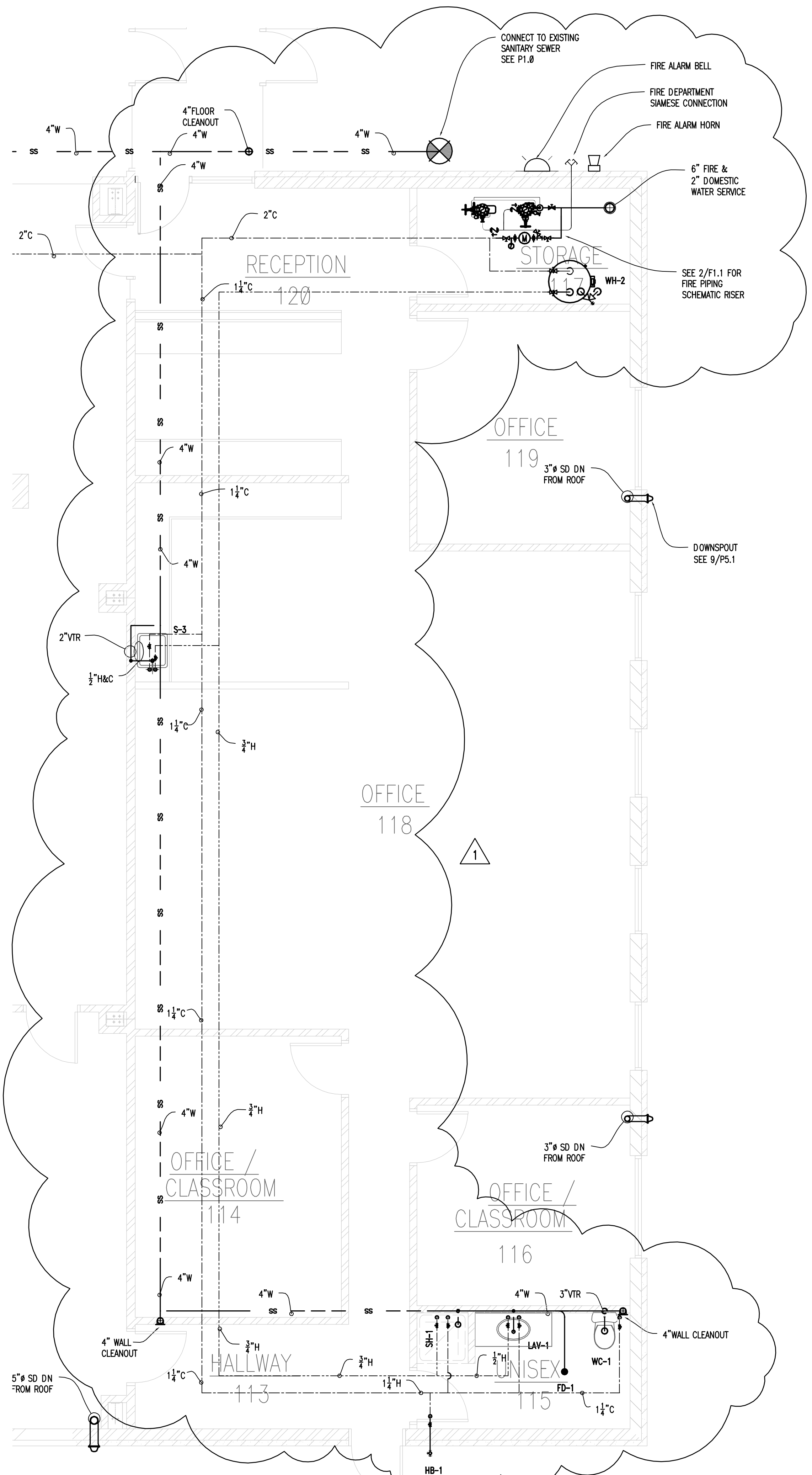
2007 ATTACHMENTS: Main Floor Plumbing Annotations.dwg, Schedule B, Notes.dwg, 07/23/2006.dwg, Primary Layout.dwg, 07/23/06.dwg

CONSULTANTS

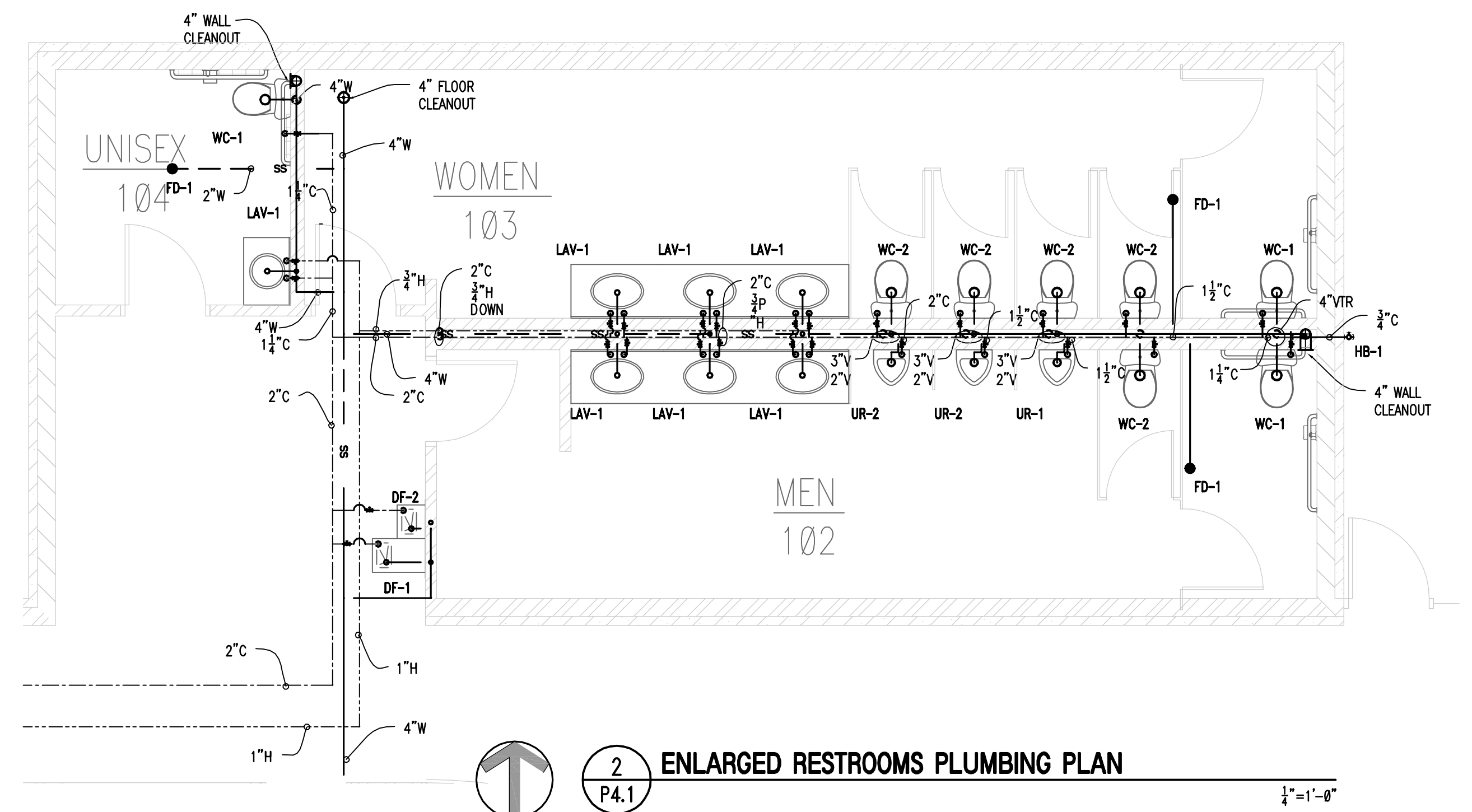


DUFFY ENGINEERING AND ASSOCIATES, INC.
STRUCTURAL - CIVIL - SURVEYING -
MECHANICAL - ELECTRICAL
350 Highway 10 South Suite 101 St.
Cloud, MN 56304
Phone: (320) 259-6575
Fax: (320) 259-6991
Email: mail@duffyeng.com

*Mount
Olivet*
Assembly of God
14201 Cedar Avenue South
Apple Valley, MN 55124
952.432.4332



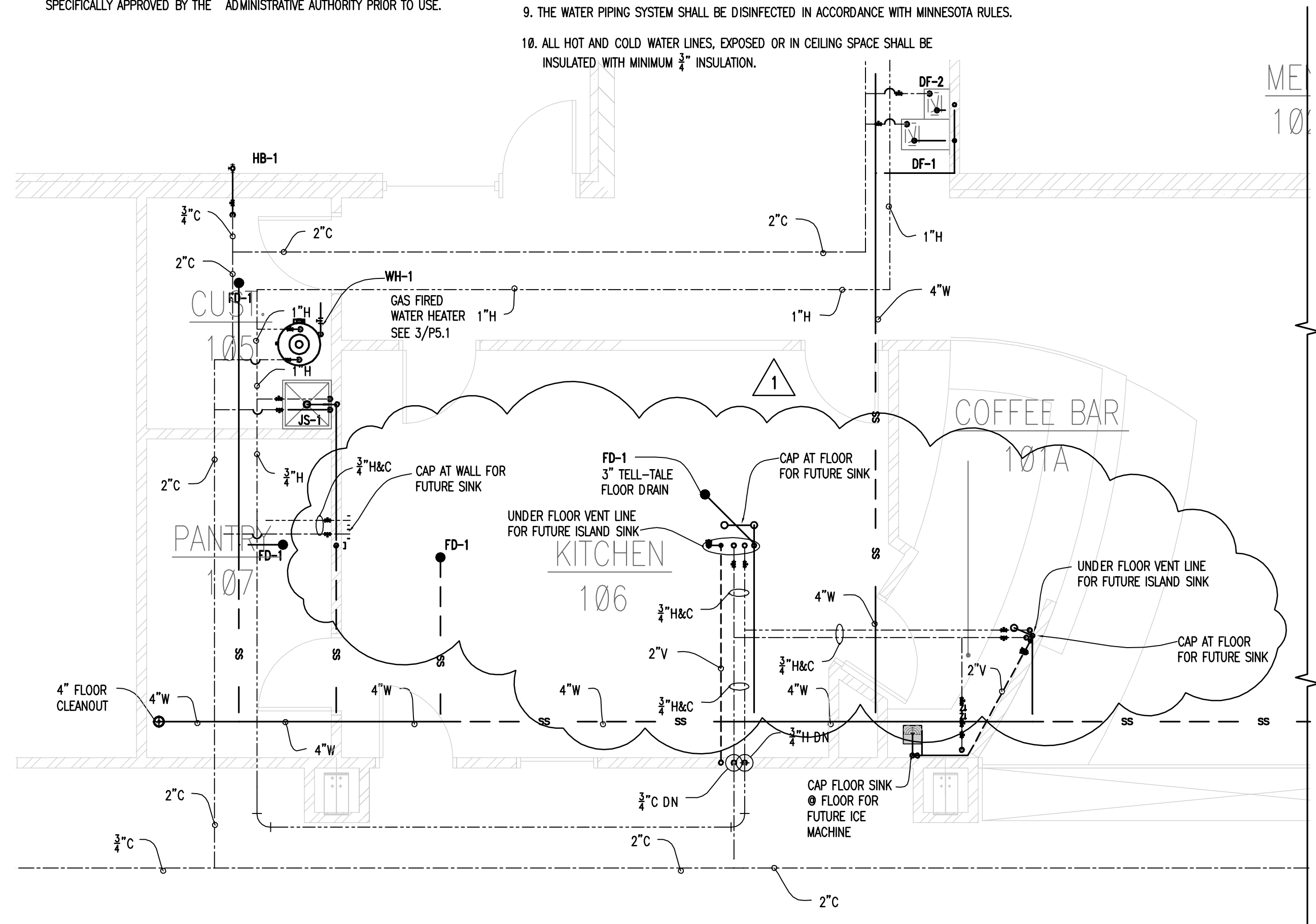
3 ENLARGED UNI-SEX RESTROOM 115 PLUMBING PLAN
P4.1 OFFICE/CLASSROOM 114
WORK/CLASSROOM 119
1/4"=1'-0"



2 ENLARGED RESTROOMS PLUMBING PLAN
P4.1
1/4"=1'-0"

PLUMBING NOTES

- STANDPIPE RECEPTORS SHALL BE INDIVIDUALLY VENTED. TRAP TO VENT DISTANCE SHALL MEET THE REQUIREMENTS OF MINNESOTA RULES.
- EQUIPMENT USED FOR HEATING WATER OR STORING HOT WATER SHALL BE PROTECTED BY APPROVED SAFETY DEVICES IN ACCORDANCE WITH MINNESOTA RULES.
- ALL EXTERNAL SILLCOCKS AND WALL HYDRANTS SHALL BE PROVIDED WITH SEPARATE SHUT-OFF VALVES INSIDE THE BUILDING. FAUCETS EQUIPPED WITH THREADED HOSE CONNECTIONS SHALL BE PROVIDED WITH APPROVED BACKFLOW PREVENTERS.
- DOUBLE WYES SHALL NOT BE USED FOR DRAINAGE FITTINGS IN THE HORIZONTAL POSITION.
- MATERIALS USED FOR WATER DISTRIBUTION PIPING SHALL COMPLY WITH MINNESOTA RULES. ALL SOLDER AND FLUX USED FOR THE POTABLE WATER DISTRIBUTION SYSTEM SHALL CONTAIN LESS THAN 0.2 PERCENT LEAD. USE OF 50-50 SOLDER OR FLUX CONTAINING MORE THAN 0.2 PERCENT LEAD IS PROHIBITED IN POTABLE WATER DISTRIBUTION SYSTEMS. ANY SOLDER OTHER THAN 95-5 TIN-ANTIMONY OR 96-4 TIN-SILVER MUST BE SPECIFICALLY APPROVED BY THE ADMINISTRATIVE AUTHORITY PRIOR TO USE.
- MATERIALS USED FOR DRAIN, WASTE, AND VENT SYSTEMS SHALL COMPLY WITH MINNESOTA RULES. IF PLASTIC PIPE IS USED FOR THE DRAIN, WASTE AND VENT SYSTEM:
 - ABS PLASTIC PIPE SHALL COMPLY WITH ASTM STANDARD D 2661 OR F 628.
 - PVC PLASTIC PIPE SHALL COMPLY WITH ASTM STANDARD D 2665, D 2949 OR F 891.
 - IT SHALL BE INSTALLED IN ACCORDANCE WITH MINNESOTA RULES.
 - ABOVE-GRADE HORIZONTAL RUNS OF PLASTIC WASTE AND VENT PIPE SHALL NOT EXCEED 35 FEET IN TOTAL LENGTH. ABOVE-GRADE VERTICAL STACKS CONSTRUCTED OF PLASTIC PIPE SHOULD EXCEED 35 FEET IN TOTAL HEIGHT ONLY IF AN APPROVED EXPANSION JOINT IS USED.
 - SOLVENT WELD JOINTS IN PVC AND CPVC PIPE SHALL INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT (SEE MINNESOTA RULES, PART 4715.0810, SUBPART 2).
- COPPER MATERIALS USED FOR WATER SERVICE SHALL BE TYPE K SOFT TEMPER OR TYPE L SOFT TEMPER. ALL UNDERGROUND SECTIONS OF BUILDING DRAIN AND BUILDING SEWER PIPE LOCATED WITHIN 10 FEET HORIZONTALLY OF UNDERGROUND WATER SERVICE PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH MINNESOTA RULES.
- THE PLUMBING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH MINNESOTA RULES.
- THE WATER PIPING SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH MINNESOTA RULES.
- ALL HOT AND COLD WATER LINES, EXPOSED OR IN CEILING SPACE SHALL BE INSULATED WITH MINIMUM 1/2" INSULATION.



1 ENLARGED KITCHEN PLUMBING PLAN
P4.1
1/4"=1'-0"

PLUMBING CODE REVIEW	8-07
REVISION	DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

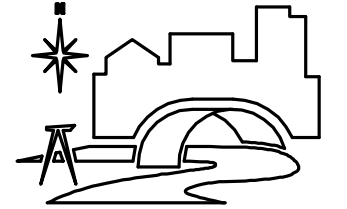
Perry R. Nisler, P.E.
Date 2-09-07 License No. 22468

ENLARGED PLUMBING PLANS

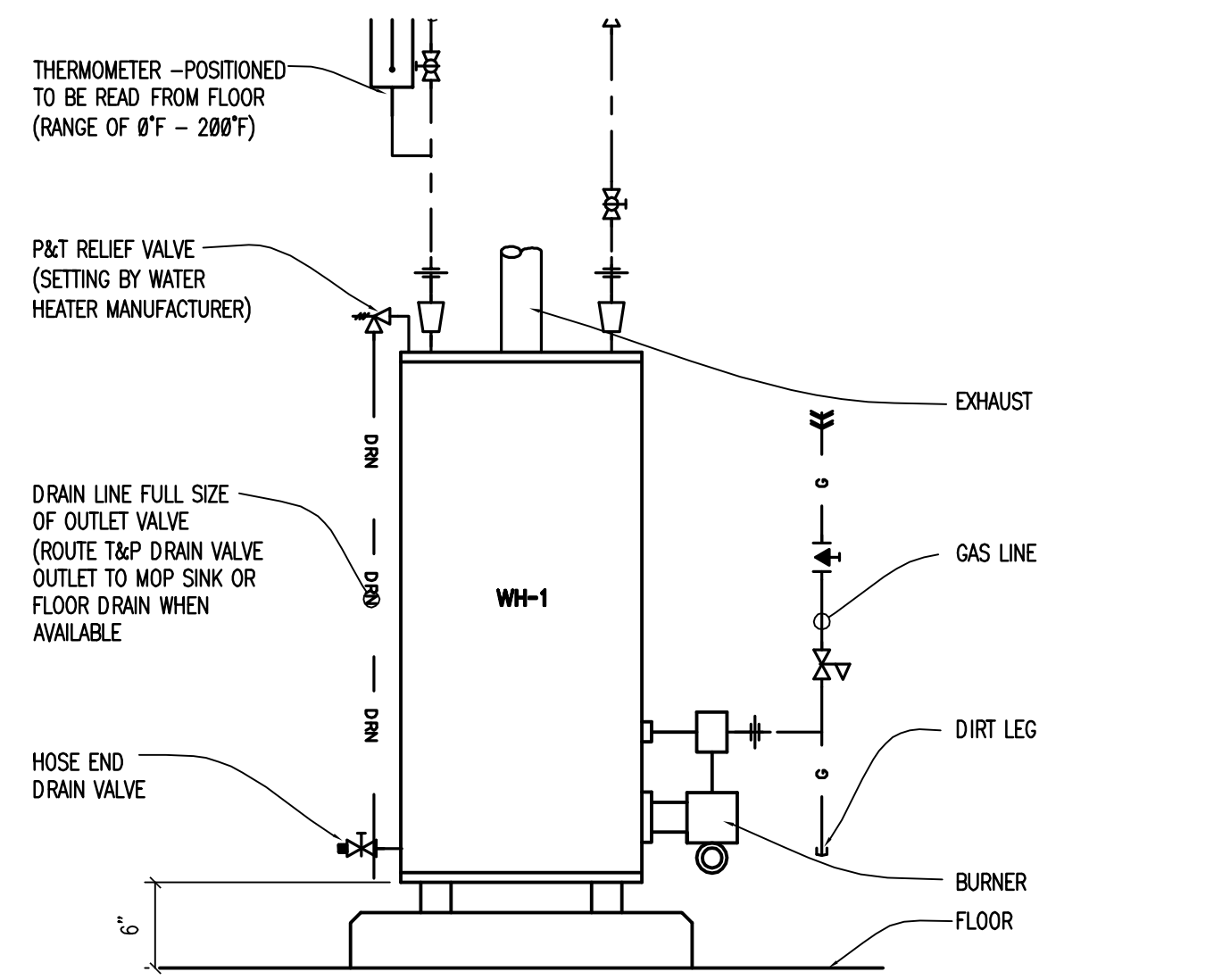
PROJECT NO.:	06752
SCALE:	AS NOTED
DATE:	2-09-07
DRAWN BY:	JRM
CHECKED BY:	PRN

P4.1

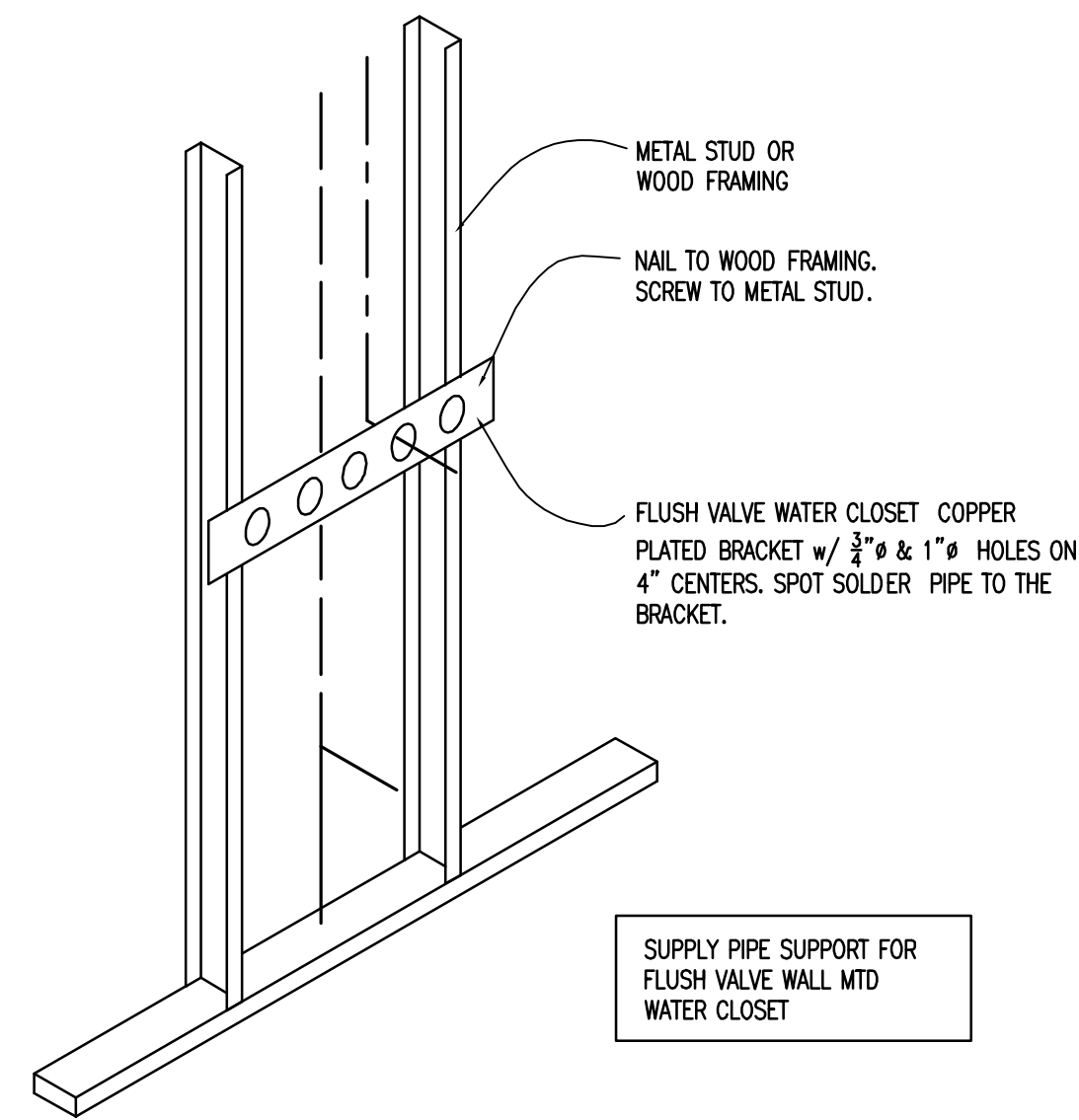
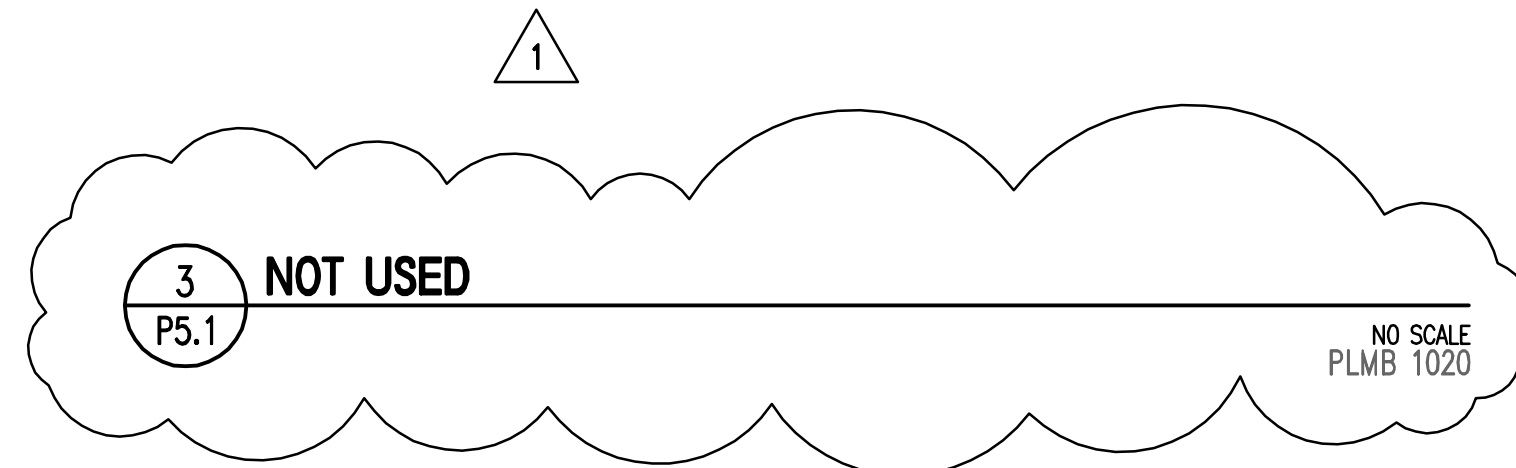
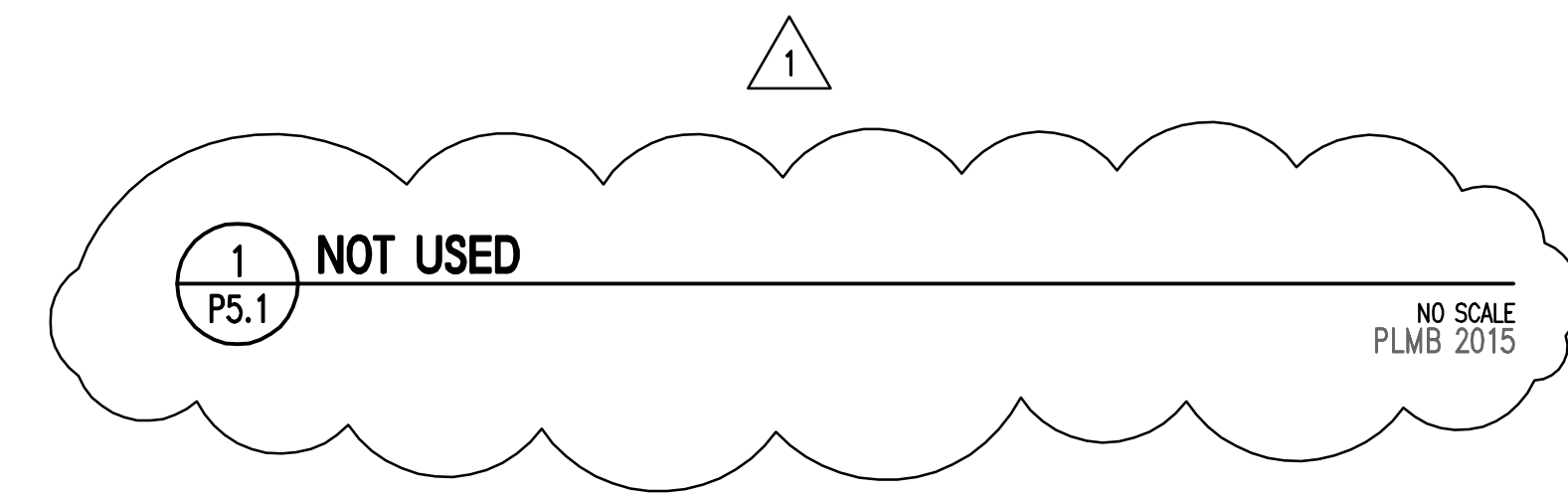
CONSULTANTS



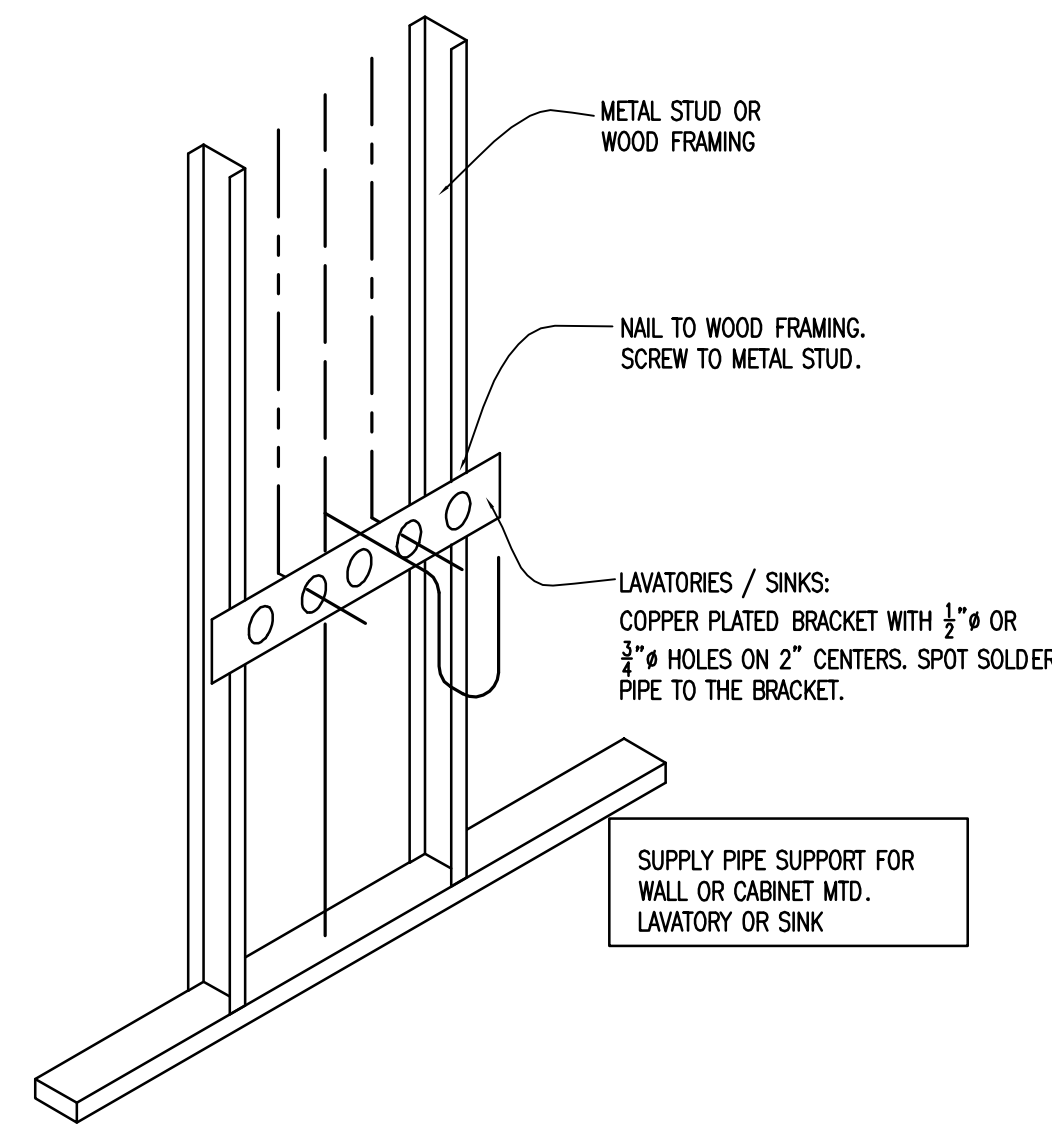
DUFFY ENGINEERING AND ASSOCIATES, INC.
STRUCTURAL - CIVIL - SURVEYING -
MECHANICAL - ELECTRICAL
350 Highway 10 South Suite 101 St.
Cloud, MN 56304
Phone: (320) 259-6575
Fax: (320) 259-6991
Email: mail@duffyeng.com



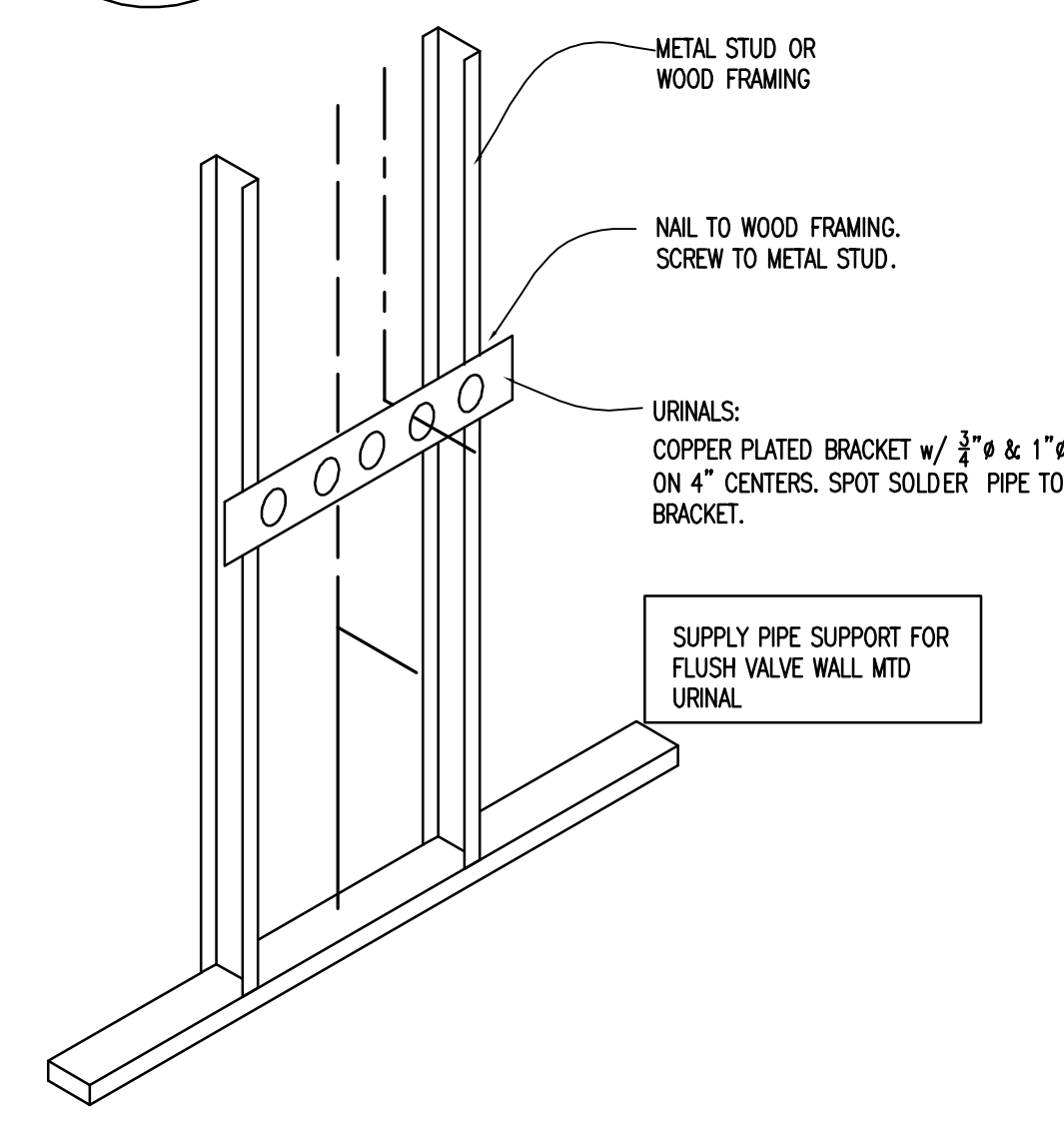
2 GAS WATER HEATER DETAIL
P5.1 NO SCALE PLMB 1004
SEE SCHEDULE SHEET P5.1



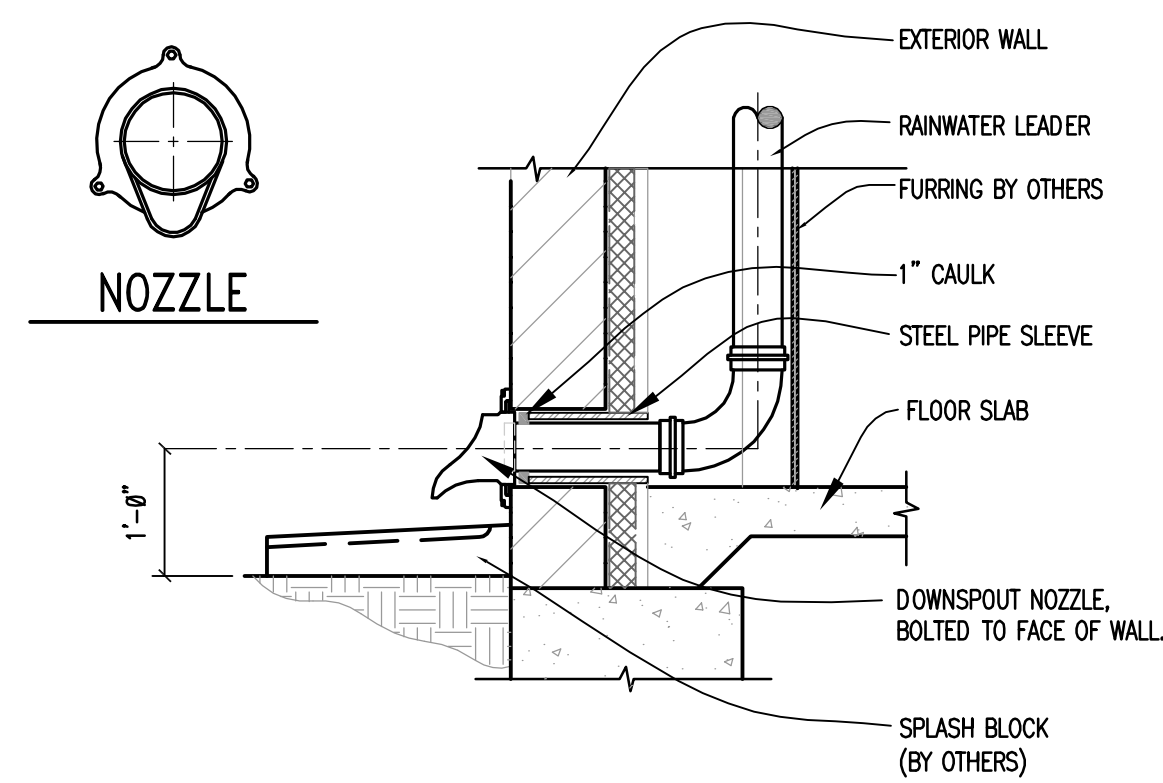
6 LAVATORY OR SINK PIPE SUPPORT DETAIL
P5.1 NO SCALE PLMB 1001



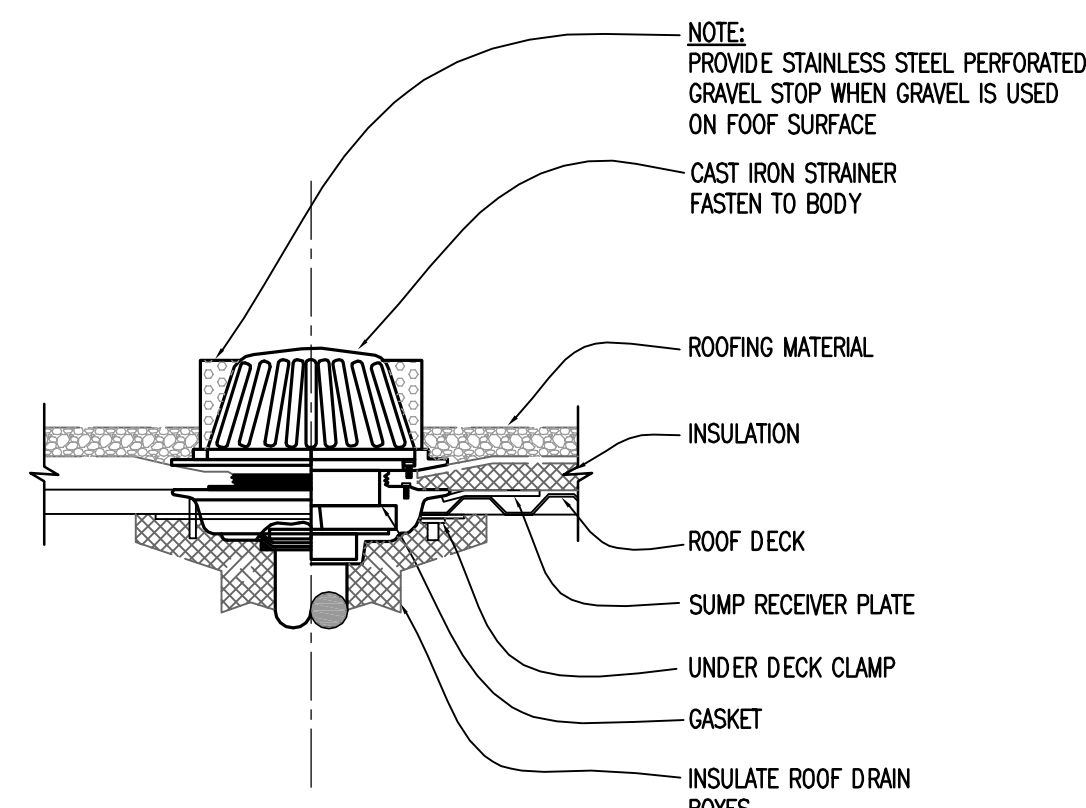
5 LAVATORY OR SINK PIPE SUPPORT DETAIL
P5.1 NO SCALE PLMB 1001



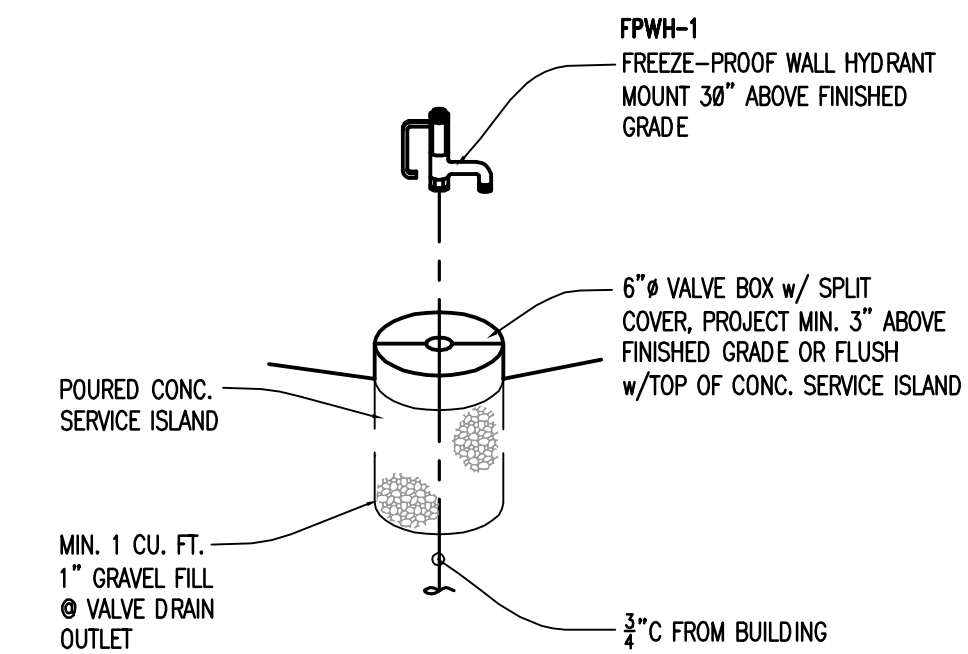
4 URINAL PIPE SUPPORT DETAIL
P5.1 FLOOR MOUNTED TANK TYPE NO SCALE PLMB 1004



9 RAIN WATER LEADER DISCHARGE NOZZLE DETAIL
P5.1 NO SCALE PLMB 4003



8 ADJUSTABLE ROOF DRAIN DETAIL
P5.1 NO SCALE PLMB 4001



7 FREEZE PROOF WALL HYDRANT
P5.1 NO SCALE PLMB 2022

REVISION	DATE
PLUMBING CODE REVIEW	8-07

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nisler, P.E.
Date: 2-09-07 License No. 22468

PLUMBING SECTIONS & DETAILS

PROJECT NO.:	06752
SCALE:	AS NOTED
DATE:	2-09-07
DRAWN BY:	JRM
CHECKED BY:	PRN

P5.1

PLUMBING FIXTURE SCHEDULE					
FIXTURE NUMBER	DESCRIPTION	WASTE PIPE SIZE	VENT PIPE SIZE	COLD WATER PIPE SIZE	HOT WATER PIPE SIZE
LAV-1	<p>OVAL COUNTERTOP LAVATORY - ADA COMPATIBLE - 4" CENTERS</p> <p>FIXTURE: VITREOUS CHINA, OVAL SHAPE, APPROXIMATE OVERALL DIMENSIONS 20"x17", SELF-RIMMING, 4 INCH CENTERS. MANUFACTURER: AMERICAN STANDARD 0475.028 AQUALYN, GERBER 12-844 LUXOVAL, KOHLER K-2196-4 PENNINGTON.</p> <p>TRIM: ELECTRONIC PROXIMITY LAVATORY FAUCET, LOW VOLTAGE POWERED WITH BELOW DECK MIXING, VANDAL RESISTANT SPRAY AND WIRE CONDUIT, 1 1/4" TAILPIECE CHROME FINISH W/4" CENTERS.</p> <p>MANUFACTURER: GERBER 44-881, AMERICAN STANDARD INNSBROOK 6516VP.2AC, KOHLER, SLOAN.</p>	2"	1 1/2"	1/2"	1/2"
WC-1	<p>FLOOR MOUNTED-FLUSH VALVE TOILET, 17" HANDICAPPED ELONGATED BOWL, 1.6 GPF</p> <p>FIXTURE: ELONGATED VITREOUS CHINA BOWL, LOW CONSUMPTION 1.6 GPF, DIRECT-FED SIPHON JET ACTION, FULLY GLAZED 2" BALLPASS TRAPWAY, FLOOR MOUNTED, 10 INCH ROUGH-IN, BOLT CAPS. MANUFACTURER: GERBER 25-730, AMERICAN STANDARD 3043.102, 17" H MADERA ELONGATED FLUSH VALVE TOILET, KOHLER K-4368 HIGHCLIFF.</p> <p>SEAT: HEAVY DUTY SOLID PLASTIC FOR ELONGATED BOWL, OPEN FRONT, WHITE, STAINLESS STEEL POSTS, SELF-SUSTAINING CHECK HINGE. MANUFACTURER: OLSONITE # 95 OPEN FRONT SEAT, BEMIS, BENEKE, CHURCH #9500C, KOHLER</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 1" SCREWDRIVER ANGLE STOP w/PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING FOR 1 1/2" TOP SPUD, WALL AND SPUD FLANGES, AUTOMATIC LOW VOLTAGE VALVE. MANUFACTURER: GERBER 44-910, SLOAN ROYAL 111-1.0 ES-S WITH EL-518-A, DELANEY FLUSHBOY, ZURN.</p>	4"	3"	1"	---
WC-2	<p>FLOOR MOUNTED-FLUSH VALVE TOILET- ELONGATED BOWL-1.6 GPF</p> <p>FIXTURE: ELONGATED VITREOUS CHINA BOWL, LOW CONSUMPTION 1.6 GPF, DIRECT-FED SIPHON JET ACTION, FULLY GLAZED 2" BALLPASS TRAPWAY, FLOOR MOUNTED, 10 INCH ROUGH-IN, BOLT CAPS. MANUFACTURER: GERBER 25-830, AMERICAN STANDARD 2234.015, 14" H MADERA ELONGATED FLUSH VALVE TOILET, KOHLER K-4350 WELCOME.</p> <p>SEAT: HEAVY DUTY SOLID PLASTIC FOR ELONGATED BOWL, OPEN FRONT, WHITE, STAINLESS STEEL POSTS, SELF-SUSTAINING CHECK HINGE. MANUFACTURER: OLSONITE # 95 OPEN FRONT SEAT, BEMIS, BENEKE, CHURCH #9500C, KOHLER</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED W/1 1/2" SCREWDRIVER ANGLE STOP w/PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING FOR 1 1/2" TOP SPUD, WALL AND SPUD FLANGES, AUTOMATIC LOW VOLTAGE VALVE. MANUFACTURER: GERBER 44-910, SLOAN ROYAL 111-1.0 ES-S w/EL-518-A, DELANEY FLUSHBOY, ZURN.</p>	4"	3"	1"	---
UR-1	<p>URINAL, HANDICAPPED WASHOUT</p> <p>FIXTURE: WHITE VITREOUS CHINA, WASHOUT ACTION, 3/4" TOP INLET SPUD, 2" THREADED OUTLET, BEEHIVE STRAINER. MANUFACTURER: GERBER 27-780, AMERICAN STANDARD 6501.010 WASHBROOK, KOHLER K-4960-T BARDON. MOUNT @ HANDICAP HEIGHT</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 3/4" SCREWDRIVER ANGLE STOP WITH PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING FOR 3/4" TOP SPUD, WALL AND SPUD FLANGES, AUTOMATIC LOW VOLTAGE VALVE. MANUFACTURER: GERBER 44-910, SLOAN ROYAL 186-1.0 ES-S, w/ EL-518-A, DELANEY FLUSHBOY, ZURN.</p> <p>CARRIER: HEAVY DUTY CAST IRON WITH BACKUP WASHERS, ADJUSTABLE EXTENSION AND RUBBER GASKET. MANUFACTURER: WADE, JOSAM, ZURN, SMITH. MOUNT @ HANDICAP HEIGHT</p>	3"	2"	1"	---
UR-2	<p>URINAL, WASHOUT</p> <p>FIXTURE: WHITE VITREOUS CHINA, WASHOUT ACTION, 3/4" TOP INLET SPUD, 2" THREADED OUTLET, BEEHIVE STRAINER. MANUFACTURER: GERBER 27-780, AMERICAN STANDARD 6501.010 WASHBROOK, KOHLER K-4960-T BARDON.</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 3/4" SCREWDRIVER ANGLE STOP WITH PROTECTIVE CAP, ADJUSTABLE TAILPIECE, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING FOR 3/4" TOP SPUD, WALL AND SPUD FLANGES, AUTOMATIC LOW VOLTAGE VALVE. MANUFACTURER: GERBER 44-910, SLOAN ROYAL 186-1.0 ES-S, w/ EL-518-A, DELANEY FLUSHBOY, ZURN.</p> <p>CARRIER: HEAVY DUTY CAST IRON WITH BACKUP WASHERS, ADJUSTABLE EXTENSION AND RUBBER GASKET. MANUFACTURER: WADE, JOSAM, ZURN, SMITH.</p>	3"	2"	1"	---
FD-1	<p>FLOOR DRAIN</p> <p>2" FLOOR DRAIN w/ CLEAN-OUT</p> <p>MANUFACTURERS: SEE SPECIFICATIONS</p>	2"	---	---	---

PLUMBING FIXTURE SCHEDULE NOTES:
1. MINIMUM 2" UNDERGROUND WASTE PIPE SIZE.

GAS WATER HEATER SCHEDULE										
MARK	MANUFACTURER & MODEL NUMBER	STORAGE CAPACITY (GALLONS)	RECOVERY (GPH)	TEMP RISE (°F)	HEAT DATA		BURNER MOTOR			REMARKS
					INPUT BTU (MBH)	OUTPUT BTU (MBH)	HP	VOLT	PH	
WH-1	RHEEM-RUUD HE 45-130	45	187	80°	130	122	---	120	SINGLE	

GAS WATER HEATER SCHEDULE NOTES:
1. PROVIDE T&P RELIEF VALVE AND PIPE TO SERVICE SINK OR FLOOR DRAIN.
2. NSF APPROVED
3. SEALED COMBUSTION
4. DIRECT VENT, 95% THERMAL EFFICIENCY MINIMUM.
5. VERTICAL ROOF VENTING w/CONCENTRIC VENT KIT.
6. ELECTRICAL CONNECTIONS BY ELECTRICAL CONTRACTOR.
7. ACCEPTABLE MANUFACTURERS: RHEEM-RUUD, STAT, A.O. SMITH.

ELECTRIC WATER HEATER SCHEDULE											
MARK	MANUFACTURER & MODEL NUMBER	STORAGE CAPACITY (GALLONS)	RECOVERY (GPH)	EWT DEG (°F)	LWT DEG (°F)	TEMP RISE (°F)	HEATING				REMARKS
							KW	VOLT	PH	STAGES	
WH-2	RHEEM-RUUD EGGP-20	20	30	80°	120°	80°	6	208	SINGLE	SINGLE	

ELECTRIC WATER HEATER SCHEDULE NOTES:
1. PROVIDE T & P RELIEF VALVE AND PIPE TO SERVICE SINK OR FLOOR DRAIN.
2. CONNECTION BY ELECTRICAL
3. ACCEPTABLE MANUFACTURERS: RHEEM-RUUD, STATE, A.O. SMITH.

PLUMBING FIXTURE SCHEDULE					
FIXTURE NUMBER	DESCRIPTION	WASTE PIPE SIZE	VENT PIPE SIZE	COLD WATER PIPE SIZE	HOT WATER PIPE SIZE
S-1	<p>STAINLESS STEEL, 18 GAUGE, 2 COMPARTMENT KITCHEN SINK</p> <p>FIXTURE: 33"x22" 2 COMPARTMENT KITCHEN SINK, (2) 14"x15 1/2" BOWLS, 6 1/2" DEEP BOWLS AND COVERED CORNERS. 18 GAUGE, TYPE 304 STAINLESS STEEL, (3) HOLES. MANUFACTURER: DAYTON D-23222, ELKAY, KOHLER, AMERICAN STANDARD.</p> <p>FITTINGS: INDIVIDUAL HOT AND COLD VALVES WITH 4" WRIST BLADE HANDLES, 8" GOOSENECK SPOUT WITH AERATOR, 8" CENTERS, GRID STRAINER, 1 1/4" TAILPIECE, CHROME FINISH. MANUFACTURER: GERBER C0-44-116, AMERICAN STANDARD 6530.170.000 MONTERREY, KOHLER K-7380-SA, ELKAY LK499A.</p> <p>DRAIN: STAINLESS STEEL BODY, STAINLESS CONICAL STRAINER, REMOVABLE LIFT UP KNOB WITH NEOPRENE STOPPER, 1 1/2" CHROME PLATED BRASS TAILPIECE. MANUFACTURER: ELKAY LK-99, ZEIGLER-HARRIS 2H-316-BC</p>	2"	1 1/2"	3/4"	3/4"
S-2	<p>STAINLESS STEEL, 18 GAUGE, 20"x20" - 1 COMPARTMENT KITCHEN SINK</p> <p>FIXTURE: 20"x20" 8" DEEP BOWL, 18 GAUGE TYPE 304 STAINLESS STEEL, SELF-RIMMING, SINGLE COMPARTMENT, (3) HOLE SINK. MANUFACTURER: KOHLER K-3362-3, ELKAY, ZEIGLER-HARRIS.</p> <p>FITTINGS INDIVIDUAL HOT AND COLD VALVES WITH LEVER BLADES ON 8" CENTERS, 9" SWING SPOUT WITH AERATOR. MANUFACTURER: KOHLER K-15888-K-CP, CHICAGO, ELKAY OR APPROVED EQUAL.</p> <p>DRAIN: STAINLESS STEEL BODY, STAINLESS CONICAL STRAINER, REMOVABLE LIFT UP KNOB WITH NEOPRENE STOPPER, 1 1/2" CHROME PLATED BRASS TAILPIECE. MANUFACTURER: KOHLER "DUOSTRAINER", ELKAY, ZEIGLER-HARRIS.</p>	2"	1 1/2"	1/2"	1/2"
JS-1	<p>DURASTONE JANITOR'S/MOP SINK:</p> <p>FIXTURE: DURASTONE MOP BASIN, MODEL 62M, 24"x24" SQUARE, WITH WALL GUARDS. MANUFACTURER: EL MURTEE AND SONS.</p> <p>FITTINGS: DOUBLE FAUCET WITH VACUUM BREAKER, 3/8" HOSE THREADED SPOUT, ADJUSTABLE WALL BRACE, PAIL HOOK, FLANGED ARMS WITH INTEGRAL STOPS, CHROME PLATED. MANUFACTURERS: CHICAGO FAUCET NO. 897.</p> <p>DRAIN: 3" CAST BRASS, CHROME PLATED w/ DOME TYPE STRAINER AND LINT BASKET MADE FROM TYPE 302 STAINLESS STEEL.</p>	3"	2"	3/4"	3/4"
DF-1 DF-2	<p>DRINKING FOUNTAIN - ADA (DF-1) & STANDARD (DF-2)</p> <p>FOUNTAIN SHALL DELIVER 8.0 GPH OF 50 DEGREES AMBIENT, ONE PIECE POLISHED STAINLESS STEEL TOP w/ INTEGRAL DRAIN GRID. CABINET COLOR SHALL BE GRAY-BEIGE. SEPARATE VALVE AND DIAPHRAGM AUTOMATIC STREAM REGULATOR SHALL BE MOUNTED WITHIN THE CABINET.</p> <p>REFRIGERATION SYSTEM SHALL EMPLOY HERMETICALLY SEALED HIGH EFFICIENCY, POSITIVE START COMPRESSOR, NON-PRESSURIZED COUNTERFLOW COOLING COIL CONTROLLED BY POSITIVE SENSING THERMOSTAT AND FAN-COOLED COPPER TUBE/ALUMINUM FIN CONDENSER COIL.</p> <p>COOLER SHALL COMPLY WITH ADA AND ANSI 117.1 FOR BOTH VISUAL AND MOTION DISABILITIES. COOLER SHALL BE CERTIFIED BY ARI TO MEET STANDARD 1010-78. UNITS SHALL BE MOUNTED WITHIN THE CABINET.</p> <p>FOUNTAIN SHALL HAVE FRONT, LEFT AND RIGHT SIDE PUSH BARS AND FLEXIBLE POLYESTER ELASTOMER BUBBLE HOOD. MOUNT AT ADA HEIGHT.</p> <p>MANUFACTURER: ELKAY ES2-8, HALSEY-TAYLOR, OR APPROVED EQUAL.</p>	2"	1 1/2"	1/2"	---
HB-1	<p>SINGLE FAUCET HOSE BIBB</p> <p>CAST BRONZE FREEZE-PROOF WALL HYDRANT W/ SATIN FINISH, NIKALOYFACE, INTEGRAL VACUUM BREAKER-BACKFLOW PREVENTER, PRESSURE RELIEF VALVE, BRONZE CASING W/ BRONZE OPERATING PARTS, 3/4" THREADED HOSE SPOUT, LOOSE KEY OPERATING HANDLE.</p> <p>MANUFACTURERS: JOSAM 71050 SERIES</p>	---	---	3/4"	---
FYH-1	<p>FREEZE-PROOF YARD HYDRANT</p> <p>BACKFLOW PROTECTED AUTOMATIC DRAINING FREEZE-PROOF YARD HYDRANT, AUTOMATIC DRAIN FEATURE w/ 1/2" N.P.T. TAPPED DRAIN HOLE, 3/4" N.P.T. FEMALE INLET, 3/4" BRASS MALE REMOVABLE HOSE NOZZLE, 3/8" GALVANIZED STEEL PIPE OPERATING ROD, GALVANIZED STEEL CASING. MAXIMUM PRESSURE: 125 PSI, MAXIMUM TEMPERATURE -120° F</p> <p>MANUFACTURERS: WOODFORD MODEL Y34, ZURN</p>	---	---	3/4"	---

PLUMBING FIXTURE SCHEDULE NOTES:
1. MINIMUM 2" UNDERGROUND WASTE PIPE SIZE.

WATER CALCULATIONS								
FLSH VALVE WATER CLOSET - FARTHEST	3 x	40 F.U. = 120 F.U.						
FLUSH VALVE WATER CLOSET 2nd FARTHEST	1 x	30 F.U. = 30 F.U.						
FLUSH VALVE WATER CLOSET 3rd FARTHEST	1 x	20 F.U. = 20 F.U.						
FLUSH VALVE WATER CLOSET 4th FARTHEST	1 x	15 F.U. = 15 F.U.						
FLUSH VALVE WATER CLOSET 5th FARTHEST	3 x	10 F.U. = 30 F.U.						
FLUSH VALVE URINALS & WATER CLOSETS	3 x	10 F.U. = 30 F.U.						
HOSE BIBBS	4 x	5 F.U. = 20 F.U.						
SINGLE COMPARTMENT KITCHEN SINK	1 x	4 F.U. = 4 F.U.						
DRINKING FOUNTAINS	2 x	1 F.U. = 2 F.U.						
LAVATORIES	8 x	2 F.U. = 16 F.U.						
HANDICAP SHOWER STALL	1 x	4 F.U. = 4 F.U.						
JANITOR'S MOP SINK	1 x	4 F.U. = 4 F.U.						
TOTAL PROPOSED FIXTURE UNITS	29 F.U.	145 F.U. 295 F.U.						
FUTURE COMMERCIAL DISHWASHER	1 x	4 F.U. = 4 F.U.						
FUTURE 2 COMPARTMENT KITCHEN SINK	1 x	4 F.U. = 4 F.U.						
FUTURE SINGLE COMPARTMENT SINK	1 x	4 F.U. = 4 F.U.						
FUTURE ICE MACHINE	1 x	1 F.U. = 1 F.U.						
PROPOSED FUTURE FIXTURE UNITS	4 F.U.	13 F.U. 13 F.U.						
TOTAL MAXIMUM FIXTURE UNITS (XX UNITS)	33 F.U.	158 F.U. 308 F.U.						
308 F.U. x FITTURE UNITS =		GALLONS PER MINUTE (GPM)						
HIGHEST FIXTURE =								
10 FT. x 0.43 =	4.3	PSI STATIC PRESSURE LOSS						
HORIZ. PIPE LENGTH TAP TO METER (XX SERVICE)	2" SERVICE							
TOTAL SERVICE PIPE LENGTH		0 FT.						
HORIZ. PIPE LENGTH METER TO BUILDING		0 FT.						
HORIZ. PIPE LENGTH BLDG. TO LAST FIXTURE		280 FT.						
VERT. PIPE LENGTH BLDG. RISE TO HIGHEST FIXTURE		10 FT.						
TOTAL BUILDING PIPE LENGTH		280 FT.						
0 FT. x 1.5 (FITTING LOSS) =	0 FT.	TOTAL DEVELOP LENGTH						
SIZE	DEVICE	PSI LOSS						
2"	WATER METER	6.20						
	STATIC	4.30						
	FIXTURE	20.00						
	TOTAL BUILDING LOSS	0.00 PSI						
PRESSURE AT STREET (PER WATER UTILITY)		62.00 PSI						
SERVICE LOSS		0.00 PSI						
BUILDING LOSS		0.00 PSI						
DIFFERENCE:		62.00 PSI						
62.00	X	100 = #DIV/0!						
0 FT.		AVERAGE PSI DROP PER 100 FEET OF PIPE						
BRANCH PIPE SIZING CHART - MAX PSI LOSS								
PIPE SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
FU (F.T.)	5	14	30	66	150	368	535	

NEGEN
ARCHITECTS

STUDIO: 22517 178th Ave, Suite 200
Cold Spring, Minnesota 56320
TELEPHONE: 320.685.3304
FACSIMILE: 320.685.4039

CONSULTANTS



DUFFY ENGINEERING AND ASSOCIATES, INC.
STRUCTURAL - CIVIL - SURVEYING -
MECHANICAL - ELECTRICAL
350 Highway 10 South Suite 101 St.
Cloud, MN 56304
Phone: (320) 259-6575
Fax: (320) 259-6991
Email: mail@duffyeng.com

Mount
Olivet
Assembly of God
14201 Cedar Avenue South
Apple Valley, MN 55124
952.432.4332

PLUMBING CODE REVIEW 8-07
REVISION DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nisler, P.E.
Date: 2-09-07 License No. 22468

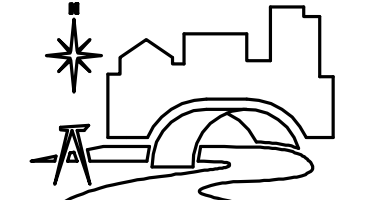
PLUMBING SCHEDULES
& CALCULATIONS

PROJECT NO.: 06752
SCALE:
DATE: 2-09-07
DRAWN BY: JRM
CHECKED BY: PRN

P6.1

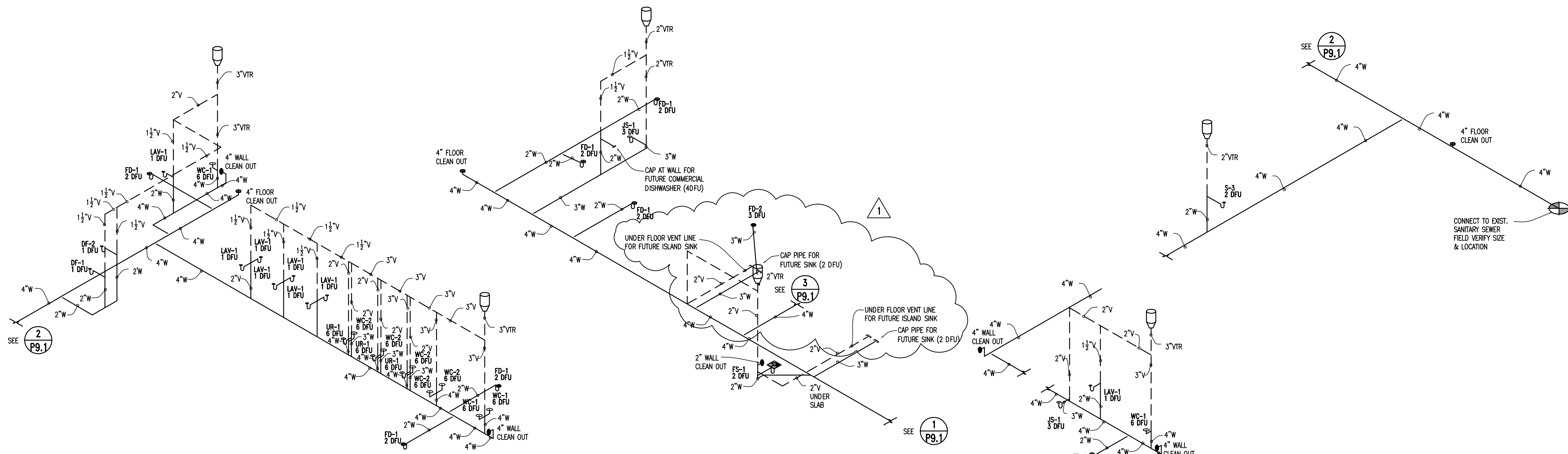
Duffy Project File: Z7-06752-4P6.1

CONSULTANTS



DUFFY ENGINEERING AND ASSOCIATES, INC.
STRUCTURAL - CIVIL - SURVEYING -
MECHANICAL - ELECTRICAL
350 Highway 10 South Suite 101 St.
Cloud, MN 56304
Phone: (320) 259-6575
Fax: (320) 259-6991
Email: mail@duffyeng.com

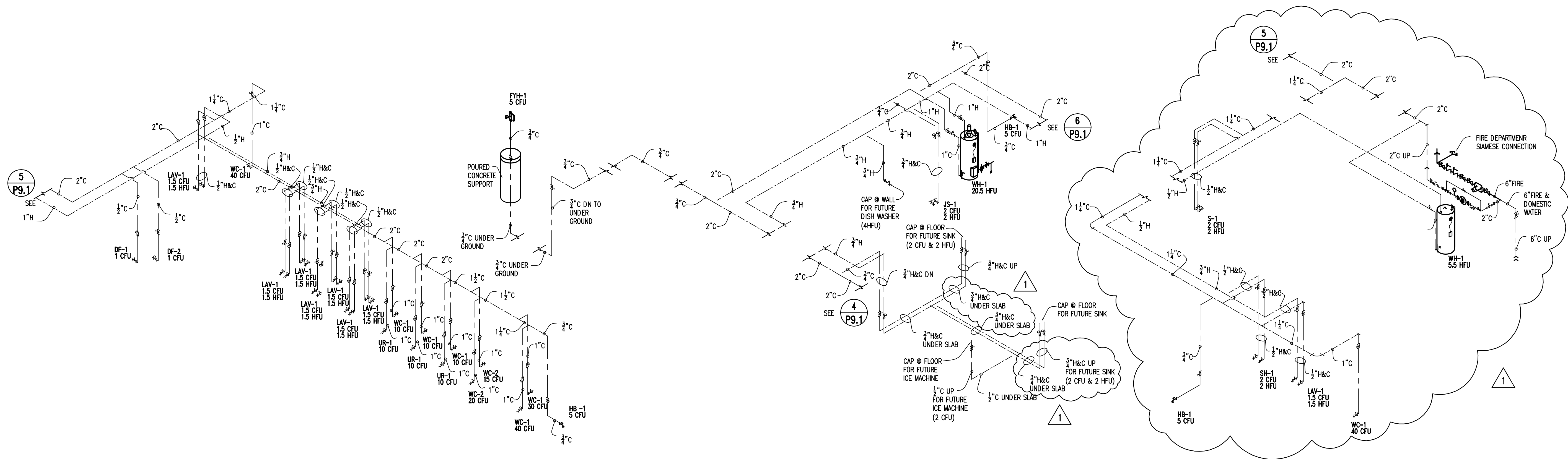
*Mount
Olivet*
Assembly of God
14201 Cedar Avenue South
Apple Valley, MN 55124
952.432.4332



3 WASTE & VENT RISER
P9.1 UNISEX RESTROOM 104, WOMEN'S RESTROOM 103, MEN'S RESTROOM 104
81 WFU NO SCALE

2 WASTE & VENT RISER
P9.1 CUSTODIAN'S ROOM 105, KITCHEN - ROOM 106, PANTRY - ROOM 107
18WFU NO SCALE

1 WASTE & VENT RISER
P9.1 UNISEX RESTROOM 115, PRAYER/CLASSROOM 112, WORK/CLASSROOM 119
14 DFU NO SCALE



6 DOMESTIC WATER RISERS
P9.1 UNISEX RESTROOM 104, WOMEN'S RESTROOM 103, MEN'S RESTROOM 104
222.5 CFU
10.5 HFU NO SCALE

5 DOMESTIC WATER RISERS
P9.1 CUSTODIAN'S ROOM 105, KITCHEN - ROOM 106, PANTRY - ROOM 107,
18 CFU
10 HFU NO SCALE

4 DOMESTIC WATER RISERS
P9.1 UNISEX RESTROOM 115, PRAYER/CLASSROOM 112, WORK/CLASSROOM 119
50.5 CFU
5.5 HFU NO SCALE

REVISION	DATE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

Perry R. Nisler, P.E.
Date: 2-09-07 License No. 22468

**PLUMBING RISERS:
WASTE & VENT
DOMESTIC WATER**

PROJECT NO.:	06752
SCALE:	NO SCALE
DATE:	2-09-07
DRAWN BY:	JRM
CHECKED BY:	PRN