

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 28"x17", SELF-RIMMING, 4 INCH CENTERS. MANUFACTURER: AMERICAN STANDARD 8475.828 AQUALYN, GERBER 12-844 LUXOVAL, KOHLER K-2196-4 PENNINGTON.</p> <p>TRIM: ELECTRONIC PROXIMITY LAVATORY FAUCET, LOW VOLTAGE POWERED WITH BELOW DECK WIRING, VANDAL RESISTANT SPRAY AND WIRE CONDUIT, 1 1/2" TALLPIECE CHROME FINISH W/4" CENTERS.</p> <p>MANUFACTURER: GERBER 44-801, AMERICAN STANDARD INNSBROOK 6518VP.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, 18 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 #9588C, KOHLER</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 1" SCREWDRIWER 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, 18 INCH ROUGH-IN, BOLT CAPS. MANUFACTURER: GERBER 25-830, AMERICAN STANDARD 2234.015, 14" H MADERA ELONGATED FLUSH VALVE TOILET, KOHLER K-4350 WELCOMME</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 #9588C, KOHLER</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 1 1/2" SCREWDRIWER 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.</p> <p>MOUNT @ HANDICAP HEIGHT</p> <p>FLUSH VALVE: PROXIMITY ELECTRONIC FLUSH VALVE, IN-WALL SENSOR, EXPOSED CHROME PLATED WITH 3/4" SCREWDRIWER 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 106-1.0 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> <p>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" SCREWDRIWER 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 106-1.0 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 TAP 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, STATE, 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 EG-SP10	10	30	80°	120°	80°	6	200	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-2332Z, 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 1/2" TAILPIECE, CHROME FINISH. MANUFACTURER: GERBER 08-44-116, AMERICAN STANDARD 6530.170.000 MONTERREY, KOHLER K-7300-5A, ELKAY LK498A.</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-30-9C</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) HOLES. MANUFACTURER: KOHLER K-3382-3, 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-15380-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 BASH, MODEL 62M, 24"x24" SQUARE, WITH WALL GUARDS. MANUFACTURER: EL MUSTEE 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.</p> <p>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 71950 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/ 1/4" N.P.T. TAPPED DRAIN HOLE, 3/4" N.P.T. FEMALE INLET, 3/8" 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"		

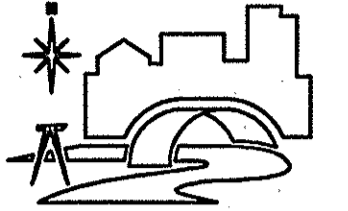
PLUMBING FIXTURE SCHEDULE NOTES:
1. MINIMUM 2" UNDERGROUND WASTE PIPE SIZE.

WATER CALCULATIONS			
FLUSH 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 BIBS	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 KITCHEN 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. FIXTURE 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		260 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 =	#DV/101
0 FT.			AVERAGE PSI DROP PER 100 FEET OF PIPE
BRANCH PIPE SIZING CHART - MAX PSI LOSS			
PIPE SIZE	1/2"	3/4"	1"
FU (F.T.)	5	14	30
	1-1/2"	2"	2-1/2"
	65	150	365
	3"	335	

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

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.: 06762
SCALE:
DATE: 2-09-07
DRAWN BY: JRM
CHECKED BY: JRM

P6.1

Duffy Project File: 27-06762-106.1