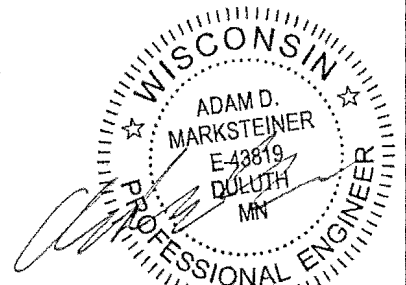


PROPOSED SAWYER COUNTY AMBULANCE GARAGE

4395 N. State Highway 27
Ojibwa, WI



1-25-2018

CONDITIONALLY APPROVED
OF SAFETY AND PROFESSIONAL SERVICES
OF INDUSTRY SERVICES

CORRESPONDENCE #3055439

ADAMI
Consulting Engineers P.A.
91 Main Street SUPERIOR, WI
715.718.2193 - amiengineers.com
TWIN CITIES - IRON RANGE

PLUMBING SPECIFICATIONS

1. SCOPE

- 1.1. CONTRACTOR SHALL FURNISH LABOR, MATERIALS, AND ALL ELSE NECESSARY TO COMPLETE THE PLUMBING WORK SHOWN ON DRAWINGS AND AS SPECIFIED, EXCEPT AS OTHERWISE NOTED. WORK SHALL GENERALLY INCLUDE BUT NOT BE LIMITED TO:
 - 1.1.1. CONSTRUCTION AND TESTING OF COMPLETE SANITARY DRAINAGE SYSTEM INCLUDING VENT PIPING.
 - 1.1.2. CONSTRUCTION AND TESTING OF COMPLETE DOMESTIC WATER SUPPLY SYSTEM, HOT AND COLD WATER.
 - 1.1.3. PLUMBING FIXTURES AND TRIM
 - 1.1.4. FLOOR SAW CUTTING & PATCHING.
 - 1.1.5. FINAL GRADING OF TRENCHES FOR PIPE PITCH AND BACKFILLING.

2. CODES, RULES, AND REGULATIONS

- 2.1. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH WI STATE BUILDING CODE, WI STATE PLUMBING CODE, AND APPLICABLE RULES, REGULATIONS OF LOCAL AND STATE GOVERNMENTS, AND UTILITY REQUIREMENTS.
- 2.2. CONTRACTOR SHALL MAKE ALL CONNECTIONS OF HIS TRADE AND SHALL CONFORM WITH, COOPERATE WITH, AND ASSIST OTHER CONTRACTORS.
- 2.3. DRAWINGS AND SPECIFICATIONS INDICATE MINIMUM STANDARDS OF CONSTRUCTION.

3. GENERAL REQUIREMENTS

- 3.1. PERMITS, FEES, LICENSES, TAXES - CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES, FEES, TAXES, INSPECTIONS, AND CERTIFICATES, ECT., NECESSARY FOR THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT AND SHALL OBSERVE ANY REQUIREMENTS STIPULATED.
- 3.2. CONSULT AND COOPERATE WITH ALL LOCAL BUILDING OFFICIALS, UTILITIES, ECT., FOR SERVICE COSTS AND INSTALLATION REQUIREMENTS.
- 3.3. CONTRACTOR SHALL CALL TO THE ATTENTION OF THE ENGINEER TO ANY MATERIALS OR APPARATUS IT BELIEVES TO BE INADEQUATE OR UNSUITABLE. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE SATISFACTORY FUNCTIONING OF THE MODIFIED SYSTEMS AND THAT ALL WORK CONFORMS TO APPLICABLE CODES.
- 3.4. RUN AND ARRANGEMENT OF PIPING SHALL BE APPROXIMATELY AS INDICATED ON DRAWINGS, SUBJECT TO MODIFICATIONS AS REQUIRED. CONTRACTOR SHALL REFER TO AND CAREFULLY CHECK DRAWINGS AND DETAILS, AND SHALL ARRANGE ITS WORK ACCORDINGLY.
- 3.5. MATERIALS SHALL BE NEW AND OF BEST QUALITY.
- 3.6. MATERIALS, EQUIPMENT, FIXTURES, AND FITTINGS SHALL BE PROPERLY AND ADEQUATELY PROTECTED BY THE CONTRACTOR.
- 3.7. EQUIPMENT AND PIPING SHALL BE SUPPORTED INDEPENDENTLY OF EACH OTHER.
- 3.8. CONSULT WITH OWNER'S REPRESENTATIVE IN MATTER OF CONFLICT.

4. INSTALLATION

- 4.1. BUILDING CONDITIONS
 - 4.1.1. DRAWINGS ARE DIAGRAMMATIC. EXACT LOCATIONS OF ALL WORK SHALL BE SUBJECT TO STRUCTURAL CONDITIONS AND THE WORK OF OTHER CONTRACTORS.
 - 4.1.2. CONTRACTOR SHALL DO HIS OWN CUTTING AND PATCHING. DO NOT CUT STRUCTURAL MEMBERS WITHOUT PERMISSION OF ENGINEER.
- 4.2. MATERIALS TO AND INSTALLATION TO CONFORM TO APPLICABLE STATE AND LOCAL CODES.
- 4.3. PIPING SHALL NOT BE RUN OVER ELECTRICAL PANELS.

- 4.4. CONTRACTOR SHALL INSTALL AIR CHAMBERS OR SHOCK ARRESTERS ON DOMESTIC WATER PIPING TO QUICK CLOSING FAUCETS AND VALVES.
- 4.5. ALL PIPING SHALL BE RUN STRAIGHT AND PLUMB WITHOUT SAGS OR HUMPS.
- 4.6. SOIL AND WASTE SYSTEM - SHALL BE CONTINUOUS WASTE AND VENT TYPE.
- 4.7. PROVIDE TRAPS ON ALL FIXTURES. EXTEND VENT 12" ABOVE ROOF.
- 4.8. WATER SYSTEM - PROVIDE ON EACH FIXTURE SUPPLY STOPS, PROPER AIR GAP, OR VACUUM BREAKER. PITCH TO PREVENT POUNDING, ELIMINATE AIR BINDING, AND ALLOW FOR COMPLETE DRAINAGE.
- 4.9. PROVIDE ACCESS DOORS FOR VALVES AND EACH UNIT'S BRANCH TAKEOFF.
- 4.10. ALL FIXTURES SHALL BE TRAPPED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES.
- 4.11. SLOPE ALL DRAIN PIPING ACCORDING TO THE FOLLOWING:
 - 4.11.1. 2" Ø AND SMALLER 1/4" PER FOOT.
 - 4.11.2. LARGER THAN 2" Ø 1/8" PER FOOT.

5. PLUMBING MATERIALS

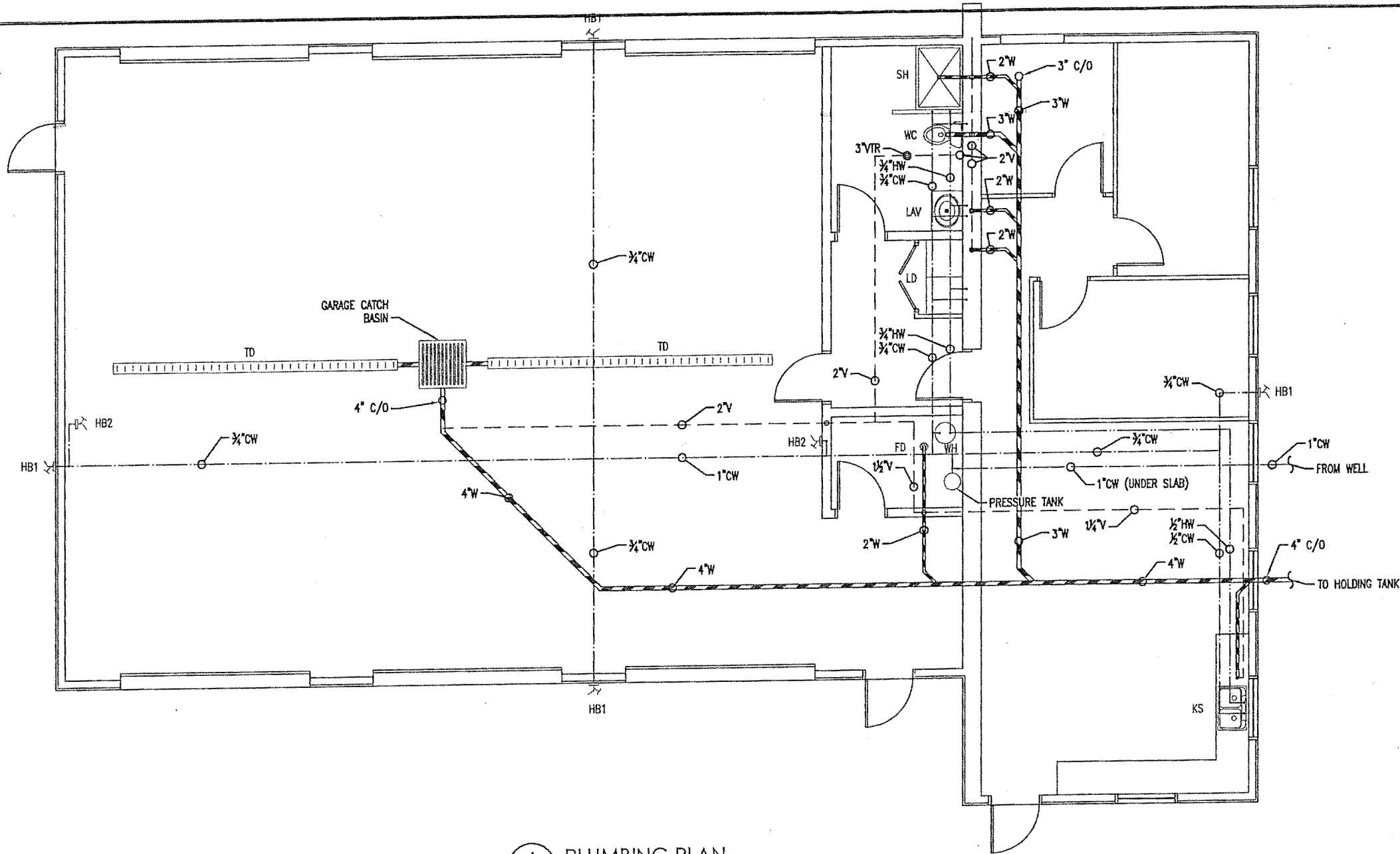
- 5.1. SHALL BE IN ACCORDANCE WITH STATE PLUMBING CODE AND THE FOLLOWING MINIMUMS.
 - COPPER - ASTM B88
 - PVC - SEWER PIPING ASTM D3034. WASTE/VENT D2665. CONTRASTING COLOR PRIMER
 - DOMESTIC WATER - COPPER, ABOVE GROUND TYPE M, UNDERGROUND TYPE L
 - WASTE/VENT - PVC
 - INSULATION - SHALL HAVE A FLAME RATING OF LESS THAN 25.
 - 5.1.0.1. DOMESTIC WATER - 1/2" ARMAFLEX OR EQUAL
 - 5.1.0.2. VENT WITHIN 6' OF ROOF OUTLET - 1-1/2" FIBERGLASS OR EQUAL
 - 5.1.0.3. EXPOSE PIPING UNDER LAVS. - TO COMPLY W/ADA, 1/2" FOAM W/JACKET
 - 5.2. WATER HEATER - INSTALL WATER HEATER WITH PRESSURE/TEMPERATURE RELIEF VALVE.
 - 5.3. SLEEVES - PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH MASONRY, CONCRETE, FLOORS OR WALLS OF SUFFICIENT SIZE FOR PIPE AND INSULATION.
 - 5.4. CLEANOUTS - PROVIDE CLEANOUTS WHERE INDICATED AND REQUIRED BY CODE.
 - 5.5. EXPANSION AND CONTRACTION - PROVIDE FOR EXPANSION AND CONTRACTION.

6. MISCELLANEOUS

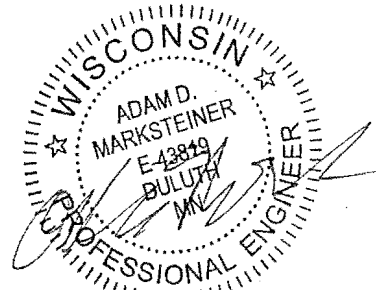
- 6.1. CONTRACTOR SHALL TEST PLUMBING BEFORE TRENCHES ARE BACK-FILLED, WALLS ARE FINISHED, AND BEFORE FIXTURES ARE INSTALLED.
- 6.2. BACKFILLING OF UTILITY TRENCHES SHALL BE MADE WITH SELECTED GRANULAR MATERIAL SUITABLE FOR COMPACTION. BACKFILL SHALL BE DEPOSITED IN 6 INCH MAXIMUM THICKNESS LAYERS, WITH EACH LAYER COMPACTED WITH TAMPERS. FIRST THREE LAYERS SHALL EACH BE COMPACTED TO THE DENSITY OF THE ADJACENT SOIL. THE REMAINING LAYERS SHALL EACH BE COMPACTED TO THE GREATER OF CODE SPECIFIED DENSITY OR 95% MAXIMUM DENSITY FOR COHESIONLESS MATERIAL AND 90% FOR COHESIVE SOILS.
- 6.3. THE CONTRACTOR SHALL GUARANTEE THAT DURING THE ONE YEAR PERIOD FOLLOWING THE COMPLETION OF INSTALLATION IT SHALL REPAIR ALL DEFECTIVE WORK AND REPLACE ALL DEFECTIVE MATERIALS FURNISHED OR INSTALLED UNDER THIS CONTRACT FREE OF COST TO OWNER.
- 6.4. ALL PIPING TO BE FLUSHED AND SANITIZED TO MEET APPLICABLE CODES.

REV.	DESCRIPTION	DATE

Proposed Sawyer County Ambulance Garage	Sawyer County, Wisconsin	Plumbing Title Sheet and Specifications
JOB No: 171380 DATE: 1-25-2018 DRAWN BY: ADM DESIGNED BY: ADM		
SHEET: P0.0		

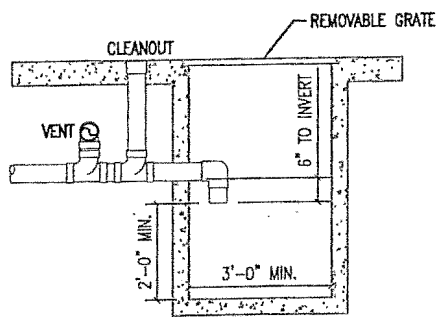


PIPING	
	WASTE PIPE
	WASTE PIPE (UNDER SLAB)
	VENT PIPE
	COLD WATER PIPE
	HOT WATER PIPE

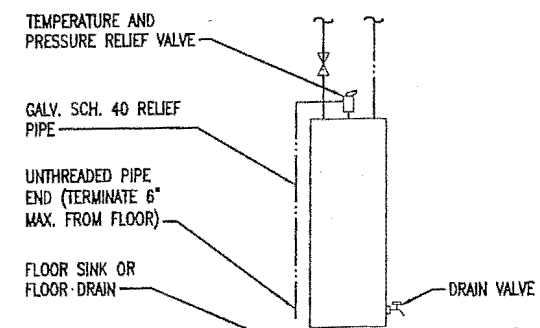


1 PLUMBING PLAN
SCALE: 1/8" = 1'-0"

PLUMBING FIXTURES							
FIXTURE	DESCRIPTION	MIN. TRAP SIZE	# OF FIXTURES	DRAINAGE FIXTURE UNITS	SUPPLY FIXTURE UNITS (HOT/COLD/TOTAL)	TOTAL DRAINAGE FIXTURE UNITS	NOTES/SPECIFICATIONS
FD	2" FLOOR DRAIN	2"	1	2	-	2	
HB1	HOSE BIB	-	2	-	0/3/3	-	
HB2	HOSE BIB	-	4	-	0/3/3	-	
KS	KITCHEN SINK	1 1/2"	1	2	2/2/3	2	
LAV	LAV SINK	1 1/4"	1	1	.5/1/1	1	
LD	LAUNDRY	2"	1	4	2/2/3	4	
SH	SHOWER	2"	1	2	2/2/3	2	
TD	TRENCH DRAIN	4"	1	4	-	4	
WC	WATER CLOSET	3"	1	6	0/3/3	6	FLUSH TANK STYLE
WH	WATER HEATER	-	1	-	-	-	
TOTAL DFU:						21	



2 GARAGE CATCH BASIN
TYP. DETAIL
SCALE: NA



3 WATER HEATER
TYP. INSTALLATION DETAIL
SCALE: NA

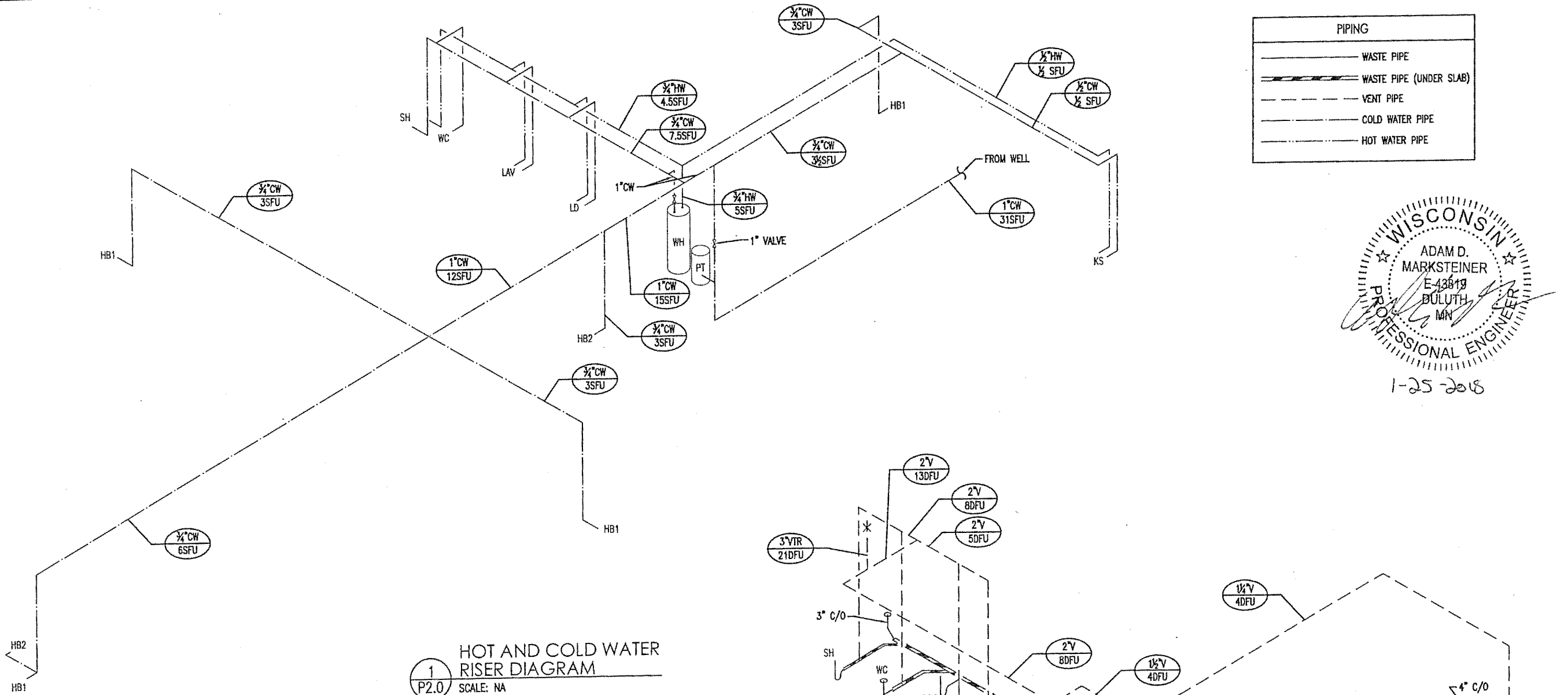
BY:	DESCRIPTION	REV:	DATE:

Proposed Sawyer County
Ambulance Garage
Sawyer County, Wisconsin
Plumbing Plan

JOB No: 171380
DATE: 1-25-2018
DRAWN BY: ADM
DESIGNED BY: ADM

SHEET:
P1.0

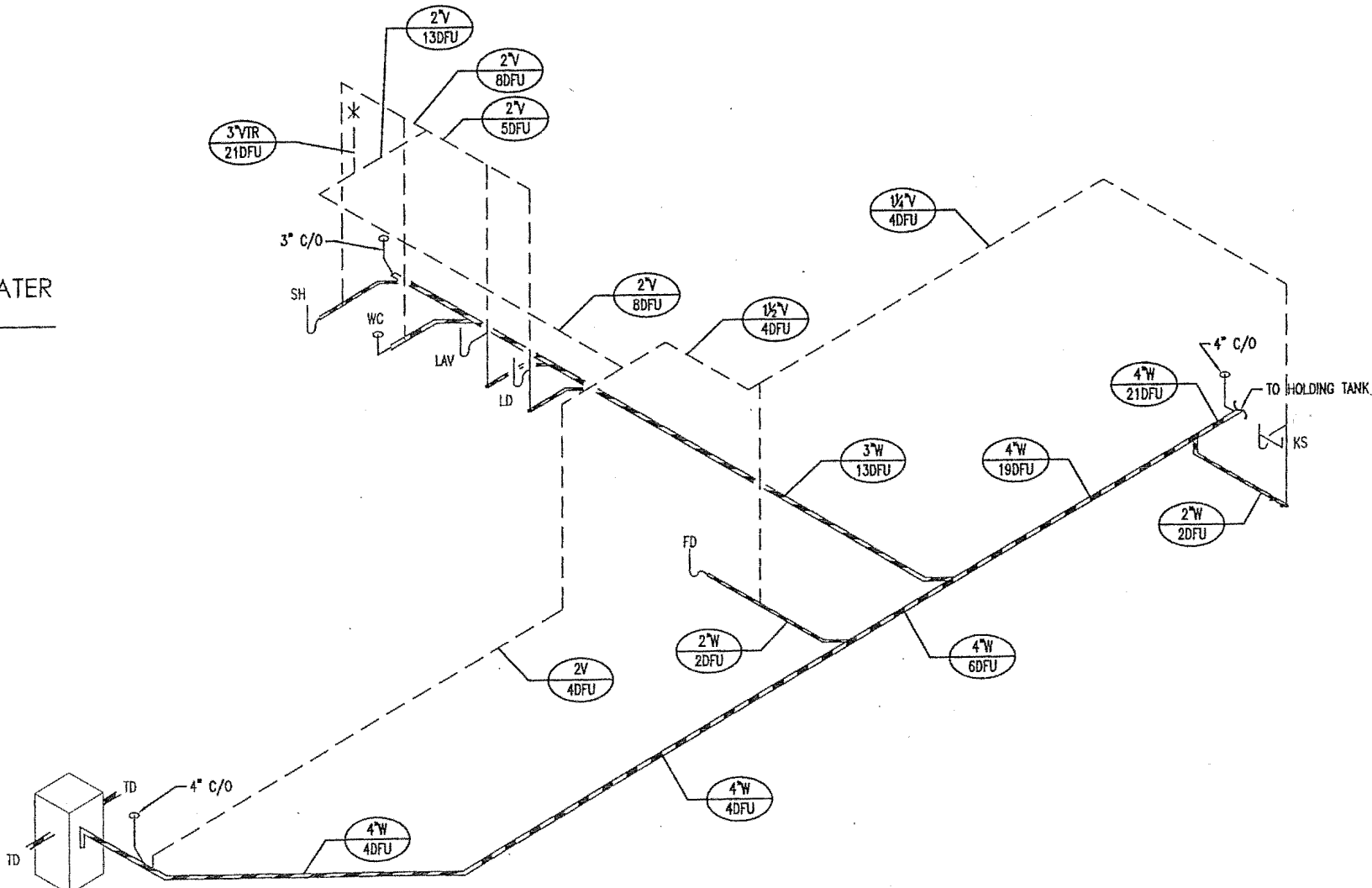
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TWIN CITIES - IRON RANGE



1
P2.0
HOT AND COLD WATER
RISER DIAGRAM
SCALE: NA

PIPING	
	WASTE PIPE
	WASTE PIPE (UNDER SLAB)
	VENT PIPE
	COLD WATER PIPE
	HOT WATER PIPE

WISCONSIN
ADAM D. MARKSTEINER
E-43819
DULUTH, MN
PROFESSIONAL ENGINEER
1-25-2018



2
P2.0
WASTE AND VENT
RISER DIAGRAM
SCALE: NA

PLUMBING FIXTURES						
FIXTURE	DESCRIPTION	MIN. TRAP SIZE	# OF FIXTURES	DRAINAGE FIXTURE UNITS	SUPPLY FIXTURE UNITS (HOT/COLD/TOTAL)	TOTAL DRAINAGE FIXTURE UNITS
FD	2" FLOOR DRAIN	2"	1	2	-	2
HB1	HOSE BIB	-	2	-	0/3/3	-
HB2	HOSE BIB	-	4	-	0/3/3	-
KS	KITCHEN SINK	1 1/2"	1	2	2/2/3	2
LAV	LAV SINK	1 1/4"	1	1	.5/.5/1	1
LD	LAUNDRY	2"	1	4	2/2/3	4
SH	SHOWER	2"	1	2	2/2/3	2
TD	TRENCH DRAIN	4"	1	4	-	4
WC	WATER CLOSET	3"	1	6	0/3/3	6
WH	WATER HEATER	-	1	-	-	-
TOTAL DFU:						21

DATE	REV.	DESCRIPTION	BY:

Proposed Sawyer County
Ambulance Garage
Sawyer County, Wisconsin
Riser Diagrams

JOB No: 171380
DATE: 1-25-2018
DRAWN BY: ADM
DESIGNED BY: ADM

SHEET:
P2.0

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