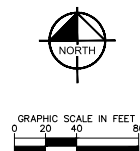


1. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
 - a. PVC SDR35 PER ASTM D-3034, FOR PIPES LESS THAN 12" DEEP
 - b. PVC SDR35 PER ASTM D-3034, FOR PIPES MORE THAN 12" DEEP
 - c. PER SCHEDULE 40 ENER STEEL D-175 DUCTILE IRON PIPE PER AWWA C150
3. WATER LINES SHALL BE AS FOLLOWS:
 - a. 4" AND LARGER: DUCTILE IRON PIPE PER ASTM D 2241
 - b. CLASS 200 UNDER COUNTY ROADS, OTHERWISE CLASS 150
 - c. 4" AND LARGER DUCTILE IRON PIPE PER AWWA C100
 - d. SMALLER THAN 2" PIPING SHALL BE COPPER TUBE TYPE "C" PER ANSI B16.22 OR PER 30.1 PER 10.1 PER AWWA D718 AND D2241
4. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
5. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH GASKETS AS THRU-ROB BLOCKING, WITH STAINLESS STEEL, OR COBALT BLUE BOLTS, OR AS INDICATED IN THE SPECIFICATIONS AND STANDARD DRAWING DOCUMENTS.
6. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL OR WHEN CROSSING) 18" VERTICAL CLEARANCE OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE OR STRUCTURE.
7. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 7' COVER ON ALL WATER LINES.
8. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES, OR ANY OBSTRUCTION (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE SIX (6) OR CIVIL WITH MECHANICAL JOINTS AT LEAST NINE FEET ON EITHER SIDE OF THE CENTER LINE OF THE CROSSING. THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE FASTENERS AS REQUIRED TO PROVIDE A MINIMUM OF 18" VERTICAL SEPARATION. MEETING REQUIREMENTS OF ANSI A21.11 AND ANSI 21.11 (AWWA C-151) (CLASS 50).
9. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
10. TOPS OF MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO ONE FOOT ABOVE FINISHED GROUND ELEVATIONS, IN URBAN AREAS, WITH WATERSIGHT LIDS.
11. ALL CONCRETE FOR ENER SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
12. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
13. REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
14. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE CITY OF SHAWKOPPE AND/OR STATE OF IOWA WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
15. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION ANDOR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF EXISTING UTILITIES BEFORE ANY EXCAVATION TO REVEAL EXIST FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
16. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES.
17. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
18. CONTRACTOR SHALL REFERENCE ARCH / MEP PLANS FOR SITE LIGHTING AND ELECTRICAL PLAN.
19. BACKFLOW DEVICES (DODY AND PRZ) ASSEMBLIES AND METERS ARE LOCATED IN THE INTERIOR OF THE BUILDING. REFER ARCH / MEP PLANS.
20. ALL ONSITE WATERMANS AND SANITARY SEWERS SHALL BE PRIVATELY OWNED AND MAINTAINED.
21. ALL WATERMAIN SUBSTANTS SHALL BE MECHANICALLY RESTRAINED WITH REACTION BLOCKING.

EXISTING	PROPOSED	
		GATE VALVE
		HYDRANT
		REDUCER
		TEE
		SANITARY SEWER MANHOLE
		SANITARY CLEANOUT
		WATERMAIN
		SANITARY SEWER
		STORM SEWER
		UNDERGROUND ELECTRIC
		TELEPHONE
		GAS MAIN



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 PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF
MINNESOTA.



MICHAEL C. BRANDT

DATE: 07/01/2021 MN LIC. NO. 42661

STREET, SUITE 100, ST. PAUL, MN 55114
PHONE: 651-645-4197

No.	REVISIONS	DATE	BY
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