

SANITARY SEWER STRUCTURE SCHEDULE

STRUCTURE NUMBER	NEENAH CASTING	RIM ELEV.	INVERT ELEV.	STRUCTURE SIZE	PIPE LENGTH, DIA. & SLOPE TO UPSTREAM STRUCTURE
MH2 (BY OTHERS)	R-1733	939.05 (VERIFY)	925.10 (VERIFY)	48" LD.	281' - 6" PVC @ 0.50%
MH1	R-1733	934.7	926.50	48" LD.	99' - 6" PVC @ 0.50%
BS1	N/A	N/A	927.00	6" DIA.	N/A

ABBREVIATIONS:
 MH = MAN HOLE BS = BUILDING SANITARY (VERIFY)
 SA = SEE ABOVE ID = INSIDE DIAMETER NA = NOT APPLICABLE

"N / S / E / W" REFERS TO NORTH / SOUTH / EAST / WEST DIRECTIONS

NOTES:
 A) ALL UTILITY CASTINGS SHALL BE FURNISHED WITH LOCKBOLTS AS SUPPLIED BY NEENAH FOUNDRY OR APPROVED EQUAL.
 B) NEENAH R-1733 CASTINGS SHALL BE FURNISHED WITH SOLID LIDS WITH TWO LIFT HOLES AND SHALL BE STAMPED "SANITARY SEWER".
 C) CONNECT 8" PVC TO 6" PVC BUILDING SANITARY WITH FERNCO ADAPTER.

STORM SEWER STRUCTURE SCHEDULE

STRUCTURE NUMBER	NEENAH CASTING	RIM ELEV.	INVERT ELEV.	STRUCTURE SIZE	PIPE LENGTH, DIA. & SLOPE TO UPSTREAM STRUCTURE
FES 1	N/A	N/A	921.30	30" APRON	158' - 33" @ 0.30%
FES 2	N/A	N/A	921.77	33" APRON	N/A
FES 3	N/A	N/A	922.00	SEE DETAIL	51' - 33" @ 0.50%
OC 1					N/A
FES 4	N/A	N/A	922.00	30" APRON	49' - 30" @ 0.12%
CB1	R-3067-V	928.4	922.06	54" ID	38' - 30" @ 0.18%
CB2	R-3067-V	929.1	922.13	54" ID	150' - 27" @ 0.15%
CB3	R-3067-V	927.7	922.35 N 922.95 SE 922.85 SW	48" ID	110' - 18" @ 0.36%
CB4	R-3067-V	928.4	923.35	48" ID	82' - 15" @ 0.36%
CB5	R-2503	927.9	923.65	48" ID	N/A
CB3	SA	SA	922.35 N 922.95 SE 922.85 SW	SA	27' - 21" @ 0.37%
CB6	R-3067-V	927.7	922.95	48" ID	121' - 18" @ 0.42%
CB6A	R-3067-V	927.8	922.98	48" ID	9' - 21" @ 0.37%
FES 5	N/A	N/A	922.00	18" APRON	121' - 18" @ 0.42%
CB7	R-3067-V	932.1	922.51	48" ID	177' - 18" @ 0.25%
MH101	R-1733	931.5	922.95	48" ID	108' - 18" @ 0.26%
CB8	R-3067-V	932.0	923.74	48" ID	226' - 18" @ 0.25%
CB9	R-2503	928.8	924.30	48" ID	N/A
MH101	SA	SA	930.60	SA	162' - 12" @ 1.91%
CB8A	R-2503	934.6	924.30	48" ID	N/A
FES 6	N/A	N/A	922.00	18" APRON	180' - 18" @ 0.39%
MH102	R-1733	932.6	922.71 E 924.66 S	48" ID	100' - 18" @ 0.25%
MH103	R-1733	934.5	924.91 N 925.55 NW 926.25 S 926.03 E	48" ID	105' - 18" @ 0.25%
CB10	R-3067-V	930.5	926.25 S	48" ID	144' - 15" @ 0.90%
CB11	R-2503	932.3	927.54	48" ID	197' - 12" @ 0.44%
CB12	R-2503	932.4	928.40	48" ID	N/A
CB9	SA	SA	925.55 NW 926.25 S 926.03 E	SA	77' - 15" @ 0.35%
CB9A	R-3067-V	930.3	926.30	48" ID	N/A
FES 7	N/A	N/A	922.00	18" APRON	35' - 18" @ 0.35%
MH104	R-1733	934.0	922.12 N 927.26 S	48" ID	24' - 18" @ 1.00%
BD1	N/A	937.0	927.50	N/A	N/A

ABBREVIATIONS:
 MH = MANHOLE CB = CATCH BASIN FES = FLARED-END SECTION
 SA = SEE ABOVE ID = INSIDE DIAMETER NA = NOT APPLICABLE

"N / S / E / W" REFERS TO NORTH / SOUTH / EAST / WEST DIRECTIONS

NOTES:
 1) ALL STORM SEWER SYSTEM PIPE SHALL BE REINFORCED CONCRETE (RCP).
 2) ALL UTILITY CASTINGS SHALL BE FURNISHED WITH LOCKBOL
 NEENAH FOUNDRY OR APPROVED EQUAL.
 3) NEENAH R-1733 CASTINGS SHALL BE FURNISHED WITH SOLID LIDS WITH TWO LIFT HOLES AND SHALL BE STAMPED "STORM SEWER".

LEGEND

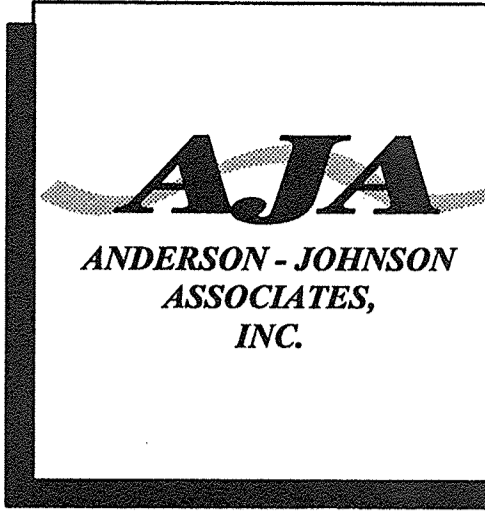
- REFERENCE KEY TO SITE DETAILS
DETAIL I.D. NUMBER (TOP)
SHEET NUMBER (BOTTOM)
- PROPOSED CONTOUR
- PROPOSED WATERMAIN
- PROPOSED GATE VALVE
- PROPOSED HYDRANT
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED MANHOLE (MH)
- PROPOSED CATCH BASIN (CB)

UTILITY NOTES

- ALL WATERMAIN SHALL BE DIP, CLASS 52, UNLESS OTHERWISE NOTED. ALL WATERMAIN SHALL HAVE 7.5' BURY (TOP OF PIPE TO FINISH GRADE).
- ALL SANITARY PIPE SHALL BE PVC PIPE (ASTM D 3034, SDR 35), UNLESS OTHERWISE NOTED.
- ALL STORM SEWER PIPE SHALL BE RCP, CLASS III WITH FLEXIBLE WATERTIGHT JOINTS IN ACCORDANCE WITH ASTM C-361, UNLESS OTHERWISE NOTED.
- LOCATE ALL EXISTING UTILITIES AND VERIFY LOCATIONS, SIZES AND ELEVATIONS OF SAME BEFORE BEGINNING CONSTRUCTION.
- PRIOR TO CONSTRUCTION OF PROPOSED BUILDING UTILITY SERVICES (WATERMAIN, STORM AND SANITARY SEWERS) VERIFY ALL PROPOSED BUILDING UTILITY SERVICE PIPE SIZES, LOCATIONS, AND ELEVATIONS WITH MECHANICAL PLANS.
- ALL WATERMAIN VALVES SHALL BE PLACED IN TURF AREAS, UNLESS OTHERWISE NOTED. ACCURATELY LOCATE LIMITS OF CURBING AND PAVEMENTS PRIOR TO INSTALLING WATERMAIN AND ASSOCIATED VALVES.
- ALL OPEN UTILITY STRUCTURES SHALL BE PROTECTED WITH EROSION CONTROL IN ACCORDANCE WITH MPCA STANDARD DETAILS. MAINTAIN EROSION CONTROL, INCLUDING SILT REMOVAL UNTIL PROJECT COMPLETION. REMOVE EROSION CONTROL FOLLOWING TURF RESTORATION AND ESTABLISHMENT. AT THE COMPLETION OF THE PROJECT, THE STORM SEWER MUST BE FULLY CLEANED. SUBSEQUENT TO FINAL CLEANING AT PROJECT CLOSEOUT, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER TO VERIFY THE STORM SEWER HAS BEEN CLEANED.

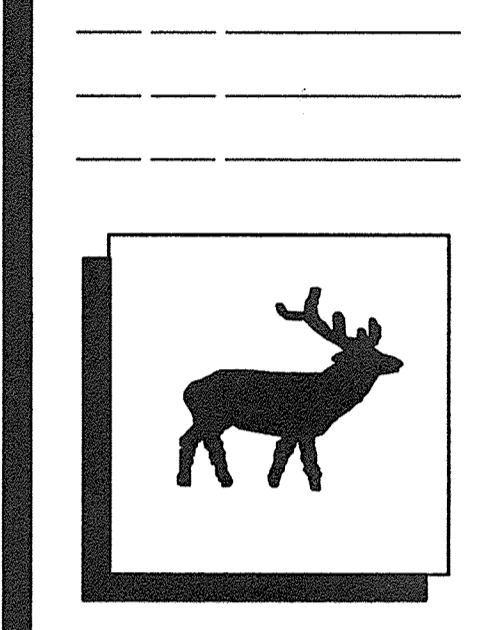
NOTES

- REFER TO SHEET C1.5, GRADING AND DRAINAGE PLAN, FOR GENERAL NOTES.



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Revisions
 No. Date Description



Date: 05/23/05
 Project No.: 04101
 Drawn By: JRP
 Checked By: DLJ

I hereby certify that this plan 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.

Daniel L. Johnson
 DANIEL L. JOHNSON
 17279
 Registration Number
 05/23/05
 Date



Project Title
 EAST ELK RIVER
 ELEMENTARY
 SCHOOL
 Elk River, Minnesota

Sheet Title
 UTILITY
 PLAN

Sheet Number
 C1.7