CITY OF ROCHESTER
PROJECT NO. M14-09-J7810
SANITARY SEWER & WATERMAIN TO SERVE OAKLEDGE

SYMBOL LEGEND

- CONTROL POINT
- EXISTING SANITARY CLEANOUT
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING HYDRANT
- EXISTING GATE VALVE
- PROPOSED HYDRANT
- PROPOSED GATE VALVE
- PROPOSED MANHOLE
- EXISTING CONIFER TREE
- EXISTING DECIDUOUS TREE
- EXISTING SOIL BORE
- EXISTING SHRUB
- EXISTING POWER POLE
- EXISTING GUY WIRE
- EXISTING TELEPHONE PEDESTAL
- EXISTING CURB STOP
- EXISTING ELECTRIC PEDESTAL
- EXISTING CABLE TV PEDESTAL
- EXISTING SIGN
- EXISTING LIGHTPOLE
- EXISTING STUMP
- EXISTING GAS VALVE
- BENCHMARK
- EXISTING TRAFFIC LIGHT

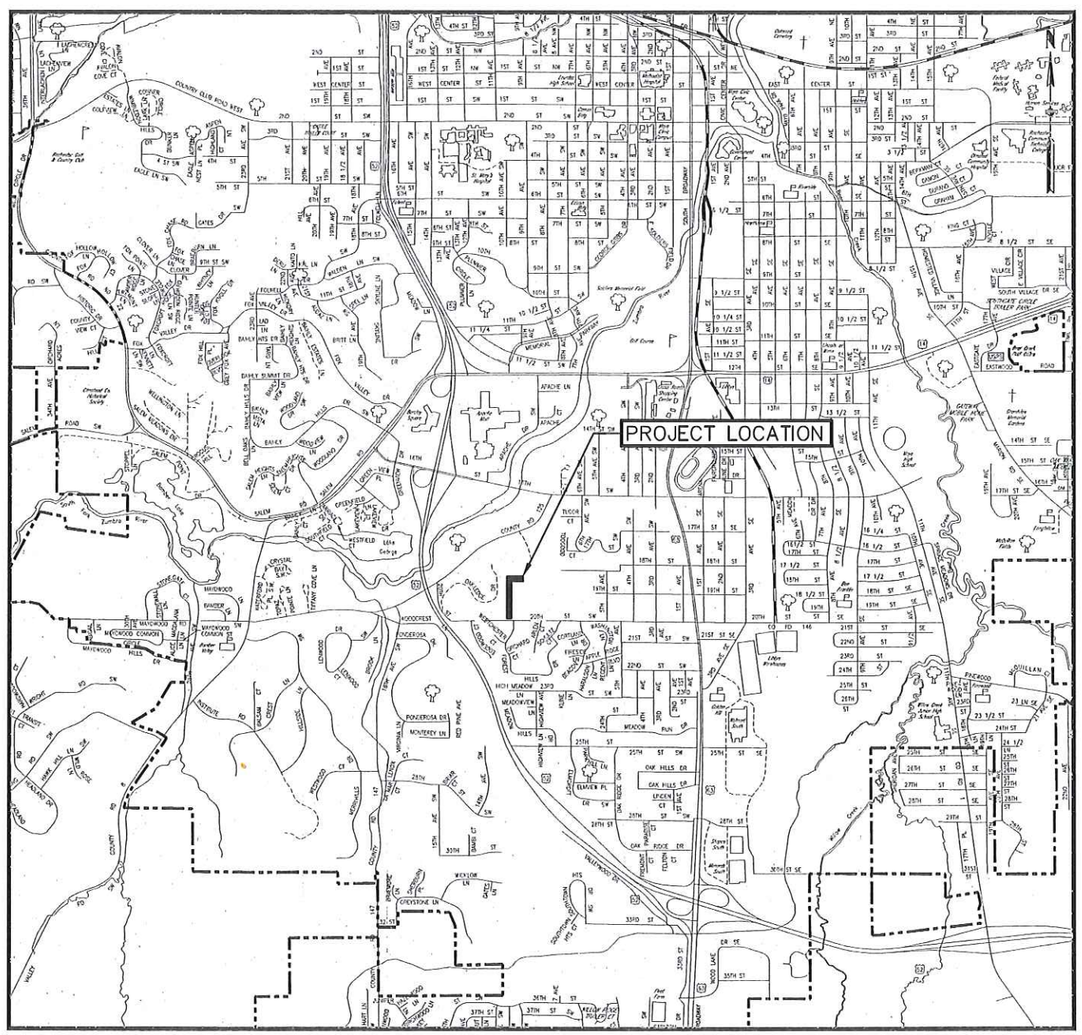
LINE LEGEND

- FIBER OPTIC
- ROW
- UTILITY
- SHORT CHAINLINK FENCE
- CHAINLINK FENCE
- SHORT WOODEN FENCE
- WOODEN FENCE
- TREELINE
- RETAINING WALL
- EX. WATERMAIN
- UNDERGROUND ELECTRIC
- UNDERGROUND CABLE TV
- RAILROAD
- UNDERGROUND TELEPHONE
- UNDERGROUND GAS
- EX. STORM SEWER
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- EX. SANITARY SEWER
- CENTERLINE
- SILT FENCE
- INLET PROTECTION

HATCH LEGEND

- TREE REMOVAL
- ASPHALT DRIVEWAY REPLACEMENT
- EROSION CONTROL BLANKET, CATEGORY 3
- AGGREGATE DRIVEWAY REPLACEMENT

PROJECT LOCATION



APPROVED _____ ROCHESTER PUBLIC WORKS DIRECTOR DATE 8/12/14

RECOMMENDED FOR APPROVAL _____ MANAGER OF ENGINEERING DATE 8/12/14

RECOMMENDED FOR APPROVAL _____ PROJECT MANAGER DATE 8/12/14

RECOMMENDED FOR APPROVAL _____ RPU WATER DIVISION DATE 8/11/14

GOVERNING SPECIFICATIONS

A. CITY OF ROCHESTER, MINNESOTA, "GENERAL CONDITIONS OF THE CONTRACT," DATED 2011 AND ALL SUBSEQUENT REVISIONS.

B. (S100) CITY OF ROCHESTER, MINNESOTA, "SEWER SPECIFICATIONS," DATED 2011 AND ALL SUBSEQUENT REVISIONS.

C. (W200) CITY OF ROCHESTER, MINNESOTA, "WATERMAIN SPECIFICATIONS," DATED 2011 AND ALL SUBSEQUENT REVISIONS.

D. (C150) CITY OF ROCHESTER, MINNESOTA, "SERVICE CONNECTION SPECIFICATIONS," DATED 2011 AND ALL SUBSEQUENT REVISIONS.

E. (T100) CITY OF ROCHESTER, MINNESOTA, "TRENCH EXCAVATION, BACKFILL & SURFACE RESTORATION SPECIFICATIONS," DATED 2011 AND ALL SUBSEQUENT REVISIONS.

F. DIVISIONS II AND III OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. 2014 EDITION

G. GENERAL STORM WATER PERMIT (NPDES)

NOTES:

1. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THESE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
2. MIN. CLEARING & GRUBBING SHALL BE DONE ONLY AS NEED FOR INSTALLATION OF UTILITIES.
3. ALL INLETS SHALL HAVE INLET PROTECTION INCLUDING CATCH BASINS OUTSIDE OF WORK AREA WHERE RUNOFF FROM THE WORK AREA COULD FLOW.
4. TEMPORARY EROSION AND SEDIMENT CONTROL SHALL CONSIST OF SILT FENCES PLACED BEFORE EXCAVATION OR IMMEDIATELY AFTER, AND INLET PROTECTION CONCURRENT WITH STORM SEWER CONSTRUCTION.
5. PERMANENT EROSION CONTROL SHALL CONSIST OF SEEDING AND SODDING.
6. CONTRACTOR TO MAINTAIN EROSION CONTROL THROUGHOUT CONSTRUCTION.
7. NO PERMANENT LAND FEATURE CHANGES WILL RESULT FROM THE PROJECT.
8. CONTRACTOR TO MAINTAIN ACCESS THROUGHOUT CONSTRUCTION AS SPECIFIED.

INDEX

TITLE SHEET ____ SHEET 1
DETAIL SHEETS ____ SHEET 2
PLAN AND PROFILE SHEETS
SANITARY SEWER EXTENSION ____ SHEET 3-4
WATERMAIN EXTENSION ____ SHEET 5-6

UTILITY LOCATION
UTILITY QUALITY LEVEL D UNLESS OTHERWISE INDICATED

UTILITY LOCATION PERFORMED ON: 05-12-14
GOPHER ONE CALL TICKET NUMBERS: 141261210

UTILITY DESIGN MEETING HELD ON: 05-12-14

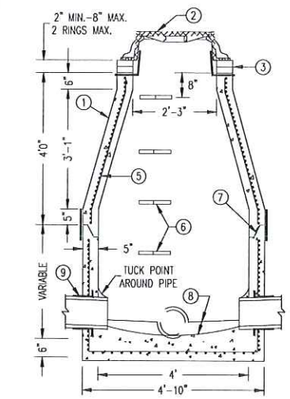
I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Timothy A. Hruska

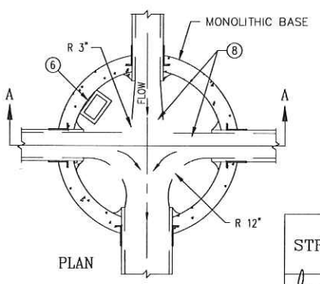
Date 8/8/14 License No. 44930

whks
engineers + planners + land surveyors

WHKS & CO. JOB NO. 7971.00



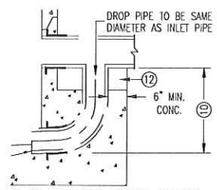
SECTION A-A



PLAN

NOTES

1. CONE SHALL BE CONCENTRIC.
2. REFER TO PLANS AND S.D.P. 1-11 AND 1-12 FOR CASTING REQUIRED. CASTING SHALL BE BOLTED TO CONCRETE IN FIELD APPLICATIONS.
3. ADJ. RINGS SHALL BE PER S.D.P. 1-13, AND WATERPROOFING PER S.D.P. 1-07.
4. STRUCTURE SHALL BE PRECAST CONCRETE.
5. REINF. SHALL BE A MIN. OF A SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT IN EACH DIRECTION.
6. STEPS ARE SPACED 16" O.C. MAX. AND SHALL CONFORM TO MN/DOT S.P. 4180 J. STEPS SHALL BE ORIENTED ON THE UPSTREAM LEFT SIDE AS SHOWN.
7. ALL JOINTS TO BE GASKETED. REFER TO MN/DOT SPEC. 3726.
8. PROVIDE CONCRETE FILLETS TO FIT BOTTOM PORTION OF PIPE TO DIRECT FLOW TO OUTLET AT 1/4" PER FT. MIN. SLOPE. SHAPE CHANNELS TO HAVE SMOOTH ROUND INVERTS. DEPTH OF CHANNELS SHALL NOT BE LESS THAN 1/2 THE PIPE SIZE.
9. FOR WATER TIGHT SEAL REFER TO MN/DOT S.P. 4007 C.
10. DROP INLET USED FOR SAN. SEWER DROPS GREATER THAN 1.0 FT.
11. MAX. PIPE SIZE:
    24" FOR STRAIGHT THRU TO 135°
    18" FOR 90° BEND
12. DROP PIPE TO BE ENCASED IN CONCRETE IF FLEXIBLE PIPE, OR GRANULAR ENCASEMENT IF DUCTILE IRON PIPE IS USED.



TYPE 3A FOR DROP-INLET

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
STRUCTURE TYPES 3 AND 3A
(SANITARY SEWER)

ASST. CITY ENGINEER	DIRECTOR		
SHT 1 OF 1 SHTS	DATE REVISED 4/25/13	PLATE NO. 1-03	REV. J

CASTINGS - STRUCTURE TYPE 1

TYPE	DESCRIPTION	NEENAH REF. NO.	E. JORDAN REF. NO.	GRATE SLOTS	REMARKS
B	3' CURB INLET FRAME, GRATE & BOXR-3067		00703054C12	DIAGONAL	
C	3' DRIVEWAY INLET FRAME & GRATE	R-3290-A	00703410	PARALLEL (BICYCLE SAFE)	USE WHERE DRIVEWAY PRECLUDES USE OF TYPE B IN BAT. CURB
V	3' CURB INLET FRAME, GRATE & BOXR-3067		00703051C12	PERPENDICULAR VANE	USE WHEN STREET GRADE EXCEEDS 2%

CASTINGS - OTHER STRUCTURES

	TYPE	DESCRIPTION	NEENAH REF. NO.	E. JORDAN REF. NO.	COVER/GRATE	REMARKS
COVER	1	9" FRAME & COVER-GASKETED	R-1916-C	00104801	SELF-SEALING, BOLTED LID	USED IN FLOOD PRONE AREAS & IN CONCRETE PAVING
COVER	2	7" FRAME & COVER-GASKETED	R-1733	00120511	INDENTED TOP	WITH TWO CI & CONCEALED PICK HOLES
COVER	2A	9" FRAME & COVER-GASKETED	R-1733-B	00120517	INDENTED TOP	WITH TWO CI & CONCEALED PICK HOLES
COVER	3	7" FRAME & COVER-NON ROCKING	R-1740-B	00132410	INDENTED TOP	USED FOR P.R.V. MANHOLES
GRATE	4	9" FRAME & GRATE-NON ROCKING	R-2533	00120511	FLAT GRATE	PAVEMENT DRAIN
GRATE	6	DITCH GRATE-STOOL TYPE-TALL	R-4341-A	00648844	STOOL GRATE	HEAVY DUTY
GRATE	7	DITCH GRATE-STOOL TYPE-SHORT	R-4342	00648943	STOOL GRATE	LIGHT DUTY
GRATE	8	POND SKIMMER GRATE			1/2" STEEL PLATE	HOT DIPPED GALVANIZED, NOT SUBJECT TO H20 LOADING

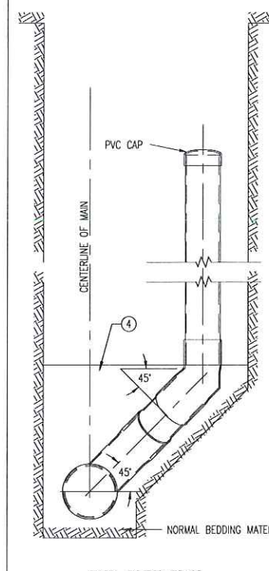
NOTES:
1. CASTINGS SHALL BE ACCORDING TO MN/DOT SPEC 3321.1-2 SUPPLIED BY FOUNDRIES THAT ARE APPROVED BY THE MN/DOT APPROVED/QUALIFIED PRODUCTS LIST
2. ALL CASTINGS SHALL COMPLY WITH AASHTO M-306
3. ALL CASTINGS SHALL COMPLY WITH U.S. CODE OF FEDERAL REGULATIONS 23CFR635.410, THE "BUY AMERICAN STEEL & IRON" REGULATION
4. ALL STORM SEWER CASTINGS MAY INCLUDE IMPRINT FISH STAMP AND "DUMP NO WASTE"

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
CASTING REFERENCE NUMBERS

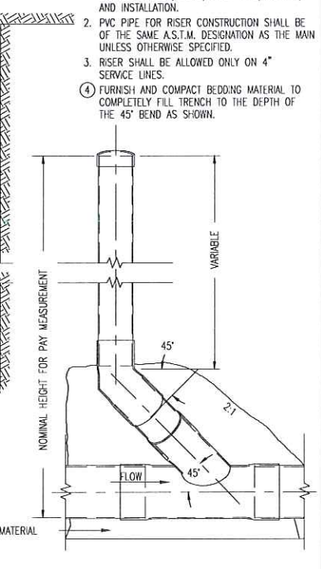
ASST. CITY ENGINEER	DIRECTOR		
SHT 1 OF 1 SHTS	DATE REVISED 4/25/13	PLATE NO. 1-11	REV. I

NOTES

1. THE BID PRICE TO CONSTRUCT RISER SHALL INCLUDE ALL COSTS AND MATERIALS FOR WYE BRANCH IN MAIN, BEND, RISER PIPE, MORTAR, AND INSTALLATION.
2. PVC PIPE FOR RISER CONSTRUCTION SHALL BE OF THE SAME A.S.T.M. DESIGNATION AS THE MAIN UNLESS OTHERWISE SPECIFIED.
3. RISER SHALL BE ALLOWED ONLY ON 4" SERVICE LINES.
4. FURNISH AND COMPACT BEDDING MATERIAL TO COMPLETELY FILL TRENCH TO THE DEPTH OF THE 45° BEND AS SHOWN.



END ELEVATION

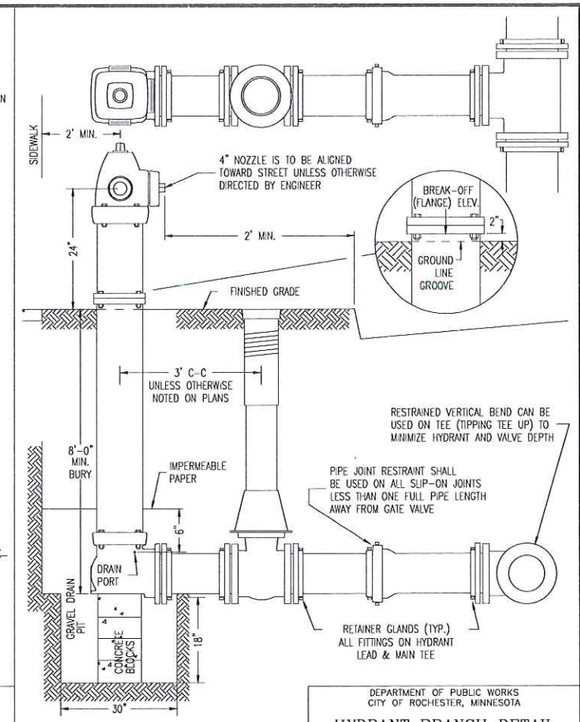


SIDE ELEVATION

NOTE:
PIPE SHALL BE DUCTILE IRON PIPE.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
STANDARD 4IN. RISER

ASST. CITY ENGINEER	DIRECTOR		
SHT 1 OF 1 SHTS	DATE REVISED 3/22/06	PLATE NO. 4-02	REV. A

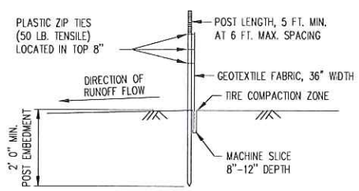


NOTE

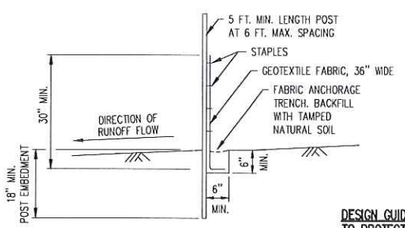
CARE MUST BE TAKEN NOT TO PLUG THE HYDRANT DRAIN PORT WITH CONCRETE. DRAIN PORTS TO BE PLUGGED IF REQUIRED BY SPECIAL PROVISIONS.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
HYDRANT BRANCH DETAIL

RPU-WATER UTILITY	DIRECTOR		
SHT 1 OF 1 SHTS	DATE REVISED 4/25/13	PLATE NO. 6-04	REV. E

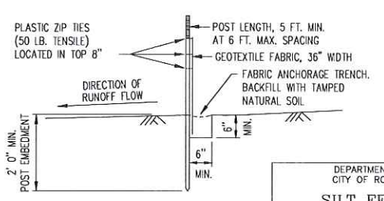


STANDARD MACHINE SLICED



PREASSEMBLED

DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE

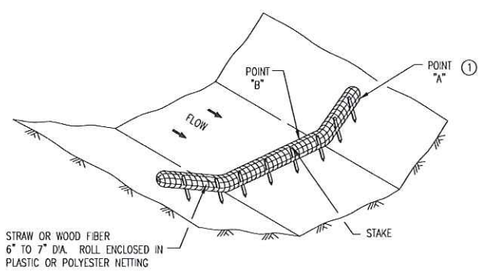


HEAVY DUTY
(HAND INSTALLED)

REFERENCE: MN/DOT SPEC. 3886

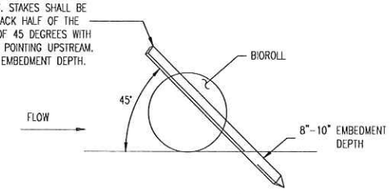
DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
SILT FENCE DETAILS

ASST. CITY ENGINEER	DIRECTOR		
SHT 1 OF 2 SHTS	DATE REVISED 6/15/07	PLATE NO. 7-01	REV. B



TYPE 2: BIOROLL DITCH CHECK
USE ON ROUGH GRADED AREAS

1" X 2" X 18" LONG WOODEN STAKES AT 1' 0" SPACING MAXIMUM. STAKES SHALL BE DRIVEN THROUGH THE BACK HALF OF THE BIOROLL AT AN ANGLE OF 45 DEGREES WITH THE TOP OF THE STAKE POINTING UPSTREAM. PROVIDE 8" TO 10" OF EMBEDMENT DEPTH.

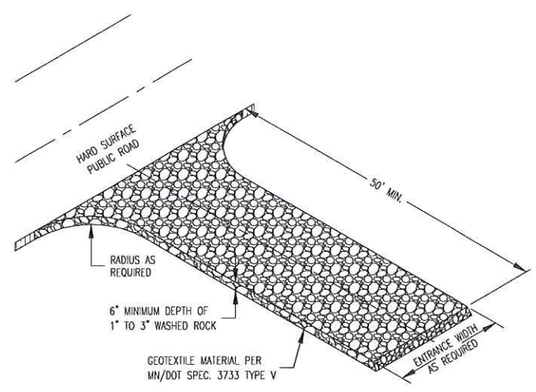


BIOROLL STAKING DETAIL

NOTES
SEE SPECS. 2573, 3889.
SEE SHEET 1 FOR DITCH CHECK SPACING.
1 POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
TEMP. SEDIMENT CONTROL
TYPE 2 DITCH CHECKS

ASST. CITY ENGINEER	DIRECTOR		
SHT 3 OF 6 SHTS	DATE REVISED 6/15/07	PLATE NO. 7-03	REV. A

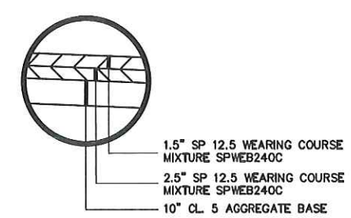


MAINTENANCE (INCIDENTAL)

THE ROCK PAD SHALL BE MAINTAINED TO PREVENT THE TRACKING OF MUD ONTO PAVED ROADS, INCLUDING PERIODIC TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALLATION OF THE PAD AS NECESSARY.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
TEMPORARY ROCK
CONSTRUCTION ENTRANCE

ASST. CITY ENGINEER	DIRECTOR		
SHT 1 OF 1 SHTS	DATE REVISED 3/22/06	PLATE NO. 7-06	REV. D



BITUMINOUS PAVEMENT
PATCHING SECTION

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engineers + planners + land surveyors

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

Timothy A. Hruska
Date 5/5/14 License No. 44930

REVISIONS

NO.	DATE	DESCRIPTION

DETAILS

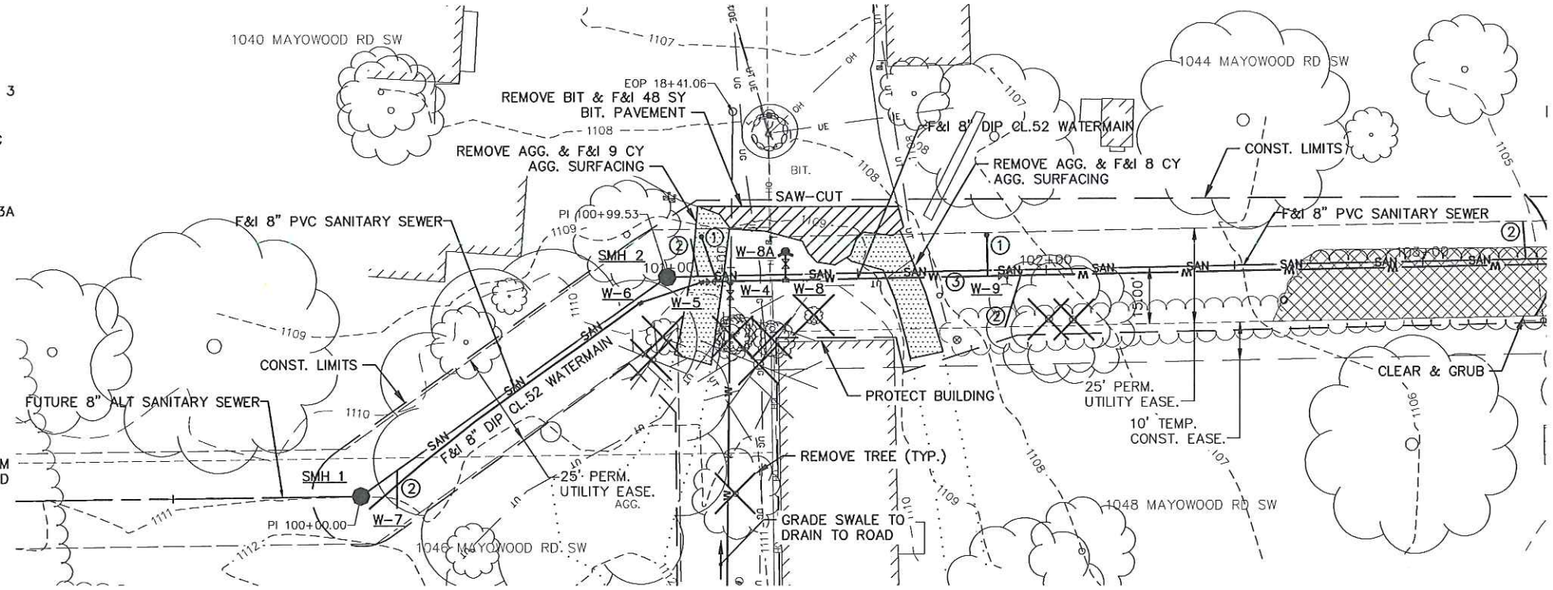
OAK LEDGE SEWER AND WATER EXTENSION
ROCHESTER, MN
2014

SCALE: AS SHOWN
WHKS PROJECT NO. 7971.00
DRAWN BY: DJO
CHECKED BY: DDS
SHEET 02 OF 06

SMH 1 (48in)
STA 100+00.00 0.00'
CONSTRUCT STRUCTURE TYPE 3
RING EL. = 1110.95
INL. EL. 1098.94 (W) 8" PVC
INV. EL. 1098.94 (NE) 8" PVC

SMH 2 (48in)
STA 100+99.53 0.00'
CONSTRUCT STRUCTURE TYPE 3A
RING EL. = 1109.57
INL. EL. 1098.55 (SW) 8" PVC
INL. EL. 1091.29 (SW) 8" PVC
INV. EL. 1091.19 (E) 8" PVC

NOTE:
SOD DISTURBED AREAS FROM STA. 99+75 TO 103+50 AND STA. 16+00 TO 18+25.



NOTE:
1. F&I 1" COPPER WATER SERVICE
2. F&I 4" SDR 26 PVC PRESSURE PIPE SANITARY SEWER SERVICE
3. REMOVE AND REINSTALL FENCE

W-4
STA 17+96.29 -0.09'L
F&I 8" X 8" TEE
F&I 8" GATE VALVE & BOX 3' SOUTH OF TEE
F&I 8" GATE VALVE & BOX 4' WEST OF TEE

W-5
STA 17+96.03 -7.82'L
F&I 8" - 22.5° BEND

W-6
STA 17+90.39 -24.06'L
F&I 8" - 22.5° BEND

W-7
STA 17+35.41 -95.09'L
F&I 8" PLUG

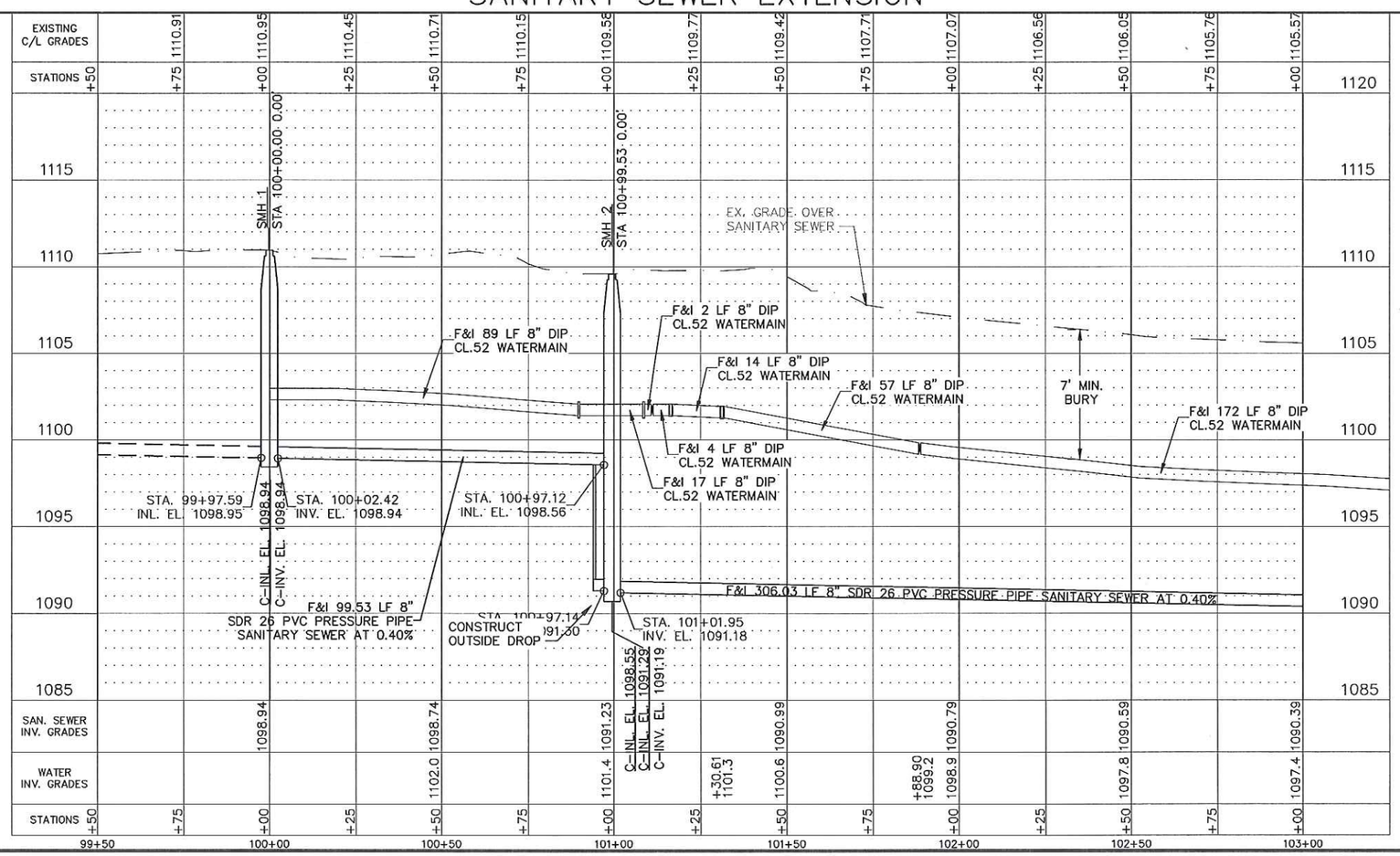
W-8
STA 17+96.79 14.66'R
F&I 8" X 6" TEE

W-8A
STA 18+04.33 14.49'R
F&I 6" HYDRANT
BRK OFF EL. 1110.2
F&I 6" GATE VALVE & BOX 3' FROM HYD.
F&I 7 LF 6" WATERMAIN

W-9
STA 17+98.73 72.03'R
F&I 8" GATE VALVE & BOX

HORIZ. 20 0 20 40
VERT. 4 0 4 8

SANITARY SEWER EXTENSION



whks engineers + planners + land surveyors

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.

Timothy A. Hruska
Date 8/8/14 License No. 44930

REVISIONS

NO.	DATE	DESCRIPTION

PLAN AND PROFILE

OAK LEDGE SEWER AND WATER EXTENSION
ROCHESTER, MN
2014

SCALE: AS SHOWN
WHKS PROJECT NO. 7971.00
DRAWN BY: DJO
CHECKED BY: DDS
SHEET 03 OF 06

NOTE:
SOD DISTURBED AREAS FROM STA. 99+75 TO 103+50.
SEED DISTURBED AREAS FROM STA. 103+50 TO 105+15.

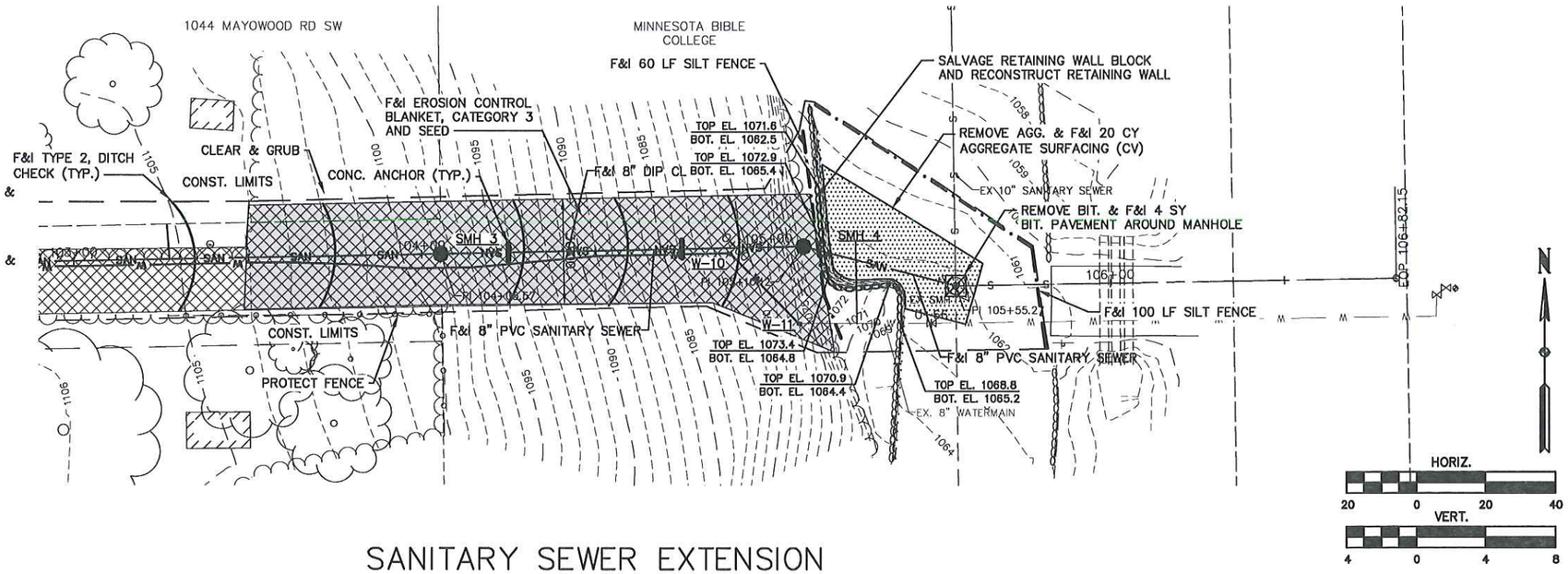
SMH 3 (48in)
STA 104+05.57 0.00'
CONSTRUCT STRUCTURE TYPE 3
RING EL. = 1098.69
INL. EL. 1089.98 (W) 8" PVC
INV. EL. 1089.47 (E) 8" PVC

SMH 4 (48in)
STA 105+10.12 0.00'
CONSTRUCT STRUCTURE TYPE 3A
RING EL. = 1072.53
INL. EL. 1067.91 (W) 8" PVC
INL. EL. 1056.37 (W) 8" PVC
INV. EL. 1056.27 (E) 8" PVC

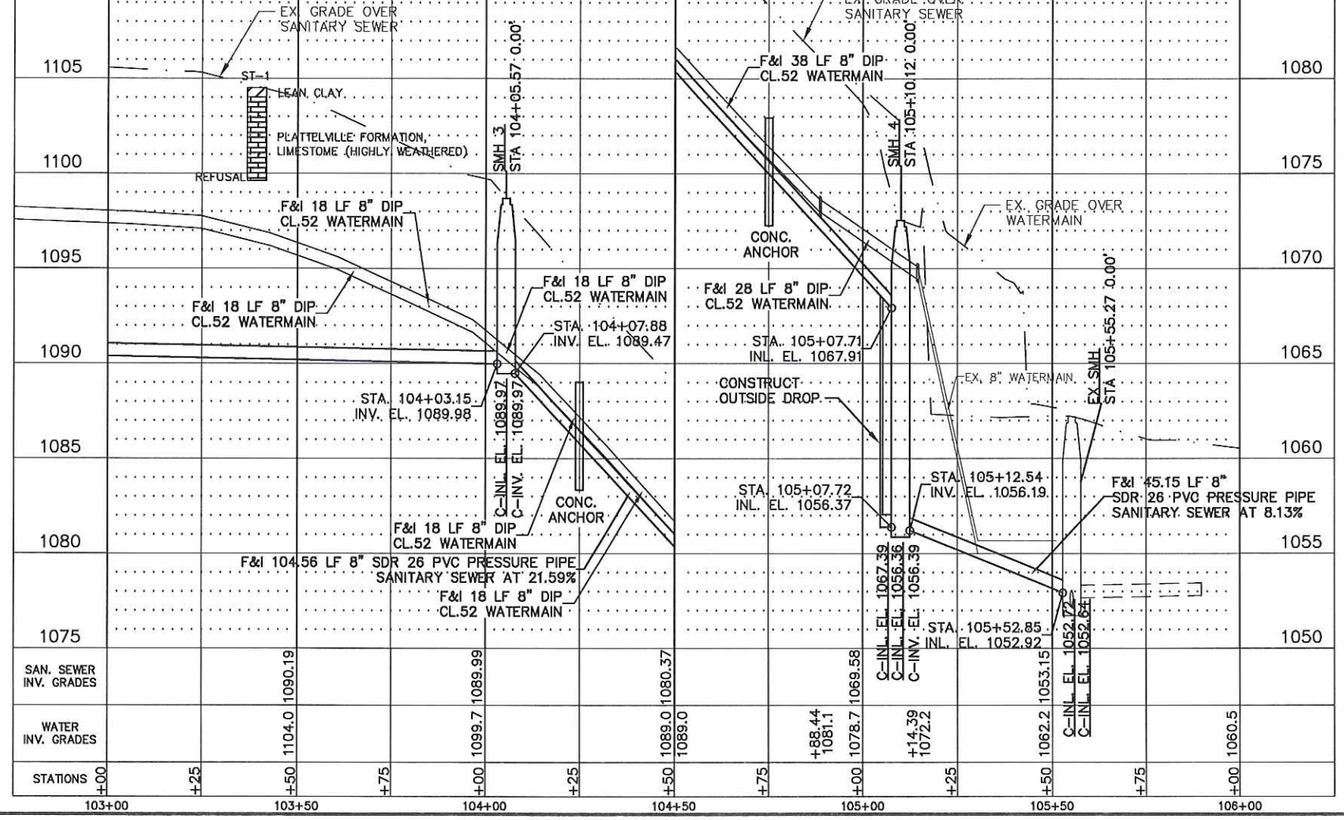
EX SMH (48in)
STA 105+55.27 0.00'
CONSTRUCT STRUCTURE TYPE 3
RING EL. = 1062.20
INL. EL. 1052.72 (W) 8" PVC
INL. EL. 1052.64 (E) 8" PVC
EX. INV. EL. 1052.22 (N) 10"

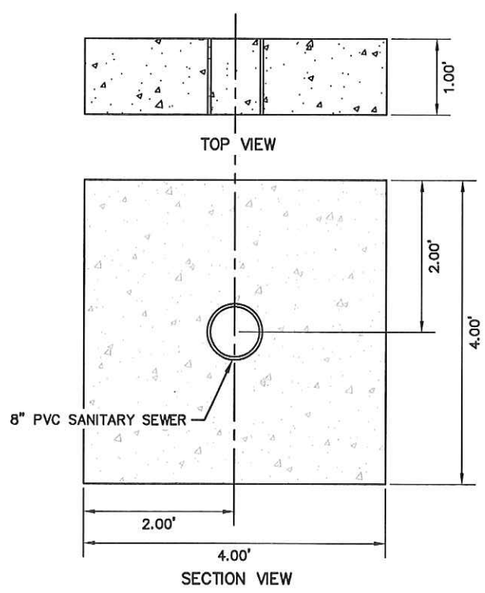
W-10
STA 18+08.87 371.98'R
F&I 8" – 45° BEND (VERTICAL & HORIZONTAL)

W-11
STA 17+87.58 392.55'R
F&I 8" – 45° BEND (VERTICAL & HORIZONTAL)
CONNECT TO EX. WATERMAIN



SANITARY SEWER EXTENSION





CONCRETE ANCHOR DETAIL
NO SCALE

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

Timothy A. Hruska
Date 8/8/14 License No. 44930

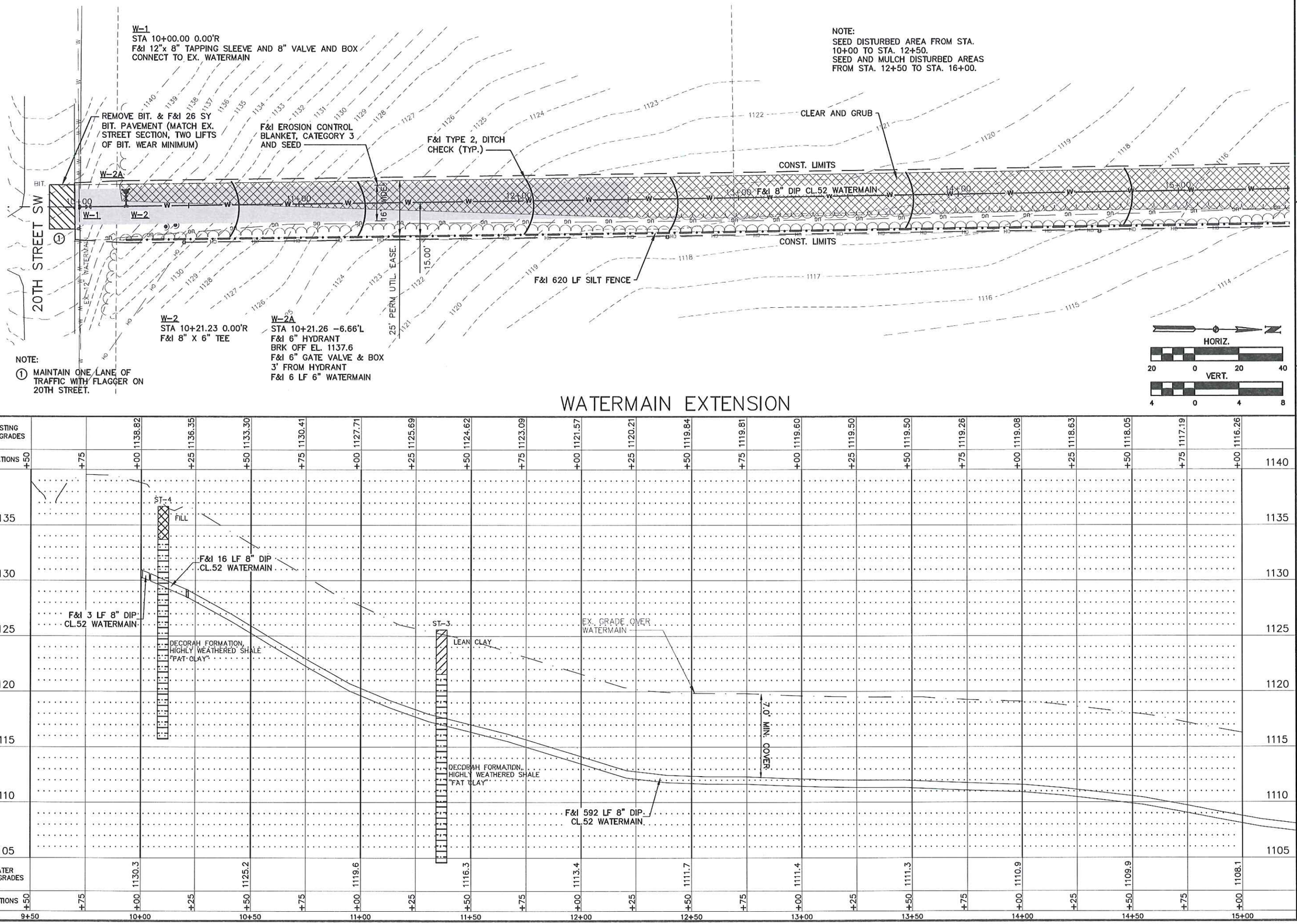
REVISIONS

NO.	DATE	DESCRIPTION

PLAN AND PROFILE

OAK LEDGE SEWER AND WATER EXTENSION
ROCHESTER, MN
2014

SCALE: AS SHOWN
WHKS PROJECT NO. 7971.00
DRAWN BY: DJO
CHECKED BY: DDS
SHEET 04 OF 06



WATERMAIN EXTENSION

whks
engineers + planners + land surveyors

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

Timothy A. Hruska

Date 8/8/14 License No. 44930

REVISIONS		
NO.	DATE	DESCRIPTION

PLAN AND PROFILE

OAK LEDGE SEWER AND WATER EXTENSION
ROCHESTER, MN
2014

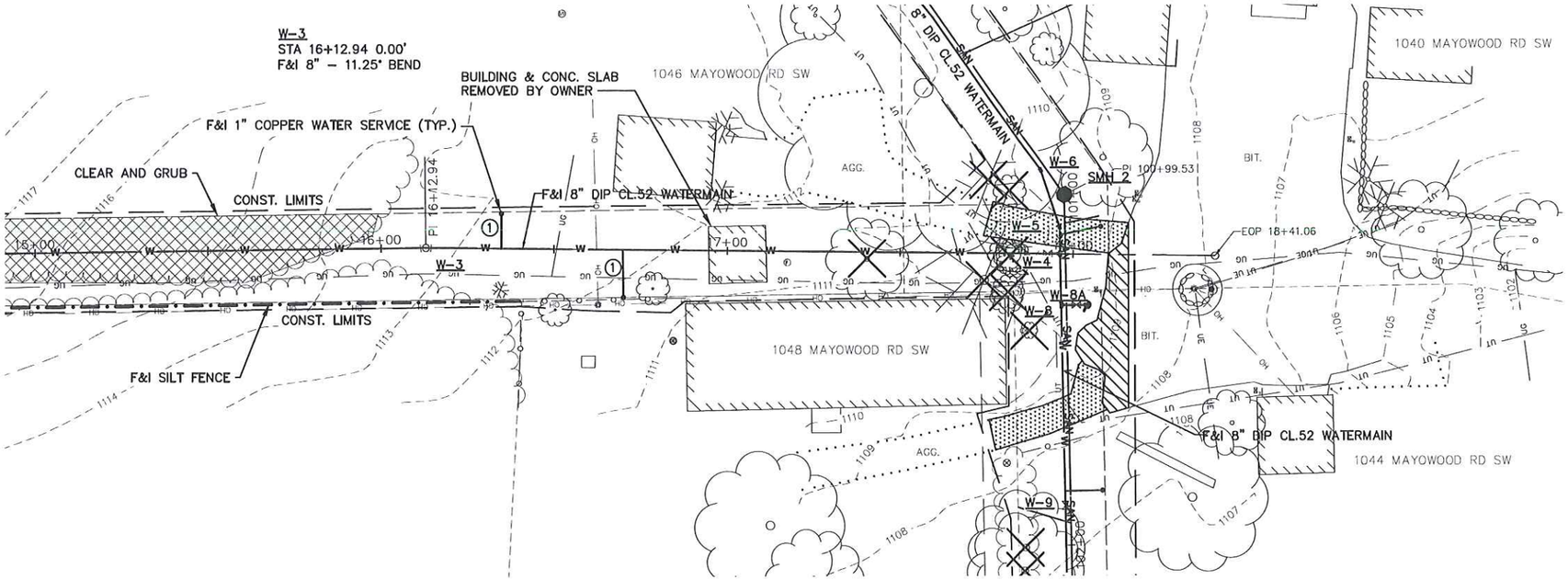
SCALE: AS SHOWN

WHKS PROJECT NO. 7971.00

DRAWN BY: DJO

CHECKED BY: DDS

SHEET 05 OF 06



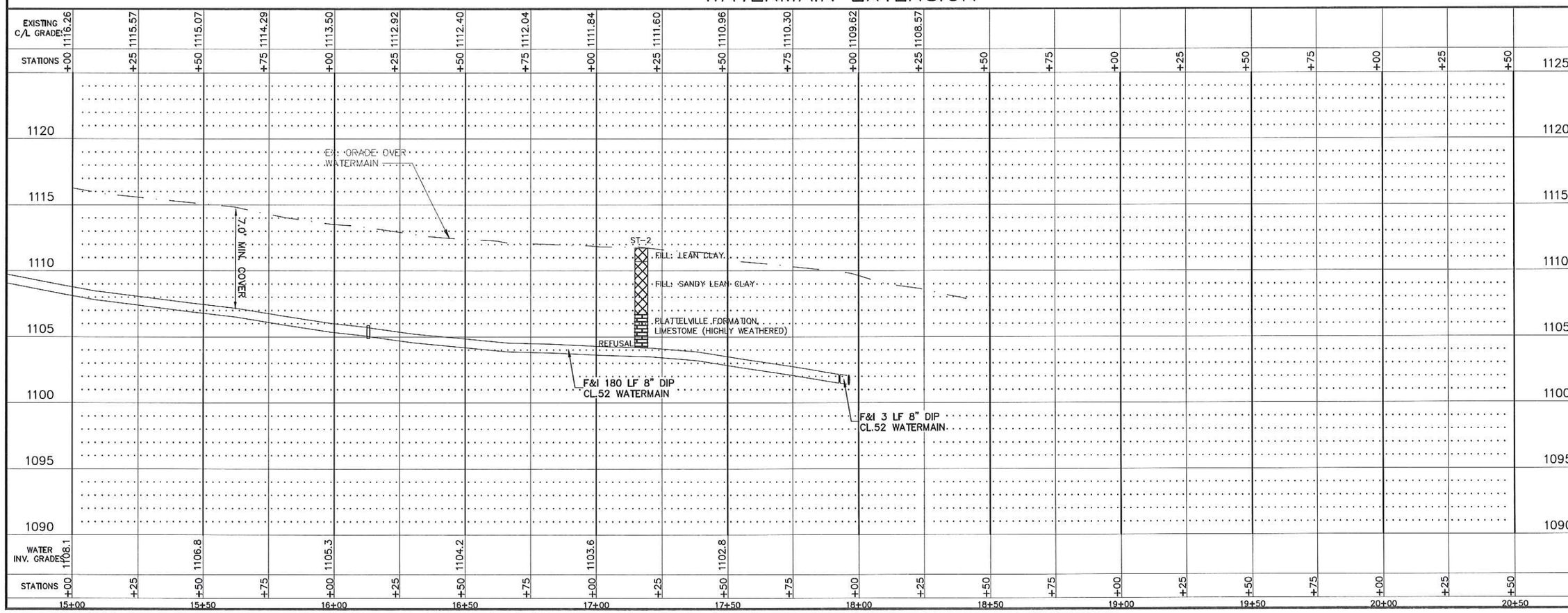
NOTE:

① F&I 1" COPPER WATER SERVICE

HORIZ. 20 0 20 40

VERT. 4 0 4 8

WATERMAIN EXTENSION



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Timothy A. Brusko

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