

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, CONCRETE AND BITUMINOUS SURFACING

LOCATED ON TH 61 FROM 100' SOUTH OF 26TH AVE. E. TO 150' SOUTH OF 32ND AVE. E.

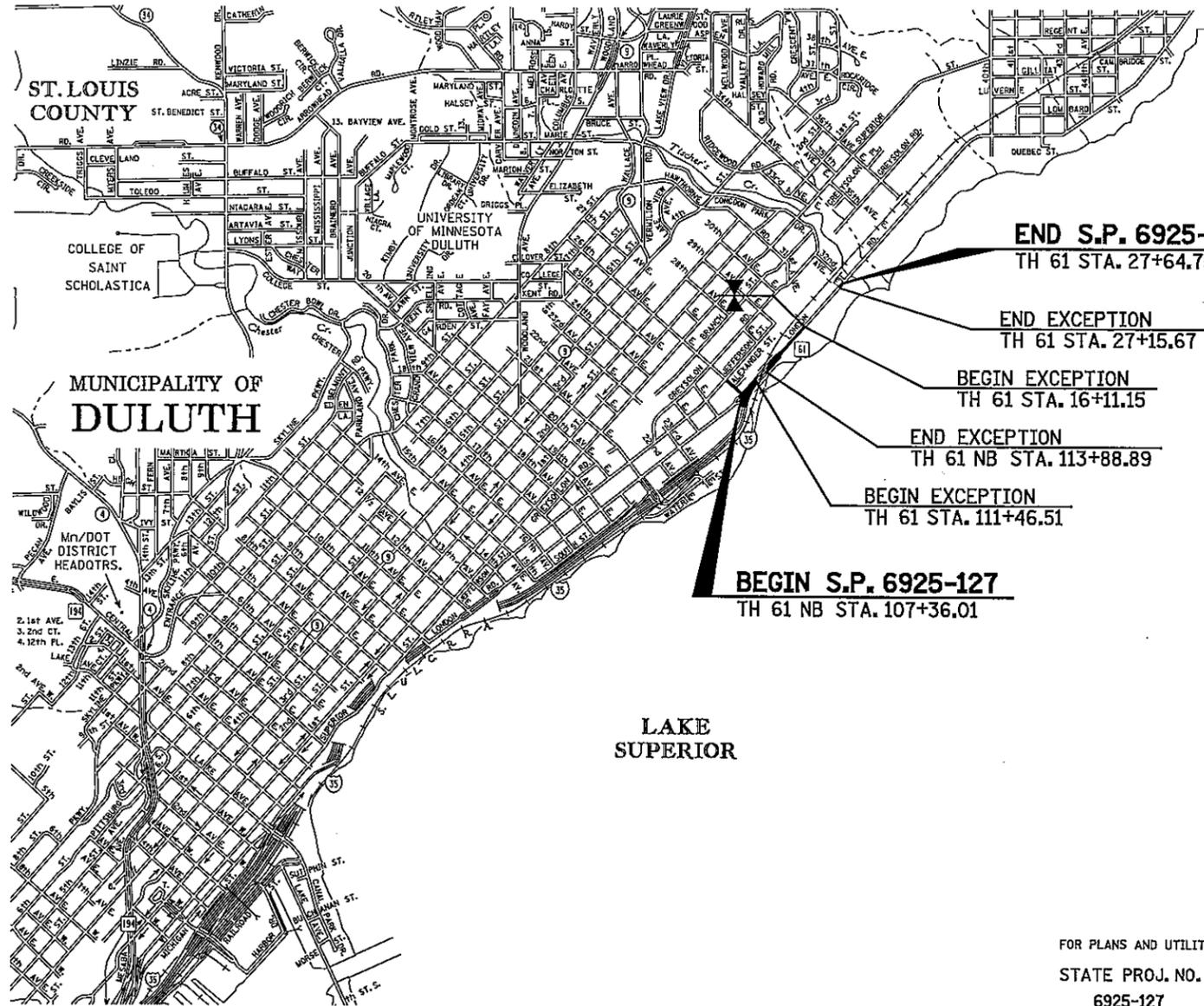
STATE PROJ. NO. 6925-127 IN DULUTH

GROSS LENGTH 2839.90 FEET 0.538 MILES
 BRIDGES-LENGTH 86.17 FEET 0.016 MILES
 EXCEPTIONS-LENGTH 1346.90 FEET 0.255 MILES
 NET LENGTH 1493.00 FEET 0.283 MILES
 REF. POINT J+00.450 TO REF. POINT L+00.999

NOTE: LENGTHS BASED ON TH 61 NB & TH 61 ALIGNMENTS

EQUATIONS

TH 61 NB STA. 124+22.31 (BK) =
 A PT. 12' RT. TH 61 STA. 16+11.15 (AH)



FED. PROJ. NO. IM.BHIM.NH.BHNH.6910(123)

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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- 67-81 TRAFFIC CONTROL
- X1-X2 CROSS SECTIONS

SHEET NO. 21 HAS BEEN DELETED.
 THIS PLAN CONTAINS 82 SHEETS

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.

SIGNATURE: Tim A. Chalupnik
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: OCTOBER 30, 2009 LIC. NO. 15400

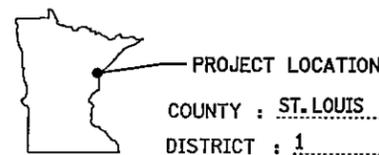
TKDA

ENGINEERING - ARCHITECTURE - PLANNING

- RECOMMENDED FOR APPROVAL Melody J. Smith 11/20/09
DISTRICT TRANSPORTATION ENGINEER
- RECOMMENDED FOR APPROVAL R. J. Hawver 11/20/2009
DISTRICT MATERIALS ENGINEER
- RECOMMENDED FOR APPROVAL Paul Blumh 11/20/09
DISTRICT WATER RESOURCES ENGINEER
- RECOMMENDED FOR APPROVAL Robert R. Ego 11/20/09
DISTRICT TRAFFIC ENGINEER
- RECOMMENDED FOR APPROVAL Valerie J. Peterson 12/28/09
STATE PRE-LETTING ENGINEER
- OFFICE OF LAND MANAGEMENT APPROVAL M. J. Stenberg 12/29/09
FOR DIRECTOR, LAND MANAGEMENT
- APPROVED M. Akin DATE: Dec 29 09
STATE DESIGN ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ LIC. NO. _____



FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL
 STATE PROJ. NO. 6925-127 CHARGE IDENTIFIER T 17681

DESIGN DESIGNATION

ADT (CURRENT YEAR) 2006 = 20,000 DESIGN SPEED 30 MPH
 ADT (FUTURE YEAR) = _____ BASED ON STOPPING SIGHT DISTANCE
 DHV (DESIGN HR. VOL.) = _____ HT OF EYE 3.5' HT OF OBJECT 2.0'
 D (DIRECTIONAL DISTR.) = _____ % DESIGN SPEED NOT ACHIEVED AT:
 T (HEAVY COMMERCIAL) = _____ % STA. _____ TO STA. _____ MPH _____
 STA. _____ TO STA. _____ MPH _____

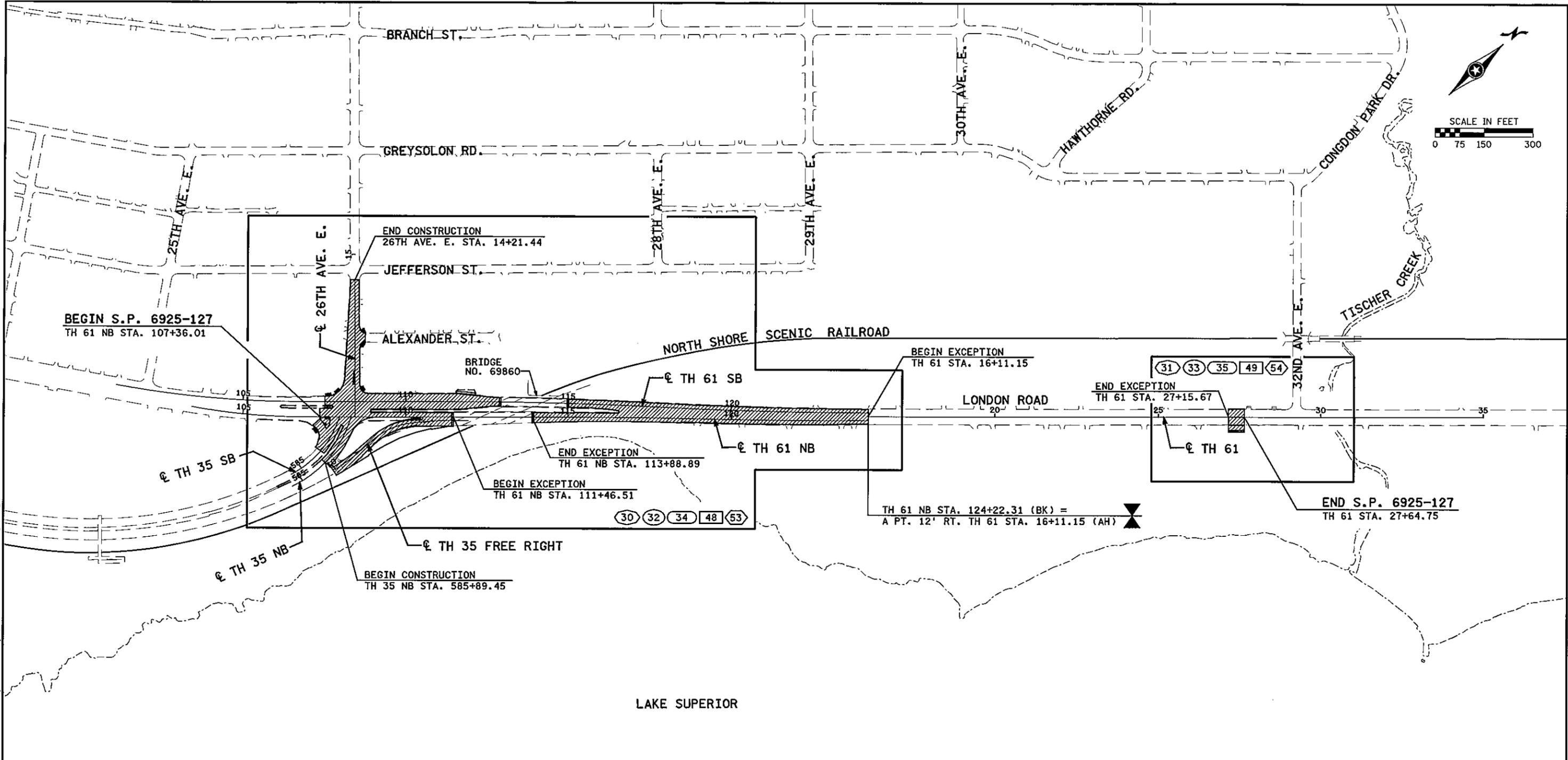
SCALES

- PLAN 50'
- PROFILE 50' HORIZ. 5' VERT.
- INDEX MAP 1500'
- GENERAL LAYOUT 150'

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DATE: 10/30/2009 TIME: 2:56:07 PM FILENAME: K:\g-m\mndot\4419000\hwy-brdg\hwy\plan-sht\cd6925127_1.jtdgn

DATE: 11/19/2009 TIME: 9:43:00 AM
 FILENAME: K:\g-m\mndot\4419000\hwy-brdg\hwy-pln-st\cd6925127_gla.dgn



DRAWN BY: SFH
 CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: NOVEMBER 19, 2009 LIC. NO. 15400



MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

GENERAL LAYOUT

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 2 of 81 Sheets

DATE: 2/15/2010 TIME: 1:27:19 PM
 FILENAME: K:\g-m\mndot\4419000\hwy-brdg\hwy\p1r-st\cd6925127_eqq.dgn

ESTIMATED QUANTITIES

TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY
		2021.501	MOBILIZATION		LUMP SUM	0.02
		2031.501	FIELD OFFICE TYPE D		EACH	0.04
		2031.503	FIELD LABORATORY TYPE DX		EACH	0.04
		2051.501	MAINT & RESTORATION OF HAUL ROADS		LUMP SUM	1
		2101.511	CLEARING AND GRUBBING		LUMP SUM	1
H	10	2104.501	REMOVE PIPE CULVERTS		LIN FT	90
H	10	2104.501	REMOVE SEWER PIPE (STORM)		LIN FT	41
A	7	2104.501	REMOVE CURB AND GUTTER		LIN FT	1060
K	64	2104.501	REMOVE CABLES		LIN FT	2000
A	7	2104.503	REMOVE BRICK SIDEWALK		SQ FT	4114
A	7	2104.505	REMOVE CONCRETE WALK		SQ YD	145
A	7	2104.505	REMOVE PAVEMENT	(1)	SQ YD	260
A	7	2104.505	REMOVE CONCRETE PAVEMENT		SQ YD	219
A	7	2104.505	REMOVE CONCRETE APPROACH PANEL		SQ YD	67
A	7	2104.505	REMOVE BITUMINOUS PAVEMENT	(2)	SQ YD	12775
H	10	2104.509	REMOVE MANHOLE OR CATCH BASIN		EACH	1
A	7	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	416
A	7	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	170
E	5	2105.501	COMMON EXCAVATION	(P)	CU YD	941
E	5	2105.507	SUBGRADE EXCAVATION	(P)	CU YD	4476
E	5	2105.522	SELECT GRANULAR BORROW MOD 7% (CV)	(P)	CU YD	4753
B	7	2211.503	AGGREGATE BASE (CV) CLASS 6		CU YD	1602
C	8	2301.531	EXPANSION JOINTS DESIGN E8H		LIN FT	122
C	8	2301.538	DOWEL BAR		EACH	8544
B	7	2301.541	INTEGRANT CURB DESIGN B6		LIN FT	664
B	7	2301.541	INTEGRANT CURB DESIGN D		LIN FT	89
C	8	2301.602	DRILL & GROUT REINF BAR (EPOXY COATED)		EACH	219
L	26	2301.603	CONCRETE PAVEMENT LUGS		LIN FT	235
C	8	2301.604	CONCRETE PAVEMENT 7.0"		SQ YD	260
C	8	2301.604	CONCRETE PAVEMENT 10.0"		SQ YD	13076
C	8	2301.608	SUPPLEMENTAL PAVEMENT REINF (EPOXY COATED)		POUND	6742
B	7	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,B)		TON	70
C	8	2433.618	RECONSTRUCT APPROACH PANEL		SQ FT	609
F	52	2501.515	30" RC PIPE APRON		EACH	2
		2501.602	PLUG & ABANDON PIPE CULVERT	(5)	EACH	1
G	52	2502.521	4" TP PIPE DRAIN		LIN FT	128
G	52	2502.541	4" PERF TP PIPE DRAIN		LIN FT	3406
F	52	2503.541	12" RC PIPE SEWER DES 3006		LIN FT	225
F	52	2503.541	15" RC PIPE SEWER DES 3006		LIN FT	18
F	52	2503.541	30" RC PIPE SEWER DES 3006		LIN FT	20
F	52	2503.541	30" RC PIPE SEWER DES 3006 CL IV		LIN FT	100
F	52	2506.501	CONST DRAINAGE STRUCTURE DESIGN F		LIN FT	11.2
F	52	2506.501	CONST DRAINAGE STRUCTURE DESIGN G		LIN FT	7.2
F	52	2506.501	CONST DRAINAGE STRUCTURE DESIGN H		LIN FT	2.9
F	52	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020		LIN FT	26.7
F	52	2506.516	CASTING ASSEMBLY		EACH	7
F	52	2506.522	ADJUST FRAME & RING CASTING		EACH	2

ESTIMATED QUANTITIES

TAB LETTER	SHEET NO.	ITEM NUMBER	ITEM	NOTE NO.	UNIT	TOTAL ESTIMATED QUANTITY
F	52	2506.602	CONNECT TO EXISTING STORM SEWER		EACH	1
F	52	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE		EACH	4
F	52	2506.602	REPAIR DRAINAGE STRUCTURE		EACH	1
F	52	2511.501	RANDOM RIPRAP CLASS IV		CU YD	14.5
B	7	2521.501	4" CONCRETE WALK		SQ FT	6579
B	7	2521.501	6" CONCRETE WALK		SQ FT	97
B	7	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	160
B	7	2531.501	CONCRETE CURB & GUTTER DESIGN S524		LIN FT	34
B	7	2531.502	CONCRETE CURB DESIGN V6		LIN FT	56
B	7	2531.502	CONCRETE CURB & GUTTER DESIGN BR6-11		LIN FT	97
B	7	2531.618	TRUNCATED DOMES		SQ FT	80
F	52	2554.509	GUIDE POST TYPE B		EACH	2
		2563.601	TRAFFIC CONTROL SUPERVISOR		LUMP SUM	1
M	67	2563.601	TRAFFIC CONTROL		LUMP SUM	0.02
M	67	2563.602	RAISED PAVEMENT MARKER TEMPORARY		EACH	1310
M	67	2563.602	TUBE DELINEATOR		EACH	185
M	67	2563.602	REPLACE TUBE DELINEATOR		EACH	93
K	64	2565.602	NMC LOOP DETECTOR 6'X6'		EACH	22
K	64	2565.602	NMC LOOP DETECTOR 6'X8'		EACH	1
K	64	2565.602	NMC LOOP DETECTOR 6'X12'		EACH	1
K	64	2565.603	2/C#14		LIN FT	2000
D	8	2573.502	SILT FENCE, TYPE HEAVY DUTY		LIN FT	178
D	8	2573.530	STORM DRAIN INLET PROTECTION	(3)(4)	EACH	17
D	8	2573.540	FILTER LOG TYPE ROCK LOG		LIN FT	40
D	8	2573.602	CULVERT PROTECTION	(4)	EACH	1
D	8	2575.501	SEEDING	(P)	ACRE	0.1
D	8	2575.502	SEED MIXTURE 250		POUND	2
D	8	2575.505	SODDING TYPE SALT RESISTANT		SQ YD	1261
D	8	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	(4)	SQ YD	140
D	8	2575.532	FERTILIZER TYPE 3		POUND	56
D	8	2575.572	RAPID STABILIZATION METHOD 4		SQ YD	140
M	67	2580.601	INTERIM PAVEMENT MARKING		LUMP SUM	1
J	55	2582.501	PAVT MSSG (LT ARROW) POLY PREF-GR IN		EACH	6
J	55	2582.501	PAVT MSSG(LT-THRU ARROW)POLY PREF-GR IN		EACH	2
J	55	2582.501	PAVT MSSG (LT ARROW) EPOXY		EACH	2
J	55	2582.501	PAVT MSSG (RT ARROW) EPOXY		EACH	1
J	55	2582.502	4" SOLID LINE WHITE-POLY PREF (GR IN)		LIN FT	4164
J	55	2582.502	8" SOLID LINE WHITE-POLY PREF (GR IN)		LIN FT	195
J	55	2582.502	24" SOLID LINE WHITE-POLY PREF (GR IN)		LIN FT	87
J	55	2582.502	7" BROKEN LINE WHITE-POLY PREF (GR IN)		LIN FT	570
J	55	2582.502	11" DOTTED LINE WHITE-POLY PREF (GR IN)		LIN FT	27
J	55	2582.502	4" SOLID LINE YELLOW-POLY PREF (GR IN)		LIN FT	5116
J	55	2582.502	11" DOTTED LINE YELLOW-POLY PREF (GR IN)		LIN FT	24
J	55	2582.502	4" SOLID LINE WHITE-EPOXY		LIN FT	3040
J	55	2582.502	8" SOLID LINE WHITE-EPOXY		LIN FT	144
J	55	2582.502	4" BROKEN LINE WHITE-EPOXY		LIN FT	430
J	55	2582.502	4" SOLID LINE YELLOW-EPOXY		LIN FT	3468
J	55	2582.502	24" SOLID LINE YELLOW-EPOXY		LIN FT	80
J	55	2582.503	CROSSWALK MARKING-POLY PREFORM (GR IN)		SQ FT	378

INDEX OF TABULATIONS

TAB LETTER	SHEET NO.	DESCRIPTION
A	7	REMOVALS
B	7	AGGREGATE, BITUMINOUS, AND CONCRETE ITEMS
C	8	CONCRETE PAVEMENT, REINFORCEMENT, AND JOINT SUMMARY
D	8	EROSION CONTROL AND TURF ESTABLISHMENT
E	5	EARTHWORK BALANCE
F	52	DRAINAGE SUMMARY
G	52	SUBSURFACE DRAINAGE
H	10	INPLACE UTILITIES - DRAINAGE
J	55	TRAFFIC PAVEMENT MARKING
K	64	SIGNAL SYSTEM
L	26	CONCRETE PAVEMENT LUGS
M	67	TRAFFIC CONTROL BID ITEMS

NOTES:

- (P) DENOTES PLAN QUANTITY.
- (1) EXISTING PAVEMENT CONSISTS OF 4" BITUMINOUS OVER 7" CONCRETE.
- (2) EXISTING BITUMINOUS PAVEMENT CONSISTS OF 5" BITUMINOUS ALONG 26TH AVE. E. AND 10" BITUMINOUS ALONG TH 35 AND TH 61.
- (3) SEE SHEET NO. 22 FOR INLET PROTECTION DETAILS.
- (4) INCLUDES ALL REQUIRED MAINTENANCE FOR THE DURATION OF THE PROJECT.
- (5) SEE SHEET NO. 33 FOR LOCATION.

DRAWN BY: SJS

CHECKED BY: TAC

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: FEBRUARY 15, 2010 LIC. NO. 15400

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MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

ESTIMATED QUANTITIES

STATE PROJ. NO. 6925-127 (TH 61)

Sheet No. 3 of 81 Sheets

SOILS AND CONSTRUCTION NOTES

THE MNDOT SURVEY SECTION WILL PROVIDE SUFFICIENT HORIZONTAL AND VERTICAL CONTROL PRIOR TO THE BEGINNING OF ANY CONSTRUCTION STAKING REQUIRED FOR THE PROJECT.

SALVAGE EXISTING TOPSOIL FROM ALL AREAS DISTURBED BY CONSTRUCTION FOR PLACEMENT ON CONSTRUCTION SLOPES. CONSTRUCTION SLOPES SHALL BE COVERED WITH 4 INCHES OF SALVAGED TOPSOIL.

EXCAVATION LIMITS LINES AS SHOWN ON THE TYPICAL SECTIONS, CROSS SECTIONS AND DETAILS IN THIS PLAN ARE FOR THE COMPUTATION OF PAY QUANTITIES. TEMPORARY AND INTERMEDIATE EXCAVATION LIMITS AND SLOPES ARE TO BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION, DEPENDING ON SOIL PROPERTIES AND SAFETY FACTORS, ADDITIONAL EXCAVATION AND BACKFILL BEYOND THE LIMITS SHOWN IN THE PLAN SHALL BE CONSIDERED THE CONTRACTORS RESPONSIBILITY WITH NO DIRECT PAYMENT.

SELECT GRADING MATERIALS ARE DEFINED AS ANY SOILS WITH THE EXCEPTION OF TOPSOIL, PEAT, SILT, SILTLOAM, WOOD AND OTHER ORGANIC SOILS.

SELECT GRANULAR MATERIAL MODIFIED 7% SHALL COMPLY WITH SPEC. 3149.2B2, MODIFIED TO 7% OR LESS PASSING THE NUMBER 200 SIEVE.

THE CONTRACTOR SHALL NOT STORE EXCAVATED MATERIAL OUTSIDE THE PLANNED CONSTRUCTION LIMITS UNLESS APPROVED BY THE ENGINEER.

BITUMINOUS SURFACING, CONCRETE ITEMS, OR ANY OTHER MATERIALS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION THAT ARE NOT SUITABLE FOR SALVAGE OR FOR ROADWAY CONSTRUCTION, SHALL BE DISPOSED OF BY THE CONTRACTOR OFF MN/DOT RIGHT-OF-WAY AT AN APPROVED DISPOSAL SITE.

THE CONTRACTOR SHALL PRESERVE ALL LAND AND PROPERTY CORNERS, VERTICAL AND HORIZONTAL CONTROLS AND RIGHT OF WAY MONUMENTS.

COMPACTION OF SELECT GRANULAR BORROW AND AGGREGATE BASE SHALL BE BY THE LIGHT WEIGHT DEFLECTOMETER (LWD) METHOD.

BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED IN LAYERS OF THE THICKNESS SPECIFIED IN THE CONSTRUCTION DETAILS AND TYPICAL SECTIONS.

SHOULDER WIDTHS GREATER THAN OR EQUAL TO 5 FEET SHALL BE PAVED BY A SELF PROPELLED UNIT WITH AN OPERATIONAL VIBRATORY SCREED.

PLACE BITUMINOUS MATERIAL FOR TACK COAT IN ACCORDANCE WITH SPECIFICATION 2357 AT A RATE OF 0.04 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS AND AT A RATE OF 0.08 GALLONS PER SQUARE YARD ON THE CONCRETE SURFACE. THIS SHALL BE INCIDENTAL.

EARTHWORK FINISHING AND TOPSOIL COVERING OPERATIONS SHALL BE CONDUCTED CONCURRENTLY WITH GRADING OPERATIONS SO FAR AS TO PERMIT COMPLETION OF THE EROSION CONTROL ITEMS AT THE EARLIEST PRACTICAL TIME. TOPSOIL COVERING SHALL BE COMPLETED AS SOON AS POSSIBLE AFTER THE GRADING SOILS HAVE BEEN FINISHED TO GRADE IN ANY SIGNIFICANT AREA.

SEED ALL AREAS DISTURBED BY CONSTRUCTION AS SHOWN ON THE EROSION CONTROL & TURF ESTABLISHMENT PLANS. ALL AREAS OUTSIDE THE PLANNED CONSTRUCTION DISTURBED BY THE CONTRACTOR'S EQUIPMENT SHALL BE RESTORED, AS APPROVED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THE RIGHT-OF-WAY SHOWN IN THE PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC LOCATION. FOR EXACT RIGHT-OF-WAY LIMITS, SEE FILE WITH MN/DOT RIGHT-OF-WAY OFFICE, 1123 MESABA AVE. DULUTH, MN 55811.

ALL CONCRETE TRUCKS SHALL WASH OUT WITHIN THE PROJECT LIMITS AWAY FROM ANY WATERS OF THE STATE (INCLUDING HIGHWAY DITCHES) AT A LOCATION SPECIFIED BY THE ENGINEER. HARDENED CONCRETE WASTE MUST BE REMOVED FROM THE PROJECT LIMITS AND PROPERLY DISPOSED OF OFF MN/DOT R/W. INCIDENTAL. SEE SWPPP NOTES FOR ADDITIONAL POLLUTION PREVENTION MEASURES.

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO UTILIZE THE ONE CALL EXCAVATION NOTICE SYSTEM (1-800-252-1166) REQUIRED BY MINNESOTA STATUTE 216D.

DATE: 12/18/2009 TIME: 7:32:57 AM
FILENAME: K:\g-m\MnDOT\14419000\hwy-brdg\hwy\pfr-st\cd6925127_soad.dgn

DRAWN BY: TJV

CHECKED BY: TAC

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.

SIGNATURE:

PRINTED NAME: TIMOTHY A. CHALUPNIK

DATE: DECEMBER 17, 2009 LIC. NO. 15400

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ENGINEERING • ARCHITECTURE • PLANNING

MINNESOTA DEPARTMENT
OF TRANSPORTATION
TH 61 IMPROVEMENTS

SOILS & CONSTRUCTION NOTES

STATE PROJ. NO. 6925-127 (TH 61)

Sheet No. 6 of 81 Sheets

DATE: 12/18/2009 TIME: 3:18:52 PM
 FILENAME: K:\g-m\mndot\4419000\hwy-brdg\hwy\pr-sit\cd6925127_fbb.dgn

CONCRETE PAVEMENT, REINFORCEMENT, AND JOINT SUMMARY C																
STATION	CONCRETE PAVEMENT 7"	CONCRETE PAVEMENT 10"	RECONSTRUCT APPROACH PANEL	SUPPLEMENTAL PAVEMENT REINF (EPOXY COATED)	DOWEL BAR	DRILL & GROUT REINF BAR (EPOXY COATED)	EXPANSION JOINTS DESIGN EBS	INCIDENTAL ITEMS								
								NO. 13 REINF TIE BAR (EPOXY COATED)	EXPANSION JOINT	LONGITUDINAL JOINTS					CONTRACTION JOINT	
										E1-1	L1T	L1TH	L2KT	L2KTH	L3-H	C1A-D
SQ YD	SQ YD	SQ FT	POUND	EACH	EACH	LIN FT	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	
TH 61 AT 26TH AVE. E.																
TH 61 NB STA. 107+36.01 TO STA. 111+46.51		882	211	121	523		42	48	706		157			119		523
TH 61 NB STA. 113+88.89 TO STA. 124+22.31		5274	154	3142	3741		31	344	2530		1175		858			3741
TH 61 SB STA. 107+50.74 TO STA. 112+92.43		2618	125	449	1587		25	397	970		537		991			1587
TH 61 SB STA. 114+96.52 TO STA. 116+56.84		428	119		276		24		339		155					276
TH 35 NB STA. 585+89.45 TO STA. 587+50.26		640			373	31		91	133		161		226			373
TH 35 SB STA. 585+79.57 TO STA. 586+97.83		575			353	32		54	306		168		134			353
TH 35 FREE RIGHT STA. 9+93.34 TO STA. 14+07.52		1109			650	35		165			409		411			650
26TH AVE. E. STA. 10+71.00 TO STA. 14+21.44		1550		2132	897	25		198	866		351		495			897
TH 61 AT 32ND AVE. E.																
TH 61 STA. 27+15.67 TO STA. 27+64.75	260			898	144	96				98	147				144	
TOTALS	260	13076	609	6742	8544	219	122	1297	5850	98	3113	147	3115	119	144	8400

EROSION CONTROL AND TURF ESTABLISHMENT D											
LOCATION	SILT FENCE TYPE HEAVY DUTY	STORM DRAIN INLET PROTECTION (2)	FILTER LOG TYPE ROCK LOG	CULVERT PROTECTION (2)	SEEDING	SEED MIXTURE 250 (1)	SODDING TYPE SALT RESISTANT	EROSION CONTROL BLANKETS CATEGORY 3 (2)	FERTILIZER TYPE 3 (3)	RAPID STABIL METHOD 4	
	LIN FT	EACH	LIN FT	EACH	ACRE	POUND	SQ YD	SQ YD	POUND	SQ YD	
TH 61 AT 26TH AVE. E.											
TH 61 NB STA. 107+48.22 TO STA. 111+46.51		1									
TH 61 NB STA. 113+88.89 TO STA. 124+22.31		3									
TH 61 SB STA. 107+50.74 TO STA. 112+92.43		4					42		2		
TH 61 SB STA. 114+96.52 TO STA. 116+56.84											
TH 35 NB STA. 585+89.45 TO STA. 587+17.09											
TH 35 SB STA. 585+79.57 TO STA. 586+78.36											
TH 35 FREE RIGHT STA. 10+00 TO STA. 13+14.03		4					1027		37		
26TH AVE. E. STA. 10+86.07 TO STA. 14+21.44		5									
TH 61 AT 32ND AVE. E.											
TH 61 STA. 27+15.92 TO STA. 27+65	178		40	1	0.1	2	192	140	17	140	
TOTALS	178	17	40	1	0.1	2	1261	140	56	140	

- (1) SEED MIX 250 APPLIED AT A RATE OF 70 POUNDS/ACRE.
- (2) INCLUDES ALL REQUIRED MAINTENANCE FOR THE DURATION OF THE PROJECT.
- (3) FERTILIZER 22-5-10, 80% W.I.N., 0% CL APPLIED AT A RATE OF 350 POUNDS/ACRE OVER SEED AND 175 POUNDS/ACRE OVER SOD.

DRAWN BY: SFH
 CHECKED BY: TJV

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: DECEMBER 18, 2009 LIC. NO. 15400



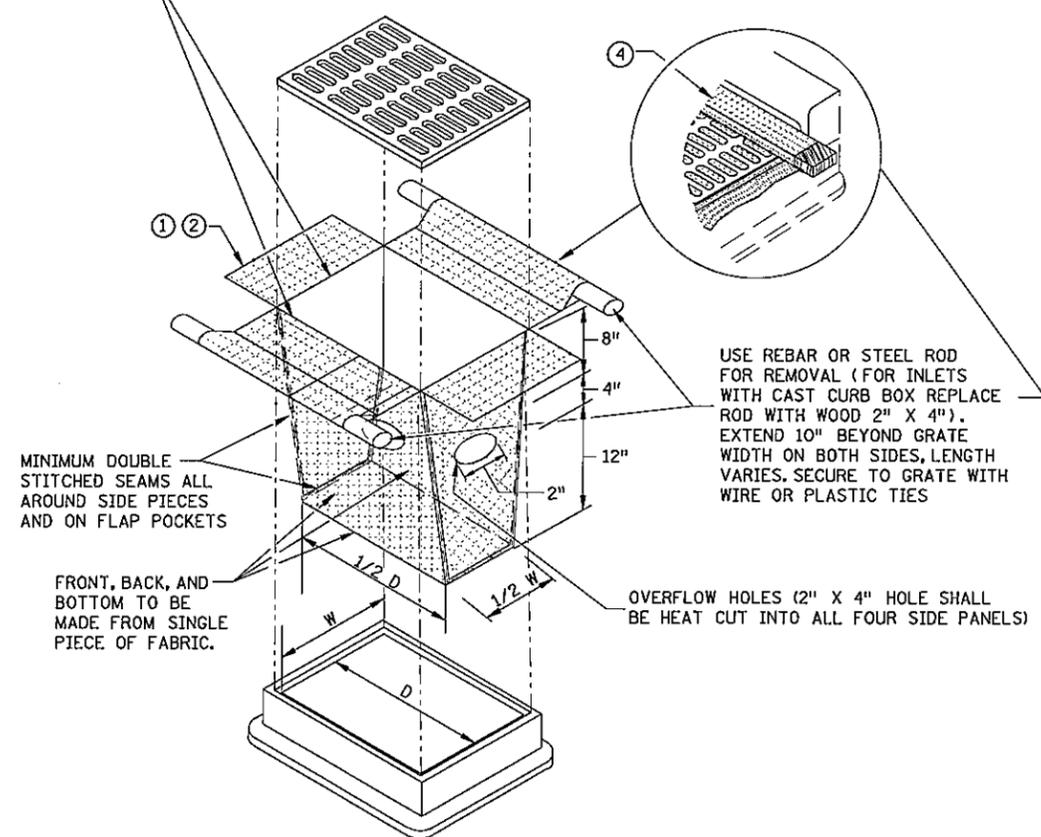
MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

TABULATIONS

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 8 of 81 Sheets

DATE: 11/19/2009 TIME: 9:43:57 AM
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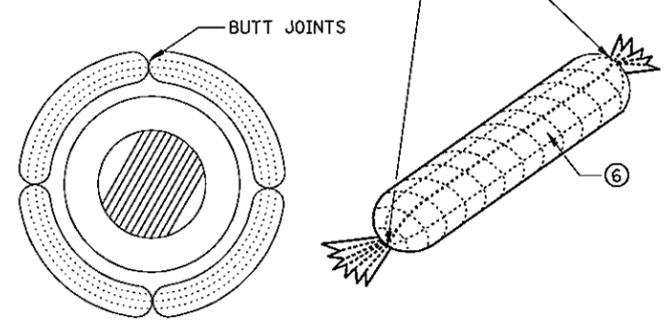
INLET SPECIFICATIONS AS PER THE PLAN
 DIMENSION LENGTH AND WIDTH TO MATCH
 FLAP POCKET



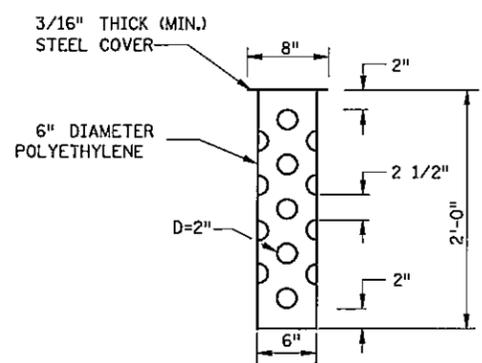
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

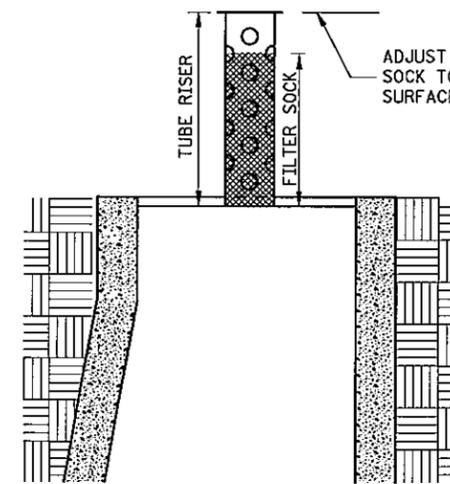
ENDS SECURELY CLOSED TO PREVENT LOSS OF OPEN GRADED AGGREGATE FILL. SECURED WITH 50 PSI. ZIP TIE.



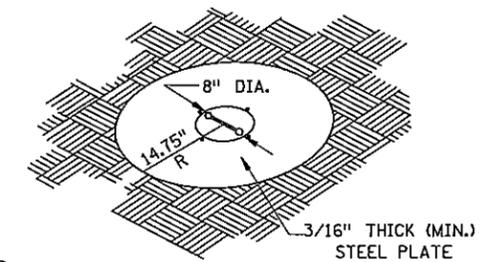
ROCK LOG/COMPOST LOG



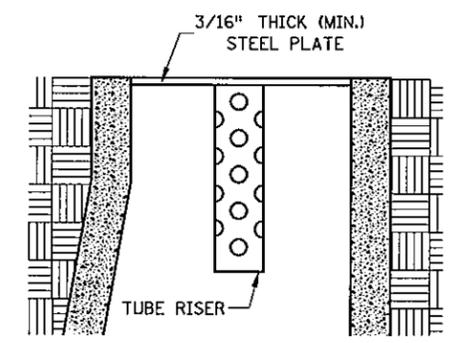
TUBE RISER



SECTION (UP POSITION)

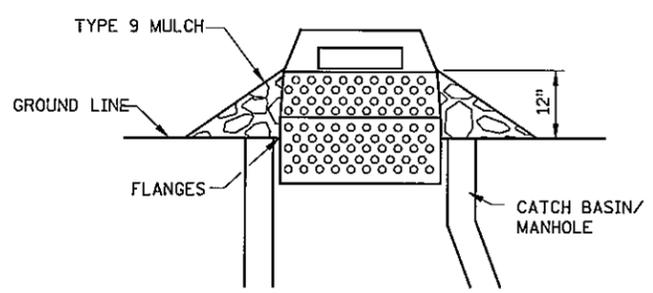


PERSPECTIVE VIEW



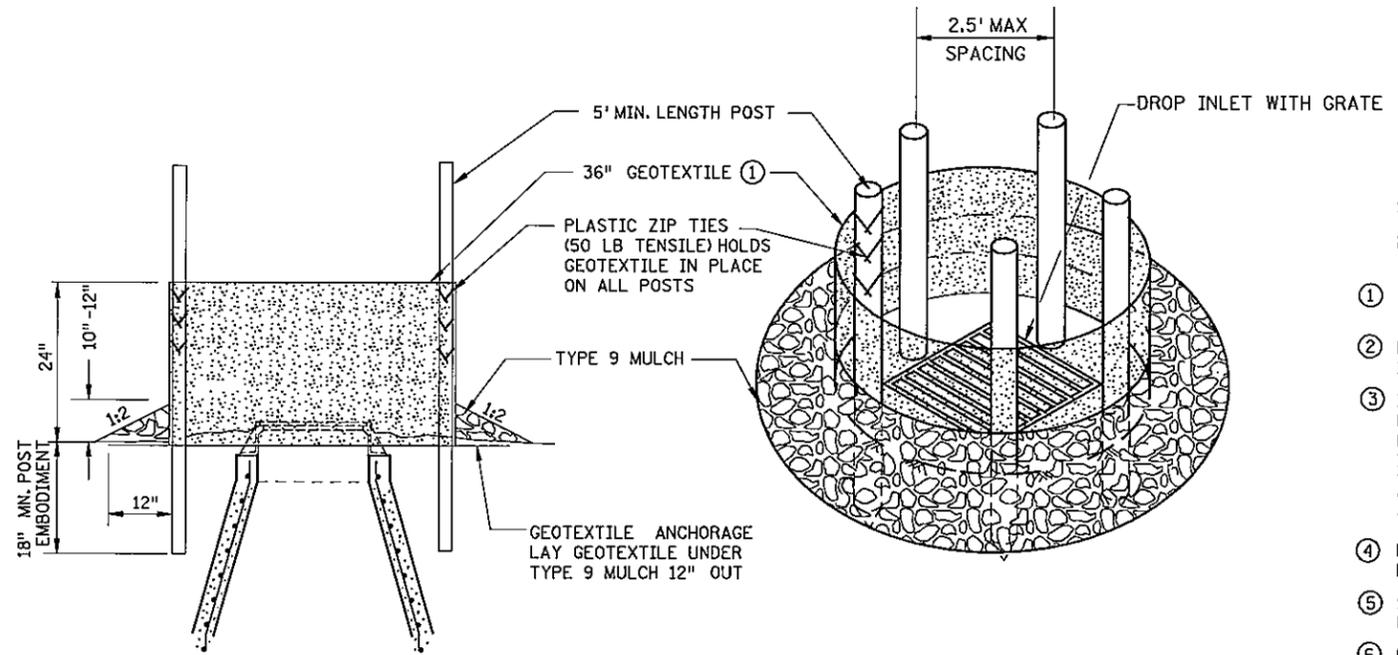
SECTION (DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
 THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM
 USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

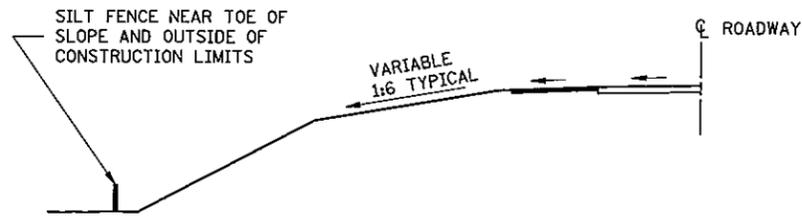
NOTES:

- SEE SPECS. 2573, 3137, 3886 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
 DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

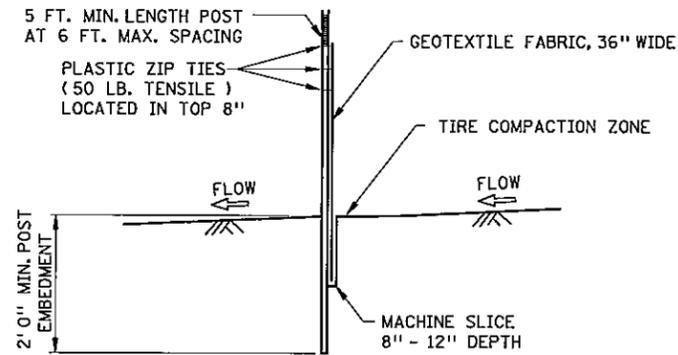
STANDARD SHEET NO. 297.405 (4 OF 4)	TITLE:
STANDARD APPROVED: SEPTEMBER 27, 2006	

**TEMPORARY SEDIMENT CONTROL
 STORM DRAIN INLET PROTECTION**

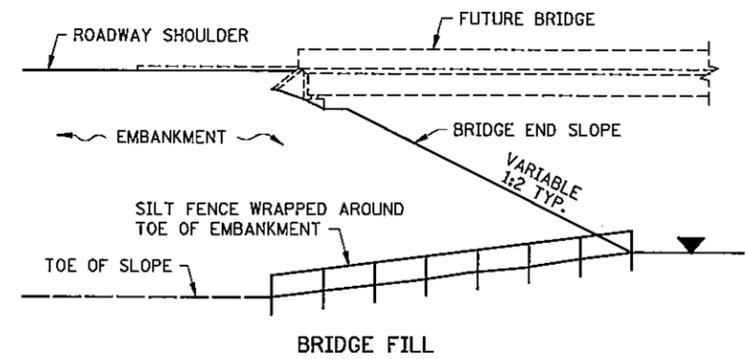
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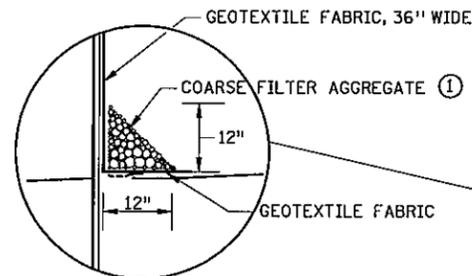
LOCATION OF SILT FENCE
 AT TOE OF ROADWAY EMBANKMENT



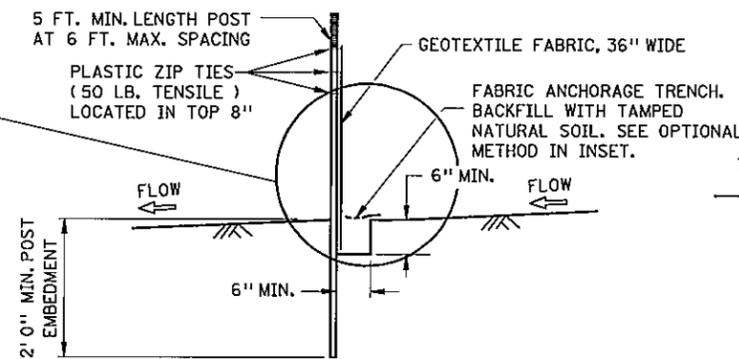
SILT FENCE, MACHINE SLICED
 DESIGN GUIDELINES:
 TO PROTECT AREAS FROM SHEET FLOW.
 MAXIMUM CONTRIBUTING AREA: 1 ACRE.



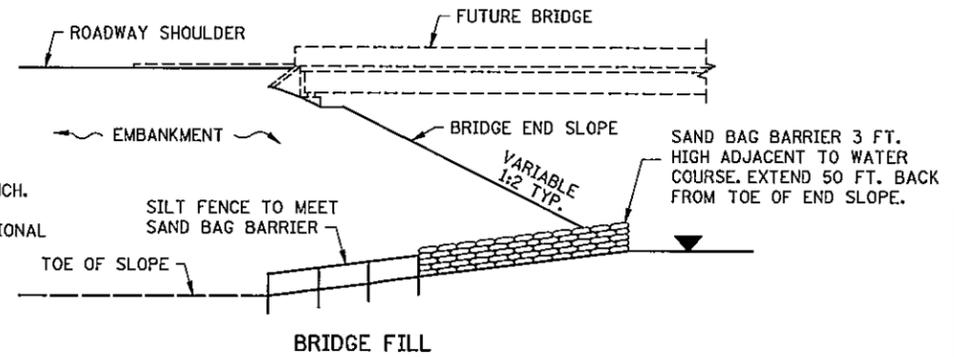
DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: STAGNANT
 CONTRIBUTING SLOPE AREA: 1/2 ACRE



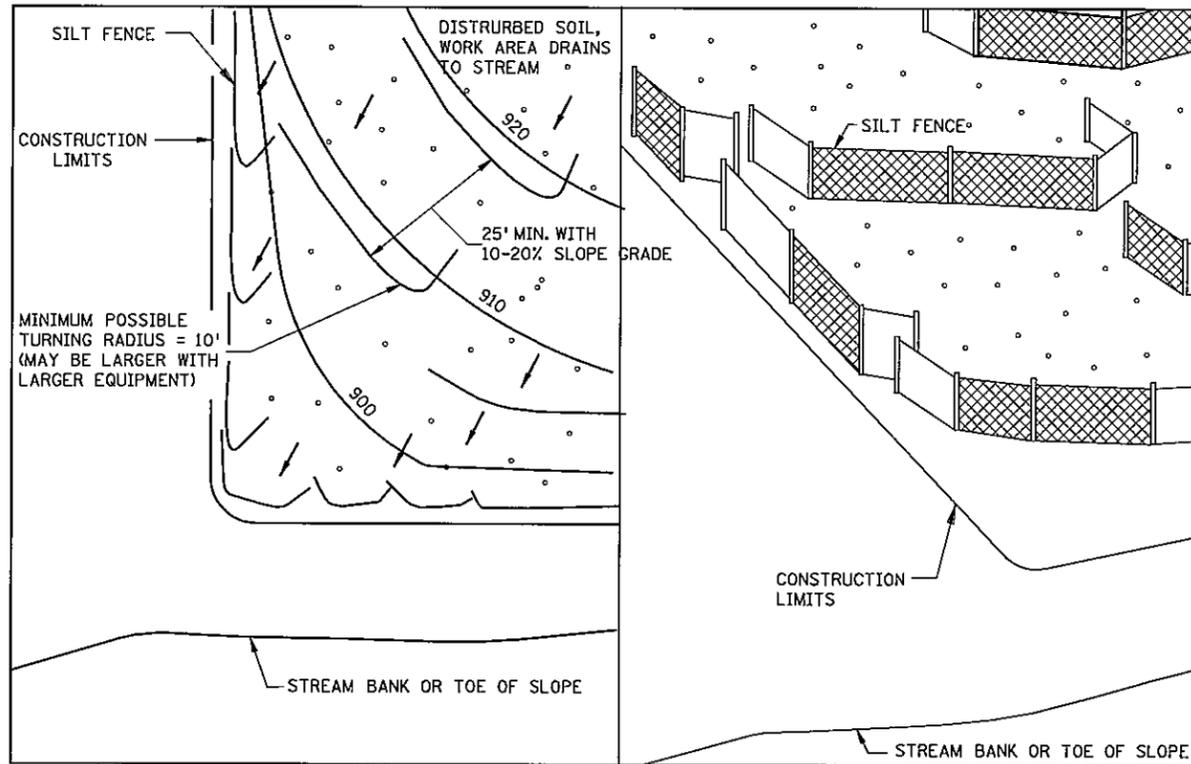
OPTIONAL METHOD
 FOR SILT FENCE, HEAVY DUTY



SILT FENCE, HEAVY DUTY
 (HAND INSTALLED)
 DESIGN GUIDELINES:
 TO PROTECT AREAS FROM SHEET FLOW.
 MAXIMUM CONTRIBUTING AREA: 1 ACRE.



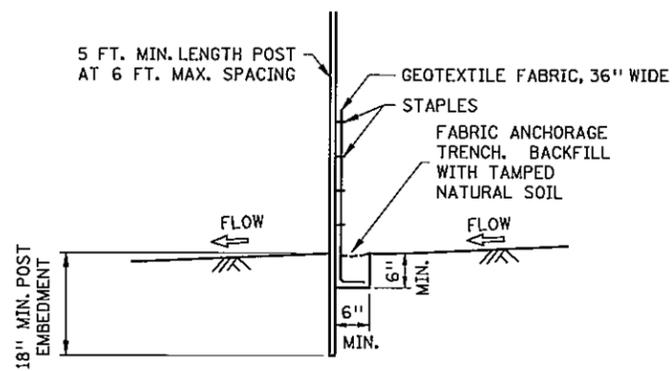
DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
 CONTRIBUTING SLOPE AREA: 1 ACRE



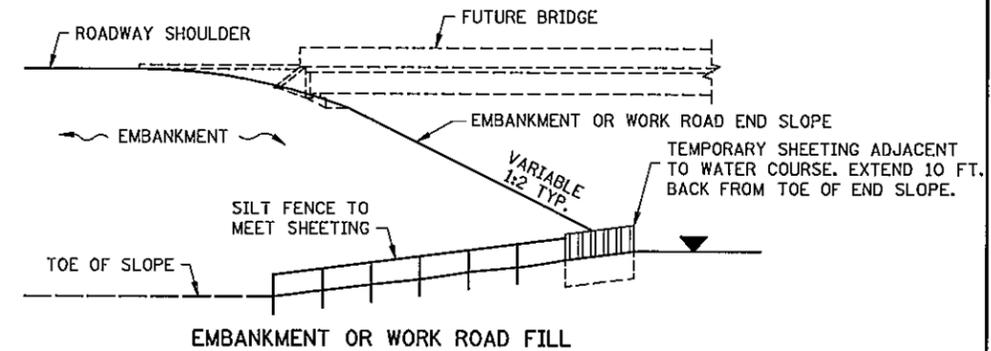
PLAN VIEW

SIDE VIEW

SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED
 DESIGN GUIDELINES:
 TO PROTECT AREAS FROM SHEET FLOW.
 MAXIMUM CONTRIBUTING AREA: 1 ACRE.

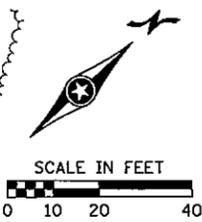


DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
 CONTRIBUTING SLOPE AREA: 3 ACRES
 SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

NOTES:
 SEE SPECS. 2573, 3149 & 3886.
 ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

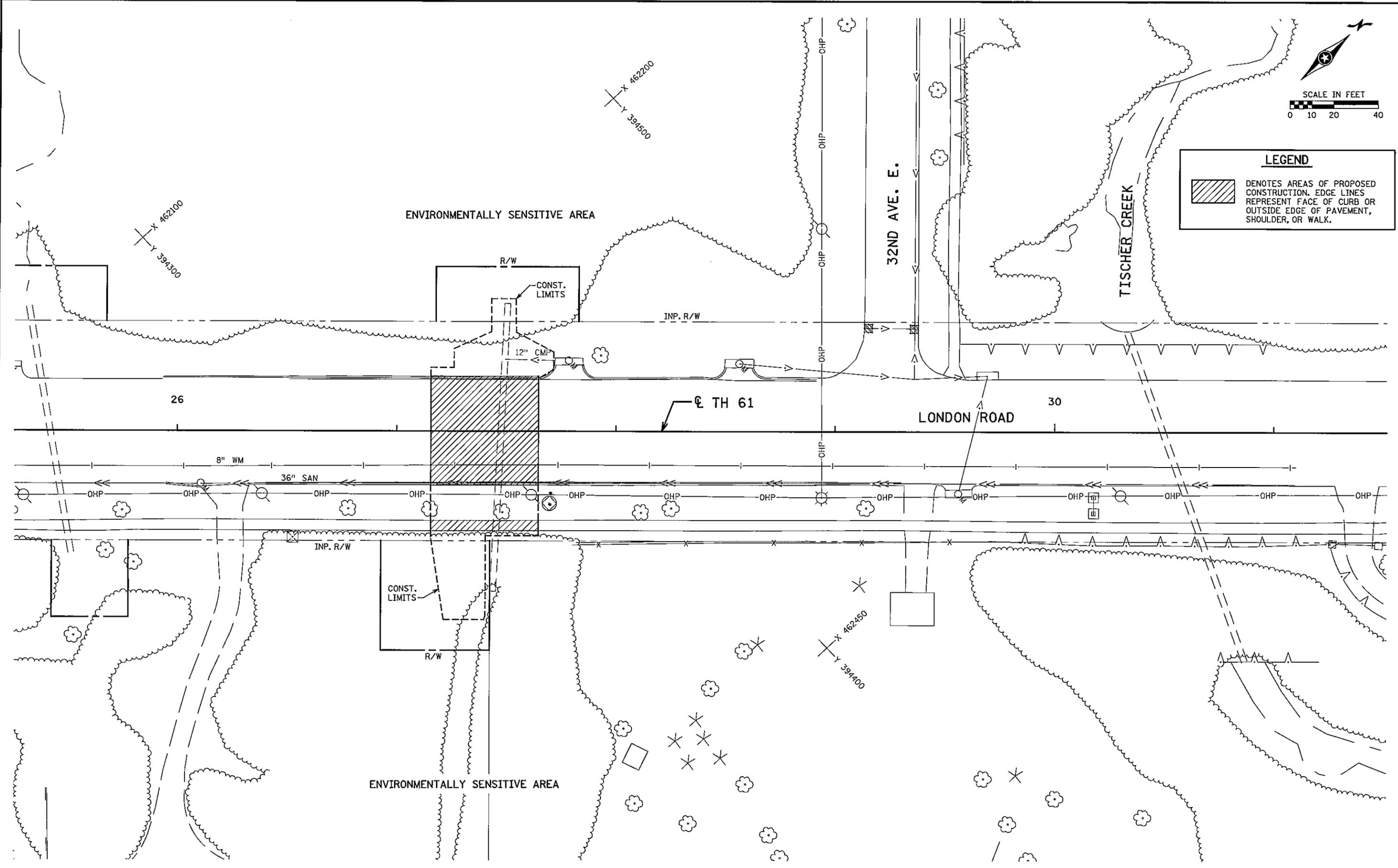
STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 6925-127 (TH 61)	SHEET NO. 24 OF 81 SHEETS

DATE: 11/19/2009 TIME: 9:44:13 AM
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LEGEND

 DENOTES AREAS OF PROPOSED CONSTRUCTION. EDGE LINES REPRESENT FACE OF CURB OR OUTSIDE EDGE OF PAVEMENT, SHOULDER, OR WALK.



DRAWN BY: SFH
CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
PRINTED NAME: TIMOTHY A. CHALUPNIK
DATE: NOVEMBER 19, 2009 LIC. NO. 15400

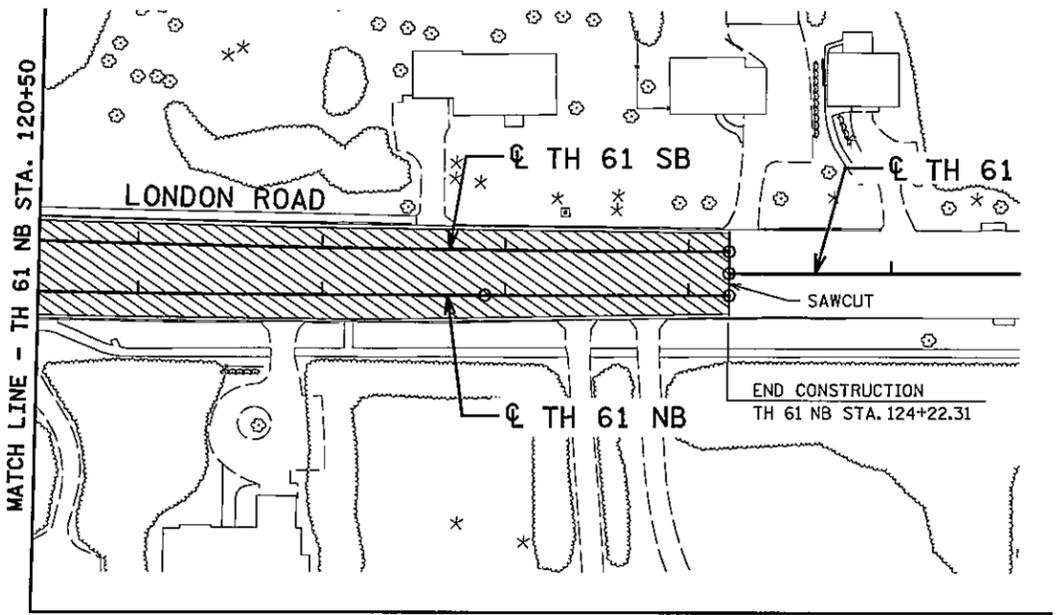
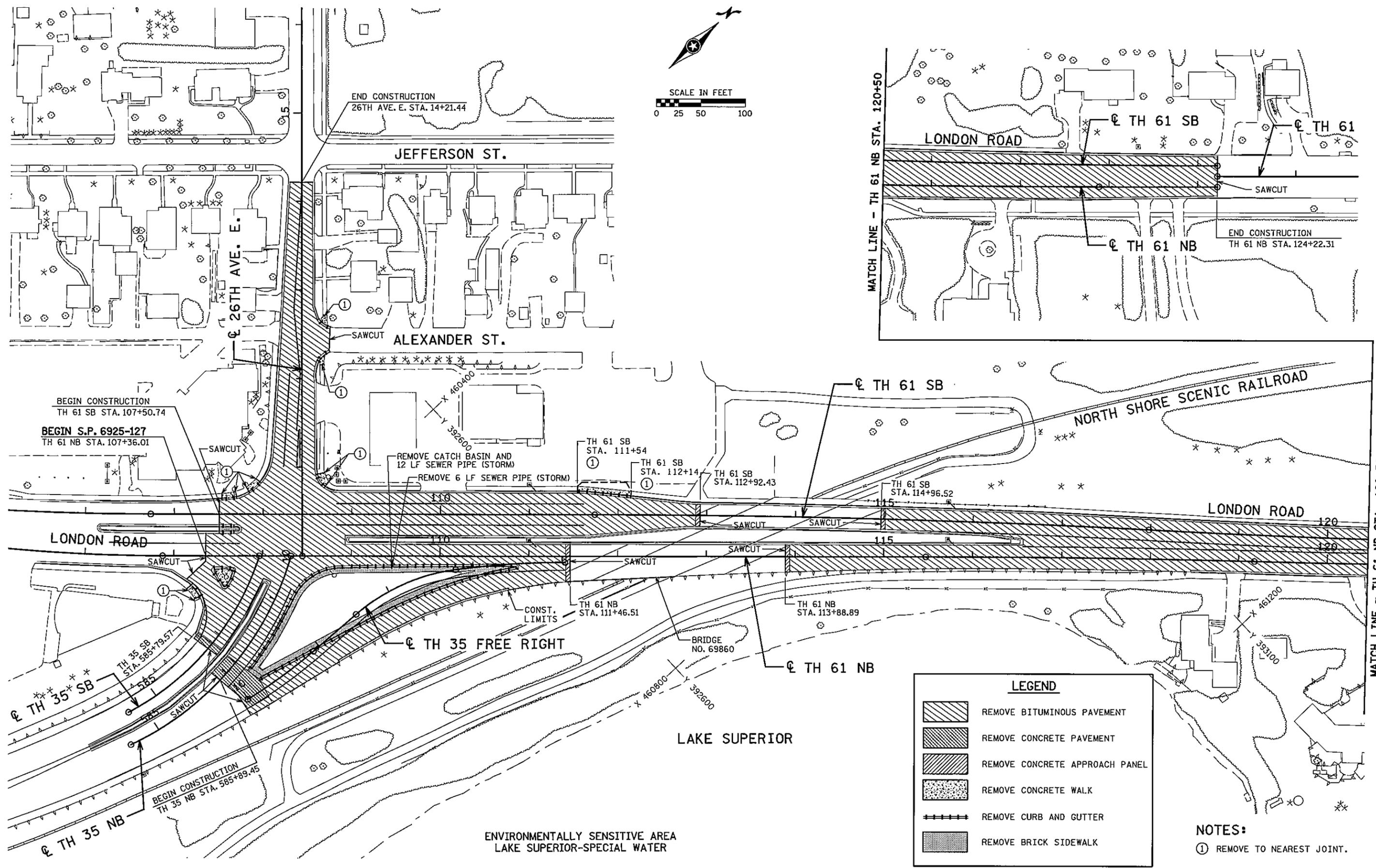
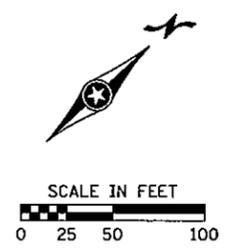


MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 61 IMPROVEMENTS

INPLACE TOPOGRAPHY AND UTILITY PLAN
TH 61 AT 32ND AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
Sheet No. 31 of 81 Sheets

DATE: 11/19/2009 TIME: 9:44:15 AM
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MATCH LINE - TH 61 NB STA. 120+50

LEGEND	
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE APPROACH PANEL
	REMOVE CONCRETE WALK
	REMOVE CURB AND GUTTER
	REMOVE BRICK SIDEWALK

NOTES:
 ① REMOVE TO NEAREST JOINT.

DRAWN BY: SFH
 CHECKED BY: PCM

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 DATE: NOVEMBER 19, 2009 LIC. NO. 15400

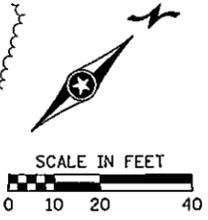
TKDA
 ENGINEERING - ARCHITECTURE - PLANNING

MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

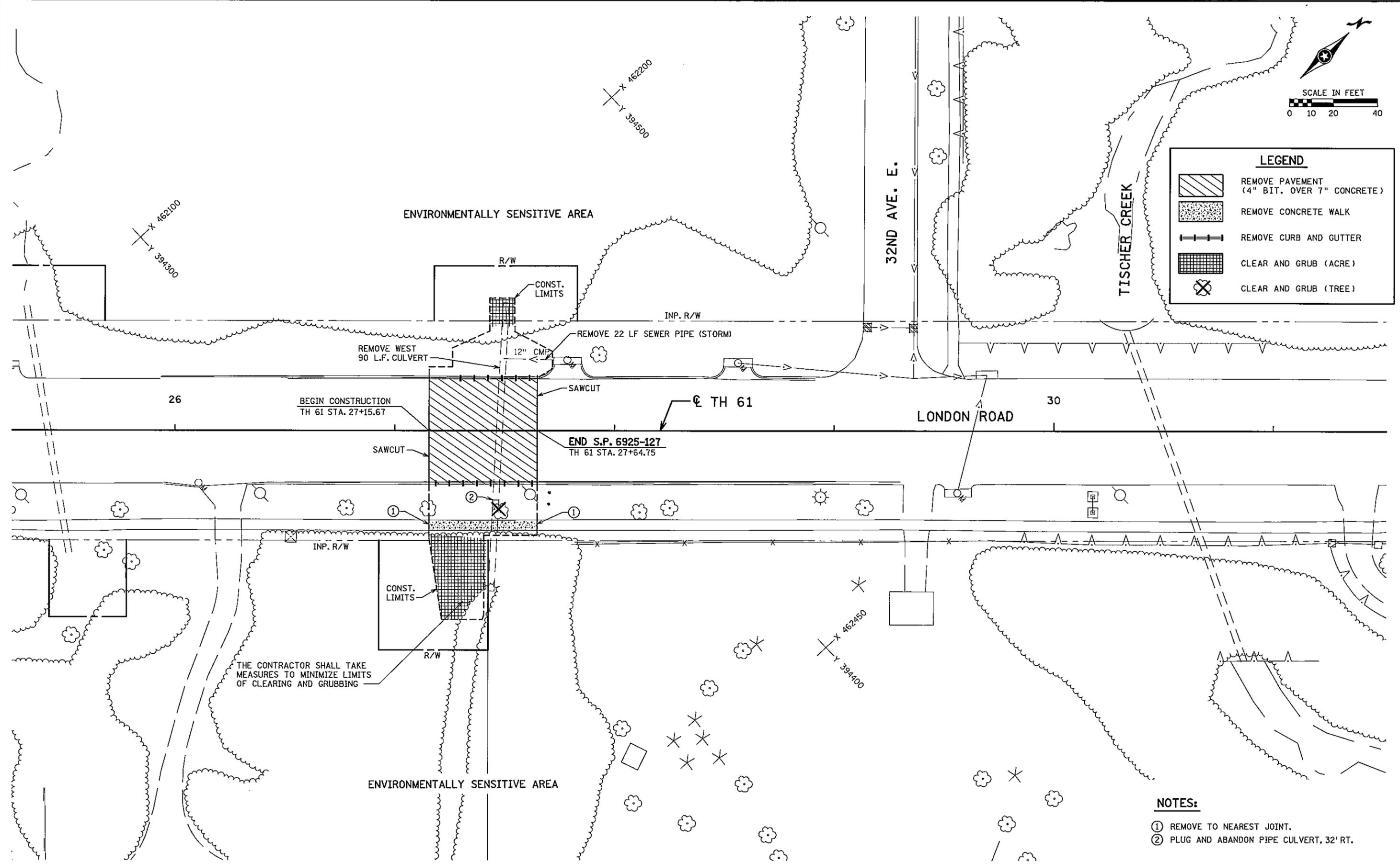
REMOVAL PLAN
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 32 of 81 Sheets

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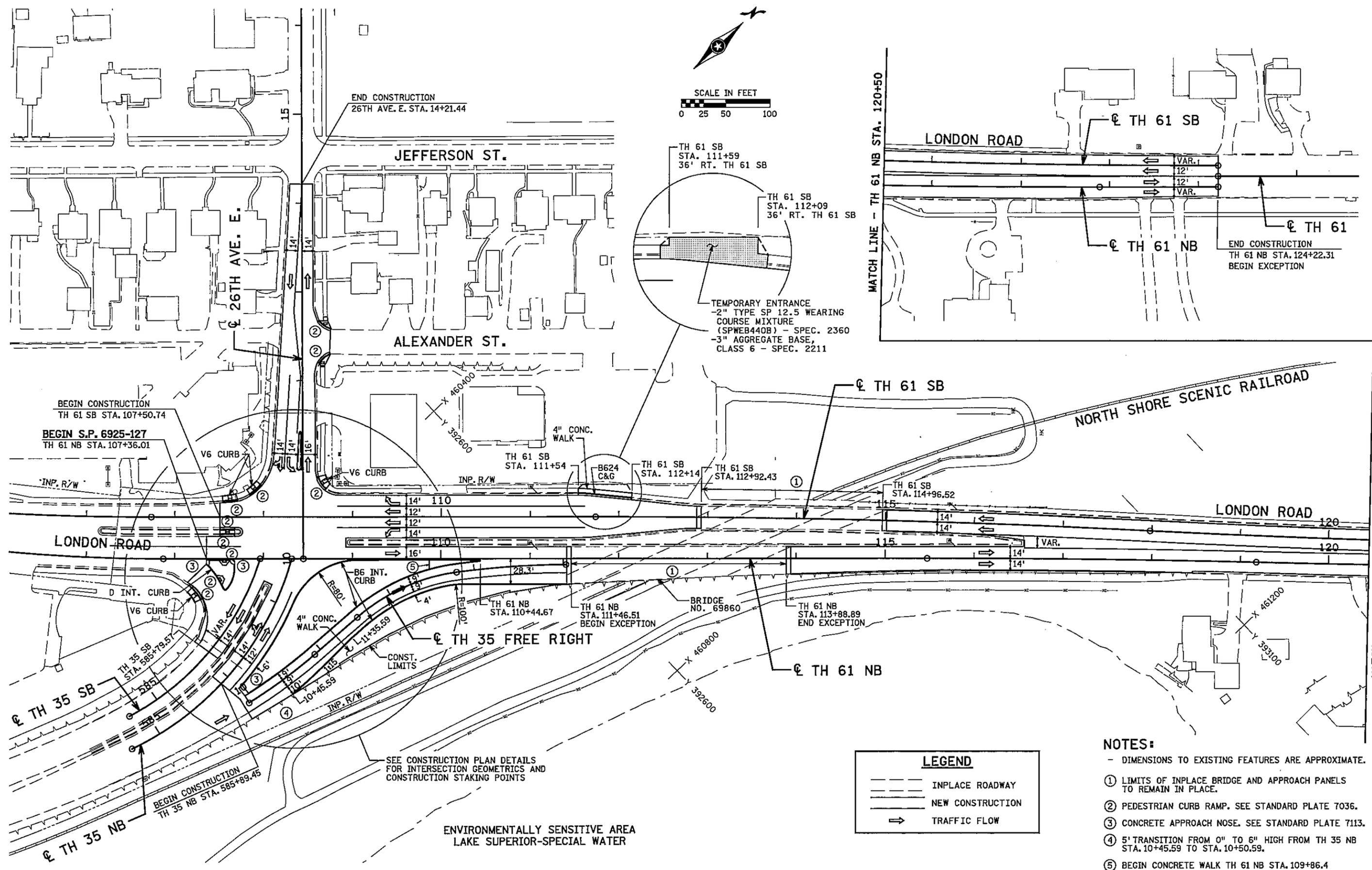
LEGEND	
	REMOVE PAVEMENT (4" BIT. OVER 7" CONCRETE)
	REMOVE CONCRETE WALK
	REMOVE CURB AND GUTTER
	CLEAR AND GRUB (ACRE)
	CLEAR AND GRUB (TREE)



THE CONTRACTOR SHALL TAKE MEASURES TO MINIMIZE LIMITS OF CLEARING AND GRUBBING

- NOTES:**
- ① REMOVE TO NEAREST JOINT.
 - ② PLUG AND ABANDON PIPE CULVERT, 32' RT.

DATE: 12/21/2009 TIME: 8:10:04 AM
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 CHECKED BY: PCM

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SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: DECEMBER 18, 2009 LIC. NO. 15400

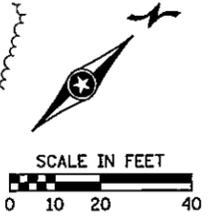
TKDA
 ENGINEERING • ARCHITECTURE • PLANNING

MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

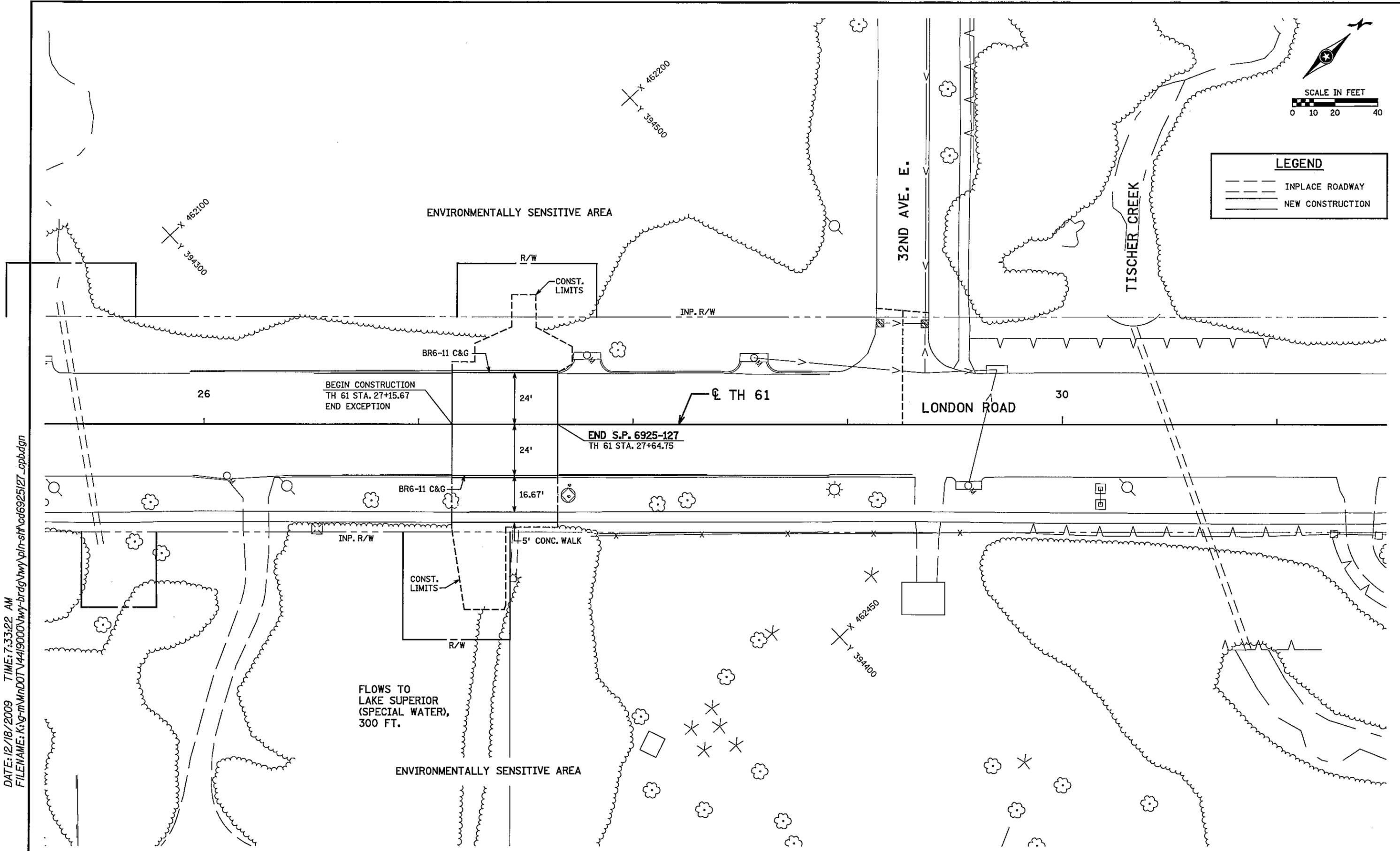
CONSTRUCTION PLAN
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 34 of 81 Sheets

DATE: 12/18/2009 TIME: 7:33:22 AM
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LEGEND	
	INPLACE ROADWAY
	NEW CONSTRUCTION



DRAWN BY: SFH
 CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: DECEMBER 17, 2009 LIC. NO. 15400

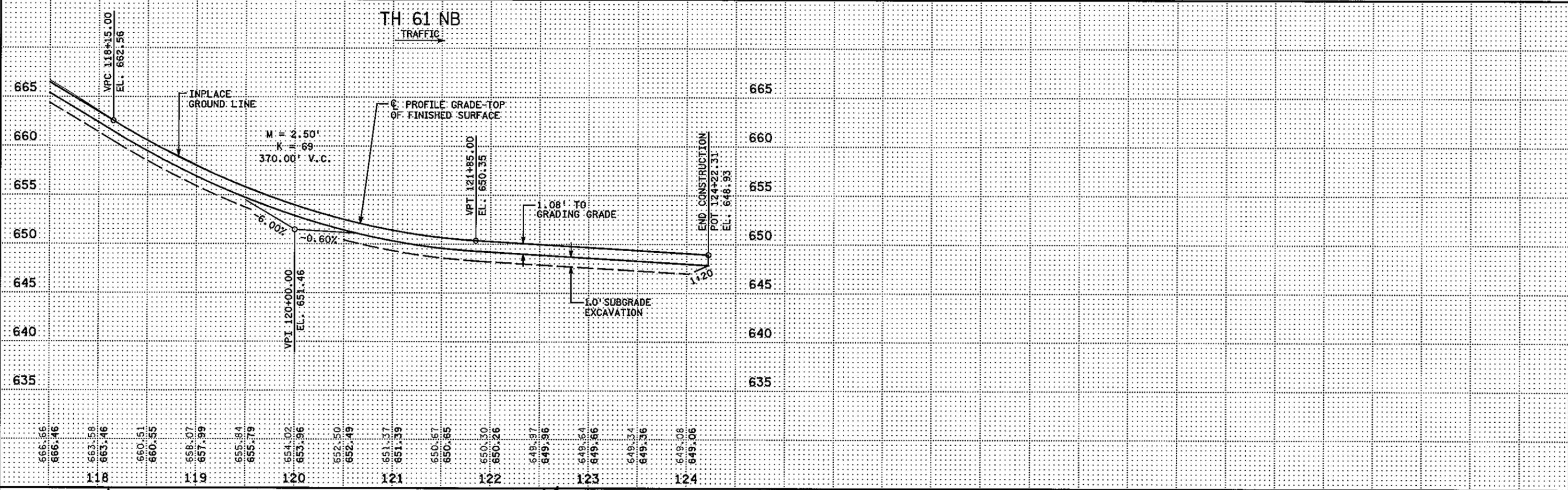
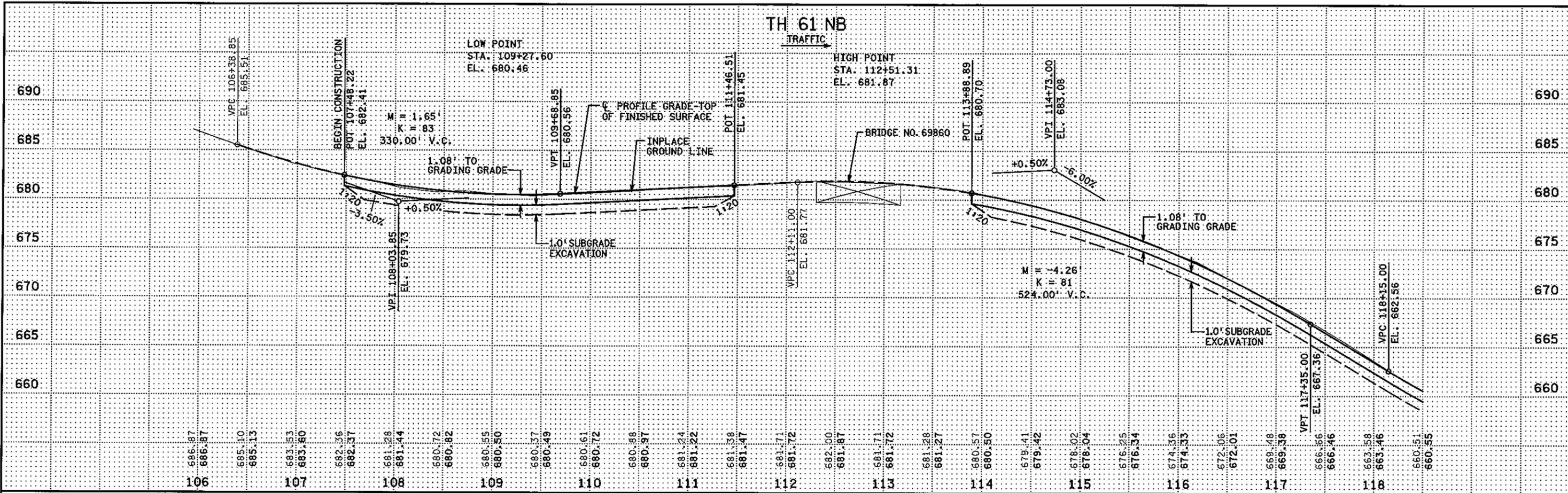


MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

CONSTRUCTION PLAN
 TH 61 AT 32ND AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 35 of 81 Sheets

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DRAWN BY: TJV
 CHECKED BY: PCM

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 DATE: NOVEMBER 19, 2009 LIC. NO. 15400

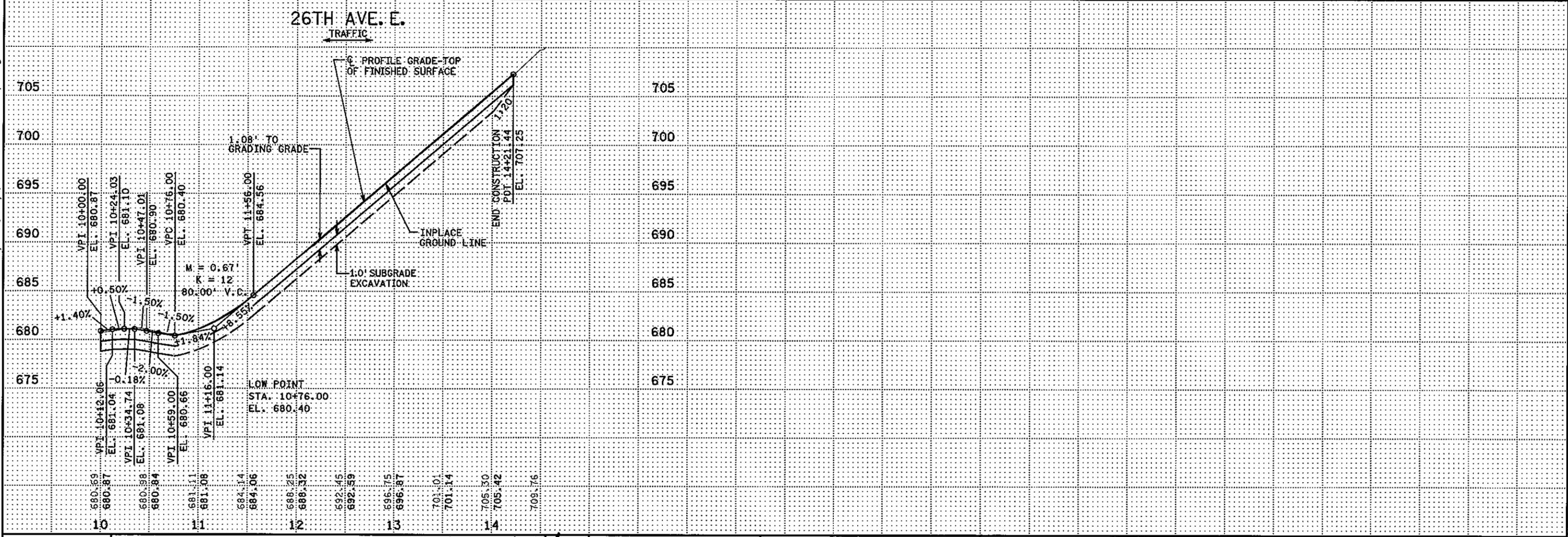
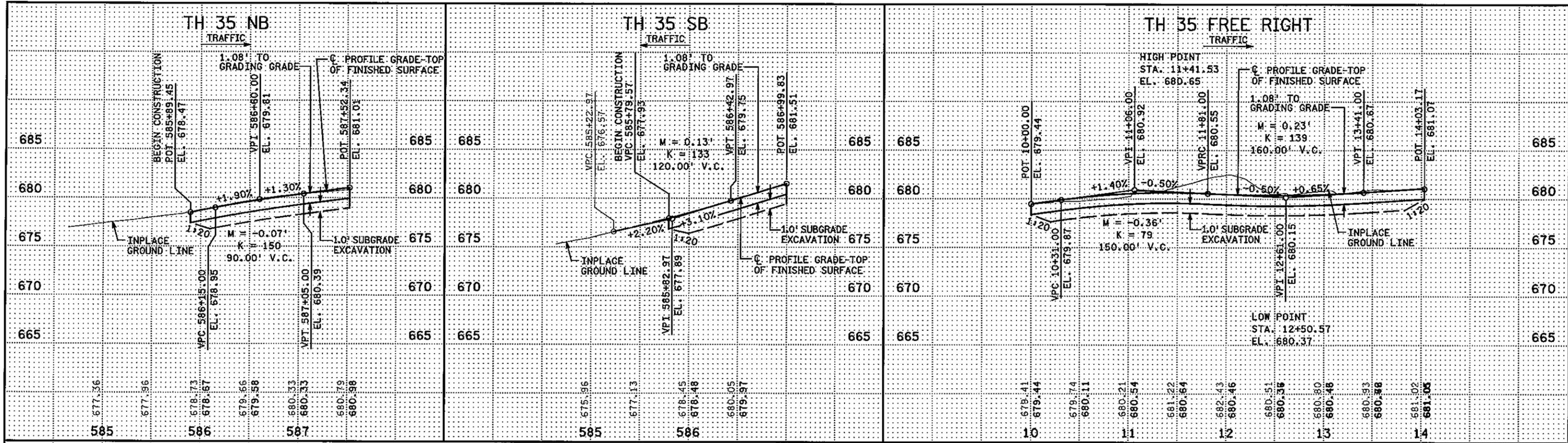


MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

PROFILES
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 37 of 81 Sheets

DATE: 11/19/2009 TIME: 9:44:50 AM
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DRAWN BY: TJV
 CHECKED BY: PCM

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.

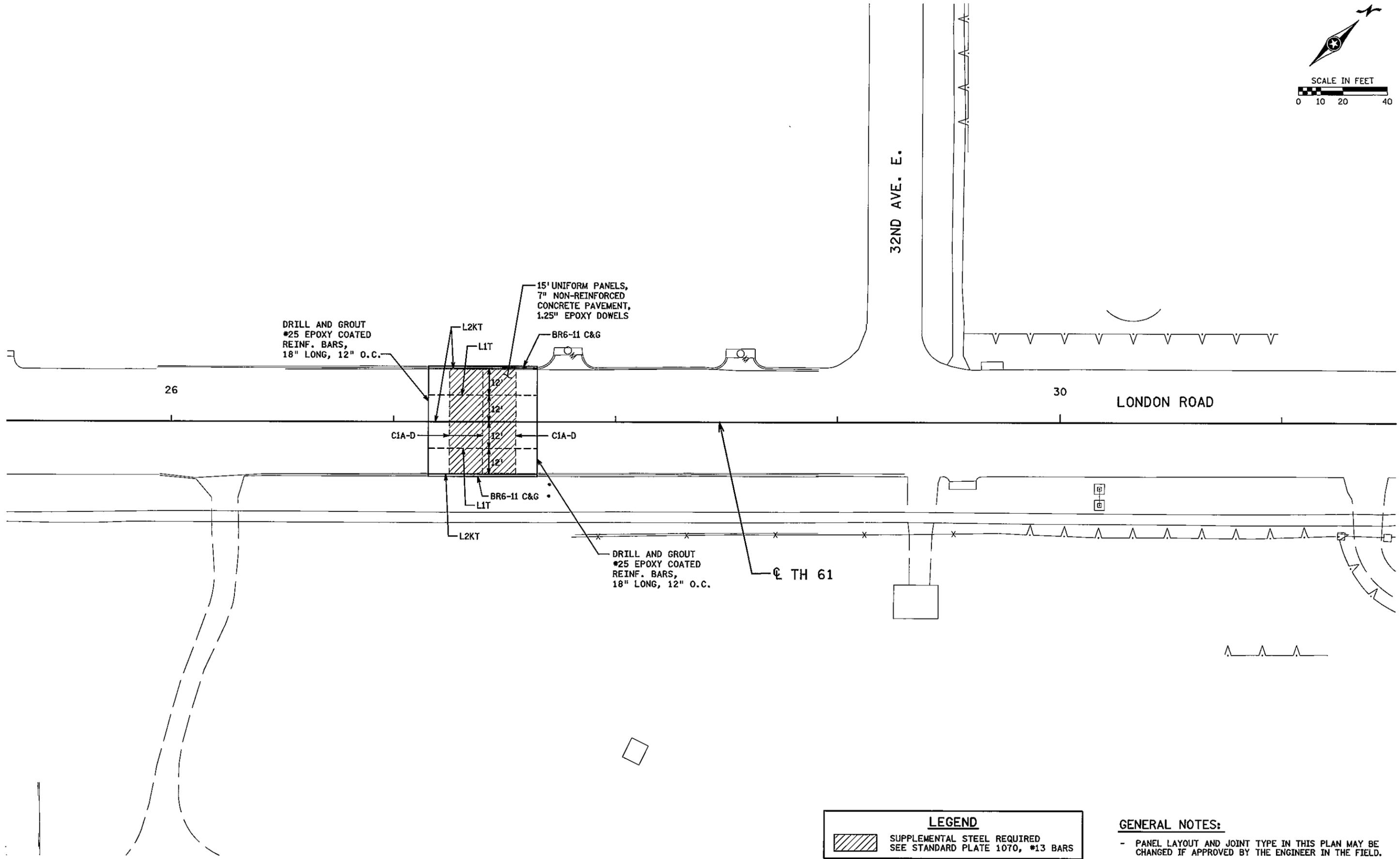
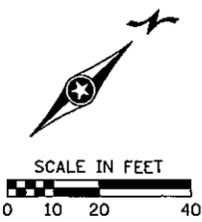
SIGNATURE: *Timothy A. Chalupnik*
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 DATE: NOVEMBER 19, 2009 LIC. NO. 15400



MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

PROFILES
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 39 of 81 Sheets



DATE: 11/19/2009 TIME: 9:45:09 AM
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LEGEND

SUPPLEMENTAL STEEL REQUIRED
 SEE STANDARD PLATE 1070, #13 BARS

GENERAL NOTES:

- PANEL LAYOUT AND JOINT TYPE IN THIS PLAN MAY BE CHANGED IF APPROVED BY THE ENGINEER IN THE FIELD.

DRAWN BY: SFH
 CHECKED BY: PCM

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: NOVEMBER 19, 2009 LIC. NO. 15400



MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

CONCRETE PAVING PLAN
 TH 61 AT 32ND AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 44 of 81 Sheets

STORM WATER POLLUTION PREVENTION PLAN NOTES (1 OF 2)

PROJECT LOCATION AND DESCRIPTION

THE PROJECT IS LOCATED ON TH 61 (LONDON ROAD) FROM 100 FEET SOUTH OF 26TH AVENUE EAST TO 150 FEET SOUTH OF 32ND AVENUE, IN THE CITY OF DULUTH, IN ST. LOUIS COUNTY. THE PROJECT INCLUDES:

- GRADING AND BITUMINOUS SURFACING
- CONCRETE CURB AND GUTTER
- RIPRAP INSTALLATION AT OUTFALLS
- CONCRETE SURFACING
- STORM SEWER INSTALLATION
- TURF ESTABLISHMENT

PROJECT CONTACTS/RESPONSIBLE PARTIES

THE CONTRACTOR MUST IDENTIFY AN EROSION CONTROL SUPERVISOR KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs).

THE MN/DOT PROJECT ENGINEER AND EROSION CONTROL SUPERVISOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE AND DURING CONSTRUCTION.

MN/DOT DISTRICT 1 WILL BE RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

RESPONSIBLE PARTY	CONTACT	PHONE
MN/DOT - CONSTRUCTION ENGINEER	PAT HUSTON	OFFICE: (218) 725-2775 MOBILE: (218) 348-9902
MN/DOT - MAINTENANCE SUPERVISOR	STEVE BAUBLITZ	OFFICE: (218) 834-4442 MOBILE: (218) 349-8824
MN/DOT - WATER RESOURCES	JON BERGSTRAND	OFFICE: (218) 725-2756
MPCA - ST. LOUIS COUNTY STAFF	JAMES DEXTER	OFFICE: (218) 302-6632
MPCA - 24-HR EMERGENCY NOTIFICATION	STATE DUTY OFFICER	(651) 649-5451 (800) 422-0798
TKDA - SWPPP DESIGNER	MATT WASSMAN, P.E., CPESC, CPSWQ	OFFICE: (651) 292-4631 MOBILE: (651) 925-7181
CONTRACTOR - EROSION CONTROL SUPERVISOR		

REQUIRED PERMITS

MPCA - NPDES GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

TRAINING REQUIREMENTS

THE CONTRACTOR WILL ENSURE THAT THE CERTIFICATION REQUIREMENTS OF MN/DOT SPEC. 2573.3A1 ARE COMPLIED WITH. THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED.

SITE MAPS

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, EXISTING AND PROPOSED SITE MAPS HAVE BEEN CREATED AND ARE KEPT ON FILE WITH MN/DOT. THE SITE MAPS SHOW THE PROJECT LIMITS, ALIGNMENT, SOIL TYPES, EXISTING CONTOURS, DRAINAGE AREAS, STORM SEWER LOCATIONS, FLOW ARROWS, AND IMPERVIOUS SURFACE.

RECEIVING SURFACE WATERS AND ENVIRONMENTALLY SENSITIVE AREAS

THE RECEIVING WATER FOR STORM WATER RUNOFF FROM THIS PROJECT IS LAKE SUPERIOR. LAKE SUPERIOR IS CONSIDERED A SPECIAL WATER AND IS WITHIN 1 MILE OF ALL STORM WATER DISCHARGE POINTS FROM THIS PROJECT.

THERE ARE NO WETLANDS WITHIN THE PROJECT LIMITS THAT WILL BE AFFECTED.

NO WELL HEAD PROTECTION AREAS OR DRINKING WATER MANAGEMENT SUPPLY AREAS HAVE BEEN IDENTIFIED NEAR THE PROJECT AREA.

OUTSTANDING RESOURCE VALUE WATERS (SPECIAL WATERS)

LAKE SUPERIOR IS CONSIDERED A SPECIAL WATER. THE FOLLOWING BMP OUTLINED IN APPENDIX A OF THE NPDES PERMIT WILL BE IMPLEMENTED:

- DURING CONSTRUCTION, ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

CALCAREOUS FENS

THERE ARE NO CALCAREOUS FENS WITHIN THE PROJECT LIMITS.

KARST REGION

THIS PROJECT IS NOT LOCATED IN AN AREA THAT IS CONSIDERED ACTIVE KARST.

TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS

LAKE SUPERIOR IS LISTED ON THE MPCA'S CWA 303D LIST OF IMPAIRED WATERS. THE POLLUTANT OR STRESSOR IS MERCURY AND PCB IN FISH TISSUE WITH AQUATIC CONSUMPTION AS THE AFFECTED USE. THE MISSISSIPPI RIVER DOES NOT HAVE AN APPROVED TMDL WITH AN APPROVED WASTE LOAD ALLOCATION FOR CONSTRUCTION ACTIVITY.

LAND FEATURE CHANGES

PROJECT AREA DISTURBED: 3.03 ACRES
EXISTING IMPERVIOUS SURFACE AREA: 2.80 ACRES
EXISTING PERVIOUS SURFACE AREA: 0.23 ACRES
PROPOSED IMPERVIOUS SURFACE AREA: 2.80 ACRES
PROPOSED PERVIOUS SURFACE AREA: 0.23 ACRES

DRAINAGE COMPUTATIONS

DRAINAGE COMPUTATIONS ARE KEPT ON FILE WITH MN/DOT. CHANGES MADE IN THE FIELD MUST BE DISCUSSED WITH THE PROJECT ENGINEER, APPROVED BY THE WATER RESOURCES DESIGN ENGINEER, AND NOTED IN THE CONTRACTOR'S CONSTRUCTION LOG.

CONSTRUCTION NOTES

CONSTRUCTION SHALL BE GOVERNED BY THE MN/DOT 2005 SPEC. BOOK AND THE SPECIAL PROVISIONS. THE CONTRACTOR MUST KEEP THE SWPPP, ALL CHANGES TO IT, AND INSPECTION AND MAINTENANCE RECORDS AT THE SITE DURING CONSTRUCTION.

SWPPP QUANTITIES FOR EROSION PREVENTION AND SEDIMENT CONTROL BMPs ARE SHOWN ON THE EROSION CONTROL AND TURF ESTABLISHMENT TABULATION INCLUDED IN THIS PLAN SET.

PERMANENT STORM WATER MANAGEMENT SYSTEM

THIS PROJECT, AS DESIGNED, WILL NOT INCREASE IMPERVIOUS SURFACES. THE VOLUME AND WATER QUALITY OF THE STORM WATER RUNOFF AS A RESULT OF THIS PROJECT SHOULD NOT BE AFFECTED. A PERMANENT STORM WATER MANAGEMENT SYSTEM TO TREAT RUNOFF IS NOT REQUIRED.

TIMING OF BMP INSTALLATION

THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs SHALL BE INSTALLED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND TO CAPTURE SEDIMENT ON SITE, AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS.

PERIMETER BMPs SUCH AS SILT FENCE SHALL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITIES WHERE POSSIBLE.

PHASED CONSTRUCTION SHALL BE USED TO MINIMIZE SEDIMENT TRANSPORT.

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

APPROXIMATE CONSTRUCTION TIMELINE

APRIL 2010 TO OCTOBER 2010

EROSION PREVENTION PRACTICES

THE CONTRACTOR MUST PLAN FOR AND IMPLEMENT CONSTRUCTION PRACTICES THAT MINIMIZE EROSION SO THAT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF THE NPDES PERMIT, PART IV.E ARE COMPLIED WITH.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM OR AROUND THE SITE MUST BE STABILIZED WITHIN 200 FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. STABILIZATION OF THE REMAINING PORTIONS OF THE DITCH OR SWALE MUST BE COMPLETED WITHIN 7 DAYS SINCE THE PROJECT IS WITHIN 1 MILE OF AND DRAINS TO A SPECIAL WATER.

PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.

SEDIMENT CONTROL PRACTICES

SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS. ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPs DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED.

SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED ON ALL DOWN-GRADIENT PERIMETERS BEFORE ANY UP-GRADIENT LAND DISTURBING ACTIVITIES BEGIN. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.

TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS INCLUDING STORM WATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS OR DITCHES.

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED BY BMPs SUCH AS SLASH MULCH PAD, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEM. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE. BMPs TO PROTECT VEHICLE EXIT SITES AND STREET SWEEPING, IF REQUIRED, SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

ALL SILT FENCE MUST BE REPAIRED OR REPLACED WHEN IT BECOMES NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE FENCE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. REPAIRING, REPLACING, AND SEDIMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.

POLLUTION PREVENTION MEASURES

THE CONTRACTOR WILL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT, PART IV.F AS IT PERTAINS TO SOLID WASTE, HAZARDOUS MATERIALS, EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT. THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

THE EROSION CONTROL SUPERVISOR SHALL MAKE A SPILL RESPONSE PLAN BEFORE THE APPLICATION OF ANY CHEMICAL THAT MAY BE HARMFUL TO THE ENVIRONMENT. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM CONVEYANCE SYSTEM MUST BE REPORTED TO THE MPCA STATE DUTY OFFICER.

SOLID WASTE SUCH AS COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS SUCH AS OIL, FUEL, AND PAINT MUST BE PROPERLY STORED, INCLUDING SECONDARY CONTAINMENT, TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS. THE CONTRACTOR WILL BE REQUIRED TO UPDATE THE SWPPP FOR PORTA POTTY PLACEMENT, REFUELING METHODS (INCLUDING SPILL KITS), AND SECONDARY CONTAINMENT OF STATIONARY MACHINES WITH FLUIDS.

CONCRETE CRUSHING, PECKING, SAWING, AND GRINDING WILL REQUIRE DUST CONTROL USING WATER MISTS (INCIDENTAL), AND ALL CONCRETE PUMPING, WASHOFF, AND WASHOUT WILL NEED TO BE DESIGNATED AND KEPT FUNCTIONAL SOMEPLACE INSIDE THE PROJECT LIMITS. LEAD PAINT CHIPS MUST NOT COME INTO CONTACT WITH SOILS UNLESS IT IS THE INTENT OF THE CONTRACTOR TO HAUL OFF ALL CONTAMINATED SOILS.

TRUCK WASHING AND CONCRETE WASHOUT SHALL TAKE PLACE IN A FIELD OR COMMERCIALY ENGINEERED LEAK-PROOF CONTAINMENT SYSTEM SHOWN ON AN ENGINEER-APPROVED SITE PLAN. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUNDWATER IS CONSIDERED AN IMPERMEABLE LINER AND IS ACCEPTABLE. IF DEEMED NECESSARY BY THE PROJECT ENGINEER, THE CONTENTS SHALL BE DISPOSED OF AT AN APPROPRIATE FACILITY OFF SITE.

CONSTRUCTION PHASE POLLUTANT SOURCES ANTICIPATED AT THIS SITE ARE DISTURBED (BARE) SOIL, SEDIMENT, VEHICLE FUELS AND LUBRICANTS, CHEMICALS ASSOCIATED WITH CONSTRUCTION, CONSTRUCTION GENERATED LITTER AND DEBRIS, AND CONCRETE WASTE. WITHOUT ADEQUATE CONTROL THERE IS POTENTIAL FOR EACH TYPE OF POLLUTANT TO BE TRANSPORTED BY STORM WATER.

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STORM WATER POLLUTION PREVENTION PLAN NOTES (2 OF 2)

DEWATERING

DEWATERING OR BASIN DRAINING RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT-LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY SEDIMENT BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. IF THE WATER CANNOT BE DISCHARGED TO A SEDIMENT BASIN PRIOR TO ENTERING A SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPS SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS. THE CONTRACTOR MUST ENSURE THAT DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SCOUR. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS. ALL DEWATERING OR BASIN DRAINING SHALL REQUIRE A SITE PLAN.

A WATER APPROPRIATIONS PERMIT WILL BE REQUIRED FROM THE MN DNR FOR CONSTRUCTION DEWATERING EXCEEDING 10,000 GALLONS PER DAY.

INSPECTIONS AND MAINTENANCE

THE EROSION CONTROL SUPERVISOR MUST ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE EROSION CONTROL SUPERVISOR SHALL BE AVAILABLE TO BE ON SITE WITHIN 24 HOURS AT ALL TIMES FROM INITIAL DISTURBANCE TO FINAL STABILIZATION, AS WELL AS PERFORMING THE DUTIES LISTED IN MN/DOT SPEC. 2573.

ALL EROSION AND SEDIMENT CONTROL BMPS MUST BE INSPECTED BY THE CONTRACTOR TO ENSURE INTEGRITY AND EFFECTIVENESS. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS AS DIRECTED BY THE EROSION CONTROL SUPERVISOR OR THE PROJECT ENGINEER.

ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING, AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP IN ACCORDANCE WITH PART III.D OF THE NPDES PERMIT AND KEPT ON SITE DURING CONSTRUCTION.

FINAL STABILIZATION

THE CONTRACTOR MUST ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION SHALL INCLUDE A MINIMUM OF 70% VEGETATION ESTABLISHMENT (100% STABILIZED) ON ALL PERVIOUS AREAS.

ALL TEMPORARY EROSION CONTROL MEASURES AND BMPS MUST BE REMOVED AS PART OF THE FINAL STABILIZATION, UNLESS DIRECTED OTHERWISE BY THE OWNER OR ENGINEER.

THE PERMITEES MUST SUBMIT A NOTICE OF TERMINATION TO THE MPCA WITHIN 30 DAYS OF FINAL STABILIZATION OR OF TRANSFERRING PERMIT RESPONSIBILITY TO ANOTHER OWNER OR OPERATOR.

LOCATION OF SWPPP REQUIREMENTS IN THE PLAN		
NPDES PERMIT REQUIREMENT	TITLE	LOCATION
OBTAIN NPDES PERMIT, PERMIT COMPLIANCE, AND NOTICE OF TERMINATION	LAWS TO BE OBSERVED	MN/DOT SPEC. 1701
	PERMITS, LICENSES, AND TAXES	MN/DOT SPEC. 1702
	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	SWPPP NOTES	SHEET NOS. 46-47
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL AND CHAIN OF RESPONSIBILITY	SUPERVISION BY CONTRACTOR	MN/DOT SPEC. 1506
	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	SWPPP NOTES	SHEET NOS. 46-47
PROJECT SCHEDULE/WEEKLY EROSION AND SEDIMENT CONTROL SCHEDULE/COMPLETING INSPECTION/ MAINTENANCE LOG	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	SWPPP NOTES	SHEET NOS. 46-47
SITE MAP/RECEIVING WATERS/DIRECTION OF FLOW	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	GENERAL LAYOUT	SHEET NO. 2
	DRAINAGE PLANS	SHEET NOS. 48-49
	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEET NOS. 53-54
	SWPPP NOTES	SHEET NOS. 46-47
PROJECT-SPECIFIC CONSTRUCTION STAGING	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	DETERMINATION AND EXTENSION OF CONTRACT TIME	MN/DOT SPEC. 1806
	CONSTRUCTION PLANS	SHEET NOS. 34-35
TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP DETAILS, LOCATIONS, INSTALLATION, TIMING, AND TYPE OF BMP.	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	CONTROLLING EROSION AND ESTABLISHING VEGETATION	MN/DOT SPEC. 2575
	STANDARD PLANS	SHEET NOS. 20-24
	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEET NOS. 53-54
ADDITIONAL TEMPORARY AND/OR PERMANENT EROSION AND SEDIMENT CONTROL BMPS NOT SHOWN ON PLAN	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	CONTROLLING EROSION AND ESTABLISHING VEGETATION	MN/DOT SPEC. 2575
	SWPPP NOTES	SHEET NOS. 46-47
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF SEDIMENT, REMOVAL OF DEVICES	MAINTENANCE DURING CONSTRUCTION	MN/DOT SPEC. 1514
	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	SWPPP NOTES	SHEET NOS. 46-47
DEWATERING	PREPARATION OF EMBANKMENT FOUNDATION	MN/DOT SPEC. 2105.3B
	FOUNDATION PREPARATION	MN/DOT SPEC. 2451.3C
	SWPPP NOTES	SHEET NOS. 46-47
FINAL STABILIZATION	AIR, LAND, AND WATER POLLUTION	MN/DOT SPEC. 1717
	STORM WATER MANAGEMENT	MN/DOT SPEC. 2573
	CONTROLLING EROSION AND ESTABLISHING VEGETATION	MN/DOT SPEC. 2575
	EROSION CONTROL AND TURF ESTABLISHMENT TABULATIONS	SHEET NOS. 53-54
	SWPPP NOTES	SHEET NOS. 46-47

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DRAWN BY: SFH
CHECKED BY: MAW

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.

SIGNATURE: *Matthew A. Wassman*
PRINTED NAME: MATTHEW A. WASSMAN
DATE: NOVEMBER 19, 2009 LIC. NO. 26883

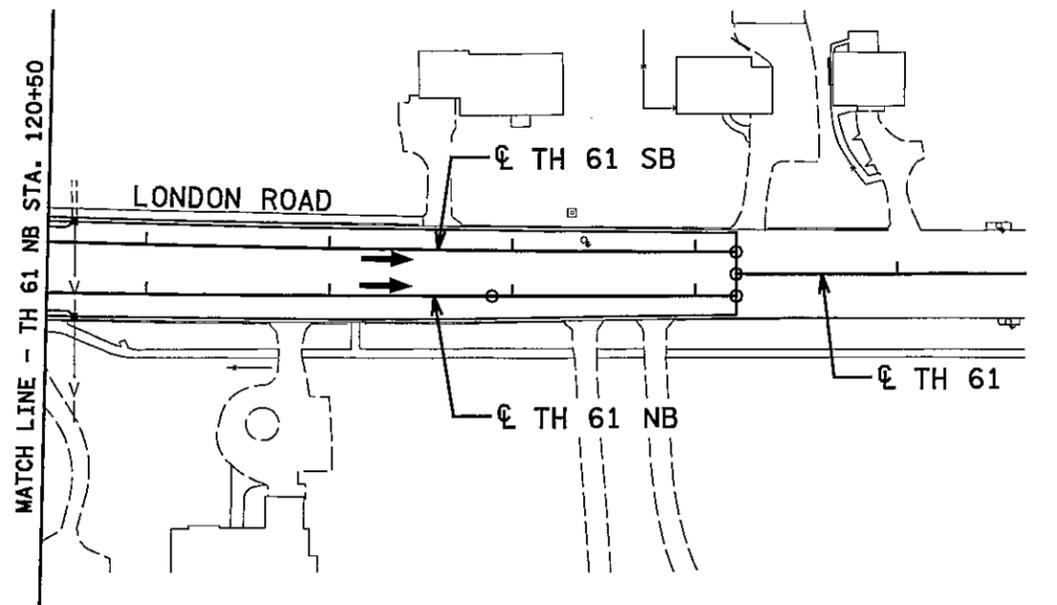
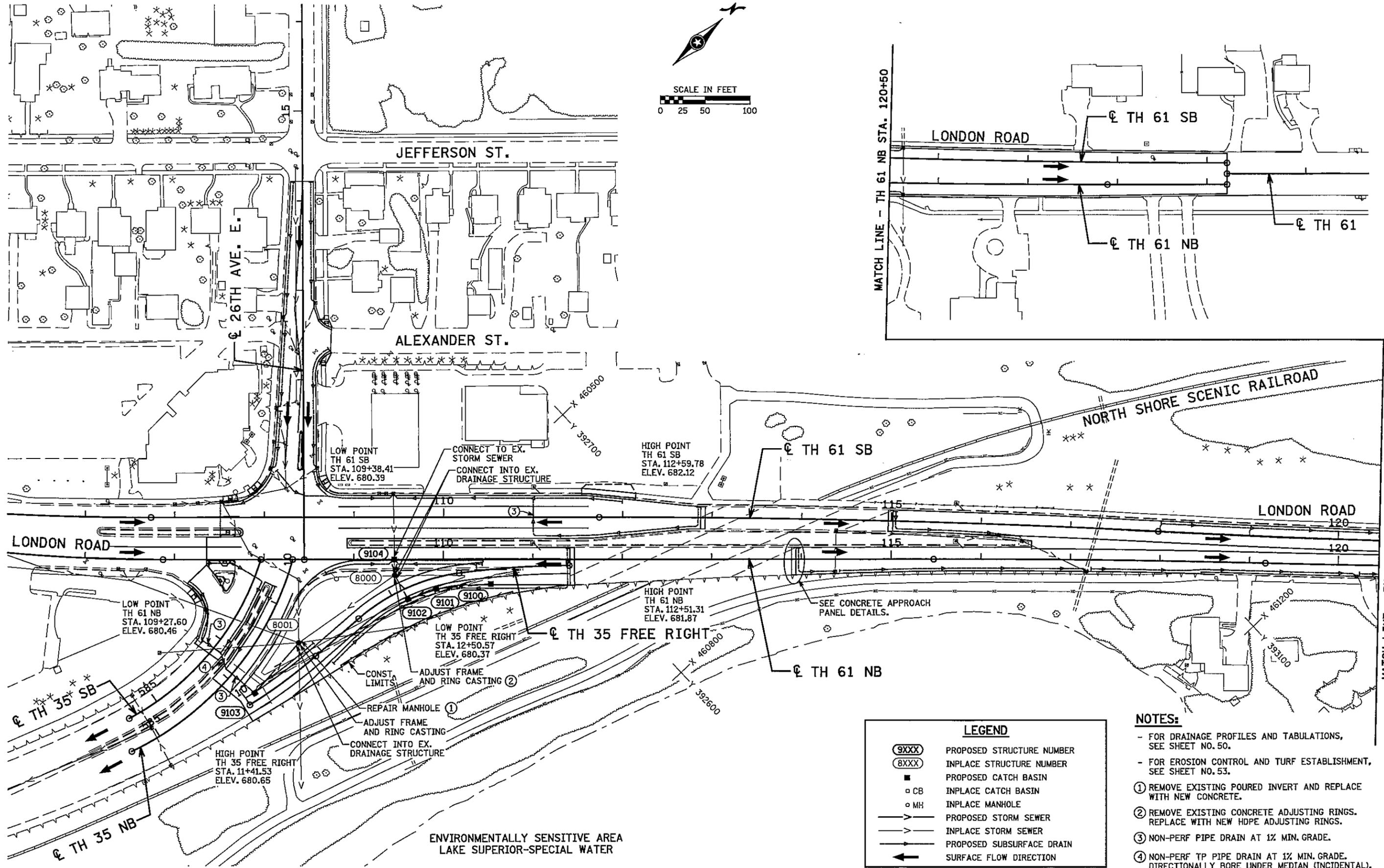
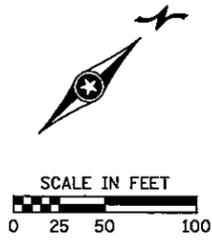


MINNESOTA DEPARTMENT OF TRANSPORTATION
TH 61 IMPROVEMENTS

SWPPP NOTES
(2 OF 2)

STATE PROJ. NO. 6925-127 (TH 61)
Sheet No. 47 of 81 Sheets

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LEGEND

(9XXX)	PROPOSED STRUCTURE NUMBER
(8XXX)	INPLACE STRUCTURE NUMBER
■	PROPOSED CATCH BASIN
□ CB	INPLACE CATCH BASIN
○ MH	INPLACE MANHOLE
—>	PROPOSED STORM SEWER
->-	INPLACE STORM SEWER
—>—	PROPOSED SUBSURFACE DRAIN
←	SURFACE FLOW DIRECTION

- NOTES:**
- FOR DRAINAGE PROFILES AND TABULATIONS, SEE SHEET NO. 50.
 - FOR EROSION CONTROL AND TURF ESTABLISHMENT, SEE SHEET NO. 53.
 - ① REMOVE EXISTING POURED INVERT AND REPLACE WITH NEW CONCRETE.
 - ② REMOVE EXISTING CONCRETE ADJUSTING RINGS. REPLACE WITH NEW HDPE ADJUSTING RINGS.
 - ③ NON-PERF PIPE DRAIN AT 1% MIN. GRADE.
 - ④ NON-PERF TP PIPE DRAIN AT 1% MIN. GRADE. DIRECTIONALLY BORE UNDER MEDIAN (INCIDENTAL).

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 DATE: DECEMBER 18, 2009 LIC. NO. 26883

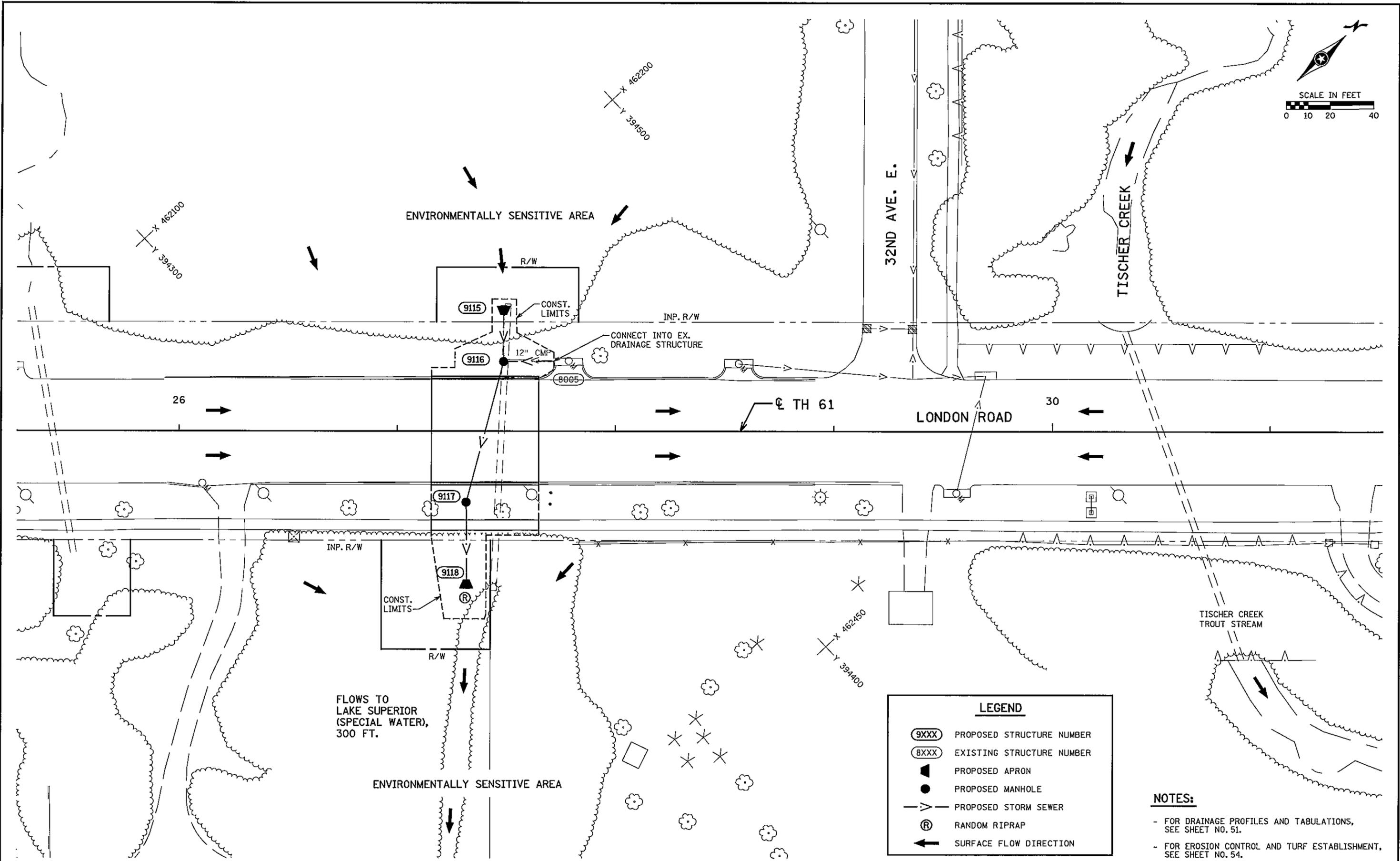


MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

DRAINAGE PLAN
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 48 of 81 Sheets

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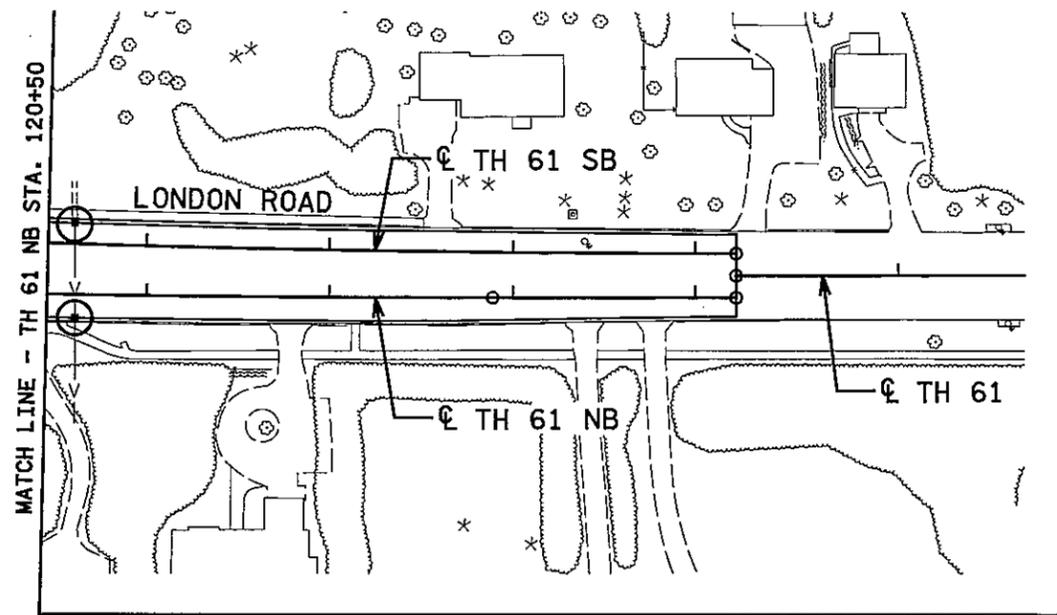
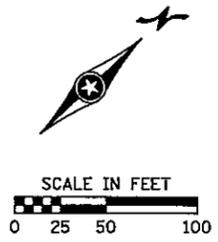
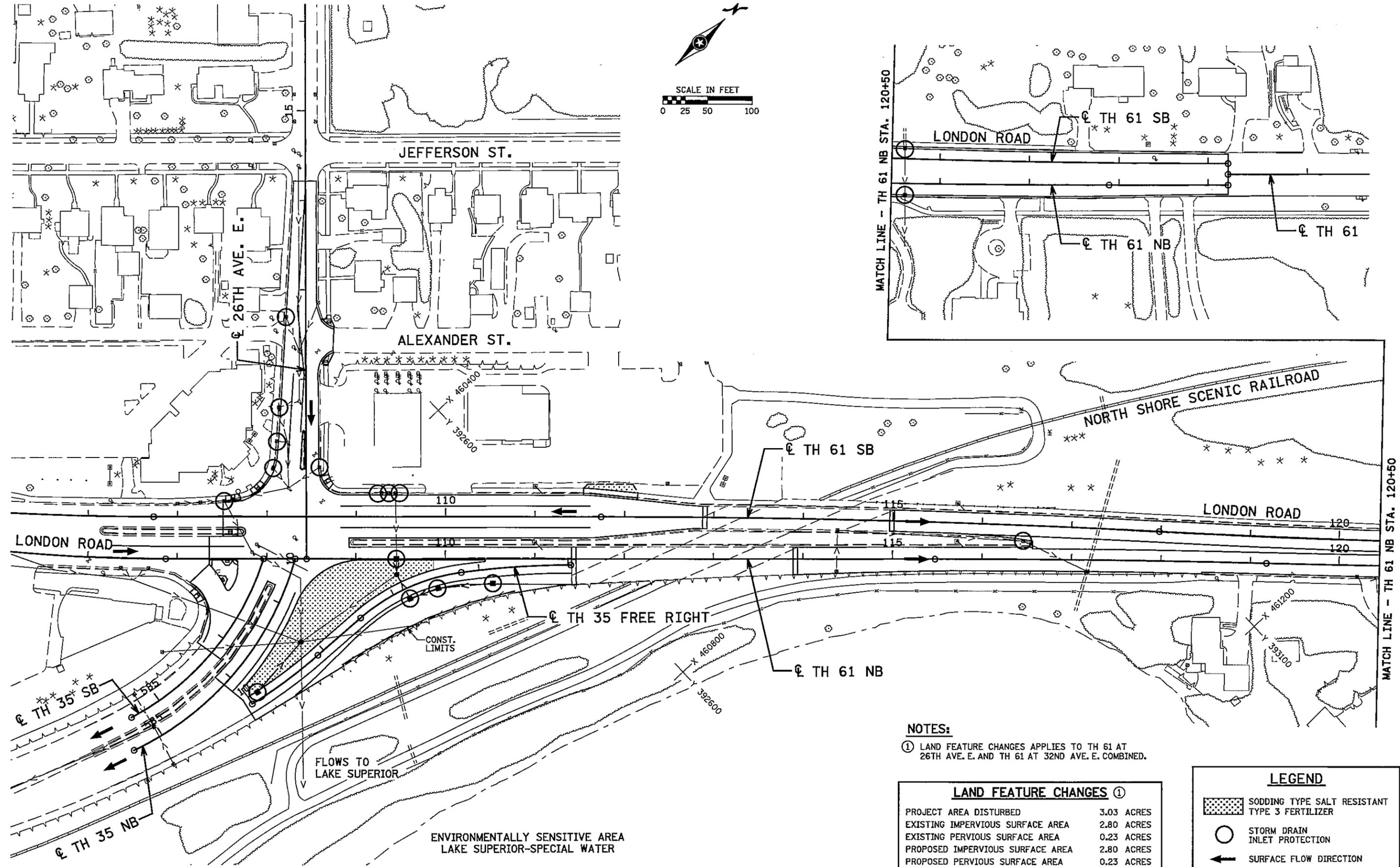
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MINNESOTA DEPARTMENT
 OF TRANSPORTATION
 TH 61 IMPROVEMENTS

DRAINAGE PLAN
 TH 61 AT 32ND AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 49 of 81 Sheets

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NOTES:

- ① LAND FEATURE CHANGES APPLIES TO TH 61 AT 26TH AVE. E. AND TH 61 AT 32ND AVE. E. COMBINED.

LAND FEATURE CHANGES ①	
PROJECT AREA DISTURBED	3.03 ACRES
EXISTING IMPERVIOUS SURFACE AREA	2.80 ACRES
EXISTING PERVIOUS SURFACE AREA	0.23 ACRES
PROPOSED IMPERVIOUS SURFACE AREA	2.80 ACRES
PROPOSED PERVIOUS SURFACE AREA	0.23 ACRES

LEGEND	
	SODDING TYPE SALT RESISTANT TYPE 3 FERTILIZER
	STORM DRAIN INLET PROTECTION
	SURFACE FLOW DIRECTION

DRAWN BY: SFH
 CHECKED BY: MAW

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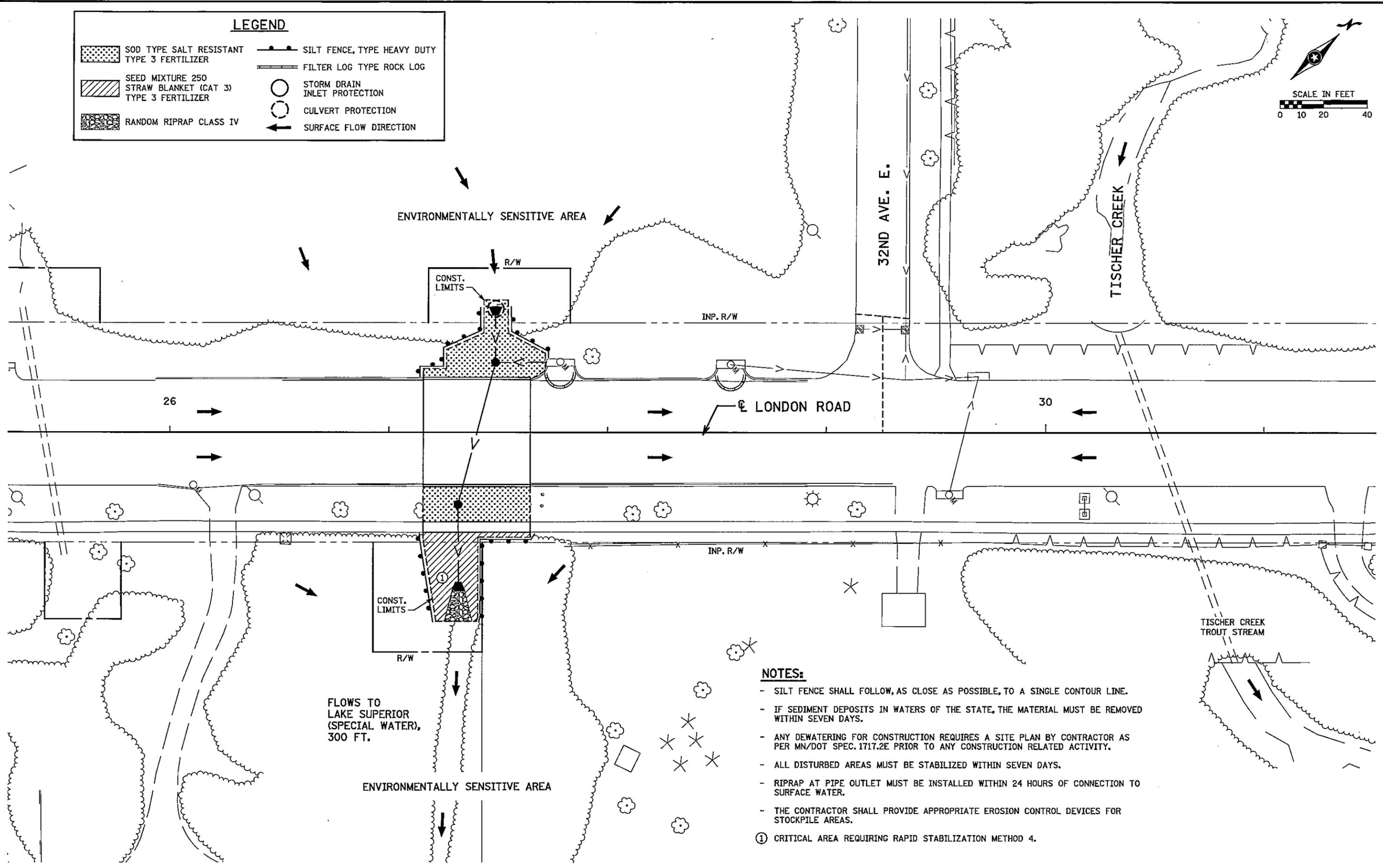
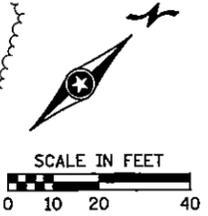
MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 61 IMPROVEMENTS

EROSION CONTROL & TURF ESTABLISHMENT
 TH 61 AT 26TH AVE. E.

STATE PROJ. NO. 6925-127 (TH 61)
 Sheet No. 53 of 81 Sheets

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LEGEND	
	SOD TYPE SALT RESISTANT TYPE 3 FERTILIZER
	SEED MIXTURE 250 STRAW BLANKET (CAT 3) TYPE 3 FERTILIZER
	RANDOM RIPRAP CLASS IV
	SILT FENCE, TYPE HEAVY DUTY
	FILTER LOG TYPE ROCK LOG
	STORM DRAIN INLET PROTECTION
	CULVERT PROTECTION
	SURFACE FLOW DIRECTION



- NOTES:**
- SILT FENCE SHALL FOLLOW, AS CLOSE AS POSSIBLE, TO A SINGLE CONTOUR LINE.
 - IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS.
 - ANY DEWATERING FOR CONSTRUCTION REQUIRES A SITE PLAN BY CONTRACTOR AS PER MN/DOT SPEC. 1717.2E PRIOR TO ANY CONSTRUCTION RELATED ACTIVITY.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN SEVEN DAYS.
 - RIPRAP AT PIPE OUTLET MUST BE INSTALLED WITHIN 24 HOURS OF CONNECTION TO SURFACE WATER.
 - THE CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION CONTROL DEVICES FOR STOCKPILE AREAS.
- ① CRITICAL AREA REQUIRING RAPID STABILIZATION METHOD 4.

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, CONCRETE & BITUMINOUS SURFACING, C.P.R., CONCRETE GRINDING, RETAINING WALLS, TEMP. SIGNALS, SIGNING, TMS, LIGHTING & BRIDGE NO. 69844, 69861, 69865, 69866, 69X09 & BRIDGE REPAIRS. (1)

LOCATED ON T.H. 35 FROM 0.3 M. SOUTH OF JCT. WITH BOUNDARY AVENUE TO 26TH AVENUE EAST

STATE PROJ. NO. 6982-290 (T.H. 35)

GROSS LENGTH 54,083 FEET 10.2 MILES
 BRIDGES-LENGTH 9,226 FEET 1.7 MILES
 EXCEPTIONS-LENGTH N/A FEET N/A MILES
 NET LENGTH 54,083 FEET 10.2 MILES
 REF. POINT 249+00.283 TO REF. POINT 259+00.526

PROJECT LENGTH BASED ON T.H. 35 N.B. LANE.

EQUATIONS

TH 35 NB
 STA 298+63.79 (BK) = STA 0+45.60 (AH)
 STA 11+08.33 (BK) = STA 11+10.24 (AH)
 STA 20+72.21 (BK) = STA 20+77.75 (AH)
 STA 40+83.30 (BK) = STA 40+84.72 (AH)
 STA 52+79.45 (BK) = STA 52+81.23 (AH)
 STA 61+52.57 (BK) = STA 147+91.81 (AH)
 STA 151+48.59 (BK) = STA 151+49.56 (AH)
 STA 159+41.05 (BK) = STA 159+61.17 (AH)
 STA 179+30.37 (BK) = STA 178+56.34 (AH)
 STA 194+13.36 (BK) = STA 194+14.29 (AH)
 STA 204+29.59 (BK) = STA 204+29.15 (AH)
 STA 206+16.81 (BK) = STA 206+16.78 (AH)
 STA 216+31.69 (BK) = STA 216+03.21 (AH)
 STA 252+87.47 (BK) = STA 253+00.00 (AH)
 STA 272+80.11 (BK) = STA 273+93.40 (AH)
 STA 287+07.55 (BK) = STA 287+06.63 (AH)
 STA 334+01.17 (BK) = STA 334+00.81 (AH)
 STA 26+93.46 (BK) = STA 26+93.83 (AH)

EQUATIONS

TH 35 SB
 STA 298+63.55 (BK) = STA 0+45.60 (AH)
 STA 14+47.80 (BK) = STA 313+87.18 (AH)
 STA 321+39.77 (BK) = STA 321+40.06 (AH)
 STA 324+74.70 (BK) = STA 25+26.41 (AH)
 STA 37+61.18 (BK) = STA 37+61.48 (AH)
 STA 52+91.70 (BK) = STA 52+92.83 (AH)
 STA 61+54.52 (BK) = STA 147+91.81 (AH)
 STA 151+48.60 (BK) = STA 151+49.55 (AH)
 STA 159+61.09 (BK) = STA 159+40.49 (AH)
 STA 177+31.35 (BK) = STA 177+31.12 (AH)
 STA 204+59.63 (BK) = STA 204+60.22 (AH)
 STA 252+88.59 (BK) = STA 253+00.00 (AH)
 STA 272+80.11 (BK) = STA 273+93.36 (AH)
 STA 289+62.49 (BK) = STA 289+62.45 (AH)
 STA 294+32.19 (BK) = STA 294+33.06 (AH)
 STA 333+97.66 (BK) = STA 334+00.81 (AH)

EQUATIONS

CODY ST. NB
 STA 9+29.73 (BK) = STA 9+32.60 (AH)
 STA 18+42.30 (BK) = STA 18+45.55 (AH)
 STA 23+78.34 (BK) = STA 75+86.00 (AH)

EQUATIONS

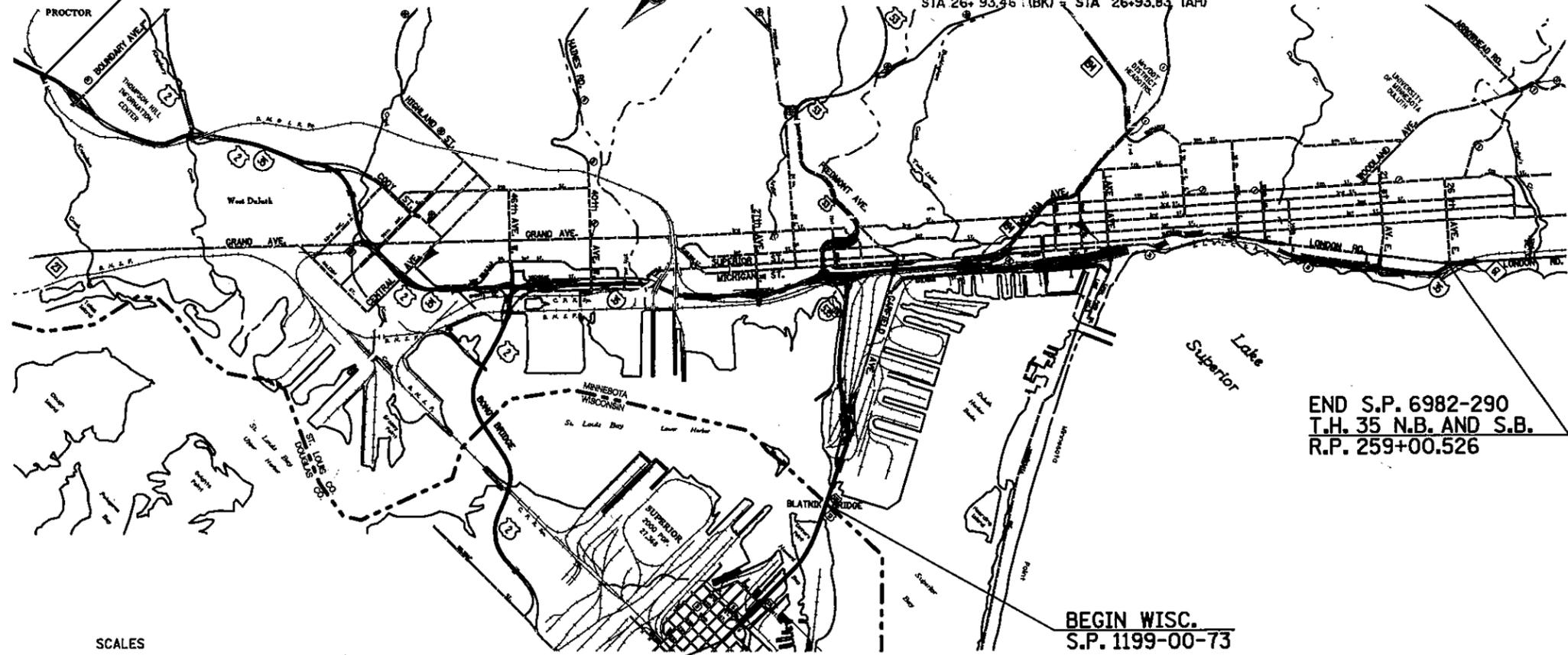
CODY ST. SB
 STA 66+08.86 (BK) = STA 66+10.41 (AH)
 STA 67+60.83 (BK) = STA 67+60.90 (AH)

BRIDGE REPAIRS	
69100	69852
69801A	69879
69801B	69879A
69801C	69879B
69801D	69879C
69801E	69879D
69801F	69879E
69801G	69881
69801H	69881A
69801I	69881B
69801J	69881N
69801K	69882
69801L	69882A
69801M	69882B
69801N	69882N
69824	69887
69825	69887A
69851	69887B

BEGIN S.P. 6982-290
 T.H. 35 N.B. AND S.B.
 R.P. 249+00.283

END S.P. 6982-290
 T.H. 35 N.B. AND S.B.
 R.P. 259+00.526

BEGIN WISC.
 S.P. 1199-00-73



GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-16	GENERAL LAYOUT
17-25	ESTIMATED QUANTITIES
26	EARTHWORK SUMMARY
27	SOILS & CONSTRUCTION NOTES, STANDARD PLATES
28-38	TABULATIONS
39-75E	CONSTRUCTION CHARTS
76-121	INPLACE TOPOGRAPHY R/W & UTILITIES
122-145	TYPICAL SECTIONS
146-171	CONSTRUCTION DETAILS
172-173	DISTRIBUTION SLAB
174-205A	STANDARD PLAN SHEETS
206-222	BRIDGE APPROACH PANELS
223-268	ALIGNMENT
269-302	REMOVALS
303-339	PLANNED CONSTRUCTION
340-367	CONCRETE PAVING
368-400H	DRAINAGE & EROSION CONTROL PLANS
401-404	CONTOUR PLAN
405-423	RETAINING WALLS
424-445B	MAINLINE PROFILES
446-451C	RAMP PROFILES
452	RECYCLE WAY & ONEOTA PROFILES
453-478	SUPER ELEVATION PLANS
479-483	WETLANDS
484-488	SWPPP
489-541	PAVEMENT MARKINGS
542-545	SIGNAL PLAN
546-587	LIGHTING PLAN
SI-SI42A, SI43-SI61	PERMANENT SIGNING
BI - B6I	BOX CULVERT PLANS
TCI-TC45A, TC46-TC171	TRAFFIC CONTROL, STAGING
TMI-TM63	TRAFFIC MANAGEMENT SYSTEM
XI-XI93	CROSS SECTIONS

SHEETS NO. 163, 187, 192, 487, 488, TC132-TC134 HAVE BEEN DELETED.
 THIS PLAN CONTAINS 1203 SHEETS

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.

PRINT NAME: DANIEL J. ERICKSON LICENSE # 43441
 DATE: 11-25-09 SIGNATURE: [Signature]
 I. SAARBERG, L. MUSOLF, S. SMITH, A. SAARELA, C. SMITH, B. ZIGICH,
 DESIGN SQUAD E. BRESNAHAN, M. RUSH

RECOMMENDED FOR APPROVAL [Signature] 11-25 2009 DISTRICT TRANSPORTATION ENGINEER
 RECOMMENDED FOR APPROVAL [Signature] 11/25 2009 DISTRICT MATERIALS ENGINEER
 RECOMMENDED FOR APPROVAL [Signature] 11/25 2009 DISTRICT WATER RESOURCES/HYDRAULICS ENGINEER
 RECOMMENDED FOR APPROVAL [Signature] 11/25 2009 DISTRICT TRAFFIC ENGINEER
 RECOMMENDED FOR APPROVAL [Signature] 12/22 2009 STATE PRELIMINARY ENGINEER
 OFFICE OF LAND MANAGEMENT APPROVAL [Signature] 12/22 2009 FOR DIRECTOR, LAND MANAGEMENT
 APPROVED 3/1 2010 [Signature] STATE DESIGN ENGINEER

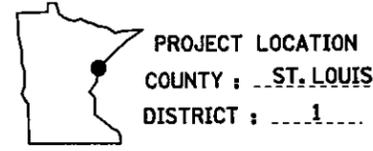
I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____ LICENSE # _____
 DATE: _____ SIGNATURE: _____

END WISC.
 S.P. 1199-00-73

DESIGN DESIGNATION

Design ESALS	= 9,935,000
ADT (2006)	= 48,000
ADT (2030)	= 58,400
DHV (Design Hr. Vol.)	= 6,130
D (Directional Distr.)	= 40/60
T (Heavy Commercial)	= 4.8 %
Design Speed	55 MPH
Based on	Stopping Sight Distance
Height of eye	3.5' Height of object 2.0'
Design Speed not achieved at:	
STA. _____ TO STA. _____	MPH _____
STA. _____ TO STA. _____	MPH _____



SCALES

PLAN	50'
PROFILE	100' HORIZ. 10' VERT.
INDEX MAP	5280'
GENERAL LAYOUT	250'

PLAN REVISIONS

DATE	SHEET NO.	APPROVED BY

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL
 STATE PROJ. NO. 6982-290 CHARGE IDENTIFIER

PLOTTED/REVISED: 25-NOV-2009

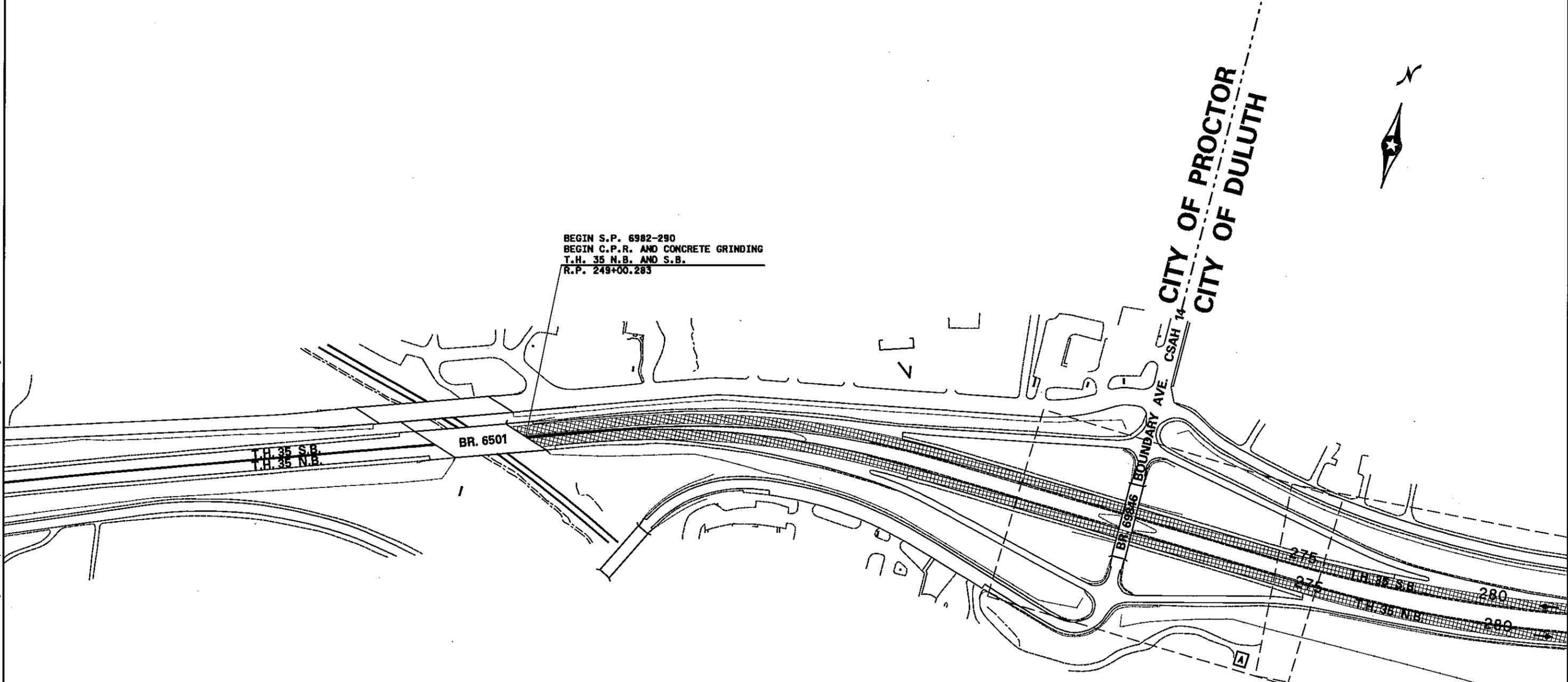
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 PATH & FILENAME: _____

PLOTTED/REVISED: 20-DEC-2009

PATH & FILENAME: Projects/DJL/DJL/035/6982/290/Design/Plan/plan sheets/GENERAL LAYOUT EXTND16.dgn

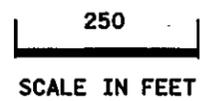
DISTRICT #: DULUTH
 PLOT NAME: GLSHT02

BEGIN S.P. 6982-290
 BEGIN C.P.R. AND CONCRETE GRINDING
 T.H. 35 N.B. AND S.B.
 R.P. 249+00.283



PLAN SHEET LAYOUT

GENERAL LAYOUT SHEET IDENTIFIER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
PLAN SHEET DESCRIPTION	PLAN SHEET NUMBERS																						
INPLACE TOPOGRAPHY & UTILITIES (1)	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
ALIGNMENT (1)	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245
REMOVALS (1)						269	270	271	272			273	274	275	276	277	278	279	280				281
PLANNED CONSTRUCTION (1)				303	304	305	306	307	308	309		310	311	312	313	314	315	316	317				318
CONCRETE PAVING						340	341	342	343			344	345	346	347		348	349	350				
DRAINAGE & EROSION CONTROL (1)						368	369	370	371				372	373	374	375	376	377					378
SUPER ELEVATION						453	454	455	456				457	458	459								460
GENERAL LAYOUT SHEET IDENTIFIER	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	
PLAN SHEET DESCRIPTION	PLAN SHEET NUMBERS																						
INPLACE TOPOGRAPHY & UTILITIES (1)	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120		
ALIGNMENT (1)	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	
REMOVALS (1)	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300			301	
PLANNED CONSTRUCTION (1)	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337			338	
CONCRETE PAVING		351		352	353	354	355	356	357	358	359	360	361		362	363	364	365	366			367	
DRAINAGE & EROSION CONTROL (1)	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397				
SUPER ELEVATION	461	462		463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478				



(1) RECYCLE WAY AND ONEOTA ST. PLAN SHEET LOCATIONS NOT SHOWN.

C.P.R. AND CONCRETE GRINDING

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

GENERAL LAYOUT
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 2 OF 587 SHEETS

PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: GL_SHT03
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan_sheets/General Layout.dgn

CITY OF PROCTOR
CITY OF DULUTH



BEGIN STATIONING
T.H. 35 S.B.
274+09.60

BEGIN STATIONING
T.H. 35 N.B.
274+86.26

EQUATION:
POT. 298+63.55 BK=
POT. 0+45.60 AH

EQUATION:
POT. 298+63.79 BK=
POT. 0+45.60 AH

INPLACE BYPASS 1
T.H. 35 N.B. & S.B.
N.B. STA. 294+00.00 - 298+00.00
N.B. R.P. 250+00.000 - 250+00.080

 C.P.R. AND CONCRETE GRINDING

250
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

GENERAL LAYOUT

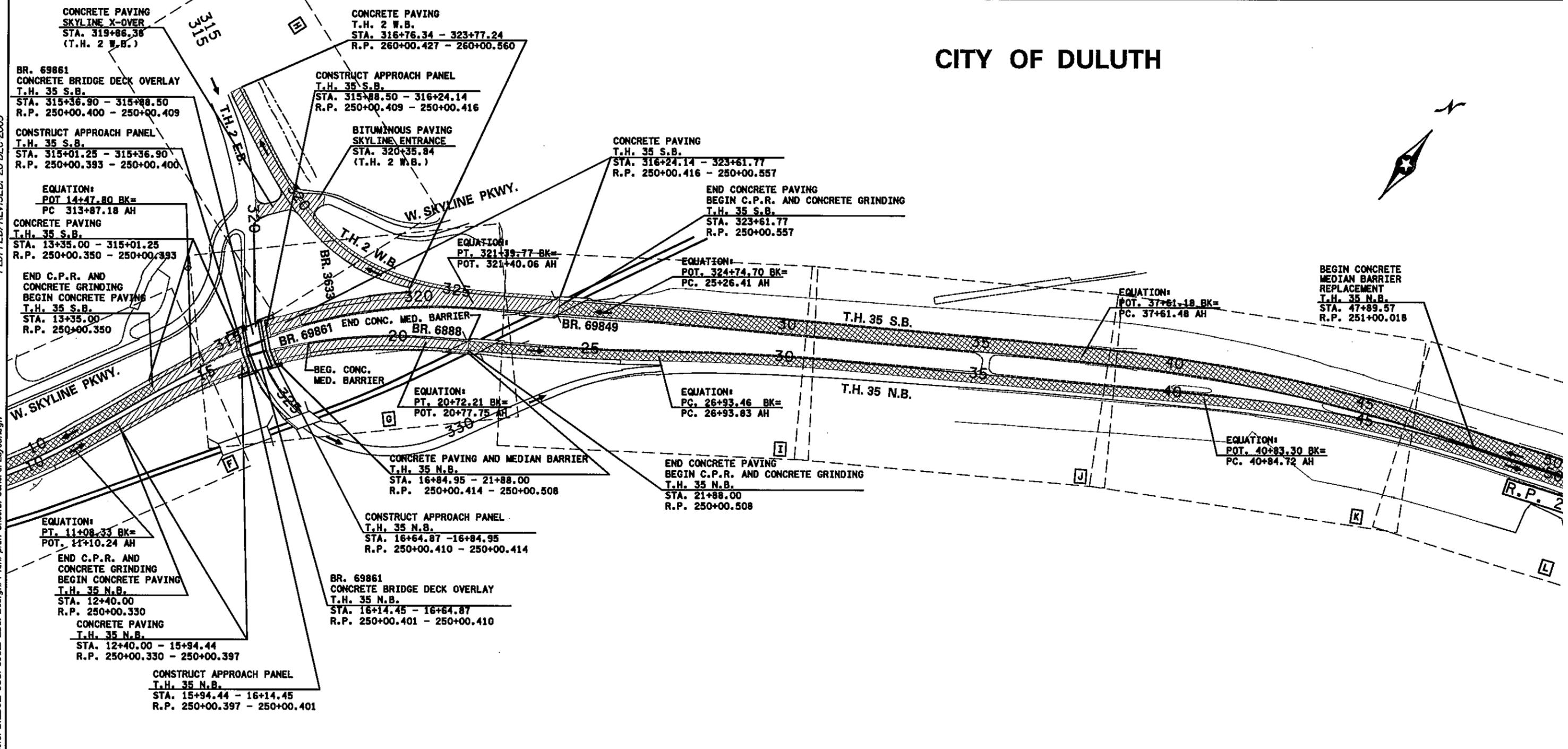
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 3 OF 587 SHEETS

CITY OF DULUTH



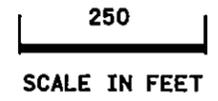
PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
 IPLOT NAME: GLSHT04
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



LEGEND

- NEW CONSTRUCTION
- C.P.R. AND CONCRETE GRINDING

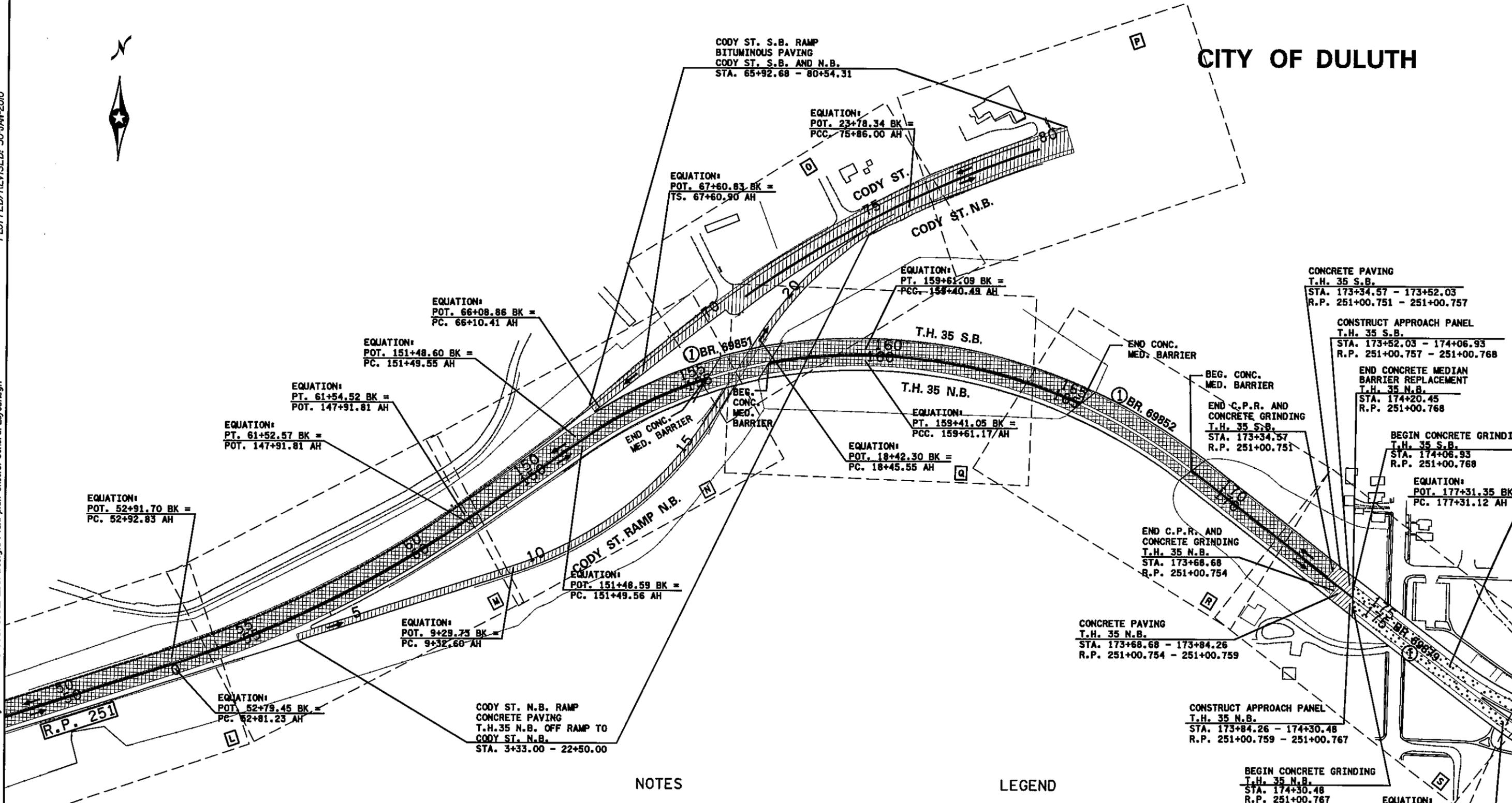


I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN. DATE: 20-DEC-2009 LIC. NO. 43441 ENGINEER <i>Daniel J. Erickson</i>	GENERAL LAYOUT	STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 4 OF 587 SHEETS
--	-----------------------	--

DISTRICT #: DULUTH
 PLOT NAME: GL-SHT05
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn
 PLOTTED/REVISED: 30-JAN-2010



CITY OF DULUTH

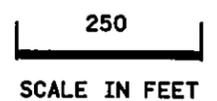


NOTES

- ① BRIDGE REPAIRS (SEE BRIDGE REPAIR PLAN SHEETS)

LEGEND

- NEW CONSTRUCTION
- C.P.R. AND CONCRETE GRINDING
- CONCRETE GRINDING



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 30-JAN-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

GENERAL LAYOUT

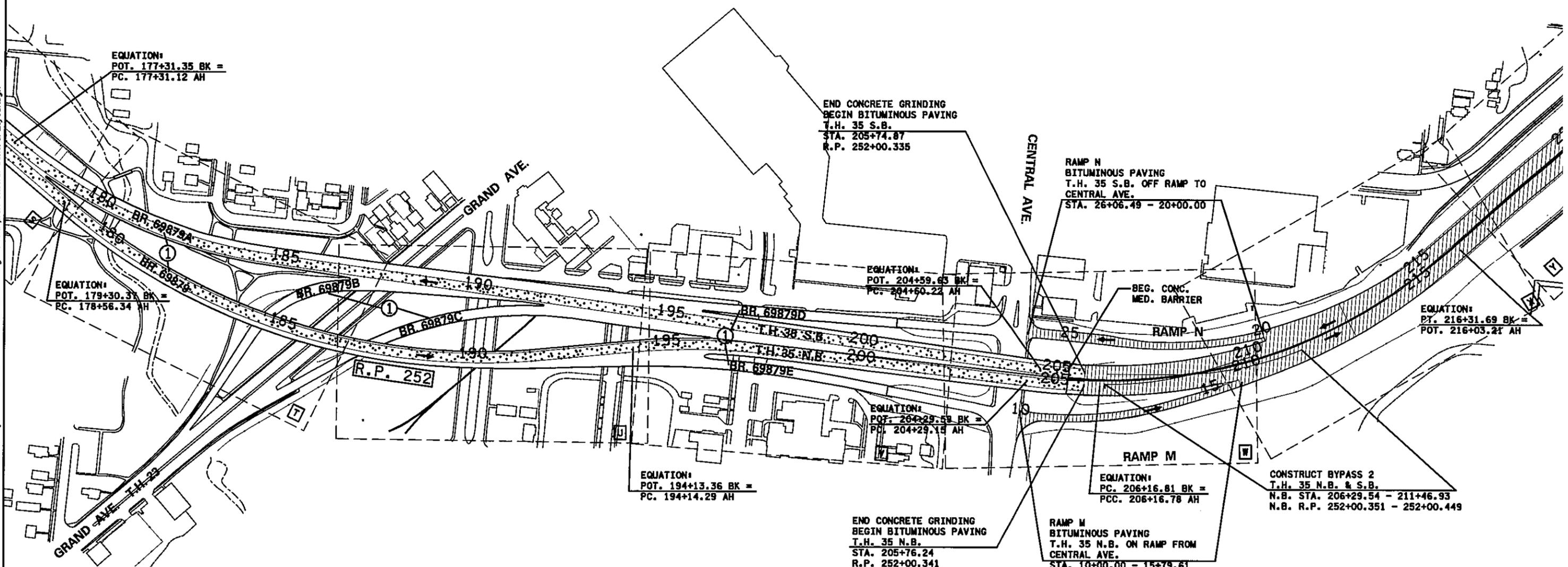
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 5 OF 587 SHEETS

PLOTTED/REVISED: 30-JAN-2010

DISTRICT #: DULUTH
PLOT NAME: GL-SHT06
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



CITY OF DULUTH



EQUATION:
POT. 177+31.35 BK =
PC. 177+31.12 AH

EQUATION:
POT. 179+30.37 BK =
PC. 178+56.34 AH

END CONCRETE GRINDING
BEGIN BITUMINOUS PAVING
T.H. 35 S.B.
STA. 205+74.87
R.P. 252+00.335

EQUATION:
POT. 204+59.63 BK =
PC. 204+60.22 AH

RAMP N
BITUMINOUS PAVING
T.H. 35 S.B. OFF RAMP TO
CENTRAL AVE.
STA. 26+06.49 - 20+00.00

EQUATION:
PT. 216+31.69 BK =
POT. 216+03.21 AH

EQUATION:
POT. 194+13.36 BK =
PC. 194+14.29 AH

EQUATION:
POT. 204+29.58 BK =
PC. 204+29.15 AH

RAMP M
EQUATION:
PC. 206+16.81 BK =
PCC. 206+16.78 AH

CONSTRUCT BYPASS 2
T.H. 35 N.B. & S.B.
N.B. STA. 206+29.54 - 211+46.93
N.B. R.P. 252+00.351 - 252+00.449

END CONCRETE GRINDING
BEGIN BITUMINOUS PAVING
T.H. 35 N.B.
STA. 205+76.24
R.P. 252+00.341

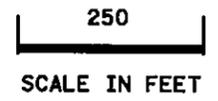
RAMP M
BITUMINOUS PAVING
T.H. 35 N.B. ON RAMP FROM
CENTRAL AVE.
STA. 10+00.00 - 15+79.61

LEGEND

- CONCRETE GRINDING
- NEW CONSTRUCTION

NOTES

- ① BRIDGE REPAIRS (SEE BRIDGE REPAIR PLAN SHEETS)



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 30-JAN-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

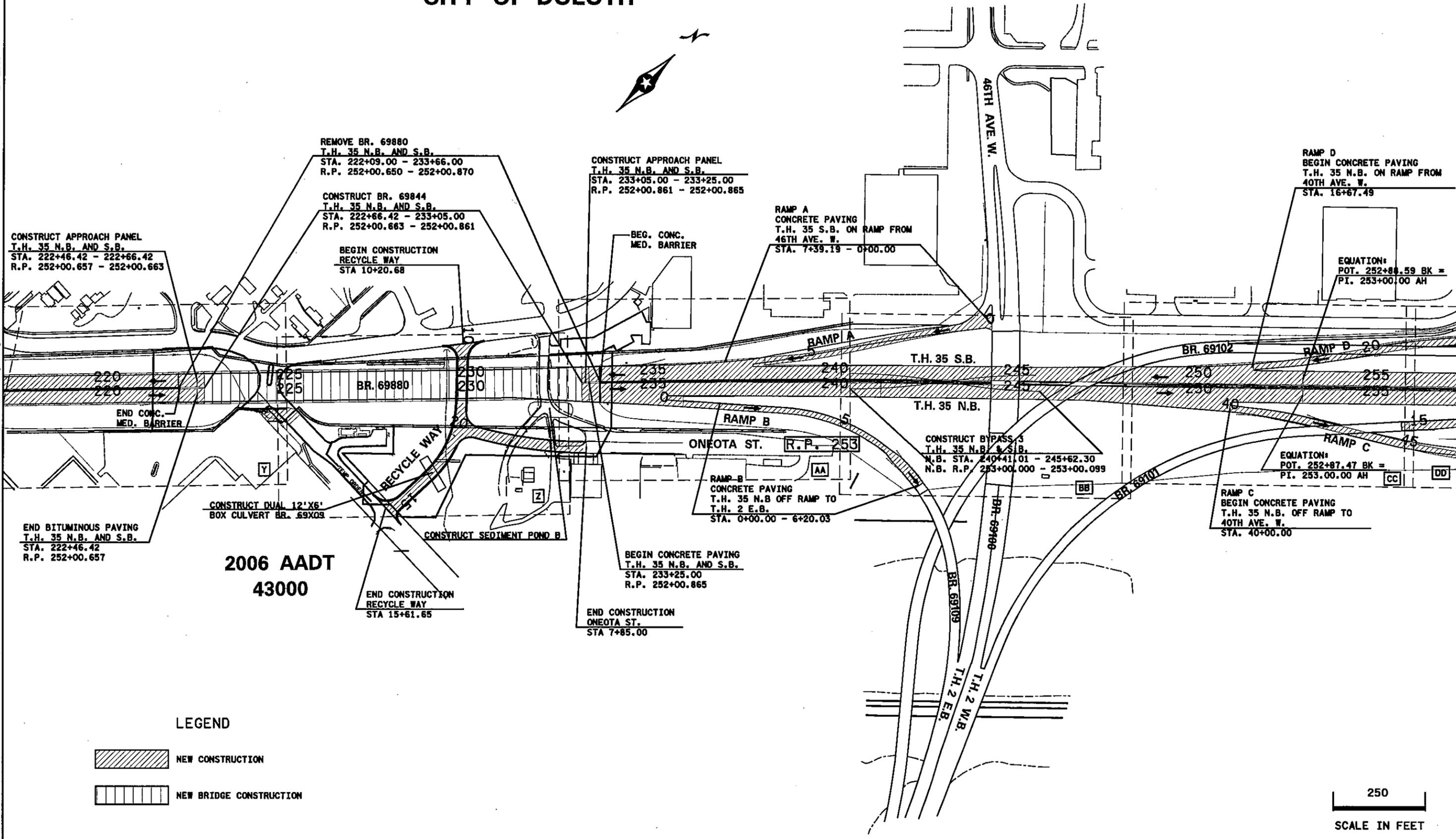
GENERAL LAYOUT
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 6 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
 I/PLOT NAME: GL_SHT07
 PATH & FILENAME: Projects/DL/DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



REMOVE BR. 69880
 T.H. 35 N.B. AND S.B.
 STA. 222+09.00 - 233+66.00
 R.P. 252+00.650 - 252+00.870

CONSTRUCT BR. 69844
 T.H. 35 N.B. AND S.B.
 STA. 222+66.42 - 233+05.00
 R.P. 252+00.663 - 252+00.861

CONSTRUCT APPROACH PANEL
 T.H. 35 N.B. AND S.B.
 STA. 222+46.42 - 222+66.42
 R.P. 252+00.657 - 252+00.663

BEGIN CONSTRUCTION
 RECYCLE WAY
 STA 10+20.68

CONSTRUCT APPROACH PANEL
 T.H. 35 N.B. AND S.B.
 STA. 233+05.00 - 233+25.00
 R.P. 252+00.861 - 252+00.865

RAMP A
 CONCRETE PAVING
 T.H. 35 S.B. ON RAMP FROM
 46TH AVE. W.
 STA. 7+39.19 - 0+00.00

RAMP D
 BEGIN CONCRETE PAVING
 T.H. 35 N.B. ON RAMP FROM
 40TH AVE. W.
 STA. 16+67.49

EQUATION:
 POT. 252+88.59 BK =
 PI. 253+00.00 AH

END CONC.
 MED. BARRIER

BEG. CONC.
 MED. BARRIER

END BITUMINOUS PAVING
 T.H. 35 N.B. AND S.B.
 STA. 222+46.42
 R.P. 252+00.657

CONSTRUCT DUAL 12'X6'
 BOX CULVERT BR. 69X09

END CONSTRUCTION
 RECYCLE WAY
 STA 15+61.65

CONSTRUCT SEDIMENT POND B

ONEOTA ST. R.P. 253

RAMP B
 CONCRETE PAVING
 T.H. 35 N.B OFF RAMP TO
 T.H. 2 E.B.
 STA. 0+00.00 - 6+20.03

BEGIN CONCRETE PAVING
 T.H. 35 N.B. AND S.B.
 STA. 233+25.00
 R.P. 252+00.865

END CONSTRUCTION
 ONEOTA ST.
 STA 7+85.00

CONSTRUCT BYPASS 3
 T.H. 35 N.B. & S.B.
 N.B. STA. 240+41.01 - 245+62.30
 N.B. R.P. 253+00.000 - 253+00.099

RAMP C
 BEGIN CONCRETE PAVING
 T.H. 35 N.B. OFF RAMP TO
 40TH AVE. W.
 STA. 40+00.00

EQUATION:
 POT. 252+87.47 BK =
 PI. 253.00.00 AH

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

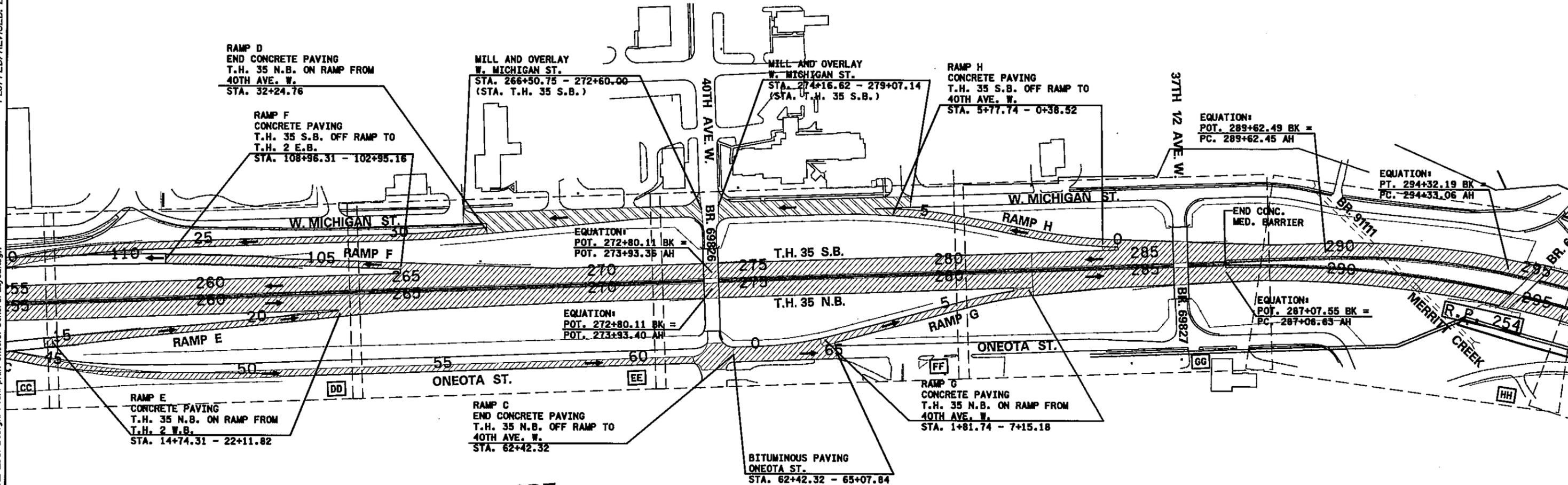
GENERAL LAYOUT
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 7 OF 587 SHEETS

CITY OF DULUTH



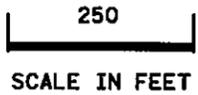
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DISTRICT #: DULUTH
 I/PLOT NAME: GLSHT08
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



LEGEND

- NEW CONSTRUCTION
- MILL AND OVERLAY



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

GENERAL LAYOUT

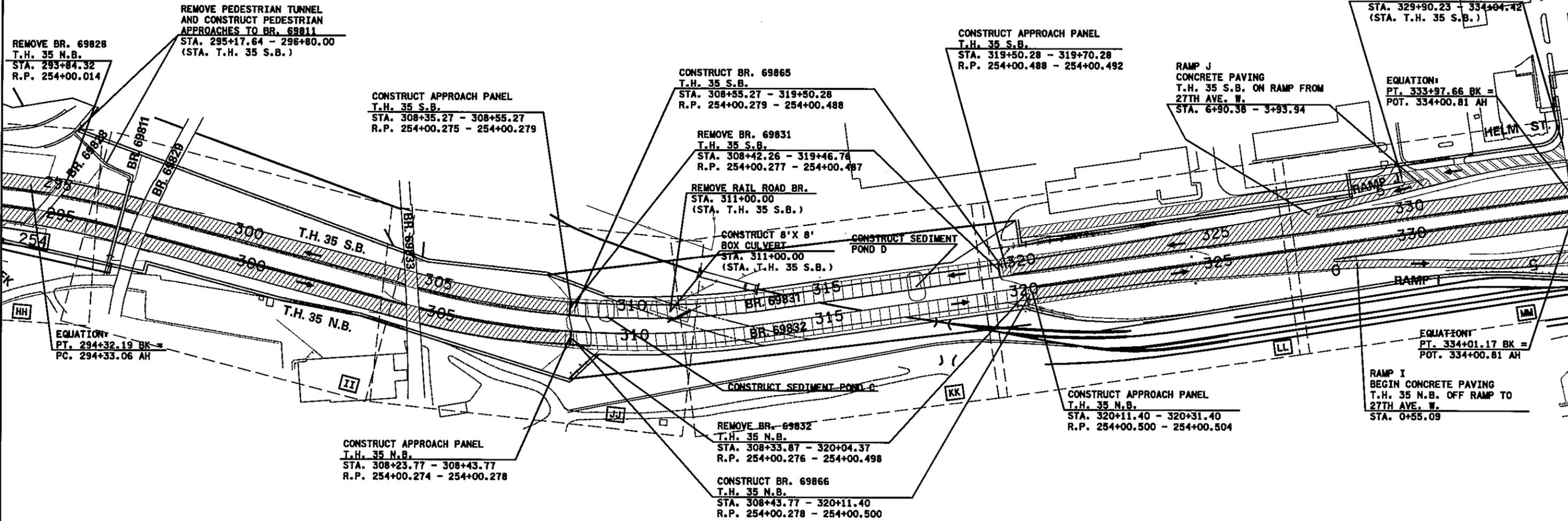
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CITY OF DULUTH



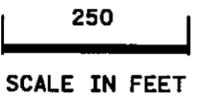
PLOTTED/REVISED: 30-JAN-2010

DISTRICT #: DULUTH
 PLOT NAME: GL-SHT09
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



LEGEND

- NEW CONSTRUCTION
- NEW BRIDGE CONSTRUCTION
- MILL AND OVERLAY



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE: 30-JAN-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

GENERAL LAYOUT

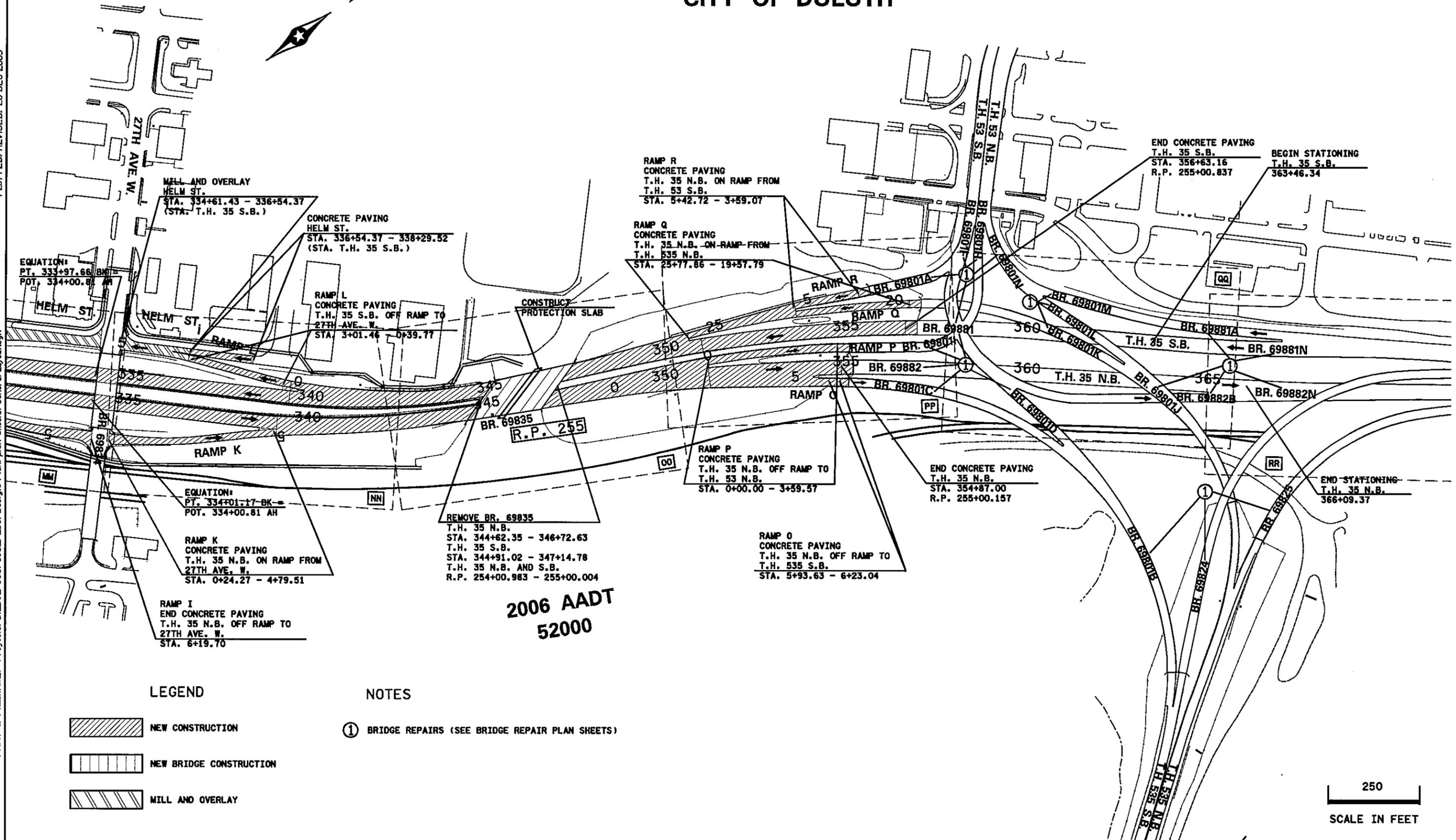
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 9 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
 IPLOT NAME: GL-SHT10
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



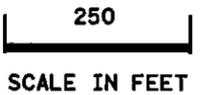
**2006 ADT
52000**

LEGEND

- NEW CONSTRUCTION
- NEW BRIDGE CONSTRUCTION
- MILL AND OVERLAY

NOTES

- ① BRIDGE REPAIRS (SEE BRIDGE REPAIR PLAN SHEETS)



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

GENERAL LAYOUT

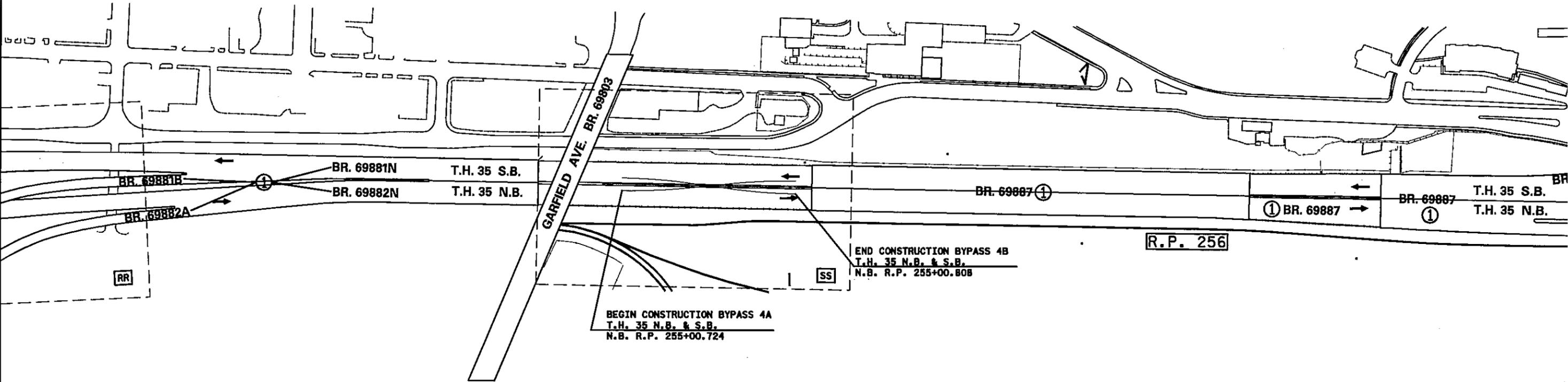
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 10 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
 PLOT NAME: GL_SHT11
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn



NOTES

① BRIDGE REPAIRS (SEE BRIDGE REPAIR PLAN SHEETS)



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE: 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

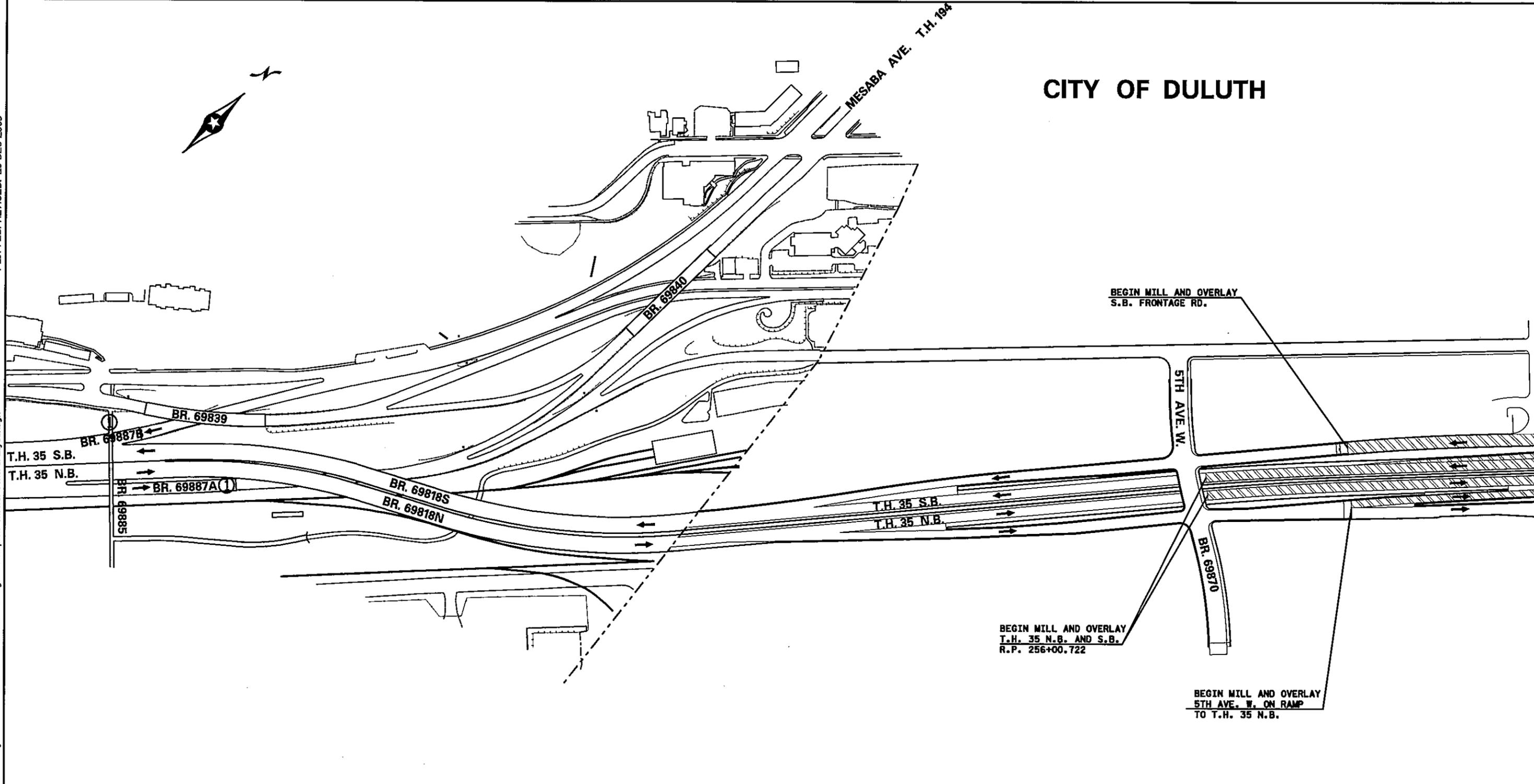
GENERAL LAYOUT
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 11 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
 PLOT NAME: GL-SHT12
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn

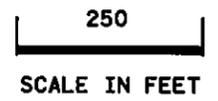


LEGEND

MILL AND OVERLAY

NOTES

① BRIDGE REPAIRS (SEE BRIDGE REPAIR PLAN SHEETS)



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *David J. Erickson*
DANIEL J. ERICKSON

GENERAL LAYOUT

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 12 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

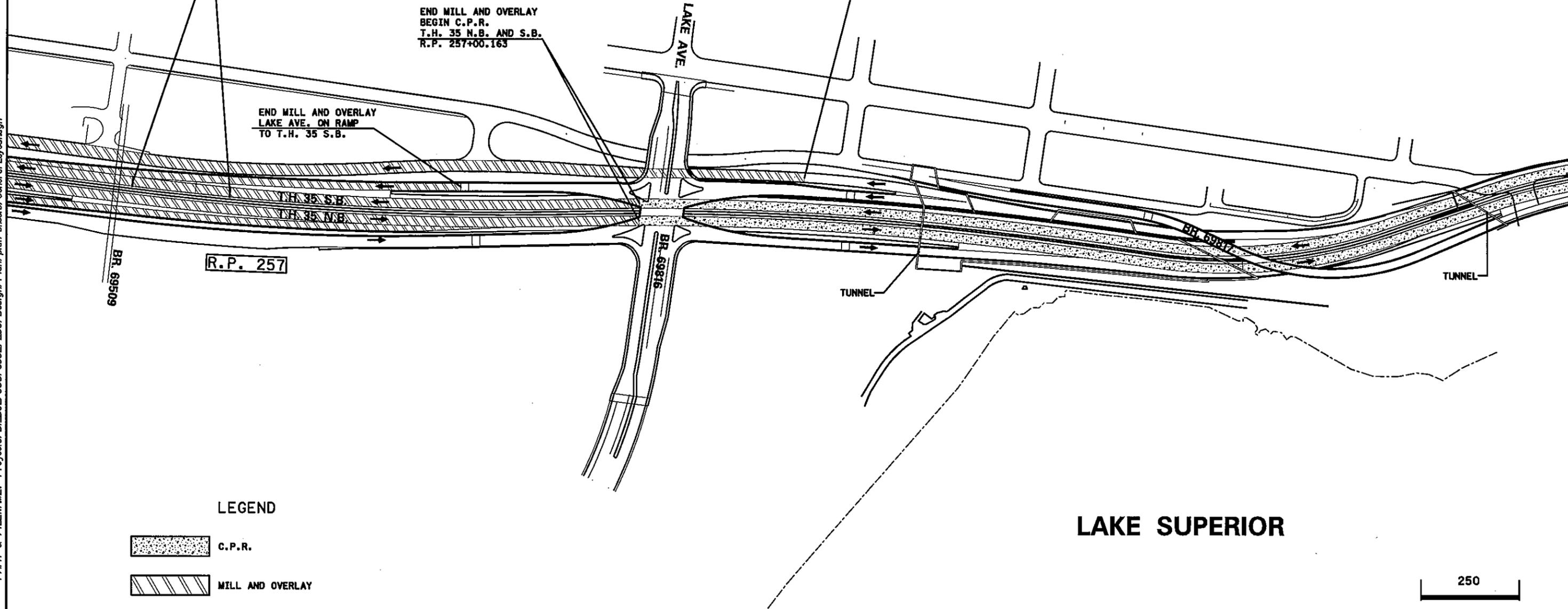
DISTRICT #: DULUTH
 PLOT NAME: GLSHT13
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn

PAVEMENT REMOVAL AND
 SUBGRADE TREATMENT
 T.H. 35 S.B.
 R.P. 256+00.978 - 257+00.025

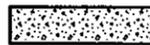
END MILL AND OVERLAY
 BEGIN C.P.R.
 T.H. 35 N.B. AND S.B.
 R.P. 257+00.163

END MILL AND OVERLAY
 LAKE AVE. ON RAMP
 TO T.H. 35 S.B.

END MILL AND OVERLAY
 S.B. FRONTAGE RD.



LEGEND

-  C.P.R.
-  MILL AND OVERLAY

LAKE SUPERIOR

250
 SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

GENERAL LAYOUT

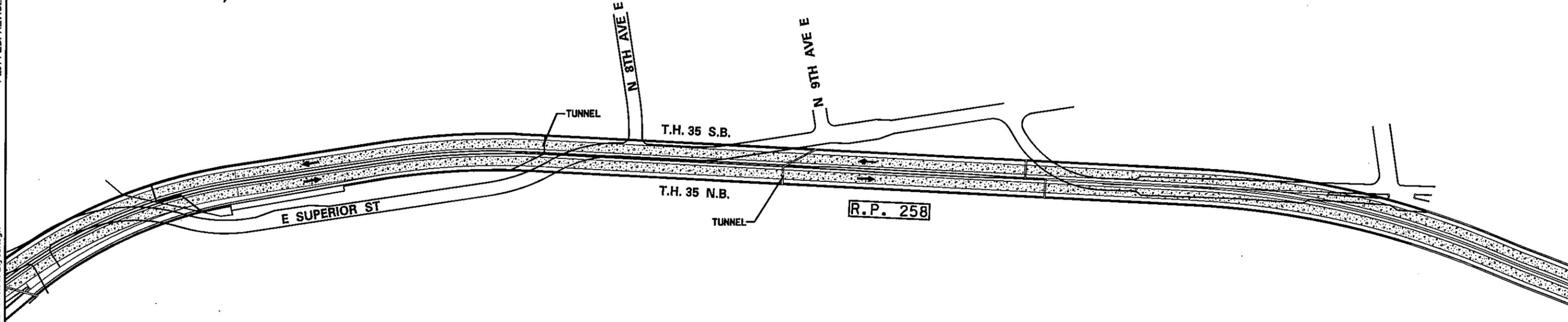
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 13 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: 6L-SHT14
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan_sheets/General Layout.dgn



LEGEND

 C.P.R.

250
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

GENERAL LAYOUT

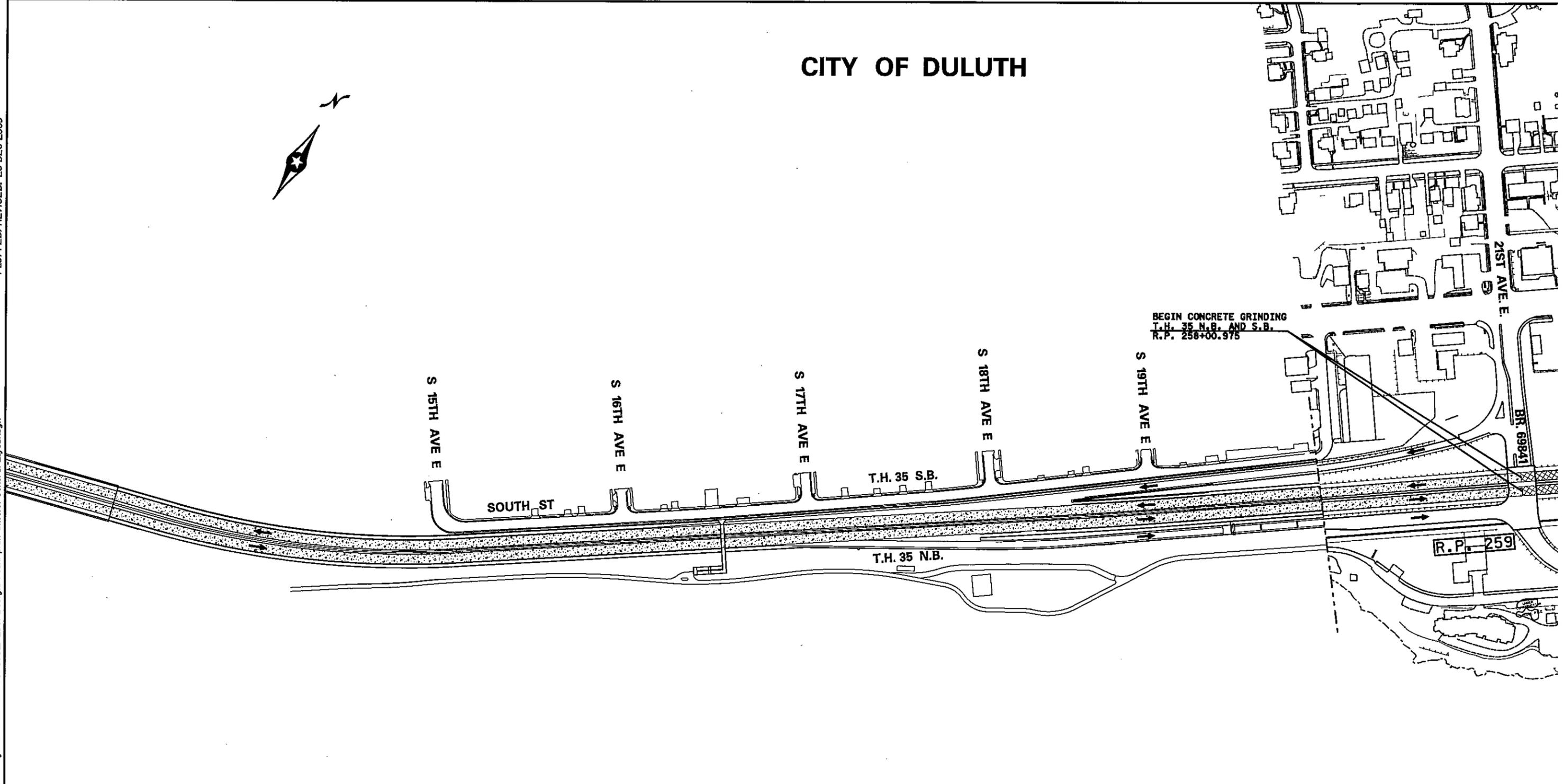
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 14 OF 587 SHEETS

CITY OF DULUTH



PLOTTED/REVISED: 20-DEC-2009

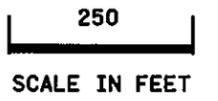
DISTRICT #: DULUTH
 PLOT NAME: GL-SHT15
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/p1an sheets/General Layout.dgn



LEGEND

- C.P.R.
- C.P.R. AND CONCRETE GRINDING

LAKE SUPERIOR



I HEREBY CERTIFY THAT THIS PLAN SHEET 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. DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER <i>Daniel J. Erickson</i> DANIEL J. ERICKSON	GENERAL LAYOUT STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 15 OF 587 SHEETS
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CITY OF DULUTH

PLOTTED/REVISED: 20-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: GLSHT16
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/General Layout.dgn

LEGEND

 C.P.R. AND CONCRETE GRINDING



LAKE SUPERIOR

250
SCALE IN FEET

2006 AADT
20000

2006 AADT
21700

26TH AVE E LONDON ROAD CONSTRUCTION
SEE SP 6925-127

END SP 6982-290
END C.P.R.
END CONCRETE GRINDING
T.H. 35 N.B. AND S.B.
R.P. 259+00.526

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 20-DEC-2009, LIC. NO. 43441 ENGINEER *David J. Erickson*

GENERAL LAYOUT
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 16 OF 587 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES (A)
		2011.601	VIBRATION MONITORING	LUMP SUM	1
		2013.601	SURVEY EQUIPMENT (2)	LUMP SUM	1
		2013.601	AIR AND WATER POLLUTION CONTROL	LUMP SUM	1
SA	S1	2013.603	SAFETY CABLE (1)	LIN FT	1727
		2013.607	HAUL AND DISPOSAL OF HAZARDOUS WASTE	CU YD	50
		2016.621	CONTRACT TIME (INTERMEDIATE)	DOLLAR	
		2016.621	CONTRACT TIME (INTERMEDIATE -A)	DOLLAR	
		2021.501	MOBILIZATION	LUMP SUM	0.98
		2021.601	RR PROTECTIVE LIABILITY INSURANCE	LUMP SUM	1
		2021.601	RR PROTECTIVE LIABILITY INSURANCE A	LUMP SUM	1
		2031.501	FIELD OFFICE TYPE D	EACH	1.96
		2031.503	FIELD LABORATORY TYPE DX	EACH	1.96
		2041.610	TRAINEES	HOUR	7000
		2051.501	MAINT & RESTORATION OF HAUL ROADS	LUMP SUM	
		2101.511	CLEARING AND GRUBBING	LUMP SUM	
E	42	2104.501	REMOVE PIPE CULVERTS	LIN FT	56
Z	75B-75E	2104.501	REMOVE CONCRETE FLUME	LIN FT	88
Z	75B-75E	2104.501	REMOVE METAL FLUME	LIN FT	15
E, Z	42, 75B-75E	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	20400
E	42	2104.501	REMOVE SEWER PIPE (SANITARY)	LIN FT	150
A	39-40	2104.501	REMOVE CURB AND GUTTER	LIN FT	30804
D	42	2104.501	REMOVE RETAINING WALL	LIN FT	34
P	52	2104.501	REMOVE CHAIN LINK FENCE	LIN FT	2000
F	43-44	2104.501	REMOVE GUARD RAIL-BOX BEAM	LIN FT	4957
F	43-44	2104.501	REMOVE CABLE GUARD RAIL	LIN FT	264
F	43-44	2104.501	REMOVE GUARD RAIL-PLATE BEAM	LIN FT	14137.5
J	50	2104.501	REMOVE CONCRETE MEDIAN BARRIER	LIN FT	6121
TM-A, BB	TM2, 547	2104.501	REMOVE CABLES (P)	LIN FT	66820
BB	547	2104.501	REMOVE ARMORED CABLE	LIN FT	4760
TM-B, BB	TM2, 547	2104.501	REMOVE RIGID STEEL CONDUIT	LIN FT	1980
BB	547	2104.501	REMOVE NON-METALLIC CONDUIT	LIN FT	30
D	42	2104.501	REMOVE CONC & BRICK TUNNEL-STORM	LIN FT	65
D	42	2104.501	REMOVE RAILROAD TRACK (3)	LIN FT	125
SA	S1	2104.501	REMOVE SIGN WALKWAY (1)	LIN FT	1004
B	41	2104.505	REMOVE BITUMINOUS SHOULDER PAVEMENT	SQ YD	22428
A	39-40	2104.505	REMOVE PAVEMENT	SQ YD	43428
A	39-40	2104.505	REMOVE CONCRETE PAVEMENT	SQ YD	65536
A	39-40	2104.505	REMOVE CONCRETE APPROACH PANEL	SQ YD	2397
B	41	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	33215
A, BB	39-40, 547	2104.505	REMOVE CONCRETE WALK	SQ YD	3324
D	42	2104.509	REMOVE VEHICULAR GATE	EACH	2
E, Z	42, 75B-75E	2104.509	REMOVE PIPE APRON	EACH	20
D	42, 302	2104.509	REMOVE MISCELLANEOUS STRUCTURES	EACH	1
A	39-40	2104.509	REMOVE CONCRETE NOSE	EACH	18
BB	547	2104.509	REMOVE LIGHTING UNIT	EACH	177
E, Z	42, 75B-75E	2104.509	REMOVE MANHOLE OR CATCH BASIN	EACH	289
BB	547	2104.509	REMOVE LUMINAIRE	EACH	94
BB	547	2104.509	REMOVE LIGHT FIXTURE	EACH	11
SA	S1	2104.509	REMOVE GROUT - SIGN FOOTING (1)	EACH	89
TM-A	TM2	2104.509	REMOVE FOUNDATION	EACH	1
TM-A	TM2	2104.509	REMOVE CABINET FOUNDATION	EACH	1

(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

- ① QUANTITY INCLUDES MNDOT FEDERAL FUNDS, MNDOT STATE FUNDS AND WISCONSIN DOT. SEE CHART SA ON SHEETS S1-S2 FOR COST SPLIT INFORMATION.
- ② 100% STATE FUNDS.
- ③ INCLUDES RAIL, TIES AND MISC. HARDWARE.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 17 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 IPLOT NAME: 06982290_EQ1
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Deslgn/Plan/06982290_EQ1.dgn



STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES (A)
SA	S1	2104.509	REMOVE DELINEATOR (1)	EACH	103
SA	S1	2104.509	REMOVE MARKER (1)	EACH	44
SA	S1	2104.509	REMOVE SIGN TYPE A	EACH	1
SA	S1	2104.509	REMOVE SIGN TYPE C (1)	EACH	326
SA	S1	2104.509	REMOVE SIGN TYPE D (1)	EACH	72
SA	S1	2104.509	REMOVE SIGN TYPE E0	EACH	42
SA	S1	2104.509	REMOVE SIGN TYPE OH	EACH	1
SA	S1	2104.509	REMOVE SIGN PANEL TYPE OH	EACH	7
TM-A, BB	TM2, 547	2104.509	REMOVE SERVICE EQUIPMENT	EACH	12
SA	S1	2104.509	REMOVE SIGN LIGHTING SYSTEM (1)	EACH	53
TM-A	TM2	2104.509	REMOVE DMS	EACH	5
BB	547	2104.509	REMOVE EQUIPMENT PAD	EACH	6
TM-A, BB	TM2, 547	2104.509	REMOVE HANDHOLE	EACH	37
BB	547	2104.509	REMOVE LIGHT BASE	EACH	166
BB	547	2104.509	REMOVE SERVICE CABINET	EACH	5
BB	547	2104.509	REMOVE POLE MOUNTED CABINET	EACH	2
F	43-44	2104.509	REMOVE ANCHORAGE ASSEMBLY-CABLE	EACH	2
C	41	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	8368
C	41	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	1288
F	43-44	2104.521	SALVAGE GUARD RAIL-PLATE BEAM	LIN FT	8037.5
J	50	2104.521	SALVAGE TEMP PRECAST CONCRETE BARRIER (4)	LIN FT	800
F	43-44	2104.523	SALVAGE IMPACT ATTENUATOR (2)	EACH	2
F	43-44	2104.523	SALVAGE ENERGY ABSORBING TERMINAL (3)	EACH	26
BB	547	2104.523	SALVAGE HANDHOLE	EACH	6
BB	547	2104.523	SALVAGE STEEL LIGHT BASE (4)	EACH	1
BB	547	2104.523	SALVAGE LIGHT STANDARD (4)(5)	EACH	94
TM-A	TM2	2104.523	SALVAGE CCTV HARDWARE	EACH	3
BB	547	2104.523	SALVAGE SERVICE CABINET	EACH	1
TM-A	TM2	2104.523	SALVAGE CABINET	EACH	1
TM-A	TM2	2104.523	SALVAGE DMS	EACH	2
SA	S1	2104.523	SALVAGE SIGN TYPE OH	EACH	1
		2104.601	HAUL SALVAGED MATERIAL (4)	LUMP SUM	1
		2104.601	REMOVE REGULATED WASTE MATERIAL A	LUMP SUM	1
		2104.601	REMOVE REGULATED WASTE MATERIAL B	LUMP SUM	1
	26	2105.501	COMMON EXCAVATION (P)	CU YD	179224
	26	2105.522	SELECT GRANULAR BORROW MOD 7% (CV) (P)	CU YD	94966
	188, 191	2105.601	DEWATERING	LUMP SUM	1
		2105.601	SITE GRADING	LUMP SUM	1
	141	2105.602	CONSTRUCT TEMPORARY BYPASS	EACH	3
O	52	2105.604	GEOMEMBRANE SYSTEM	SQ YD	3793
O	52	2105.604	SOIL STABILIZATION GEOGRID	SQ YD	4704
W	74	2105.604	GEOTEXTILE FABRIC SPECIAL	SQ YD	5000
O	52	2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD	3795
O	52	2105.607	GEOFOAM	CU YD	4236
	26	2105.607	COMMON BORROW SPECIAL (CV) (6)	CU YD	835
	26	2105.607	EXCAVATION SPECIAL	CU YD	31138
		2105.607	HAUL & DISPOSE OF CONTAMINATED MATERIAL	CU YD	31138

(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

- ① QUANTITY INCLUDES MNDOT FEDERAL FUNDS, MNDOT STATE FUNDS AND WISCONSIN DOT. SEE CHART SA ON SHEETS S1-S2 FOR COST SPLIT INFORMATION.
- ② TYPE QUAD GUARD.
- ③ ET 2000 PLUS.
- ④ MATERIALS TO BE DELIVERED TO MNDOT TRUCK STATION IN NOPEMING (100% STATE FUNDS). SEE SPECIAL PROVISIONS.
- ⑤ 63 TO BE HAULED.

⑥ CLAY LINER PONDS B, C AND D.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 18 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT *: DULUTH
 I/PLOT NAME: 06982290_EQI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/06982290_EQI.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES ^(A)
		2123.509	DOZER ①	HOUR	50
		2123.510	10 CU YD TRUCK ①	HOUR	50
		2123.610	1.5 CU YD BACKHOE ①	HOUR	50
		2123.611	TOW TRUCK	DAY	220
	26	2211.502	AGGREGATE BASE (LV) CLASS 6	CU YD	3199
	26	2211.503	AGGREGATE BASE (CV) CLASS 6 (P)	CU YD	25376
N	52	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	31196
Q	53	2301.529	REINFORCEMENT BARS (EPOXY COATED)	POUND	1133
K	50	2301.531	EXPANSION JOINTS DESIGN E8H	LIN FT	655
G, Q	45-47, 53	2301.538	DOWEL BAR	EACH	85049
R	54-57	2301.541	INTEGRANT CURB DESIGN B4	LIN FT	8520
R	54-57	2301.541	INTEGRANT CURB DESIGN B6	LIN FT	368
R	54-57	2301.541	INTEGRANT CURB DESIGN D4	LIN FT	40915
K	50	2301.553	BRIDGE APPROACH PANELS	SQ YD	1837
G	45-47	2301.561	PERMANENT TERMINAL HEADER	LIN FT	340
	172-173	2301.601	PROTECTION SLAB	LUMP SUM	1
G	45-47	2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	EACH	220
G, Q	45-47, 53	2301.602	DRILL & GROUT REINFORCEMENT BAR	EACH	3179
Q	53	2301.603	JOINT REPAIR (TYPE E8S)	LIN FT	194
Q	53, 155	2301.603	JOINT REPAIR (TYPE A-1H) 3/8"	LIN FT	10687
Q	53, 158	2301.603	JOINT REPAIR (TYPE B-3)	LIN FT	3239
Q	53, 157	2301.603	CRACK REPAIR (TYPE B-1)	LIN FT	1394
Q	53, 155	2301.603	CRACK REPAIR (TYPE A-3H)	LIN FT	1352
Q	53, 156	2301.603	LONGIT JOINT REPAIR (TYPE A-5H) 3/8"	LIN FT	2189
Q	53, 158	2301.603	CONTRACTION JOINT REPAIR (TYPE C-3D)	LIN FT	3218
M	51	2301.604	CONCRETE GRINDING	SQ YD	104093
Q	53, 159	2301.604	PAVEMENT REPLACEMENT (TYPE CX)	SQ YD	193
Q	53, 160	2301.604	PAVT REPLACEMENT SINGLE LANE (TYPE D-1)	SQ YD	626
Q	53, 161	2301.604	PAVT REPLACEMENT TWO LANE (TYPE D-2)	SQ YD	1215
G	45-47	2301.604	CONCRETE PAVEMENT 7.5"	SQ YD	26103
G	45-47	2301.604	CONCRETE PAVEMENT 10.0"	SQ YD	115230
Q	53	2301.608	SEAL CONCRETE PAVEMENT JOINTS (3725)	POUND	248
L	51	2301.608	SUPPLEMENTAL PAVEMENT REINFORCEMENT (EPOXY COATED)	POUND	62706
Q	53, 156	2301.618	SPOT SURFACE REPAIR (TYPE B-2A)	SQ FT	3367
Q	53, 157	2301.618	REPAIR SPECIAL (TYPE B-2E)	SQ FT	261
		2331.603	JOINT ADHESIVE	LIN FT	5669
		2357.606	BITUMINOUS MATERIAL FOR SHOULDER TACK ②	GALLON	16

Ⓐ 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

① FOR REMOVAL OF ROAD SAND DEPOSITS. AS DIRECTED BY ENGINEER.

② SEE SHEET 369.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER Daniel J. Erickson

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 19 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 IPLOT NAME: 66982290_EQI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Des/Pln/66982290_Eqi.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES ^(A)
H	48	2360.503	TYPE SP 12.5 WEAR CRS MIX(3,B)1.5" THICK	SQ YD	15834
H	48	2360.503	TYPE SP 12.5 WEAR CRS MIX(3,C)2" THICK	SQ YD	10653
H	48	2360.503	TYPE SP 12.5 WEAR CRS MIX(3,E)2.0" THICK	SQ YD	19408
H	48	2360.503	TYPE SP 12.5 WEAR CRS MIX(5,E)2.0" THICK	SQ YD	60995
H	48	2360.503	TYPE SP 12.5 NON WR CRS M(5,B)2.0" THICK	SQ YD	36534
H	48	2360.503	TYPE SP 12.5 NON WR CRS M(5,B)2.5" THICK	SQ YD	278
		2402.585	PIPE RAILING ⁽³⁾	LIN FT	20
Y	405,418	2411.501	STRUCTURAL CONCRETE (1A43) (P)	CU YD	525
	405	2411.501	STRUCTURAL CONCRETE (3Y43) (P)	CU YD	696
Y	405,418	2411.541	REINFORCEMENT BARS	POUND	55420
	405	2411.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	78330
	B6A	2412.511	8X8 PRECAST CONCRETE BOX CULVERT	LIN FT	112
	B1	2412.511	12X6 PRECAST CONCRETE BOX CULVERT	LIN FT	156
	B6A	2412.512	8X8 PRECAST CONCRETE BOX CULV END SECT	EACH	2
	B1	2412.512	12X6 PRECAST CONCRETE BOX CULV END SECT	EACH	4
D	42	2442.501	REMOVE EXISTING BRIDGE A ⁽¹⁾	LUMP SUM	1
D	42	2442.501	REMOVE EXISTING BRIDGE B ⁽²⁾	LUMP SUM	1
	26,172,405,418	2451.509	AGGREGATE BEDDING (CV) (P)	CU YD	1843
BB	547	2452.510	STEEL H-PILING DRIVEN 10"	LIN FT	10065
BB	547	2452.511	STEEL H-PILING DELIVERED 10"	LIN FT	10065
		2452.601	STEEL SHEET PILING (TEMPORARY)	LUMP SUM	1
V	66-73	2501.515	12" RC PIPE APRON	EACH	7
V	66-73	2501.515	15" RC PIPE APRON	EACH	2
V	66-73	2501.515	18" RC PIPE APRON	EACH	7
V	66-73	2501.515	21" RC PIPE APRON	EACH	1
V	66-73	2501.515	24" RC PIPE APRON	EACH	7
V	66-73	2501.515	27" RC PIPE APRON	EACH	2
V	66-73	2501.515	36" RC PIPE APRON	EACH	2
V	66-73	2501.515	48" RC PIPE APRON	EACH	2
V	72	2501.561	24" RC PIPE CULVERT DES 3006	LIN FT	26
V	73	2501.561	24" RC PIPE CULVERT DES 3006 CL V	LIN FT	265
	151	2501.601	DRAINAGE IMPRVMENTS & REPAIR PIPE CULV	LUMP SUM	1
V	66-73	2501.603	LINING CULVERT PIPE (12")	LIN FT	291
V	66-73	2501.603	LINING CULVERT PIPE (27")	LIN FT	231
V	66-73	2501.603	LINING CULVERT PIPE (36")	LIN FT	98
V	66-73	2501.603	LINING CULVERT PIPE (42")	LIN FT	323
V	66-73	2501.603	LINING CULVERT PIPE (48")	LIN FT	903
T	59-65	2502.501	4" PRECAST CONCRETE HEADWALL	EACH	40
T	59-65	2502.521	4" TP PIPE DRAIN	LIN FT	1661
T	59-65	2502.541	4" PERF TP PIPE DRAIN	LIN FT	69899
	405	2502.601	DRAINAGE SYSTEM	LUMP SUM	1
	146	2502.602	PIPE DRAIN RISER	EACH	3

^(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

- ⁽¹⁾ BR. 69828 SEE SPECIAL PROVISIONS.
- ⁽²⁾ BR. 69835 SEE SPECIAL PROVISIONS.
- ⁽³⁾ SEE SHEET 330 FOR LOCATION.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 20 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 I/PLOT NAME: 66982290_EQI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/66982290_Edi.dgn



STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES ^(A)
V	66-73	2503.541	12" RC PIPE SEWER DES 3006	LIN FT	9454
V	66-73	2503.541	12" RC PIPE SEWER DES 3006 CL III	LIN FT	173
V	66-73	2503.541	15" RC PIPE SEWER DES 3006	LIN FT	3639
V	66-73	2503.541	15" RC PIPE SEWER DES 3006 CL IV	LIN FT	70
V	66-73	2503.541	18" RC PIPE SEWER DES 3006	LIN FT	2750
V	66-73	2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	89
V	66-73	2503.541	18" RC PIPE SEWER DES 3006 CL IV	LIN FT	110
V	66-73	2503.541	18" RC PIPE SEWER DES 3006 CL V	LIN FT	232
V	66-73	2503.541	21" RC PIPE SEWER DES 3006	LIN FT	2092
V	66-73	2503.541	21" RC PIPE SEWER DES 3006 CL III	LIN FT	333
V	66-73	2503.541	24" RC PIPE SEWER DES 3006	LIN FT	1096
V	66-73	2503.541	24" RC PIPE SEWER DES 3006 CL III	LIN FT	67
V	66-73	2503.541	27" RC PIPE SEWER DES 3006	LIN FT	640
V	66-73	2503.541	30" RC PIPE SEWER DES 3006	LIN FT	242
V	66-73	2503.541	33" RC PIPE SEWER DES 3006	LIN FT	428
V	66-73	2503.541	33" RC PIPE SEWER DES 3006 CL III	LIN FT	255
V	66-73	2503.541	36" RC PIPE SEWER DES 3006	LIN FT	838
V	66-73	2503.541	36" RC PIPE SEWER DES 3006 CL III	LIN FT	256
V	66-73	2503.541	42" RC PIPE SEWER DES 3006	LIN FT	112
V	66-73	2503.541	42" RC PIPE SEWER DES 3006 CL III	LIN FT	447
V	66-73	2503.541	42" RC PIPE SEWER DES 3006 CL IV	LIN FT	215
V	66-73	2503.541	54" RC PIPE SEWER DES 3006	LIN FT	836
V	66-73	2503.541	54" RC PIPE SEWER DES 3006 CL III	LIN FT	305
V	66-73	2503.541	60" RC PIPE SEWER DES 3006 CL II	LIN FT	235
V	66-73,72	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	28
E	42	2503.602	PLUG & ABANDON PIPE SEWER	EACH	1
V	66-73	2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	19
V	65-73	2506.501	CONST DRAINAGE STRUCTURE DESIGN F	LIN FT	690.1
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	842.3
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	13.1
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DESIGN N	LIN FT	3.5
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	16.2
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	64.2
V	65-73	2506.501	CONST DRAINAGE STRUCTURE DES 54-4020	LIN FT	55.7
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	46.3
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 66-4020	LIN FT	47.2
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	41.8
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 78-4020	LIN FT	15.9
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 84-4020	LIN FT	62.0
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 96-4020	LIN FT	8.5
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 102-4020	LIN FT	8.6
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 108-4020	LIN FT	7.1
V	66-73	2506.501	CONST DRAINAGE STRUCTURE DES 120-4020	LIN FT	27.6
	146	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	4
V	66-73,171	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1	EACH	1
V	66-73,171	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH	1
U,V	65-73	2506.516	CASTING ASSEMBLY	EACH	389
E	42	2506.522	ADJUST FRAME & RING CASTING	EACH	2
X	75-75A	2511.501	RANDOM RIPRAP CLASS I	CU YD	102
V,X	72-73,75-75A	2511.501	RANDOM RIPRAP CLASS III	CU YD	102
X	75-75A	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	27
I	49	2521.501	3" CONCRETE WALK	SQ FT	32454

(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 21 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 PLOT NAME: d6982290_ECI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/d6982290_ECI.dgn



STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES (A)
BB	547	2521.501	4" CONCRETE WALK	SQ FT	576
TM-A	TM2	2521.501	4" CONCRETE WALK SPECIAL	SQ FT	150
I	49	2521.501	5" CONCRETE WALK	SQ FT	150
I	49	2521.501	6" CONCRETE WALK	SQ FT	5430
R	54-57	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	800
R	54-57	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	53
R	54-57	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	3314
R	54-57	2531.501	CONCRETE CURB & GUTTER DESIGN D412	LIN FT	338
R	54-57	2531.501	CONCRETE CURB & GUTTER DESIGN D424	LIN FT	5660
I	49	2531.503	CONCRETE MEDIAN (MOUNTABLE)	SQ YD	12
I	49	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	162
J	50	2533.501	CONC MED BARRIER DES 8308 TYPE A	LIN FT	525
J	50	2533.501	CONC MED BARRIER DES 8308 TYPE AA	LIN FT	900
J	50	2533.506	CONC MED BAR & GL SCR D 8309 TYPE A STEP	LIN FT	4345
J	50	2533.506	CONC MED BAR & GL SCR DES 8309 TYPE AA	LIN FT	12310
J	50	2533.506	CONC MED BAR & GL SCR DES 8309 TYPE TRAN	LIN FT	108
TC-A	TC3	2533.507	PORTABLE PRECAST CONC BARRIER DES 8337	LIN FT	31139
TC-A	TC3	2533.507	PORTABLE PREC CONC BAR DES 8337-PINNED	LIN FT	2085
TC-A	TC3	2533.508	RELOCATE PORT PRECAST CONC BAR DES 8337	LIN FT	64764
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 1 FIXTURE	SYSTEM	1
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 2 FIXTURES (1)	SYSTEM	15
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 3 FIXTURES	SYSTEM	2
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 4 FIXTURES (1)	SYSTEM	16
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 5 FIXTURES	SYSTEM	4
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 6 FIXTURES	SYSTEM	6
SA	S1	2545.505	SIGN LIGHTING SYSTEM - 7 FIXTURES (1)	SYSTEM	3
SA	S1	2545.506	SIGN LIGHTING SYSTEM BR MTD - 2 FIXTURES	SYSTEM	2
SA	S1	2545.506	SIGN LIGHTING SYSTEM BR MTD - 4 FIXTURES	SYSTEM	2
BB	547	2545.513	LUMINAIRE (HPS)	EACH	32
BB	547	2545.514	UNDERPASS LIGHTING FIXTURE TYPE L	EACH	9
BB	547	2545.515	LIGHT BASE DESIGN E	EACH	29
BB	547	2545.515	LIGHT BASE DESIGN T-100	EACH	29
BB	547	2545.515	LIGHT BASE DESIGN T-120	EACH	8
BB	547	2545.515	LIGHT BASE DESIGN T-140	EACH	2
BB	547	2545.521	2" RIGID STEEL CONDUIT	LIN FT	230
BB	547	2545.521	3" RIGID STEEL CONDUIT	LIN FT	30
BB	547	2545.523	2" NON-METALLIC CONDUIT	LIN FT	380
BB	547	2545.523	3" NON-METALLIC CONDUIT	LIN FT	1001
BB	547	2545.523	3" NON-METALLIC COND (DIRECTIONAL BORE)	LIN FT	1428
BB	547	2545.523	4" NON-METALLIC CONDUIT	LIN FT	26
BB	547	2545.523	4" NON-METALLIC COND (DIRECTIONAL BORE)	LIN FT	140
BB	547	2545.531	UNDERGROUND WIRE 1 COND NO 4	LIN FT	24805
BB	547	2545.531	UNDERGROUND WIRE 1 COND NO 6 (2)	LIN FT	300
BB	547	2545.531	UNDERGROUND WIRE 1 COND NO 10	LIN FT	1260
BB	547	2545.533	ARMORED CABLE 4 COND NO 4	LIN FT	44335
BB	547	2545.541	SERVICE CABINET SECONDARY TYPE L1	EACH	1
BB	547	2545.541	SERVICE CABINET SECONDARY TYPE L2	EACH	7
BB	550	2545.545	EQUIPMENT PAD B (MOD)	EACH	9
BB	547,550	2545.551	JUNCTION BOX (LIGHTING) (3)	EACH	22
BB	547	2545.553	HANDHOLE	EACH	12

(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

(1) QUANTITY INCLUDES MNDOT FEDERAL FUNDS, MNDOT STATE FUNDS AND WISCONSIN DOT. SEE CHART SA ON SHEETS S1-S2 FOR COST SPLIT INFORMATION.

(2) WITH BONDING

(3) CUSTOM BUILT, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 22 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 PLOT NAME: d6982290_EQ1
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/d6982290_EQ1.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES ^(A)
		2545.601	UNINTERRUPTABLE POWER SUPPLY	LUMP SUM	1
BB	547	2545.602	SERVICE EQUIPMENT	EACH	1
BB	547	2545.602	INSTALL HANDHOLE	EACH	6
BB	547	2545.602	INSTALL LIGHTING UNIT	EACH	39
BB	547	2545.602	INSTALL LIGHT STANDARD	EACH	32
BB	547	2545.602	INSTALL SERVICE CABINET	EACH	1
TM-A	TM2	2550.511	CABINET FOUNDATION	EACH	8
TM-A	TM2	2550.511	SERVICE FOUNDATION	EACH	1
TM-A	TM2	2550.511	CCTV FOUNDATION	EACH	6
TM-A	TM2	2550.512	HANDHOLE TYPE-PVC METAL COVER	EACH	18
TM-A	TM2	2550.513	JUNCTION BOX	EACH	1
TM-A	TM2	2550.514	FIBEROPTIC SPLICE VAULT	EACH	9
TM-A	TM2	2550.515	OUTDOOR FIBER SPLICE ENCLOSURE	EACH	10
TM-A	TM2	2550.516	BURIED CABLE SIGN	EACH	130
TM-A	TM2	2550.521	1" RIGID STEEL CONDUIT	LIN FT	30
TM-A	TM2	2550.521	2" RIGID STEEL CONDUIT	LIN FT	295
TM-A	TM2	2550.521	3" RIGID STEEL CONDUIT	LIN FT	20
TM-A	TM2	2550.523	1.5" NON-METALLIC CONDUIT	LIN FT	36312
TM-A	TM2	2550.523	2" NON-METALLIC CONDUIT	LIN FT	1910
TM-A	TM2	2550.523	3" NON METALLIC CONDUIT	LIN FT	200
TM-A	TM2	2550.531	TELEPHONE CABLE 6 PR NO 19	LIN FT	425
TM-A	TM2	2550.532	POWER CABLE 1 CONDUCTOR NO 4	LIN FT	830
TM-A	TM2	2550.532	POWER CABLE 1 CONDUCTOR NO 6	LIN FT	1900
TM-A	TM2	2550.532	POWER CABLE 3 CONDUCTOR NO 8	LIN FT	1045
TM-A	TM2	2550.533	CAT 6 CABLE	LIN FT	2415
TM-A	TM2	2550.533	VIDEO CABLE RG-11	LIN FT	1700
TM-A	TM2	2550.571	INSTALL CABINET ⁽¹⁾	EACH	8
TM-A	TM2	2550.572	SERVICE EQUIPMENT TYPE D	EACH	5
TM-A	TM2	2550.572	SERVICE CABINET	EACH	3
TM-A	TM2	2550.601	FIBER OPTIC CABLE TESTING	LUMP SUM	1
TM-A	TM2	2550.602	INSTALL CABINET	EACH	1
TM-A	TM2	2550.602	CCTV HARDWARE	EACH	3
TM-A	TM2	2550.602	CCTV HARDWARE-SPECIAL	EACH	1
TM-A	TM2	2550.602	INSTALL CCTV HARDWARE	EACH	3
TM-A	TM2	2550.602	FIBER OPTIC SPLICE / PATCH PANEL	EACH	4
TM-A	TM2	2550.602	FIBER OPTIC CABLE SPLICING	EACH	11
TM-A	TM2	2550.602	PULL VAULT	EACH	6
TM-A	TM2	2550.602	INSTALL DMS ⁽²⁾	EACH	6
TM-A	TM2	2550.602	INSTALL DMS POST MOUNTED ⁽¹⁾	EACH	2
TM-A	TM2	2550.602	SERVICE CABINET TYPE SPECIAL	EACH	1
TM-A	TM2	2550.603	ARMORED FIBER OPTIC PIGTAIL CABLE 6SM	LIN FT	3785
TM-A	TM2	2550.603	ARMORED FIBER OPTIC PIGTAIL CABLE 12SM	LIN FT	5680
TM-A	TM2	2550.603	REROUTE CABLE	LIN FT	275
TM-A	TM2	2550.603	FIBER OPTIC TRUNK CABLE 36SM	LIN FT	32324
TM-A	TM2	2550.603	1.5" BORED CONDUIT	LIN FT	4687
TM-A	TM2	2550.603	2" BORED CONDUIT	LIN FT	110
F	43-44	2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN FT	500
F	43-44	2554.501	TRAFFIC BARRIER DESIGN THRIE BEAM	LIN FT	800

^(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

⁽¹⁾ 8 STATE FURNISHED

⁽²⁾ 4 STATE FURNISHED, 2 SALVAGE

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 23 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 IPLOT NAME: d6982290_EQI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/d6982290_EQI.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES ^(A)
F	43-44	2554.501	TRAFFIC BARRIER DESIGN B8338	LIN FT	16075
F	43-44	2554.511	INSTALL TRAFFIC BARRIER DESIGN B8338	LIN FT	8037.5
F	43-44	2554.523	END TREATMENT-TANGENT TERMINAL	EACH	9
F	43-44	2554.602	INSTALL IMPACT ATTENUATOR ⁽³⁾	EACH	2
F	43-44	2554.602	INSTALL ENERGY ABSORBING TERMINAL	EACH	26
TC-A	TC3	2554.615	IMPACT ATTENUATOR ⁽⁴⁾	ASSEMBLY	9
TC-A	TC3	2554.615	RELOCATE IMPACT ATTENUATOR ⁽⁴⁾	ASSEMBLY	22
P	B6A, 52, 405	2557.501	WIRE FENCE DESIGN 60V-9322 ⁽⁵⁾	LIN FT	2683
TC-A	TC3	2557.603	TEMPORARY GLARE SCREEN	LIN FT	30539
TC-A	TC3	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	
TC-A	TC3	2563.601	TRAFFIC CONTROL	LUMP SUM	0.98
TC-A	TC3	2563.602	MEDIAN BARRIER DELINEATOR	EACH	4238
TC-A	TC3	2563.602	DEVICE RELOCATION ⁽⁶⁾	EACH	15
TC-A	TC3	2563.612	INTELLIGENT WORK ZONE SYSTEM ⁽⁶⁾	WEEK	64
TC-A	TC3	2563.612	TEMPORARY CAMERA SYSTEM ⁽⁶⁾	WEEK	64
TC-A	TC3	2563.612	TEMPORARY TRAFFIC SENSOR ⁽⁶⁾	WEEK	1152
TC-A	TC3	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN ⁽⁶⁾	UNIT DAY	1475
SA	S1	2564.511	CONCRETE FOOTINGS (TYPE OH SPREAD)	CU YD	28
SA	S2	2564.522	STRUCT STEEL-POSTS FOR TYPE A SIGNS	POUND	1398
SA	S2	2564.522	STRUCT STEEL-POSTS FOR OH SIGNS (B)	POUND	5273
SA	S2	2564.522	STRUCT STEEL-TRUSSES FOR OH SIGNS (B) ⁽¹⁾ (P)	POUND	8226
SA	S2	2564.522	STR STEEL-WLKWY SPRT FOR OH SIGNS (B) ⁽¹⁾ (P)	POUND	1837
SA	S2	2564.522	STR STEEL-WLKWY GRNG FOR OH SIGNS (B) ⁽¹⁾ (P)	POUND	4524
SA	S2	2564.522	STR STEEL-PANEL MT PST FOR OH SIGNS (B) (P)	POUND	246
SA	S2	2564.531	SIGN PANELS TYPE A (P)	SQ FT	26
SA	S2	2564.531	SIGN PANELS TYPE C ⁽¹⁾	SQ FT	3586
SA	S2	2564.531	SIGN PANELS TYPE D ⁽¹⁾	SQ FT	2331
SA	S2	2564.531	SIGN PANELS TYPE E0	SQ FT	1050
SA	S2	2564.531	SIGN PANELS TYPE OVERLAY ⁽¹⁾	SQ FT	1213
SA	S2	2564.531	SIGN PANELS TYPE OH (P)	SQ FT	534
SA	S2	2564.535	SIGN PANEL OVERLAY TYPE A (P)	SQ FT	951
SA	S2	2564.535	SIGN PANEL OVERLAY TYPE OH ⁽¹⁾ (P)	SQ FT	16007
SA	S2	2564.536	INSTALL SIGN PANEL TYPE A	EACH	1
SA	S2	2564.536	INSTALL SIGN PANEL TYPE OH	EACH	1
SA	S2	2564.537	INSTALL SIGN TYPE OH	EACH	1
SA	S2	2564.539	OVERHEAD SIGN IDENTIFICATION PLATE ⁽¹⁾	EACH	83
SA	S2	2564.541	FRICTION FUSE	EACH	8
SA	S2	2564.550	DELINEATOR TYPE X4-6 ⁽¹⁾	EACH	121
SA	S2	2564.551	REFERENCE POST MARKER	EACH	16
SA	S2	2564.552	HAZARD MARKER X4-2 ⁽¹⁾	EACH	27
TM-A	TM2	2565.602	NMC LOOP DETECTOR 6' X6'	EACH	8
TM-A	TM2	2565.603	2/C#14	LIN FT	900
TC-A	TC3	2565.616	TEMPORARY FLASHING BEACON SYSTEM	SYSTEM	4
CC	542	2565.616	TEMPORARY SIGNAL SYSTEM ⁽⁶⁾	SYSTEM	1
W	74	2573.502	SILT FENCE, TYPE SUPER DUTY	LIN FT	1960
X	75-75A	2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER ⁽²⁾	LIN FT	90

^(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

- ⁽¹⁾ QUANTITY INCLUDES MNDOT FEDERAL FUNDS, MNDOT STATE FUNDS AND WISCONSIN DOT. SEE CHART SA ON SHEETS S1-S2 FOR COST SPLIT INFORMATION.
- ⁽²⁾ CURTAIN DEPTH 4 FT.
- ⁽³⁾ PERMANENT INSTALLATIONS
- ⁽⁴⁾ TEMPORARY INSTALLATIONS
- ⁽⁵⁾ BLACK VINYL
- ⁽⁶⁾ PARTIALLY FUNDED WITH INNOVATIVE WORK ZONE FUNDING. FUNDS CAPPED AT \$275,000.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

ESTIMATED QUANTITIES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 24 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 PLOT NAME: 46982290_EQ1
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/46982290_EQ1.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES (A)
X	75-75A	2573.511	SEDIMENT MAT	SQ FT	144
X	75-75A	2573.513	TEMPORARY DITCH CHECK TYPE 5	CU YD	18
V,X	66-73, 75-75A	2573.530	STORM DRAIN INLET PROTECTION ①	EACH	389
		2573.531	STORM DRAIN INLET PROTECTION ②	LUMP SUM	1
W	74	2573.540	FILTER LOG TYPE WOOD FIBER BIOROLL ③	LIN FT	1100
W	B6A, 74	2573.540	FILTER LOG TYPE COMPOST LOG ④	LIN FT	24384
		2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1
		2573.601	PORTABLE SEDIMENT CONTAINMENT SYSTEM	LUMP SUM	1
X	75-75A	2573.602	CULVERT PROTECTION	EACH	1
X	B6A, 75-75A	2575.501	SEEDING	ACRE	16.6
X	B6A, 75-75A	2575.502	SEED MIXTURE 250	POUND	1160
W	74	2575.511	MULCH MATERIAL TYPE 3 ⑤	TON	4
X	75-75A	2575.513	MULCH MATERIAL TYPE 9	CU YD	423
X	75-75A	2575.523	EROSION CONTROL BLANKETS CATEGORY 1	SQ YD	3913
X	B6A, 75-75A	2575.523	EROSION CONTROL BLANKETS CATEGORY 3 ⑥	SQ YD	71734
X	B6A, 75-75A	2575.532	FERTILIZER TYPE 3	POUND	5799
W	74	2575.571	RAPID STABILIZATION METHOD 3	M GALLONS	111.1
W	74	2575.572	RAPID STABILIZATION METHOD 4	SQ YD	42485
W	74	2575.603	MULCH TYPE SPECIAL	LIN FT	1000
TC-A	TC3	2580.601	INTERIM PAVEMENT MARKING	LUMP SUM	
AA	489	2582.501	PAVT MSSG (LT ARROW) POLY PREF-GR IN	EACH	4
AA	489	2582.501	PAVT MSSG (RT ARROW) POLY PREF-GR IN	EACH	2
AA	489	2582.502	4" SOLID LINE WHITE-POLY PREF (GR IN)	LIN FT	185091
AA	489	2582.502	8" SOLID LINE WHITE-POLY PREF (GR IN)	LIN FT	29717
AA	489	2582.502	24" SOLID LINE WHITE-POLY PREF (GR IN)	LIN FT	60
AA	489	2582.502	4" BROKEN LINE WHITE-POLY PREF (GR IN)	LIN FT	2980
AA	489	2582.502	7" BROKEN LINE WHITE-POLY PREF (GR IN) ⑦	LIN FT	25270
AA	489	2582.502	11" DOTTED LINE WHITE-POLY PREF (GR IN) ⑦	LIN FT	1935
AA	489	2582.502	4" SOLID LINE YELLOW-POLY PREF (GR IN)	LIN FT	179098
AA	489	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	8121
AA	489	2582.502	8" SOLID LINE WHITE-EPOXY	LIN FT	1430
AA	489	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	8281

(A) 29.3% BOND, 63.6% FEDERAL, 7.1% STATE.

- ① TO BE PLACED AT DRAINAGE STRUCTURES SELECT APPROPRIATE METHOD FROM SHEET 186,190.
- ② FOR CONCRETE SLURRY MANAGEMENT FOR THE FOLLOWING OPERATIONS: CPR, CONCRETE SAWING, BITUMINOUS SAWING, BRIDGE DEMOLITION, BRIDGE REHAB, CONCRETE GRINDING, SEE SPECIAL PROVISIONS.
- ③ DITCH CHECKS AS DIRECTED BY ENGINEER. SEE SHEET 185.
- ④ FOR PERIMETER PROTECTION AS DIRECTED BY THE ENGINEER.
- ⑤ FOR INTERIM COVERAGE AS DIRECTED BY ENGINEER. DOES NOT REQUIRE DISK ANCHORING.
- ⑥ SHALL BE WOOD FIBER.
- ⑦ WET REFLECTED

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

ESTIMATED QUANTITIES
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 25 OF 587 SHEETS

DISTRICT #: DULUTH
 IPLOT NAME: 46982290_EQI
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/46982290_EQI.dgn
 PLOTTED/REVISED: 01-MAR-2010

PLOTTED/REVISED: 26-FEB-2010

DISTRICT #: DULUTH
 I/PLOT NAME: earthwork sum_SHT 26
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290.tbl.dgn

EARTHWORK TABULATION

LOCATION	EXCAVATION		EMBANKMENT			EXCESS (3)	AGGREGATE BASE CLASS 6 (CV) SPEC. 2211 CU YD	AGGREGATE BASE CLASS 6 (LV) SPEC. 2211 CU YD	AGGREGATE BEDDING (CV) SPEC. 2451 CU YD
	COMMON	EXCAVATION SPECIAL	SELECT GRADING SOILS	SEL. GRAN. BORROW MOD. 7%	COMMON BORROW SPECIAL				
	(1) (2)		(1) (2)	(CV)	(CV)				
	SPEC. 2105		SPEC. 2105	SPEC. 2105					
	CU YD		CU YD	CU YD			CU YD	CU YD	CU YD
T.H. 35 MAINLINE (NEAR BR. #69861)	5 772			2 550			905		
T.H. 2 W.B. RAMP	1 636		189	853			318		
N.B. CODY RAMP	2 777		633	1 584				565	
S.B. CODY RAMP	3 958			2 665			1 124		
T.H. 35 MAINLINE	116 659		2 270	64 116			17 509		
BR. #69844 (SOUTH END)				1 562					
BR. #69844 (NORTH END)				955					
BR. #69865 (SOUTH END)				157					
BR. #69865 (NORTH END)				148					
BR. #69866 (SOUTH END)				149					
BR. #69866 (NORTH END)				150					
T.H. 35 MAINLINE (TOKA)	33 107		38 722	8 723			3 207		
RAMP M	501		51				319		
RAMP N	389		26	3			338		
RAMP A	3 104		131	1 077			300		
RAMP B	2 368		146	1 186			314		
RAMP C	1 200		1 240					804	
RAMP D	441		171					444	
RAMP E	198		77					213	
RAMP F	272		136	4				179	
RAMP G	727		33	443			206		
RAMP H	134		73	1				165	
RAMP I	272		144					182	
RAMP J	315		44	240			110		
RAMP K	183		97	7				129	
RAMP L	151		16					84	
RAMP O	5			1				6	
RAMP P	71		23	13				102	
RAMP Q	138		87					227	
RAMP R	34		6					53	
RECYCLE WAY		7 846	953	2 554			292		780
ONEOTA ST.		2 714	288	1 616			194		
DRIVEWAY - ONEOTA ST. STA. 5+63							54		
DRIVEWAY - ONEOTA ST. STA. 6+97							34		
MIKE COLALILLO DR.							6		
NEW PAGE ENTRANCE							61		
DBU ENTRANCE							4		
POND B		1 377	107		424				
POND C		487	11		220				
POND D		770	1		191				
WALL A	643		141	1 311					
WALL B	3 865		814	2 073					277
WALL C									214
PROTECTION SLAB UNDER WALL C									40
PROTECTION SLAB									370
CONTOURS (BR. #69844)		(4) 7 173	23						
CONTOURS (BR. #69865 & #69866)		(5) 10 771	3 729						
S.B. T.H. 35 R.P. 256+00.678 - R.P. 257+00.025								46	
PED. BR. * 69811 APPROACHES							4		
ORE DOCKS BOX CULVERT	304		1 372	825			77		162
PROJECT TOTALS	179 224	31 138	51 754	94 966	835	117 119	25 376	3 199	1 843

- ① INCLUDES TOPSOIL.
- ② COMMON EXCAVATION AND TOPSOIL EXCAVATION HAVE BEEN INCLUDED AS A SINGLE PAY ITEM "COMMON EXCAVATION - SPEC. 2105".
- ③ EXCESS MATERIAL TO BE USED AS SELECT GRADING MATERIAL.
- ④ INCLUDES QUANTITIES FOR BR. #69844 FOOTING EXCAVATION.
- ⑤ INCLUDES QUANTITIES FOR BR. #69865 AND #69866 FOOTING EXCAVATION.

NOTE: 120% SHRINKAGE FACTOR FOR COMMON EMBANKMENT

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 26-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

EARTHWORK SUMMARY
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 26 OF 587 SHEETS

SOILS AND CONSTRUCTION NOTES

SALVAGE EXISTING TOPSOIL FROM ALL AREAS DISTRIBUTED BY CONSTRUCTION FOR PLACEMENT ON CONSTRUCTION SLOPES. PAID FOR BY COMMON EXCAVATION. CONSTRUCTION SLOPES SHALL BE COVERED WITH 4 INCHES OF SALVAGED TOPSOIL.

EXCAVATION LIMITS LINES AS SHOWN ON THE TYPICAL SECTIONS, CROSS SECTIONS AND DETAILS IN THIS PLAN ARE FOR THE COMPUTATION OF PAY QUANTITIES. TEMPORARY AND INTERMEDIATE EXCAVATION LIMITS AND SLOPES ARE TO BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION, DEPENDING ON SOIL PROPERTIES AND SAFETY FACTORS, ADDITIONAL EXCAVATION AND BACKFILL BEYOND THE LIMITS SHOWN IN THE PLAN BE CONSIDERED THE CONTRACTORS RESPONSIBILITY WITH NO DIRECT PAYMENT.

SELECT GRADING MATERIALS ARE DEFINED AS ANY SOILS WITH THE EXCEPTION OF TOPSOIL, PEAT, SILT, SILTLOAM, WOOD AND OTHER ORGANIC SOILS.

THE CONTRACTOR SHALL NOT STORE EXCAVATED MATERIAL OUTSIDE THE PLANNED CONSTRUCTION LIMITS UNLESS APPROVED BY THE ENGINEER.

BITUMINOUS SURFACING, CONCRETE ITEM, OR ANY OTHER MATERIALS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION THAT ARE NOT SUITABLE FOR SALVAGE OR FOR ROADWAY CONSTRUCTION, SHALL BE DISPOSED OF BY THE CONTRACTOR OFF MN/DOT RIGHT-OF-WAY AT AN APPROVED DISPOSAL SITE.

THE CONTRACTOR SHALL PRESERVE ALL LAND AND PROPERTY CORNERS, VERTICAL AND HORIZONTAL CORNERS AND RIGHT-OF-WAY MONUMENTS.

COMPACTION OF SELECT GRANULAR BORROW MOD. 7% (7% OR LESS PASSING #200 SIEVE.), AGGREGATE BASE AND AGGREGATE SHOULDERING SHALL BE BY THE LIGHT WEIGHT DEFLECTOMETER (LWD) QUALITY COMPACTION METHOD.

BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED IN LAYERS OF THE THICKNESS SPECIFIED IN THE CONSTRUCTION DETAIL AND TYPICAL SECTIONS.

BITUMINOUS SHOULDER WIDTHS GREATER THAN OR EQUAL TO 5 FEET SHALL BE PAVED BY A SELF PROPELLED UNIT WITH AN OPERATIONAL VIBRATOR SCREED.

PLACE BITUMINOUS MATERIAL FOR SHOULDER TACK IN ACCORDANCE WITH SPEC. 2357 AT THE APPLICATION RATE OF 0.18 GALLONS PER SQUARE YARD.

PLACE BITUMINOUS MATERIAL FOR TACK COAT IN ACCORDANCE WITH SPECIFICATION 2357 AT A RATE OF 0.04 GALLONS PER SQUARE YARD BETWEEN BITUMINOUS LAYERS AND AT A RATE OF 0.08 GALLONS PER SQUARE YARD ON MILLED SURFACES AND EXISTING SURFACES (INCIDENTAL).

EARTHWORK FINISHING AND TOPSOIL COVERING OPERATIONS SHALL BE CONDUCTED CONCURRENTLY WITH GRADING OPERATIONS SO FAR AS TO PERMIT COMPLETION OF THE EROSION CONTROL ITEMS AT THE EARLIEST PRACTICAL TIME. TOPSOIL COVERING SHALL BE COMPLETED AS SOON AS POSSIBLE AFTER THE GRADING SOILS HAVE BEEN FINISHED TO GRADE IN ANY SIGNIFICANT AREA.

THE RIGHT-OF-WAY SHOWN IN THE PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC LOCATION. FOR EXACT RIGHT-OF-WAY LIMITS, SEE FILE WITH MN/DOT RIGHT-OF-WAY OFFICES, 1123 MESABA AVE. DULUTH, MN 55811.

ALL CONCRETE TRUCKS SHALL WASH OUT WITHIN THE PROJECT LIMITS AWAY FROM ANY WATERS OF THE STATE (INCLUDING HIGHWAY DITCHES) AT A LOCATION SPECIFIED BY THE ENGINEER. HARDENED CONCRETE WASTE MUST BE REMOVED FROM THE PROJECT LIMITS AND PROPERLY DISPOSED OF OFF MN/DOT R/W (INCIDENTAL).

IT SHALL BE CONTRACTORS RESPONSIBILITY TO UTILIZE THE ONE CALL EXCAVATION NOTICE SYSTEM (1-800-252-1166) REQUIRED BY MINNESOTA STATUTE 2160.

MN/DOT SURVEY SECTION WILL PROVIDE SUFFICIENT HORIZONTAL AND VERTICAL CONTROL PRIOR TO THE BEGINNING OF ANY CONSTRUCTION STAKING REQUIRED FOR THE PROJECT.

SUBCUT DEPTHS ARE MEASURED FROM THE PROPOSED GRADING GRADE UNLESS OTHERWISE NOTED. THE CONTRACTORS ACTIVITIES SHALL NOT EXCEED LIMITS IN THE WETLANDS AREAS. THIS INCLUDES EQUIPMENT, WORKING, PLACING OR STOCKPILING MATERIAL, OR IMPACTING THE WETLANDS IN ANY OTHER WAY.

MACHINE CONTROL WILL BE REQUIRED ON THIS PROJECT.

GRADING GRADE IS DEFINED AS THE BOTTOM OF CLASS 6 AGGREGATE BASE OR TOP OF SELECT GRANULAR BORROW.

ALL STOCKPILED MATERIALS FROM EXCAVATIONS ALONG THE PROJECT SHALL BE TEMPORARILY MULCHED IF THEY ARE TO REMAIN UNUSED FOR A PERIOD OF MORE THAN 21 DAYS.

SELECT GRANULAR MATERIAL MODIFIED 7% SHALL COMPLY WITH SPEC. 3149.2B2, MODIFIED TO 7% OR LESS PASSING THE NUMBER 200 SIEVE.

DRAINAGE MUST BE MAINTAINED ON THE PROJECT AT ALL TIMES IN ORDER TO MAINTAIN FLOW DURING STAGED ROADWAY, STORM SEWER AND CULVERT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE DURING CONSTRUCTION AT ALL TIMES. TEMPORARY CONNECTIONS TO STRUCTURES AND EXISTING PIPES WILL BE NECESSARY. ALL WORK REQUIRED TO MAINTAIN DRAINAGE DURING STAGED CONSTRUCTION IS INCIDENTAL.

FINAL TURF ESTABLISHMENT

SEED ALL AREAS DISTURBED BY CONSTRUCTION, AS SHOWN IN THE PLAN, WITH SEED MIXTURE 250 AT A RATE OF 70 LBS/ACRE. PROVIDE FERTILIZER TYPE 3 (ANALYSIS 22-5-10, TYPE SLOW RELEASE) AT A RATE OF 350 LBS/ACRE ON ALL SEEDED AREAS.

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURE
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
3133C	RIPRAP AT RCP OUTLETS
3134C	RIPRAP AT CMP OUTLETS
3145F	CONCRETE PIPE TIES
4003B	30'' PRECAST CATCH BASIN
4005L	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G & H
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (2 SHEETS)
4024A	48'' DIA. PRECAST SHALLOW DEPTH CATCH BASIN
4129G	CATCH BASIN FRAME CASTING - CASTING NO. 802A
4132F	CATCH BASIN FRAME - CASTING NO. 805
4152C	CATCH BASIN GRATE CASTING - CASTING NO. 814A
4153A	CATCH BASIN GRATE CASTING - CASTING NO. 815
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816 (2)
4160D	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A & 833A
4180J	MANHOLE OR CATCH BASIN STEP
7000E	INTEGRANT CURBS - DESIGNS D4, B4 & B6
7035M	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7100H	CONCRETE CURB & GUTTER - DESIGNS B412, B424, B624 & B612
7105C	CONCRETE MEDIAN - MOUNTABLE TYPE
7107H	ENTRANCE NOSE - URBAN DESIGN
7108F	EXIT NOSE - URBAN DESIGN
7111J	INSTALLATION OF CATCH BASIN CASTINGS - CONCRETE CURB & GUTTER
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8150C	INSTALLATION OF CULVERT MARKERS
8307R	STEEL PLATE BEAM GUARDRAIL (2 SHEETS)
8308A	REINFORCED CONCRETE MEDIAN BARRIER TYPE F - NON GLARE SCREEN DESIGN 8308 (3 SHEETS)
8309A	REINFORCED CONCRETE MEDIAN BARRIER TYPE F & GLARE SCREEN DESIGN 8309 (3 SHEETS)
8318C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES BCT'S
8337B	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (2 SHEETS)
8338C	W-BEAM GUARDRAIL & END ANCHORAGES
8400E	PIPE RAILING
9000D	APPROACHES & ENTRANCES - RECOMMENDED STANDARDS
9101B	SHAPING AND SODDING OF SLOPES AT BOX CULVERT ENDS
9322K	CHAIN LINK FENCE

(1) MODIFIED SUCH THAT NOTE 1 OF SHEET 2 OF 3 SHOULD DELETE... OPEN JOINTS SHALL BE PROVIDED AT LEAST EVERY 200 FT.

(2) PLACE BENT BOLT WITH 816 GRATES PER STANDARD PLATE 4154.

NOTE:
SEE SHEETS 546 AND TM1 FOR ADDITIONAL STANDARD PLATES.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 26-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

SOILS AND CONSTRUCTION NOTES

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 27 OF 587 SHEETS

PLOTTED/REVISED: 26-FEB-2010

DISTRICT #: DULUTH
I/PLOT NAME: soils & const_sit27
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan_sheets/6982290_fpl.dgn

PLOTTED/REVISED: 10-FEB-2010

DISTRICT #: DULUTH
 I/PLOT NAME: chart 1 & m_SHT 51
 PATH & FILENAME: Projects/DL/DUL/035/6982/290/Design/Plan/plan sheets/d6982290_1tbl.dgn

L SUPPLEMENTAL REINF.	
STATION TO STATION	SPEC. 2301 REINFORCEMENT BARS (EPOXY COATED)
	POUND
T.H. 35 N.B.	
15+25 - 15+55	696
16+92.50 - 17+07.50	406
236+25 - 236+55	774
242+10 - 242+40	774
242+70 - 243+00	774
245+70 - 246+00	774
248+55 - 249+00	1 500
255+87.53 - 256+17.53	774
258+27.53 - 259+17.53	2 320
261+87.53 - 262+17.53	774
269+52.53 - 269+97.53	1 161
271+62.53 - 272+07.53	1 161
275+30.82 - 275+75.82	1 161
277+85.82 - 278+15.82	774
279+95.82 - 280+40.82	1 161
280+85.82 - 290+15.82	774
281+45.82 - 281+75.82	774
299+29.90 - 299+59.90	774
329+61.40 - 329+91.40	735
334+56.04 - 335+01.04	1 102
339+81.04 - 340+11.04	916
349+11.04 - 349+41.04	1 164
354+36.04 - 354+87.00	1 577
T.H. 35 S.B.	
314+39.38 - 314+69.38	735
236+25.00 - 236+70.00	1 451
242+70.00 - 243+00.00	774
245+70.00 - 246+00.00	774
248+40.00 - 248+85.00	1 336
255+86.41 - 256+16.41	774
258+26.41 - 259+16.41	2 322
261+86.41 - 262+16.41	774
269+51.41 - 269+96.41	1 161
271+61.41 - 272+06.41	1 161
275+29.66 - 275+74.66	1 161
277+84.65 - 278+14.66	774
279+94.66 - 280+39.66	1 161
280+84.66 - 281+14.66	774
281+44.66 - 281+74.66	774
284+44.66 - 284+89.66	2 077
299+60.50 - 299+90.50	774
302+15.50 - 302+45.50	774
304+10.50 - 304+55.50	1 161
322+25.28 - 322+70.28	1 160
325+25.28 - 325+70.28	1 344
329+45.28 - 325+90.28	1 102
333+50.28 - 333+95.28	1 102
334+58.43 - 334+88.43	734
337+58.43 - 337+03.43	1 102
348+98.43 - 349+28.43	911
356+33.43 - 356+63.16	735
CHART TOTAL	51 682

L SUPPLEMENTAL REINF.	
STATION TO STATION	SPEC. 2301 REINFORCEMENT BARS (EPOXY COATED)
	POUND
NB CODY RAMP 20'	
15+35.87 - 15+50.87	193
17+90.87 - 18+99.12	1 351
20+34.12 - 20+64.12	386
21.54.12 - 21+84.12	386
RAMP A 18'	
6+00.00 - 5+70.00	348
2+10.00 - 1+80.00	348
RAMP B 18'	
0+00.42 - 0+45.42	1 044
RAMP C 18'	
42+25.00 - 43+30.00	1 218
RAMP D 18'	
17+43.49 - 17+88.49	522
21+33.49 - 21+63.49	348
23+28.49 - 23+43.49	174
RAMP E 18'	
20+59.31 - 20+89.31	348
RAMP G 20'	
4+36.74 - 4+51.74	193
5+26.74 - 5+41.74	193
6+01.74 - 6+31.74	386
6+76.74 - 7+18.23	529
RAMP I 20'	
1+30.78 - 1+60.78	386
RAMP J 20'	
5+28.94 - 4+98.94	386
RAMP L 20'	
1+59.77 - 1+29.77	386
RAMP O 20'	
5+47.37 - 6+23.02	972
RAMP P 20'	
RAMP Q 18'	
22+57.81 - 22+27.81	348
RAMP R 20'	
5+24.05 - 4+79.05	579
CHART TOTAL	11 024
PROJECT TOTAL	62 706

M CONCRETE GRINDING ②						
LOCATION					WIDTH	SPEC. 2301 CONCRETE GRINDING
					LIN. FT.	SQ. YD.
T.H. 35 N.B.						
R.P.	TO	R.P.	STA.	TO	STA.	
249+00.283		249+00.665				24 5 382
			274+86.26		12+40.00	24 9 520
			21+88.00		173+68.68	24 17 496
			174+30.48		205+76.24	24 8 580
258+00.975		259+00.526				24 7 348 ①
T.H. 35 S.B.						
R.P.	TO	R.P.	STA.	TO	STA.	
249+00.283		249+00.656				24 5 253
			274+09.60		13+35.00	24 9 982
			323+61.77		173+34.57	36 25 237
			174+06.93		205+74.87	24 8 442
258+00.975		259+00.526				24 6 853
PROJECT TOTALS						104 093

NOTES:

- ① QUANTITY INCLUDES EXIT RAMP TO LONDON ROAD (TH 61)
- ② INCLUDES BRIDGE 69861, 69851 AND 69852.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 10-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

CONSTRUCTION CHARTS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 51 OF 587 SHEETS

W EROSION CONTROL & TURF ESTABLISHMENT										
STATION TO STATION	LOCATION	GEOTEXTILE FABRIC SPECIAL	MULCH TYPE SPECIAL	SILT FENCE TYPE SUPER DUTY	FILTER LOG TYPE COMPOST LOG	FILTER LOG TYPE WOOD FIBER BIO ROLL	RAPID STABILIZATION METHOD 4	RAPID STABILIZATION METHOD 3	MULCH MATERIAL TYPE 3	REMARKS
		SPEC. 2105 SQ. YD.	SPEC. 2575 LIN. FT.	SPEC. 2573 LIN. FT.	SPEC. 2573 LIN. FT.	SPEC. 2573 LIN. FT.	SPEC. 2575 SQ. YD.	SPEC. 2575 MGAL.	SPEC. 2575 TON	
T.H. 35 MAINLINE										
12+40.00 - 21+88.00	LT & RT			370	2 804			11.9		
173+04.55 - 174+86.97	LT & RT				284			0.2		
206+00.00 - 222+66.42	LT & RT				2 923			9.8		
222+66	LT & RT	1 250								BR. 69844 (1)
222+66.42 - 233+05.00	LT & RT				547			1.8	2.0	BR. 69844
233+05	LT & RT	1 250								BR. 69844 (1)
233+05.00 - 308+43.77	LT & RT				1 680	400	10 340	54.7		
308+44	LT & RT	1 250								BR. 69865 - 69866 (1)
308+43.77 - 320+11.40	LT & RT		1 000	1000	552		19 755		2.0	BR. 69865 - 69866
320+11.40	LT & RT	1 250								BR. 69865 - 69866 (1)
320+11.40 - 357+00.00	LT & RT				2 761	700	10 890	19.1		
RAMP A										
6+34.09 - 0+00.00	LT & RT				551			1.4		
RAMP B										
0+00.00 - 7+90.08	LT & RT				381			1.5		
RAMP C										
40+00.00 - 65+07.84	LT & RT							1.8		
RAMP D										
16+68.49 - 32+24.76	LT & RT							1.1		
RAMP E										
14+53.66 - 21+55.88	LT & RT				704			0.7		
RAMP F										
111+01.61 - 102+95.16	LT & RT				1 351			0.6		
RAMP G										
0+00.00 - 7+58.90	LT & RT				698			0.5		
RAMP H										
7+36.19 - 0+00.00	LT & RT				470			0.3		
RAMP I										
0+00.00 - 6+19.70	LT & RT				529			0.5		
RAMP J										
7+53.10 - 0+23.97	LT & RT				551			0.2		
RAMP K										
0+24.27 - 5+20.11	LT & RT				338			0.3		
RAMP L										
5+02.77 - 0+00.00	LT & RT				437			0.2		
RAMP M										
10+00.00 - 15+79.61	LT & RT							0.4		
RAMP N										
26+06.49 - 20+00.00	LT & RT							0.3		
RAMP O										
2+63.29 - 6+46.78	LT & RT				508					
RAMP P										
0+00.00 - 4+70.64	LT & RT							0.2		
RAMP Q										
26+40.80 - 18+64.00	LT & RT							0.4		
RAMP R										
6+05.00 - 3+27.17	LT & RT				682			0.1		
N.B. CODY ST. RAMP										
3+33.00 - 80+50.00	LT & RT			590	2 672					
S.B. CODY ST. RAMP										
65+93.32 - 80+54.23	LT & RT				2 672					
RECYCLE WAY										
10+20.68 - 15+61.65	LT & RT				229		1 500	3.1		
ONEOTA ST.										
4+25.00 - 7+85.00	LT & RT									
NEW PAGE ENTRANCE										
PROJECT TOTALS		5 000	1 000	1 960	24 324	1 100	42 485	111.1	4.0	

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 I/PLOT NAME: d6982290.tb2
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290.tb2.dgn

- ① FOR INTERIM COVERAGE AS DIRECTED BY ENGINEER - DOES NOT REQUIRE DISK ANCHORING.
- ② WOOD CHIP BERM 24" X 36". SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

CONSTRUCTION CHARTS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 74 OF 587 SHEETS

PLOTTED/REVISED: 01-MAR-2010

DISTRICT #: DULUTH
 IPLOT NAME: d6982290_fb2
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290_fb2.dgn

X EROSION CONTROL & TURF ESTABLISHMENT																
STATION TO STATION	LOCATION	RANDOM RIPRAP CLASS I	FLOTATION SILT CURTAIN TYPE MOVING WATER	TEMPORARY DITCH CHECK TYPE 5	STORM DRAIN INLET PROTECTION	CULVERT PROTECTION	SEDIMENT MAT	SEEDING	SEED MIXTURE 250	MULCH MATERIAL TYPE 9	FERTILIZER TYPE 3	EROSION CONTROL BLANKET CATEGORY 1	EROSION CONTROL BLANKET CATEGORY 3	RANDOM RIPRAP CLASS III	GEO TEXTILE FILTER TYPE IV	REMARKS
		SPEC. 2511 CU. YD.	SPEC. 2573 LIN. FT.	SPEC. 2573 CU. YD.	SPEC. 2573 EACH	SPEC. 2573 EACH	SPEC. 2573 SQ. FT.	SPEC. 2575 ACRE	SPEC. 2575 POUND	SPEC. 2575 CU. YD.	SPEC. 2575 POUND	SPEC. 2575 SQ. YD.	SPEC. 2575 SQ. YD.	SPEC. 2511 CU. YD.	SPEC. 2511 SQ. YD.	
T.H. 35 MAINLINE																
12+40.00 - 21+88.00	LT & RT							1.09	76		381		5 276	21		QUANTITIES FROM T.H. 35 N.B. STATIONING
173+04.55 - 174+86.97	LT & RT							0.04	3		14		194			QUANTITIES FROM T.H. 35 N.B. STATIONING
206+00.00 - 222+66.42	LT & RT							1.05	74		368		5 072			QUANTITIES FROM T.H. 35 N.B. STATIONING
232+77.00 (POND B)	RT	1												6	9	QUANTITIES FROM T.H. 35 N.B. STATIONING
233+05.00 - 310+00.00	LT & RT							6.30	441		2 205		30 378			QUANTITIES FROM T.H. 35 N.B. STATIONING
309+01.00 (POND C)	LT	1												6	9	QUANTITIES FROM T.H. 35 N.B. STATIONING
317+51.00 (POND D)	LT	1												6	9	QUANTITIES FROM T.H. 35 N.B. STATIONING
319+53.79 - 343+50.00	LT & RT							3.15	221		1 103		15 315			QUANTITIES FROM T.H. 35 N.B. STATIONING
343+50.00 - 356+59.93	LT & RT							1.23	86		431		2 405			QUANTITIES FROM T.H. 35 N.B. STATIONING
RAMP A																
6+34.09 - 0+00.00	LT & RT							0.25	18		88		1 090			
RAMP B																
0+00.00 - 7+90.08	LT & RT							0.25	18		88		1 225			
RAMP C																
40+00.00 - 65+07.84	LT & RT							0.30	21		105		1 486			
RAMP D																
16+68.49 - 32+24.76	LT & RT							0.20	14		70		874			
RAMP E																
14+53.66 - 21+55.88	LT & RT							0.10	7		35		532			
RAMP F																
111+01.61 - 102+95.16	LT & RT							0.10	7		35		514			
RAMP G																
0+00.00 - 7+58.90	LT & RT							0.10	7		35		405			
RAMP H																
7+36.19 - 0+00.00	LT & RT							0.05	4		18		252			
RAMP I																
0+00.00 - 6+19.70	LT & RT							0.10	7		35		405			
RAMP J																
7+53.10 - 0+23.97	LT & RT							0.05	4		18		153			
CHART TOTALS:		3						14.36	1 005		5 025		65 576	39	27	

- ① SEED MIX 250 APPLIED AT A RATE OF 70 POUNDS/ACRE.
- ② FERTILIZER 22-5-10, 80% W.I.N., 0% CL APPLIED AT A RATE OF 350 POUNDS/ACRE.
- ③ SEE DRAINAGE SHEETS 66-71

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

CONSTRUCTION CHARTS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 75 OF 587 SHEETS



PLOTTED/REVISED: 01-MAR-2010

DISTRICT *: DULUTH
 IPLOT NAME: d6982290_jb2
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290_jb2.dgn

EROSION CONTROL & TURF ESTABLISHMENT																REMARKS	
STATION TO STATION	LOCATION	RANDOM RIPRAP CLASS I	FLOTATION SILT CURTAIN TYPE MOVING WATER	TEMPORARY DITCH CHECK TYPE 5	STORM DRAIN INLET PROTECTION	CULVERT PROTECTION	SEDIMENT MAT	SEEDING	SEED MIXTURE 250	MULCH MATERIAL TYPE 9	FERTILIZER TYPE 3	EROSION CONTROL BLANKET CATEGORY 1	EROSION CONTROL BLANKET CATEGORY 3	RANDOM RIPRAP CLASS III	GEO TEXTILE FILTER TYPE IV		
		SPEC. 2511	SPEC. 2573	SPEC. 2573	SPEC. 2573	SPEC. 2573	SPEC. 2573	SPEC. 2575	SPEC. 2575	SPEC. 2575	SPEC. 2575	SPEC. 2575	SPEC. 2575	SPEC. 2575	SPEC. 2511		SPEC. 2511
		CU. YD.	LIN. FT.	CU. YD.	EACH	EACH	SQ. FT.	ACRE	POUND	CU. YD.	POUND	SQ. YD.	SQ. YD.	CU. YD.	SQ. YD.		
T.H. 35 MAINLINE																	
RAMP K																	
0+24.27 - 5+20.11	LT & RT							0.05	4		18		279				
RAMP L																	
5+02.77 - 0+00.00	LT & RT							0.05	4		18		171				
RAMP M																	
10+00.00 - 15+79.61	LT & RT							0.05	4		18		324				
RAMP N																	
26+06.49 - 20+00.00	LT & RT							0.05	4		18		279				
RAMP O																	
2+63.29 - 6+46.78	LT & RT																
RAMP P																	
0+00.00 - 4+70.64	LT & RT							0.05	4		18		144				
RAMP Q																	
26+40.80 - 18+64.00	LT & RT							0.10	7		35		333				
RAMP R																	
6+05.00 - 3+27.17	LT & RT							0.05	4		18		72				
N.B. CODY ST. RAMP																	
3+33.00 - 80+50.00	LT & RT							0.10	7		35		335	11			
S.B. CODY ST. RAMP																	
65+93.32 - 80+54.23	LT & RT							0.10	7		35		340				
RECYCLE WAY																	
10+20.68 - 15+61.65	LT & RT	99		18	8		144	0.60	41	46	205	290	2 539				
ONEOTA ST.																	
4+25.00 - 7+85.00	LT & RT				3	1		0.50	37	68	184	2 547					
NEW PAGE ENTRANCE																	
	LT & RT				2			0.20	16	309	78	1 076					
KINGSBURY CREEK			90														
																See temp erosion plan for location, 4' depth	
CHART TOTALS:		99	90	18	13	1	144	1.90	136	423	677	3 913	4 816	11			
PROJECT TOTALS:		102	90	18	13	1	144	16.26	1 141	423	5 702	3 913	70 392	50	27		

- ① SEED MIX 250 APPLIED AT A RATE OF 70 POUNDS/ACRE.
- ② FERTILIZER 22-5-10, 80% W.I.N., 0% CL APPLIED AT A RATE OF 350 POUNDS/ACRE.
- ③ SEE DRAINAGE SHEETS 66-71

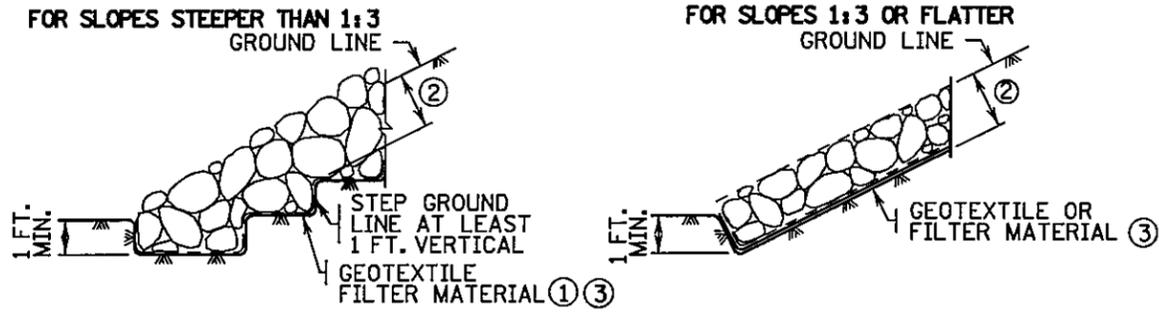
I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 01-MAR-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

CONSTRUCTION CHARTS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 75A OF 587 SHEETS

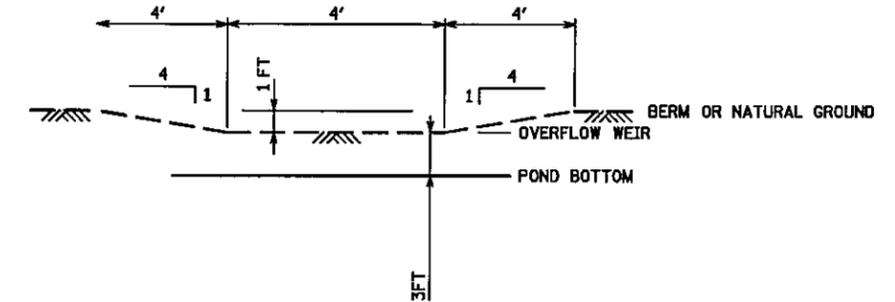
POND RIPRAP TREATMENTS



NOTES:

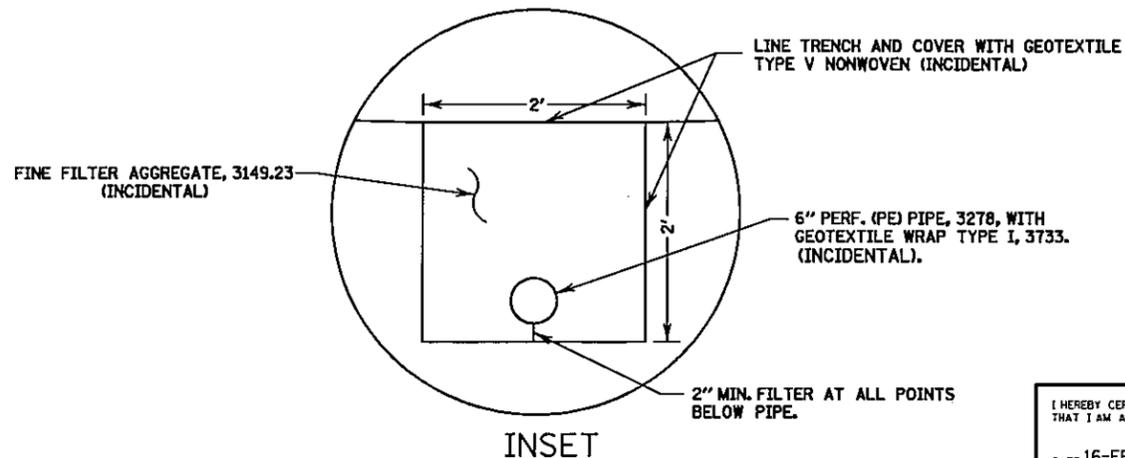
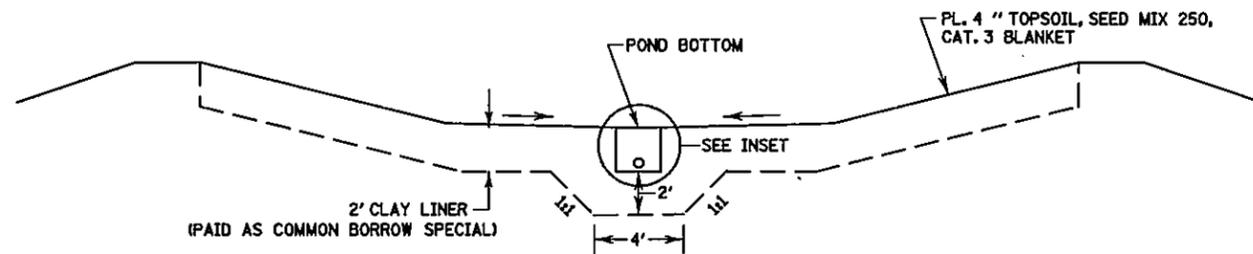
- ① RIPRAP SHALL COMPLY WITH SPEC. 2511.
- ② CLASS III RIPRAP 1.5 FT. DEPTH.
- ③ GEOTEXTILE FILTER TYPE IV.

WEIR OVERFLOW DETAIL

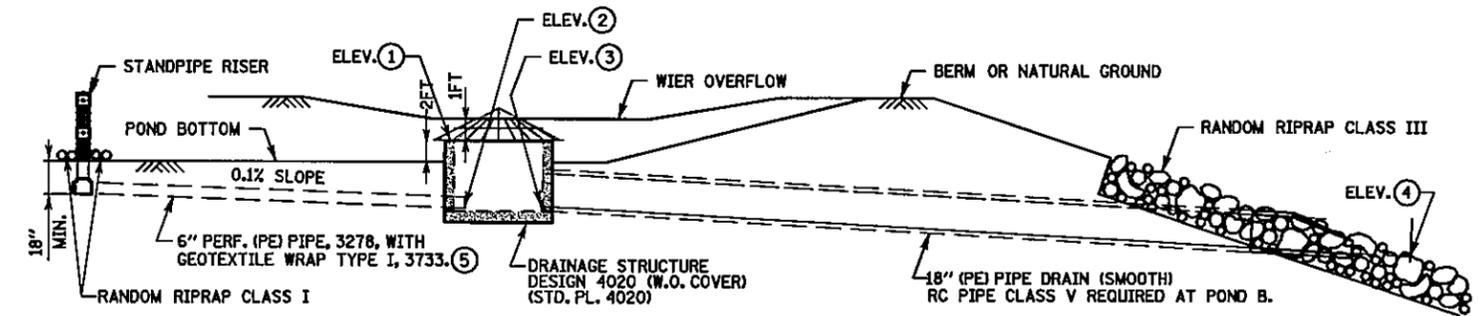


CLAY LINER

NOTE: APPLIES AT PONDS B, C AND D.
SEE SPECIAL PROVISIONS.



POND DRAINAGE STRUCTURE DETAIL - SPEC. 2506



- ① ELEVATION AT TOP OF STRUCTURE.
- ② ELEVATION AT FLOW LINE OF TILE OUTLET INTO STRUCTURE.
- ③ ELEVATION AT FLOW LINE OF INLET TO 18" PIPE DRAIN.
- ④ ELEVATION AT 18" PIPE DRAIN OUTLET.
- ⑤ PLACE 2'x 2' TRENCH, LINE WITH GEOTEXTILE TYPE V AND BACKFILL WITH FINE FILTER AGGREGATE, 3149.23 (INCIDENTAL).

CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL.

PLOTTED/REVISED: 16-FEB-2010

DISTRICT #: DULUTH
PLOT NAME: D6982290.dtl
PATH & FILENAME: Projects/DI/DUL/035/6982/290/Design/Plan/D6982290.dtl.dgn

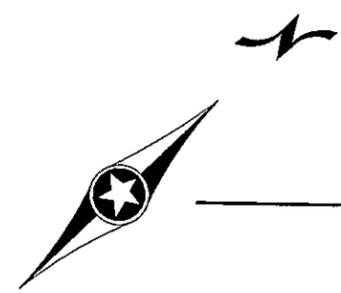
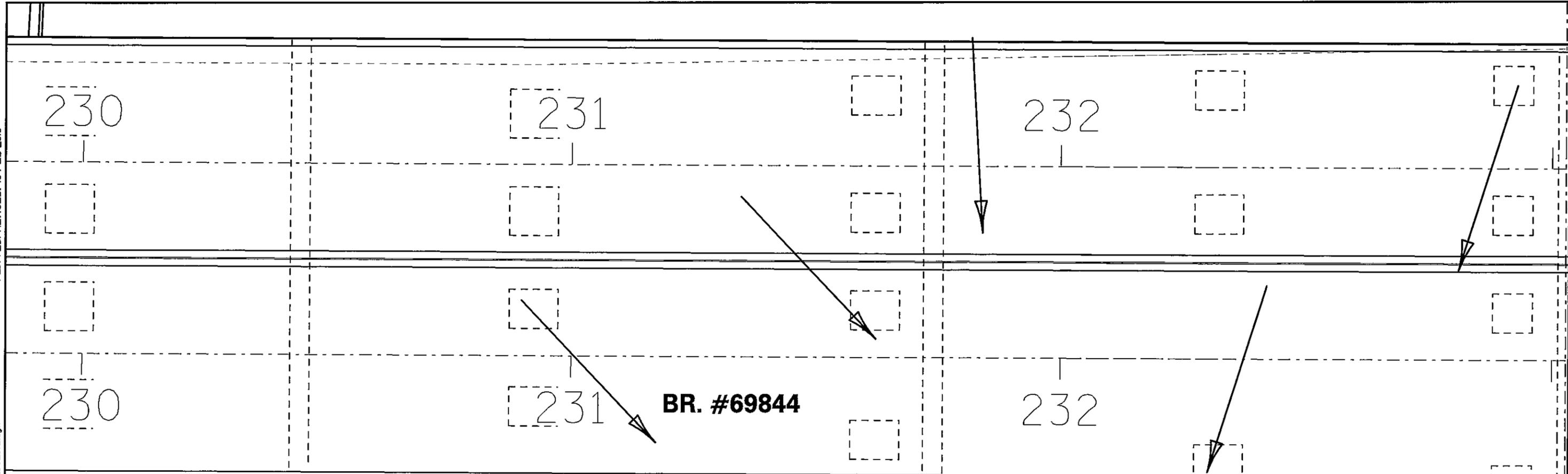
I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: 16-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

CONSTRUCTION DETAILS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 146 OF 587 SHEETS

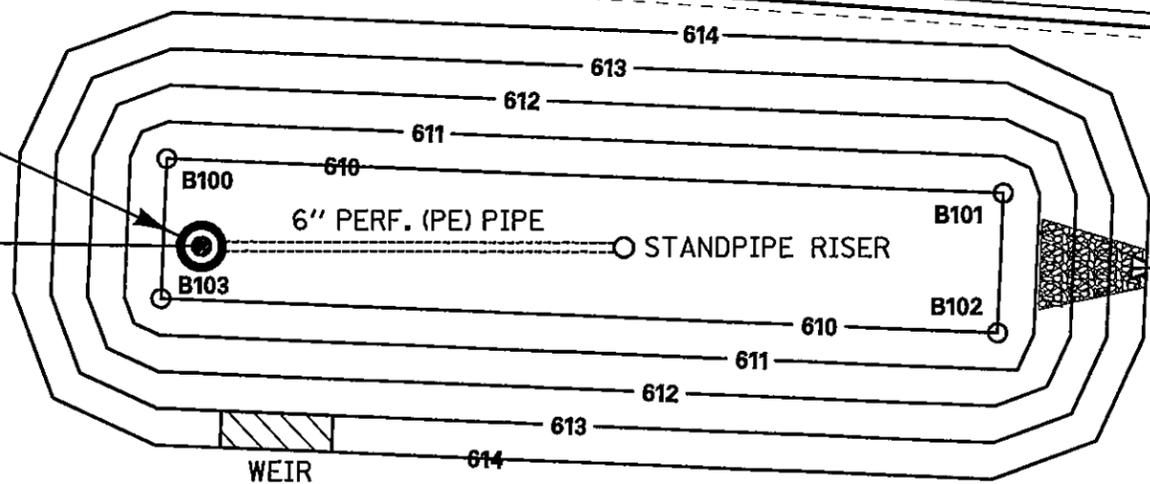
PLOTTED/REVISED: 10-FEB-2010

DISTRICT #: pondB_SHT148
PLOT NAME: pondB_SHT148
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290_s.vz.dgn



STREET LINK B
18" RC PIPE CLASS V

INV. OUT
608.00



POND B
INV. IN
614.00

POINT NO.	STAKING COORDINATES		ELEV.
	X	Y	
B100	435804.36	367803.78	610.00
B101	435869.57	367867.71	610.00
B102	435880.28	367856.78	610.00
B103	435815.07	367792.86	610.00

ONEOTA ST.

FOR CLAY LINER DETAILS AND
POND DRAINAGE STRUCTURE, SEE SHEET 146.

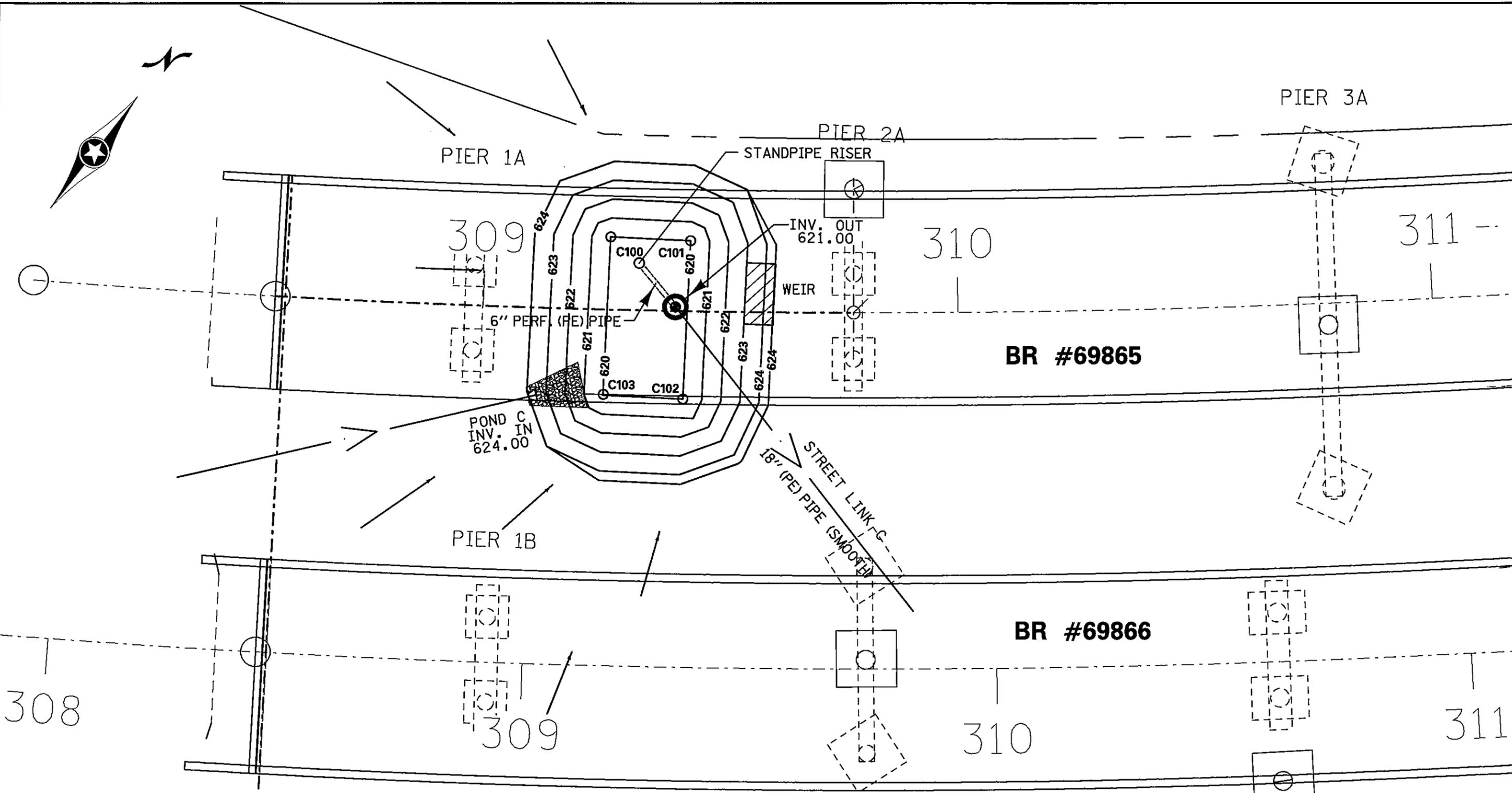
SCALE: 20'

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 10-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

CONSTRUCTION DETAILS - POND B
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 148 OF 587 SHEETS

PLOTTED/REVISED: 10-FEB-2010

DISTRICT #: pondc_SHT149
 IPLOT NAME: pondc_SHT149
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290_srz.dgn



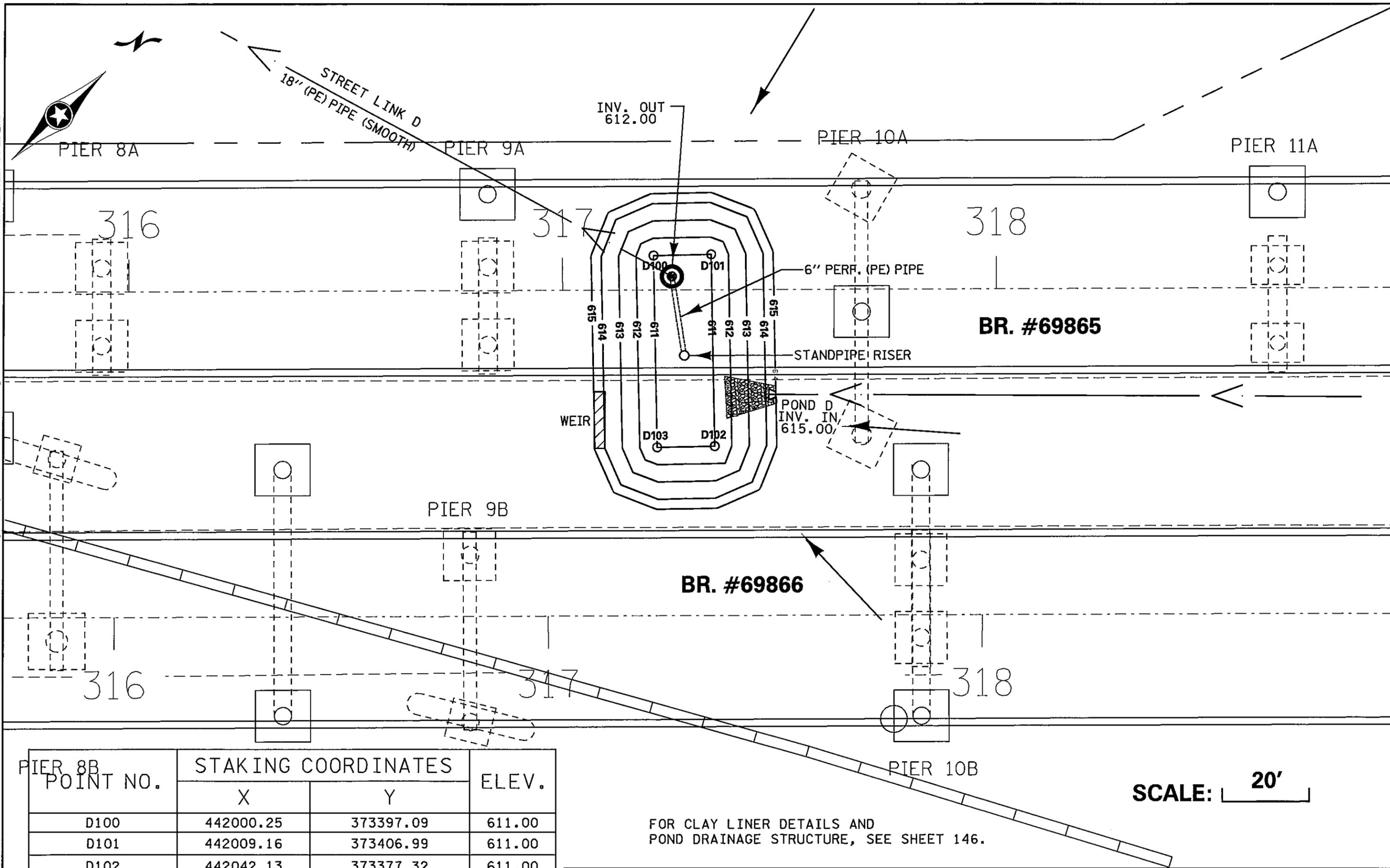
POINT NO.	STAKING COORDINATES		ELEV.
	X	Y	
C100	441429.86	372849.45	620.00
C101	441443.66	372859.24	620.00
C102	441463.05	372831.91	620.00
C103	441449.25	372822.11	620.00

FOR CLAY LINER DETAILS AND POND DRAINAGE STRUCTURE, SEE SHEET 146.

SCALE: 20'

PLOTTED/REVISED: 10-FEB-2010

DISTRICT #:
 I/PLOT NAME: pondd_SHT150
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/d6982290_s15.dgn



PIER 8B POINT NO.	STAKING COORDINATES		ELEV.
	X	Y	
D100	442000.25	373397.09	611.00
D101	442009.16	373406.99	611.00
D102	442042.13	373377.32	611.00
D103	442033.22	373367.41	611.00

FOR CLAY LINER DETAILS AND POND DRAINAGE STRUCTURE, SEE SHEET 146.

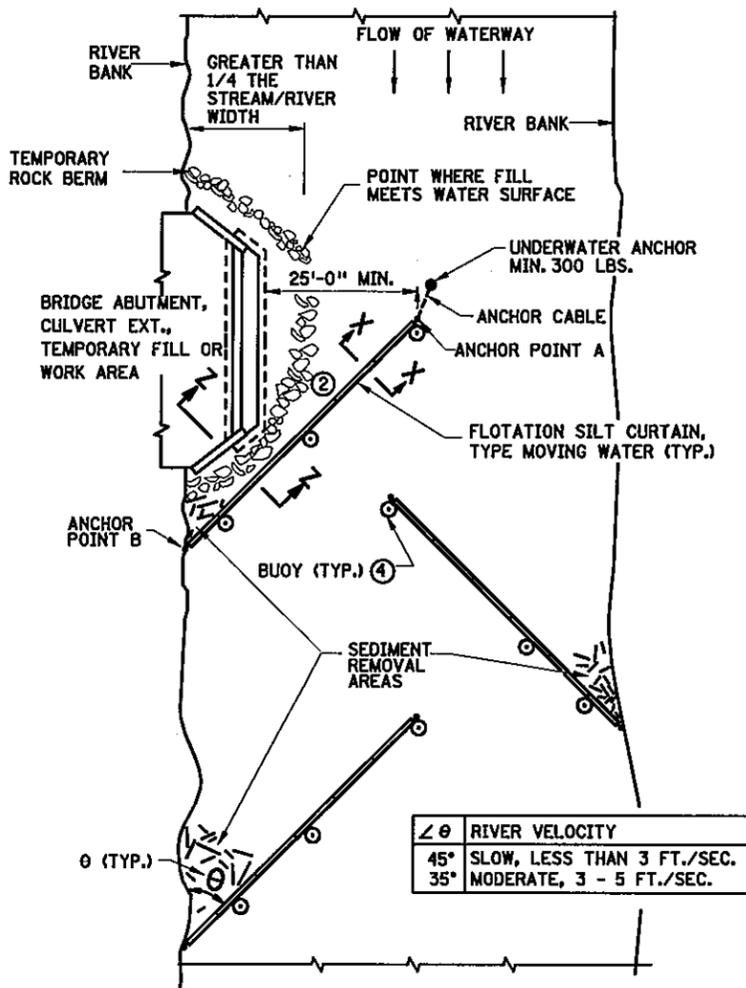
SCALE: 20'

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE: 10-FEB-2010 LIC. NO. 43441 ENGINEER *David J. Erickson* DANIEL J. ERICKSON

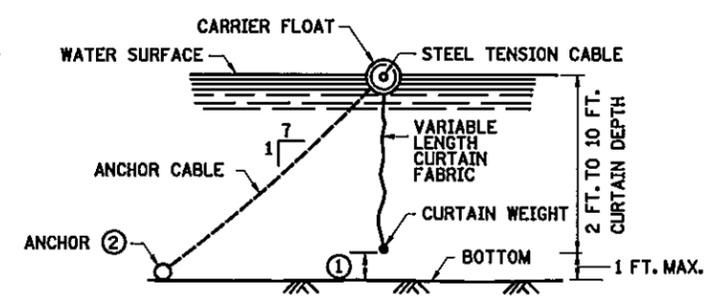
CONSTRUCTION DETAILS - POND D
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 150 OF 587 SHEETS

PLOTTED/REVISED:
18-DEC-2009

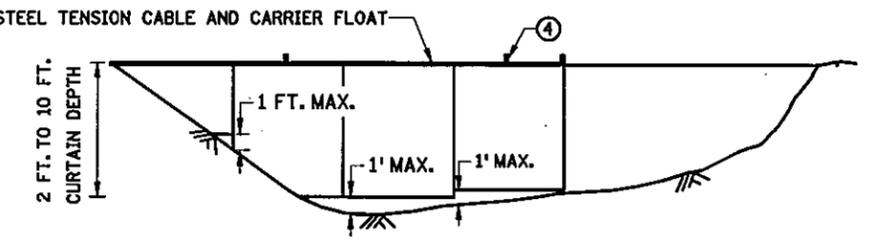
DISTRICT #: DULUTH
USER NAME: \$\$\$@USER\$NAME\$\$\$
FILE NAME: @FILENAME@
PATH & FILE NAME: Projects/DL/DUL/035/6982/290/Design/Plan/Standard Plan Sheets/D5982-290_SP.dgn



PLAN VIEW (TYPE: MOVING WATER)

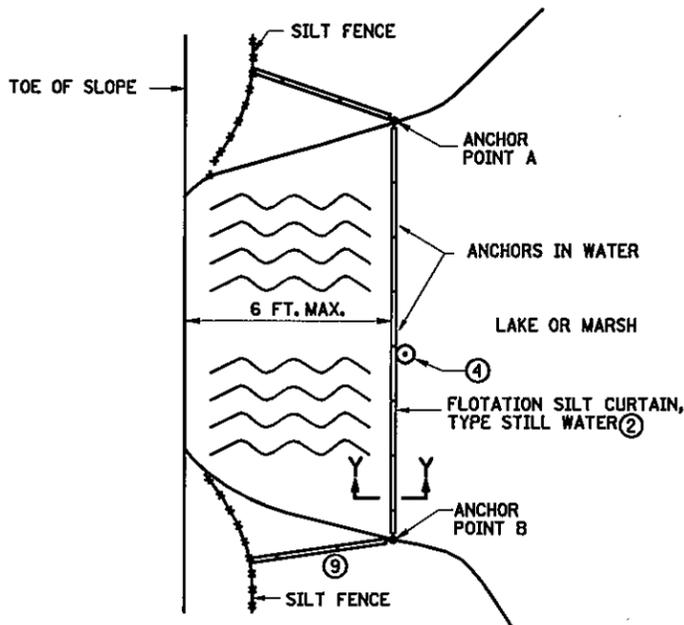


SECTION X-X

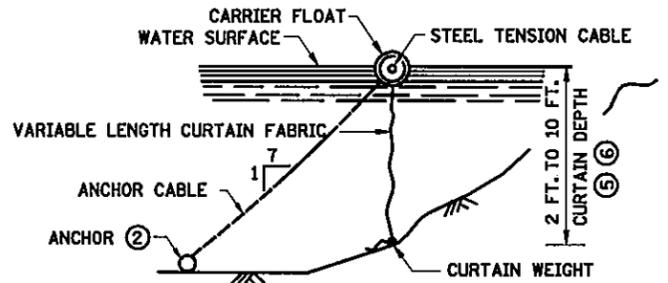


FLOTATION SILT CURTAIN - TYPE: MOVING WATER ⑤

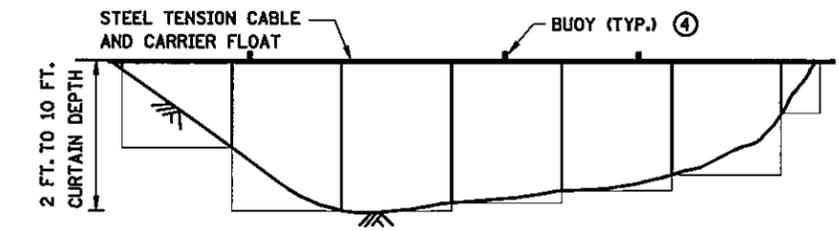
USE FOR SMALLER RIVERS WITH SLOW AND MODERATE VELOCITIES



PLAN VIEW (TYPE: STILL WATER)

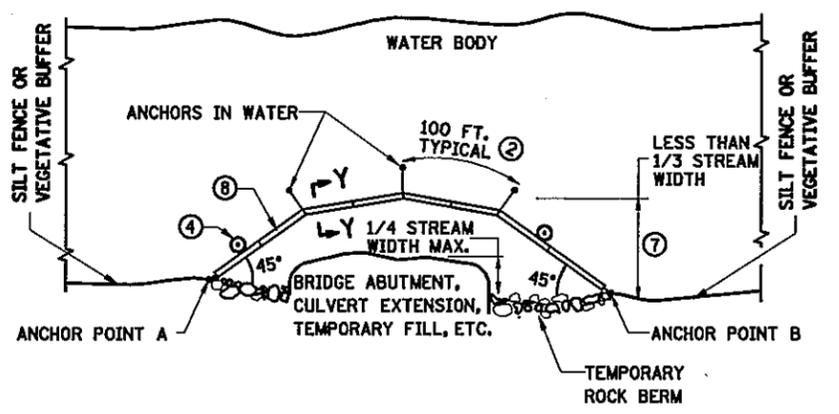


SECTION Y-Y

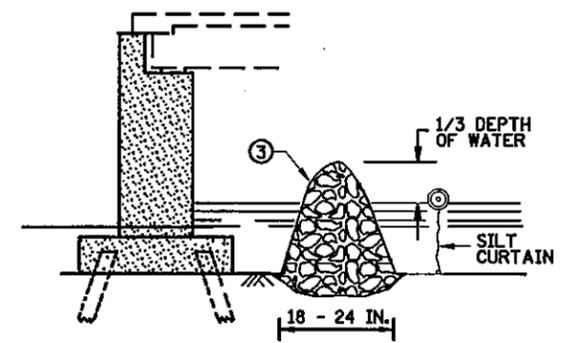


FLOTATION SILT CURTAIN - TYPE: WORK AREA AND STILL WATER ⑤

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS



PLAN VIEW (TYPE: WORK AREA)



SECTION Z-Z TEMPORARY ROCK BERM FOR SEDIMENT CONTROL

DESIGN GUIDELINES: MOVING WATER
WHEN TEMPORARY FILL ENCLOSES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 11 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC. ① ⑥

DESIGN GUIDELINES: WORK AREA
WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.
MINIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

DESIGN GUIDELINES: STILL WATER
MINIMUM WATER DEPTH: 0 FT.
MAXIMUM WATER DEPTH: 10 FT.

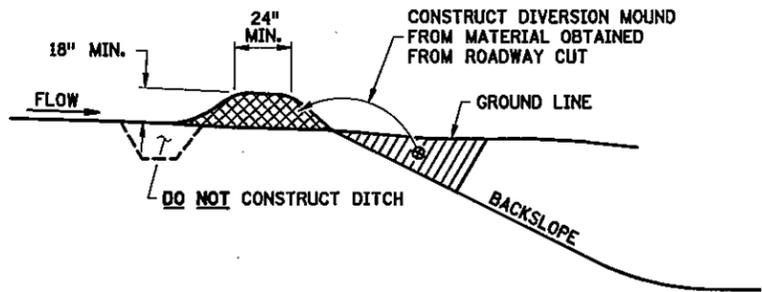
NOTES:

- SEE SPECS. 2573 & 3887.
- ① CURTAIN EXTENDS TO 1 FT. MAXIMUM FROM BOTTOM OF WATER BODY.
- ② FOR ANCHOR AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- ③ IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT THE BRIDGE, A TEMPORARY ROCK BERM WILL BE USED TO PROVIDE ADDITIONAL PROTECTION. THE TEMPORARY ROCK BERM IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
- ④ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- ⑤ WATER DEPTH CAN BE 0 TO 10 FEET, 0 TO 11 FEET FOR TYPE MOVING WATER.
- ⑥ SILT CURTAIN HEIGHT INCLUDES MAXIMUM WAVE HEIGHT FOR WATER BODY.
- ⑦ KEEP AS CLOSE TO WORK AREA AS POSSIBLE.
- ⑧ SILT CURTAIN, ROCK BERM OR SHEET PILE AS REQUIRED TO CONTROL THE INFILTRATION OF SILT.
- ⑨ IF 6 INCHES OR LESS OF WATER, USE BALE BARRIERS, SEE SHEET 2.

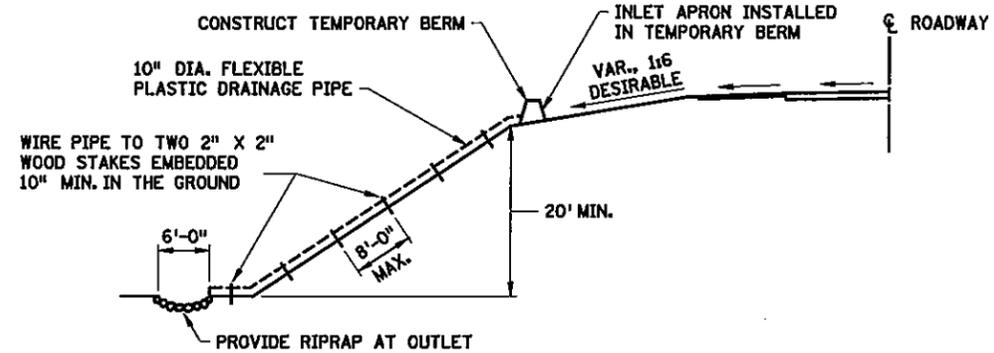
STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE TEMPORARY SEDIMENT CONTROL SILT CURTAIN
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 183 OF 587 SHEETS	

PLOTTED/REVISED:
18-DEC-2009

DISTRICT #: DULUTH
USER NAME: \$\$\$USER\$NAME\$\$\$
PATH & FILENAME: Projects\DI_DUL\035\6982\290\Design\Plan\Standard Plan Sheets\6982-290.SP.dgn

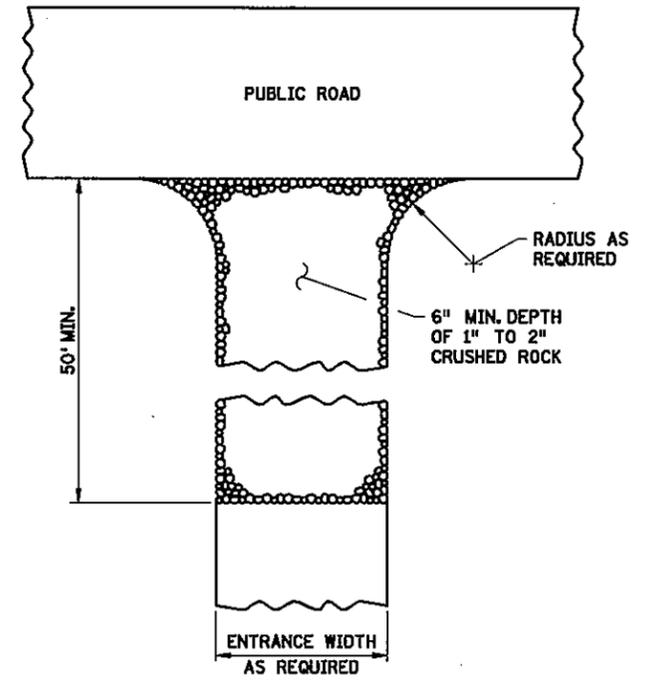


DIVERSION MOUND
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

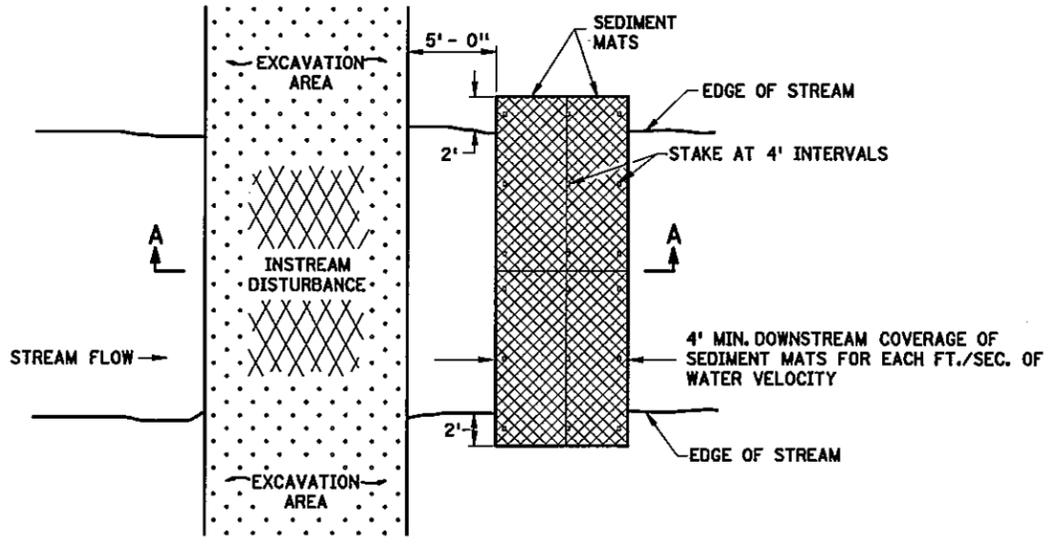


TEMPORARY DOWN DRAIN ON FILL SLOPE

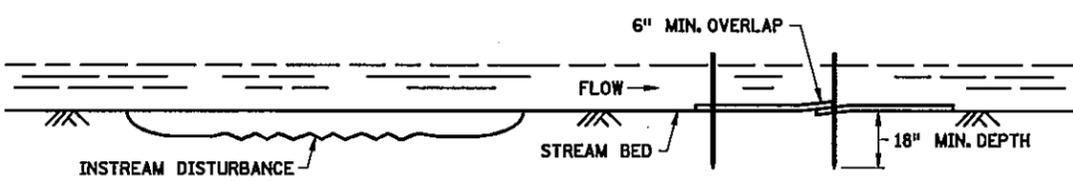
DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①



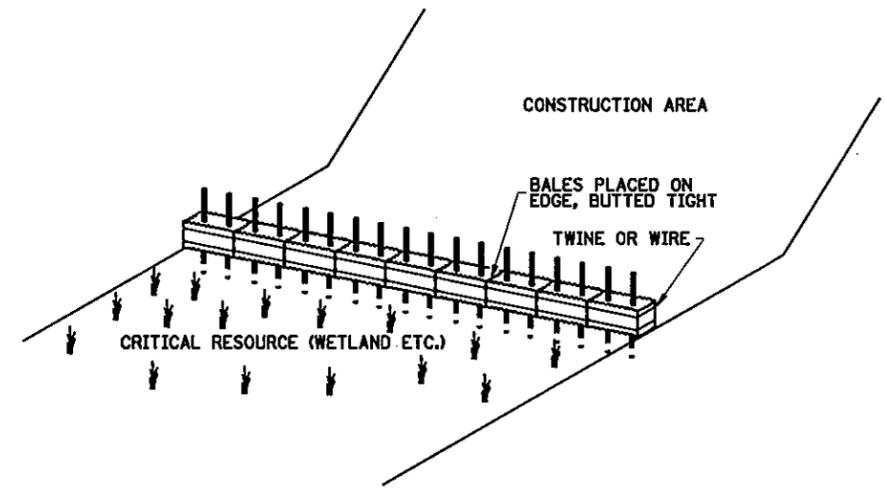
PLAN VIEW



SECTION A-A

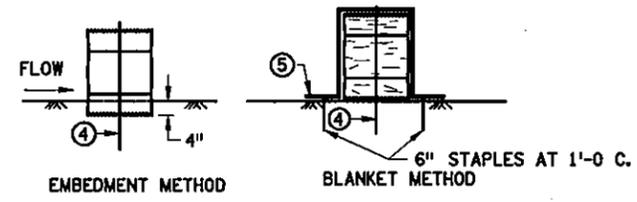
SEDIMENT MAT ⑥
TYPICAL STREAM BED INSTALLATION

DESIGN GUIDELINES:
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 2 FT.

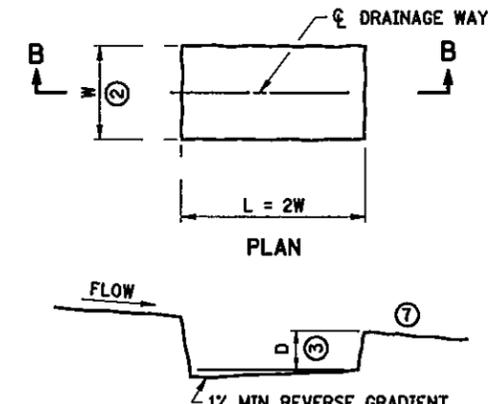


BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



BALE BARRIER DETAIL
APPROX. BALE SIZE: 14" X 18" X 36" LONG



SECTION B-B
SEDIMENT TRAP DETAIL

NOTES:

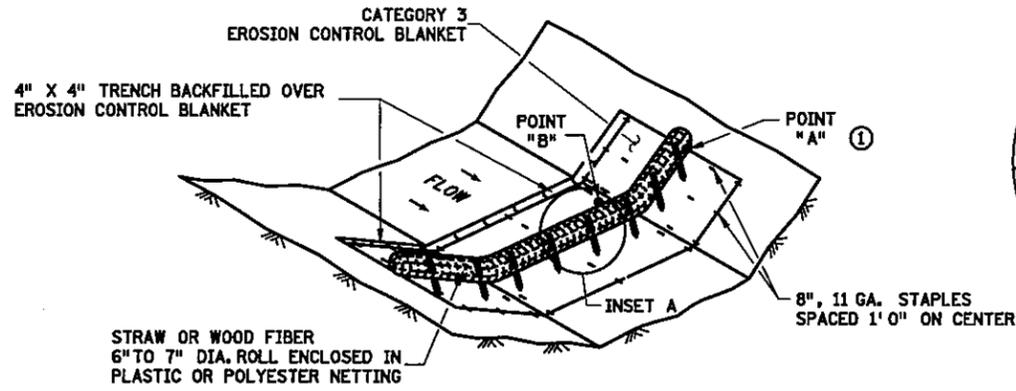
- SEE SPECS. 2573, 3892, & 3894.
- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② W = 10 FT. MIN., 20 FT. MAX.
- ③ D = 2 FT.
- ④ TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE EMBEDDED 10 INCHES MINIMUM IN THE GROUND.
- ⑤ PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT. WIDE MINIMUM, OVER THE BALE INSTEAD OF TRENCHING.
- ⑥ THIS DETAIL MAY NOT BE ACCEPTABLE FOR WORK ON PUBLIC WATERS, SEE GENERAL PUBLIC WATERS PERMIT (GP) 2004-0001.
- ⑦ LOCATION OF DOWNSTREAM TEMPORARY SEDIMENT CONTROL DEVICE.

STANDARD SHEET NO. 5-297.405 (2 of 4)	TITLE: TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 184 OF 587 SHEETS	

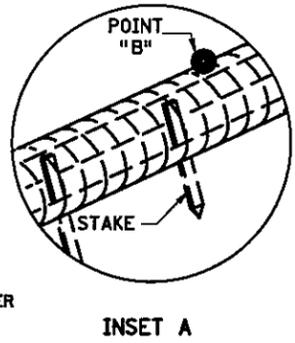
PLOTTED/REVISED:
23-DEC-2009

DISTRICT #: DULUTH
USER NAME: \$\$\$@USER\$NAME@\$\$
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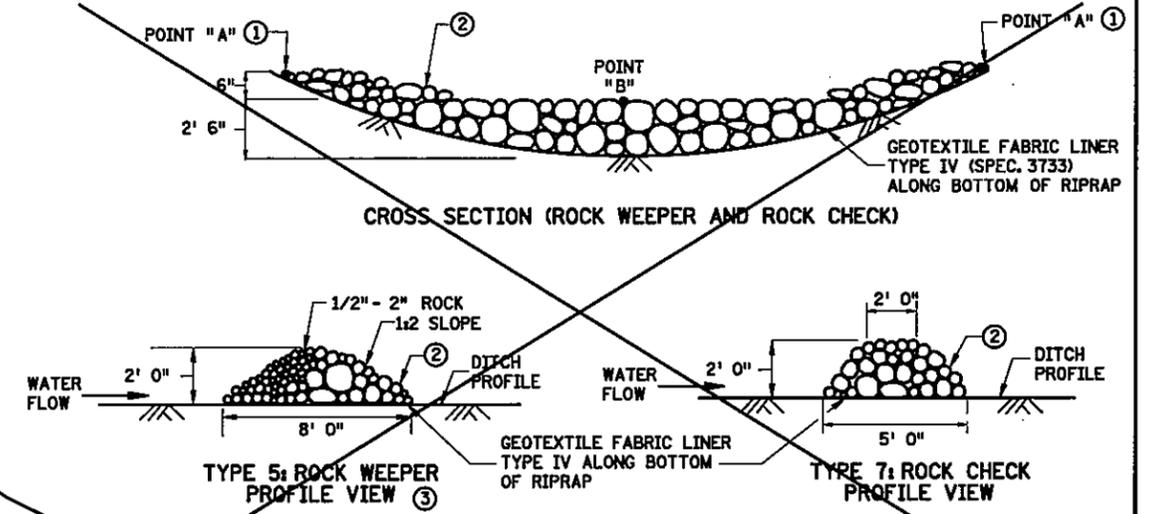
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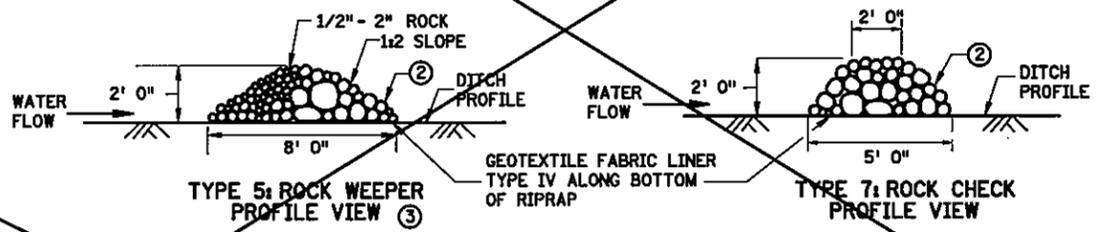
TYPE 3: BIOROLL BLANKET SYSTEM DITCH CHECK



INSET A



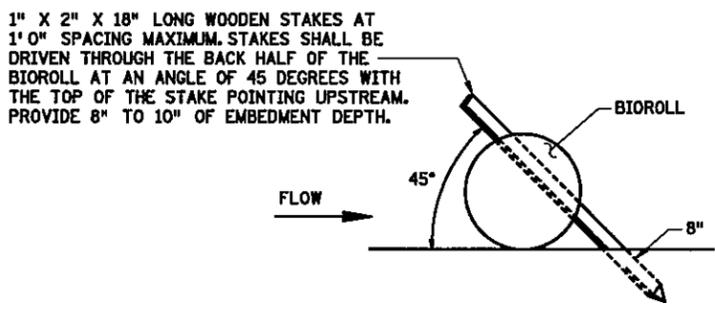
CROSS SECTION (ROCK WEEPER AND ROCK CHECK)



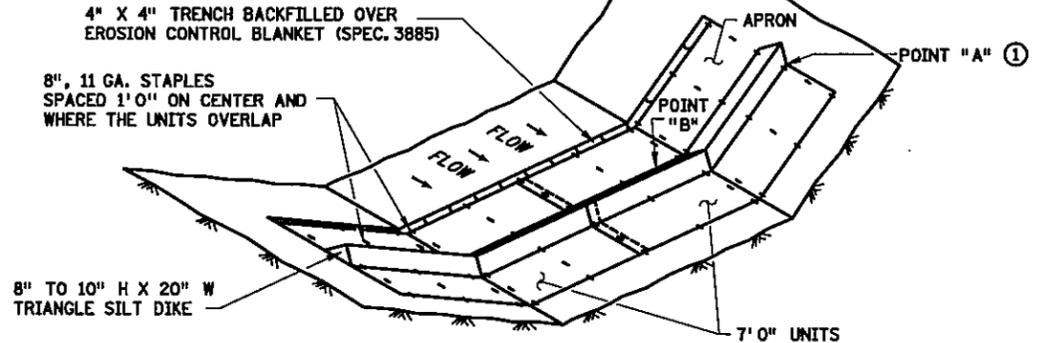
TYPE 5: ROCK WEEPER PROFILE VIEW

TYPE 7: ROCK CHECK PROFILE VIEW

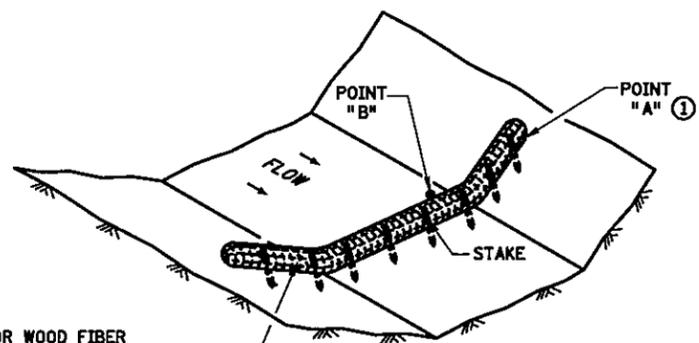
TYPE 5: ROCK WEEPER AND TYPE 7: ROCK CHECK DITCH CHECKS
USE ON ROUGH GRADED AREAS



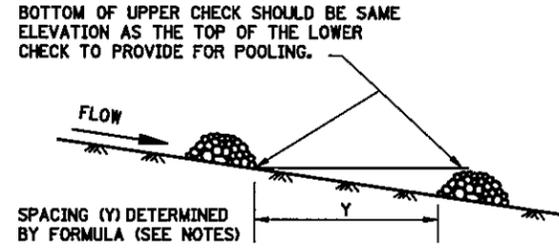
BIOROLL STAKING DETAIL



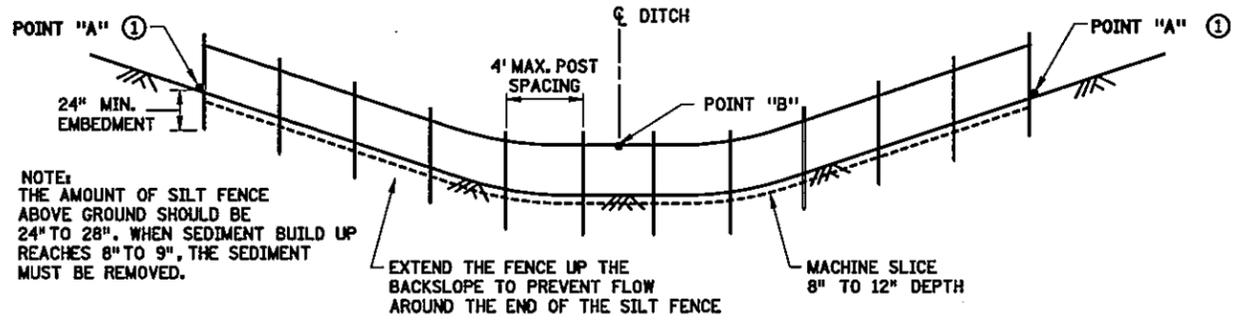
TYPE 6: GEOTEXTILE TRIANGULAR DIKE DITCH CHECK



TYPE 2: BIOROLL DITCH CHECK
USE ON ROUGH GRADED AREAS



DITCH CHECK SPACING



TYPE 1: SLICED IN SILT FENCE DITCH CHECK

NOTES:
SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:
APPROXIMATE SPACING OF DITCH CHECKS (FT.) = $Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\% \text{ CHANNEL SLOPE}} \times 100$

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.
② CLASS I - IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC. 3733).
③ THE ROCK WEEPER FILTERS SEDIMENT OUT OF THE WATER BETTER THAN THE OTHER DITCH CHECKS. THE ROCK WEEPER COULD BE USED AS A PERMANENT WATER FILTERING FEATURE.
④ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

GENERAL DESIGN GUIDELINES						
DITCH CHECK TYPE	SILT FENCE	BIOROLL	BIOROLL BLANKET	TRIANGULAR DIKE	ROCK WEEPER	ROCK CHECK
STORM FREQUENCY:	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	5 YR. - 24 HR.	5 YR. - 24 HR.
MAX. FLOW VELOCITY:	< 1 FT./SECOND	1.5 FT./SECOND	4.5 FT./SECOND	1.5 FT./SECOND	12 FT./SECOND	12 FT./SECOND
MAX. DITCH GRADE:	0% - 0.5%	1.5% - 3%	1.5% - 3%	1.5% - 2.0%	3% - 5%	3% - 5%
MAX. DRAINAGE AREA:	1 ACRE	2 ACRE	2 ACRE	4 ACRE	4+ ACRE	4+ ACRE

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE: 23-DEC-2009, LIC. NO. 43441, ENGINEER *Daniel J. Erickson*

MODIFIED
STANDARD SHEET NO. 5-297-405 (3 OF 4)
STANDARD APPROVED: SEPTEMBER 27, 2006

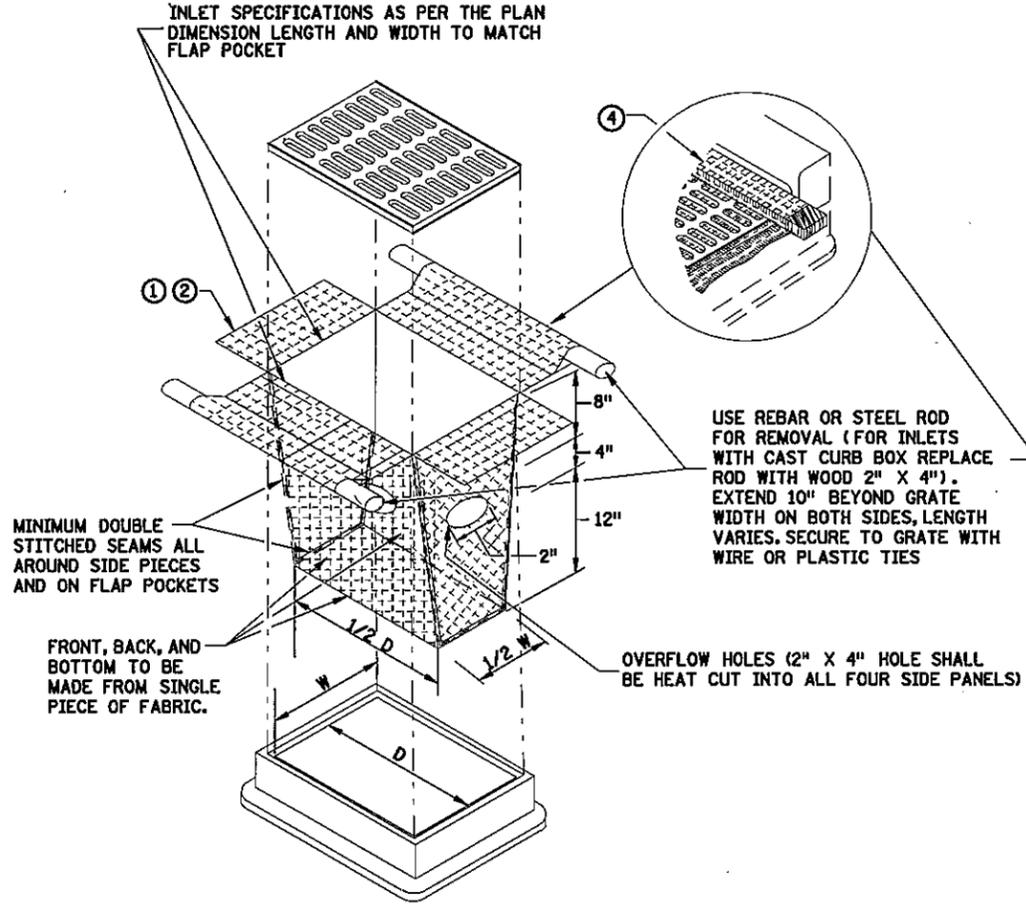
TEMPORARY SEDIMENT CONTROL
DITCH CHECK/BARRIER

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 185 OF 587 SHEETS

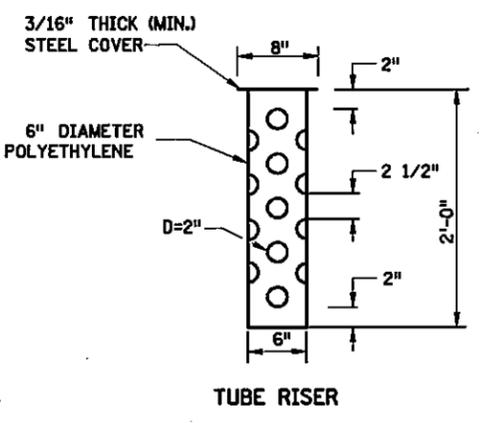
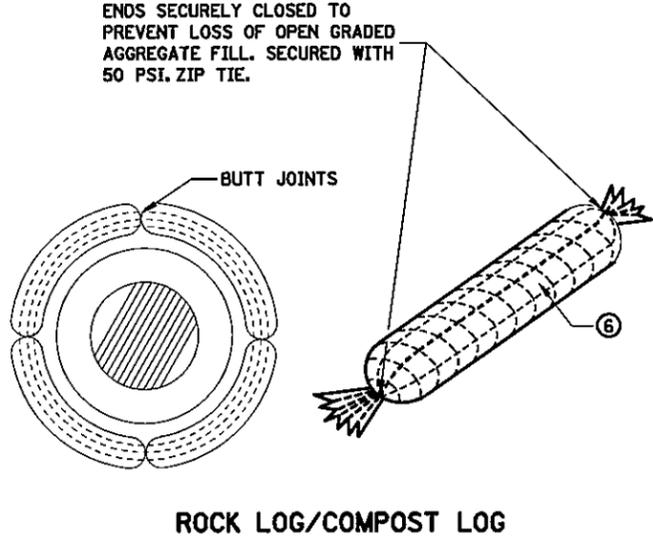
PLOTTED/REVISED:
18-DEC-2009

DISTRICT #: DULUTH
USER NAME: \$\$\$USER\$\$\$
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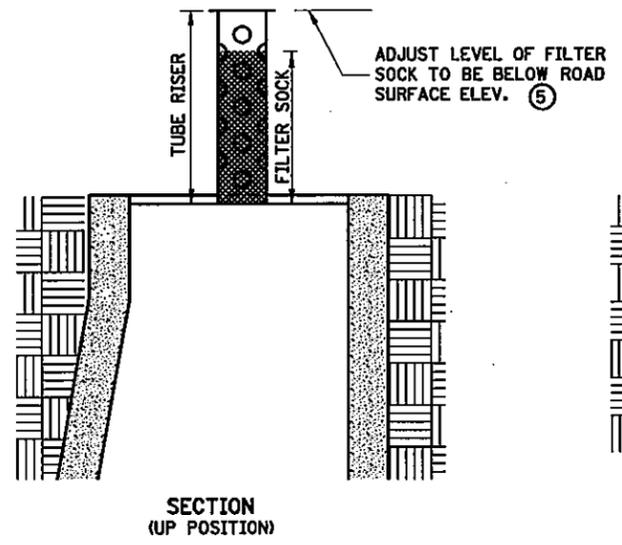
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FILTER BAG INSERT ③
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)

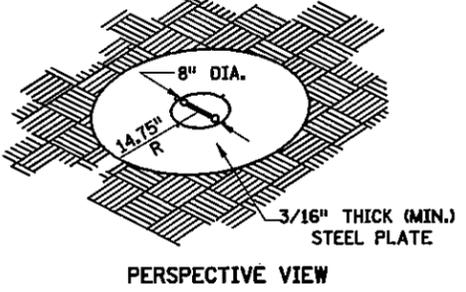


TUBE RISER



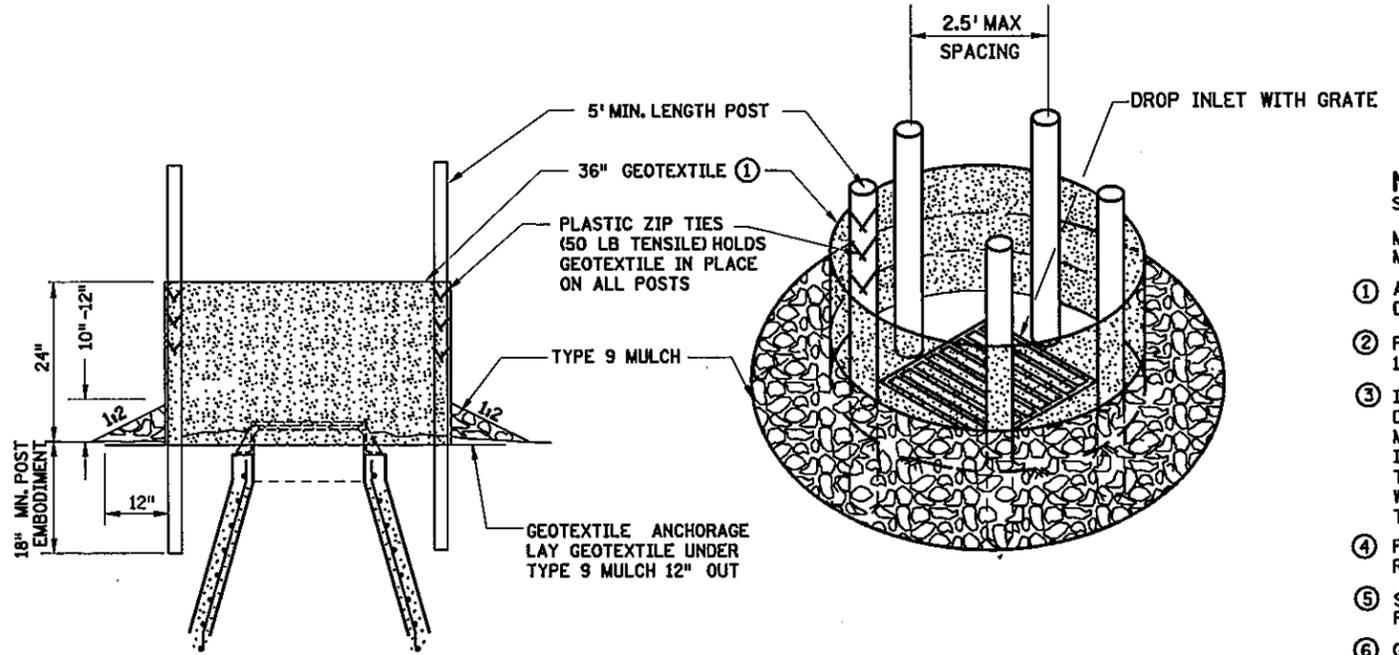
SECTION (UP POSITION)

SECTION (DOWN POSITION)

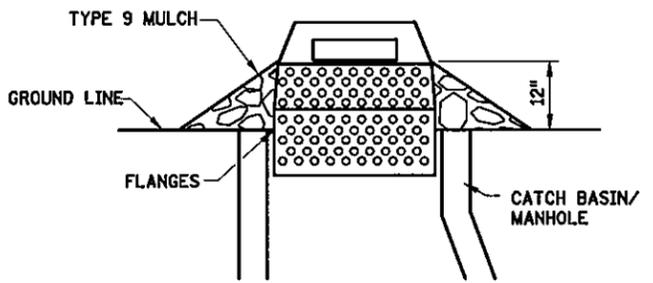


PERSPECTIVE VIEW

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS



SEDIMENT CONTROL INLET HAT

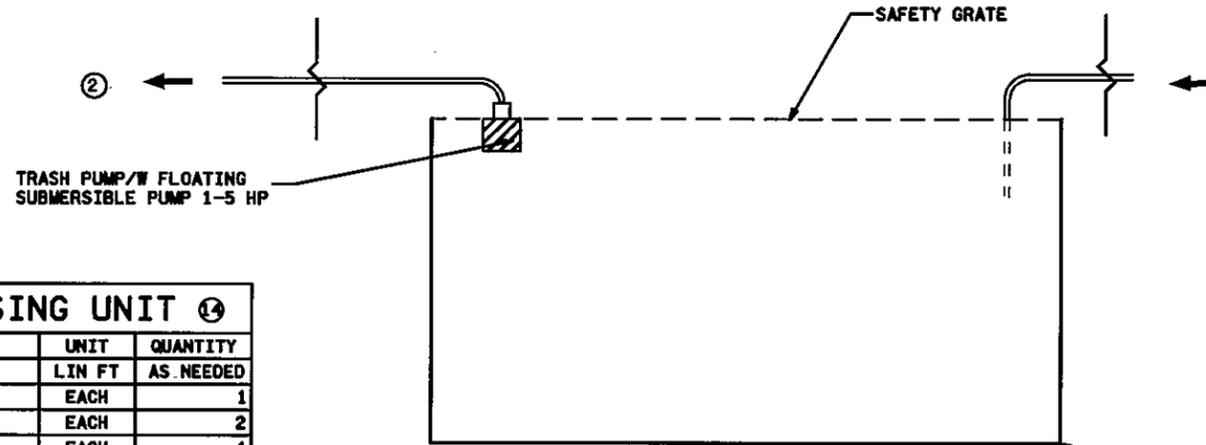
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.

NOTES:

- SEE SPECS. 2573, 3137, 3886 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

STANDARD SHEET NO. 297.405 (4 OF 4)	TITLE: TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 186 OF 587 SHEETS	

DEWATERING DEVICE



CLEAR TO BE DEFINED AS. VISIBILITY CLEAR WITH A MAXIMUM rtu (MEASUREMENT OF TURBIDITY) READING OF 50 PLUS THE BACKGROUND RECEIVING WATER AT THE TIME OF DISCHARGE. THE pH OF THE DISCHARGE WATER MUST BE BETWEEN 6.1 AND 8.5, WITH 7.0 AS THE GOAL.

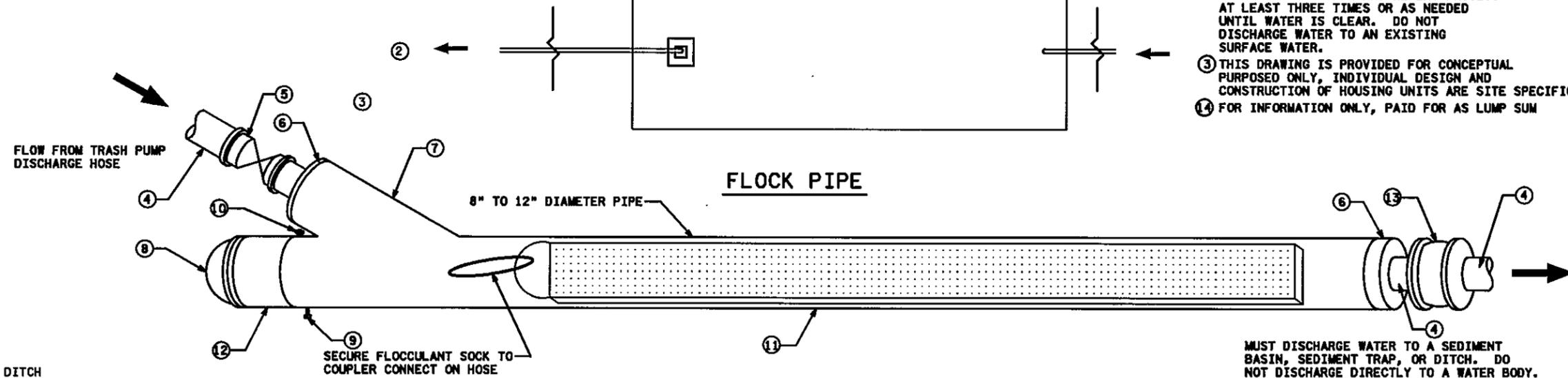
DUMPSTER: 20 CUBIC YARDS (22' X 8' X 40")

TOP VIEW

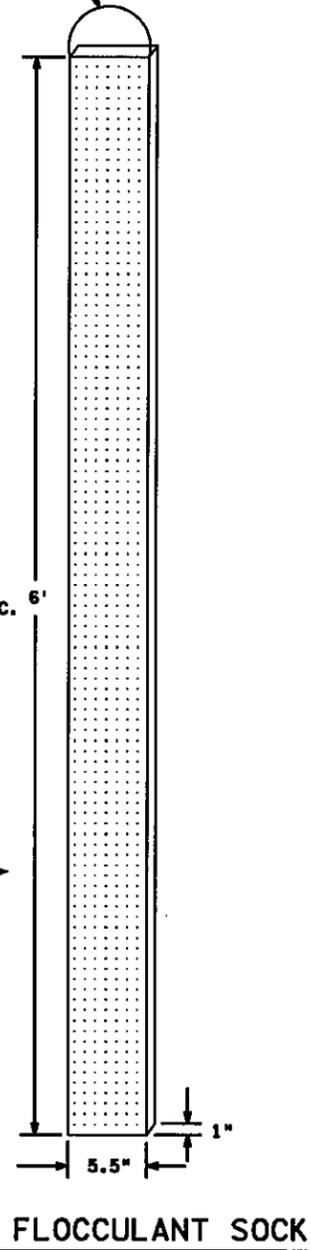
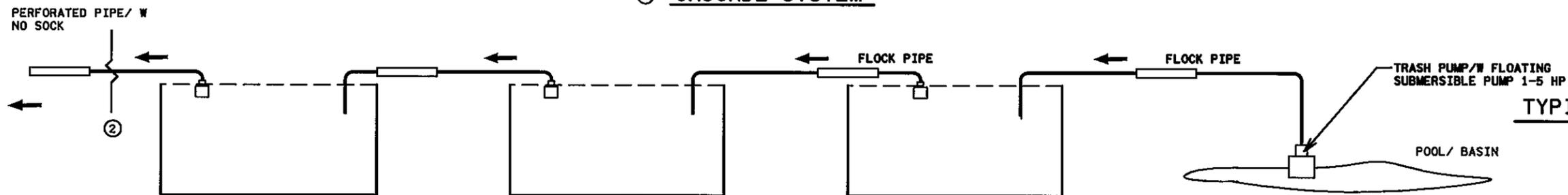
TYPICAL FLOCCULANT HOUSING UNIT ④			
NO.	DESCRIPTION	UNIT	QUANTITY
④	4" OR 6" DIA. SCH. 40 PVC PIPE	LIN FT	AS NEEDED
⑤	4" OR 6" DIA. SCH. 40 GATE VALVE	EACH	1
⑥	4" X 6" OR 6" X 8" SCH. 40 PVC BUSHING	EACH	2
⑦	6" OR 8" DIA. SCH. 40 PVC "Y"	EACH	1
⑧	6" OR 8" DIA. SCH. 40 PVC FEMALE THREADED CAP	EACH	1
⑨	1" DIA. SCH. 80 PVC DRAIN VALVE	EACH	1
⑩	1/2" EYE BOLT W/ WING NUT AND RUBBER GROMETS	EACH	1
⑪	6" OR 8" DIA. SCH. 40 PVC PIPE	LIN FT	10
⑫	6" OR 8" DIA. SCH. 40 PVC MALE ADAPTER	EACH	1
⑬	4" OR 6" DIA. SCH. 40 PVC SWING CHECK VALVE	EACH	1

NOTE:

- ① CASCADE OR TRAIN SYSTEM.
- ② MUST DISCHARGE WATER INTO ANOTHER SEDIMENTATION TANK AND REPEAT PROCESS AT LEAST THREE TIMES OR AS NEEDED UNTIL WATER IS CLEAR. DO NOT DISCHARGE WATER TO AN EXISTING SURFACE WATER.
- ③ THIS DRAWING IS PROVIDED FOR CONCEPTUAL PURPOSES ONLY, INDIVIDUAL DESIGN AND CONSTRUCTION OF HOUSING UNITS ARE SITE SPECIFIC.
- ④ FOR INFORMATION ONLY, PAID FOR AS LUMP SUM



① CASCADE SYSTEM



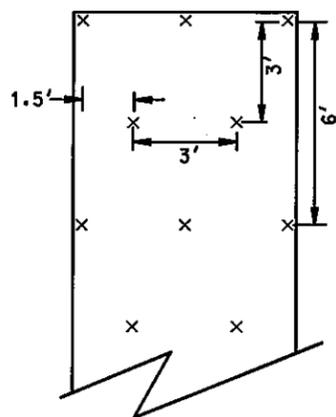
TYPICAL FLOCCULANT SOCK

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 11-20-2009 REG. NO. 20300 ENGINEER BRETT B. TROYER

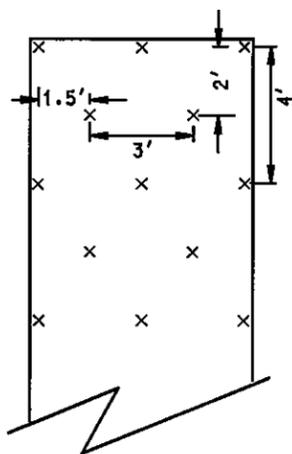
**TEMPORARY SEDIMENT CONTROL
 DUMPSTER DEWATERING**
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 188 OF 587 SHEETS

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 PLOTTED/REVISED: 18-DEC-2009

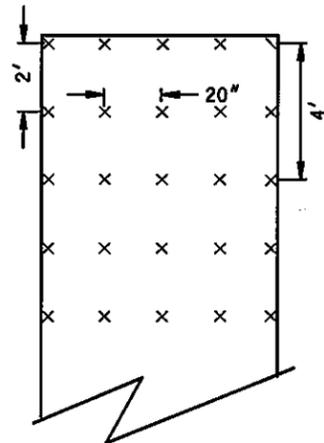
SLOPES FLATTER THAN 1:2
(1.2 STAPLES PER SQ YD)



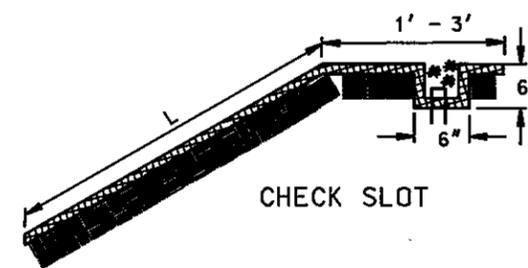
SLOPES 1:2 TO 1:1
(1.7 STAPLES PER SQ YD)



CHANNEL AND DITCH APPLICATIONS
(3.5 STAPLES PER SQ YD)



STANDARD 6.5FT BLANKET STAPLING PATTERN



CHECK SLOT

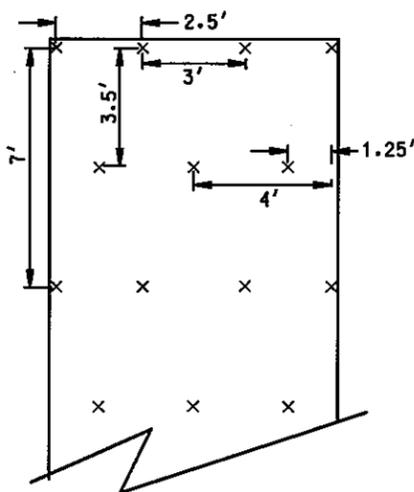
CHECK SLOT REQUIREMENTS

1. EXCAVATE A 6 INCH BY 6 INCH TRENCH.
2. INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.
3. STAPLE BLANKET EVERY 1 FOOT ALONG THE BOTTOM OF THE TRENCH
4. BACKFILL TRENCH WITH SOIL AND COMPACT.

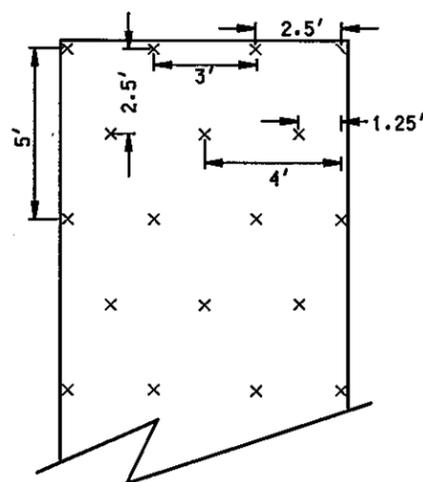
GENERAL BLANKET INSTALLATION REQUIREMENTS

1. BLANKETS SHOULD BE LAID PARALLEL TO THE DIRECTION OF WATER FLOW.
2. OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4 INCHES.
3. OVERLAP STRIP ENDS A MINIMUM OF 7 INCHES WITH THE UPGRADE END ON TOP OF THE DOWNGRADE END. STAPLE ALONG OVERLAP EVERY 1.5 FEET.
4. THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100 FT OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.
5. THE BEGINNING OF EACH BLANKET IN ALL DITCH APPLICATIONS MUST START IN A CHECK SLOT.

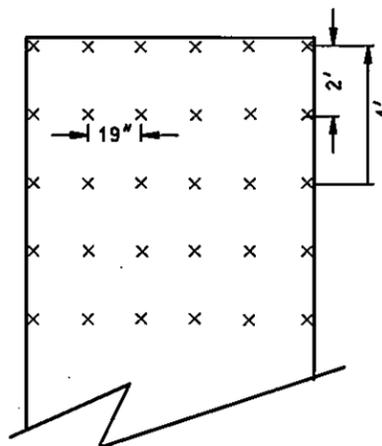
SLOPES FLATTER THAN 1:2
(1.2 STAPLES PER SQ YD)



SLOPES 1:2 TO 1:1
(1.7 STAPLES PER SQ YD)



CHANNEL AND DITCH APPLICATIONS
(3.5 STAPLES PER SQ YD)

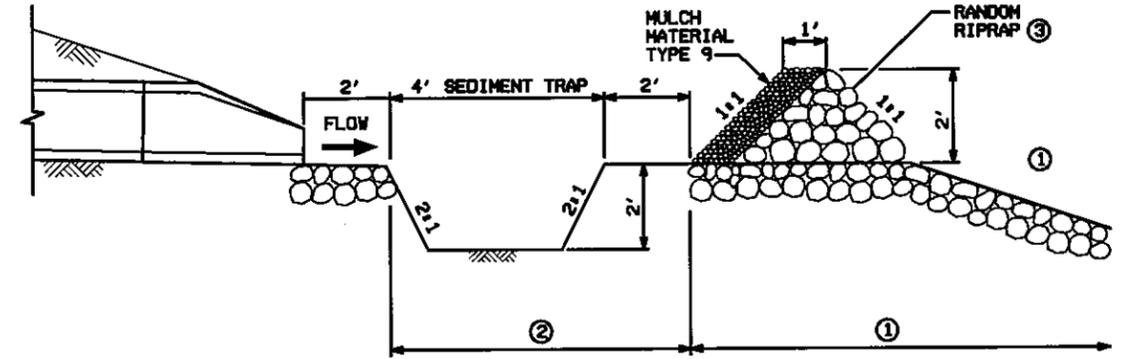
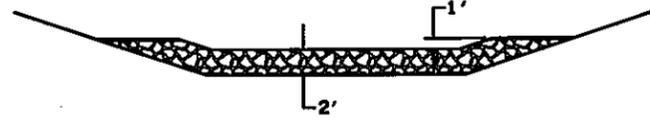
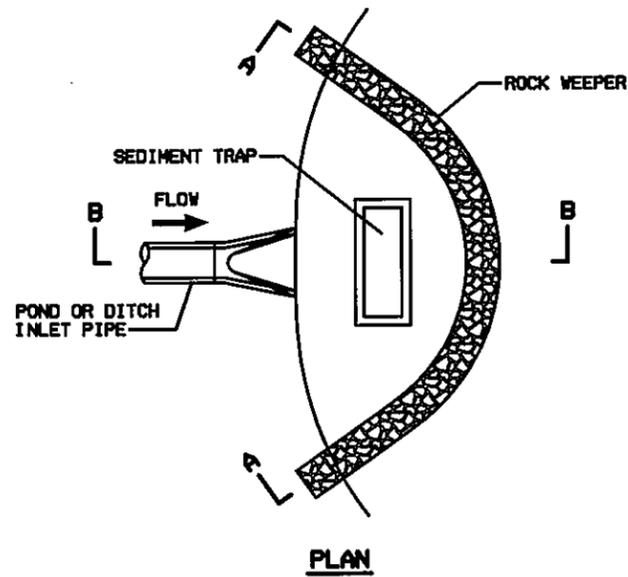


STANDARD 8FT BLANKET STAPLING PATTERN

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 DATE 11-20-09 REG. NO. 20300 ENGINEER *Brett Troyer*
 BRETT TROYER

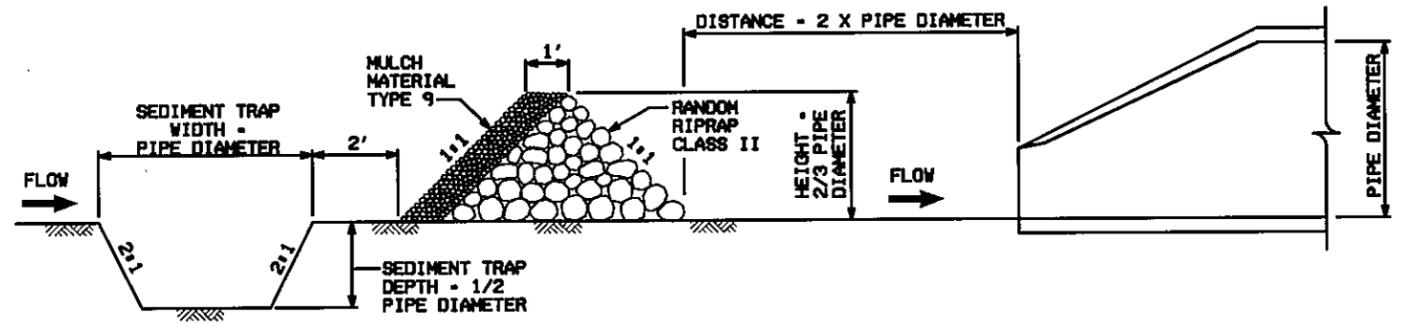
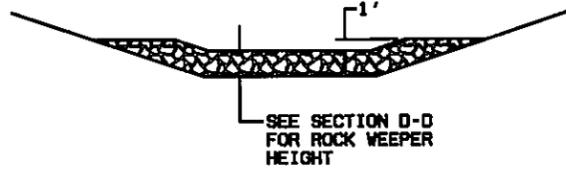
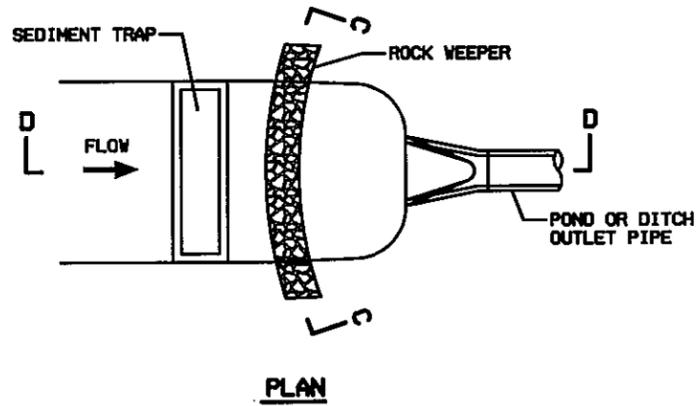
TITLE:

EROSION CONTROL
BLANKET INSTALLATION

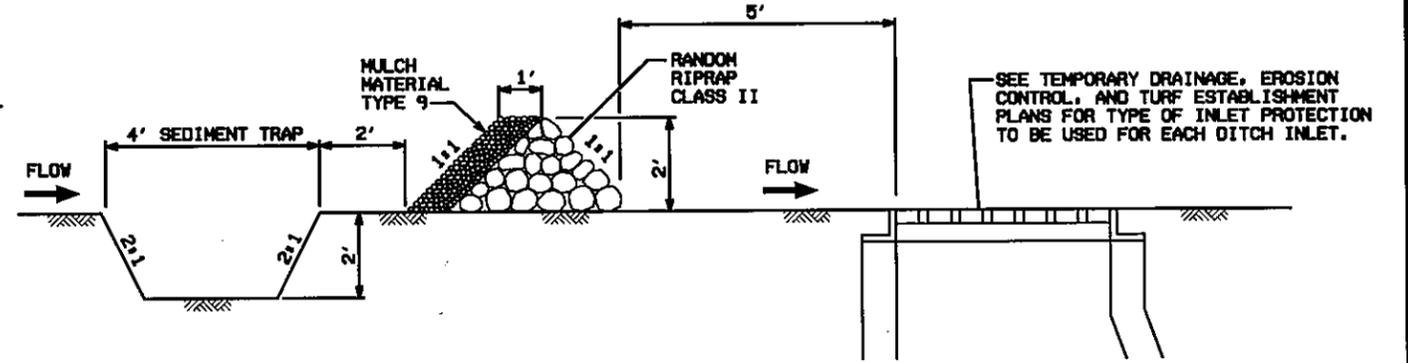
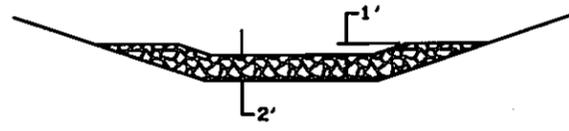
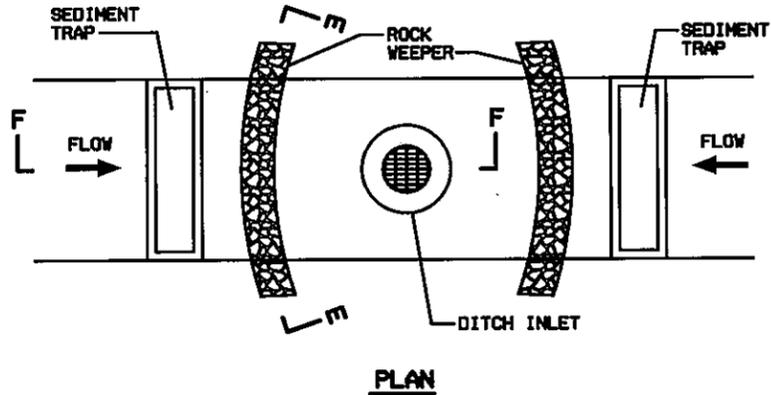


- NOTES:**
- ① INSTALL RIPRAP TO POND BOTTOM OR TO TOE OF DITCH
 - ② AFTER SEDIMENT TRAP IS NO LONGER REQUIRED, RIPRAP FROM ROCK WEEPER MAY BE USED FOR THE PLUNGE POOL.
 - ③ USE CLASS III RIPRAP UNLESS OTHERWISE SPECIFIED ON TABULATION FOR PIPE. DEPTH OF RIPRAP AS PER STANDARD PLATES 3133, 3134

ROCK WEEPER DITCH CHECK TYPE 5



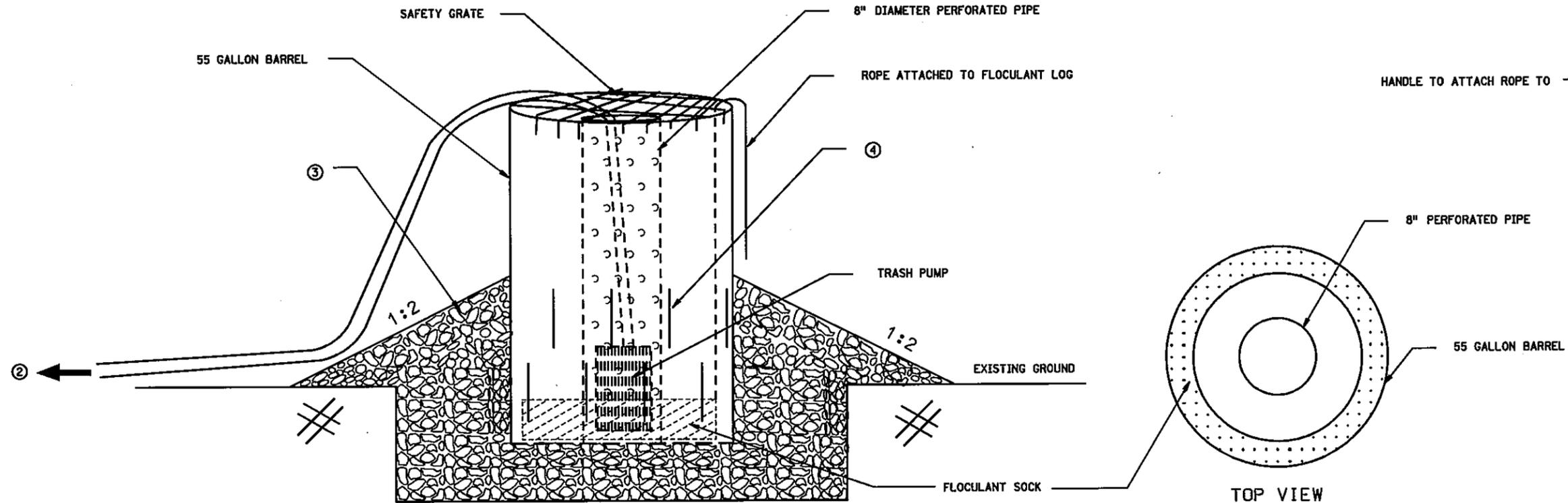
ROCK WEEPER EXIT SYSTEM



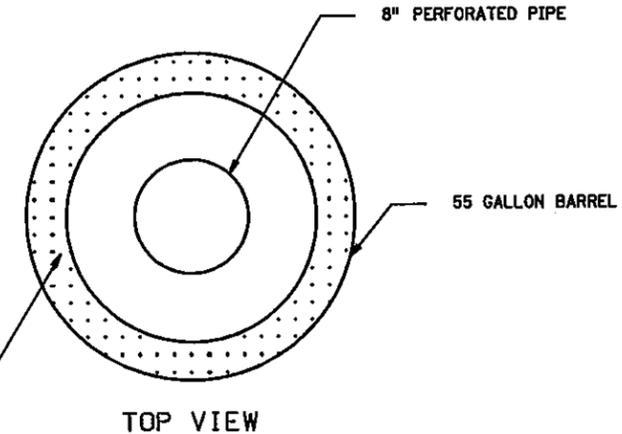
ROCK WEEPER DITCH INLET SYSTEM

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 DATE 11-20-2009 REG. NO. 20300 ENGINEER Brett B. Troyer
 BRETT B. TROYER

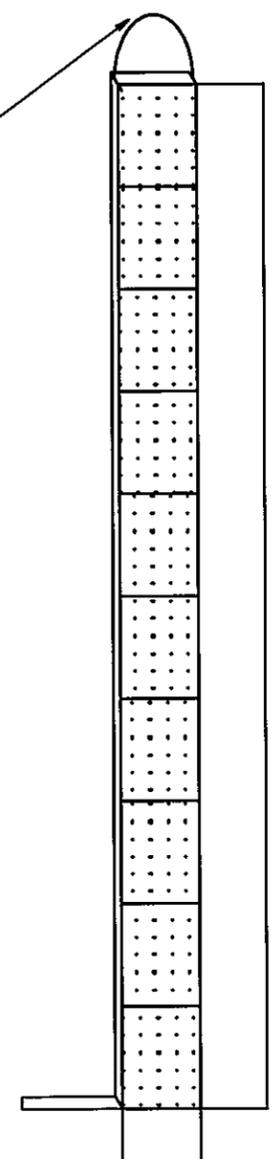
**SEDIMENT CONTROL
ROCK WEEPER SYSTEMS**
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 190 OF 587 SHEETS



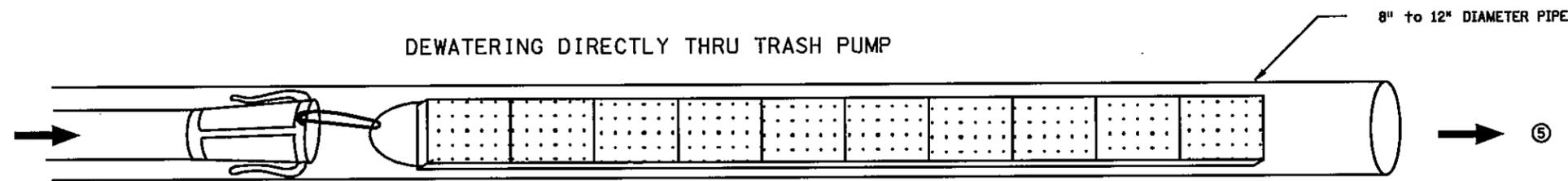
SUMP DEWATERING FOR POND ①



TOP VIEW



TYPICAL FLOCCULANT SOCK



FLOW FROM TRASH PUMP DISCHARGE HOSE

SECURE FLOCCULANT SOCK TO COUPLER CONNECT ON HOSE.

NOTES:

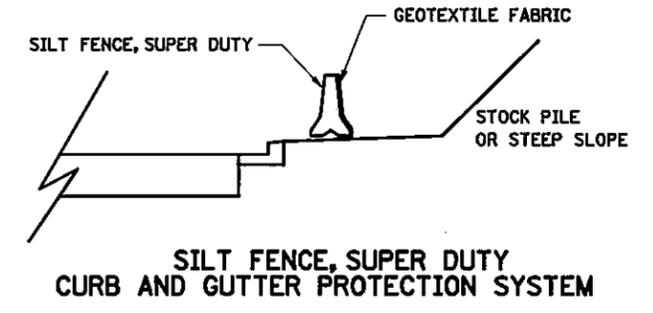
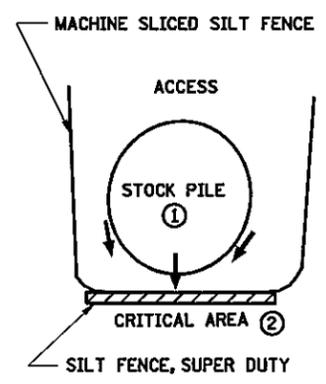
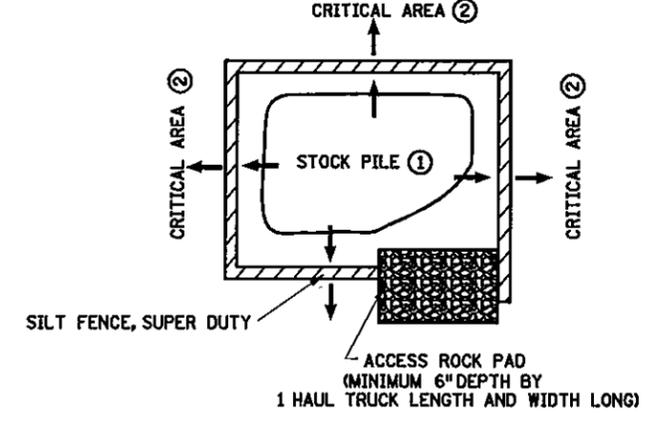
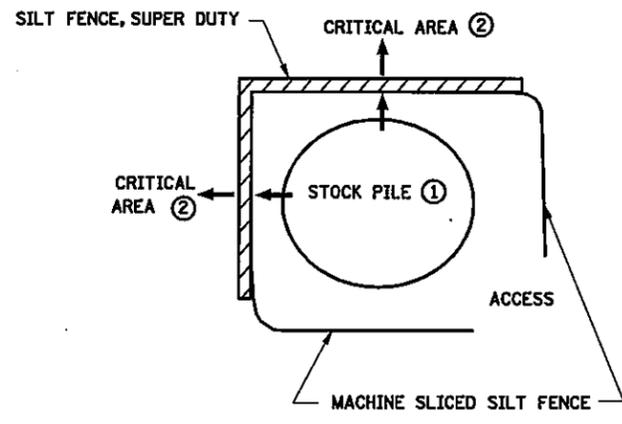
- ① DEWATERING DEVICE SHOULD BE PLACED AT THE LOW POINT OF THE AREA TO DRAIN
- ② MUST DISCHARGE WATER TO AN APPROPRIATE LOCATION SUCH AS A SMALL SETTLING BASIN. DO NOT DISCHARGE TO AN EXISTING SURFACE WATER. MUST USE APPROPRIATE ENERGY DISSIPATION TO PREVENT SOIL SCOUR AND TRANSPORT.
- ③ 1" - 2" DIAMETER CLEAN ROCK. ROCK IS TO BE PLACED 2 INCHES ABOVE HIGHEST SLIT IN BARREL.
- ④ 1/4" - 1/2" X 12" SLITS CUT INTO LOWER HALF OF BARREL.
- ⑤ MUST DISCHARGE WATER TO A SEDIMENT BASIN OR SEDIMENT TRAP. DO NOT DISCHARGE DIRECTLY TO A WATER BODY.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 11-20-2009 REG. NO. 20300 ENGINEER Brett B. Troyer
 BRETT B. TROYER

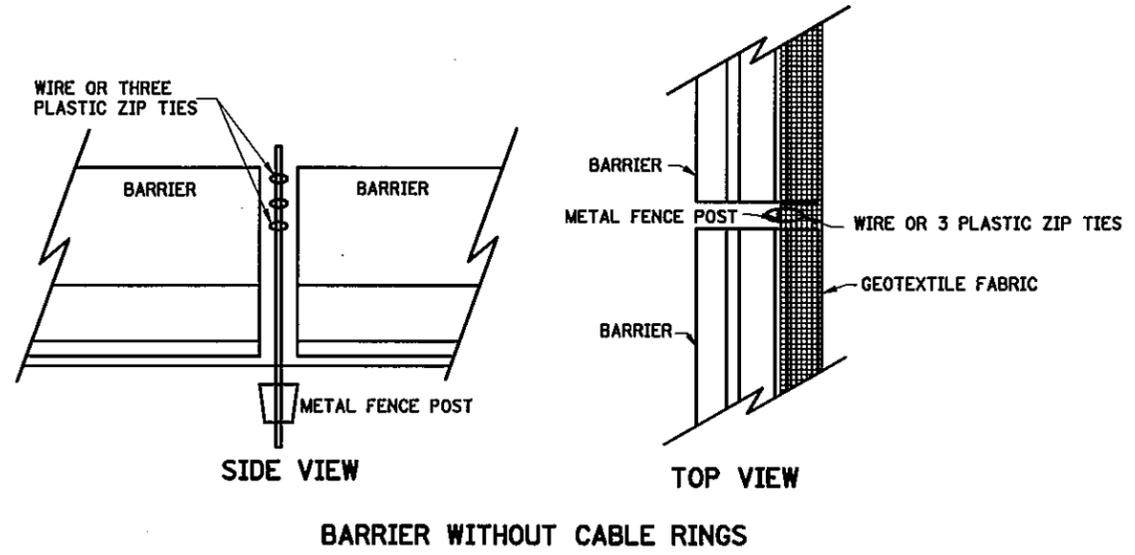
TEMPORARY SEDIMENT CONTROL
 SUMP DEWATERING
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 191 OF 587 SHEETS

PLOTTED/REVISED:
18-DEC-2009

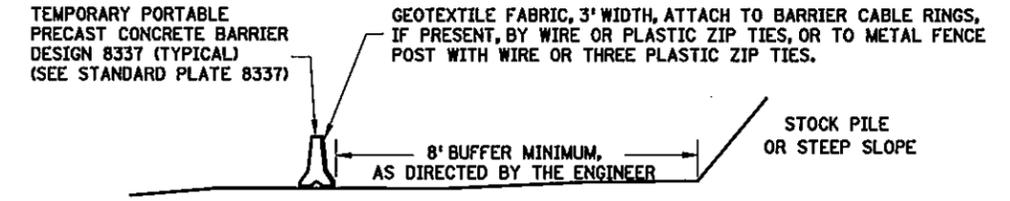
DISTRICT #: DULUTH
 USER NAME: \$\$\$USER\$NAME\$\$\$
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Standard Plan Sheets/D6982-290_SF.dgn



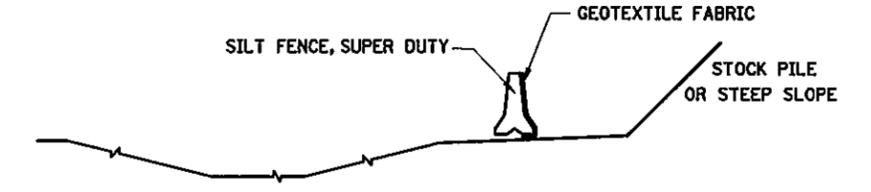
**SILT FENCE, SUPER DUTY
STOCK PILE CONTAINMENT**



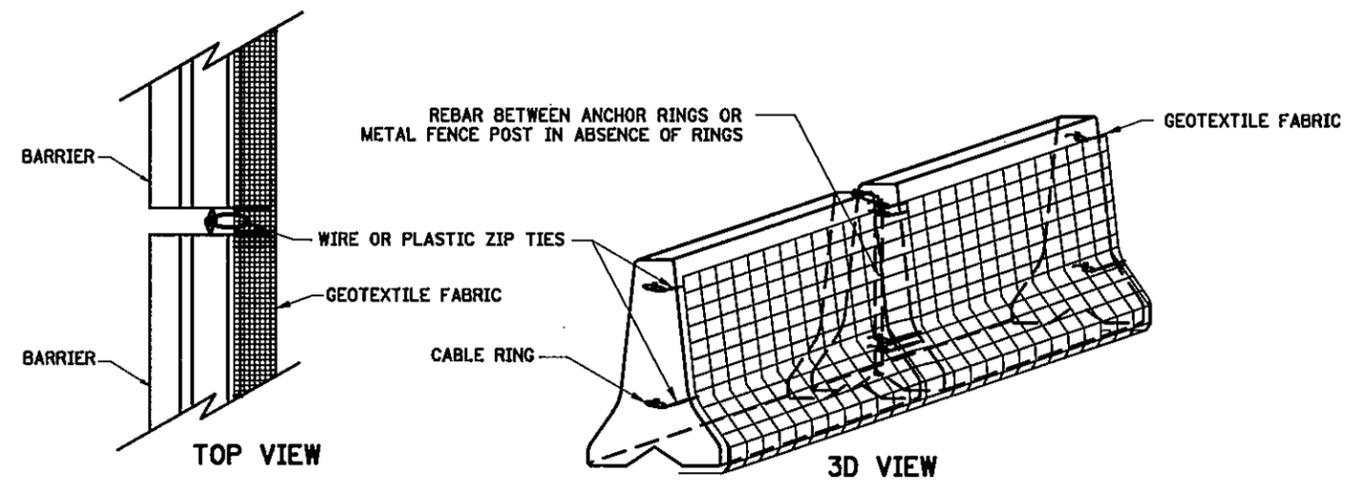
BARRIER WITHOUT CABLE RINGS



**SILT FENCE, SUPER DUTY
STOCKPILE SEDIMENT CONTROL**



**SILT FENCE, SUPER DUTY
DITCH PROTECTION SYSTEM**

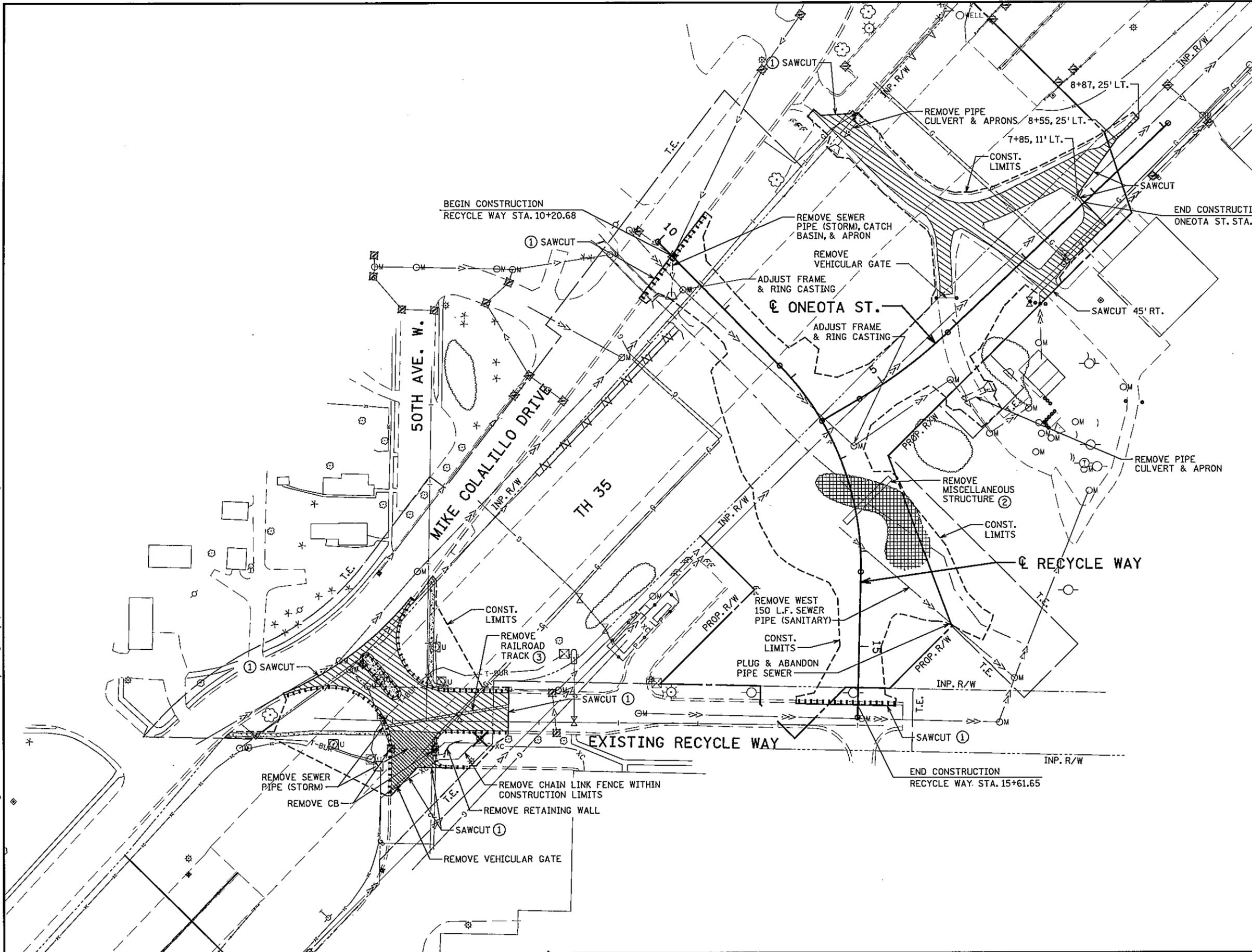
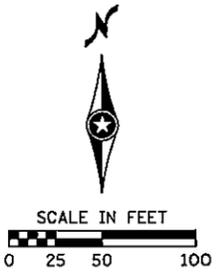


**BARRIER WITH CABLE RINGS
SILT FENCE, SUPER DUTY**

- NOTES:**
- SEE SPECS. 2533, 2573 & 3886.
 - PLACE SUPER DUTY SILT FENCE ALONG A CONSTANT ELEVATION. SUPER DUTY SILT FENCE CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.
 - ① PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, THE SUPER DUTY SILT FENCE IS TO BE USED AS SHOWN OR AS DIRECTED BY THE ENGINEER.
 - ② CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

STANDARD SHEET NO. 5-297.408 (2 of 2)	TITLE: TEMPORARY SEDIMENT CONTROL SUPER DUTY SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 193 OF 587 SHEETS	

DATE: 12/18/2009 TIME: 9:00:59 AM
 FILENAME: K:\g-m\m\DOT\449000\my-brdg\my-pln-st\6982290_rma.dgn



LEGEND	
	REMOVE BITUMINOUS PAVEMENT
	REMOVE CONCRETE PAVEMENT
	REMOVE CONCRETE WALK
	REMOVE CURB AND GUTTER
	CLEAR AND GRUB (ACRE)
	CLEAR AND GRUB (TREE)

- NOTES:**
- SEE CONSTRUCTION DETAILS FOR SAWCUT LOCATIONS.
 - EXISTING 70.5' LONG X 7.5' WIDE STRUCTURE CONSISTING OF A PRECAST CONCRETE SLAB SET ON CONCRETE BLOCK ABUTMENTS. THE SPAN SLAB IS 30.5' LONG AND 6" THICK. THE ABUTMENTS ARE 4' TALL. THE SOUTH ABUTMENT IS 12.5' LONG AND THE NORTH ABUTMENT IS 27.5' LONG. ALL DIMENSIONS ARE APPROXIMATE.
 - RAILROAD TRACK IS BURIED IN THE BITUMINOUS PAVEMENT. INCLUDES REMOVAL AND DISPOSAL OF TRACK TIES AND MISCELLANEOUS HARDWARE, IF ANY.

DRAWN BY: SFH
 CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: DECEMBER 18, 2009 LIC. NO. 15400



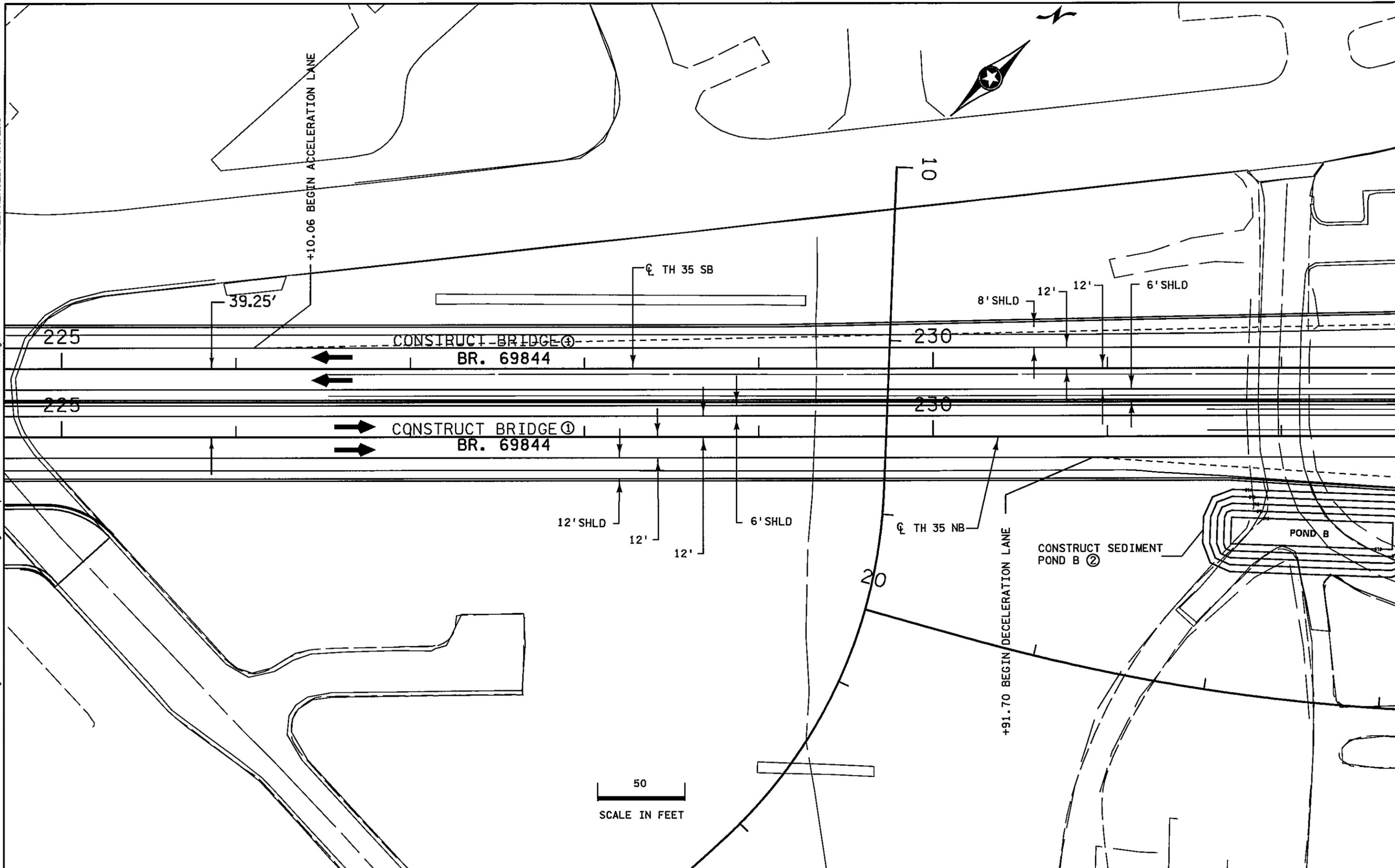
MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 35 IMPROVEMENTS

REMOVAL PLAN
 RECYCLE WAY AND ONEOTA ST.

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. 302 of 587 Sheets

PLOTTED/REVISED: 31-JAN-2010

DISTRICT #: DULUTH
PLOT NAME: planned const_sht321
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan sheets/PLAN CONSTRUCTION31.dgn



① FOR BRIDGE DETAILS SEE BRIDGE 69844 PLAN.

② FOR SEDIMENT POND DETAILS SEE CONSTRUCTION DETAILS SHEET #148.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

DATE 31-JAN-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

PLANNED CONSTRUCTION

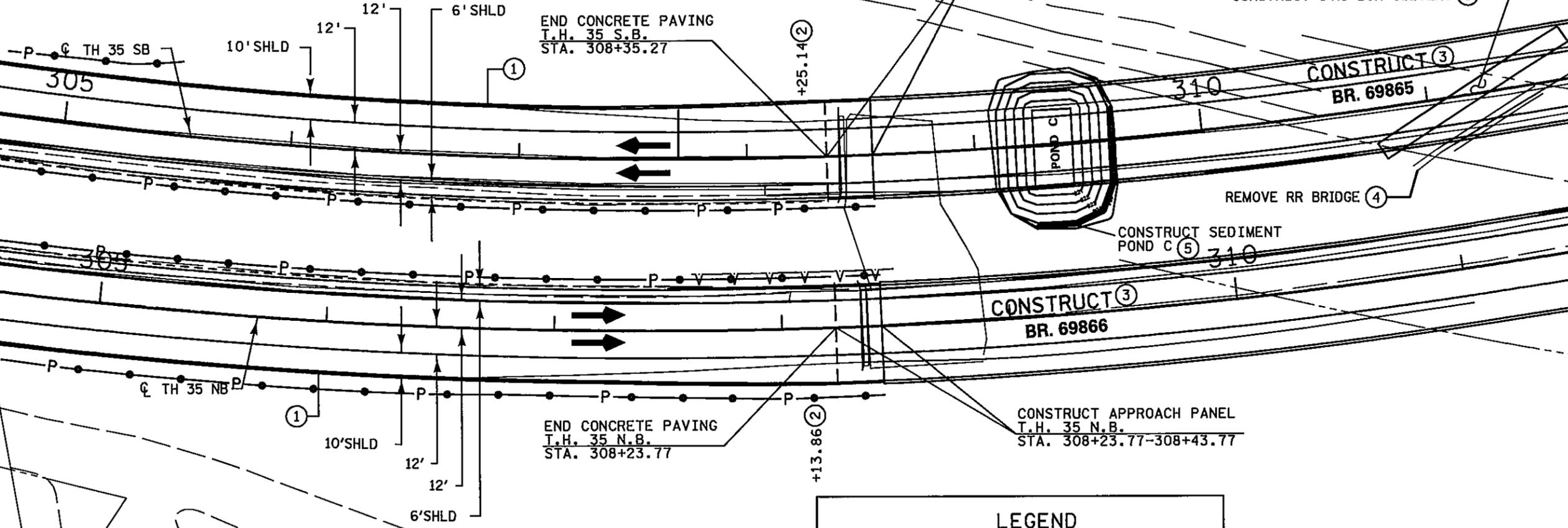
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 321 OF 587 SHEETS

PLOTTED/REVISED: 26-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: planned const_sht331
PATH & FILENAME: Projects/DL/DUL/035/6982/290/Design/Plan/plan sheets/PLAN CONSTRUCTION/49.dgn

BR. 69833

RAILROAD BRIDGE

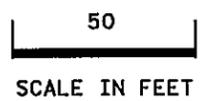


LEGEND

●—P—● GUARDRAIL

V—V—V TEMPORARY VERTICAL SHORING
(LOCATIONS ARE APPROXIMATE.
PAID FOR AS TEMPORARY SHEET
PILING, SEE SPECIAL PROVISIONS.)

- ① INTEGRANT D4 CURB.
- ② TRANSITION FROM INTEGRANT D4 TO INTEGRANT B4 CURB.
- ③ FOR BRIDGE DETAILS SEE BR 69865, 69866 PLANS.
- ④ SEE BRIDGE 69865, 69866 PLAN FOR REMOVAL.
- ⑤ FOR SEDIMENT POND DETAILS SEE CONSTRUCTION DETAILS SHEET 149.
- ⑥ FOR BOX CULVERT DETAILS SEE SHEETS B6A-B6I.



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

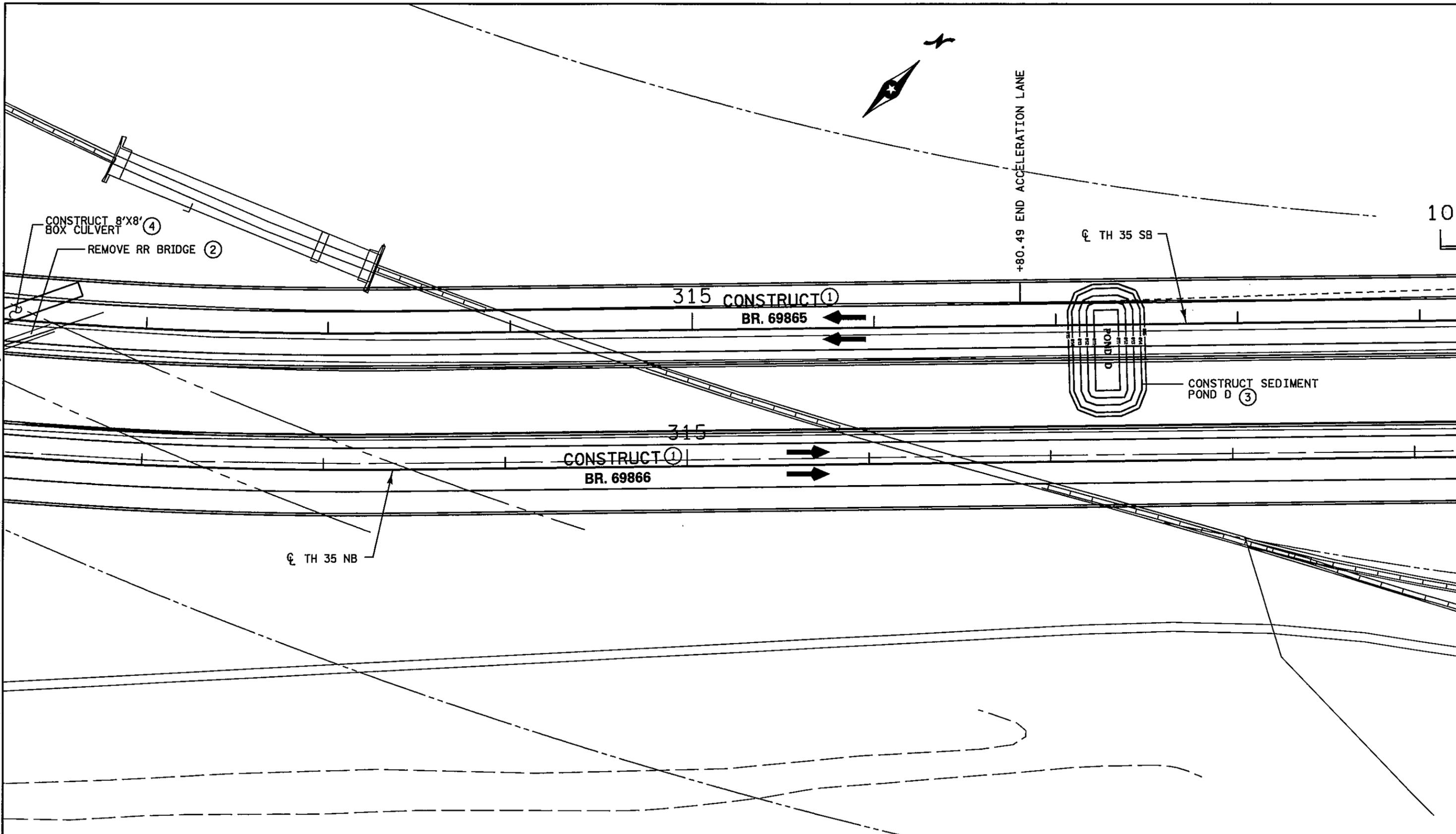
DATE 26-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

PLANNED CONSTRUCTION

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 331 OF 587 SHEETS

PLOTTED/REVISED: 30-JAN-2010

DISTRICT #: DULUTH
I/PLOT NAME: planned const_s#332
PATH & FILENAME: Projects/DL/DUL/035/6982/290/Design/Plan/plan sheets/PLAN CONSTRUCTION/10449.dgn



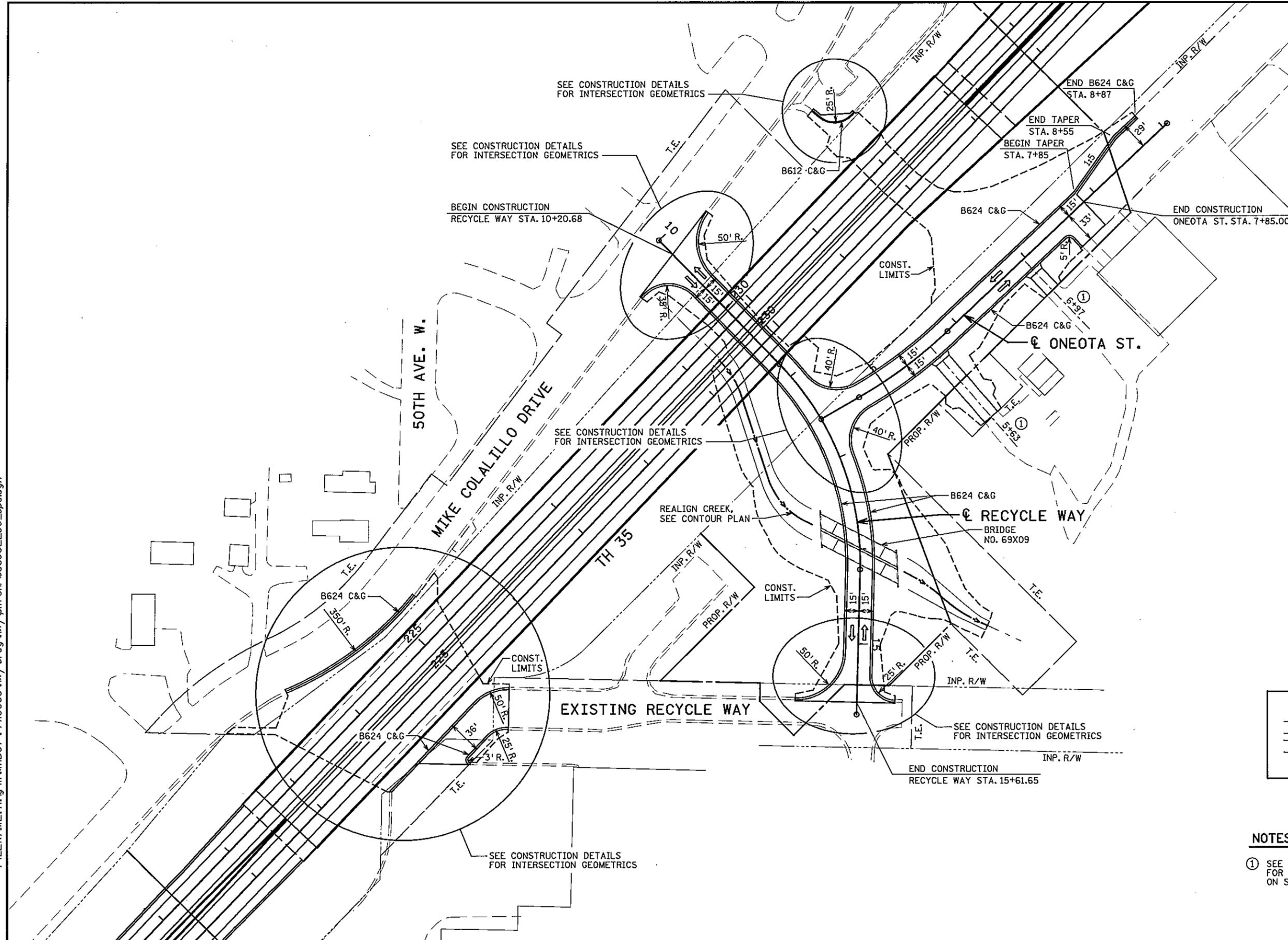
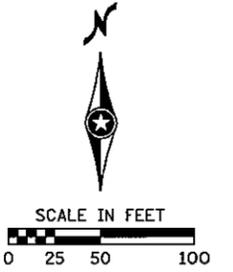
- ① FOR BRIDGE DETAILS SEE BR 69865, 69866 PLANS.
- ② SEE BRIDGE 69865, 69866 PLAN FOR REMOVAL.
- ③ FOR SEDIMENT POND DETAILS SEE CONSTRUCTION DETAILS SHEET 150.
- ④ FOR BOX CULVERT DETAILS SEE SHEETS B6A-B6I.

50
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 30-JAN-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

PLANNED CONSTRUCTION
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 332 OF 587 SHEETS

DATE: 12/18/2009 TIME: 9:01:02 AM
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LEGEND	
	INPLACE ROADWAY
	NEW CONSTRUCTION
	TRAFFIC FLOW

NOTES:
 ① SEE CITY OF DULUTH STANDARD DETAIL STR-5 FOR CONCRETE APRON DETAILS. USE INSET E ON SHEET 143 FOR BITUMINOUS DRIVEWAY.

DRAWN BY: SFH
 CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: DECEMBER 18, 2009 LIC. NO. 15400



MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 35 IMPROVEMENTS

PLANNED CONSTRUCTION
 RECYCLE WAY AND ONEOTA ST.

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. 339 of 587 Sheets

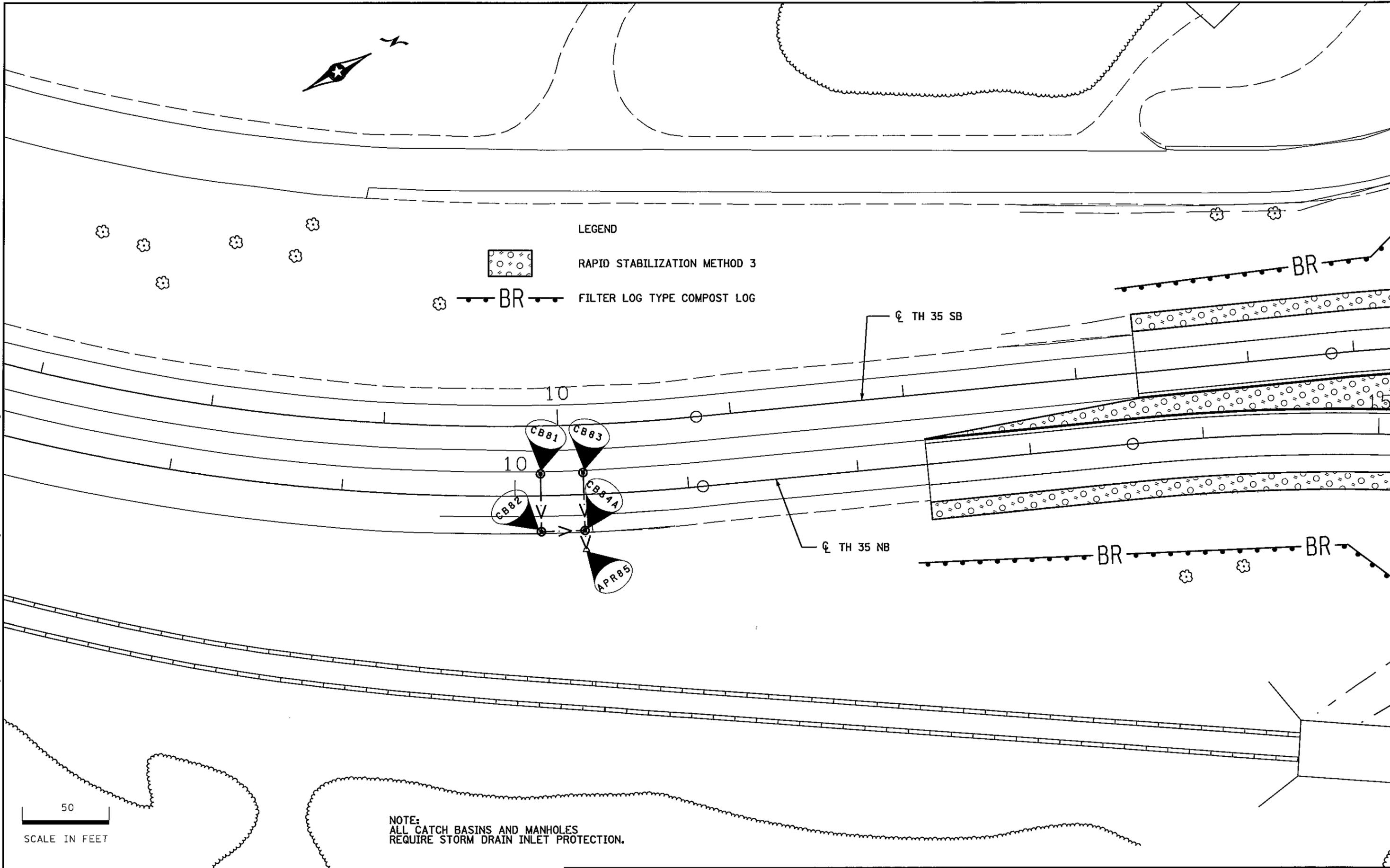
PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet368_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN6.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  FILTER LOG TYPE COMPOST LOG



50
SCALE IN FEET

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

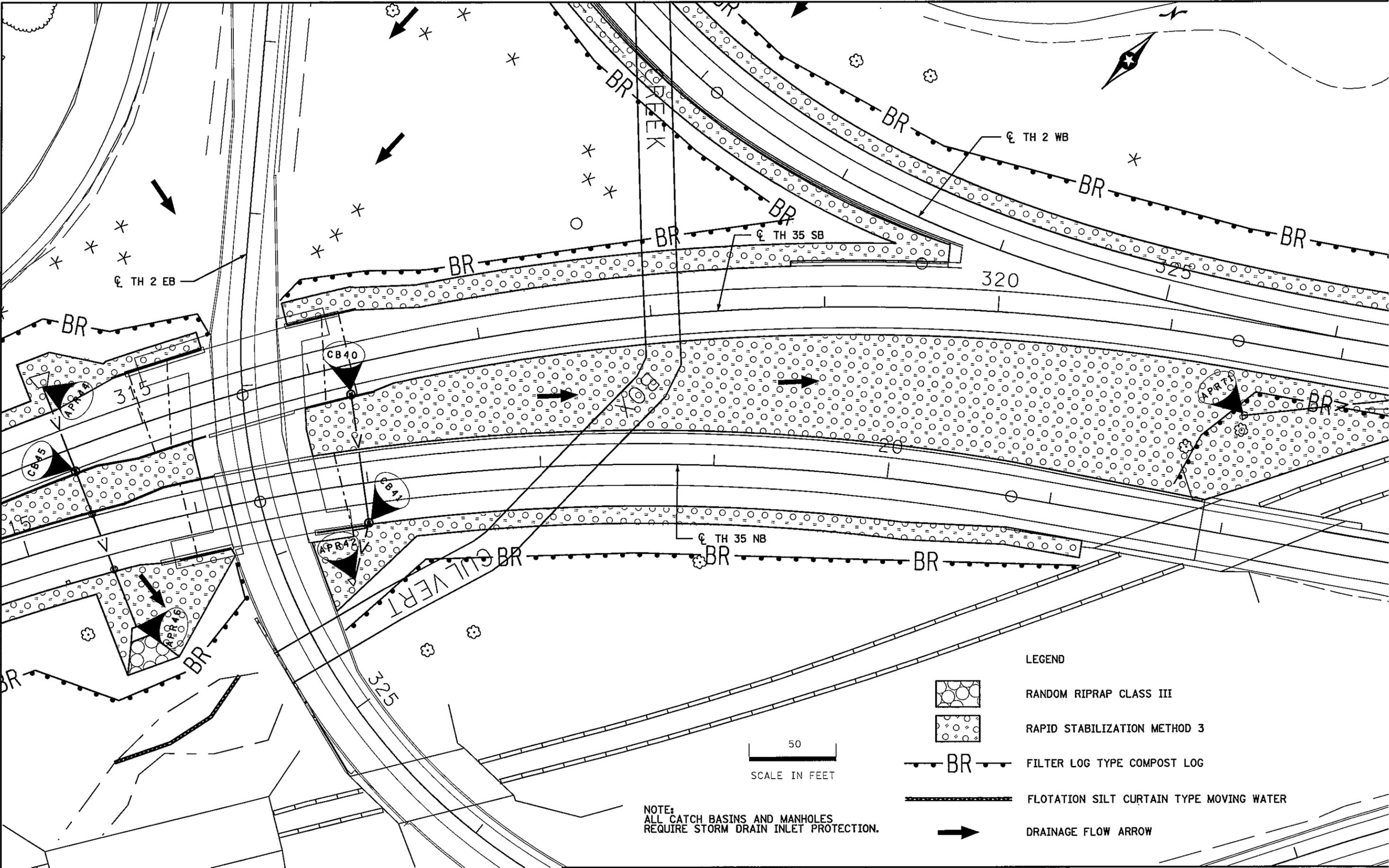
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 290) SHEET NO. 368 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet369_drain
PATH & FILENAME: Proj\Jobs\DI_DUL\035\6982\290\Design\Plan\Addendum\DRAIN6.dgn



LEGEND

-  RANDOM RIPRAP CLASS III
-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  FLOTATION SILT CURTAIN TYPE MOVING WATER
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 27-FEB-2010. LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

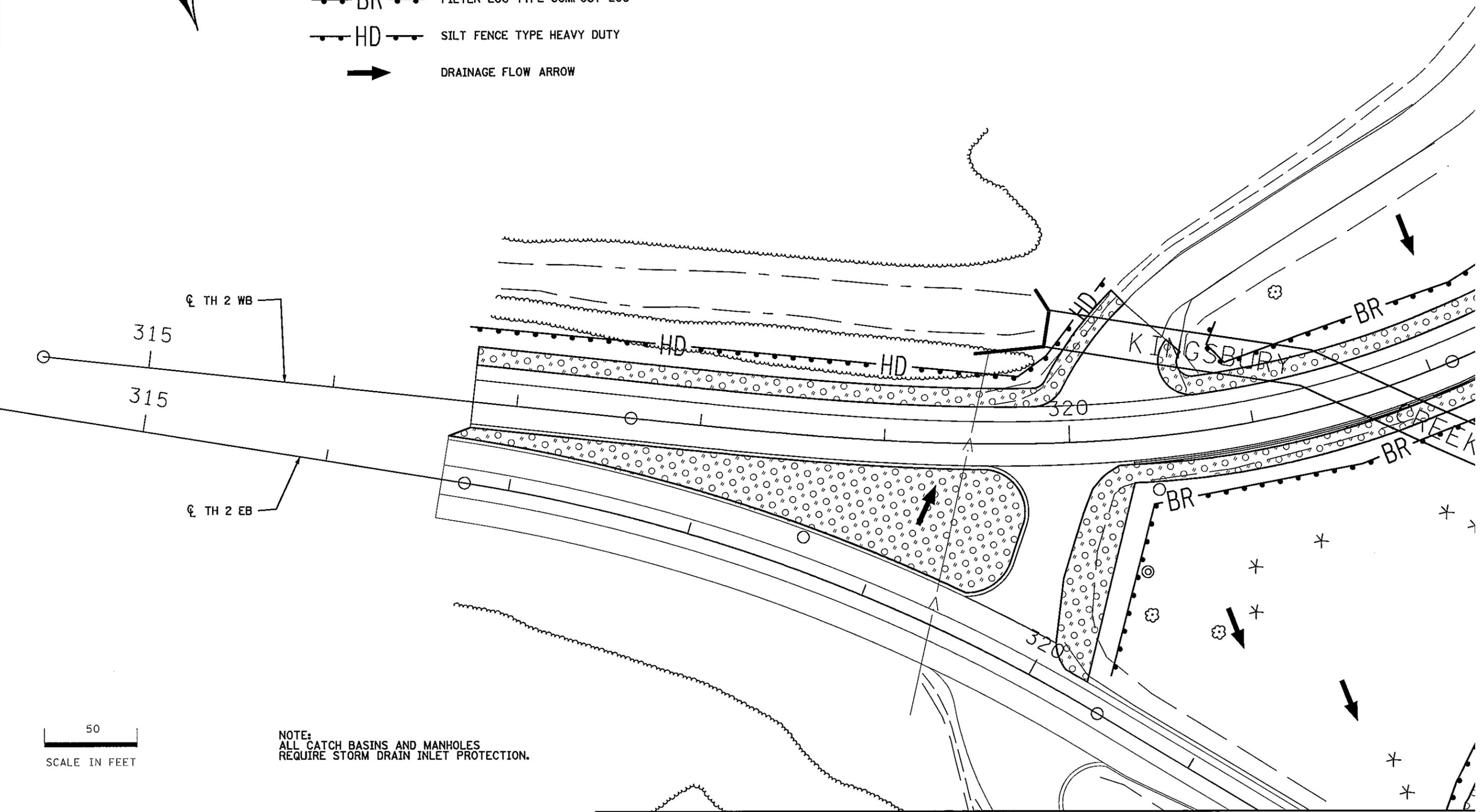
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 290) SHEET NO. 369 OF 587 SHEETS

- LEGEND
-  RAPID STABILIZATION METHOD 3
 -  BR FILTER LOG TYPE COMPOST LOG
 -  HD SILT FENCE TYPE HEAVY DUTY
 -  DRAINAGE FLOW ARROW



PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
 IPLOT NAME: sheet370_drain
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN6.dgn



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SCALE IN FEET

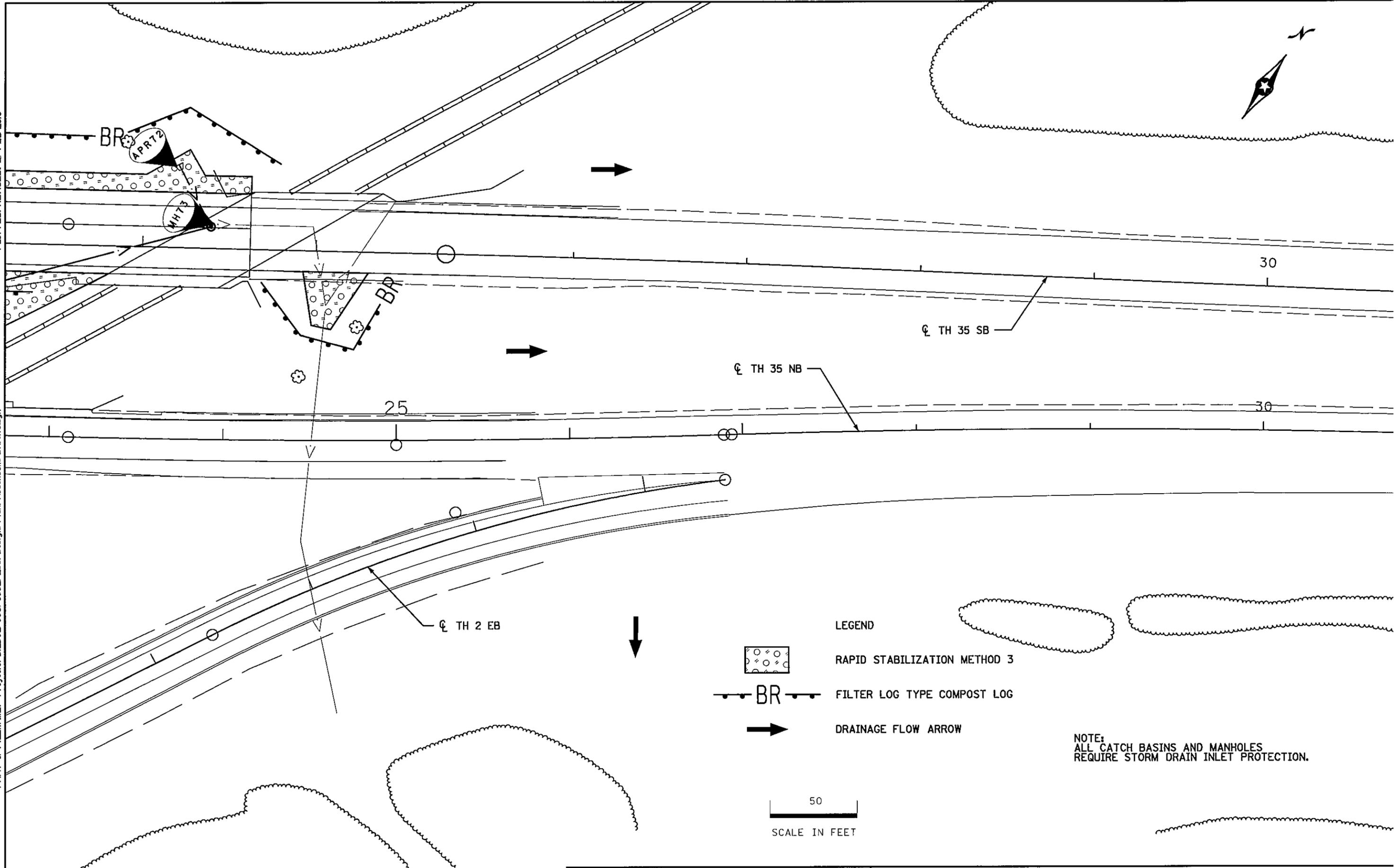
NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE 27-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

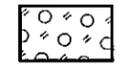
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
 STATE PROJ. NO. 6982-290 (TH 290) SHEET NO. 370 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

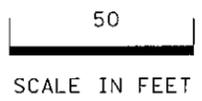
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LEGEND

-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

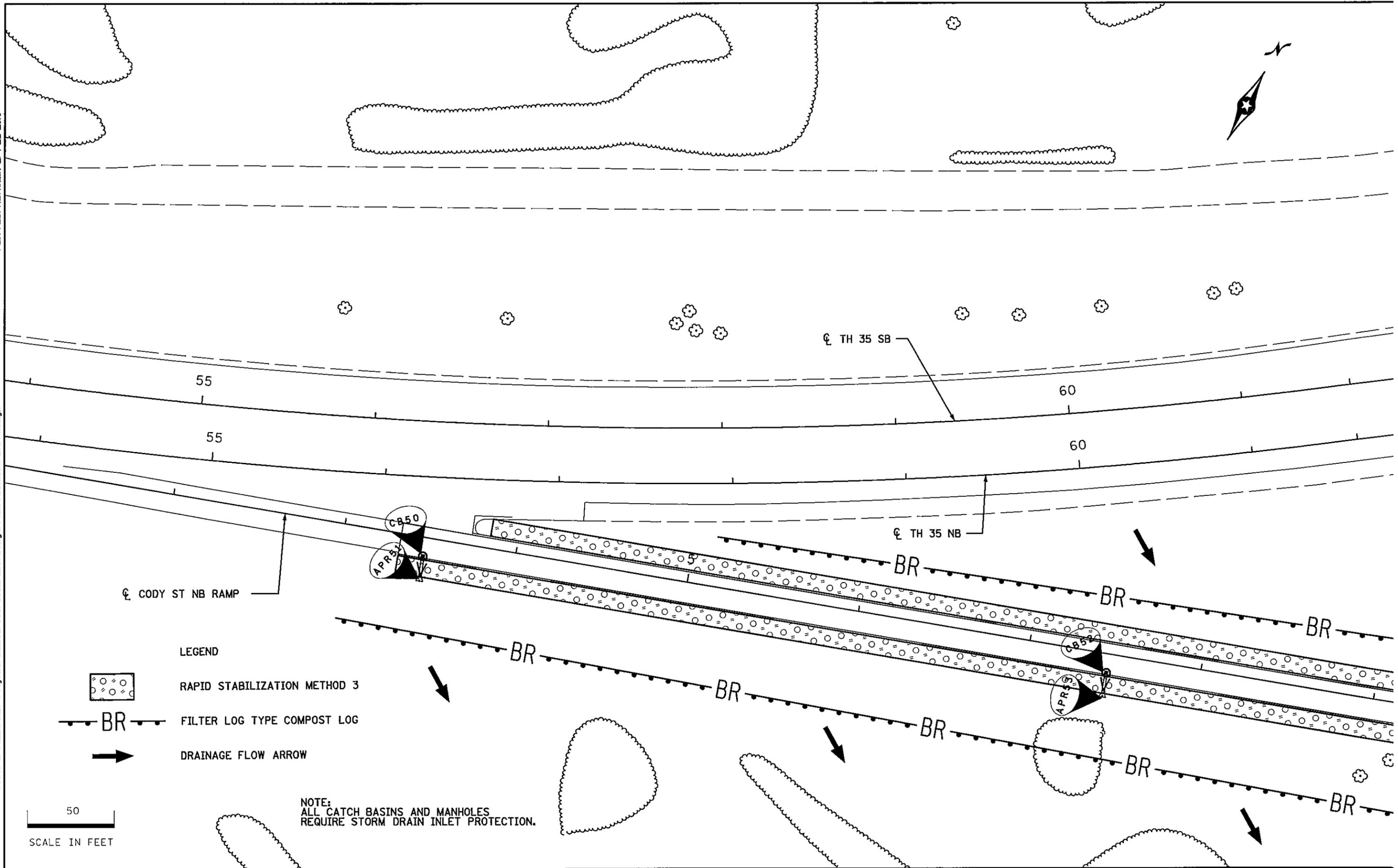


I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 290) SHEET NO. 371 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
I/PLOT NAME: sheet372_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Appendium/DRAIN3.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

50
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 372 OF 587 SHEETS

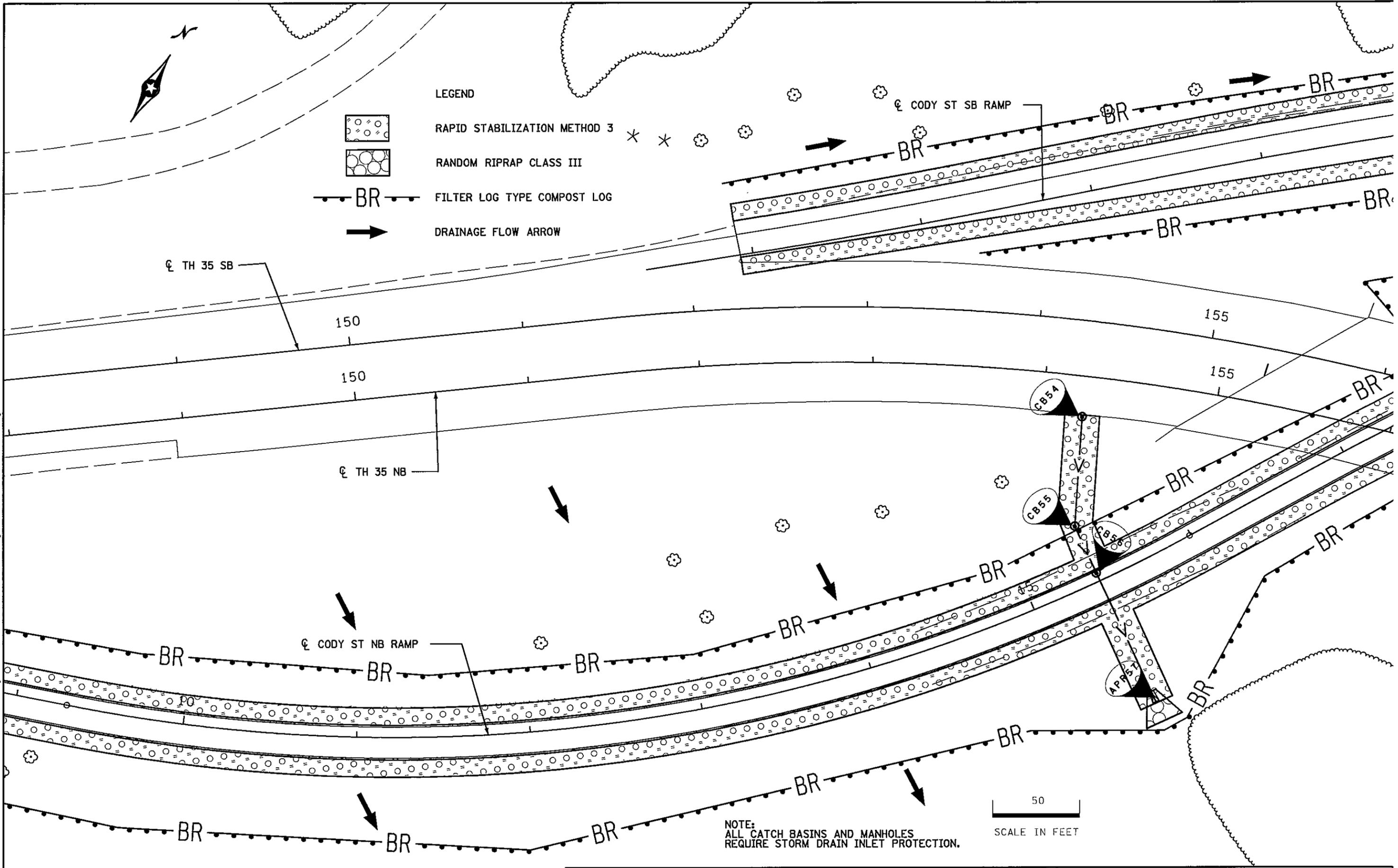
PLOTTED/REVISED: 27-FEB-2010

DISTRICT: DULUTH
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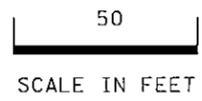


LEGEND

-  RAPID STABILIZATION METHOD 3
-  RANDOM RIPRAP CLASS III
-  BR FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW



NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.



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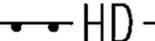
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 373 OF 587 SHEETS

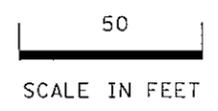
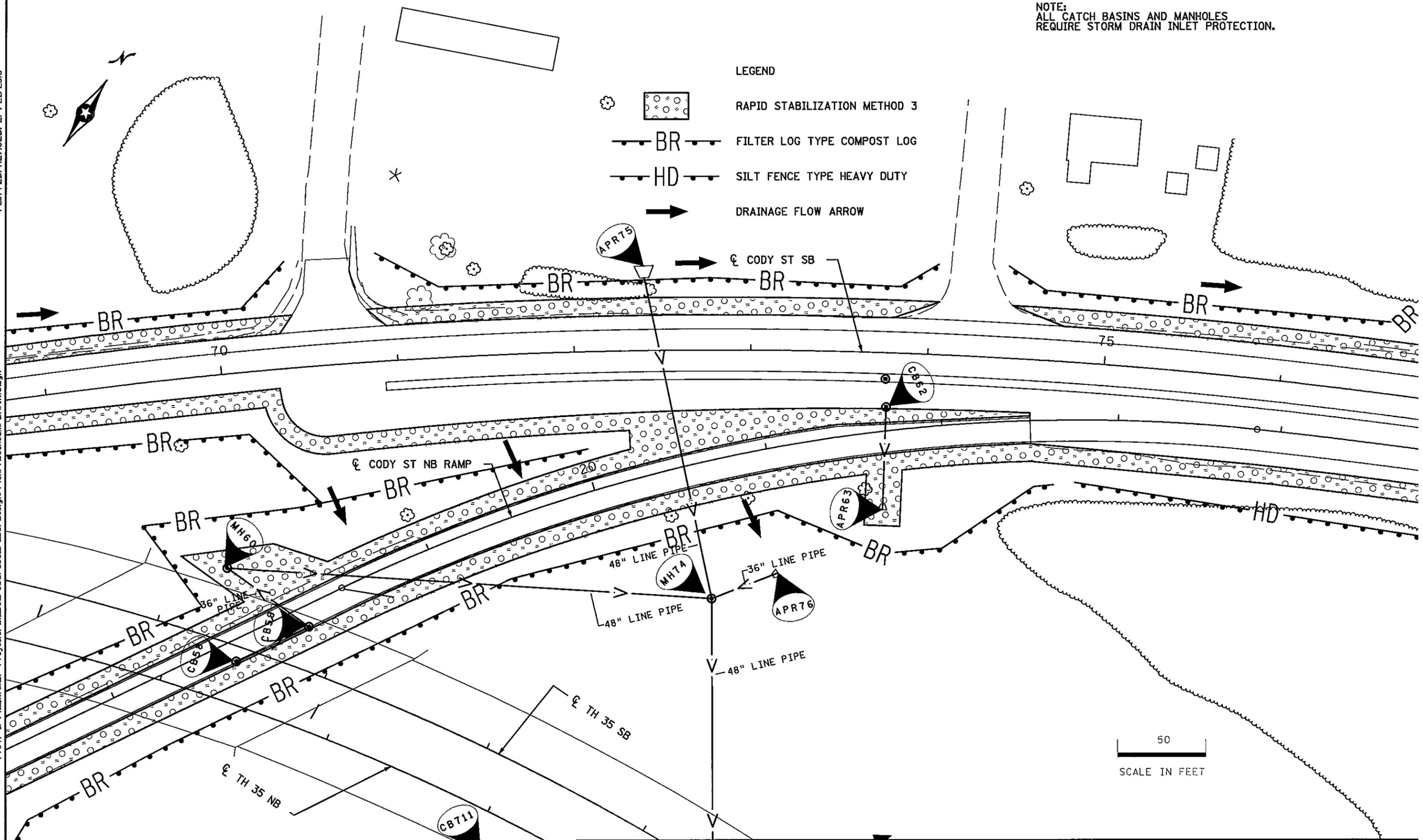
NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

LEGEND

-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  HD SILT FENCE TYPE HEAVY DUTY
-  DRAINAGE FLOW ARROW

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet374_drain
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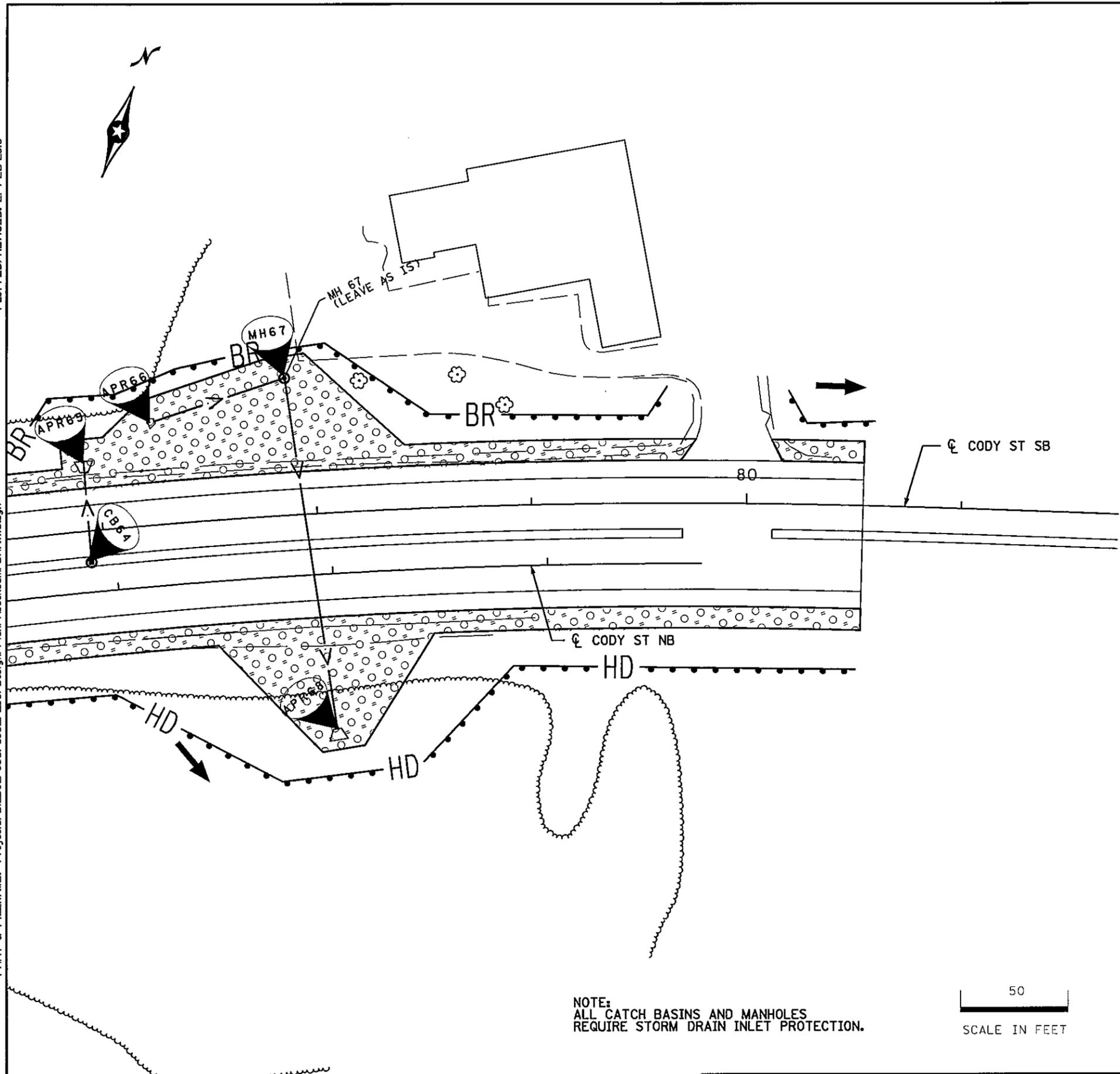


I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: 27-FEB-2010, LIC. NO. 43441, ENGINEER *Daniel J. Erickson*

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 374 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet375_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRANI3.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  HD SILT FENCE TYPE HEAVY DUTY
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

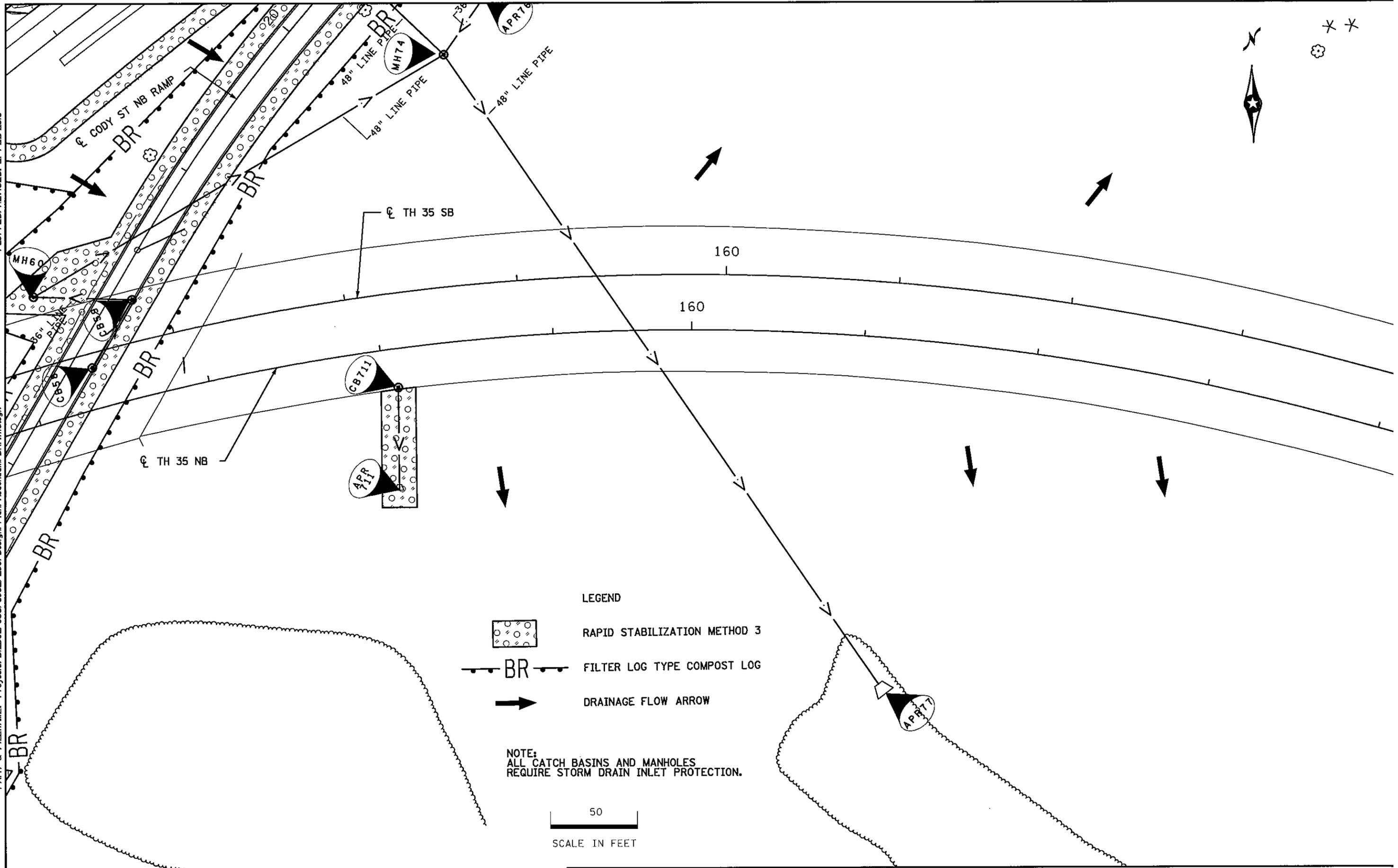
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SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 375 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

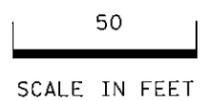
DISTRICT #: DULUTH
IPLOT NAME: sheet376_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN3.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

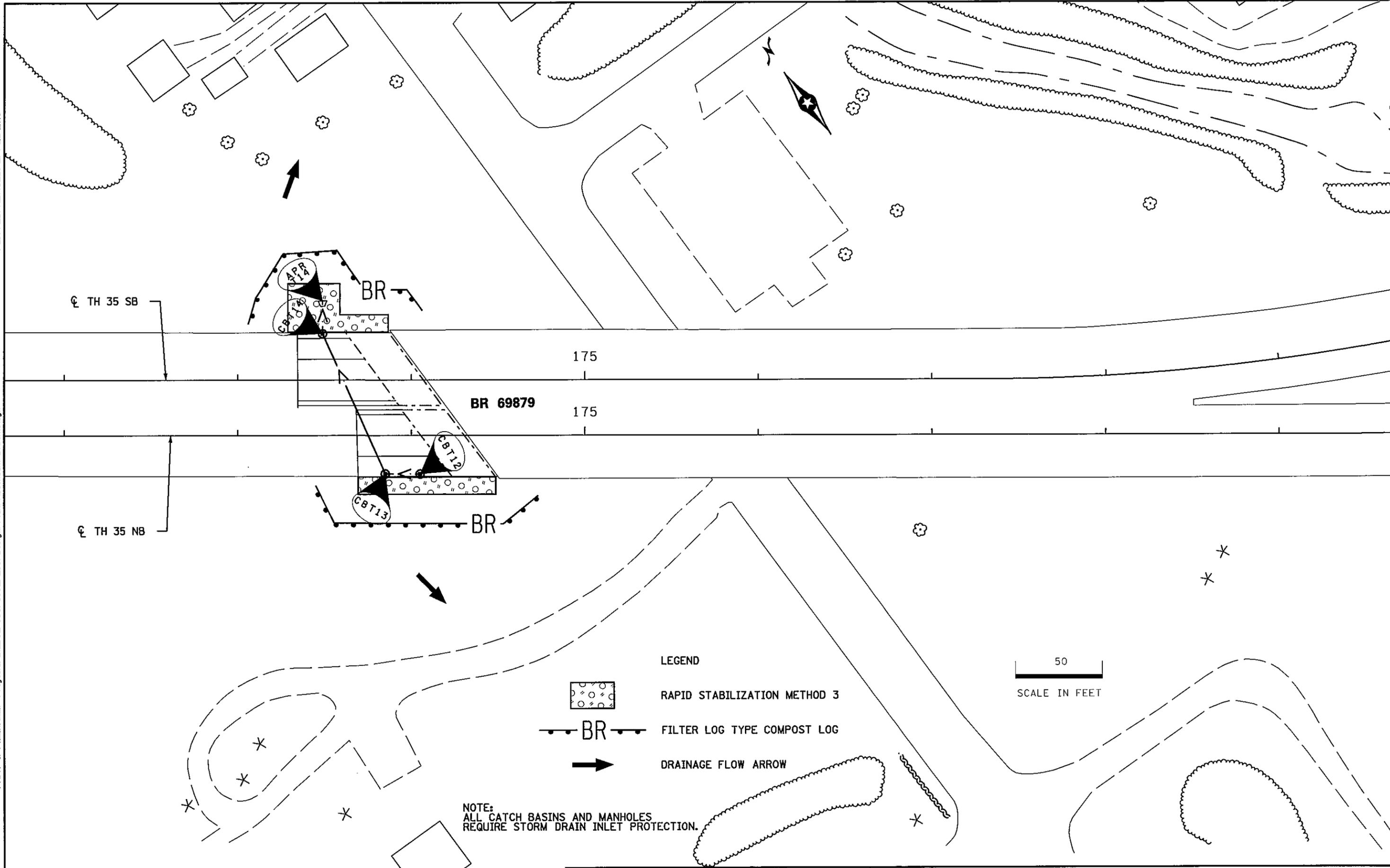
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 376 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet377_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRANIS.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  BR FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

50
SCALE IN FEET

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.

DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

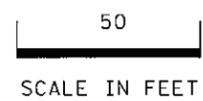
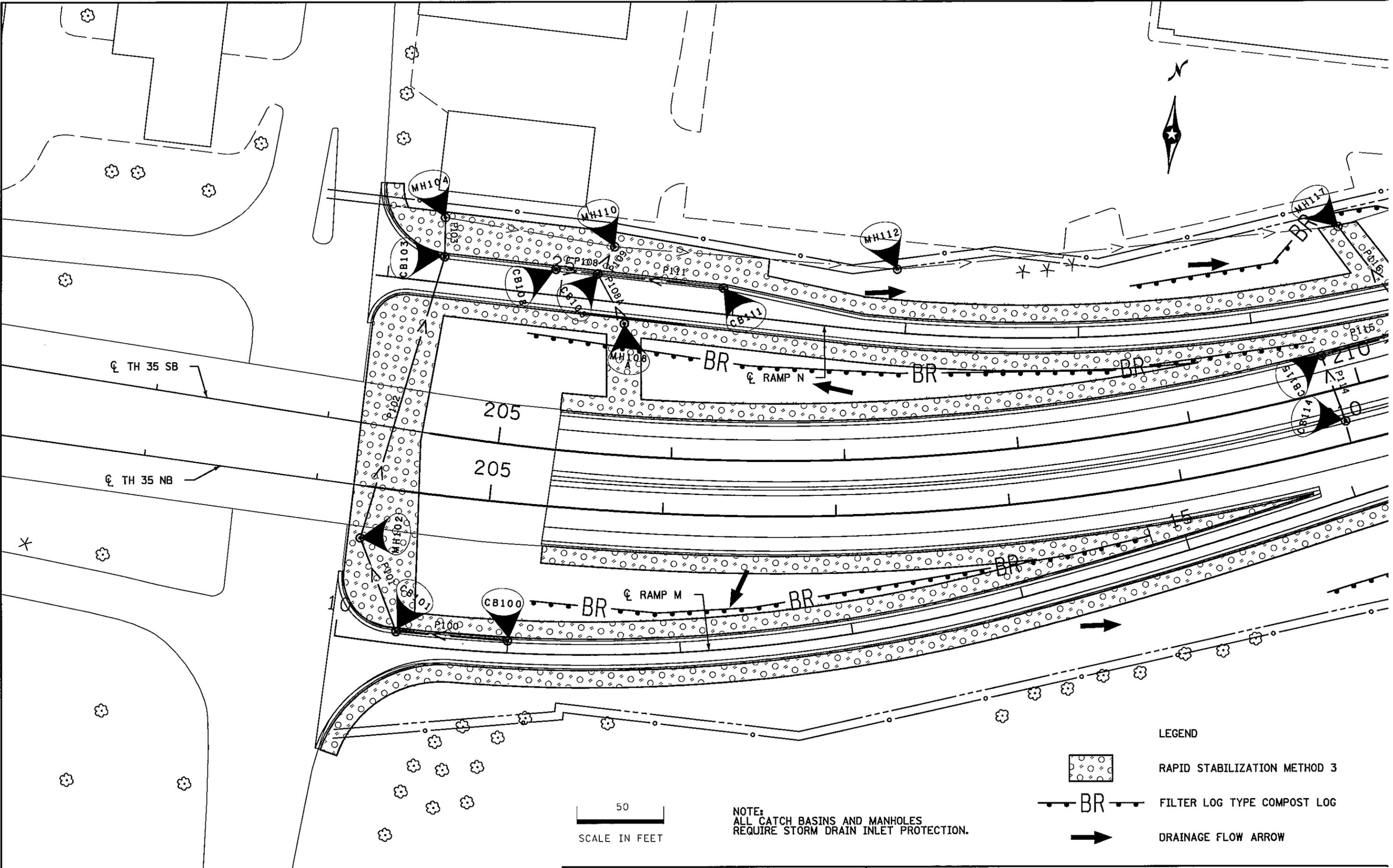
TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 377 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
PLOT NAME: sheet378_drain
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DISTRICT #: DULUTH
PLOT NAME: sheet378_drain
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NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

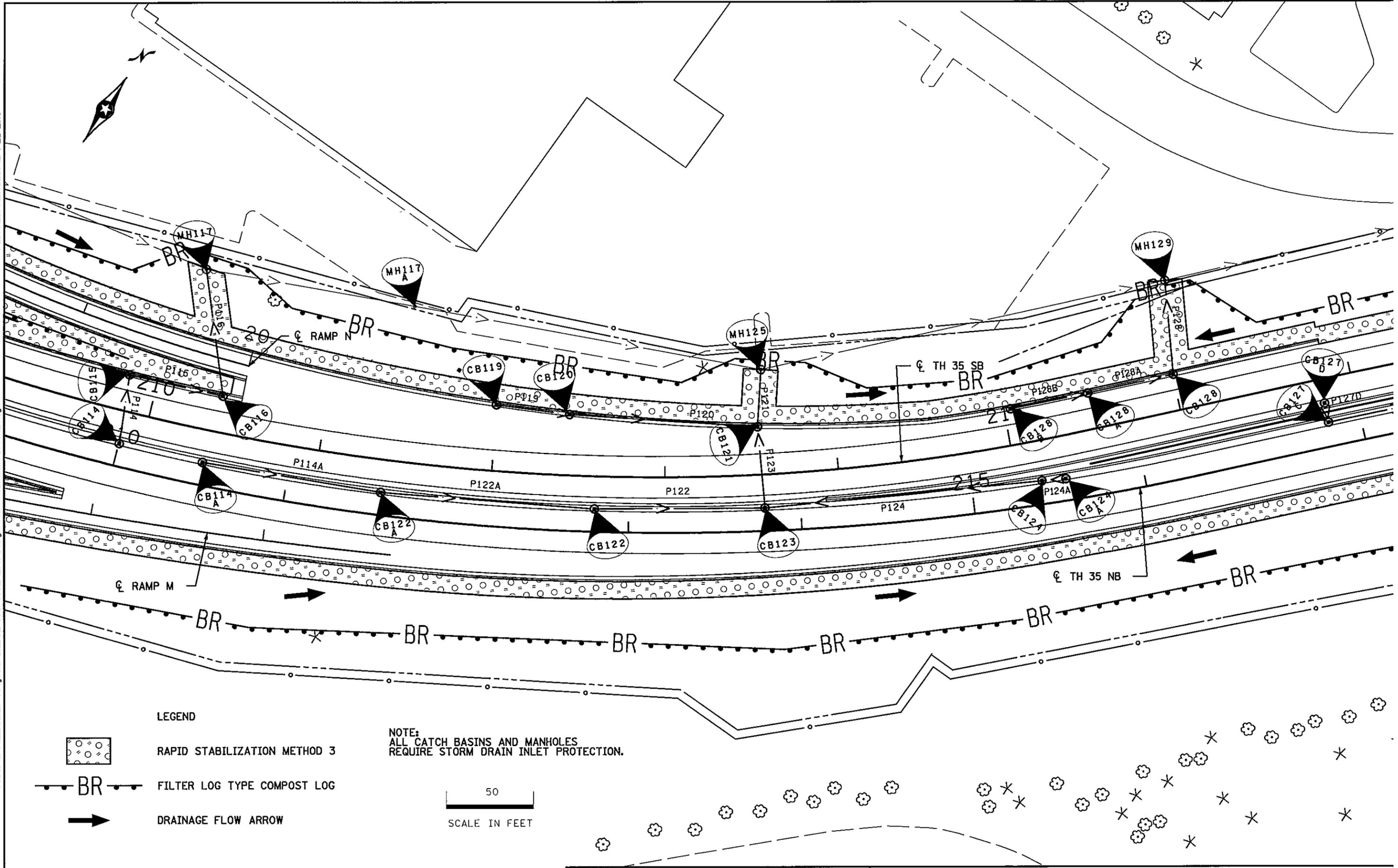
- LEGEND
-  RAPID STABILIZATION METHOD 3
 -  FILTER LOG TYPE COMPOST LOG
 -  DRAINAGE FLOW ARROW

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 27-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 378 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet379_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN23.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

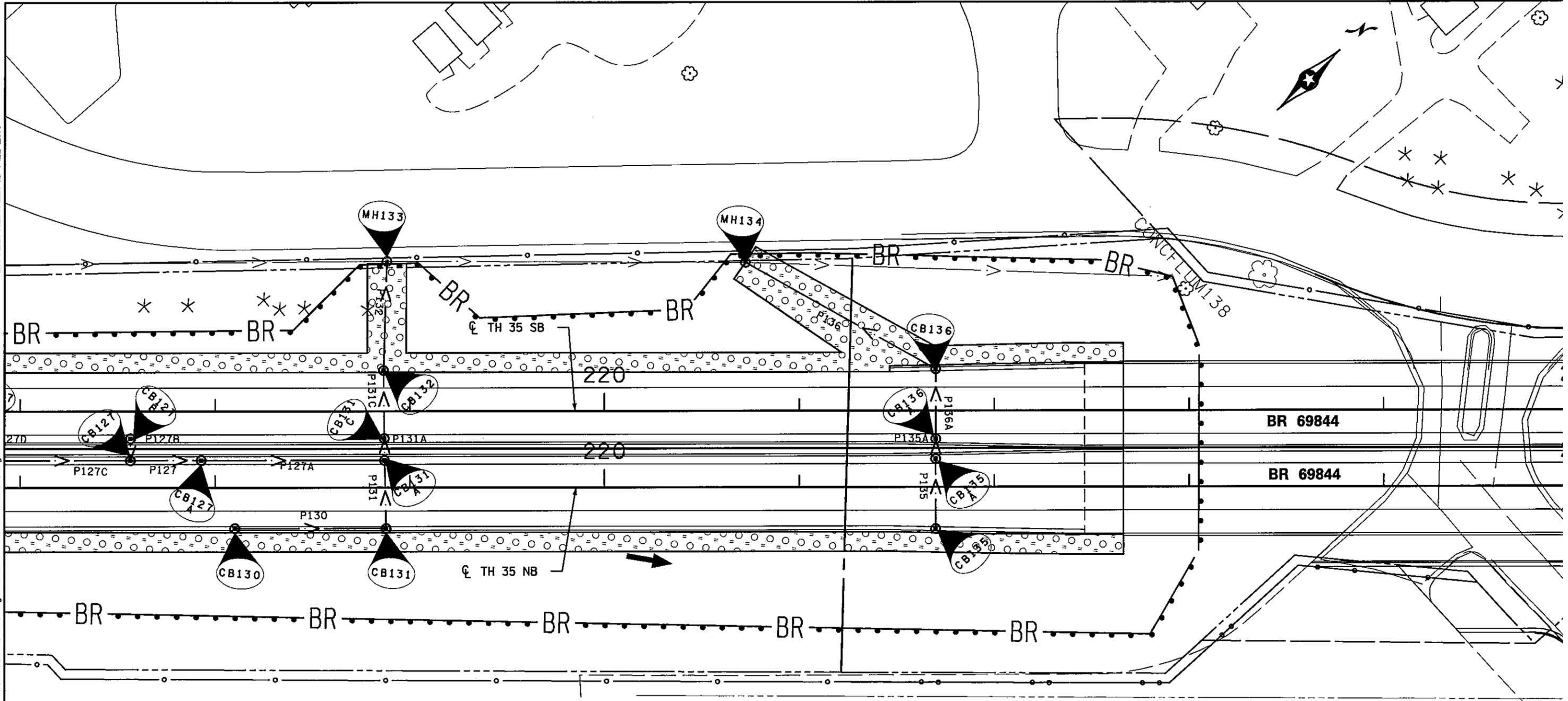


I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

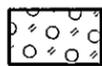
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 379 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

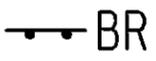
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IPLOT NAME: sheet380_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN23.dgn



LEGEND



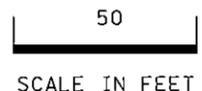
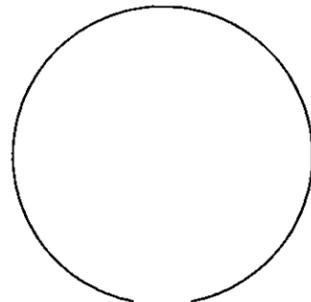
RAPID STABILIZATION METHOD 3



FILTER LOG TYPE COMPOST LOG



DRAINAGE FLOW ARROW



NOTE:
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REQUIRE STORM DRAIN INLET PROTECTION.

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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

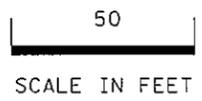
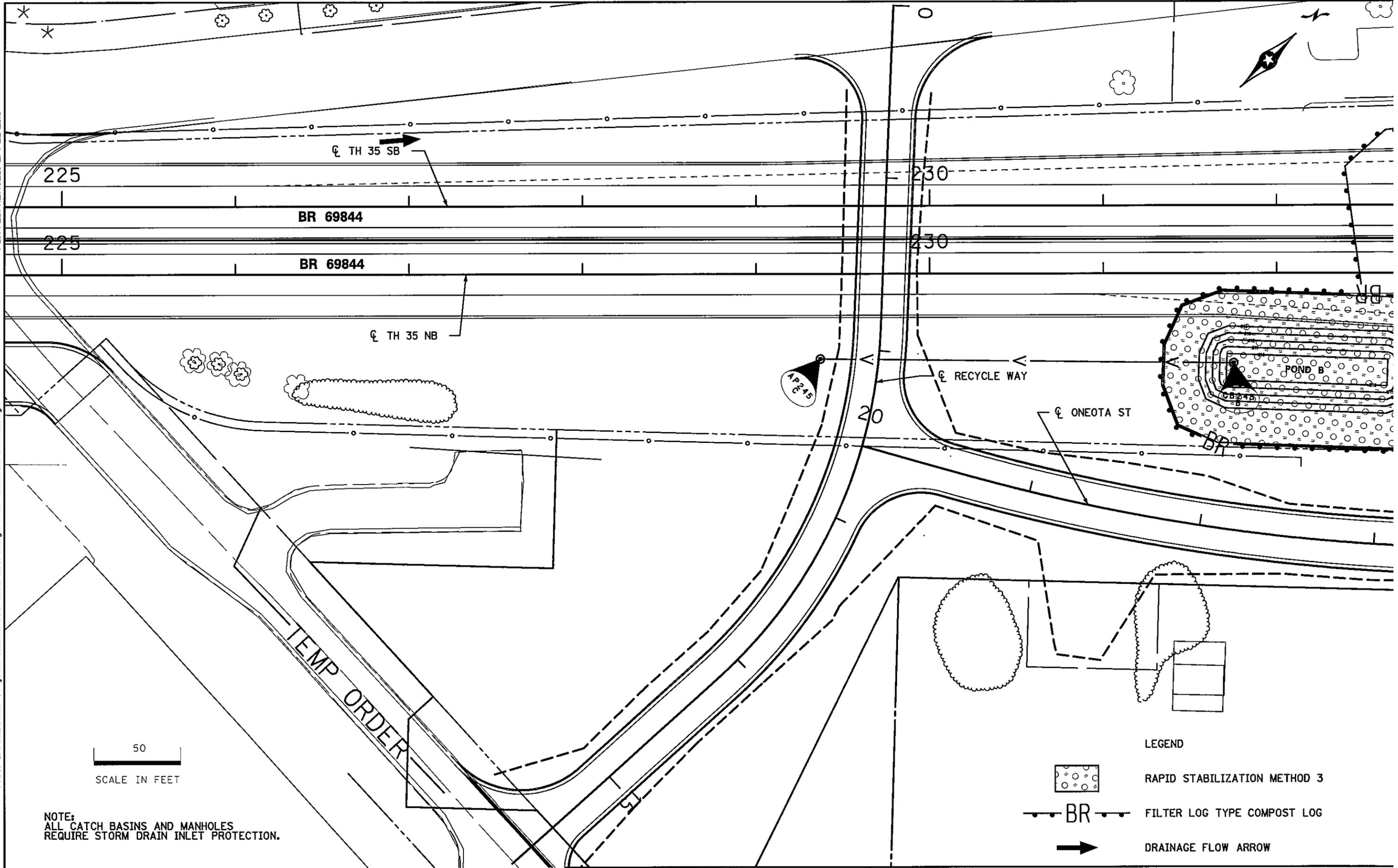
TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 380 OF 587 SHEETS

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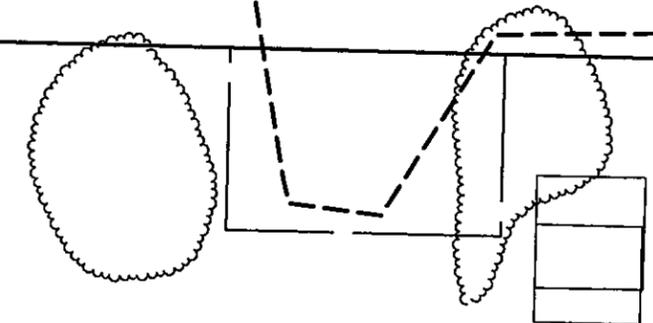
PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet381_drain
PATH & FILENAME: Projects/DI/DUL/035/6982/290/Design/Plan/Addendum/DRAN23.dgn



NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

TEMP ORDER



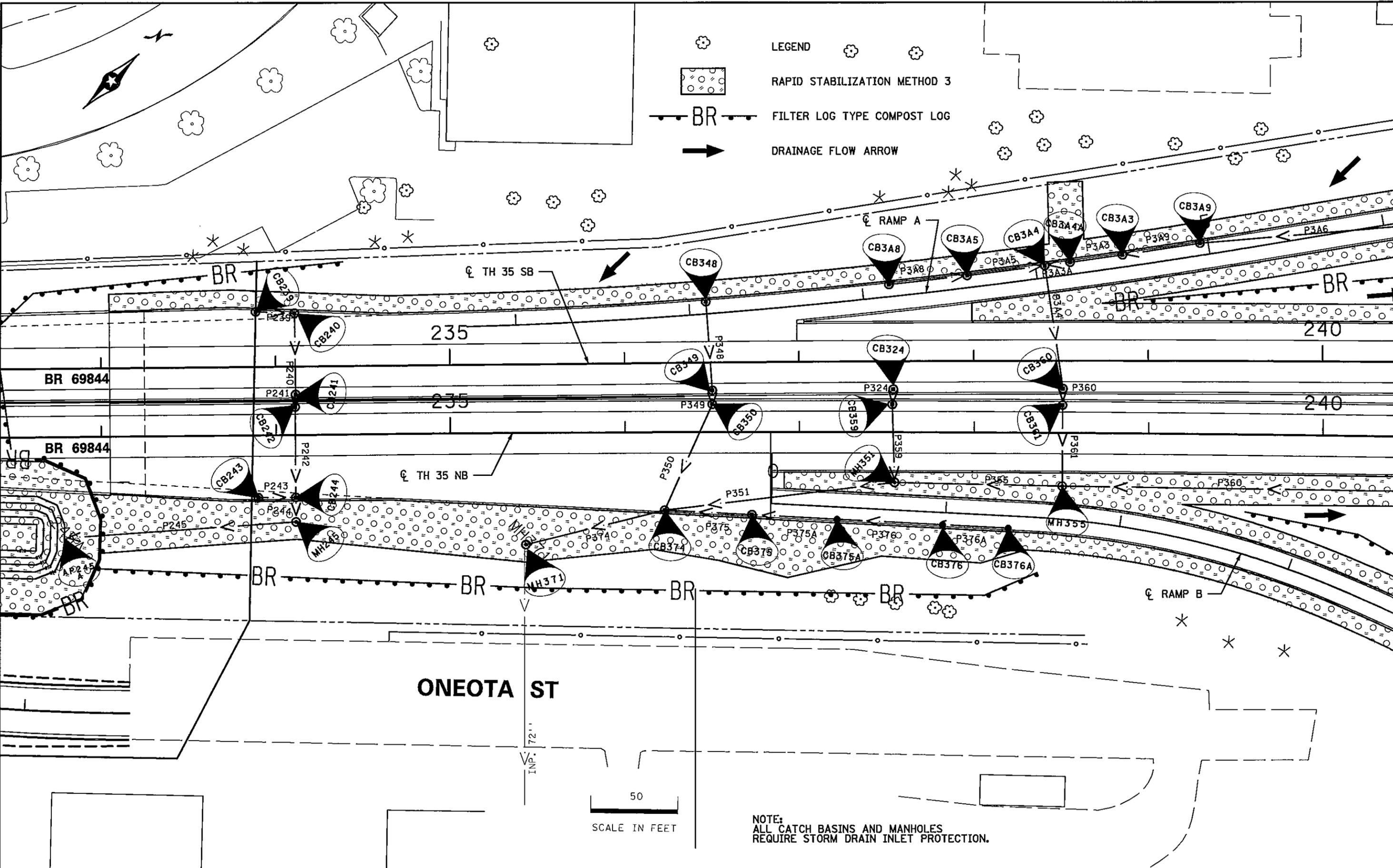
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[Symbol] RAPID STABILIZATION METHOD 3
[Symbol] FILTER LOG TYPE COMPOST LOG
[Symbol] DRAINAGE FLOW ARROW

I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 27-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 381 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet382.drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN23.dgn

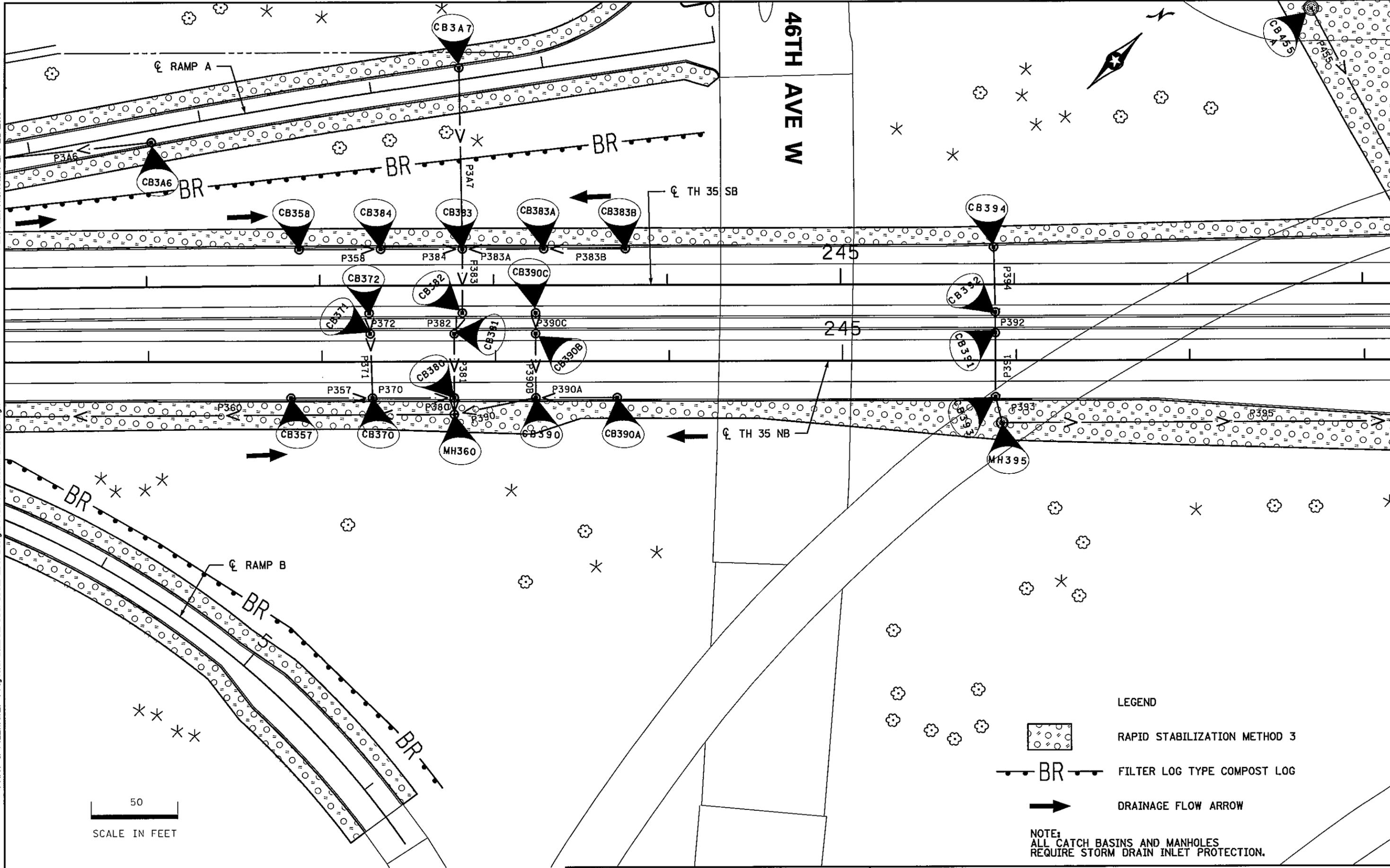


I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE 27-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 382 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet383_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN28.dgn



50
SCALE IN FEET

LEGEND

RAPID STABILIZATION METHOD 3

BR FILTER LOG TYPE COMPOST LOG

DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

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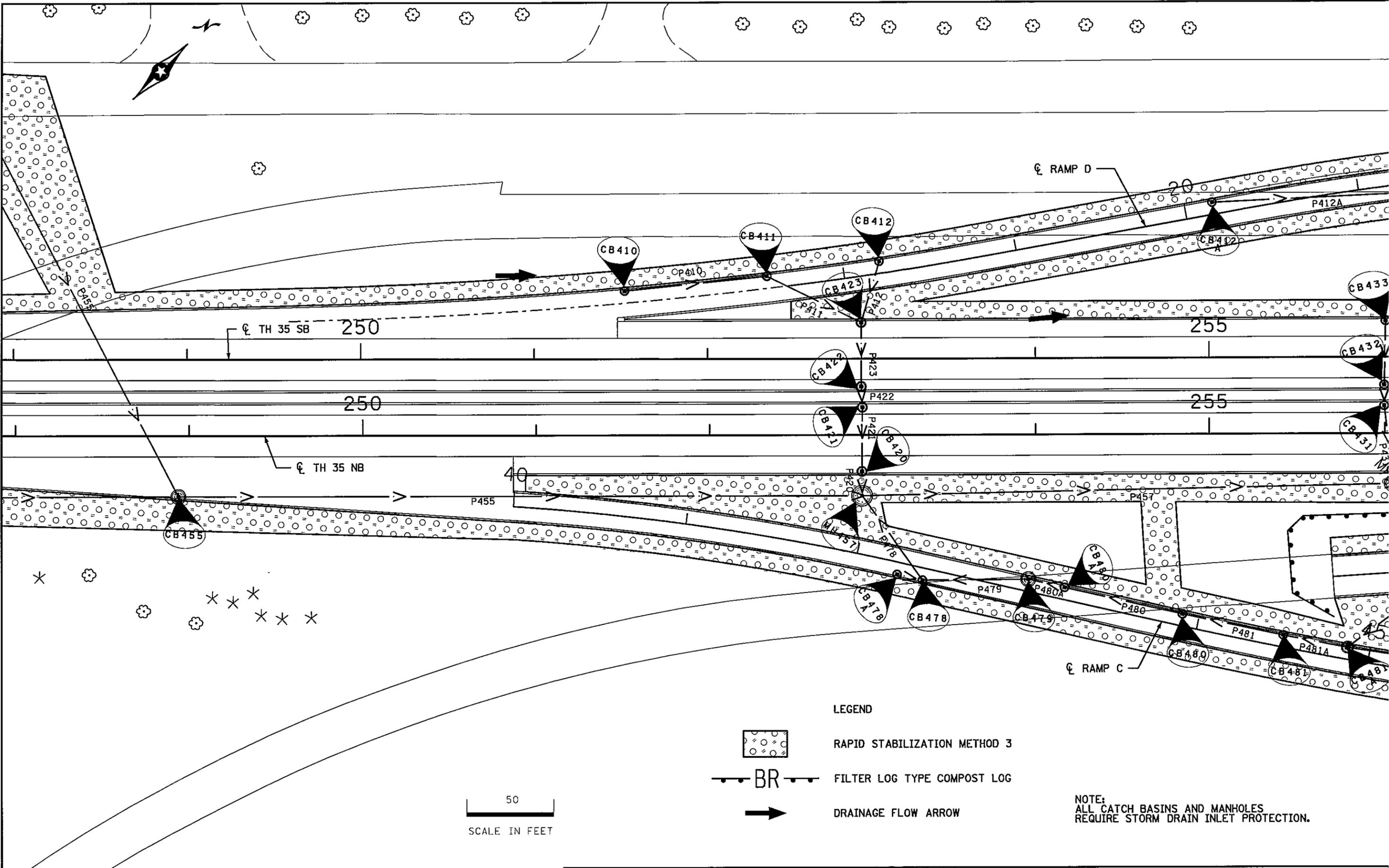
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 383 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
I PLOT NAME: sheet384_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN28.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  FILTER LOG TYPE COMPOST LOG
-  DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

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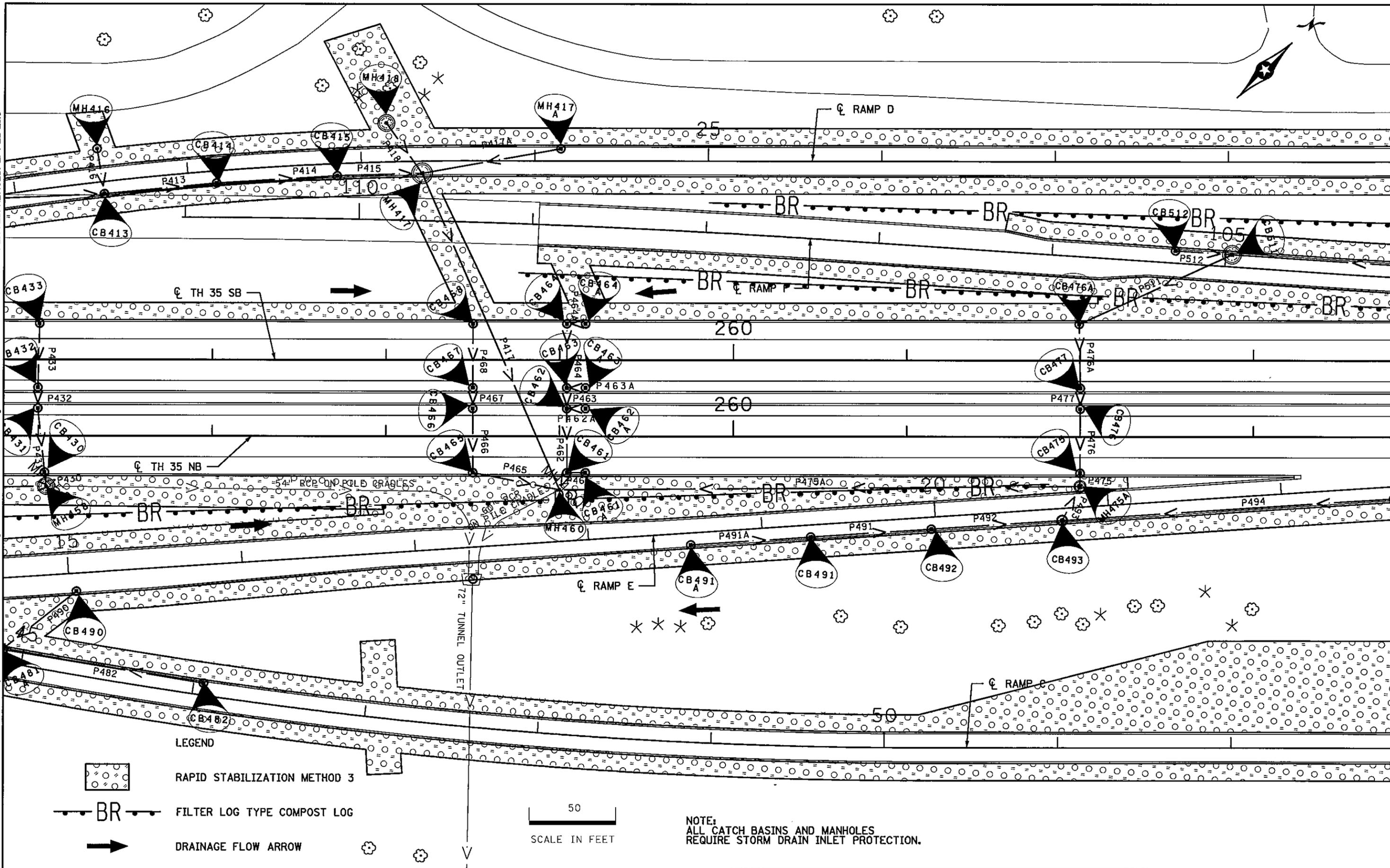
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS

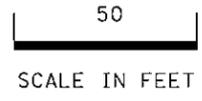
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 384 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet385_drain
PATH & FILENAME: Projects/DI/DUL/035/6982/290/Design/Plan/Appendum/DRAIN28.dgn



- LEGEND
-  RAPID STABILIZATION METHOD 3
 -  BR FILTER LOG TYPE COMPOST LOG
 -  DRAINAGE FLOW ARROW



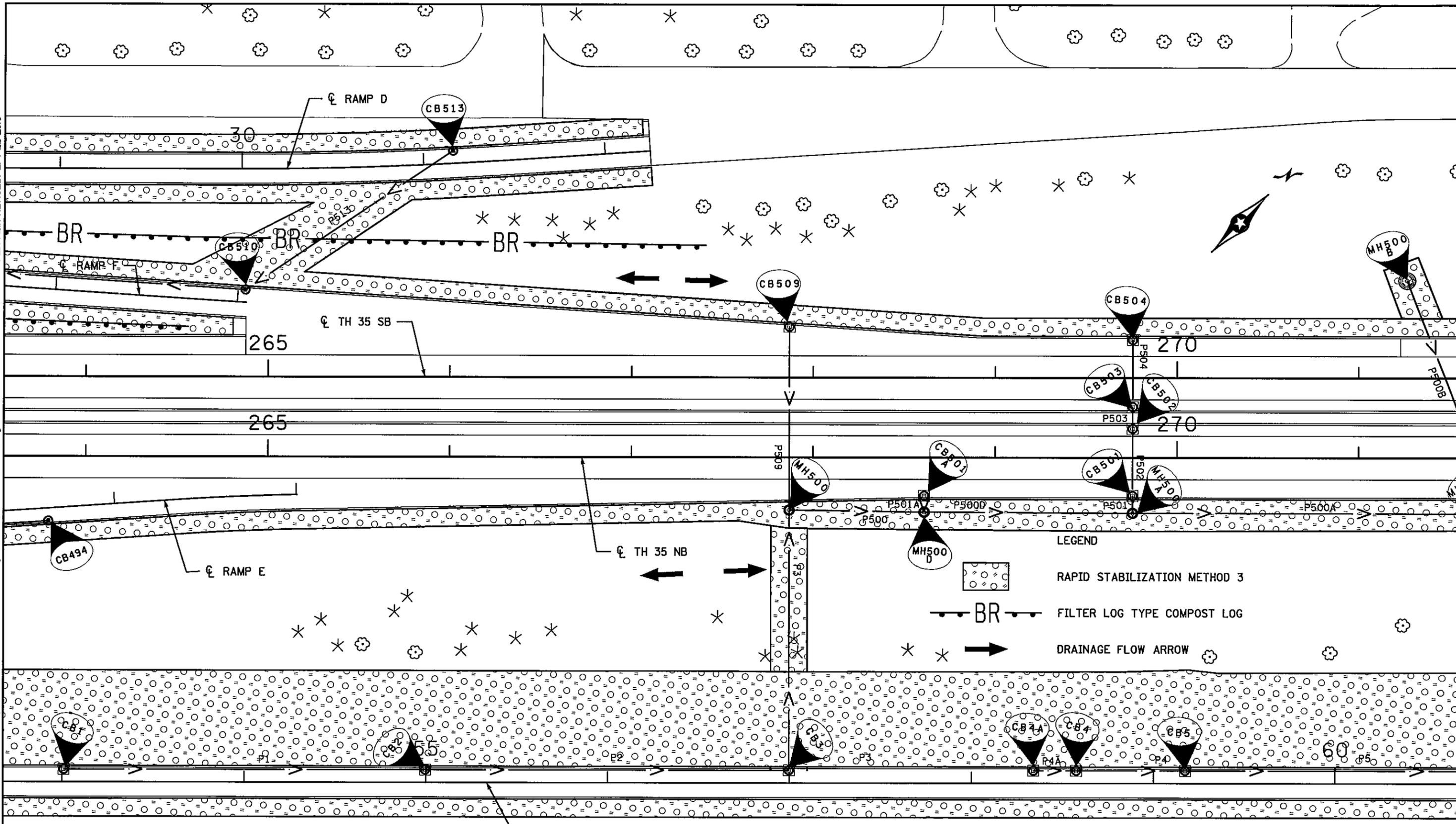
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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Donald J. Kinn*
DANIEL J. BRIDGSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 385 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet386_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN28.dgn



LEGEND

RAPID STABILIZATION METHOD 3

FILTER LOG TYPE COMPOST LOG

DRAINAGE FLOW ARROW

50
SCALE IN FEET

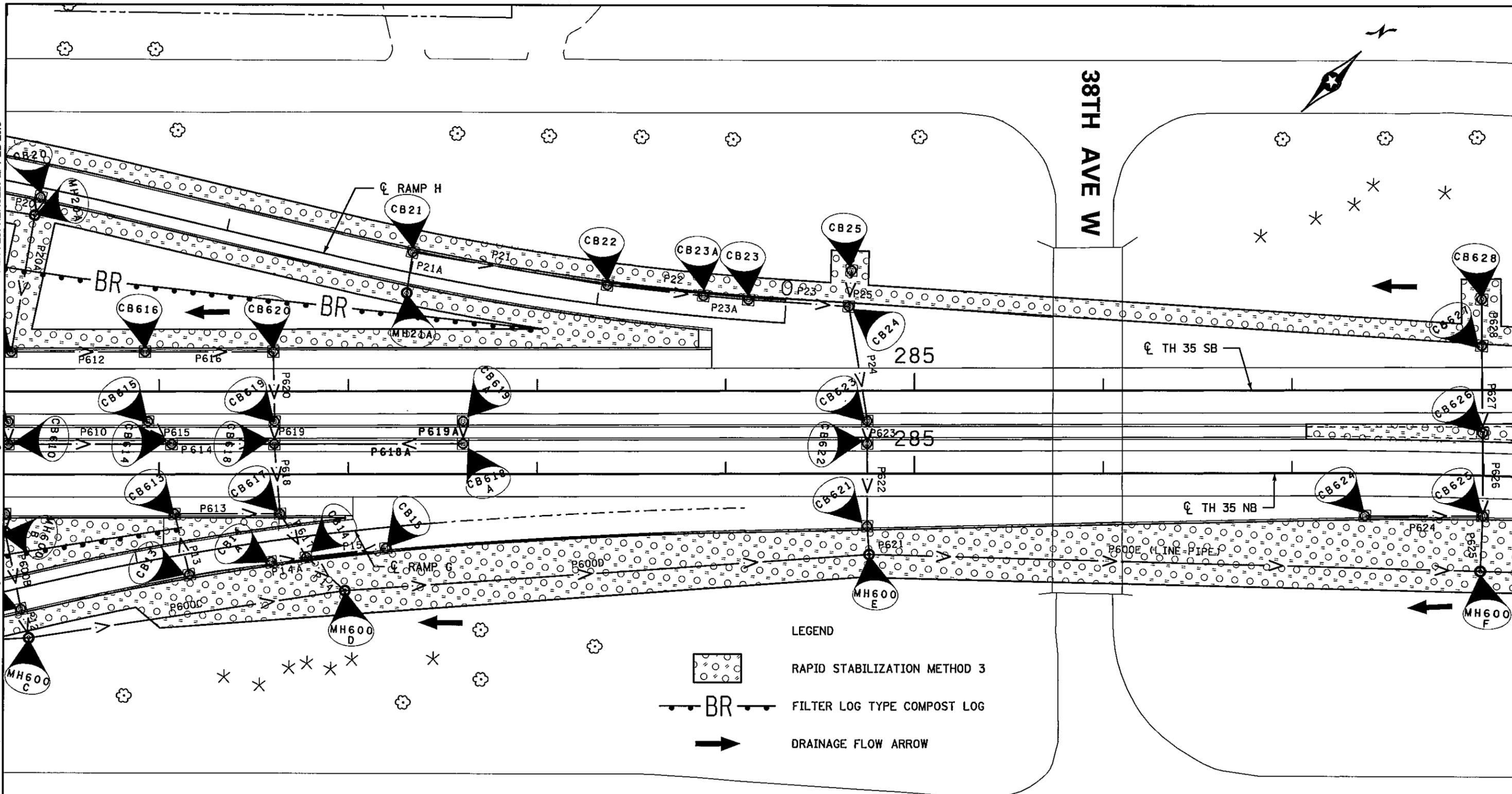
NOTE:
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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 386 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLLOT NAME: sheet388_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN33.dgn



- LEGEND**
-  RAPID STABILIZATION METHOD 3
 -  FILTER LOG TYPE COMPOST LOG
 -  DRAINAGE FLOW ARROW

50
SCALE IN FEET

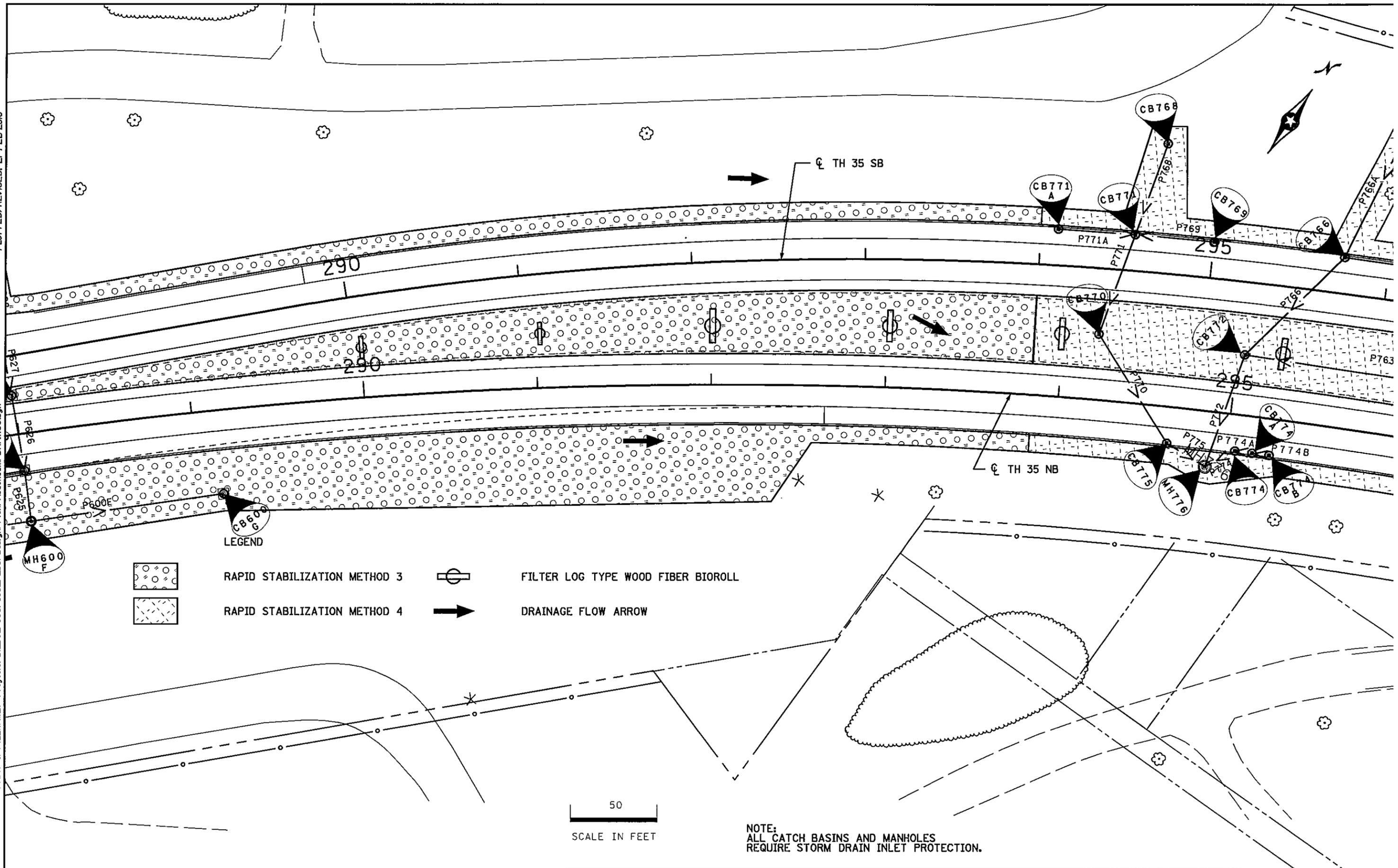
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DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 388 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet389_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN33.dgn



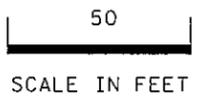
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RAPID STABILIZATION METHOD 3
 RAPID STABILIZATION METHOD 4



FILTER LOG TYPE WOOD FIBER BIOROLL
 DRAINAGE FLOW ARROW



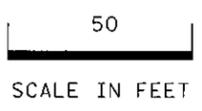
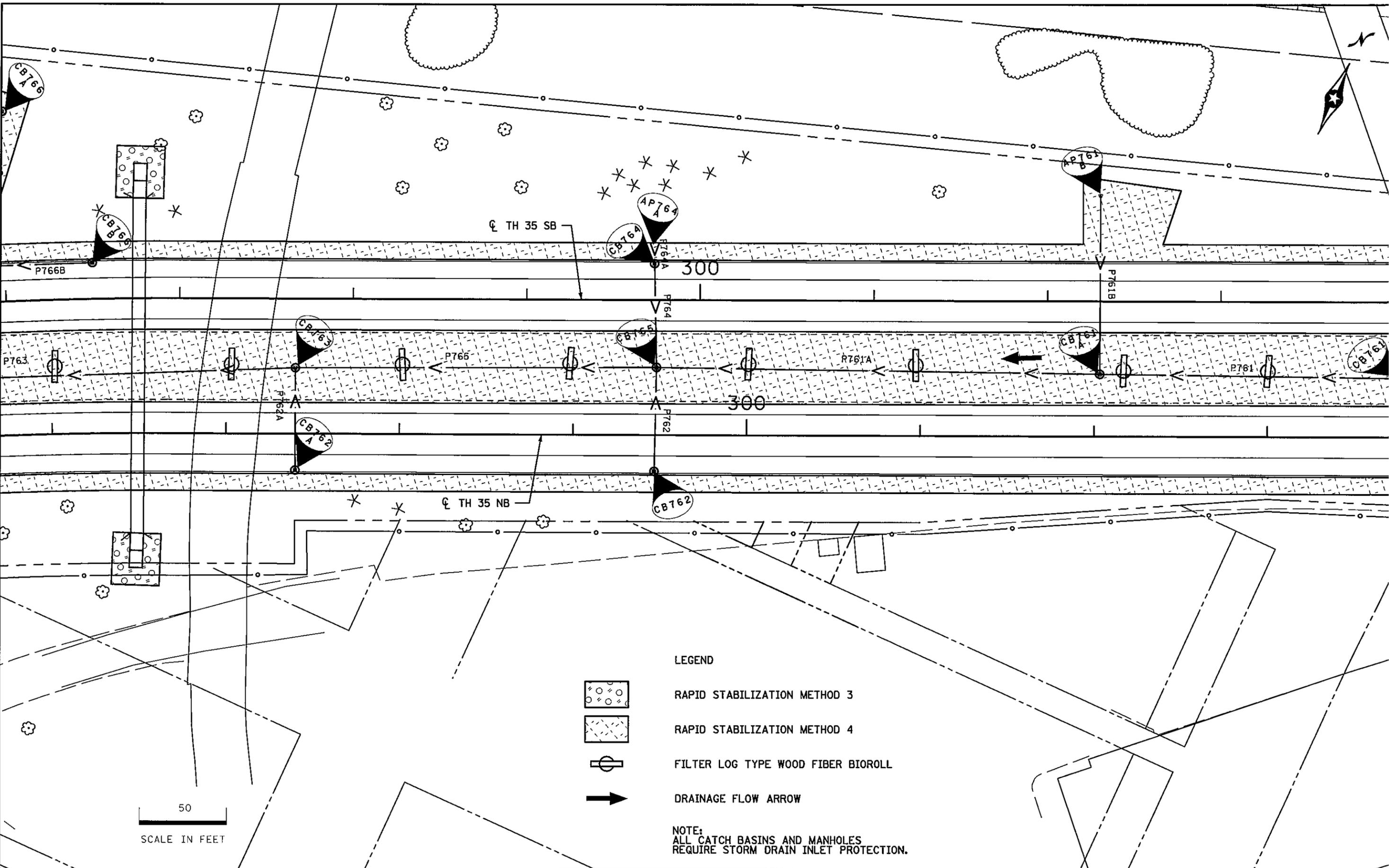
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TEMPORARY EROSION CONTROL & DRAINAGE PLANS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 389 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet390_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN33.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  RAPID STABILIZATION METHOD 4
-  FILTER LOG TYPE WOOD FIBER BIOROLL
-  DRAINAGE FLOW ARROW

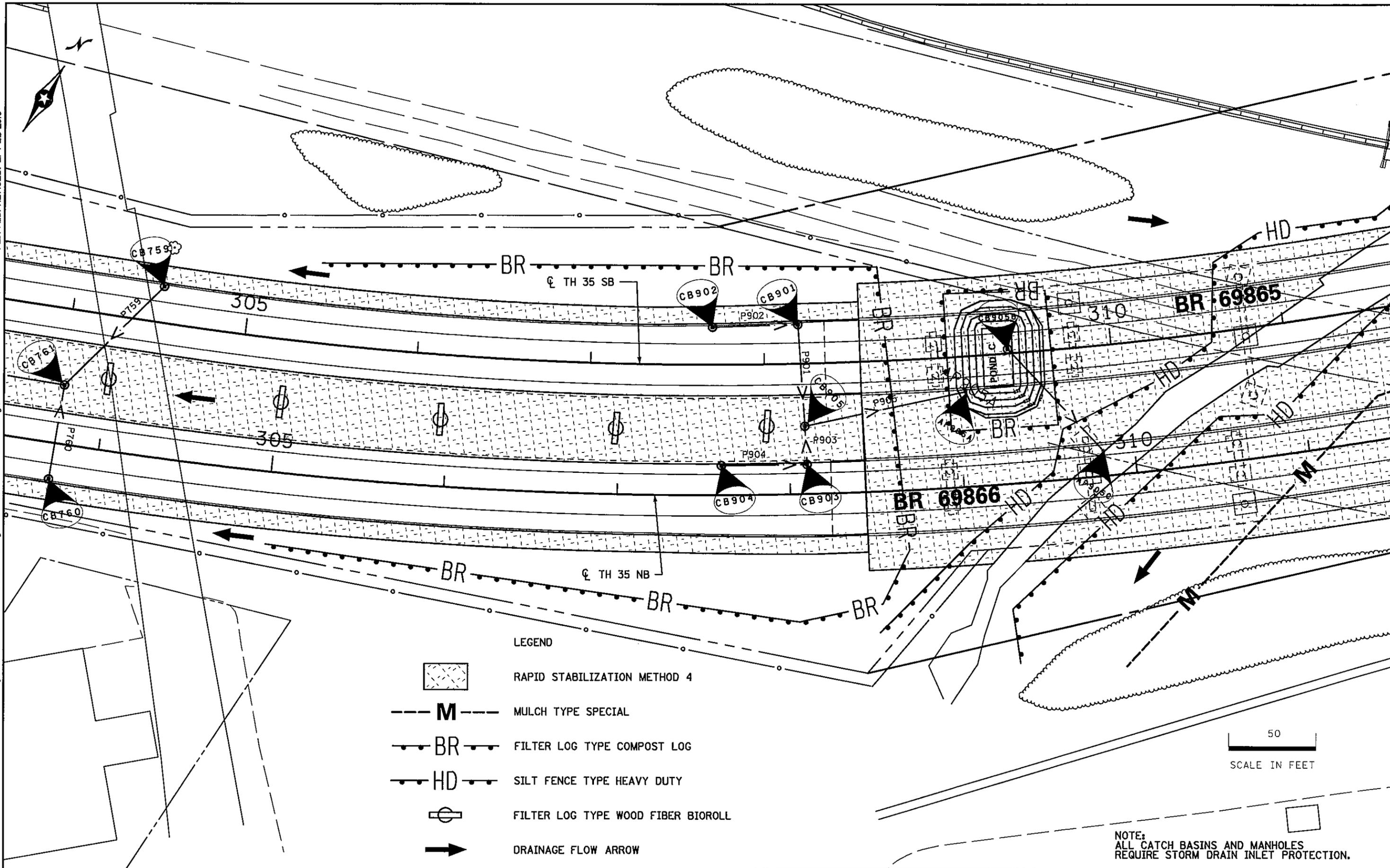
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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 390 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet391_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN33.dgn



LEGEND

-  RAPID STABILIZATION METHOD 4
-  MULCH TYPE SPECIAL
-  FILTER LOG TYPE COMPOST LOG
-  SILT FENCE TYPE HEAVY DUTY
-  FILTER LOG TYPE WOOD FIBER BIOROLL
-  DRAINAGE FLOW ARROW

50
SCALE IN FEET

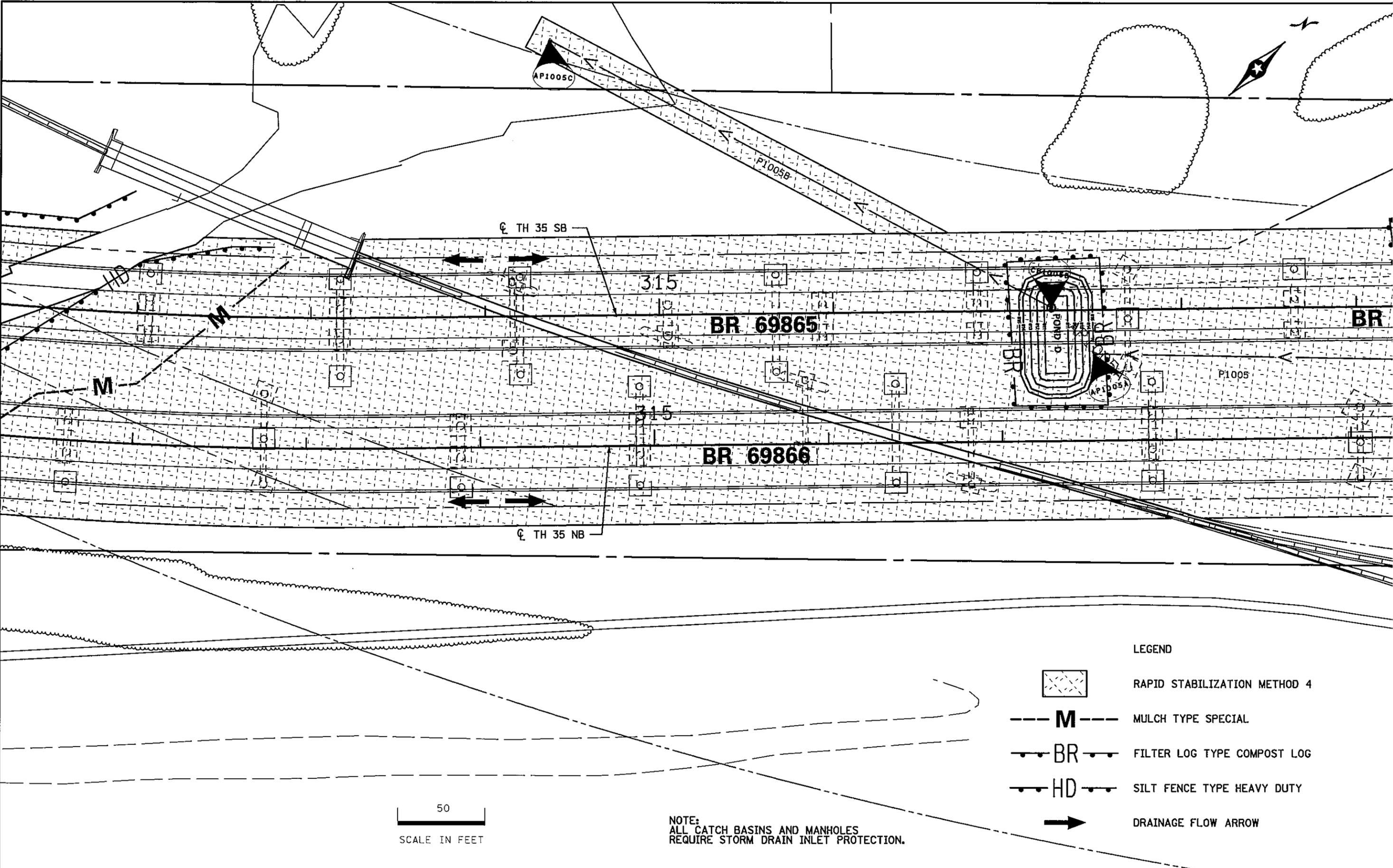
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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

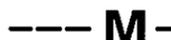
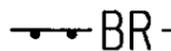
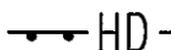
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 391 OF 587 SHEETS

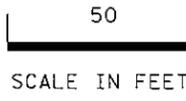
PLOTTED/REVISED: 27-FEB-2010

DISTRICT: DULUTH
IPLOT NAME: sheet392_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAIN33.dgn



LEGEND

-  RAPID STABILIZATION METHOD 4
-  MULCH TYPE SPECIAL
-  FILTER LOG TYPE COMPOST LOG
-  SILT FENCE TYPE HEAVY DUTY
-  DRAINAGE FLOW ARROW



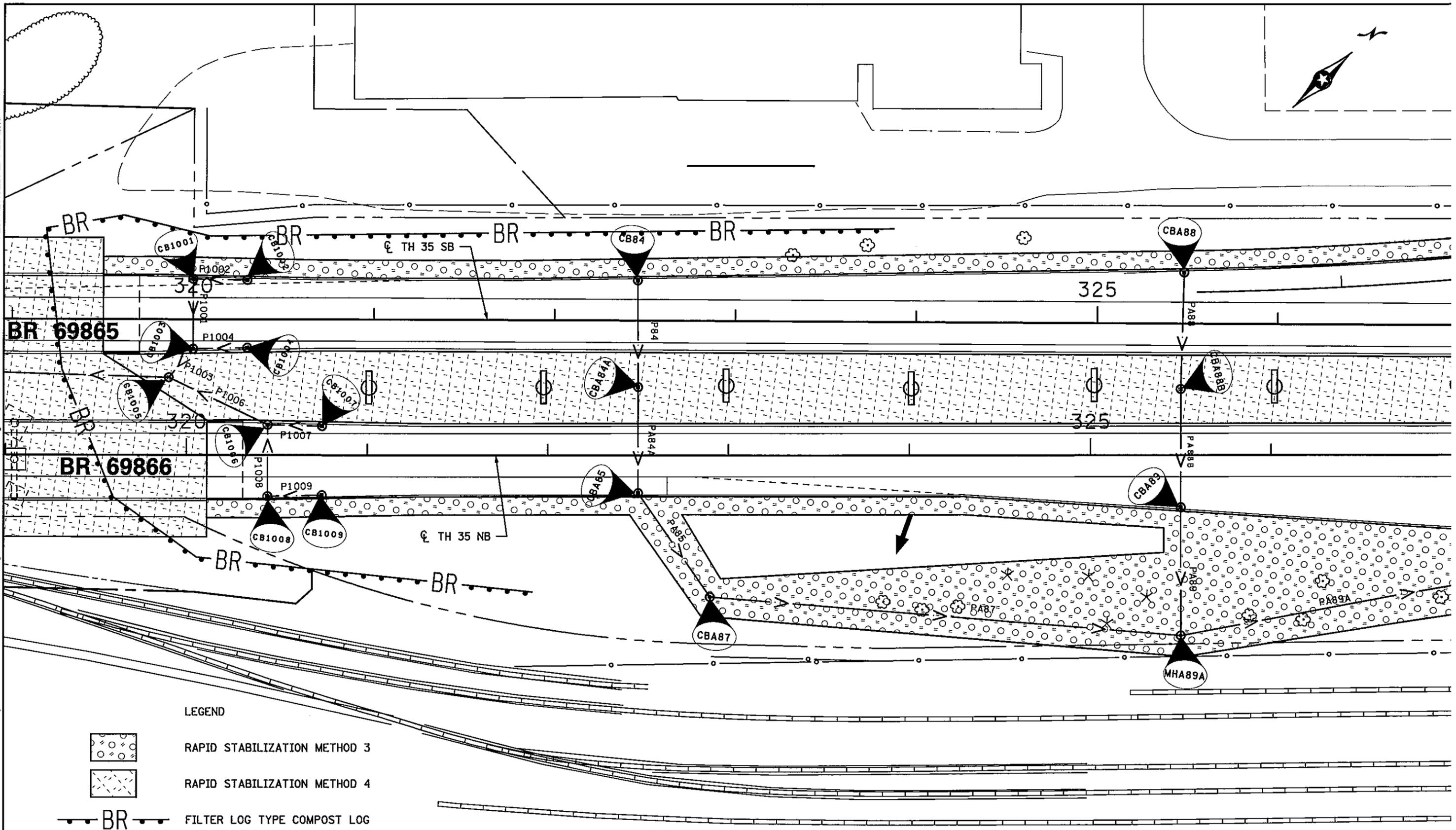
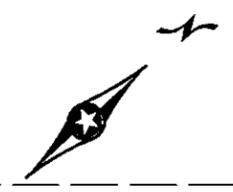
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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

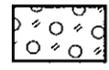
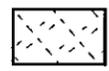
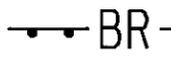
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 392 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet393_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Appendum/DRAIN38.dgn



LEGEND

-  RAPID STABILIZATION METHOD 3
-  RAPID STABILIZATION METHOD 4
-  BR FILTER LOG TYPE COMPOST LOG
-  FILTER LOG TYPE WOOD FIBER BIOROLL
-  DRAINAGE FLOW ARROW



NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Donald J. Erickson* DANIEL J. ERICKSON

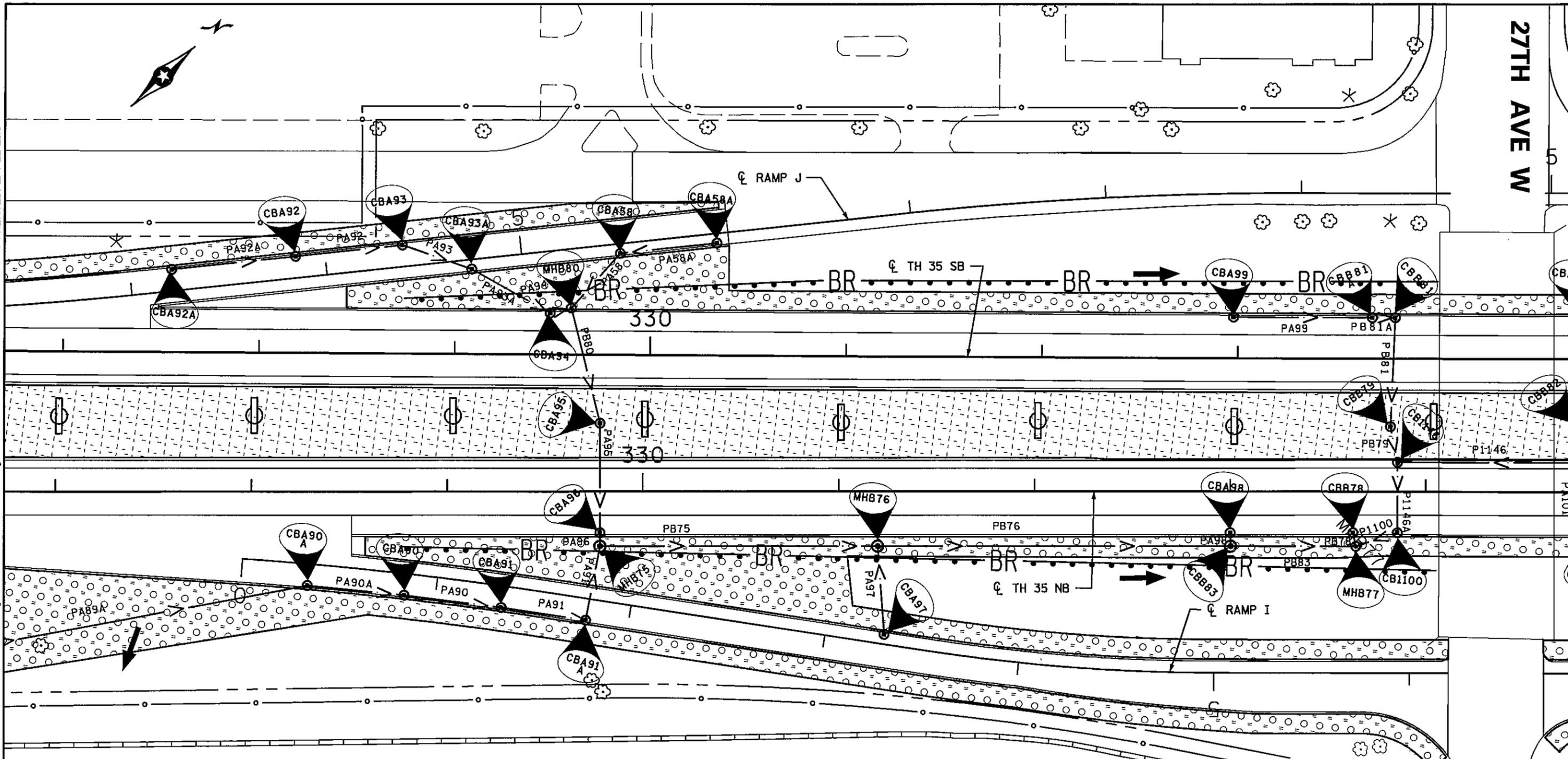
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 393 OF 587 SHEETS

27TH AVE W



PLOTTED/REVISED: 27-FEB-2010

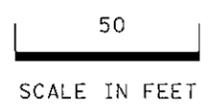
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LEGEND

	RAPID STABILIZATION METHOD 3
	RAPID STABILIZATION METHOD 4
	FILTER LOG TYPE COMPOST LOG
	FILTER LOG TYPE WOOD FIBER BIOROLL
	DRAINAGE FLOW ARROW

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

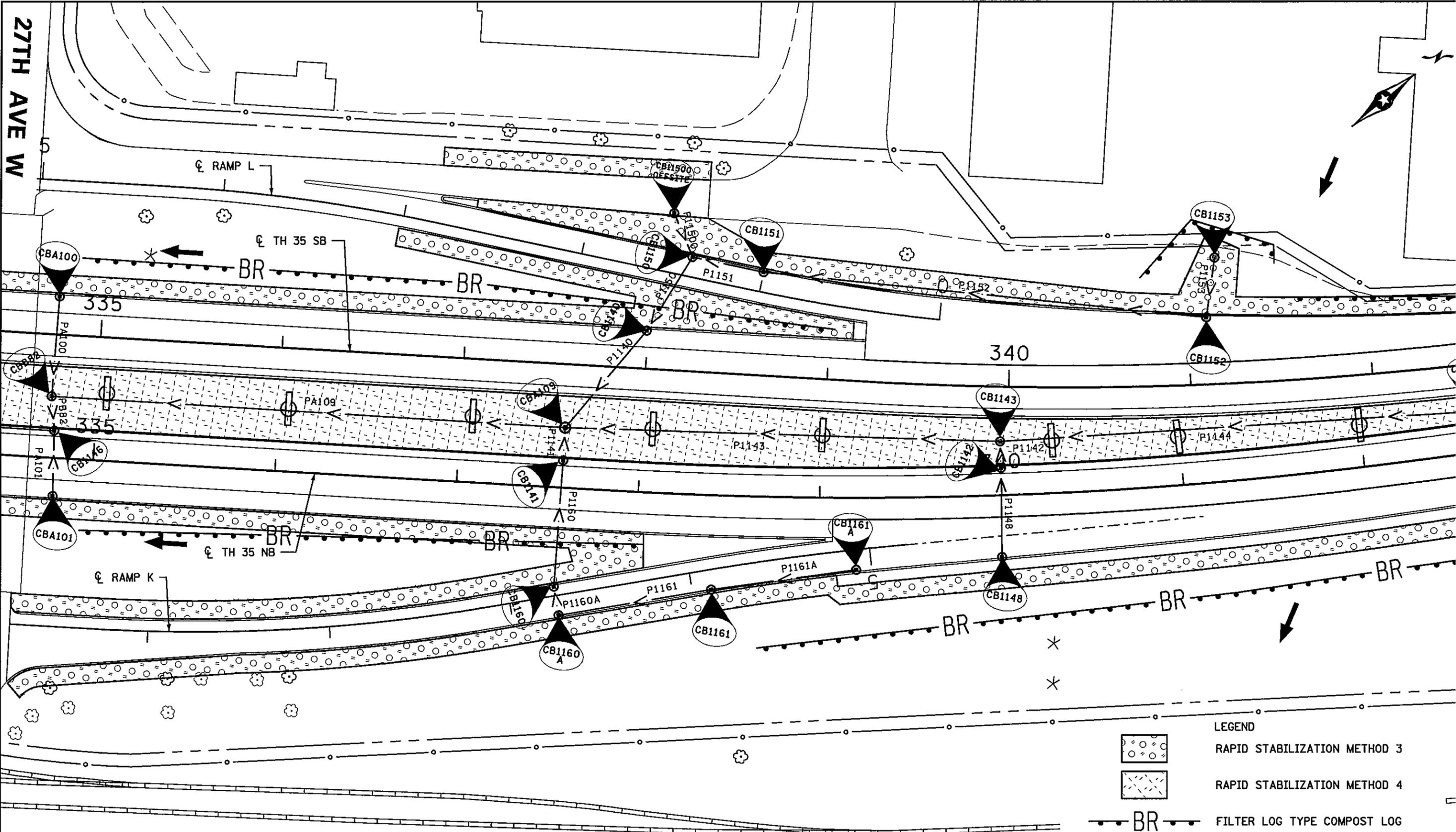


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DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

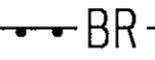
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 394 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: sheet395_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN38.dgn



NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

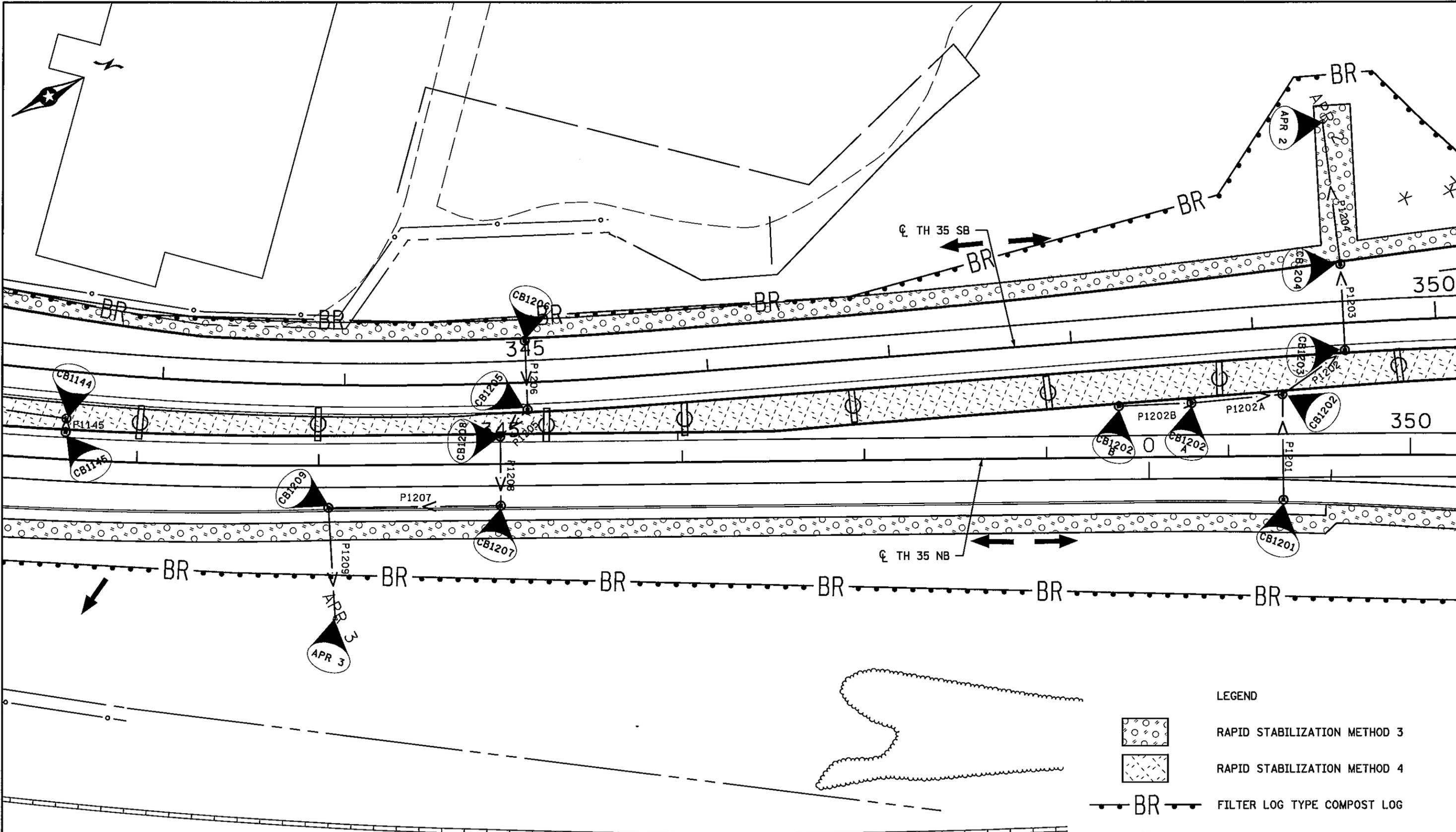
- LEGEND
-  RAPID STABILIZATION METHOD 3
 -  RAPID STABILIZATION METHOD 4
 -  BR FILTER LOG TYPE COMPOST LOG
 -  FILTER LOG TYPE WOOD FIBER BIOROLL
 -  DRAINAGE FLOW ARROW

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DATE 27-FEB-2010, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 395 OF 587 SHEETS

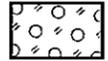
PLOTTED/REVISED: 27-FEB-2010

DISTRICT #: DULUTH
PLOT NAME: sheet396_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Attachment/DRAN38.dgn



50
SCALE IN FEET

NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.

- LEGEND
-  RAPID STABILIZATION METHOD 3
 -  RAPID STABILIZATION METHOD 4
 -  BR FILTER LOG TYPE COMPOST LOG
 -  FILTER LOG TYPE WOOD FIBER BIOROLL
 -  DRAINAGE FLOW ARROW

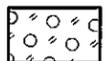
I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

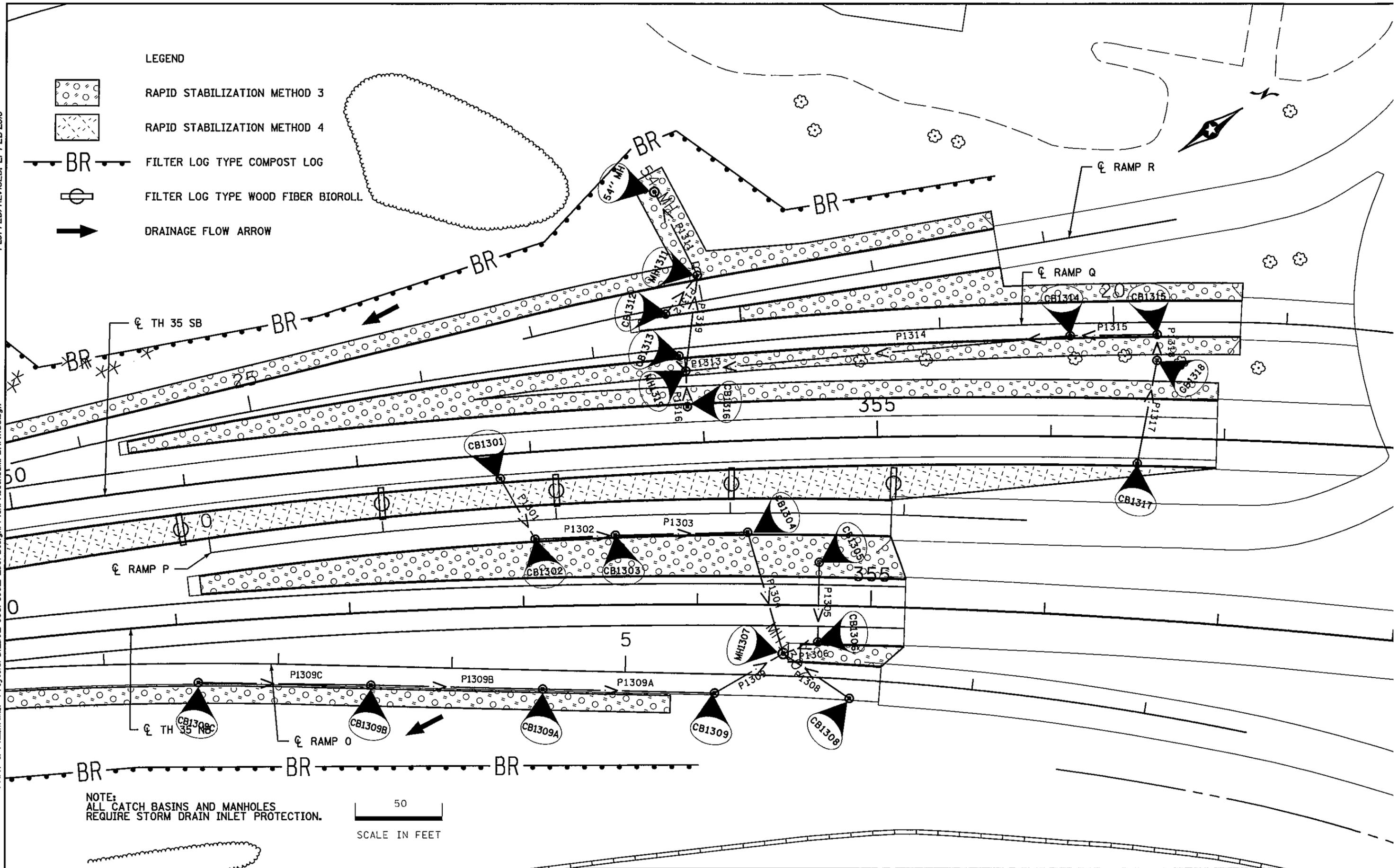
TEMPORARY EROSION CONTROL & DRAINAGE PLANS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 396 OF 587 SHEETS

PLOTTED/REVISED: 27-FEB-2010

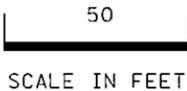
DISTRICT #: DULUTH
IPLOT NAME: sheet397_drain
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/Addendum/DRAN38.dgn

LEGEND

-  RAPID STABILIZATION METHOD 3
-  RAPID STABILIZATION METHOD 4
-  BR FILTER LOG TYPE COMPOST LOG
-  FILTER LOG TYPE WOOD FIBER BIOROLL
-  DRAINAGE FLOW ARROW



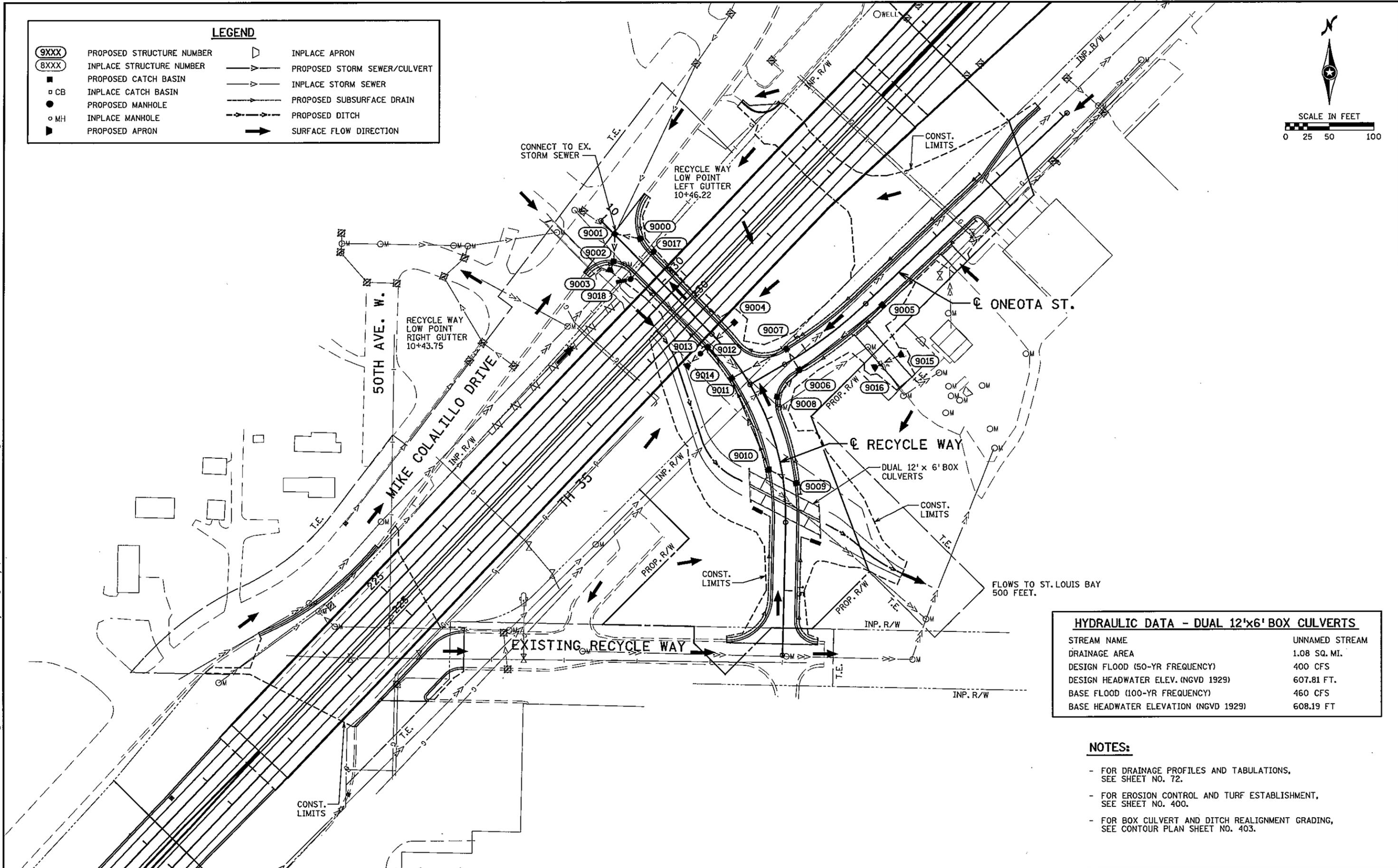
NOTE:
ALL CATCH BASINS AND MANHOLES
REQUIRE STORM DRAIN INLET PROTECTION.



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 27-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

TEMPORARY EROSION CONTROL & DRAINAGE PLANS
 STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 397 OF 587 SHEETS

LEGEND			
9XXX	PROPOSED STRUCTURE NUMBER		INPLACE APRON
8XXX	INPLACE STRUCTURE NUMBER		PROPOSED STORM SEWER/CULVERT
■	PROPOSED CATCH BASIN		INPLACE STORM SEWER
□ CB	INPLACE CATCH BASIN		PROPOSED SUBSURFACE DRAIN
●	PROPOSED MANHOLE		PROPOSED DITCH
○ MH	INPLACE MANHOLE		SURFACE FLOW DIRECTION
▶	PROPOSED APRON		



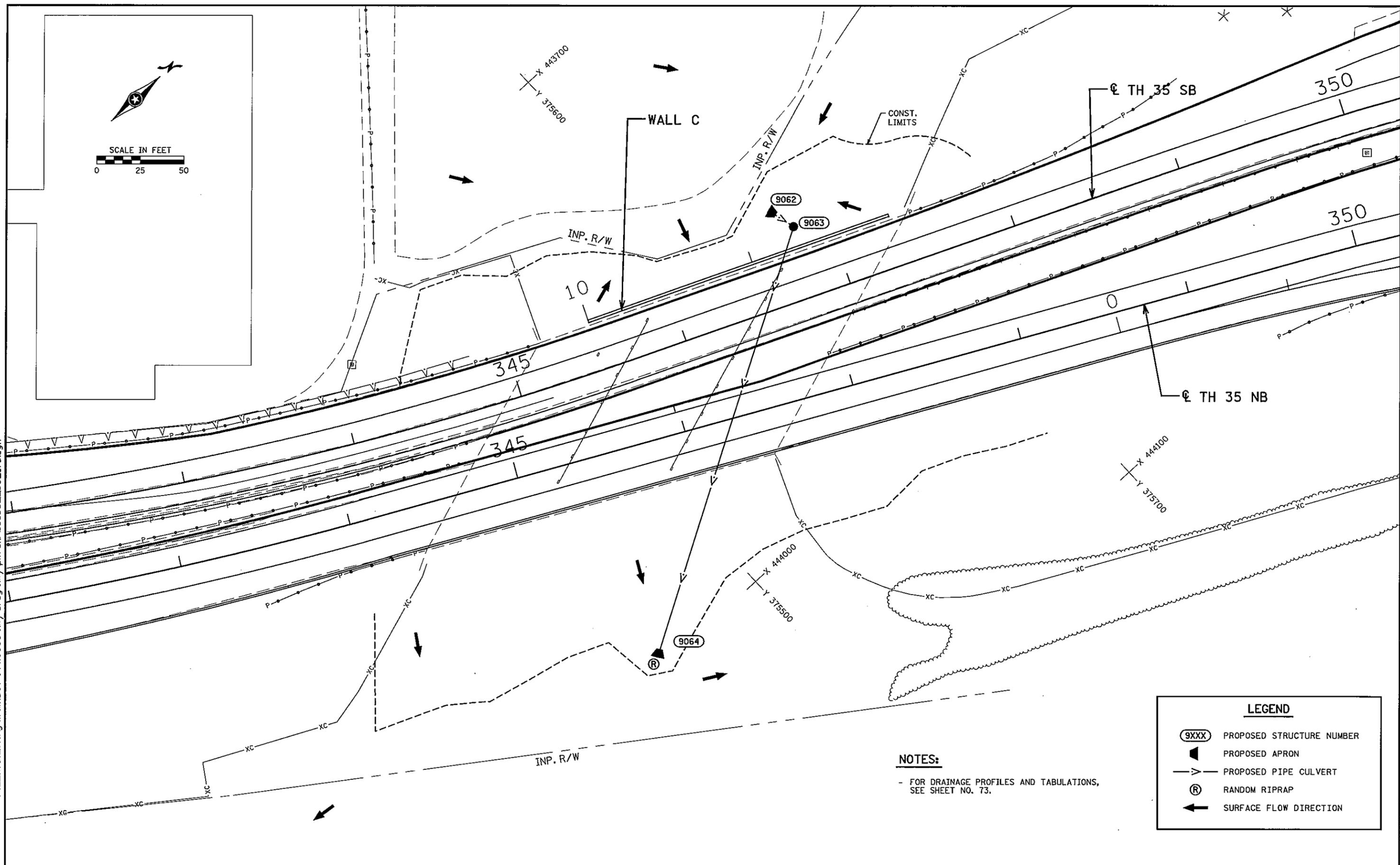
HYDRAULIC DATA - DUAL 12'x6' BOX CULVERTS	
STREAM NAME	UNNAMED STREAM
DRAINAGE AREA	1.08 SQ. MI.
DESIGN FLOOD (50-YR FREQUENCY)	400 CFS
DESIGN HEADWATER ELEV. (NGVD 1929)	607.81 FT.
BASE FLOOD (100-YR FREQUENCY)	460 CFS
BASE HEADWATER ELEVATION (NGVD 1929)	608.19 FT

- NOTES:**
- FOR DRAINAGE PROFILES AND TABULATIONS, SEE SHEET NO. 72.
 - FOR EROSION CONTROL AND TURF ESTABLISHMENT, SEE SHEET NO. 400.
 - FOR BOX CULVERT AND DITCH REALIGNMENT GRADING, SEE CONTOUR PLAN SHEET NO. 403.

DATE: 11/24/2009 TIME: 12:55:00 PM
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DATE: 11/24/2009 TIME: 12:55:05 PM
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NOTES:
 - FOR DRAINAGE PROFILES AND TABULATIONS, SEE SHEET NO. 73.

LEGEND	
9XXX	PROPOSED STRUCTURE NUMBER
▲	PROPOSED APRON
—V—	PROPOSED PIPE CULVERT
Ⓜ	RANDOM RIPRAP
←	SURFACE FLOW DIRECTION

DRAWN BY: RPM
 CHECKED BY: MAW

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.

SIGNATURE: *Matthew A. Wassman*
 PRINTED NAME: MATTHEW A. WASSMAN
 DATE: NOVEMBER 24, 2009 LIC. NO. 26883



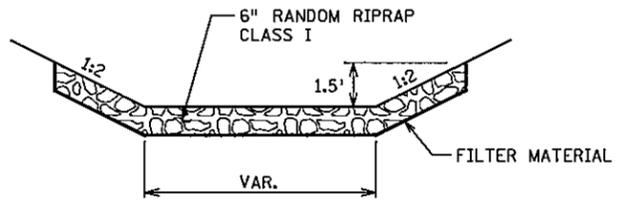
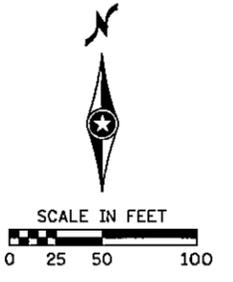
MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 35 IMPROVEMENTS

DRAINAGE PLANS
 25TH AVE. W.

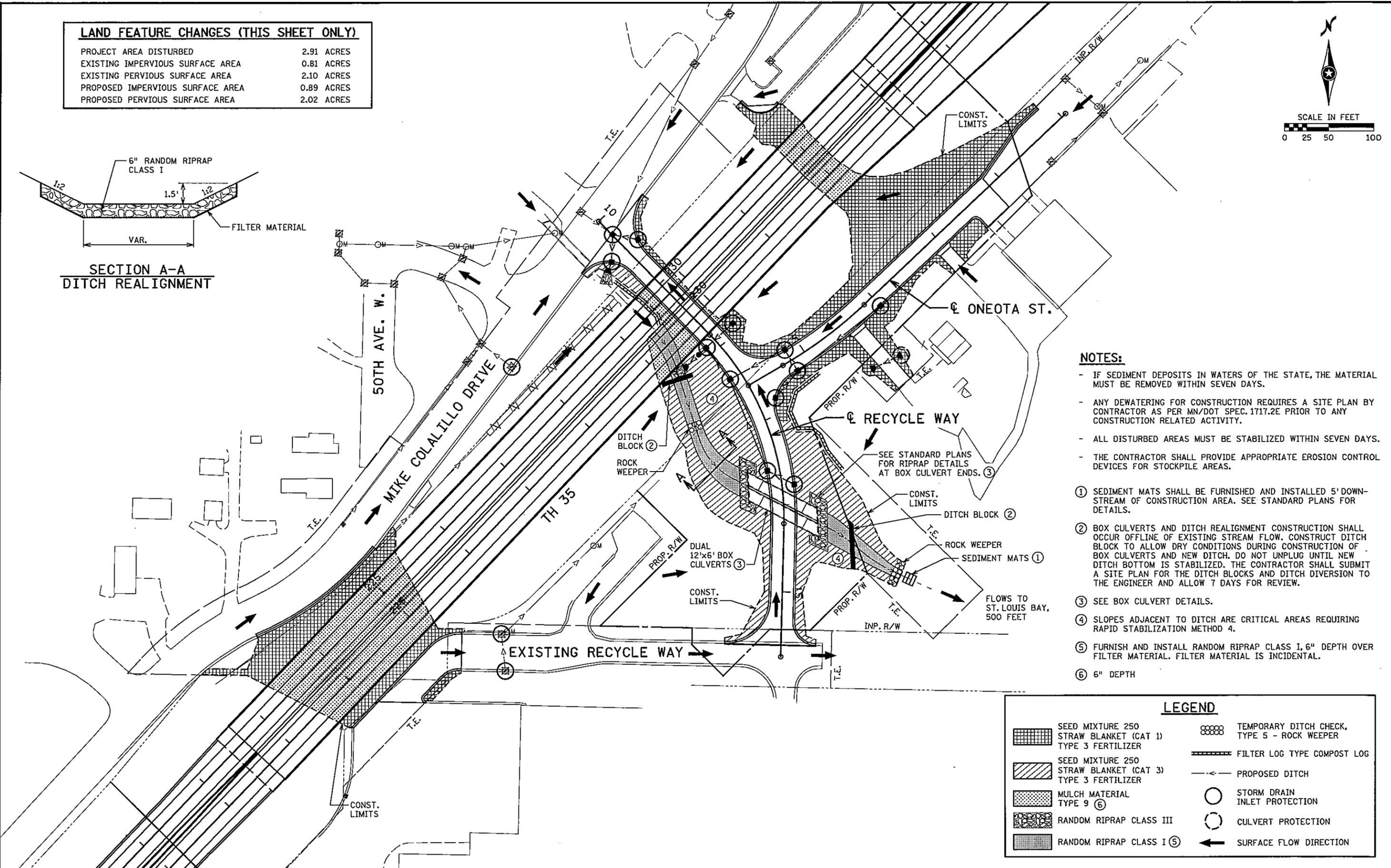
STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. 399 of 587 Sheets

LAND FEATURE CHANGES (THIS SHEET ONLY)

PROJECT AREA DISTURBED	2.91 ACRES
EXISTING IMPERVIOUS SURFACE AREA	0.81 ACRES
EXISTING PERVIOUS SURFACE AREA	2.10 ACRES
PROPOSED IMPERVIOUS SURFACE AREA	0.89 ACRES
PROPOSED PERVIOUS SURFACE AREA	2.02 ACRES



**SECTION A-A
DITCH REALIGNMENT**



NOTES:

- IF SEDIMENT DEPOSITS IN WATERS OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN SEVEN DAYS.
 - ANY DEWATERING FOR CONSTRUCTION REQUIRES A SITE PLAN BY CONTRACTOR AS PER MN/DOT SPEC. 1717.2E PRIOR TO ANY CONSTRUCTION RELATED ACTIVITY.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN SEVEN DAYS.
 - THE CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION CONTROL DEVICES FOR STOCKPILE AREAS.
- ① SEDIMENT MATS SHALL BE FURNISHED AND INSTALLED 5' DOWN-STREAM OF CONSTRUCTION AREA. SEE STANDARD PLANS FOR DETAILS.
 - ② BOX CULVERTS AND DITCH REALIGNMENT CONSTRUCTION SHALL OCCUR OFFLINE OF EXISTING STREAM FLOW. CONSTRUCT DITCH BLOCK TO ALLOW DRY CONDITIONS DURING CONSTRUCTION OF BOX CULVERTS AND NEW DITCH. DO NOT UNPLUG UNTIL NEW DITCH BOTTOM IS STABILIZED. THE CONTRACTOR SHALL SUBMIT A SITE PLAN FOR THE DITCH BLOCKS AND DITCH DIVERSION TO THE ENGINEER AND ALLOW 7 DAYS FOR REVIEW.
 - ③ SEE BOX CULVERT DETAILS.
 - ④ SLOPES ADJACENT TO DITCH ARE CRITICAL AREAS REQUIRING RAPID STABILIZATION METHOD 4.
 - ⑤ FURNISH AND INSTALL RANDOM RIPRAP CLASS I, 6" DEPTH OVER FILTER MATERIAL. FILTER MATERIAL IS INCIDENTAL.
 - ⑥ 6" DEPTH

LEGEND	
	SEED MIXTURE 250 STRAW BLANKET (CAT 1) TYPE 3 FERTILIZER
	SEED MIXTURE 250 STRAW BLANKET (CAT 3) TYPE 3 FERTILIZER
	MULCH MATERIAL TYPE 9 ⑥
	RANDOM RIPRAP CLASS III
	RANDOM RIPRAP CLASS I ⑤
	TEMPORARY DITCH CHECK, TYPE 5 - ROCK WEEPER
	FILTER LOG TYPE COMPOST LOG
	PROPOSED DITCH
	STORM DRAIN INLET PROTECTION
	CULVERT PROTECTION
	SURFACE FLOW DIRECTION

DATE: 12/18/2009 TIME: 9:01:06 AM
FILENAME: K:\g-m\mndot\449000\wy-brdg\wy-pln-sit\cd6982290_eoca.dgn

DRAWN BY: SFH
CHECKED BY: MAW

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.

SIGNATURE: *Matthew A. Wassman*
PRINTED NAME: MATTHEW A. WASSMAN
DATE: DECEMBER 18, 2009 LIC. NO. 26883

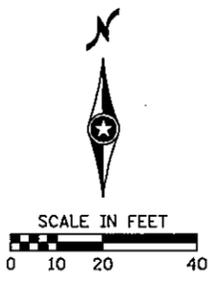
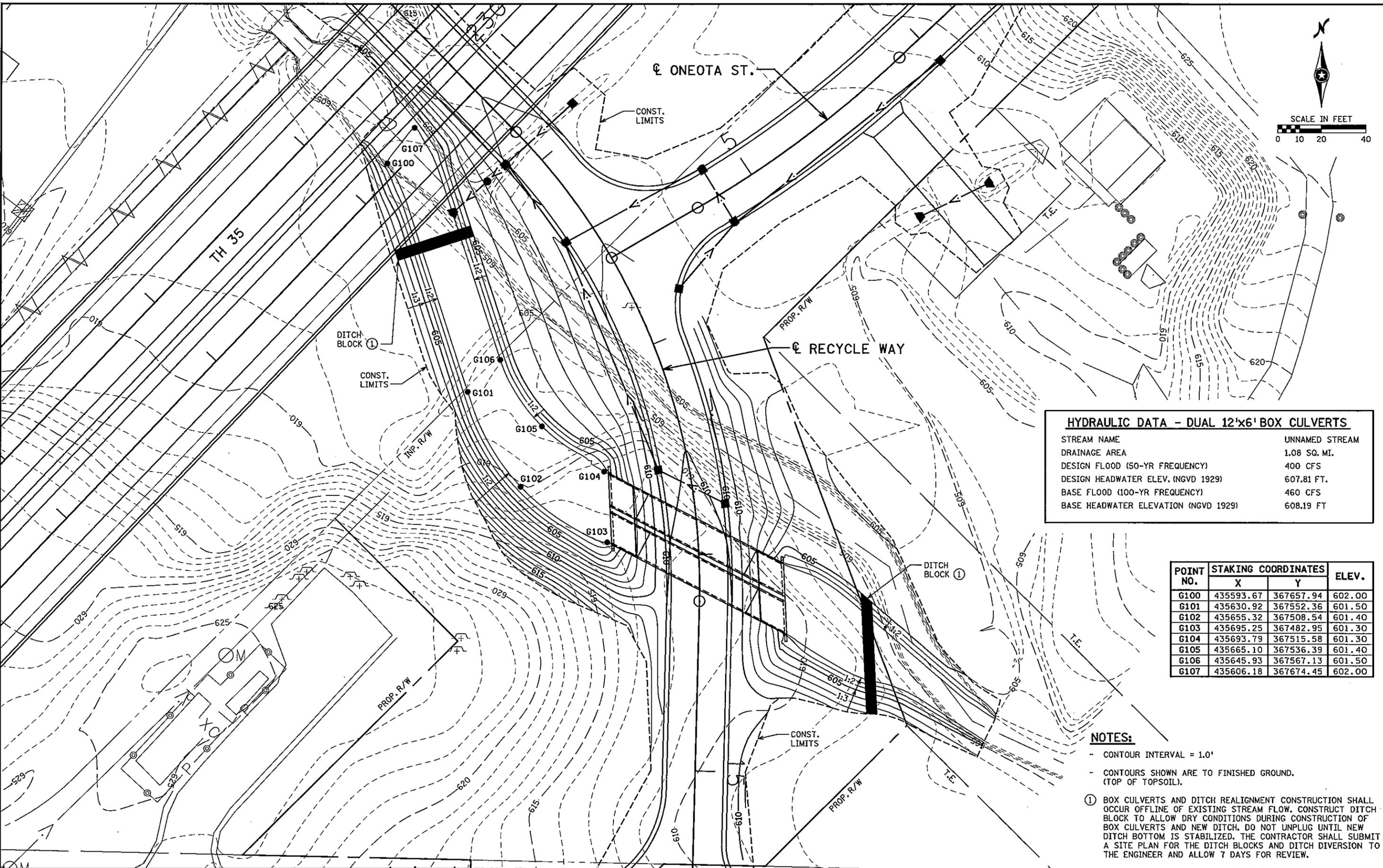
TKDA
ENGINEERING • ARCHITECTURE • PLANNING

MINNESOTA DEPARTMENT
OF TRANSPORTATION
TH 35 IMPROVEMENTS

EROSION CONTROL & TURF ESTABLISHMENT
RECYCLE WAY AND ONEOTA ST.

STATE PROJ. NO. 6982-290 (TH 35)
Sheet No. 400 of 587 Sheets

DATE: 11/24/2009 TIME: 12:55:13 PM
 FILENAME: K:\g-m\m\DOT\4419000\hwy-brdg\hwy\pln-sht\cd6982290_cna.dgn



HYDRAULIC DATA - DUAL 12'x6' BOX CULVERTS

STREAM NAME	UNNAMED STREAM
DRAINAGE AREA	1.08 SQ. MI.
DESIGN FLOOD (50-YR FREQUENCY)	400 CFS
DESIGN HEADWATER ELEV. (NGVD 1929)	607.81 FT.
BASE FLOOD (100-YR FREQUENCY)	460 CFS
BASE HEADWATER ELEVATION (NGVD 1929)	608.19 FT.

POINT NO.	STAKING COORDINATES		ELEV.
	X	Y	
G100	435593.67	367657.94	602.00
G101	435630.92	367552.36	601.50
G102	435655.32	367508.54	601.40
G103	435695.25	367482.95	601.30
G104	435693.79	367515.58	601.30
G105	435665.10	367536.39	601.40
G106	435645.93	367567.13	601.50
G107	435606.18	367674.45	602.00

- NOTES:**
- CONTOUR INTERVAL = 1.0'
 - CONTOURS SHOWN ARE TO FINISHED GROUND. (TOP OF TOPSOIL).
 - ① BOX CULVERTS AND DITCH REALIGNMENT CONSTRUCTION SHALL OCCUR OFFLINE OF EXISTING STREAM FLOW. CONSTRUCT DITCH BLOCK TO ALLOW DRY CONDITIONS DURING CONSTRUCTION OF BOX CULVERTS AND NEW DITCH. DO NOT UNPLUG UNTIL NEW DITCH BOTTOM IS STABILIZED. THE CONTRACTOR SHALL SUBMIT A SITE PLAN FOR THE DITCH BLOCKS AND DITCH DIVERSION TO THE ENGINEER AND ALLOW 7 DAYS FOR REVIEW.

DRAWN BY: RPM
 CHECKED BY: MAW

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.

SIGNATURE: *Matthew A. Wassman*
 PRINTED NAME: MATTHEW A. WASSMAN
 DATE: NOVEMBER 24, 2009 L.C. NO. 26883



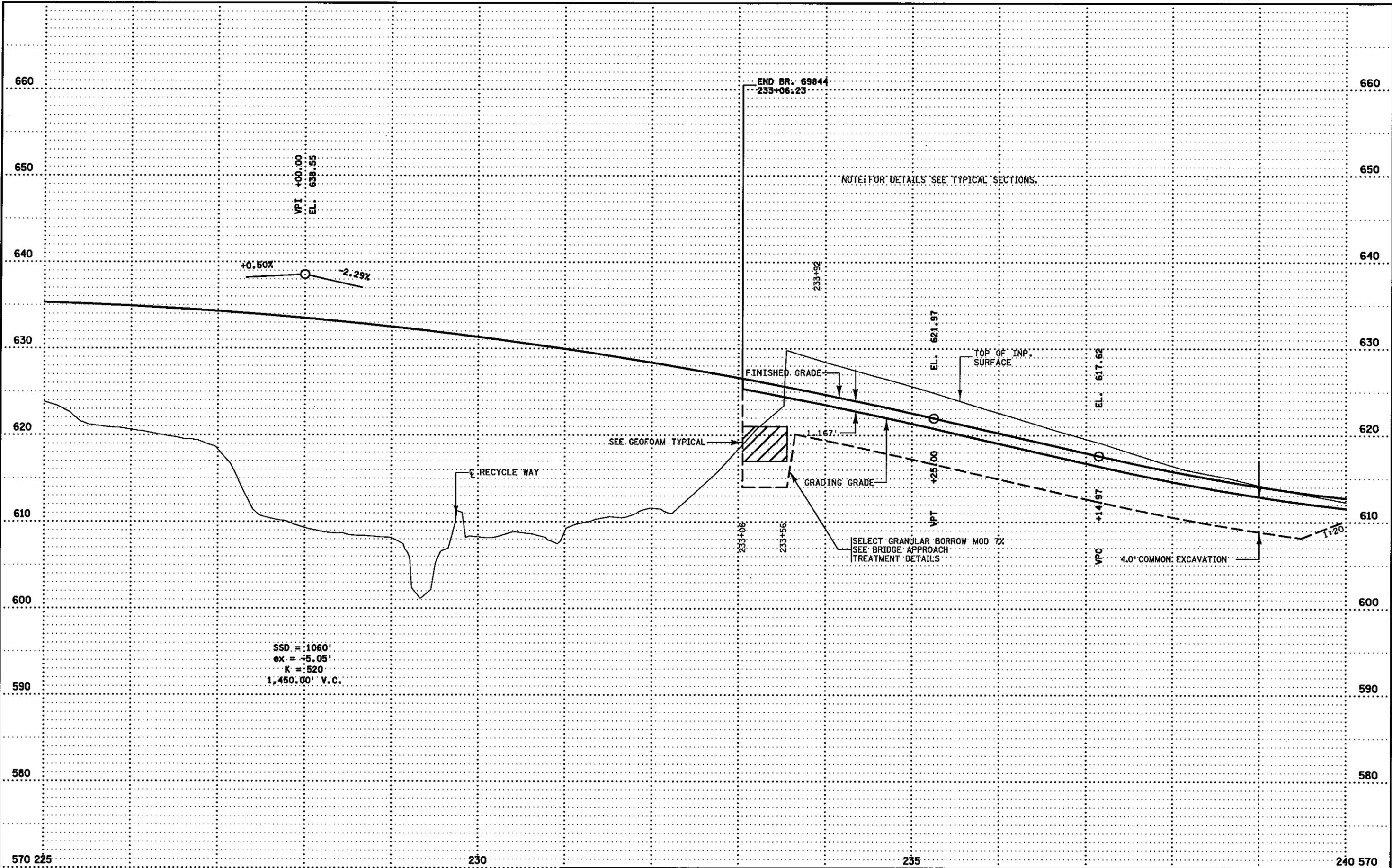
MINNESOTA DEPARTMENT OF TRANSPORTATION
 TH 35 IMPROVEMENTS

CONTOUR PLAN
 RECYCLE WAY AND ONEOTA ST.

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. 403 of 587 Sheets

DISTRICT #: DULUTH
 IPLOT NAME: d6982290_pr211
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Plan/plan_sheets/d6982290_pr21.dgn

PLOTTED/REVISED: 20-DEC-2009



I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 20-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

S.B. T.H. 35 PROFILE

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 426 OF 587 SHEETS

PLOTTED/REVISED: 19-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: WET1
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_wetlands.DGN



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SCALE IN FEET

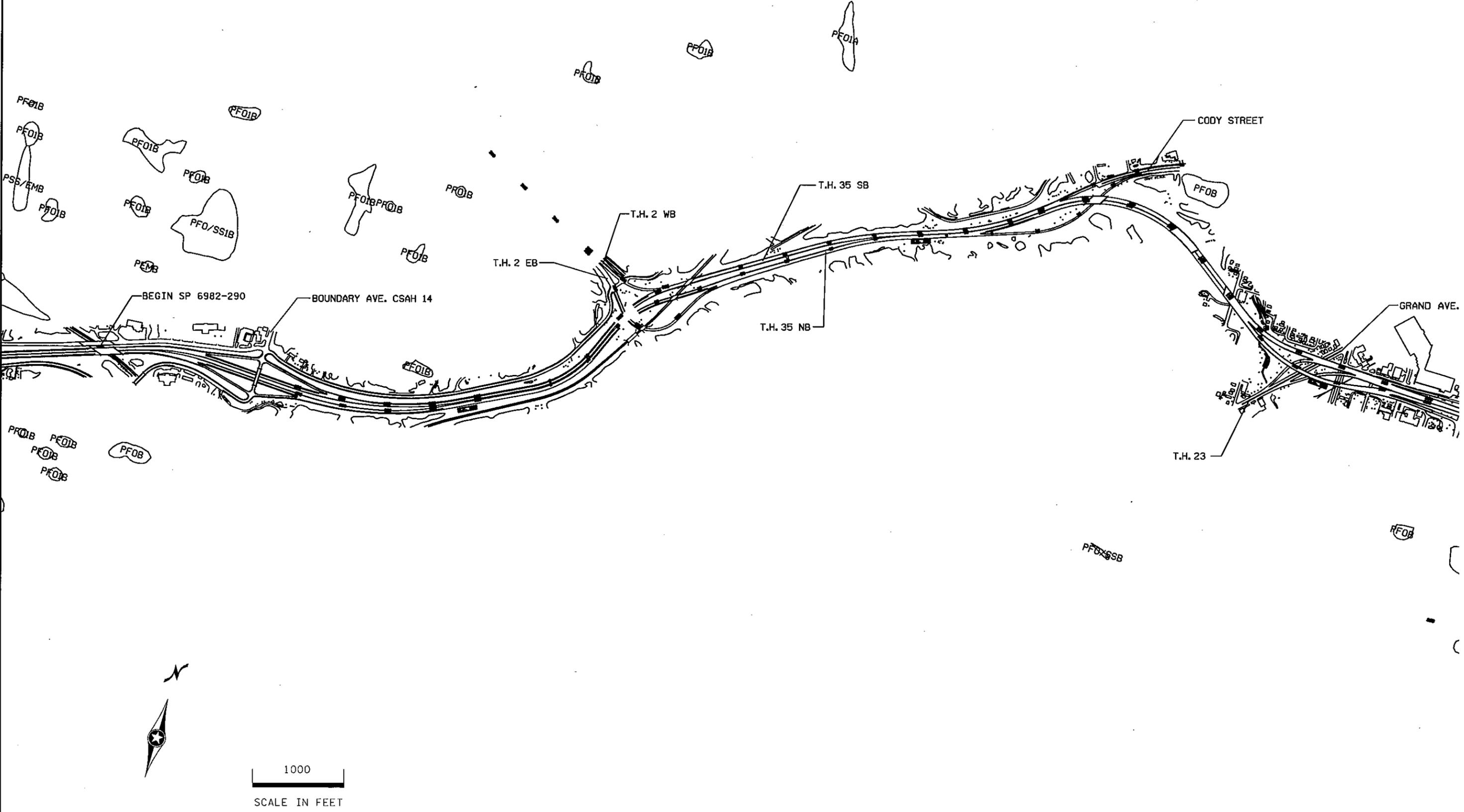
I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: 19-DEC-2009, LIC. NO. 43441, ENGINEER *Daniel J. Erickson*

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 479 OF 587 SHEETS

WETLANDS

PLOTTED/REVISED: 19-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: WET2
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_wetlands.DGN



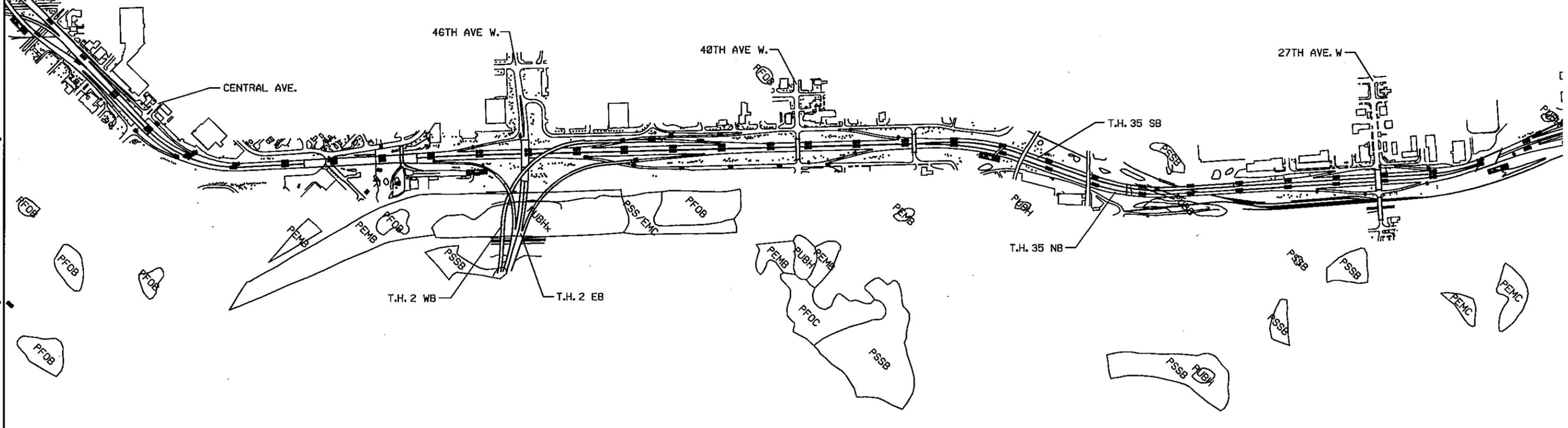
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SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 19-DEC-2009, LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

WETLANDS
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 480 OF 587 SHEETS

PLOTTED/REVISED: 19-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: WET3
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_wetlands.DGN



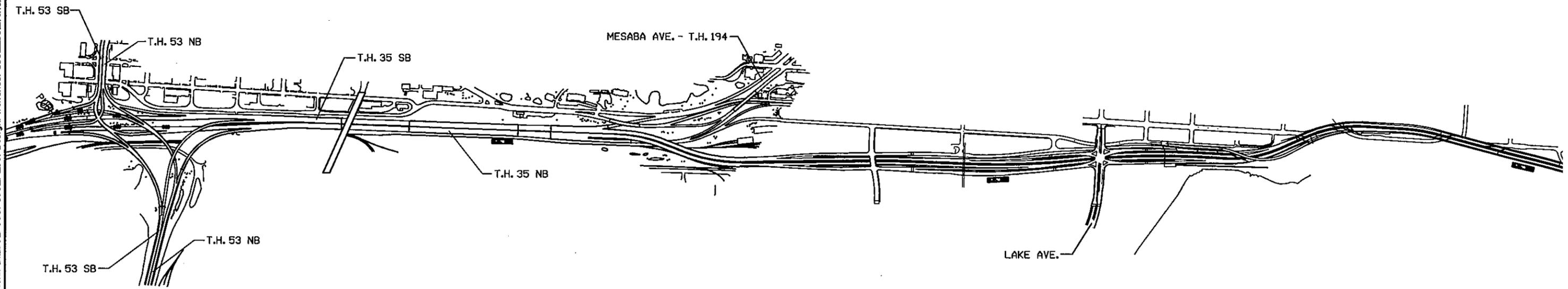
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SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 19-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 481 OF 587 SHEETS
WETLANDS

PLOTTED/REVISED: 19-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: WET4
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_wetlands.DGN

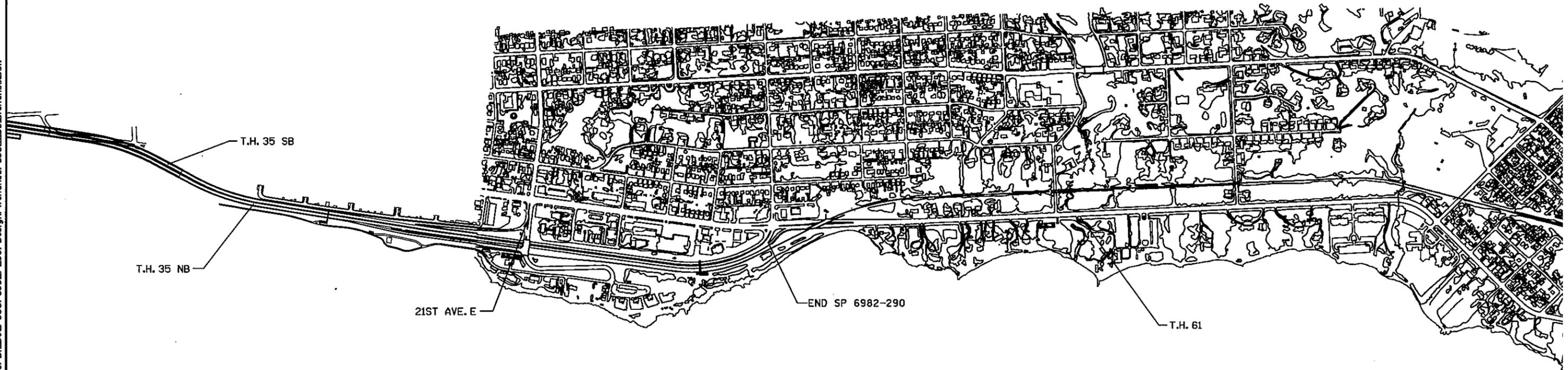


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SCALE IN FEET

<p>I HEREBY CERTIFY THAT THIS PLAN SHEET 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.</p>	<p>WETLANDS</p>
<p>DATE 19-DEC-2009 LIC. NO. 43441 ENGINEER <i>Daniel J. Erickson</i></p>	<p>STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 482 OF 587 SHEETS</p>

PLOTTED/REVISED: 19-DEC-2009

DISTRICT #: DULUTH
PLOT NAME: WETS
PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_wetlands.DGN



1000
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAN SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 19-DEC-2009 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
DANIEL J. ERICKSON

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 483 OF 587 SHEETS
WETLANDS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PROJECT DESCRIPTION

SP 6982-290 (T.H. 35) CONSISTS OF BRIDGE DEMOLITION, BRIDGE REPLACEMENT, APPROACH GRADING, BITUMINOUS REMOVAL, BITUMINOUS PAVING, AGGREGATE SHOULDERING, AND CULVERT REPLACEMENTS. CONSTRUCTION ACTIVITIES WILL INCLUDE EXCAVATIONS FOR CULVERT REPLACEMENTS, AND BRIDGE APPROACHES. PROJECT LIMITS ARE INDICATED ON THE PLAN TITLE SHEET. NET LENGTH OF THE PROJECT IS 10.2 MILES.

THE TOTAL LAND AREA ANTICIPATED TO BE DISTURBED BY THE PROJECT (EXCLUSIVE OF BORROW AND DISPOSAL AREAS) IS 103.01 ACRES.

CONSTRUCTION DATES ARE ESTIMATED TO BE FROM APRIL 2010 TO JUNE 2012.

THE RECEIVING WATER FOR STORM WATER FROM THE PROJECT INCLUDES EXISTING STORM SEWER SYSTEMS, ISOLATED WETLANDS, PROPOSED STORM WATER PONDS, AND LAKE SUPERIOR.

Mn/DOT MAINTENANCE IS RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

CONTACTS:

MN/DOT PROJECT MANAGER IS:
ROBERTA DWYER - MNDOT-DISTRICT 1A
1123 MESABA AVENUE
DULUTH, MN 55811
(218) 725-2781
ROBERTA.DWYER@DOT.STATE.MN.US

TIMING OF BMP INSTALLATION

1. THE EROSION PREVENTION, SEDIMENT CONTROL AND POLLUTION MANAGEMENT BMPs SHALL BE INSTALLED AS NECESSARY TO MINIMIZE AIR, LAND AND WATER POLLUTION FROM DISTURBED SURFACES AND CAPTURE SEDIMENTS AND OTHER POLLUTION ONSITE, AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS.
2. PONDS WILL BE EXCAVATED PRIOR TO ANY SOIL DISTURBANCE. TEMPORARY PONDS SHALL BE DEWATERED DURING CONSTRUCTION WHEN SEDIMENT HAS SETTLED OUT OF THE WATER. PROPER BMP'S SHALL BE USED DURING DEWATERING SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER.
3. TEMPORARY PERIMETER CONTROL BMPs WILL BE INSTALLED BEFORE ANY UP GRADIENT SOIL DISTURBANCE OCCURS.
4. PERMANENT AND TEMPORARY SEDIMENT TRAPS AND BASINS WILL BE CONSTRUCTED BEFORE ANY HYDRAULIC CONVEYANCE OR DEWATERING PROCEDURES OCCUR.
5. TOPSOIL AND TEMPORARY EROSION CONTROL BMPs SHALL BE PLACED WITHIN 3 DAYS OF COMPLETION OF EMBANKMENT AND PONDS.
6. PLACEMENT OF RIPRAP SHALL BE COMPLETED WITHIN 24 HOURS OF PLACEMENT OF THE CULVERT AND DONE IN ONE CONTINUOUS OPERATION.
7. ONCE CONSTRUCTION ACTIVITY CEASES FOR 7 DAYS OR MORE, IN AN AREA, THAT AREA WILL BE STABILIZED WITH TEMPORARY OR PERMANENT BMPs.
8. RAPID STABILIZATION SHALL BE USED IN AREAS AS SHOWN IN THE PLANS WITHIN 3 DAYS AFTER THE AREA IS NO LONGER BEING WORKED.
9. SEE THE NPDES PERMIT FOR OTHER TIMING REQUIREMENTS.

CALCULATIONS

LAND FEATURE CHANGES	ACRES
TOTAL DISTURBED AREA	103.01
TOTAL EXISTING IMPERVIOUS SURFACE AREA	40.46
TOTAL PROPOSED IMPERVIOUS SURFACE AREA	41.38
TOTAL NEW IMPERVIOUS SURFACE AREA	0.92

POND	DEAD STORAGE (CF)	ADDITIONAL LIVE STORAGE (CF)
"B"	1852	11794
"C"	796	5921
"D"	843	5919

CONSTRUCTION PERMITS

- A. NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES PHASE II-2008 MPCA)
- B. 404 PERMIT (UNITED STATES ARMY CORPS OF ENGINEERS)
- C. WETLAND CONSERVATION ACT
- D. MINNESOTA PUBLIC WATER PERMIT (DNR)
- E. CITY OF DULUTH GENERAL CONSTRUCTION

DRAINAGE AND EROSION CONTROL PLAN SHEET LEGEND

-  RAPID STABILIZATION METHOD 3
-  RAPID STABILIZATION METHOD 4
-  FILTER LOG TYPE WOOD FIBER BIOROLL
-  FILTER LOG TYPE COMPOST LOG
-  RANDOM RIPRAP CLASS III
PLACE AS DIRECTED BY ENGINEER
-  FLOTATION SILT CURTAIN TYPE MOVING WATER
-  MULCH TYPE SPECIAL
-  SILT FENCE SUPER DUTY
-  DRAINAGE FLOW ARROW

TMDL IMPLEMENTATION PLANS CONTAINING STORM WATER REQUIREMENTS

THERE ARE NO APPROVED TMDL'S FOR THE RECEIVING WATERS.

SWPPP AMENDMENTS

THE SWPPP WILL BE AMENDED AS NEEDED AND/OR REQUIRED BY THE PROVISIONS OF THE PERMIT. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	TITLE	LOCATION
LAWS THAT PREVAIL	SWPPP NOTES	1701
TEMPORARY EROSION & SEDIMENT CONTROL MEASURES	EROSION AND SEDIMENT CONTROL PLAN, DRAINAGE PLAN, NOTES AND DETAILS,	SHEET NO. 2573, 2575, 1717, SPECIAL PROVISIONS
PERMANENT EROSION CONTROL MEASURES	EROSION AND SEDIMENT CONTROL PLAN	SHEET NO. 75
PERMANENT STORM WATER FACILITY	EROSION AND SEDIMENT CONTROL PLAN, DRAINAGE PLAN, NOTES AND DETAILS,	SHEET NO. 2575, SPECIAL PROVISIONS
PROJECT STAGING	GENERAL LAYOUT, SITE PLAN REQUIREMENT AREAS	SHEET NO. 2-16, 1717
DIRECTION OF FLOW	DRAINAGE PLAN, SUPERELEVATION PLAN	SHEET NO. 368-400, 453-478
FINAL STABILIZATION	TABULATION	SHEET NO. 1717, 2573, 2575, SPECIAL PROVISIONS
SOILS AND CONSTRUCTION NOTES	STANDARD PLATES, SOILS AND CONSTRUCTION NOTES	SHEET NO. 27
DRAINAGE	DRAINAGE PROFILES AND TAB.	SHEET NO. 66-71
DRAINAGE	DRAINAGE PROFILES AND TAB.	SHEET NO. 66-71
STORM SEWER/CULVERT PROFILE SHEETS	DRAINAGE PROFILES AND TAB.	SHEET NO. 66-71
STORM SEWER/CULVERT TABULATION	DRAINAGE PROFILES AND TAB.	SHEET NO. 66-71
EROSION AND SEDIMENT CONTROL DETAILS	EROSION AND SEDIMENT CONTROL PLAN, DRAINAGE PLAN, NOTES AND DETAILS	SHEET NO. 183-194, 368-400
ESTIMATED QUANTITIES	STATEMENT OF ESTIMATED QUANTITIES	SHEET NO. 17-25
TURF ESTABLISHMENT TABULATION		SHEET NO. 74, 75
DEWATERING	DETAILS	SHEET NO. SPECIAL PROVISIONS, 1717, 2573, 2105, 2451
CONCRETE	MN/DOT GUIDANCE DOCUMENTS	SPECIAL PROVISIONS, FTP SITE

PROJECT CONTACTS

TITLE	NAME	PHONE NUMBER
MN/DOT PROJECT ENGINEER		
MN/DOT RESIDENT ENGINEER	PAT HUSTON	218-725-2775
DISTRICT MAINTENANCE ENGINEER	DUANE HILL	218-725-2707
DISTRICT HYDRAULICS ENGINEER	TODD CAMPBELL	218-725-2744
PROJECT DESIGN ENGINEER	DANIEL J	
DNR AREA HYDROLOGIST	AMY LOISELLE	218-744-7450
DNR TRANSPORTATION AREA	PETER LEETE	651-442-9890
MN/DOT SWPPP DESIGN	DWAYNE	612-810-9409
MN/DOT ENVIRONMENTAL SERVICES		651-366-3600
ST LOUIS COUNTY SWCD	NATHAN	218-723-4867
DULUTH MS4 COORDINATOR	MARNIE	218-730-4063
COUNTY AG/MDA INSPECTOR	LISA BERG	763-389-9840
MPCA REGIONAL STAFF	JAMES DEXTER	218-302-6632
MPCA 24 HOUR EMERGENCY		800-422-0798
CONTRACTOR EROSION CONTROL	TBD	

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 16-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

SWPPP 1 OF 3

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 484 OF 587 SHEETS

PLOTTED/REVISED: 16-FEB-2010

DISTRICT #: DULUTH
PROJECT NAME: 6982290_SWPPP
PATH & FILENAME: Proj\sects\DI_DUL\035\6982\290\Design\Wetlands\6982290_SWPPP.DGN

ENVIRONMENTALLY SENSITIVE AREAS

WITHIN 1 MILE OF THIS PROJECT, THERE ARE 6 POTENTIAL TROUT STREAMS, 26 SEGMENTS OF TROUT TRIBUTARIES, A SPECIAL WATER OF LAKE SUPERIOR, 3 IMPAIRED WATERS, AND 2 IMPAIRED STREAMS. NPDES/SDS PERMIT APPENDIX A FOR C1, C2, C3 AND C5 ARE ADDRESSED IN THIS PLAN, OR DO NOT APPLY DUE TO NO CONSTRUCTION STORM WATER DISCHARGE. THERE ARE NUMEROUS WET AREAS NOT DELINEATED AS SWPPP ALONG THE PROJECT LIMITS AND STORM DRAIN INLETS THAT ULTIMATELY DRAIN TO LAKE SUPERIOR.

SPECIAL WATERS: STREAMS, DESIGNATED TROUT THAT INCLUDE CHESTER, TISCHER, MILLER, KEENE, KNOWLTON, AND KINGSBURY. THERE ARE NUMEROUS TRIBUTARIES (EG COFFEE AND COPPER CREEK) CONNECTED TO THESE DESIGNATED TROUT WATERS.

IMPAIRED WATERS: LAKE SUPERIOR FOR HG AND PCB, GOLF COURSE POND FOR PCB, AND ST LOUIS BAY FOR PBT, FC, HG, AND PCB. THIS PROJECT DOES NOT NEED TO MEET ANY TREATMENT REQUIREMENTS FOR THESE IMPAIRMENTS DUE TO CONSTRUCTION ACTIVITIES.

IMPAIRED STREAMS: ST LOUIS RIVER FOR PBT, FC, HG, AND MILLER CREEK FOR LCWA AND TM
THIS PROJECT WILL CONSTRUCT 3 PONDS AND NUMEROUS BIOSWALES TO TREAT STORM WATER DUE TO CONSTRUCTION ACTIVITIES.

CALCAREOUS FENS
THERE ARE NO CALCAREOUS FENS WITHIN 1 MILE OF THE PROJECT LIMITS.

SCIENTIFIC AND NATURAL AREAS
THERE ARE NO SNA WITHIN 1 MILE OF THE PROJECT
THERE ARE NO IMPAIRED SWPPP WITHIN 1 MILE OF THE PROJECT

TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS
THERE ARE NO ESTABLISHED TMDL FOR THE ABOVE LISTED WATERS.

CONSTRUCTION NOTES

CONSTRUCTION SHALL BE GOVERNED BY THE MN/DOT STANDARD SPECIFICATIONS, AND SPECIAL PROVISIONS.

ADDITIONAL EROSION AND SEDIMENT CONTROL BMP'S AS PRESCRIBED BY THE ENGINEER IN THE FIELD SHALL BE IMPLEMENTED IN ORDER TO BE COMPLIANT WITH THE PERMIT AND PREVENT EROSION AND SEDIMENTATION FROM TAKING PLACE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL BMP'S BEFORE AND DURING CONSTRUCTION.

THE CONTRACTOR SHALL KEEP THE INSPECTION AND MAINTENANCE LOGS IN ACCORDANCE WITH NPDES PERMIT.

THIS SWPPP, ALL PERMITS, ALL INSPECTION AND MAINTENANCE RECORDS AND DESIGN CALCULATIONS WILL BE KEPT BY THE OWNER AFTER CONSTRUCTION FOR NOT LESS THAN THREE YEARS.

THE CONTRACTOR SHALL MAINTAIN A RESPONSIBLY SIZED STOCKPILE OF EROSION CONTROL DEVICES ON THE PROJECT FOR IMMEDIATE USE INCLUDING MATERIALS FOR RAPID STABILIZATION.

SOIL INFORMATION IS AVAILABLE FROM MN/DOT.

EROSION CONTROL SUPERVISOR WILL BE REQUIRED TO PROVIDE A WRITTEN EROSION CONTROL PLAN WEEKLY TO THE ENGINEERS.

EROSION CONTROL NOTES

- MN/DOT (2005 EDITION) STD. SPEC. 1803.5, EROSION CONTROL, SHALL APPLY. MN/DOT AND CONTRACTOR WILL BE CO-PERMITTEE FOR THE MPCA NPDES STORM WATER CONSTRUCTION PERMIT FOR THIS PROJECT - CONTRACTORS SIGNATURE ON PERMIT IS REQUIRED. SUBMIT INITIAL EROSION CONTROL (EC) SCHEDULE AT OR BEFORE PRE-CONSTRUCTION MEETING. SUBMIT EC SCHEDULE ALTERATIONS/ADJUSTMENTS WEEKLY THEREAFTER FOR ENGINEERS APPROVAL.
- THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE PROJECT ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP, AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE AIR, LAND AND WATER POLLUTION PREVENTION PROGRAM BMP'S BEFORE AND DURING CONSTRUCTION.
- THE CONTRACTOR WILL PREPARE A WRITTEN, NOT ORAL, WEEKLY SCHEDULE OF PROPOSED EROSION AND POLLUTION CONTROL ACTIVITIES FOR THE PROJECT ENGINEERS APPROVAL AS PER MN/DOT SPEC. 1717.2D.
- THE CONTRACTOR IS RESPONSIBLE FOR EC QUALITY CONTROL ON THIS PROJECT. (MN/DOT 1803.5 D) CONTRACTOR SHALL PHASE/SEQUENCE THE PROJECT TO MINIMIZE EXPOSURE TO EROSION. CONTRACTOR SHALL PLACE OR OTHERWISE CONSTRUCT EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES TO MINIMIZE THE RUNOFF, TRACKING, SEDIMENT LOSS FROM DISTURBED AREAS OF THE PROJECT SITE.
- THE CONTRACTOR WILL PROVIDE AN EROSION CONTROL SUPERVISOR WHO WILL DEVELOP A QUALITY CONTROL PROGRAM AND ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:
 - DATE AND TIME OF INSPECTIONS,
 - NAME OF PERSON(S) CONDUCTING INSPECTIONS,
 - FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS AND AS PART OF THE WRITTEN EROSION CONTROL SCHEDULE,
 - CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES,
 - DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS,
 - DOCUMENTS AND CHANGES MADE TO THE SWPPP.
- SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE SITE IS DISTURBED.
- TOTAL DISTURBED AREA IS 103.0 ACRES, BEGINNING IMPERVIOUS IS 66.2 ACRES. NEW TOTAL IMPERVIOUS IS 83.8 ACRES. TOTAL CHANGE IN IMPERVIOUS IS 18.7 % INCREASE.

- RECEIVING WATER IS THE EXISTING STORM SEWER SYSTEMS, ISOLATED WETLANDS, PROPOSED STORM WATER PONDS, AND MILLER CREEK.
- DISTURBED SLOPES NOT ACTIVELY WORKED SHALL BE PROTECTED FROM SOIL EROSION WITH TEMPORARY OR PERMANENT COVER WITHIN PERMIT REQUIREMENTS AS DESCRIBED IN APPENDIX A OF THE NPDES CONSTRUCTION STORM WATER PERMIT.
- AT MINIMUM, THE FOLLOWING CONTROLS WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE:
 - EROSION CONTROL BLANKETS SHALL BE USED ON ALL SLOPES 1:3 OR STEEPER
 - SILT FENCES SHALL BE USED IN CONJUNCTION WITH OTHER EROSION BMP'S
 - ROCK DITCH CHECKS, OR APPROVED EQUAL, ARE TO BE USED TO REDUCE DITCH VELOCITIES AND REDUCE EROSION.
 - STORM INLETS AND OUTLET AREA SHALL BE PROTECTED WITH ROCK RIP-RAP.
 - STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED TO REDUCE SEDIMENT TRACKING.
 - STORM INLETS SHALL BE CONTINUOUSLY PROTECTED BY INLET PROTECTION DEVICES.
 - PERMANENT VEGETATION WILL BE ESTABLISHED RIGHT AFTER TOPSOIL IS PLACED.
 - CONTROL ALL SITE WASTE, DEBRIS, MATERIAL STORAGE, AND CONCRETE WASHOUT TO PREVENT IMPACTS TO ANY DRAINAGE.
- ALL SLOPES AND DITCHES SHALL BE STABILIZED PRIOR TO OPENING NEW CULVERTS INTO EXISTING DRAINAGE WAYS.
- IF ANY STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 3 DAYS, SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED.
- THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT APPRECIABLE SOIL TRACKING ONTO ROADWAYS. APPRECIABLE SOIL, MUD OR DEBRIS WASHED, TRACKED OR DEPOSITED ONTO PAVED SURFACES SHALL BE REMOVED PRIOR TO THE END OF EACH WORKDAY.
- STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE REMOVED AND AREA RESTORED AFTER GRADING IS COMPLETE.
- IAW MN/DOT 1803.5D, THE CONTRACTOR QC PROGRAM SHALL ENSURE THAT A COMPETENT INDIVIDUAL SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES WEEKLY AND WITHIN 24 HOURS AFTER EACH RAIN EVENT. ALL NONFUNCTIONAL DEVICES SHALL BE REPAIRED/REPLACED/CLEANED. MAINTAIN NPDES LOG OF ALL WEEKLY AND RAIN EVENT INSPECTIONS, INCLUDE THE CORRECTIVE ACTIONS THAT WERE TAKEN.
- WHERE NOT OTHERWISE SPECIFIED, RAPID STABILIZATION METHOD 4 SHALL BE USED WHEN QUICK STABILIZATION IS NEEDED.
- THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE CONSTRUCTION SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE TO ANY SURFACE WATER WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER ACCORDING TO SPEC 1717.2A2. RAPID STABILIZATION METHOD 3, 4, OR 5, DEPENDING ON LOCATION, WILL BE USED TO STABILIZE THESE AREAS. ALL REMAINING PORTION OF THE DITCH AND SLOPES NOT WORKED WITHIN 7 DAYS MUST BE STABILIZED WITHIN THE TIME FRAMES FOR EXPOSED SOIL AREAS. DRIVING ON SOILS DOES NOT CONSTITUTE WORKING THE SOILS.
- OUTLETS INTO SURFACE WATERS SHALL BE STABILIZED WITH ENERGY DISSIPATION BMP'S WITHIN 24 HOURS.
- DITCHES AND EXPOSED SOILS MUST BE KEPT IN A SMOOTH ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL PLASTIC, GEOTEXTILES, MULCHES AND BLANKETS.
- ALL EXPOSED SOIL AREAS WILL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, AND/OR BLANKETED.

DUST CONTROL

THE CONTRACTOR IS REMINDED TO READ AND UNDERSTAND THE FOLLOWING MINNESOTA RULE 7011.0150 AND THE FOLLOWING:

NO PERSON MAY CAUSE OR PERMIT THE HANDLING, TRANSPORTING OR STORING OF ANY MATERIAL IN A MANNER WHICH ALLOWS OR MAY ALLOW CONTROLLABLE PARTICULATE MATTER TO BECOME AIRBORNE. EXCEPT AS OTHERWISE PROVIDED, THE CONTRACTOR MAY NOT CAUSE NOR PERMIT THE CONSTRUCTION, REPAIR, DEMOLITION, OR USE OF UNPAVED OR UNTREATED AREAS WITHOUT FIRST PUTTING INTO EFFECT AN ONGOING PROGRAM USING THE BEST PRACTICAL METHODS TO PREVENT PARTICULATE MATTER FROM BECOMING AIRBORNE.

THE CONTRACTOR SHALL DEVELOP A DUST CONTROL PLAN, ADMINISTERED BY THE EROSION CONTROL SUPERVISOR THAT USES ALL REASONABLE PRECAUTIONS TO PREVENT DUST EMISSIONS FOR THE ENGINEERS APPROVAL.

THE PLAN MUST:

- IDENTIFY ALL POTENTIAL FUGITIVE DUST EMISSION SOURCES.
- ASSIGN DUST CONTROL METHODS.
- DETERMINE FREQUENCY OF APPLICATION.
- RECORD ALL DUST CONTROL ACTIVITIES.
- MONITOR YOUR DUST CONTROL EFFORTS.

THE PLAN SHALL HAVE PROVISIONS FOR NOTIFICATION OF SUBCONTRACTORS AND OTHERS ACCESSING THE DISTURBED AREAS OF THEIR RESPONSIBILITIES TO CONTROL FUGITIVE DUST (I.E. OBSERVING ONSITE VEHICLE SPEED LIMITS, TRACK OUT, BEST PRACTICAL METHODS OF DUST CONTROL BEING USED ONSITE WHEN WORKING ON PAVEMENTS AND IN DISTURBED AREAS, KEEPING OFF DISTURBED AREAS THAT HAVE BEEN STABILIZED, ETC.)

THE PLAN SHALL ADDRESS THE TYPE OF BEST PRACTICAL METHODS OF FUGITIVE DUST CONTROL TO BE USED BY CONTRACTOR TO CONTROL FUGITIVE DUST IN DETAIL. MORE THAN ONE TYPE OF FUGITIVE DUST CONTROL METHOD MAY BE NECESSARY TO PREVENT FUGITIVE DUST GENERATION AND USE OF MULTIPLE FUGITIVE DUST METHODS MUST BE ADDRESSED IF APPLICABLE. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE PROVISIONS CONTAINED IN THEIR DEVELOPED PLAN. FAILURE TO FOLLOW THE PLAN REQUIRED BY THE PROJECT MAY RESULT IN A DEDUCTION AS PER 1717 QUALITY ASSURANCE AND 2573 EROSION CONTROL SUPERVISOR. FAILURE TO CONTROL FUGITIVE DUST GENERATION AT THE PROJECT SITE IS A VIOLATION OF FEDERAL CLEAN AIR ACT AND MINNESOTA RULES. REGARDLESS OF THE BEST PRACTICAL METHOD(S) OF FUGITIVE CONTROL SELECTED, THE PERMITTEE IS RESPONSIBLE TO PREVENT CONTROLLABLE FUGITIVE DUST FROM BECOMING AIRBORNE.

THE PLAN SHALL INCLUDE TRAINING OF THE PROJECT SUBCONTRACTORS AND EQUIPMENT OPERATORS TO RECOGNIZE WHEN THE DUST CONTROLS BEING USED ARE NOT PREVENTING THE GENERATION OF FUGITIVE DUST AND TO FOLLOW THE REQUIREMENTS OF THE PROJECT'S FUGITIVE DUST CONTROL PLAN. A LOG OF SUCH TRAINING SHALL BE KEPT ONSITE WITH THE DAILY OPERATIONS LOG.

THE PLAN SHALL INCLUDE IDENTIFICATION OF THE PROJECT ONSITE PERSON(S) AUTHORIZED TO CEASE OPERATIONS WHEN WIND OR OTHER METEOROLOGICAL CONDITIONS COMPROMISE THE CONTROL OF FUGITIVE DUST WHEN EMPLOYING THE BEST PRACTICAL METHODS SPECIFIED IN THE PLAN.

THE PLAN SHALL HAVE PROVISIONS FOR UPDATING THE PLAN IN THE EVENT MATERIAL CHANGES TO THE PROJECT OCCUR AND RESUBMITTAL OF THE PLAN TO THE PROJECT ENGINEER.

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
DATE 16-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson* DANIEL J. ERICKSON

SWPPP 2 OF 3

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 485 OF 587 SHEETS

PLOTTED/REVISED: 16-FEB-2010

DISTRICT #: DULUTH
IPLOT NAME: 6982290_SWPPP
PATH & FILENAME: Proj\6982\290\Design\Methods\6982290_SWPPP.DGN

CONSTRUCTION PRACTICES TO MINIMIZE STORM WATER CONTAMINATION

TO PREVENT STORM WATER CONTAMINATION FROM OCCURRING, THE FOLLOWING BMPs WILL BE IMPLEMENTED:

1. ALL AREAS THAT ARE ROUGH GRADED MUST BE KEPT IN A SMOOTH CONDITION TO ALLOW SHEET FLOW OF STORM WATER WHEREVER PRACTICAL AND ALWAYS READY FOR SURFACE APPLICATION OF DEGRADABLE OR NON-DEGRADABLE BLANKETS, MULCH, OR OTHER PROTECTIVE COVERS.
2. IF A STABILIZED CONSTRUCTION ENTRANCE/EXIT IS DEEMED NECESSARY TO REDUCE VEHICLE TRACKING OF SEDIMENTS OFF THE PROJECT RIGHT OF WAY, IT SHALL BE CONSTRUCTED TO THE DETAIL IN THE PLAN. PAID FOR AS ITEM 2013.601 AIR AND WATER POLLUTION CONTROL, LUMP SUM.
3. ALL NON-HAZARDOUS WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER OR OTHER APPROVED CONTAINMENT METHOD AT THE END OF EACH DAY. ANY ALTERNATIVE TO A METAL DUMPSTER MUST BE SUBMITTED IN WRITING FOR APPROVAL BY THE PROJECT ENGINEER. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY TO FUNCTION AS INTENDED FOR DEBRIS COLLECTION. NO CONSTRUCTION MATERIALS WILL BE BURIED ON-SITE. THE CONTRACTOR'S EROSION CONTROL SUPERVISOR WILL INSTRUCT ALL PERSONNEL REGARDING THE CORRECT PROCEDURE FOR DISPOSAL.
4. A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR WILL COLLECT ALL SANITARY WASTE FROM THE PORTABLE UNITS AT A RATE NECESSARY TO MAINTAIN DESIGNED FUNCTION.
5. ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
6. FERTILIZERS WILL BE STORED IN A COVERED SHED AND PARTIALLY USED BAGS WILL BE TRANSFERRED TO A SEALABLE BIN TO REDUCE THE CHANCE OF SPILLAGE.
7. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED.
8. SPILL KITS WILL BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES. SECONDARY CONTAINMENT MEASURES WILL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.
9. ANY ASPHALT SUBSTANCES USED ON SITE WILL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
10. ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE.
11. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM WATER SYSTEM, BUT WILL BE PROPERLY DISPOSED ACCORDING TO MANUFACTURER'S INSTRUCTION.
12. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEAN-UP WILL BE KEPT IN AN ENCLOSED TRAILER OR SHED ON SITE. EQUIPMENT WILL INCLUDE, BUT NOT LIMITED TO, BROOMS, MOPS, DUST PANS, RAGS, GLOVES, GOGGLES, ABSORBENT (KITTY LITTER.), OIL ABSORBANT BOOMS AND DIAPERS, AND BUCKETS.
13. ALL SPILLS WILL BE CONTAINED AND CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM WATER CONVEYANCE SYSTEM WILL BE REPORTED TO THE MINNESOTA DUTY OFFICER AT 1-800-422-0798.
14. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE, UNLESS DONE IN AN ENGINEERED CONTAINMENT SYSTEM. THE ENGINEERED SYSTEM MUST INCLUDE SITE DRAWINGS FOR THE PROJECT FILE AND WRITTEN ASSURANCE THAT THE SYSTEM WILL WORK AS DESIGNED AND LEAVE NO DISCHARGE OF CONCRETE OR CONCRETE RESIDUE POTENTIAL TO WATERS OF THE STATE DURING A MINIMUM OF A 100 YEAR STORM EVENT.
15. FORM RELEASE OIL USED FOR CONCRETE WORK MUST BE APPLIED OVER A PALLET CONTAINING ABSORBENT TO COLLECT EXCESS LIQUID. THE ABSORBENT MATERIAL WILL BE REPLACED AND PROPERLY DISPOSED WHEN SATURATED.
16. DEWATERING/BASIN DRAINING IS ANTICIPATED AND WILL LIKELY BE REQUIRED ON THIS JOB. IF THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT-LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF SEDIMENT TRAPS, VEGETATIVE FILTER STRIPS, FLOCCULANTS, OR OTHER SEDIMENT REDUCING MEASURES SUCH THAT DISCHARGE IS NOT VISIBLY DIFFERENT THAN THE RECEIVING WATER. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER PRIOR TO INITIATING DEWATERING ACTIVITIES.
17. DURING THE ROADWAY CONSTRUCTION AND UTILITY WORK, IF UNANTICIPATED CONDITIONS EXIST THAT WOULD REQUIRE DEWATERING/BASIN DRAINING, TEMPORARY DEWATERING WELLS MAY BE REQUIRED. IT IS POSSIBLE THAT A PERMIT FOR THE TEMPORARY APPROPRIATION OF WATERS OF THE STATE, NON-IRRIGATION FROM MNDNR WILL BE NEEDED FOR THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING THIS PERMIT. ALL TEMPORARY DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE CONTRACTOR IS REQUIRED TO SUBMIT OF THE STATE OF MINNESOTA. SITE PLANS TO MN/DOT ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK ACCORDING TO SPEC 1717.2E.
18. ALL CONSTRUCTION DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER.

SIGNIFICANT MATERIALS INVENTORY

POLLUTANTS THAT RESULT FROM CLEARING, GRADING, EXCAVATION, BRIDGE AND ROAD BUILDING AND HAVE THE POTENTIAL TO BE PRESENT ARE LISTED IN THE FOLLOWING TABLE. THIS TABLE INCLUDES INFORMATION REGARDING THE MATERIAL TYPE, CHEMICAL AND PHYSICAL DESCRIPTION, AND THE SPECIFIC REGULATED STORM WATER POLLUTANTS ASSOCIATED WITH EACH MATERIAL:

MATERIAL/CHEMICAL	PHYSICAL DESCRIPTION	STORMWATER POLLUTANTS	LOCATION	MANAGEMENT PRACTICE
PESTICIDES	VARIOUS COLORED COLORLESS LIQUID, AEROSOLS, POWDERS, PELLETS OR GRAINS	CHLORINATED HYDROCARBONS, ORGANOPHOSPHATES, CARBAMATES, ARSENIC	HERBICIDES FOR BRUSH AND WEED CONTROL	USE OF CERTIFIED APPLICATOR AND PROPER STORAGE AND CONTAINER DISPOSAL
PERMANENT FERTILIZER	LIQUIDS OR SOLID GRAINS	NITROGEN, PHOSPHOROUS, POTASSIUM	NEWLY SEEDED AREAS	MINIMIZE PHOSPHATES, APPLY APPROPRIATE RATES
TEMPORARY FERTILIZER	LIQUIDS OR SOLID GRAINS	NITROGEN, PHOSPHOROUS, POTASSIUM	RAPID STABILIZATION AREAS, STOCKPILES	MANAGED APPLICATION, QUICK GROWTH PLANTING
CLEANING SOLVENTS	COLORLESS, BLUE OR YELLOW GREEN LIQUIDS	PERCHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, PETROLEUM DISTILLATES	CONCRETE PREP AND CLEANING, STORAGE AREAS	NO EQUIPMENT CLEANING IN PROJECT AREA PROPER STORAGE SPILL KITS
CONSTRUCTION WASTE WATER	RINSATE FROM EQUIPMENT WASHING	SOIL, OIL, GREASE, AND OTHER SOLIDS	STORMWATER CONVEYANCE SYSTEM	NO EQUIPMENT CLEANING IN PROJECT AREA
ASPHALT	BLACK SOLID	OIL, PETROLEUM DISTILLATES	HIGHWAY SURFACING	EXCESS MATERIAL REMOVED FROM PROJECT AREA
CONCRETE	WHITE SOLID	LIMESTONE, SAND	BRIDGE CONSTRUCTION	DESIGNATED WASH AREAS OR COMPLETE REMOVAL
GLUE, ADHESIVES	WHITE OR YELLOW LIQUID	POLYMERS, EPOXIES	EXPANSION JOINTS	EMPTY CONTAINER MANAGEMENT
PAINTS	VARIOUS COLORED LIQUID	METAL OXIDES, STODDARD SOLVENT, TALC, CALCIUM CARBONATE, LEAD,	BRIDGE RAILS, SIGNPOSTS, STORAGE	EMPTY CONTAINER MANAGEMENT
CURING COMPOUNDS	CREAMY WHITE LIQUID	NAPHTHA	BRIDGE	EMPTY CONTAINER MANAGEMENT
WOOD PRESERVATIVES	CLEAR, AMBER, OR DARK BROWN LIQUID	STODDARD SOLVENT, PETROLEUM DISTILLATES, ARSENIC, COPPER, CHROMIUM	TIMBER BEANS, SIGN POSTS, GUARDRAIL POSTS, STORAGE AREAS	FOLLOW MANUFACTURER GUIDELINES
HYDRAULIC OILS	BROWN, RED, OR OTHER COLORS, OILY	PETROLEUM AND ADDITIVES	RANDOM LEAKS	PREVENTIVE MAINTENANCE, INSPECTOR, SPILL KITS ON SITE
GASOLINE	COLORLESS PALE BROWN OR PINK	PETROLEUM HYDROCARBONS, BENZENE, ETHYLBENZENE,	VEHICLE STORAGE	SECONDARY CONTAINMENT PREVENTIVE MAINTENANCE, INSPECTIONS, SPILL KITS
DEISEL FUEL	CLEAR, BLUE GREEN, OR YELLOW LIQUID	PETROLEUM DISTILLATES, OIL, NAPHTHALENE, XYLENE	VEHICLE STORAGE	SECONDARY CONTAINMENT PREVENTIVE MAINTENANCE, INSPECTIONS, SPILL KITS
ANTI-FREEZE, COOLANT	CLEAR, GREEN/YELLOW LIQUID	ETHYLENE GLYCOL, PROPYLENEGLYCOL	RANDOM LEAKS	PREVENTIVE MAINTENANCE,

PLOTTED/REVISED: 16-FEB-2010

DISTRICT #: DULUTH
 IPLOT NAME: 6982290_SWPPP
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/Wetlands/6982290_SWPPP.DGN

I HEREBY CERTIFY THAT THIS PLAN SHEET 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.
 DATE 16-FEB-2010 LIC. NO. 43441 ENGINEER *Daniel J. Erickson*
 DANIEL J. ERICKSON

SWPPP 3 OF 3

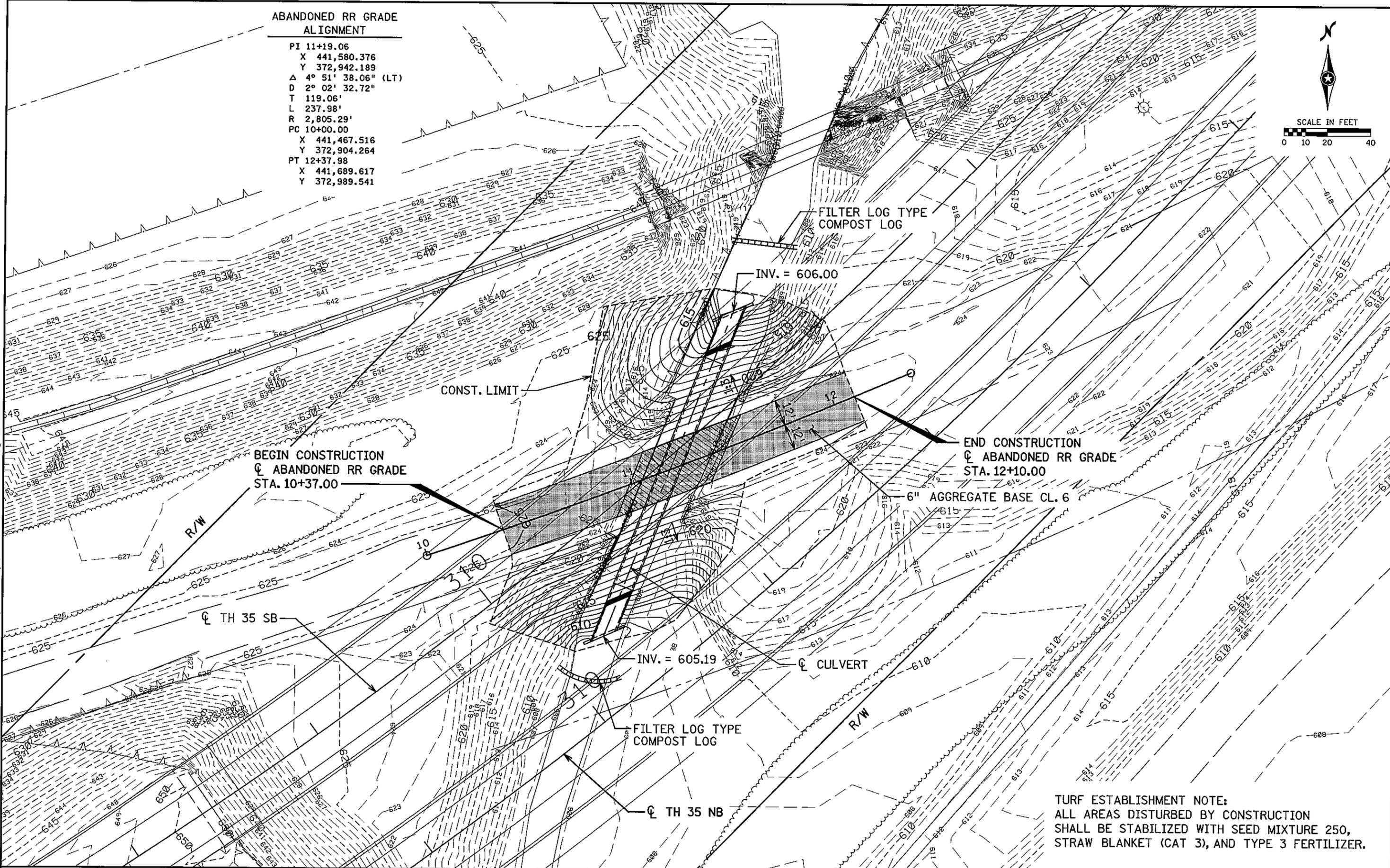
STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. 486 OF 587 SHEETS

**ABANDONED RR GRADE
ALIGNMENT**

PI 11+19.06
 X 441,580.376
 Y 372,942.189
 Δ 4° 51' 38.06" (LT)
 D 2° 02' 32.72"
 T 119.06'
 L 237.98'
 R 2,805.29'
 PC 10+00.00
 X 441,467.516
 Y 372,904.264
 PT 12+37.98
 X 441,689.617
 Y 372,989.541



DATE: 1/27/2010 TIME: 2:08:19 PM
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END CONSTRUCTION
 CL ABANDONED RR GRADE
 STA. 12+10.00

BEGIN CONSTRUCTION
 CL ABANDONED RR GRADE
 STA. 10+37.00

TURF ESTABLISHMENT NOTE:
 ALL AREAS DISTURBED BY CONSTRUCTION
 SHALL BE STABILIZED WITH SEED MIXTURE 250,
 STRAW BLANKET (CAT 3), AND TYPE 3 FERTILIZER.

DRAWN BY: RPM
 CHECKED BY: SJS

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.

SIGNATURE: *Timothy A. Chalupnik*
 PRINTED NAME: TIMOTHY A. CHALUPNIK
 DATE: JANUARY 27, 2010 LIC. NO. 15400



MINNESOTA DEPARTMENT
 OF TRANSPORTATION
 TH 35 IMPROVEMENTS

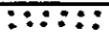
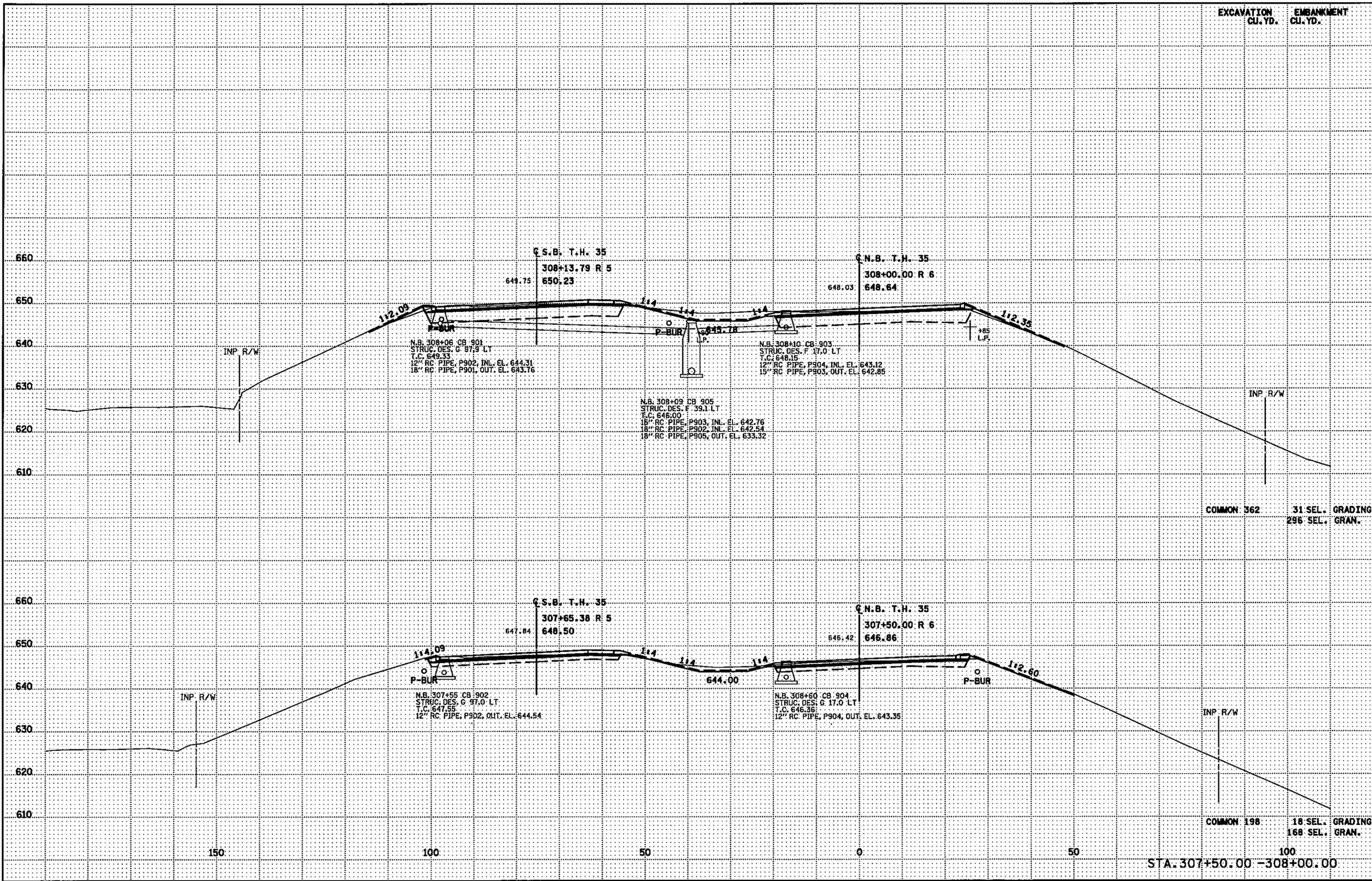
GRADING PLAN
 ORE DOCKS BOX CULVERT

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. B6I of B6 Sheets

EXCAVATION CU. YD. EMBANKMENT CU. YD.

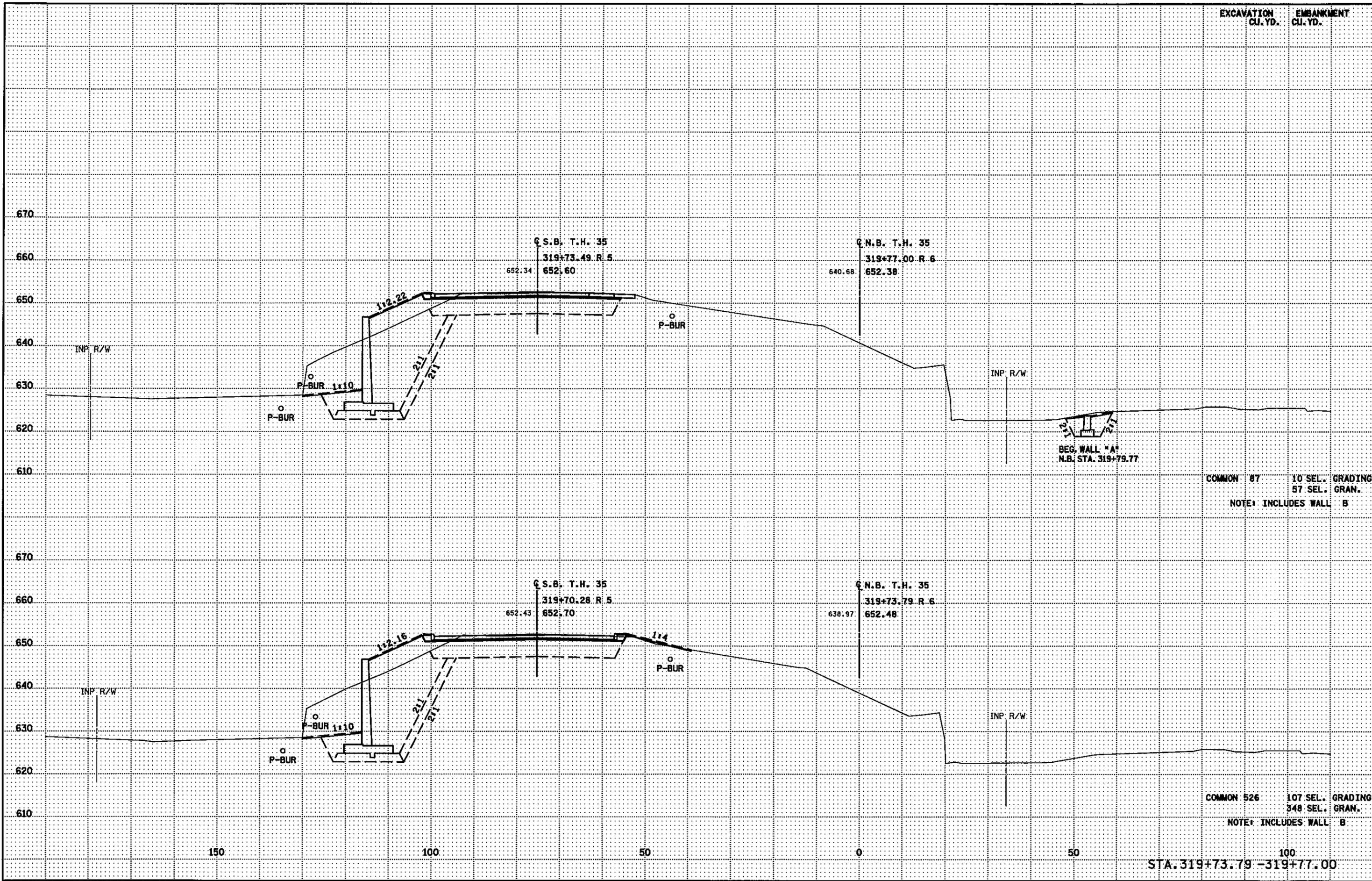
PLOTTED/REVISED: 27-FEB-2010

DISTRICT * :
 I/PLOT NAME: d6982290_xpl07
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/d6982290_xpl.dgn



DISTRICT #: 6982290_xpl90
 IPILOT NAME: 6982290_xpl90
 PATH & FILENAME: Projects/DI_DUL/035/6982/290/Design/6982290_xpl.dgn

PLOTTED/REVISED: 27-FEB-2010



EXCAVATION CU. YD.	EMBANKMENT CU. YD.

COMMON 87 10' SEL. GRADING
 57' SEL. GRAN.
 NOTE: INCLUDES WALL B

COMMON 526 107' SEL. GRADING
 348' SEL. GRAN.
 NOTE: INCLUDES WALL B

STA. 319+73.79 - 319+77.00



EXCAVATION CU. YD. EMBANKMENT CU. YD.

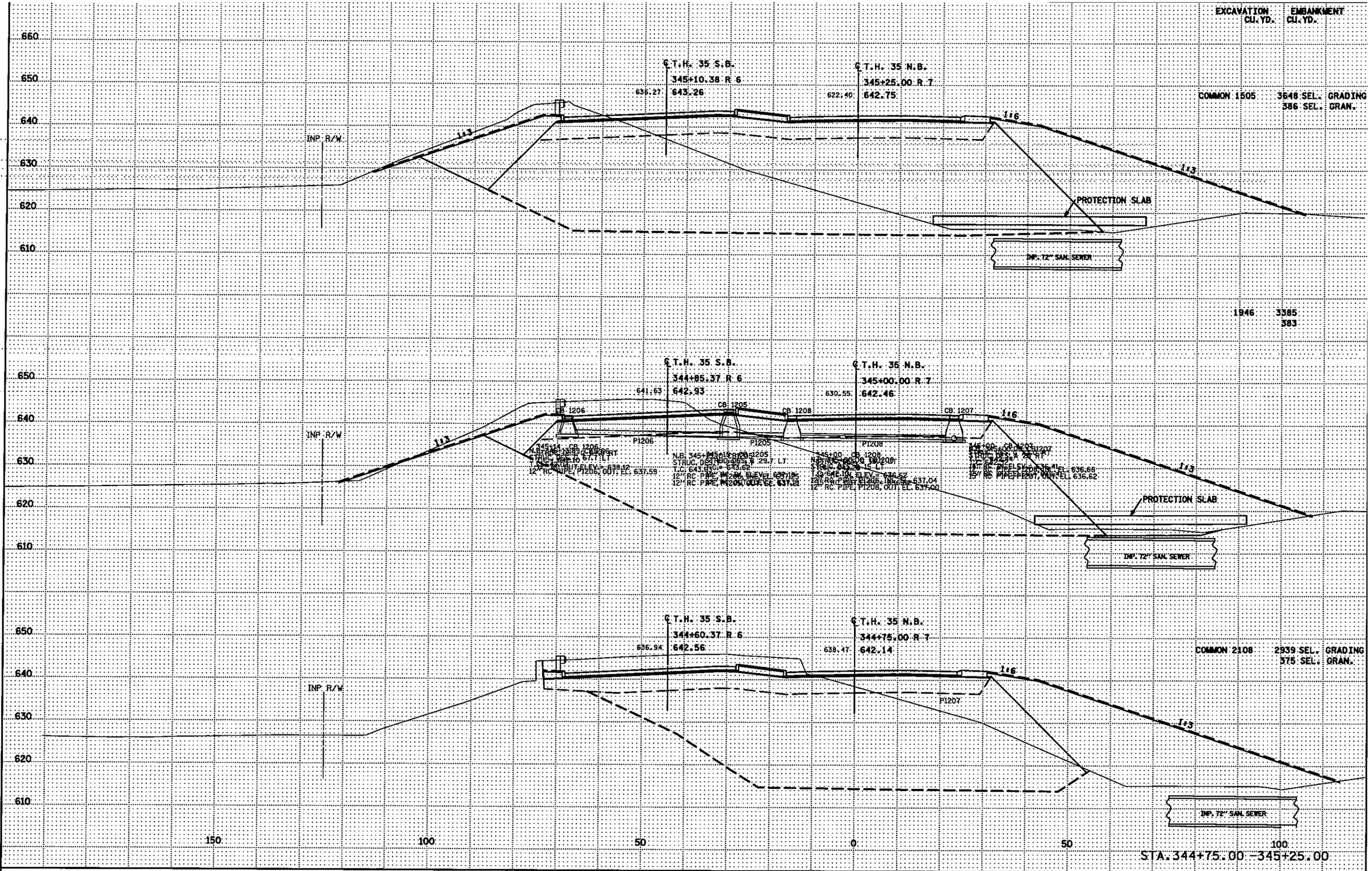
COMMON 1505 3648 SEL. GRADING
386 SEL. GRAN.

1946 3385
383

COMMON 2108 2939 SEL. GRADING
375 SEL. GRAN.

STA. 344+75.00 - 345+25.00

STATE PROJ. NO. 6982-290 (TH 35) SHEET NO. X138 OF X193 SHEETS

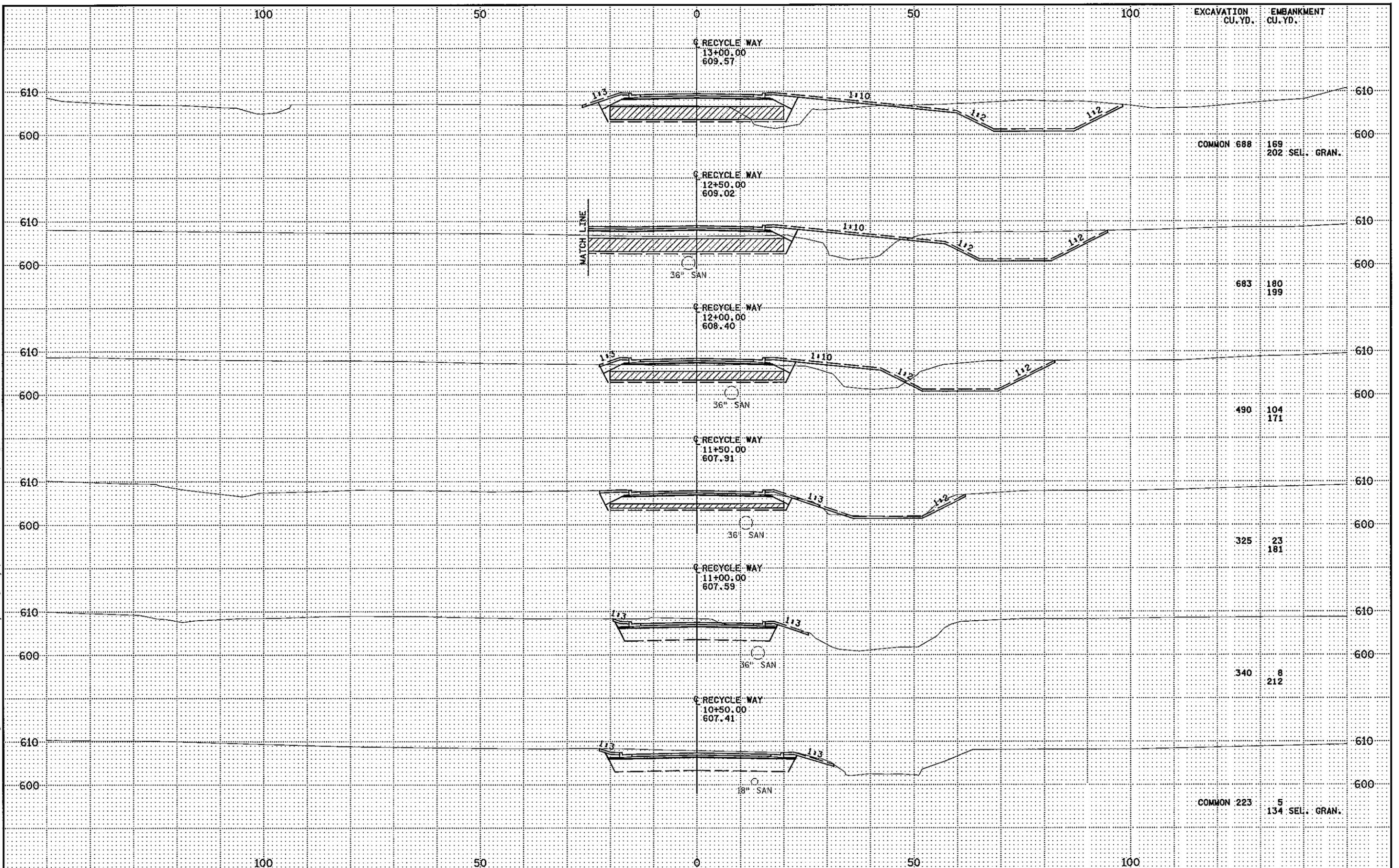


PLOTTED/REVISED: 01-MAR-2010

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DISTRICT * :
I PLOT NAME: 66982290_xp117
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DATE: 11/24/2009 TIME: 12:56:22 PM
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EXCAVATION CU.YD.	EMBANKMENT CU.YD.
COMMON 688	169 202 SEL. GRAN.
683	180 199
490	104 171
325	23 181
340	8 212
COMMON 223	5 134 SEL. GRAN.

TKDA
 ENGINEERING • ARCHITECTURE • PLANNING

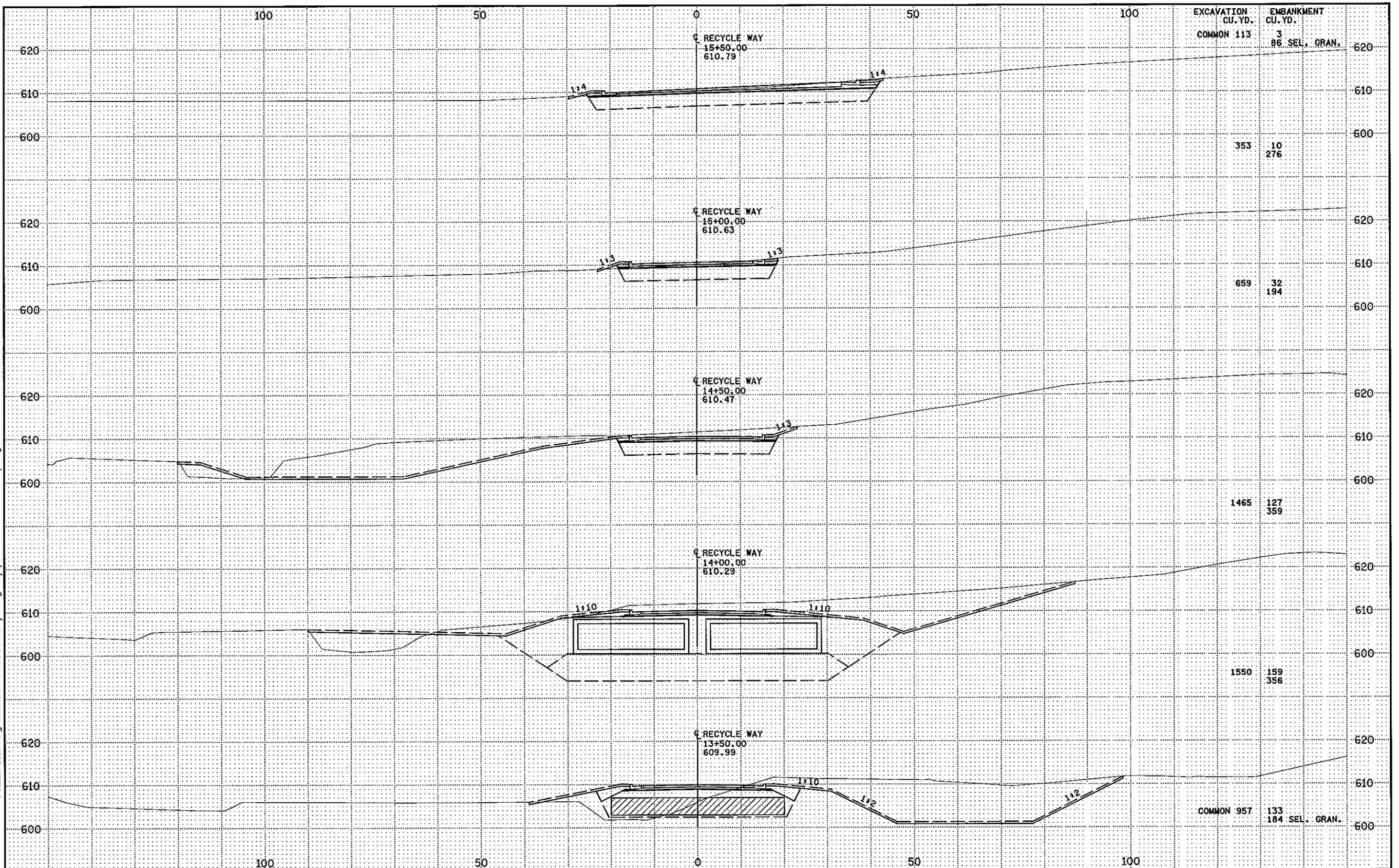
MINNESOTA DEPARTMENT
 OF TRANSPORTATION
 TH 35 IMPROVEMENTS

CROSS SECTIONS
 RECYCLE WAY STA. 10+50 TO STA. 13+00

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. X191 of X193 Sheets



DATE: 11/24/2009 TIME: 12:56:32 PM
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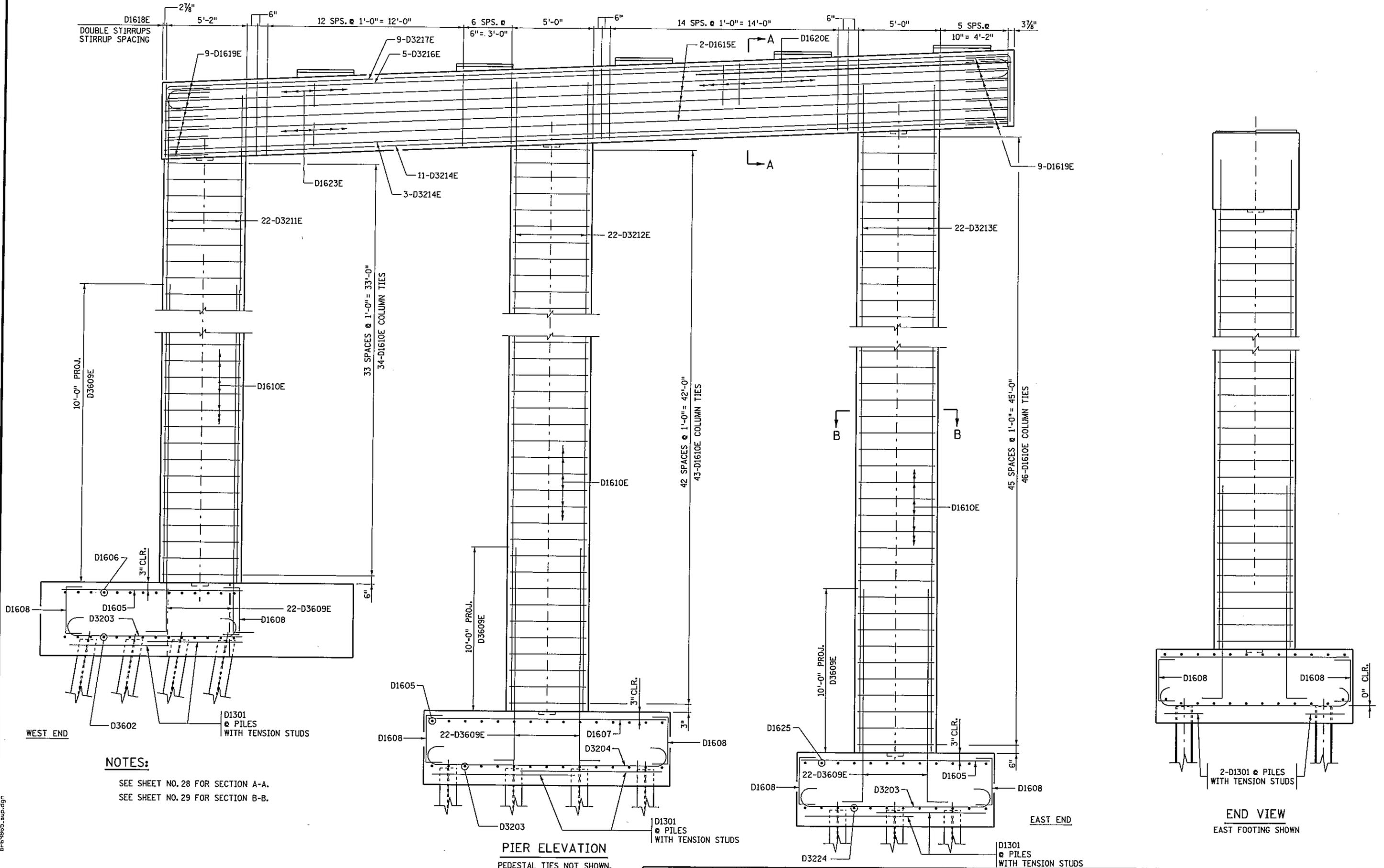
TKDA
 ENGINEERING • ARCHITECTURE • PLANNING

MINNESOTA DEPARTMENT
 OF TRANSPORTATION
 TH 35 IMPROVEMENTS

CROSS SECTIONS
 RECYCLE WAY STA. 13+50 TO STA. 15+50

STATE PROJ. NO. 6982-290 (TH 35)
 Sheet No. X192 of X193 Sheets





NOTES:
 SEE SHEET NO. 28 FOR SECTION A-A.
 SEE SHEET NO. 29 FOR SECTION B-B.

PIER ELEVATION
 PEDESTAL TIES NOT SHOWN.
 SEE CAP PLAN SHEET NO. 28
 FOR CAP TIE SPACING.

CERTIFIED BY *Keith P. Molna* 1-15-10
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: KEITH P. MOLNAU LIC. NO. 22467

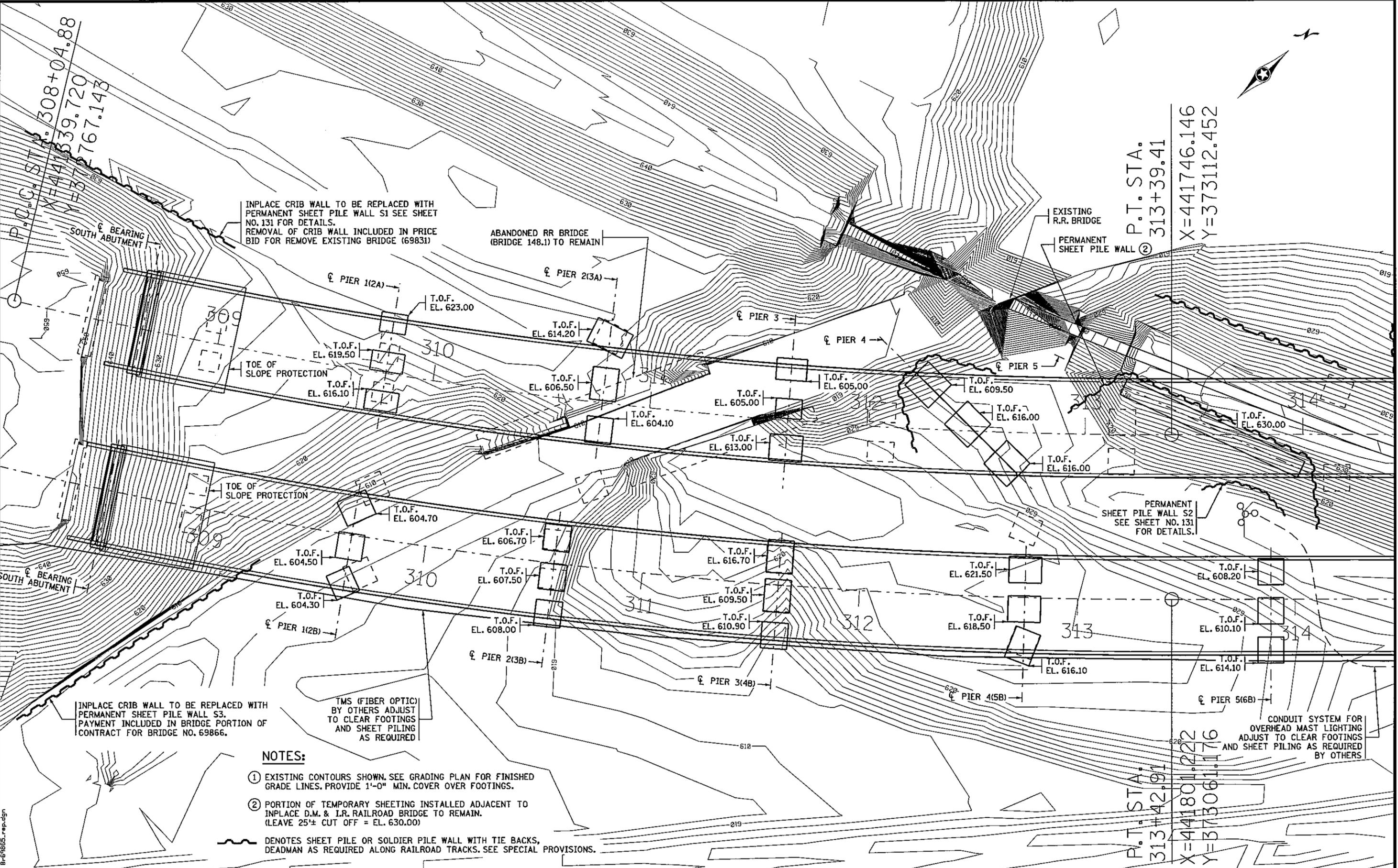
TITLE:
PIER 2 (3A) REINFORCEMENT

DES: K.A.J.	DR: N.A.	APPROVED: <i>[Signature]</i>
CHK: J.C.R.	CHK: J.A.J.	

SHEET NO. 27 OF 137 SHEETS

BRIDGE NO.
 69865

17/8/2010 b:\69865.swp.dgn



P.O.C. STA. 308+04.88
X=441839.720
Y=37767.143

P.T. STA. 313+39.41
X=441746.146
Y=373112.452

INPLACE CRIB WALL TO BE REPLACED WITH PERMANENT SHEET PILE WALL S1 SEE SHEET NO. 131 FOR DETAILS. REMOVAL OF CRIB WALL INCLUDED IN PRICE BID FOR REMOVE EXISTING BRIDGE (69831)

ABANDONED RR BRIDGE (BRIDGE 148.1) TO REMAIN

EXISTING R.R. BRIDGE

PERMANENT SHEET PILE WALL ②

PERMANENT SHEET PILE WALL S2 SEE SHEET NO. 131 FOR DETAILS.

INPLACE CRIB WALL TO BE REPLACED WITH PERMANENT SHEET PILE WALL S3. PAYMENT INCLUDED IN BRIDGE PORTION OF CONTRACT FOR BRIDGE NO. 69866.

TMS (FIBER OPTIC) BY OTHERS ADJUST TO CLEAR FOOTINGS AND SHEET PILING AS REQUIRED

CONDUIT SYSTEM FOR OVERHEAD MAST LIGHTING ADJUST TO CLEAR FOOTINGS AND SHEET PILING AS REQUIRED BY OTHERS

NOTES:

- ① EXISTING CONTOURS SHOWN. SEE GRADING PLAN FOR FINISHED GRADE LINES. PROVIDE 1'-0" MIN. COVER OVER FOOTINGS.
 - ② PORTION OF TEMPORARY SHEETING INSTALLED ADJACENT TO INPLACE D.M. & I.R. RAILROAD BRIDGE TO REMAIN. (LEAVE 25'± CUT OFF = EL. 630.00)
- DENOTES SHEET PILE OR SOLDIER PILE WALL WITH TIE BACKS, DEADMAN AS REQUIRED ALONG RAILROAD TRACKS. SEE SPECIAL PROVISIONS.

P.T. STA. 313+42.91
X=441801.222
Y=373061.176

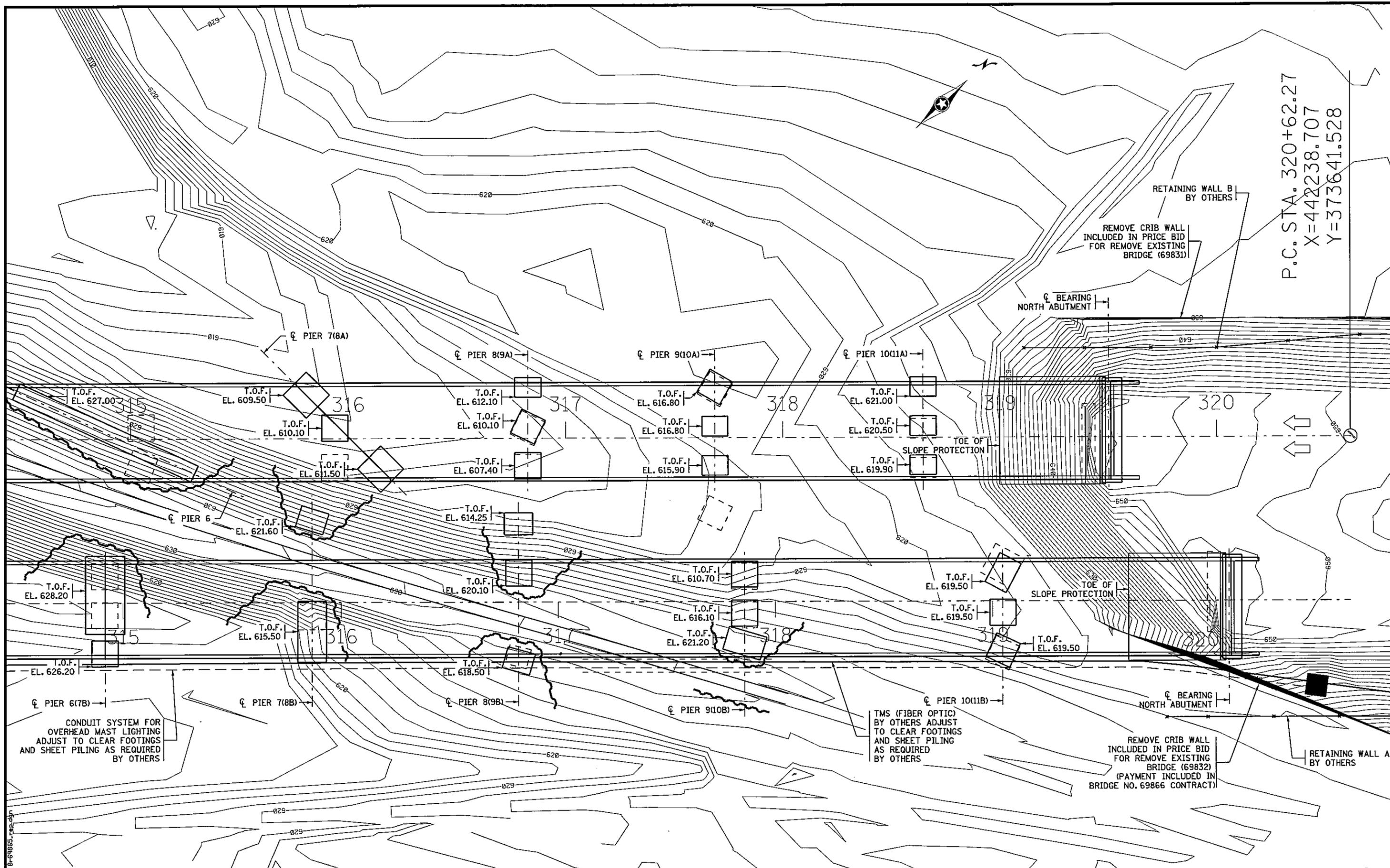
CERTIFIED BY Keith P. Molnau 2-1-10
LICENSED PROFESSIONAL ENGINEER DATE
NAME: KEITH P. MOLNAU LIC. NO. 22467

TITLE: CONSTRUCTION PLAN

DES: P.J.K. DR: K.G.S. APPROVED: 2/8/10
CHK: K.P.M. CHK: J.A.J.
SHEET NO. 132 OF 137 SHEETS

BRIDGE NO. 69865

2/8/2010 B-69865.rps.dgn



P.C. STA. 320+62.27
 X=442238.707
 Y=373641.528

NOTE:

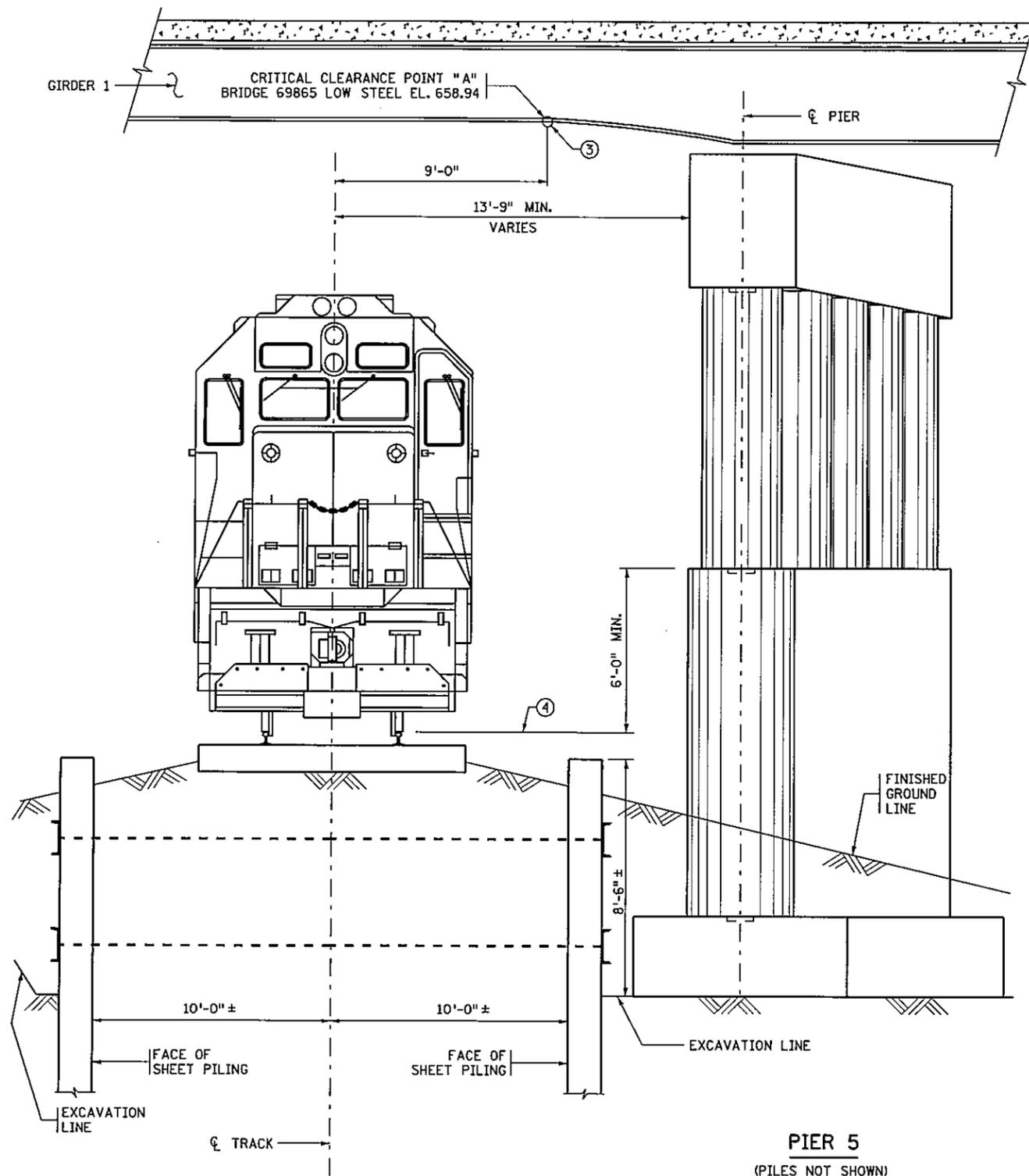
--- DENOTES SHEET PILE OR SOLDIER PILE WALL WITH TIE BACKS, DEADMAN AS REQUIRED ALONG RAILROAD TRACKS. SEE SPECIAL PROVISIONS.

CERTIFIED BY Keith P. Molnau 2-1-10 TITLE:
LICENSED PROFESSIONAL ENGINEER DATE
 NAME: KEITH P. MOLNAU LIC. NO. 22467

CONSTRUCTION PLAN

DES: P.J.K. DR: K.G.S. APPROVED: 2/8/10
 CHK: K.P.M. CHK: J.A.J.
 SHEET NO. 133 OF 137 SHEETS

BRIDGE NO. 69865



SECTION A-A

MIN. VERTICAL CLEARANCE AT POINT "A"						
LOCATION	STATION	P.G. EL.	X SLOPE DROP	TOP SLAB	DEPTH STR.	LOW STEEL
③ OREDOCK_SB	313+26.209	663.859	-0.715	663.144	4.208	658.94
④ TOP RAIL RRR1	4+66.907	636.72				

MIN. VERTICAL CLEARANCE 22.22' AT POINT "A"

NOTES:

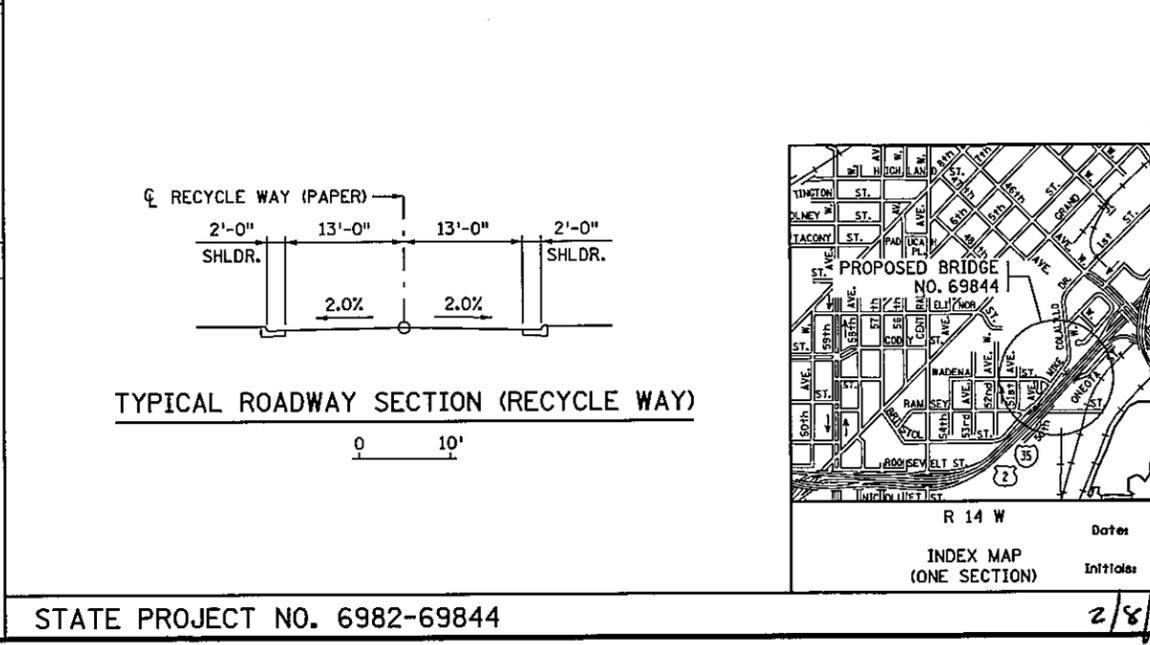
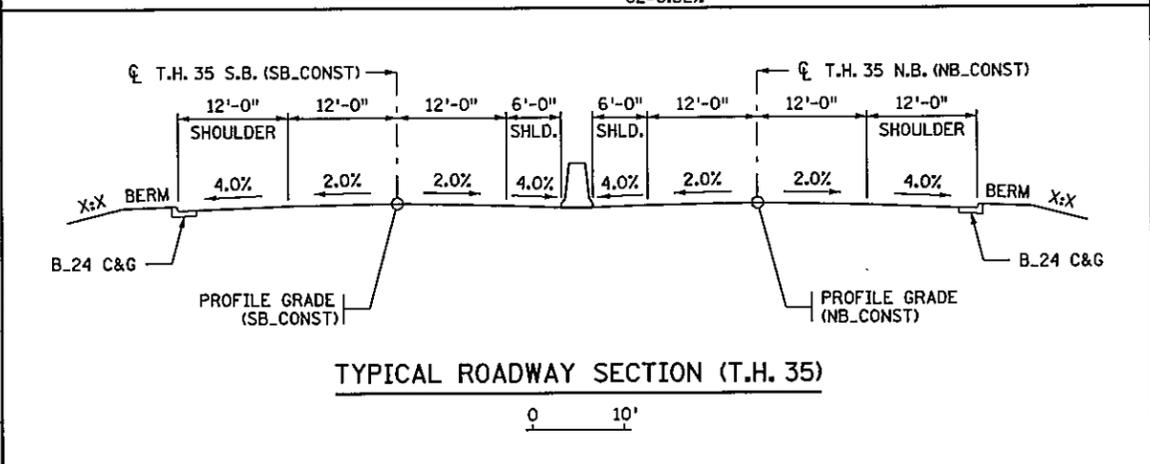
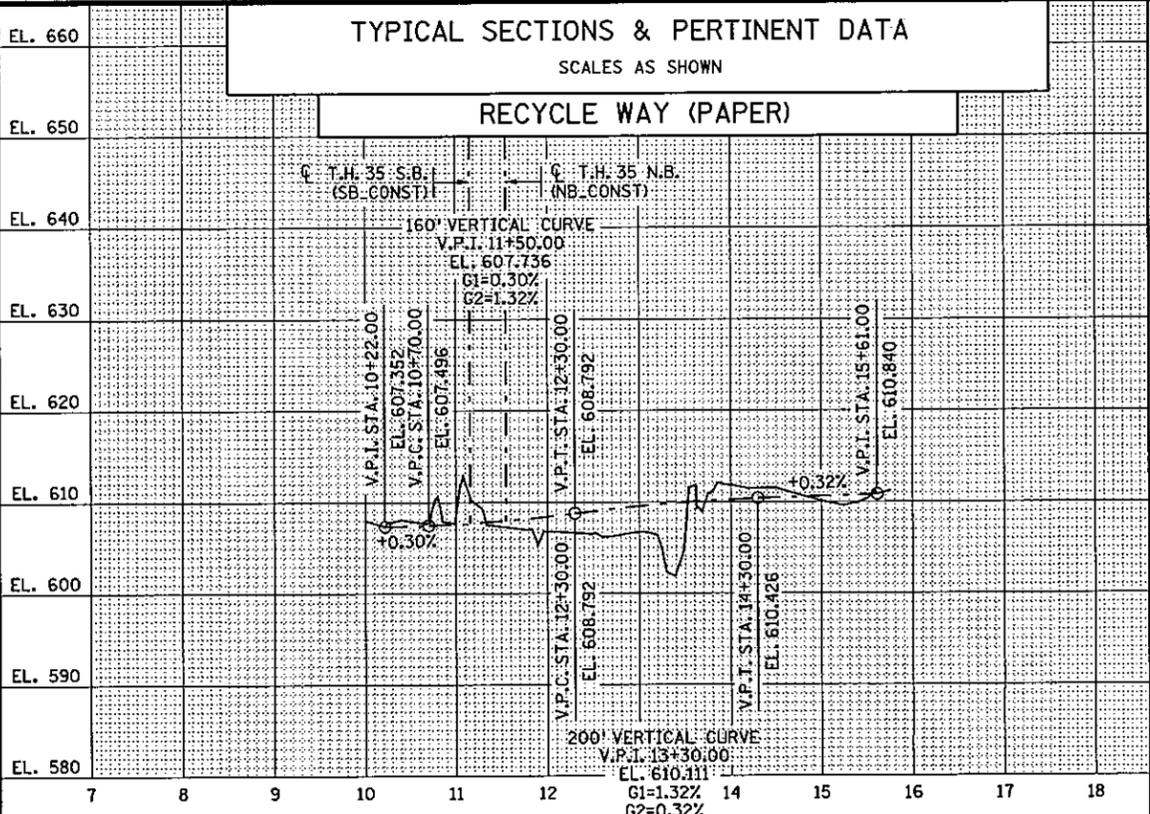
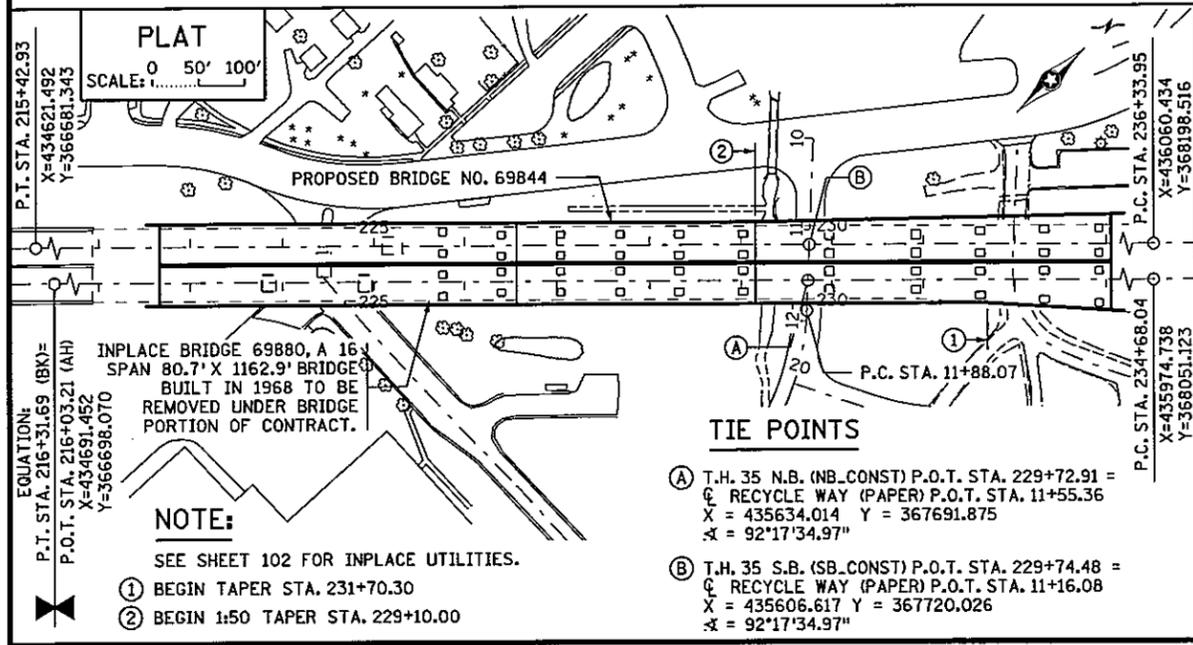
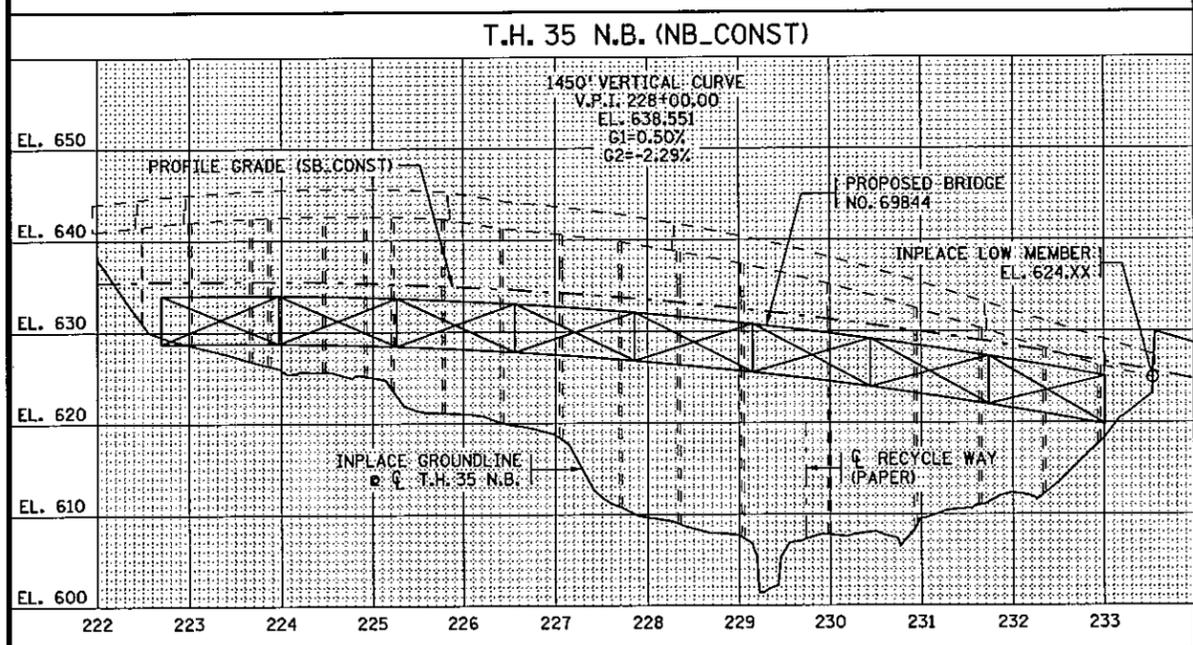
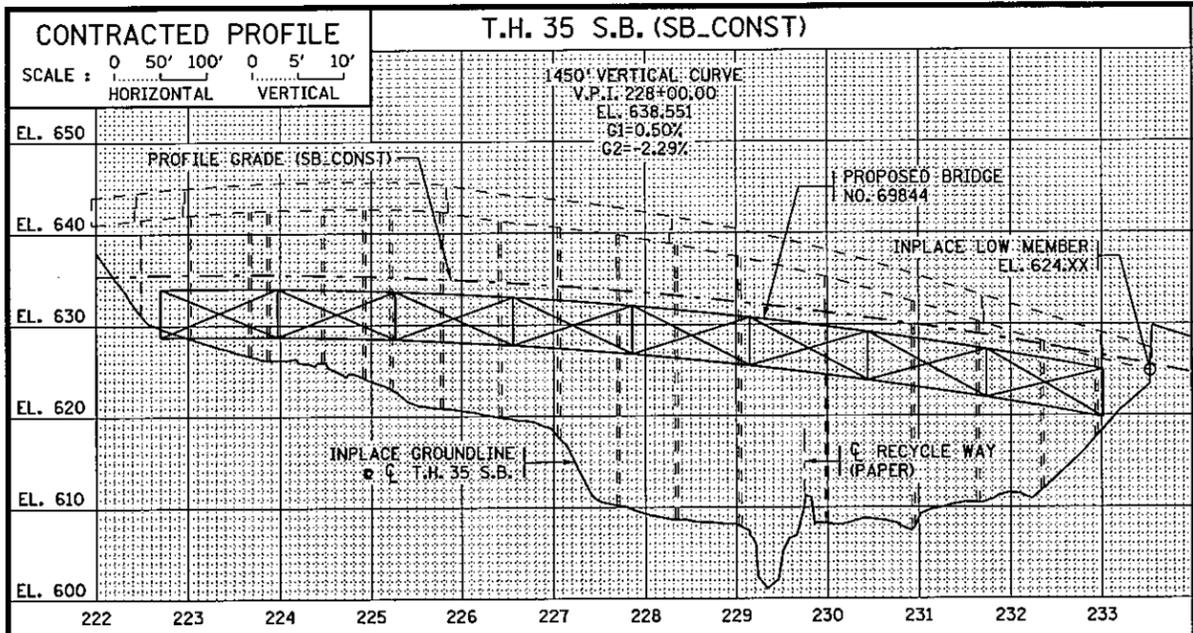
- DESIGN OF TEMPORARY SHEET PILE WALLS, WHALERS, AND TIE BACK SYSTEMS, AND/OR SOLDIER PILE WALLS USED AS TRACK PROTECTION ALONG CN RAILROAD TRACKS SHALL BE MADE BY CONTRACTOR AND SHALL COMPLY WITH AREMA REQUIREMENTS AND CN RAILROAD DESIGN CRITERIA. SEE SPECIAL PROVISIONS.
- SECTIONS SHOWN DEPICTING REQUIRED EXCAVATION LIMITS AND HORIZONTAL CLEARANCE TO OBSTRUCTIONS ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATION ONLY. THE TIEBACK SIZE, LOCATION OF SHEET PILE, DEAD-MAN LOCATION, AND OTHER DESIGN DETAILS SHALL BE DETERMINED BY THE CONTRACTOR'S DESIGN SUBJECT TO APPROVAL FROM MnDOT AND CN RAILROAD.

CERTIFIED BY *Keith P. Molnau* 2-25-10
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: KEITH P. MOLNAU LIC. NO. 22467

TITLE:
 RAILROAD CLEARANCE

DES: P.J.K. DR: K.G.S. APPROVED: *2/25/10*
 CHK: K.P.M. CHK: K.P.M. SHEET NO. 133C OF 137 SHEETS

BRIDGE NO.
 69865



LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- SPECIAL FEATURES: WATERFALLS, DAMS, FLOODS, ICE, DEBRIS, SLIDING BANKS, RECREATIONAL BOATING.
- OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OF ROADWAY): GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA ETC.
- APPARENT HIGHWATER ELEVATION OBTAINED FROM:
- OTHER DATA: APPROX. VELOCITY OF WATER AT TIME OF SURVEY.

HYDRAULIC ENGINEERS RECOMMENDATION
DATE: XX-XX-XX

STREAM OR DITCH DESIGNATION: XXX
 DRAINAGE AREA: XXX SQ. MI.
 MAX. FLOOD ON RECORD: XXX C.F.S. (XX-XX-XX)
 MAXIMUM OBSERVED HIGHWATER ELEVATION: XXX.X FT.
 DESIGN FLOOD (XX YR. FREQ.): XXX C.F.S.
 DESIGN STAGE ELEVATION: XXX.X FT.
 DESIGN MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
 TOTAL STAGE INCREASE: XXX FT.
 LOW MEMBER AT OR ABOVE ELEVATION: XXX.X FT.
 WATERWAY AREA REQUIRED BELOW ELEV. XXX.X = XXX SQ. FT. AT RIGHT ANGLES TO CHANNEL
 BASIC FLOOD (100 YR. FREQ.): XXXX C.F.S.
 HEADWATER ELEVATION: XXX.X FT.
 TOTAL STAGE INCREASE: X.X FT.
 MEAN VELOCITY THROUGH STRUCTURE: X.X F.P.S.
 FLOWLINE ELEVATION: XXX.X FT. SKEW ANGLE: XX
 ESTIMATED PRELIMINARY TOTAL SCOUR AT PIER EL. XXX.X (500 OR QT YR. FREQ.)

SCOUR CONFIRMATION RECOMMENDATION
DATE: XX-XX-XX

TOTAL SCOUR AT PIER EL. XXX.XX (500 OR QT YR. FREQ.)
SCOUR CODE: X

BRIDGE SURVEY SHEETS MADE FROM :
MN/DOT GEODETIC DATABASE STATION #27599

BENCH MARK ELEVATION 627.722 (N.A.V.D. 91 ADJ.)

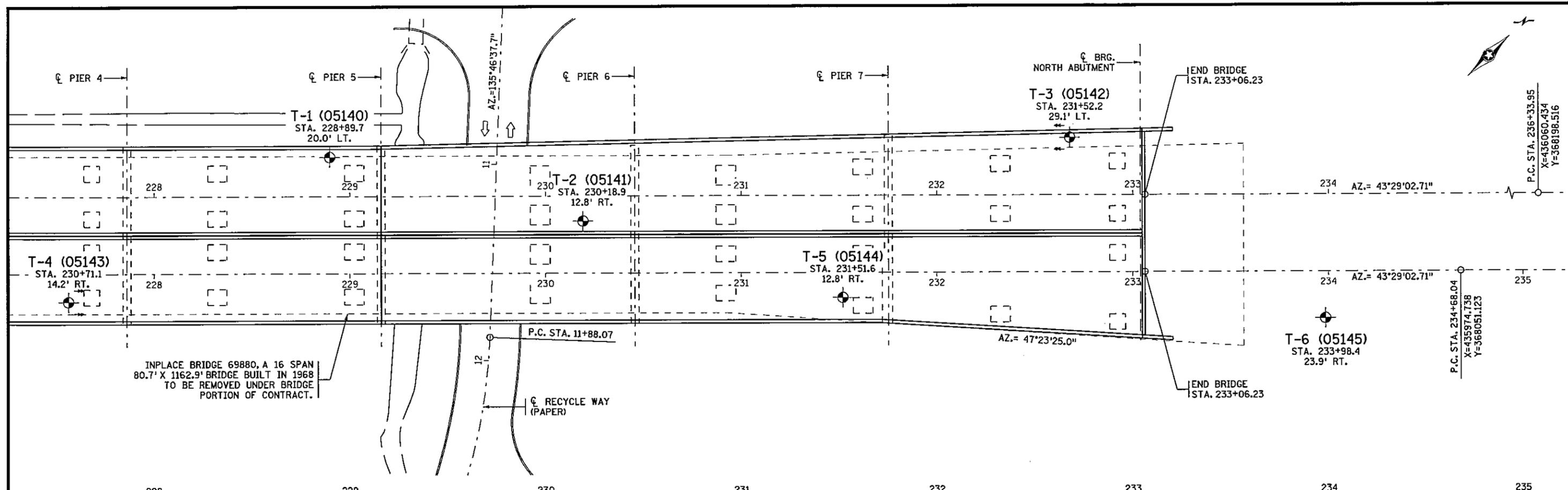
LOCATION IN DULUTH, 1.9 MILES SOUTHWEST INTERSTATE HIGHWAY 35 FROM JUNCTION OF INTERSTATE HIGHWAY 35 AND INTERSTATE HIGHWAY 535, NEAR ORE DOCKS AT 36TH AVENUE WEST, AT INTERSTATE HIGHWAY 35 MILEPOST 254.2, IN SOUTHEAST CORNER OF PEDESTRIAN BRIDGE 69811 OVER INTERSTATE HIGHWAY 35.

MINNESOTA DEPARTMENT OF TRANSPORTATION
BRIDGE SURVEY

PROPOSED BRIDGE LOCATED 3.7 MILES SOUTHWEST OF THE JUNCTION OF T.H. 535

SEC 5 T 49 N R 14 W
COUNTY: ST. LOUIS
CITY OF DULUTH

BRIDGE NO. 69844



INPLACE BRIDGE 69880, A 16 SPAN
80.7' X 1162.9' BRIDGE BUILT IN 1968
TO BE REMOVED UNDER BRIDGE
PORTION OF CONTRACT.

P.C. STA. 11+88.07

AZ. = 47°23'25.0"

T-6 (05145)
STA. 233+98.4
23.9' RT.

P.C. STA. 234+68.04
X=435974.738
Y=368051.123

T-4 (05143) ELEVATION: 618.0		T-1 (05140) ELEVATION: 608.0		T-2 (05141) ELEVATION: 606.0		T-5 (05144) ELEVATION: 606.0		T-3 (05142) ELEVATION: 614.0		T-6 (05145) ELEVATION: 628.0	
COH	SPT										
1	WH	5	10	3	1	15	18	30	61	22	24
3	WH	10	14	2	3	3	3	60	76	17	18
4	WH	4	4	4	3	4	3	42	26	28	29
10	WH	3	3	5	5	5	2	6	6	75	75
19	WH	6	6	8	6	3	2	4	6	13	24
2	WH	3	3	2	4	16	12	4	7	18	24
3	WH	19	20	4	4	4	5	7	7	20	30
4	WH	14	16	4	5	4	5	8	8	8	9
6	WH	7	8	8	7	4	5	7	7	6	7
6	WH	7	8	8	15	100	0.9	8	11	6	7
42	WH	14	16	8	15	12	12	15	22	6	7
7	WH	6	13	9	12	9	10	16	22	7	12
8	WH	8	12	14	24	15	15	16	22	12	18
10	WH	14	18	18	21	16	19	17	19	14	22
15	WH	13	18	20	25	14	14	24	25	18	28
20	WH	20	27	14	23	120	120	42	50	28	36
25	WH	17	26	26	34	100	0.7	92	80	37	52
27	WH	66	71	36	36	100	0.8	82	0.5	29	29
28	WH	100	0.9	30	35	100	0.7	65	80	75	0.8
		100	0.3					75	0.5	75	0.6
		100	0.5					100	0.4		
		100	0.4								
		100	0.5								
		100	0.3								

EXISTING GROUND PROFILE
64' LT. ---
T.H. 35 N.B. ---
(NB.CONST)
24' RT. ---