MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS SURFACING

LOCATED ON T.H. 47 (ST. FRANCIS BLVD. NW) BETWEEN 400' SOUTH OF C.R. 66 AND 400' NORTH OF C.R.66 IN ANOKA COUNTY

COUNTY PROJ. NO. 10-32-66
CR 66 (CLEARY RD NW)

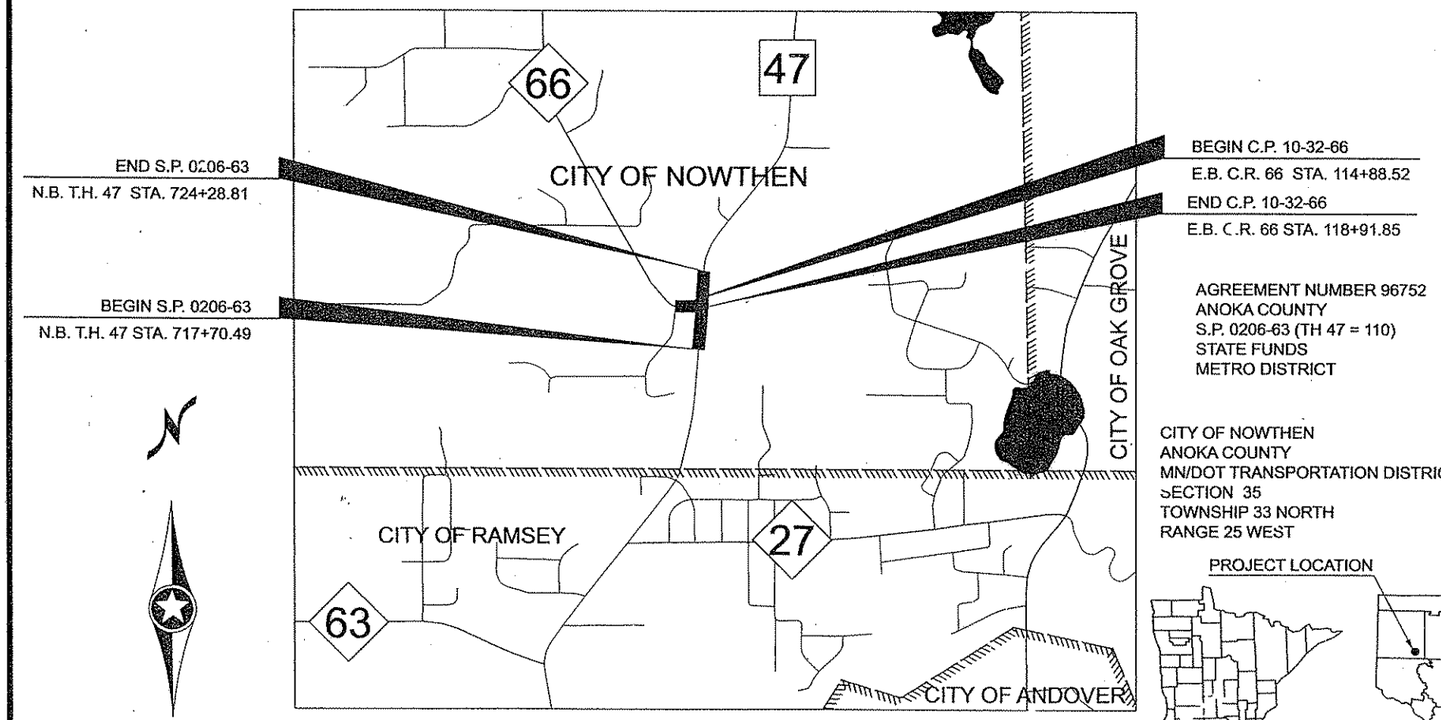
GROSS LENGTH	403 FEET	0.076 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	403 FEET	0.076 MILES

NOTE: LENGTH AND DESCRIPTION BASE ON CR 66 EB.

STATE PROJ. NO 0206-63 (TH 47)
TH 47 (ST. FRANCIS BLVD NW)

GROSS LENGTH	658 FEET	0.125 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	658 FEET	0.125 MILES

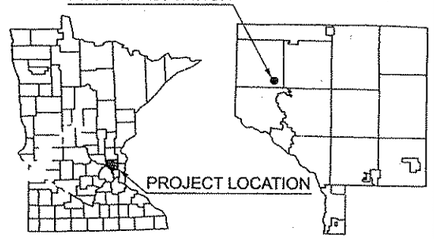
REF. POINT 028+00.130 TO REF. POINT 028+00.254
NOTE: LENGTH AND DESCRIPTION BASE ON TH 47 NB.



AGREEMENT NUMBER 96752
ANOKA COUNTY
S.P. 0206-63 (TH 47 = 110)
STATE FUNDS
METRO DISTRICT

CITY OF NOWTHEN
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 35
TOWNSHIP 33 NORTH
RANGE 25 WEST

PROJECT LOCATION



PLAN SYMBOLS

COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
SLOPE EASEMENT
EXISTING RIGHT OF WAY
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY
RIVER OR CREEK
DRAINAGE DITCH
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
STONE WALL OR FENCE
HEDGE
LOWLAND
TIMBER
ORCHARD
BRUSH
NURSERY
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
RAILROAD CROSSING BELL
RAILROAD CROSSING GATE
MANHOLE M.H.
CATCH BASIN C.B.
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE & POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (Cable Terminal)
GAS MAIN
WATERMAIN
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
AERIAL TELEPHONE CABLE T-AE
SEWER (Sanitary or Storm)
SEWER MANHOLE

SCALES

PLAN 0' 50'
PROFILE HORIZONTAL 0' 50'
VERTICAL 0' 5'
X-SECTIONS HORIZONTAL 0' 20'
VERTICAL 0' 20'
INDEX MAP 0' 500'

DESIGN DESIGNATION (CR 66)

ESAL 20	1,350,000	FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR
R VALUE	50	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2010)	1643	DESIGN SPEED 55 MPH	CR 66
PROJ. ADT (2030)	2465	STOPPING SIGHT DISTANCE BASED ON :	
PROJ. HCADT (2030)	145	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT:	
10 TON DESIGN		STA. N/A TO STA. N/A	MPH -

DESIGN DESIGNATION (TH 47)

ESAL 20	1,350,000	FUNCTIONAL CLASSIFICATION	A MINOR ARTERIAL
R VALUE	50	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2010)	7418	DESIGN SPEED 55 MPH	TH 47
PROJ. ADT (2030)	11126	STOPPING SIGHT DISTANCE BASED ON :	
PROJ. HCADT (2030)	555	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT:	
10 TON DESIGN		STA. N/A TO STA. N/A	MPH -

MINN. PROJ. NO. STATE FUNDS

GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

UTILITY NOTE:
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

INDEX

THIS PLAN CONTAINS 37 SHEETS

Approved — ANOKA COUNTY ENGINEER — 6/10/2010
Approved — CITY OF NOWTHEN ENGINEER — 6/10/2010
Recommended for Approval — DISTRICT TRANSPORTATION ENGINEER — 6/25/2010
Recommended for Approval — DISTRICT MATERIALS ENGINEER — 6/15/2010
Recommended for Approval — FOR DISTRICT WATER RESOURCES/HYDRAULICS ENGINEER — 6/24/2010
Recommended for Approval — DISTRICT TRAFFIC ENGINEER — 6/22/2010
Recommended for Approval — STATE PRE-LETTING ENGINEER — 7/13/2010
Recommended for Approval — FOR DIRECTOR, LAND MANAGEMENT — 7/13/2010
Recommended for Approval — STATE DESIGN ENGINEER — 7/13/2010

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\PLAN\0259614_TSH_P1.DGN 6/10/2010 3:36:53 PM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 6-10-2010 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 6-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47 = 110)
COUNTY PROJECT NO. 10-32-66

TITLE SHEET

Sheet 1 of 37 Sheets

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	STATE FUNDS [7] MnDOT SP 0206-63 STATE OF ROADWAY QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	1
B	2101.502	CLEARING	TREE	27	27
B	2101.507	GRUBBING	TREE	27	27
B [9]	2104.501	REMOVE FENCE	LIN FT	614	614
B	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	292	292
B	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	1038	1038
[1], [6]	2104.523	SALVAGE SIGN TYPE C	EACH	6	6
[2]	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1
A	2105.501	COMMON EXCAVATION (P)	CU YD	1671	1671
A	2105.522	SELECT GRANULAR BORROW (CV)	CU YD	523	523
[10]	2123.509	DOZER	HOUR	15	15
[11]	2130.501	WATER	M GALLON	25	25
E	2211.503	AGGREGATE BASE (CV) CLASS 6 (P)	CU YD	300	300
E	2221.503	AGGREGATE SHOULDERING (CV) CLASS 2 (P)	CU YD	27	27
B	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	173	173
C	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	141	141
C	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)	TON	235	235
C	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B)	TON	188	188
F	2411.507	CONCRETE FLUME	EACH	1	1
D	2511.501	RANDOM RIPRAP CLASS II	CU YD	4	4
F	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	326	326
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
[5]	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20	20
[3],[4]	2564.531	SIGN PANELS TYPE C	SQ FT	90	90
D	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	700	700
D	2573.512	TEMPORARY DITCH CHECK TYPE 2	LIN FT	120	120
D	2575.501	SEEDING	ACRE	0.7	0.7
D	2575.502	SEED MIXTURE 328	POUND	27	27
D	2575.502	SEED MIXTURE 350	POUND	32	32
D	2575.511	MULCH MATERIAL TYPE 3	TON	1.1	1.1
D	2575.519	DISK ANCHORING	ACRE	0.7	0.7
D	2575.523	EROSION CONTROL BLANKETS CATEGORY 1	SQ YD	281	281
D, [8]	2575.532	FERTILIZER TYPE 3	POUND	234	234
[2]	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	1098	1098
[2]	2582.502	8" DOTTED LINE WHITE-EPOXY	LIN FT	180	180

NOTES:

[1] SEE INPLACE SIGNING & STRIPING PLAN PAGE 14
[2] INCLUDES COST TO HAUL SALVAGED SIGNS TO THE ANOKA COUNTY HIGHWAY DEPARTMENT FOR RECYCLING
[3] SEE SIGNING TAB PAGE 22 FOR SIGNING TABULATION
[4] SEE SIGNING & STRIPING PLAN PAGE 22 FOR INSTALLATION LOCATIONS
[5] AS DIRECTED BY THE ENGINEER
[6] SIGNS OF EACH TYPE WILL BE MEASURED BY THE NUMBER OF COMPLETE UNITS INPLACE
[7] SEE LUMP SUM AGREEMENT NUMBER 96752
[8] 22-5-10
[9] 4.0' WIRE FENCE BETWEEN NATURAL WOODEN POSTS
[10] DOZER TO BE USED TO RE-GRADE DITCH ON WEST SIDE OF T.H. 47
[11] WATER TO BE USED ONLY FOR DUST CONTROL AS DIRECTED BY THE ENGINEER IN THE FIELD.
WATER USED FOR COMPACTION AND TURF ESTABLISHMENT SHALL BE INCIDENTAL.

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2357	BITUMINOUS MATERIAL FOR MAINLINE TACK COAT	0.05 GAL / SQ YD / LIFT
2360	TYPE SP 12.5 MIXTURE (3,B) , (3,F)	115 LBS / SQ YD / IN
2575	SEED MIXTURE 328	88 LBS / ACRE
2575	SEED MIXTURE 350	84 LBS / ACRE
2575	MULCH MATERIAL TYPE 3	2 TONS / ACRE
2575	FERTILIZER TYPE 3 (22-5-10)	350 LBS / ACRE

INDEX OF TABULATION CHARTS

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

PLATE NO.		DESCRIPTION
3133	C	RIPRAP AT RCP OUTLETS
7020	J	CONCRETE CURB (DESIGN B, V, S, DR & BR)
8000	I	STANDARD BARRACADES

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_SEQ_P1.dgn 07/01/2010 2:07:02 PM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

STATEMENT OF ESTIMATED QUANTITIES

REMOVALS, SAWING, & MILLING — B

ALIGNMENT	STATION	TO	STATION	OFFSET	CLEARING (SPEC. 2101) TREES	GRUBBING (SPEC. 2101) TREES	REMOVE (SPEC. 2104) FENCE (LIN FT)	REMOVE (SPEC. 2104) BITUMINOUS PAVEMENT (SQ YD)	SAWING (SPEC. 2104) BITUMINOUS PAVEMENT (LIN FT)	MILLING (SPEC 2232) BITUMINOUS PAVEMENT (SQ YD)	NOTES
T.H. 47	717+92.90	-	724+02.90				614	128	612		
T.H. 47	720+55.62		721+50.24						96		
C.R. 66	115+50.00	-	118+91.85					164	330		
C.R. 66	115+99.38	-		29	1	1					
C.R. 66	116+29.84	-		36	1	1					
C.R. 66	117+51.92	-		48	1	1					
C.R. 66	117+58.79	-		34	1	1					
T.H. 47	718+61.70	-		-59	1	1					
T.H. 47	718+69.39	-		-59	1	1					
T.H. 47	718+85.60	-		-59	1	1					
T.H. 47	718+95.19	-		-52	1	1					
T.H. 47	719+20.07	-		-55	1	1					
T.H. 47	719+88.60	-		-50	1	1					
T.H. 47	720+12.95	-	720+95.55	LT	17	17					
T.H. 47	717+92.90	-	724+02.40	LT						102	
T.H. 47	720+55.62	-	721+51.75	RT						16	
C.R. 66	115+50.00	-	118+81.26	RT						55	
TOTAL					27	27	614	292	1038	173	

AGGREGATE — E

ALIGNMENT	STATION	TO	STATION	DESCRIPTION	AGGREGATE BASE CLASS 6 CU YD	AGGREGATE SHOULDER CLASS 2 CU YD	NOTES
T.H. 47	717+70.49	-	724+28.81	TH 47 BYPASS	211	22	
T.H. 47	720+55.03	-	721+05.96	TH 47 DITCH		2	
C.R. 66	115+50.00	-	118+79.74	CR 66 RT TURN	89	3	
TOTAL					300	27	

CONCRETE — F

ALIGNMENT	STATION	TO	STATION	CONCRETE CURB & GUTTER DESIGN B424 LIN FT	CONCRETE FLUME EACH	NOTES
C.R. 66	115+50	-	118+64.44	326		
C.R. 66	118+58.61	-			1	
TOTAL				326	1	

BITUMINOUS SUMMARY — C

ALIGNMENT	STATION	TO	STATION	BITUMINOUS 2360 TYPE SP 12.5 WEAR (SPWEB340F) TON	BITUMINOUS 2360 TYPE SP 12.5 NON WEAR (SPNWB330B) TON	BITUMINOUS 2357 BIT. TACK COAT GAL	NOTES
T.H. 47	717+92.90	-	724+02.90	106	188	94	
C.R. 66	115+50.00	-	118+79.74	129		47	
TOTAL				235	188	141	

PERMANENT PAVEMENT MARKINGS — G

ALIGNMENT	STATION	TO	STATION	4" SOLID LINE WHITE-EPOXY LIN FT	8" DOTTED LINE WHITE-EPOXY LIN FT
T.H. 47	717+70.49	-	724+28.81	635	180
C.R. 66	114+88.52	-	118+91.85	463	
TOTAL				1098	180

PERMANENT PAVEMENT MARKING NOTES:
1) ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
2) SEE TEMPORARY PAVEMENT MARKINGS FOR ALL MARKINGS RELATED TO STAGING.
3) DOTTED LINES SHALL BE 3 FT. SOLID WITH A 12 FT. GAP.

TURF ESTABLISHMENT AND EROSION CONTROL — D

ALIGNMENT	LOCATION STATION	TO	STATION	SILT FENCE MACHINE SLICED LIN FT	RANDOM RIPRAP CLASS II CU YD	SEEDING ACRE	SEED MIXTURE 328 POUND	SEED MIXTURE 350 POUND	MULCH MATERIAL TYPE 3 TON	EROSION CONTROL BLANKET CAT. 1 SQ YD	TEMP. DITCH CHECK TYPE 2 LIN FT	DISK ANCHOR ACRE	FERTILIZER TYPE 3 22-5-10 POUND
C.R. 66	114+86.74	-	118+58.11			0.1		7	0.20			0.1	40
T.H. 47	717+94.23	-	721+07.90		4	0.3	27		0.31	281	120	0.3	104
T.H. 47	717+67.92	-	724+30.58	700		0.3		25	0.60			0.3	90
TOTAL				700	4	0.7	27	32	1.1	281	120	0.7	234

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_TAB_P1.dgn 07/07/2010 1:01:56 PM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-7-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

TAB SHEETS

PRIVATE UTILITY OWNERS — AA

CITY OF NOWTHEN
HAKANSON & ANDERSON
3601 THURSTON AVE
ANOKA, MN 55303
CONTACT: SHANE NELSON
CITY ENGINEER
TEL: 763-427-5860

QWEST COMMUNICATIONS
425 MONROE ST
RAMSEY, MN 55303
CONTACT: SCOTT KUNZMAN
TEL. 763-712-5019

CONNEXUS ENERGY
14601 RAMSEY BLVD
RAMSEY, MN 55303
CONTACT MIKE SUSTERCICH
TEL. 763-323-2718

CENTERPOINT ENERGY
PO BOX 1165
MINNEAPOLIS, MN 55440-1165
CONTACT: STEVE GUHANICK
TEL:612-321-5426

GAS - CENTER POINT ENERGY — BB

ALIGNMENT	STATION BEGIN	STATION END	OFFSET	INPLACE ITEM	REMARKS
C.R. 66	114+82.88	118+92.30	RIGHT	2" PLASTIC	RELOCATE
T.H.47	721+29.87			2" PLASTIC	LEAVE AS IS
T.H.47	712+86.56	721+29.87	RIGHT	4" PLASTIC	LEAVE AS IS
T.H.47	721+29.87		RIGHT		LEAVE AS IS
T.H.47	721+29.87	721+50.55	RIGHT	4" PLASTIC	LEAVE AS IS

OH POWER - CONNEXUS ENERGY — CC

ALIGNMENT	STATION BEGIN	STATION END	OFFSET	INPLACE ITEM	REMARKS
T.H.47	715+09	721+14	LEFT	OH LINES	LEAVE AS IS
T.H.47	721+14	723+83	CROSSING	OH LINES	LEAVE AS IS
T.H.47	723+83	726+42	RIGHT	OH LINES	LEAVE AS IS
T.H.47	715+09		LEFT	POLE	LEAVE AS IS
T.H.47	718+09		LEFT	POLE	LEAVE AS IS
T.H.47	721+14		LEFT	POLE	RELOCATE
T.H.47	723+83		RIGHT	POLE	RELOCATE
T.H.47	726+42		RIGHT	POLE	RELOCATE

TELEPHONE - QWEST — DD

ALIGNMENT	STATION BEGIN	STATION END	OFFSET	INPLACE ITEM	REMARKS
T.H. 47	717+42		LEFT	SPLICE BOX	LEAVE AS IS
T.H. 47	-	721+88	LEFT	2 LINES	LEAVE AS IS
T.H. 47	721+88		LEFT	SPLICE BOX	LEAVE AS IS
T.H. 47	721+93		LEFT	SPLICE BOX	LEAVE AS IS
T.H. 47	718+49		RIGHT	SPLICE BOX	LEAVE AS IS
T.H. 47	-	721+88	RIGHT	3 LINES	LEAVE AS IS
T.H. 47	721+92	-	CROSSING	2 LINES	LEAVE AS IS
T.H. 47	721+88	-	LEFT	4 LINES	LEAVE AS IS
T.H. 47	723+60		LEFT	SPLICE BOX	LEAVE AS IS
T.H. 47	725+63		LEFT	SPLICE BOX	LEAVE AS IS
C.R. 66	114+34		CROSSING	1 LINE	LEAVE AS IS
C.R. 66	144+34	116+52	LEFT	2 LINES	LEAVE AS IS
C.R. 66	116+60		LEFT	SPLICE BOX	LEAVE AS IS
C.R. 66	118+53		CROSSING	2 LINES	LEAVE AS IS

1. ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED

2. ALL RELOCATES AND ADJUSTMENTS SUBJECT TO MN/DOT RIGHT OF WAY

3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

4. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

5. THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_TAB_P1.dgn 07/01/2010 2:07:05 PM

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: CURT A. KOBILARCSIK
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DRAWN BY NJD DATE 2-11-10
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CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

UTILITY TAB

Sheet 4 of 37 Sheets

1. TOP OF THE SUBGRADE IS CONSIDERED THE CONTACT GRADE BETWEEN THE AGGREGATE BASE LAYER AND THE UNDERLYING SUBGRADE.

2. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2.

3. GRANULAR MATERIAL ON THIS PROJECT SHALL MEET THE GRADATION REQUIREMENTS OF MN/DOT SPEC. 3149.2B1

4. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.

5. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPECIFICATION 3877 THAT WOULD BE SUITABLE FOR REUSE.

6. AGGREGATE SHOULDERING MATERIAL FOR THIS PROJECT SHALL BE CLASS 2 GRADATION IN ACCORDANCE WITH MN/DOT 2221 AND 3138.

7. SUITABLE GRADING MATERIAL CONSISTS OF MINERAL SOILS WHICH ARE FREE OF ORGANIC CONTENT AND DEBRIS, ARE NON-EXPANSIVE, AND ARE IN A CONDITION WHICH CAN MEET SPECIFIED COMPACTION LEVELS.

8. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF. THESE SOILS MAY NOT MEET THE MINIMUM ORGANIC CONTENT AND OTHER REQUIREMENTS FOR TOPSOIL BORROW

9. IN ALL AREAS OF NEW MAINLINE ROADWAY RECONSTRUCTION (PERMANENT AND TEMPORARY), PROVIDE FOR A MINIMUM 12 INCH SUBCUT UNLESS OTHERWISE NOTED. BACKFILL WITH SELECT GRANULAR MATERIAL. ANY UNCONTAMINATED SUITABLE GRANULAR MATERIAL REMOVED FROM THE EXISTING SUBGRADE AREA MAY BE USED IN OTHER AREAS DESIGNATED FOR THE SAME MATERIAL.

10. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.

11. WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 1:2 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

12. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

13. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

14. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON THE EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS/SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GALLONS/SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.

15. PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.

16. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES.

17. EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE TOP OF SUBGRADE. QUANTITIES REQUIRED ABOVE THE TOP OF SUBGRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE BITUMINOUS AND AGGREGATE SUMMARY TABS.

18. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.

19. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.

20. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.

21. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.

22. INPLACE BITUMINOUS PAVEMENT RANGES FROM 4" TO 9" THICK. (AVERAGE 5"). FOR INFORMATION ONLY, CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID. SEE BORING REPORTS

23. AGGREGATE BASE MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 6.

24. COMPACTION OF ALL AGGREGATE BASE, GRANULAR, AND SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MN/DOT "MODIFIED PENETRATION INDEX METHOD"

25. EMBANKMENT CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY MN/DOT SPECIFICATION 2105

26. ALL SUBGRADE EXCAVATION FOR THIS PROJECT SHALL BE CONSIDERED COMMON EXCAVATION

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_SCN_P1.dgn 07/12/2010 2:01:47 PM

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: CURT A. KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 7-12-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

SOILS AND CONSTRUCTION NOTES

T.H. 47 EARTHWORK SUMMARY

STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES			
	COMMON (CU YD.)	SUBGRADE (CU YD.)	TOPSOIL (CU YD.)	COMMON (CU YD.)	SEL GRAN (CU YD.)	GRAN (CU YD.)
717+92.90	0	0	0	0	0	0
718+20.00	32	7	16	79	14	0
718+40.00	43	5	14	49	10	0
718+60.00	56	5	15	38	10	0
718+80.00	60	5	15	32	10	0
719+00.00	57	5	16	27	10	0
719+20.00	58	6	15	21	10	0
719+40.00	55	6	14	18	10	0
719+60.00	51	6	13	16	10	0
719+80.00	47	6	13	13	10	0
720+00.00	45	8	12	7	10	0
720+20.00	49	8	12	6	10	0
720+40.00	53	7	12	8	10	0
720+60.00	52	6	12	10	10	0
720+80.00	50	7	12	12	12	0
721+00.00	48	10	12	15	15	0
721+20.00	40	15	11	19	20	0
721+40.00	22	12	7	22	17	0
721+60.00	9	5	5	23	10	0
721+80.00	9	5	5	23	10	0
722+00.00	10	5	5	26	10	0
722+20.00	8	5	5	28	10	0
722+40.00	8	4	4	29	10	0
722+60.00	8	4	4	34	10	0
722+80.00	9	4	5	39	10	0
723+00.00	9	4	5	44	10	0
723+23.23	10	4	6	57	12	0
723+40.00	8	3	4	40	9	0
723+60.00	9	3	4	38	10	0
723+80.00	8	3	4	30	10	0
724+02.90	9	4	3	28	12	0
TOTAL (TH 47)	**932**	**177**	**280**	**831**	**331**	**0**

C.R. 66 EARTHWORK SUMMARY

STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES			
	COMMON (CU YD.)	SUBGRADE (CU YD.)	TOPSOIL (CU YD.)	COMMON (CU YD.)	SEL GRAN (CU YD.)	GRAN (CU YD.)
115+50.00	0	0	0	0	0	0
115+60.00	4	5	0	0	6	0.02
115+80.00	11	10	1	0	12	0.05
116+00.00	17	10	1	0	12	0.08
116+20.00	25	10	2	0	12	0.1
116+40.00	31	11	2	0	12	0.12
116+60.00	32	11	2	0	12	0.12
116+80.00	30	11	2	0	12	0.12
117+00.00	31	12	2	0	12	0.13
117+20.00	33	12	3	0	12	0.14
117+40.00	36	12	3	0	12	0.15
117+60.00	39	12	3	0	12	0.15
117+80.00	33	12	3	0	12	0.13
118+00.00	22	12	2	0	12	0.12
118+20.00	14	11	2	0	12	0.09
118+40.00	9	12	1	1	13	0.05
118+60.00	15	17	2	1	17	0.07
TOTAL (CR-66)	**382**	**180**	**31**	**2**	**192**	**1.64**

EARTHWORK SUMMARY TOTAL — A

	EXCAVATION TOTALS		EMBANKMENT VOLUMES			
	COMMON (CU YD.)	SUBGRADE (CU YD.)	TOPSOIL (CU YD.)	COMMON (CU YD.)	SEL GRAN (CU YD.)	GRAN (CU YD.)
GRAND TOTAL	**1314**	**357**	**311**	**833**	**523**	**1.64**

EARTHWORK BALANCE

EXCAVATION (CU YD)

COMMON (EV) (P) (1) 1671 — 1314

- COMMON — 856 (EV) / 1.2 = 713 (CV)
- EXISTING TOPSOIL — 458
- SUBGRADE (5) — 357 (EV) / 1.2 = 298 (CV)

BORROW (CU YD)

SELECT GRANULAR — 523 (CV)(4)

SUITABLE MATERIAL (CU YD)

TOPSOIL — 458 - 311 = 147 .(3)

COMMON — 713 (CV) + 298 (CV) - 833 (CV) - 1.64 = 177 (2)

EMBANKMENT (CU YD)

- 833 (CV) — COMMON
- 311 — SLOPE DRESSING
- 523 (CV) — SELECT GRANULAR
- 1.64 (CV) — GRANULAR

(1) TOTAL COMMON EXCAVATION FOR THIS PROJECT
(2) TOTAL COMMON SUITABLE MATERIAL FOR THIS PROJECT
(3) TOTAL TOPSOIL SUITABLE MATERIAL FOR THIS PROJECT TO BE USED AS DIRECTED BY ENGINEER
(4) TOTAL SELECT GRANULAR BORROW FOR THIS PROJECT
(5) ALL SUBGRADE EXCAVATION FOR THIS PROJECT SHALL BE CONSIDERED COMMON EXCAVATION

ASSUMED 120% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV)
SHRINKAGE FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF SHRINKAGE FACTORS. SHRINKAGE FACTORS DO NOT APPLY TO TOPSOIL.

SEE SOILS AND CONSTRUCTION NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION

ALL MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FORM THE PROJECT LIMITS WITH NO DIRECT PAYMENT THEREFORE. THE MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC 2105

THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING MATERIAL OFF SITE.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_EW_P1.dgn 07/12/2010 2:02:00 PM

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: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 7-12-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

EARTHWORK BALANCE

Sheet 6 of 37 Sheets

BEGIN CONSTRUCTION
CP 10-32-66
CR 66 STA 114+88.52

℄ C.R. 66

BEGIN CONSTRUCTION
SP 0206-63
TH 47 STA 717+70.49

℄ T.H. 47

ST FRANCIS BLVD NW

END CONSTRUCTION
CP 10-32-66
CR 66 STA 118+91.85

END CONSTRUCTION
SP 0206-63
TH 47 STA 724+28.81

18433

18477

5617

5617

18526

720

LEGEND

G	CENTERPOINT ENERGY
TV-BUR / OHP	COMCAST CABLE COMMUNICATIONS
P-BUR / OHP	CONNEXUS ENERGY/ GREAT RIVER ENERGY
T-BUR / OHP	QWEST CORPORATION
SIG-BUR	TRAFFIC SIGNAL
	EXISTING STORM SEWER
	EXISTING SAN SEWER
I	EXISTING WATER MAIN
	PROPOSED STORM DRAIN
	EXISTING R/W
	PROPOSED R/W
	PERMANENT EASEMENT
	EXISTING ROADWAY

0 50
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_UT_P1.dgn 6/22/2010 7:47:04 AM

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: CURT A. KOBILARCSIK

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DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

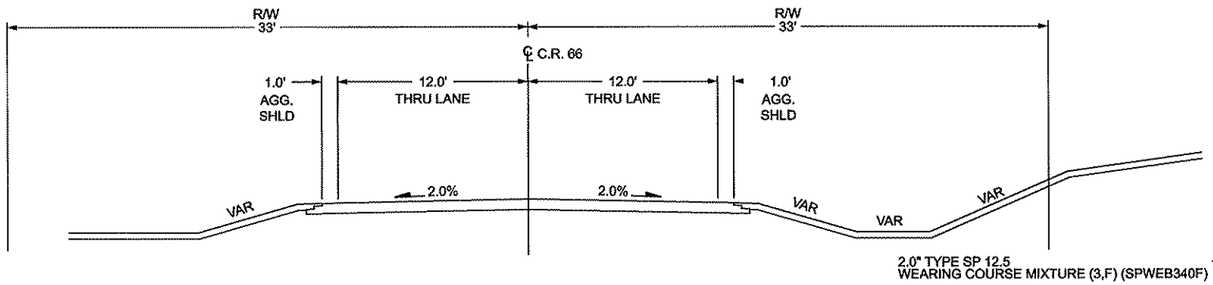
STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

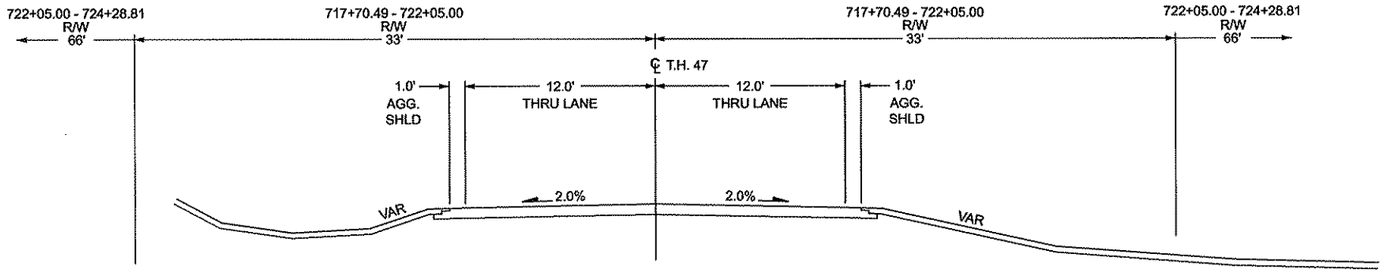
INPLACE UTILITIES & TOPOGRAPHY

Sheet 7 of 37 Sheets

CLEARY ROAD NW (CR 66) EXISTING TYPICAL

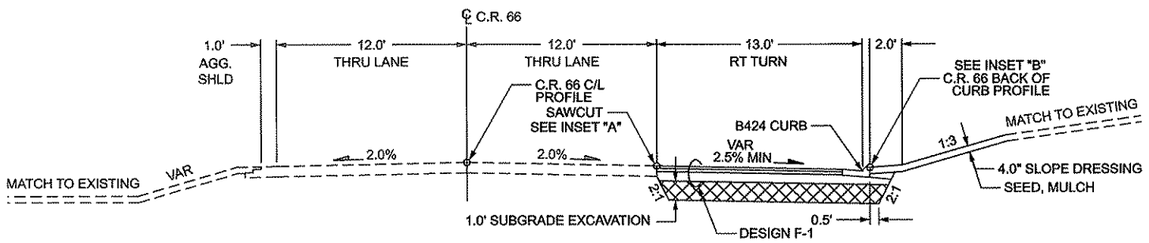


ST FRANCIS BLVD NW (TH 47) EXISTING TYPICAL



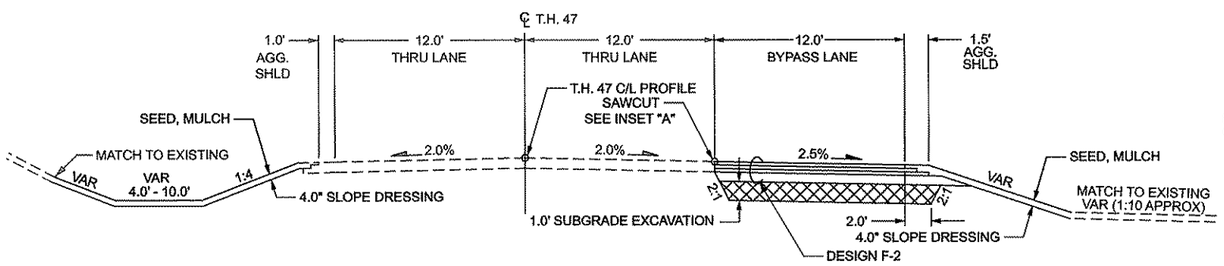
CLEARY ROAD NW (CR 66) RIGHT TURN SECTION

(EB STA. 115+50.00 TO STA. 118+91.85)



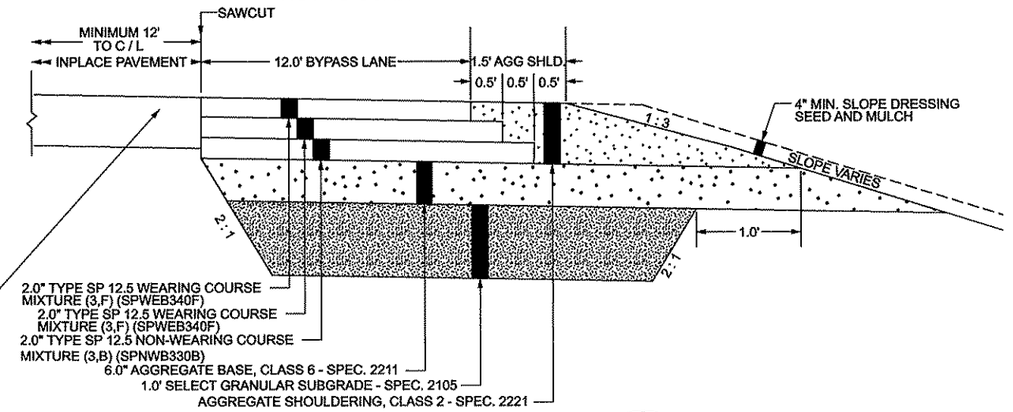
ST FRANCIS BLVD NW (TH 47) BYPASS LANE

(NB STA. 717+92.90 TO STA. 724+02.90)

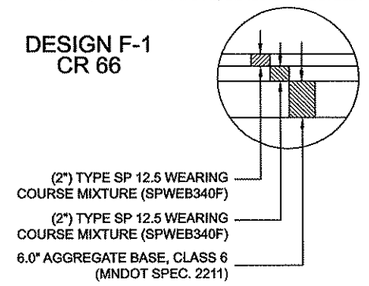


BYPASS LANE DETAIL

NOT TO SCALE



DESIGN F-1
CR 66



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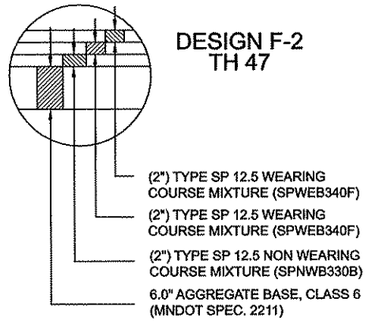
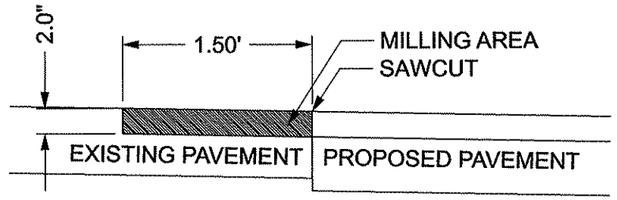
TH 47



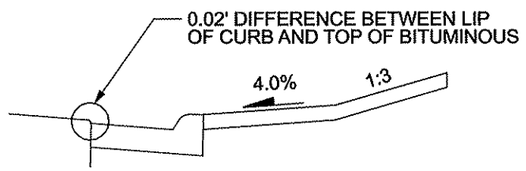
INSET "A" - 2.0" EDGE MILL

NOT TO SCALE

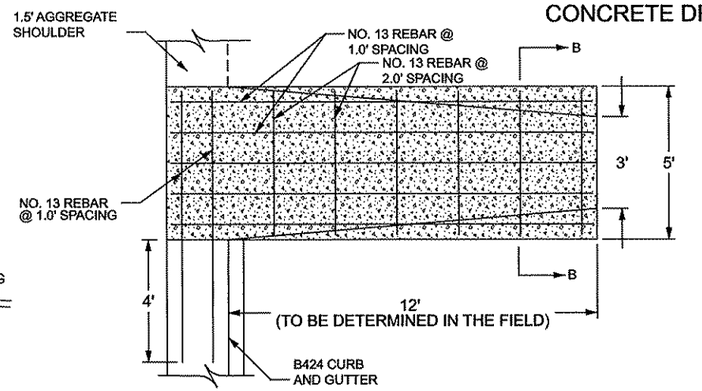


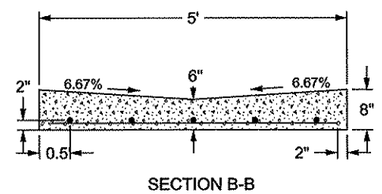
INSET "B" - CR 66 CURB DETAIL

NOT TO SCALE



CONCRETE DRAINAGE FLUME





SECTION B-B

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_TS_P1.dgn 07/12/2010 2:02:13 PM

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: CURT A. KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 7-12-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

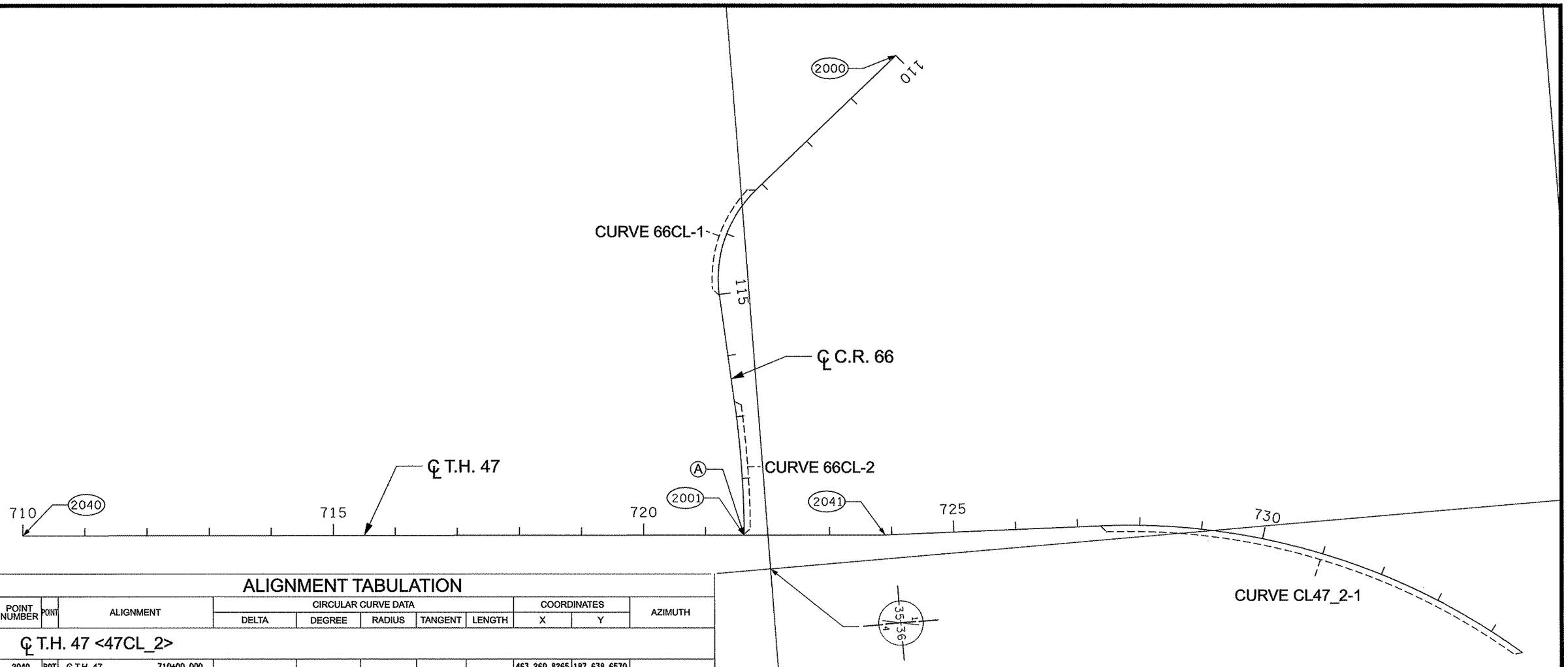
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

TYPICAL SECTIONS

Sheet 8 of 37 Sheets



ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT		CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
				DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
℄ T.H. 47 <47CL_2>											
2040	POT	℄ T.H. 47	710+00.000						463,260.8265	197,638.6570	
2041	POT		723+89.415						463,376.9850	199,023.2080	
	PC		727+37.446						463,391.7380	199,370.9263	N 2° 25' 46.14" E
47CL_2-1	PI		731+13.299	38° 29' 08.34" RT	5° 19' 16.96"	1,076.710'	375.853'	723.227'	463,407.6703	199,746.4410	PI
	CC								464,467.4797	199,325.2848	
	PT	℄ T.H. 47	734+60.673						463,653.8313	200,030.4654	N 40° 54' 54.48" E
℄ C.R. 66 <66CL>											
		℄ C.R. 66									
2000	POT		110+00.000						462,604.4643	199,107.5866	
	PC		113+14.423						462,803.3124	198,864.0269	S 39° 13' 44.54" E
66CL-1	PI		114+15.958	53° 49' 53.51" LT	28° 38' 52.40"	200.000'	101.535'	187.907'	462,867.5254	198,785.3754	PI
	CC								462,958.2372	198,990.5113	
	PT		115+02.331						462,968.9155	198,790.7965	N 86° 56' 21.94" E
	PC		116+74.895						463,141.2339	198,800.0100	N 86° 56' 21.94" E
66CL-2	PI		117+82.477	7° 41' 36.22" RT	3° 34' 51.55"	1,600.000'	107.582'	214.840'	463,248.6622	198,805.7540	PI
	CC								463,226.6605	197,202.2922	
	PT		118+89.735						463,355.8924	198,797.0646	S 85° 22' 01.84" E
2001	POT	℄ C.R. 66	118+91.850						463,357.9981	198,796.8940	

Ⓐ N.B. T.H. 47 STA. 721+62.31 = E.B. C.R 66 STA. 118+91.85

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_AL_P1.dgn 6/1/2010 7:07:00 AM

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: CURT A. KOBILARCSIK

SIGNATURE: Curt A. Kobilarcsik

DATE: 6-8-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

ALIGNMENT PLAN

Sheet 9 of 37 Sheets

LEGEND

- EXISTING BITUMINOUS PAVEMENT
- 2.0" (X 1.5') EDGE MILL
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- PERMANENT EASEMENT
- REMOVE FENCE
- SOIL BORING

SCALE 0 50 IN FEET

REMOVAL NOTES

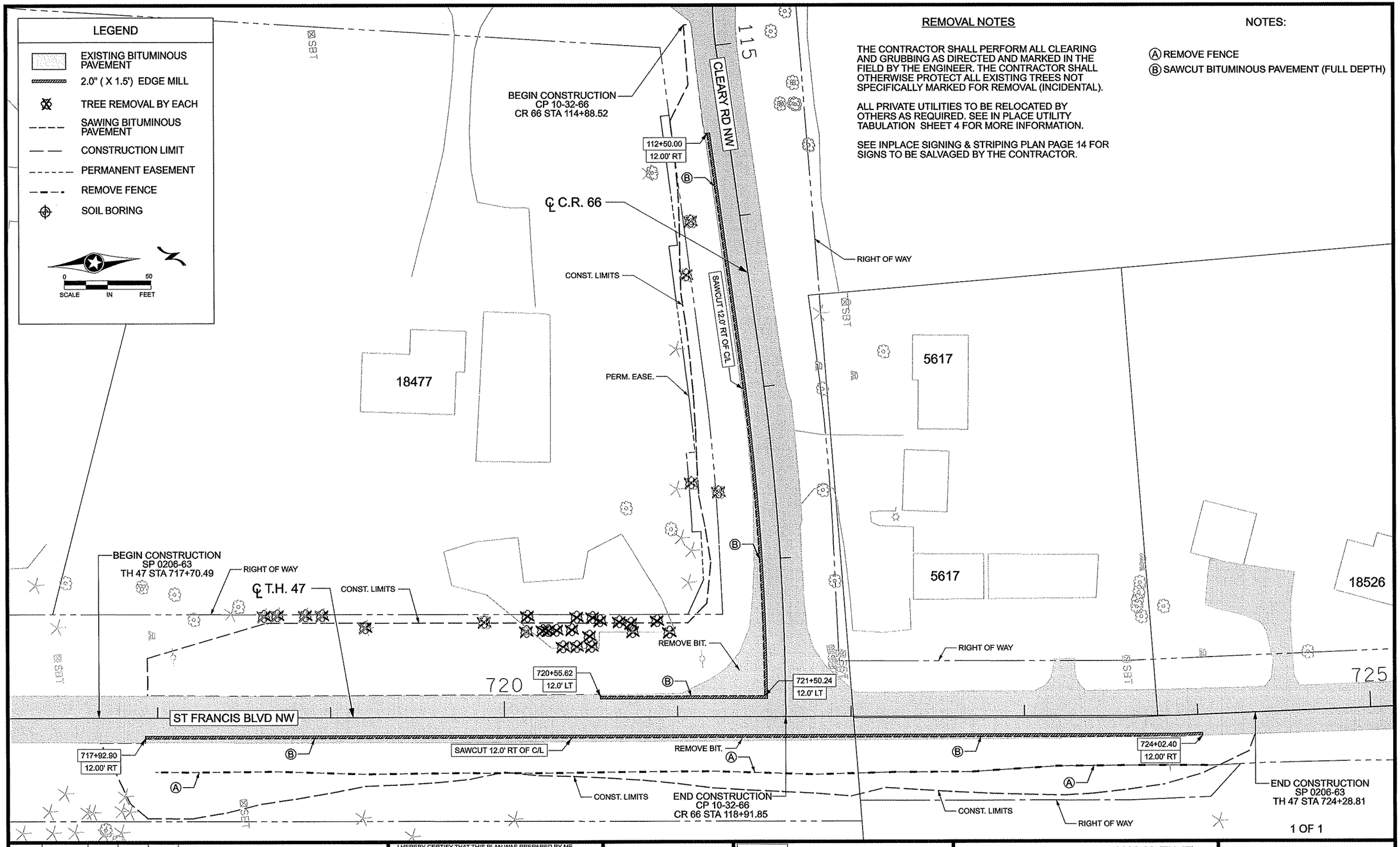
THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL (INCIDENTAL).

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION SHEET 4 FOR MORE INFORMATION.

SEE INPLACE SIGNING & STRIPING PLAN PAGE 14 FOR SIGNS TO BE SALVAGED BY THE CONTRACTOR.

NOTES:

(A) REMOVE FENCE
(B) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)



1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_REM_P1.dgn 07/01/2010 2:07:52 PM

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: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 7-2-10 LICENSE NO. 24766

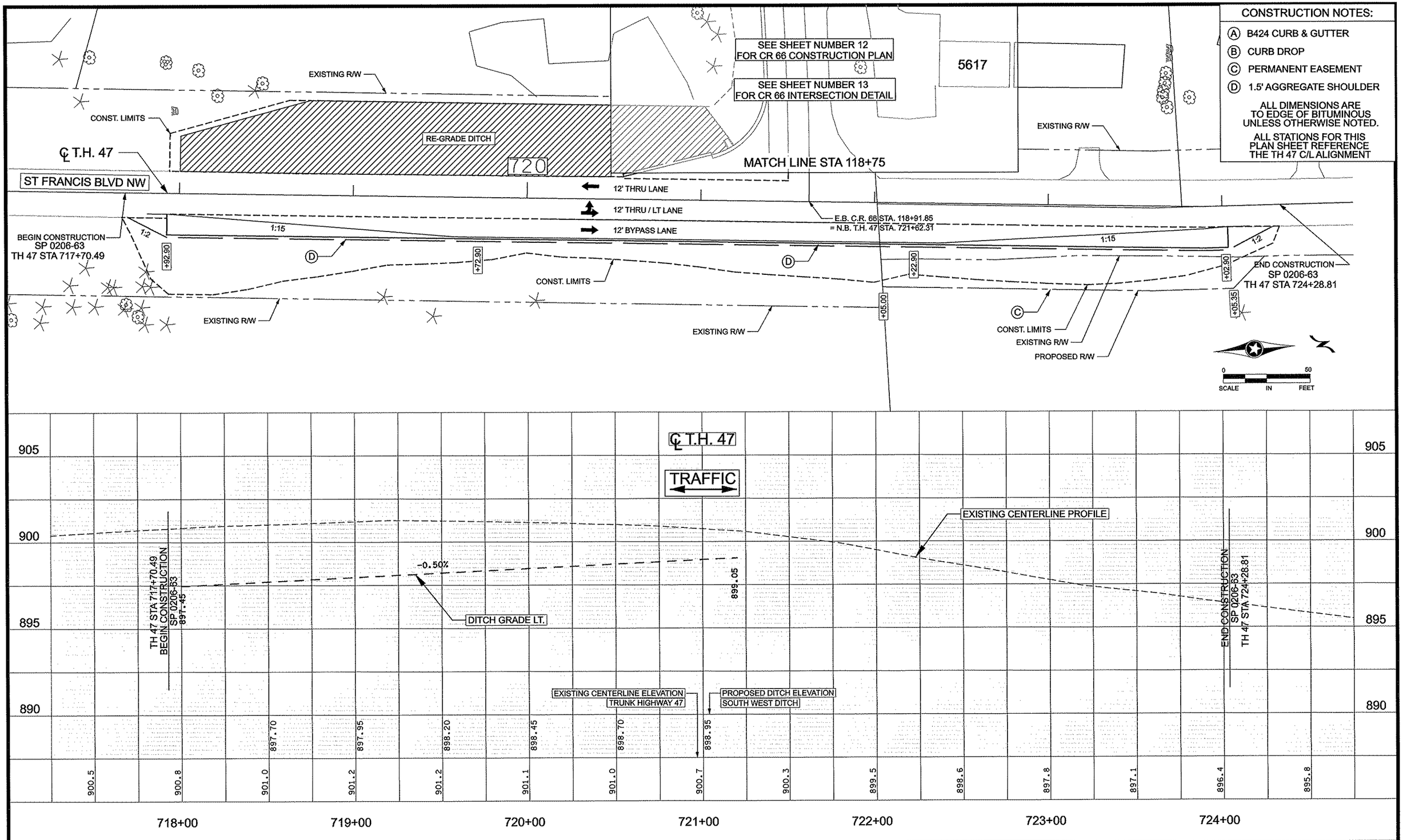
DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

REMOVAL PLAN

Sheet 10 of 37 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_PR_P1.dgn 07/01/2010 2:07:56 PM

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: CURT A. KOBILARCSIK

SIGNATURE:

DATE: 7-2-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

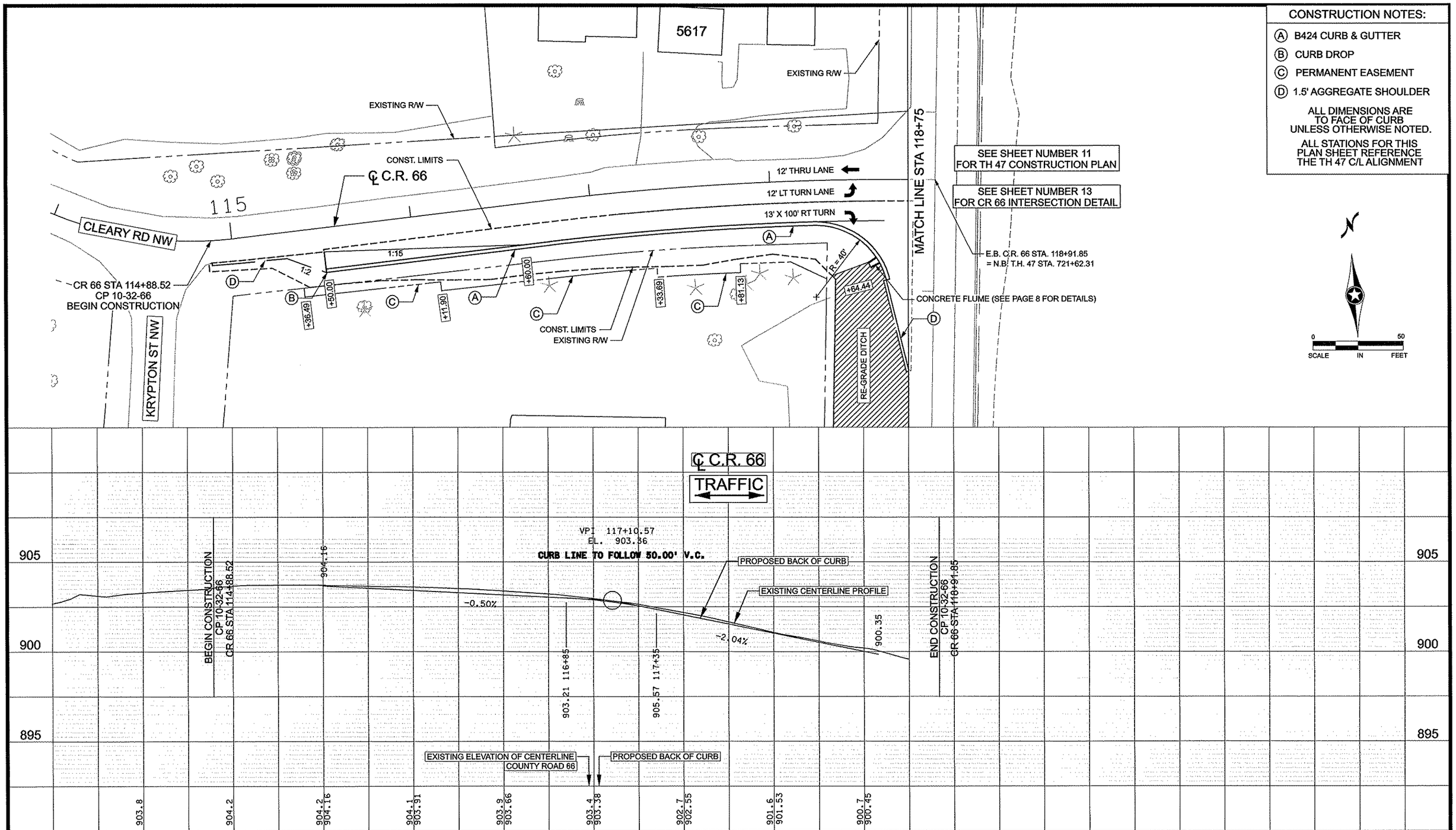
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CONSTRUCTION PLAN
T.H. 47

Sheet 11 of 37 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_PR_P2.dgn 07/01/2010 2:07:59 PM

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: CURT A. KOBILARCSIK

SIGNATURE:

DATE: 7-2-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

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CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CONSTRUCTION PLAN
C.R. 66

Sheet 12 of 37 Sheets

COUNTY ROAD 66 RADIUS POINTS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION [1]	DESCRIPTION
A1	C.R. 66	118+23.91	65.0' RT	-	RADIUS POINT
A2	C.R. 66	118+23.91	23.0' RT	901.02	BEGIN RADIUS
A3	C.R. 66	118+50.84	32.1' RT	900.34	MIDPOINT
A4	C.R. 66	118+66.45	55.6' RT	900.10	END RADIUS
AL	C.R.66	118+59.76	44.9' RT	899.92	LOW POINT

[1] ELEVATIONS TAKEN AT TOP BACK OF CURB

INTERSECTION NOTES:

ELEVATIONS PROVIDED AT EVEN STATIONS IN 25' INCREMENTS

PROPOSED ELEVATIONS TAKEN AT TOP BACK OF CURB

EXISTING ELEVATIONS TAKEN AT SAWCUT

CROSS SLOPES TAKEN FROM SAWCUT AND EDGE OF BITUMINOUS

CONTOURS SHOWN ARE PROPOSED

900.00 EXISTING ELEVATION

900.00 PROPOSED ELEVATION

SCALE 0 30 IN FEET

5617

℄ C.R. 66

CR 66 STA 114+88.52
CP 10-32-66
BEGIN CONSTRUCTION

904.20 904.14 904.10 904.02 903.88 903.71 903.45 903.13 902.68 902.16 901.56 901.09 900.70 900.19

2.09 0.50 2.63 0.50 3.45 0.50 3.82 0.50 3.72 0.50 3.27 0.64 2.36 1.32 2.45 2.00 2.90 2.04 2.81 2.04 2.00 2.04 2.36 2.50 2.42 2.50 2.70 1.50 3.00 1.50

904.16 904.04 903.91 903.79 903.66 903.54 903.38 903.05 902.55 902.04 901.53 900.22 900.24 900.59

A1 A2 A3 AL A4

R = 40'

CONSTRUCTION LIMITS

PERMANENT EASEMENT

EXISTING RIGHT OF WAY

℄ T.H. 47

E.B. C.R. 66 STA. 118+91.85
= N.B. T.H. 47 STA. 721+62.31

EXISTING RIGHT OF WAY
CONSTRUCTION LIMITS

18477

720

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259814_IN_P.dgn 07/01/2010 2:08:04 PM

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: CURT A. KOBILARCSIK

SIGNATURE:

DATE: 7-2-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY

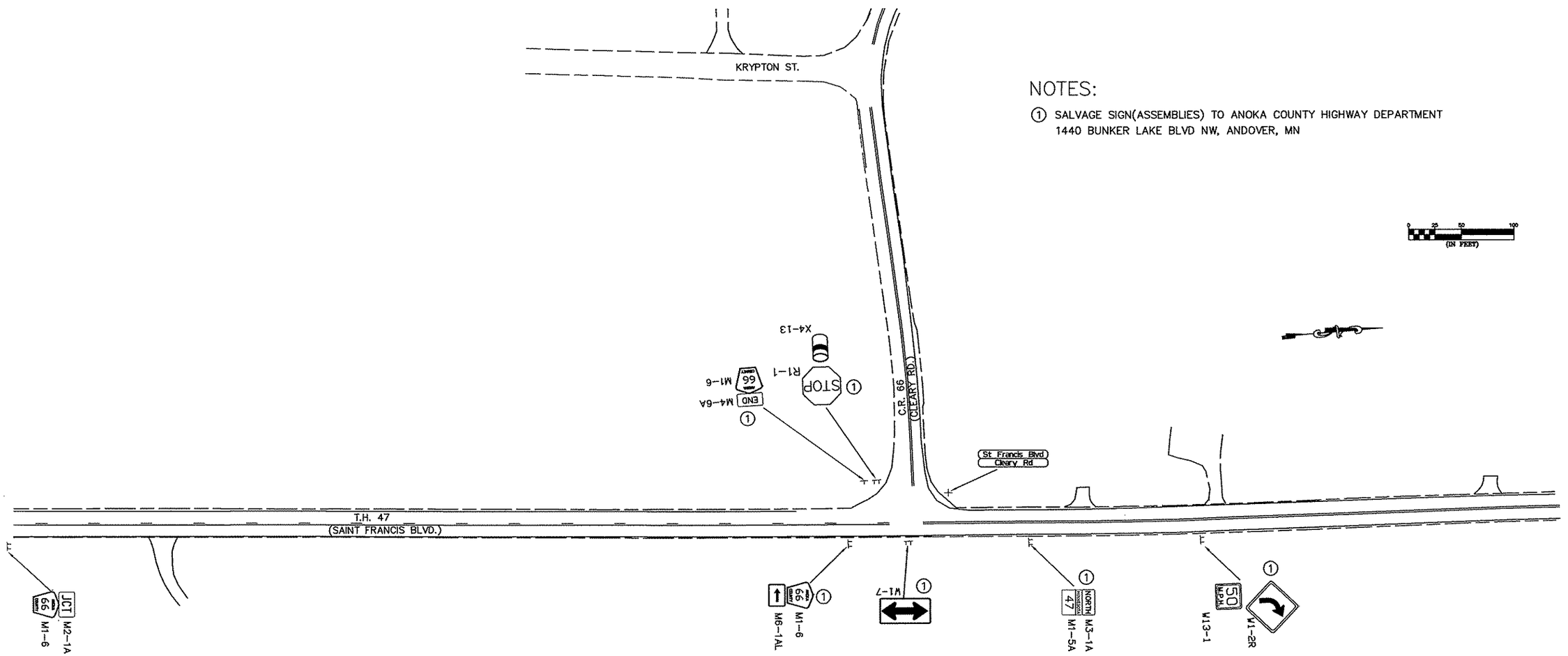
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

C.R. 66 LANE DETAIL

Sheet 13 of 37 Sheets



NOTES:

① SALVAGE SIGN(ASSEMBLIES) TO ANOKA COUNTY HIGHWAY DEPARTMENT
1440 BUNKER LAKE BLVD NW, ANDOVER, MN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Base\TRAFFIC\0259614_proposedsign&stripe.dwg, 07/02/2010 9:01:59 AM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-10 REG. NO. 24756

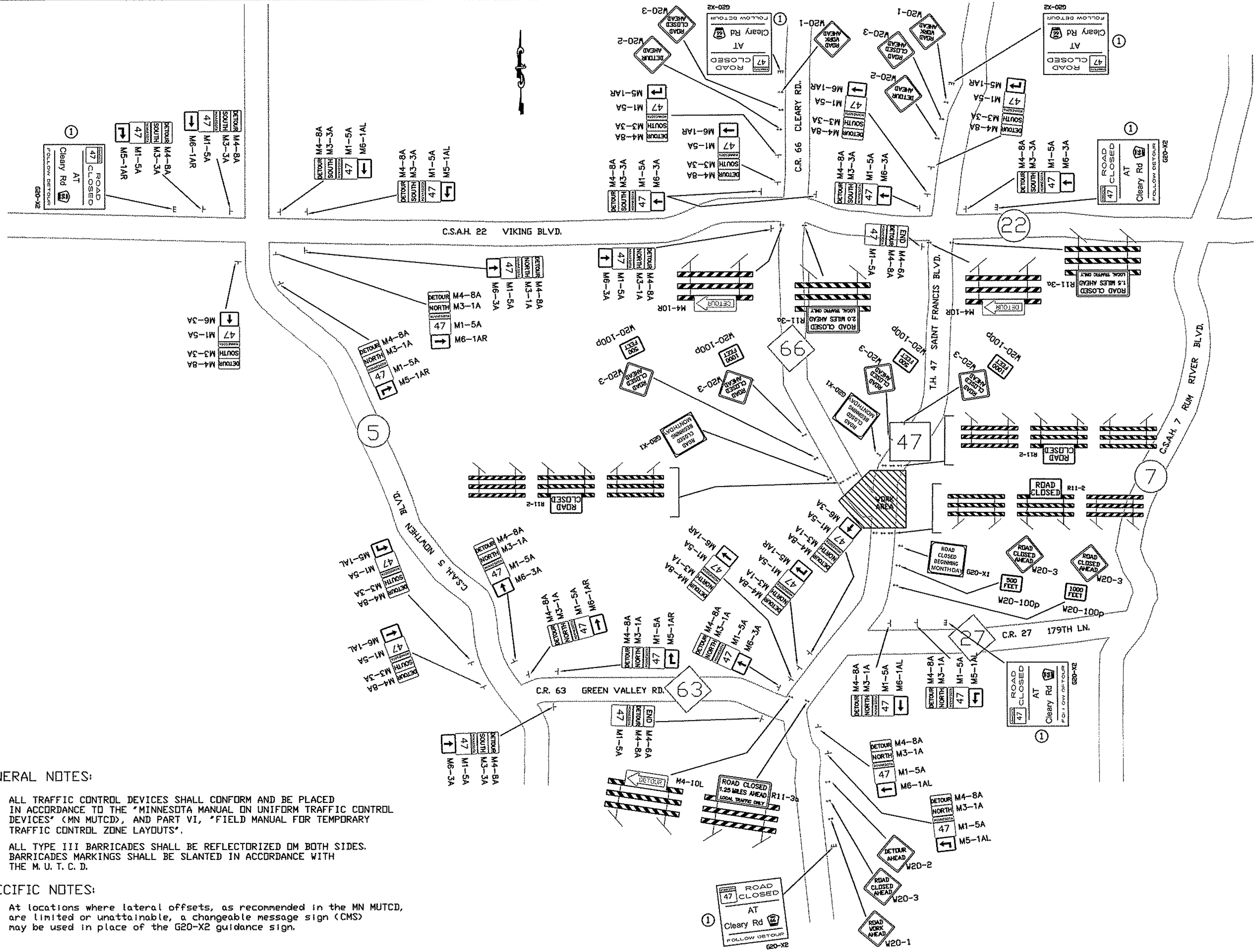
DRAWN BY S.T. DATE 10/14/09
DESIGN BY S.T. DATE 10/14/09
CHECKED BY R.B. DATE 10/19/09

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO.
COUNTY PROJECT NO.

INPLACE SIGNING AND STRIPING

Sheet 14 of 37 Sheets



GENERAL NOTES:

1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD), AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS'.

2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED OM BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

SPECIFIC NOTES:

① At locations where lateral offsets, as recommended in the MN MUTCD, are limited or unattainable, a changeable message sign (CMS) may be used in place of the G20-X2 guidance sign.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Base\TRAFFIC\Detour_recover.dwg, 07/02/2010 9:04:21 AM

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: Curt Kobilarcsik
SIGNATURE: [signature]
DATE: 7-2-10 REG. NO. 24756

DRAWN BY S.T. DATE 11/24/09
DESIGN BY S.T. DATE 11/24/09
CHECKED BY R.B. DATE 11/24/09

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO. ____
COUNTY PROJECT NO. ____

10-32-66
DETOUR

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"	ROAD WORK AHEAD	• 3
W20-2	48" x 48"	DETOUR AHEAD	• 3
W20-3	48" x 48"	ROAD CLOSED AHEAD	• 9
		500 FEET	• 3
W20-100P	24" x 18"	1000 FEET	• 3
M4-10L	48" x 18"	DETOUR	
TYPE III	8 FOOT		• 1
R11-2	48" x 30"	ROAD CLOSED	
TYPE III	8 FOOT		• 3
R11-3	60" x 30"	ROAD CLOSED 1.25MILES AHEAD LOCAL TRAFFIC ONLY	
TYPE III	8 FOOT		• 1
M4-10R	48" x 18"	DETOUR	
TYPE III	8 FOOT		• 2
TYPE III	8 FOOT		• 3
TYPE III	8 FOOT		• 3

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
R11-3	60" x 30"	ROAD CLOSED 1.5 MILES AHEAD LOCAL TRAFFIC ONLY	
TYPE III	8 FOOT		• 1
R11-3	60" x 30"	ROAD CLOSED 2.0 MILES AHEAD LOCAL TRAFFIC ONLY	
TYPE III	8 FOOT		• 1
M4-8A	24" x 12"	DETOUR NORTH MINNESOTA 47	• 5
M3-3A	24" x 12"	M6-3A, M5-1AL, M6-1AL, M5-1AR, M6-1AR	• 2
M1-5A	24" x 24"		• 2
	21" x 15"		• 3
			• 3

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
M4-8A	24" x 12"	DETOUR SOUTH MINNESOTA 47	• 6
M3-1A	24" x 12"	M6-3A, M5-1AL, M6-1AL, M5-1AR, M6-1AR	• 2
M1-5A	24" x 24"		• 2
	21" x 15"		• 3
			• 3
M4-6A	24" x 12"	END DETOUR MINNESOTA 47	
M4-8A	24" x 12"		
M1-6A	24" x 24"		• 2
G20-X2	132" x 108"	MINNESOTA 47 ROAD CLOSED AT Cleary Rd (65) BEGINS MONTH DAY FOLLOW DETOUR ①	• 6
G20-X1	72" x 60"	ROAD CLOSED BEGINNING MONTH DAY	• 3

✳ SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. USE FOLLOW DETOUR PANEL UPON CLOSURE.

✳ SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

GENERAL NOTES:

1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M. U. T. C. D.

SPECIFIC NOTES:

① At locations where lateral offsets, as recommended in the MN MUTCD, are limited or unattainable, a changeable message sign (CMS) may be used in place of the G20-X2 guidance sign.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Base\TRAFFIC\Detour_recover.dwg, 07/02/2010 9:04:54 AM

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: CURT A. KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 7-2-10 REG. NO. 24756

DRAWN BY S.T. DATE 11/24/09
DESIGN BY S.T. DATE 11/24/09
CHECKED BY R.B. DATE 11/24/09

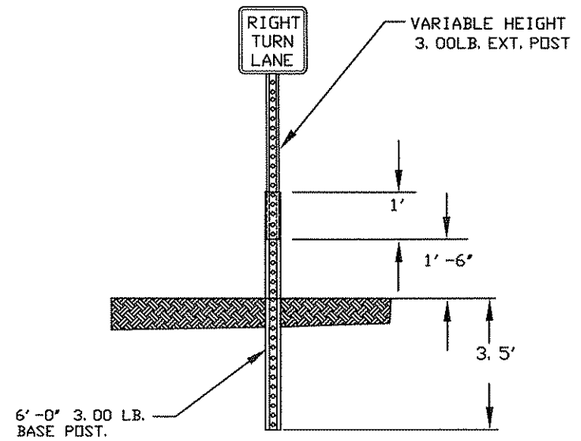
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO.
COUNTY PROJECT NO.

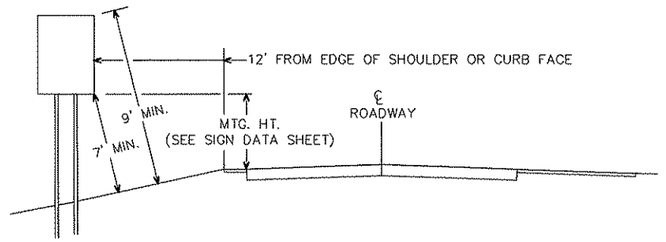
10-32-66
DETOUR

Sheet 16 of 37 Sheets

GROUND POST MOUNT SIGN
INSTALLATION TYPICAL - Anoka County ROW



ROADSIDE PLACEMENT – Anoka County ROW



NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-10 REG. NO. 24756

DRAWN BY ST DATE 10/31/09
DESIGN BY ST DATE 10/31/09
CHECKED BY RB DATE 11/05/09

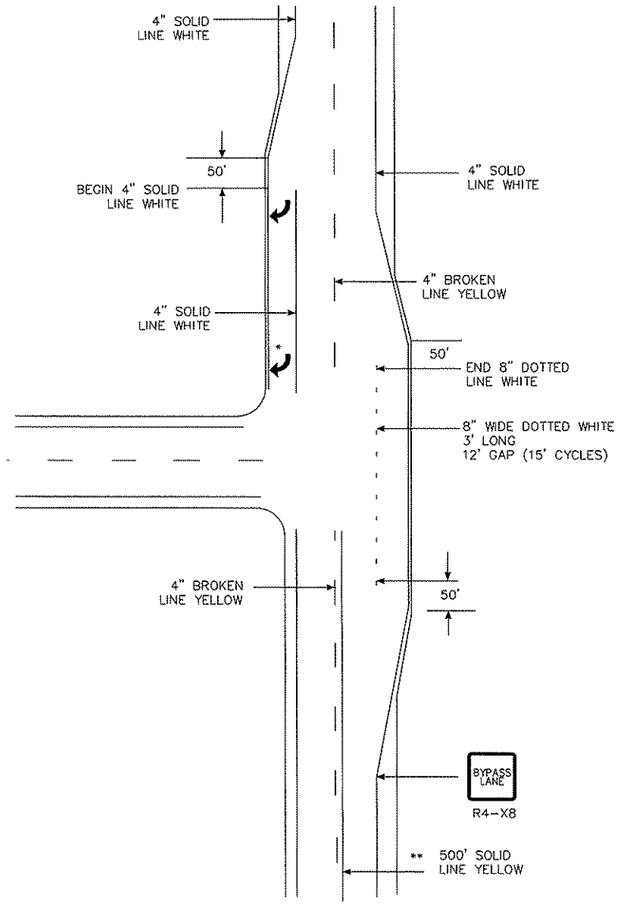
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO.
STATE PROJECT NO.

SIGNING/
STRIPING DETAILS

Sheet 17 of 37 Sheets

BY-PASS LANE
DETAIL



* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

** THE 500' NO PASSING ZONE APPROACHING THE BYPASS LANE AS SHOWN IS A MN/DOT METRO DISTRICT STANDARD. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS	500'
40-50 MPH SPEED LIMIT	650'
55 MPH SPEED LIMIT	800'

NO	DATE	BY	CKD	APPR	REVISION
1	05/25/2010	ST	JR	CK	ADDRESSED MNDOT REVIEW COMMENTS.

NAME:

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-16 REG. NO. 24756

DRAWN BY ST DATE 10/31/09
DESIGN BY ST DATE 10/31/09
CHECKED BY RB DATE 11/05/09

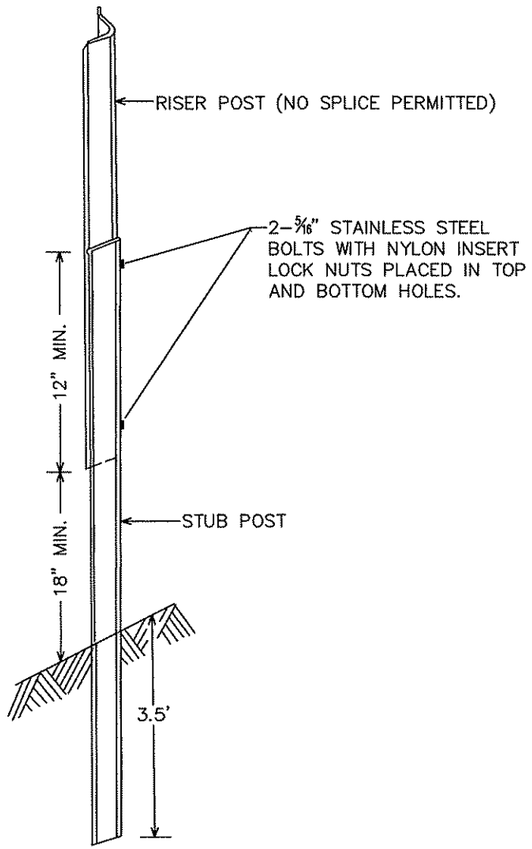
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO.
STATE PROJECT NO.

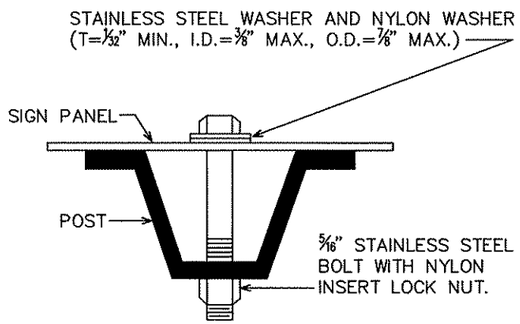
SIGNING/
STRIPING DETAILS

Sheet 18 of 37 Sheets

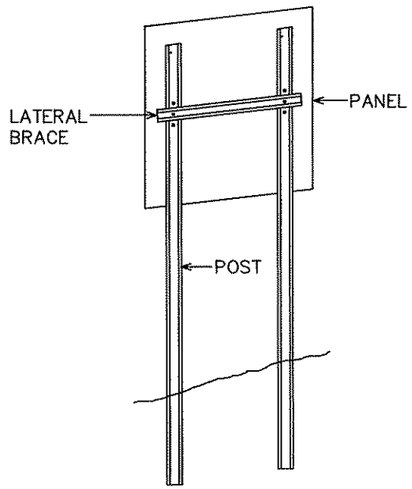
TYPE C & D POST



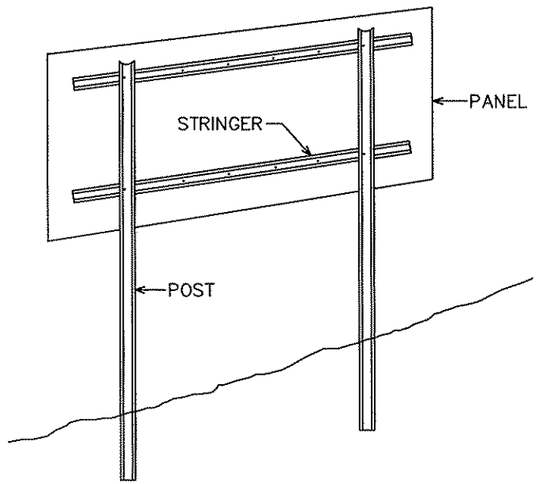
U POST SPLICE



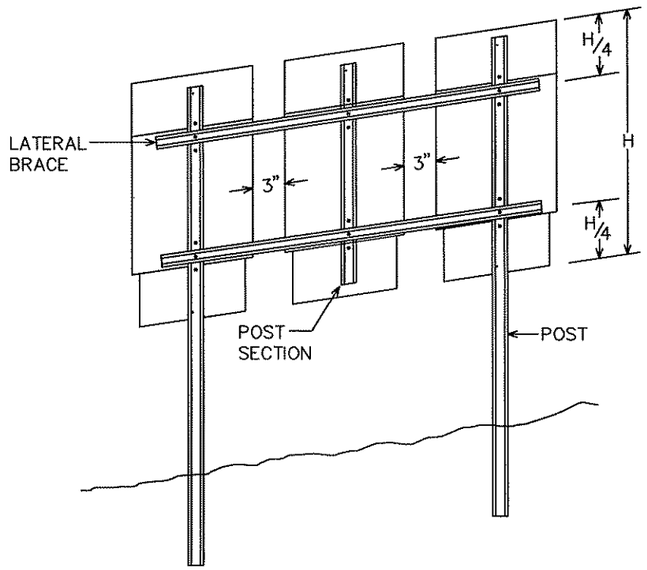
U POST MOUNTING
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE D SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL–JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL ?" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3?'.
9. A–FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTER–

    FERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
13. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

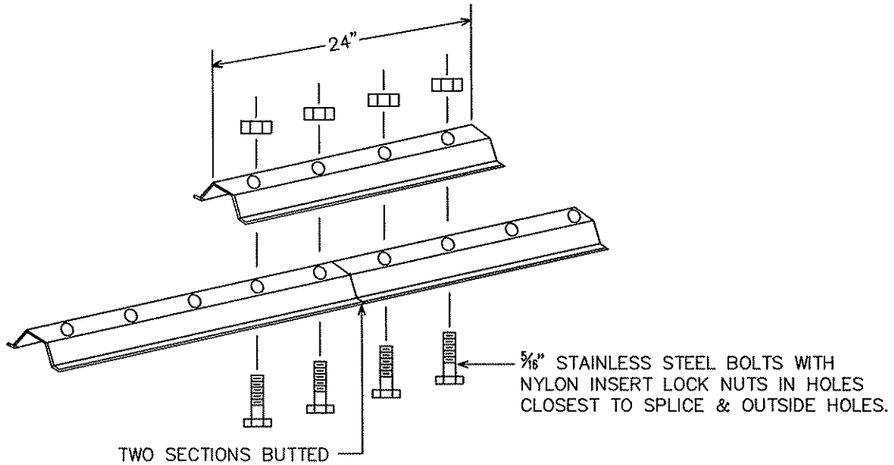
TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 1 of 3

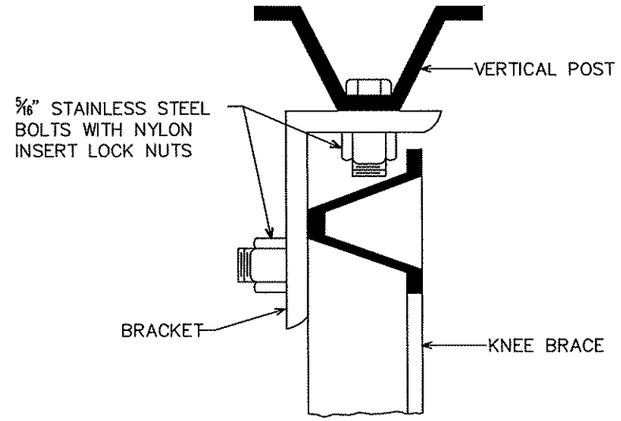
REVISED: 8–5–08

STATE PROJ. NO.	0206–63 (TH 47)		
COUNTY PROJ. NO.	10–32–66	SHEET NO. 19	OF 37 SHEETS

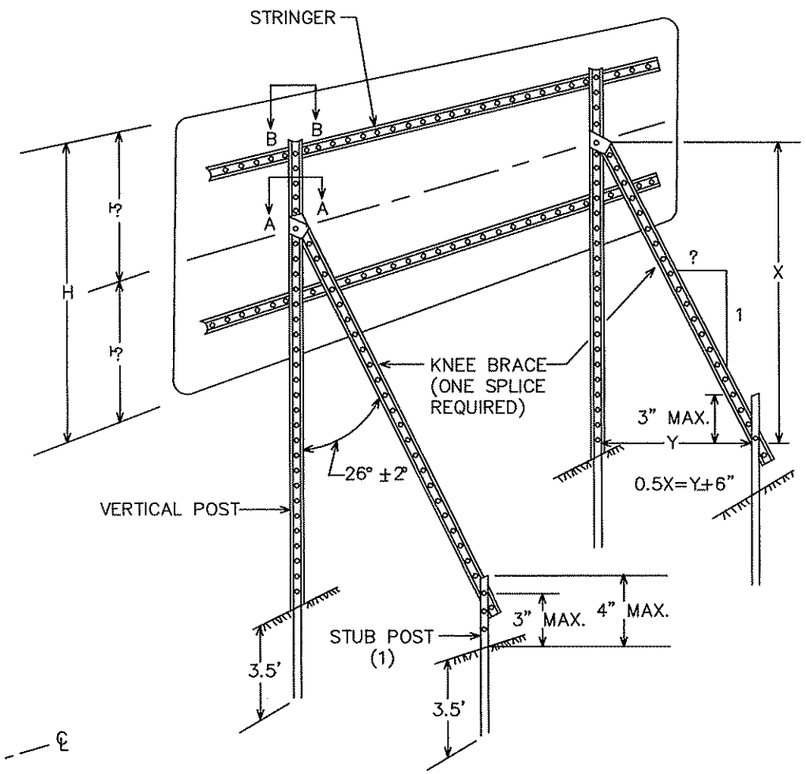
PLOTTED/REVISED: $$$$@DATE@$$$$



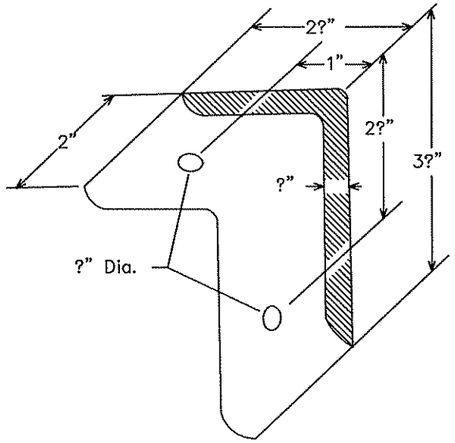
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A–A

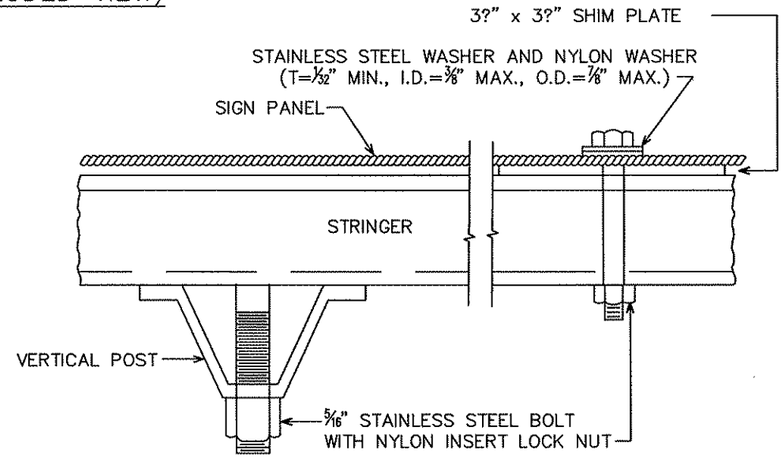


TYPICAL "A–FRAME" INSTALLATION
TYPE "D" SIGNS

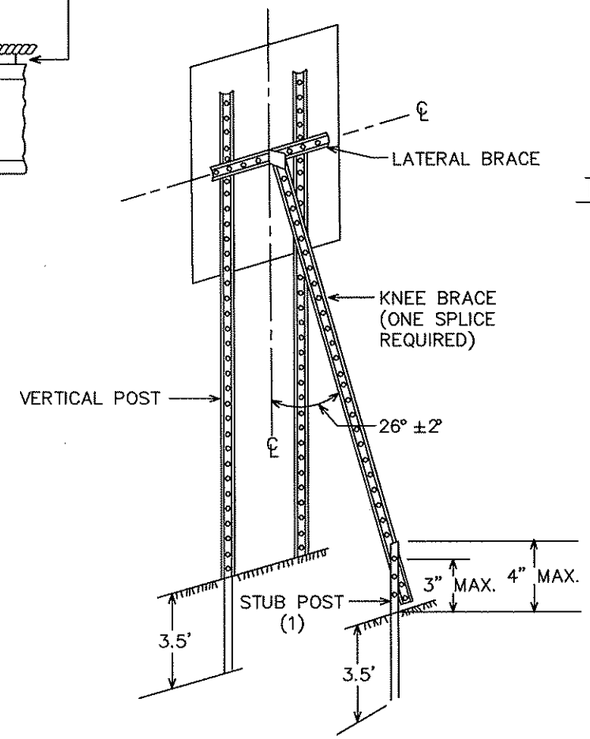


A–FRAME BRACKET

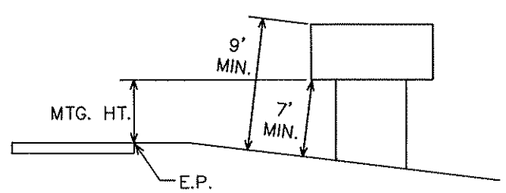
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B–B

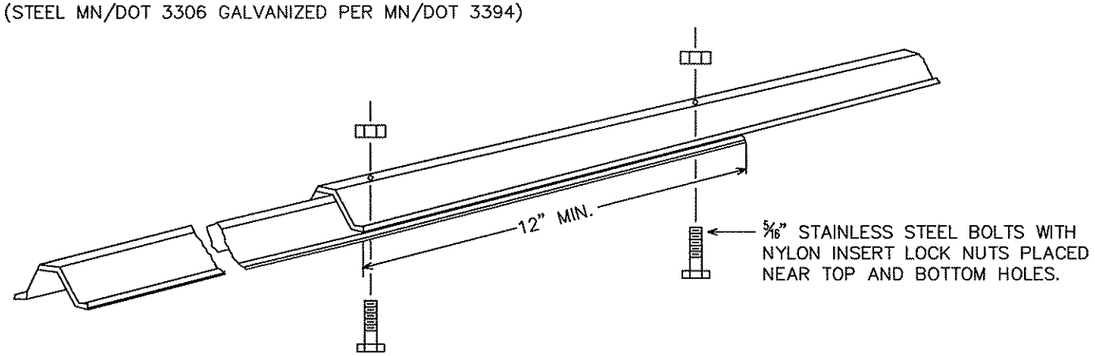


TYPICAL "A–FRAME" INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.



KNEE BRACE SPLICE

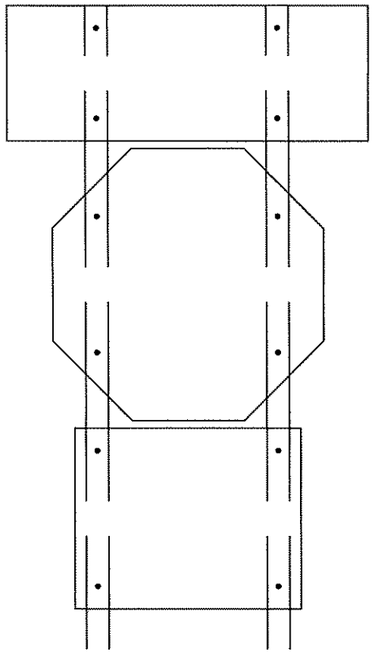
TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 2 of 3

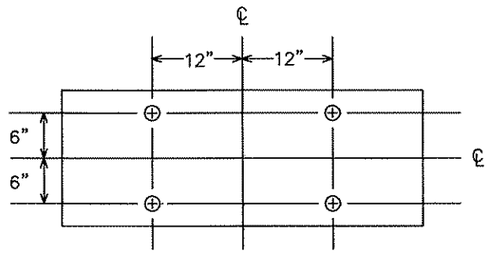
DISTRICT #: $@DISTRICT@$
IPLOT NAME: $$@IPLOT$NAME@$$
PATH & FILENAME: $$$@PATHFILENAME@$$$

REVISED: 1–7–08

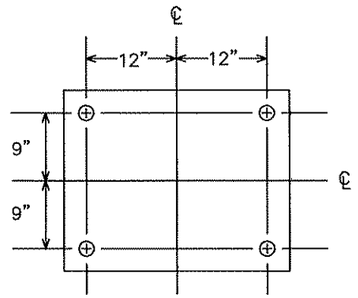
STATE PROJ. NO.	0206–63 (TH 47)		
COUNTY PROJ. NO.	10–32–66	SHEET NO. 20	OF 37 SHEETS



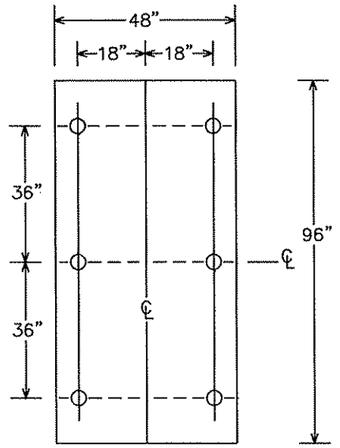
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



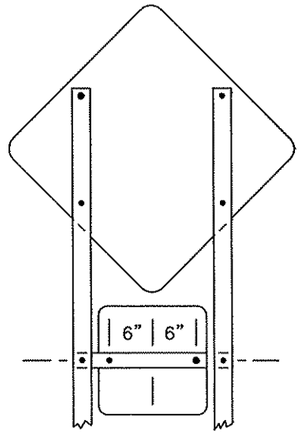
PUNCHING FOR R6-1(48"x18")



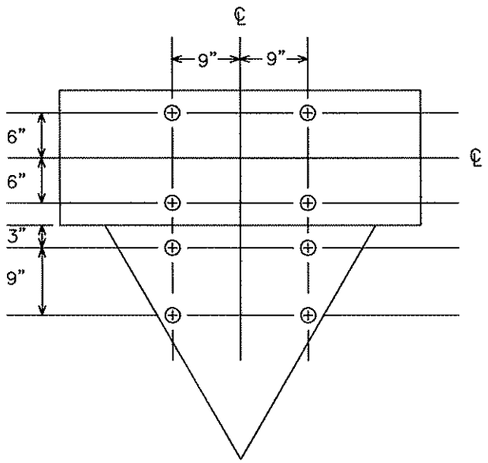
PUNCHING FOR R6-3 OR R6-3a(30"x24")



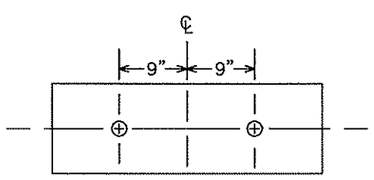
PUNCHING FOR R2-4b
SPEED LIMIT



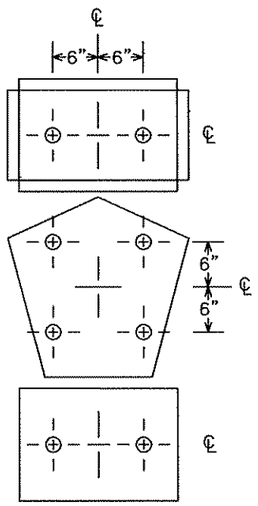
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



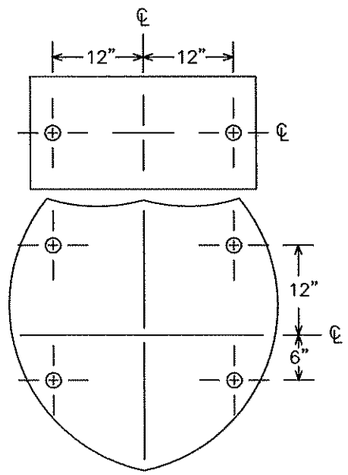
PUNCHING FOR R6-1(48"x18")
& R1-2(36"x36"x36")



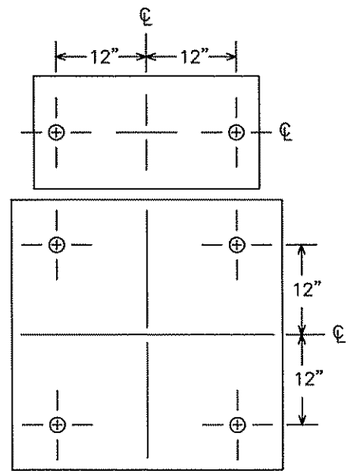
PUNCHING FOR R6-1(36"x12")



M2-1A [21"x15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24"x12"] AND
M1-6 [24"x24"] AND
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21"x15"]
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30"x15"] AND
M1-1 [45"x36" OR 36"x36"]
PUNCHING



(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR
M3-4A) [30"x15"] AND (M1-4 OR M1-5A) [36"x36"]
PUNCHING

TYPE C & D SIGN

STRUCTURAL DETAILS

Sheet 3 of 3

REVISED: 10-28-08

STATE PROJ. NO.	0206-63 (TH 47)		
COUNTY PROJ. NO.	10-32-66	SHEET NO. 21	OF 37 SHEETS

M. U. T. C. D. CODE	SIZE	PANEL AREA FT.^{2}	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT (TO PAVEMENT EDGE) FT. (*6)
R1-1	48" x 48"	16.00	STOP	1	2-U 1A	7.0'
R1-1	36" x 36"	9.00	STOP	1	2-U 1A	7.0'
R3-X1	30" x 30"	6.25	RIGHT TURN LANE	1	1	7.0'
R4-X8	30" x 30"	6.25	BYPASS LANE	1	2-U	7.0'
M4-6A	24" x 12"	2.00	END	1	(*1)	
M1-6	24" x 24"	4.00	ANOKA 66 COUNTY	2	2-U	7.0'
M6-1AL	21" x 15"	2.18	←	1	(*2)	
M3-1A	24" x 12"	2.00	NORTH	1	(*3)	
M1-5A	24" x 24"	4.00	MINNESOTA 47	2	2-U	7.0'
M6-4A	21" x 15"	2.18	↔	1	(*4)	
W1-2R	30" x 30"	6.25		1	2-U 1A	7.0'
W13-1	18" x 18"	2.25	50 M.P.H.	1		
W1-7	48" x 24"	8.00	↔	1	2-U 1A	7.0'
DELINEATOR X4-13	4"DIA x 15"	1.31		2	(*5)	4.0'

SPECIFIC NOTES:

(*1) MOUNTED ABOVE M1-6

(*2) MOUNTED BELOW M1-6

(*3) MOUNTED ABOVE M1-5A

(*4) MOUNTED BELOW M1-5A

(*5) MOUNTED BELOW R1-1

(*6) MOUNTING HEIGHT IS MINIMUM
SEE SHEET 20 FOR TYPICAL MOUNTING

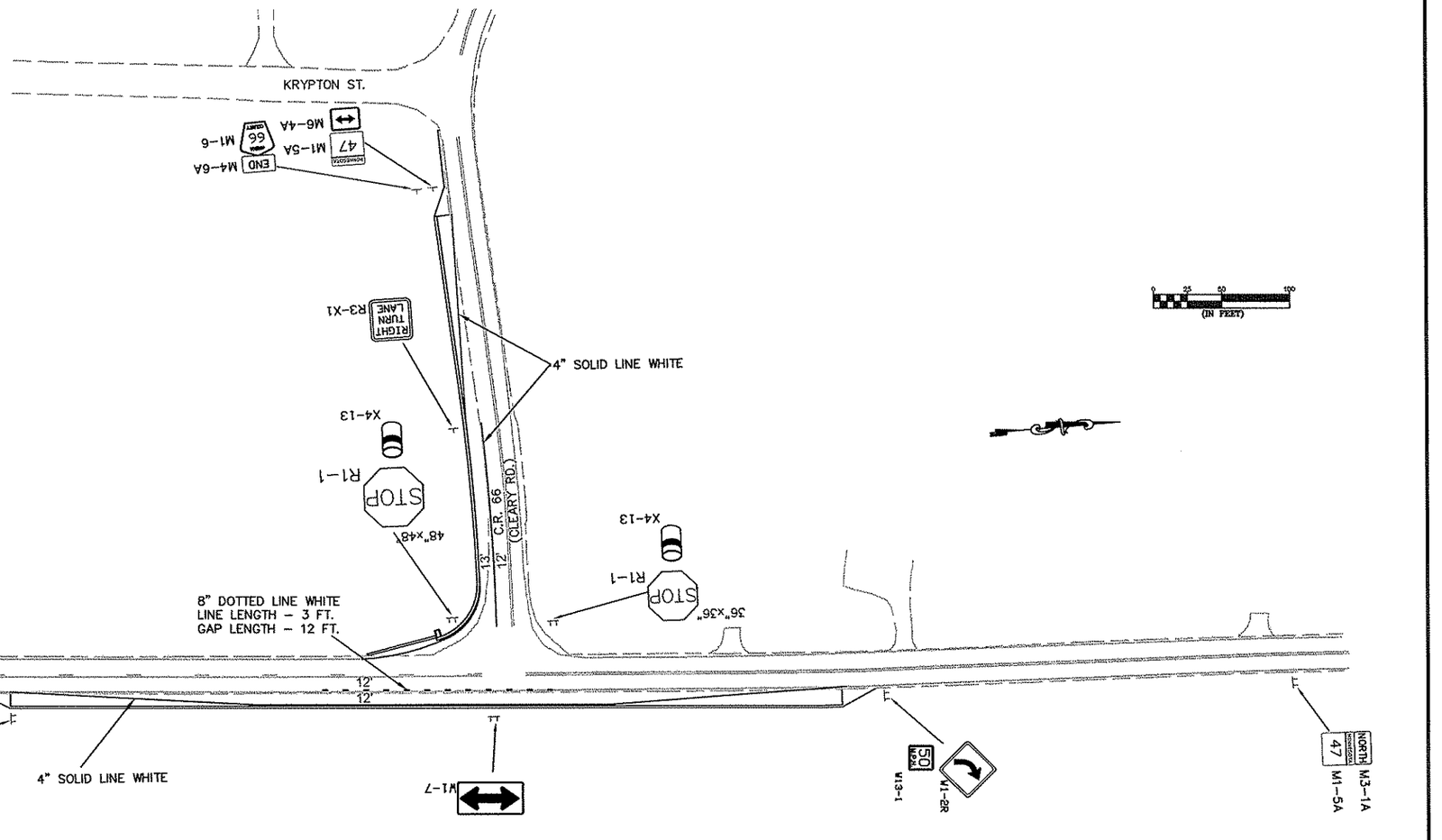
GENERAL NOTES:

1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

2.) POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.

3.) SEE SHEETS 19-21 FOR STRUCTURAL DETAILS.

4.) SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.



NO	DATE	BY	CKD	APPR	REVISION
1	05/25/2010	ST	JR	CK	ADDRESSED MNDOT REVIEW COMMENTS.

NAME: P:\02-S96-14\Base\TRAFFIC\0259614_proposedsign&stripe.dwg, 07/02/2010 8:55:59 AM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-10 REG. NO. 24756

DRAWN BY S.T. DATE 10/14/09
DESIGN BY S.T. DATE 10/14/09
CHECKED BY R.B. DATE 10/19/09

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66
STATE AID PROJECT NO.
COUNTY PROJECT NO.

PERMANENT SIGNING AND STRIPING

Sheet 22 of 37 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project Description
SP 0206-63 consists of grading, bituminous surfacing, and storm drainage restoration.
This project is located in the city of Nowthen. Construction activities
include excavation and grading for a bypass lane along NB TH 47 at CR 66,
and a right turn lane from EB CR 66 onto SB TH 47.

Site Maps
In addition to what is located within this plan, existing and proposed site maps have been created and kept on file with the Anoka County Highway Department. The site maps are roll maps that show project limits, alignment, soil types, existing and proposed contours, drainage areas, storm sewer locations, flow arrows, and impervious surface. If applicable, impaired waters and wetlands are also shown.

Environmentally Sensitive Areas
The project will fill and permanently impact 2,213 square feet of Type 2 (wet meadow) wetland. Mitigation is proposed by utilizing wetland bank credits from the BWSR Road Replacement Program. There is one Impaired Water (Rogers Lake) that is not a receiving water for this project but within one mile of this project's limits.
Additional guidelines for construction are as follows:

During and Post 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.

Outstanding Resource Value Waters
There are no outstanding resource value waters within the project limits.

Calcareous Fens
There are no calcareous fens within the project limits

TMDL Implementation Plans Containing Storm Water Requirements
No TMDL Implementation Plans currently exist for the receiving waters on this project.

Land Feature Changes

Total Project Area Disturbed:	0.98
Total Existing Impervious Surface:	0.06
Total Existing Pervious Surface:	0.92
Total Proposed Impervious Surface:	0.29
Total Proposed Pervious Surface:	0.69

Timing of BMP Installation
The erosion prevention and sediment control BMP's shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site. All silt fence used for containment shall be installed prior to grading operations.

Project Contacts
The Project Engineer and the Contractor are responsible for implementation of the SWPPP and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction. Anoka County and the City of Nowthen are responsible for long term operation and maintenance of the permanent storm water management system.

Anoka County Project Manager:
Douglas W Fischer, PE
Anoka County Engineer
1440 Bunker Lake Boulevard NW
Andover, MN 55304
(763) 862-4200

MPCA 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451
800-422-0798

Construction Notes
Construction shall be governed by MN/DOT Spec Book and the special provisions.
The contractor shall keep the inspection and maintenance log.

Description	Plan Sheet Title	Location
Temporary Erosion Control	Erosion Control Plan	Sheet No. 29
Permanent Erosion Control	Erosion Control Plan & Turf Establishment Plan	Sheet No. 29
Direction of Flow	Erosion Control Plan	Sheet No. 29
Final Stabilization	Turf Establishment Plan	Sheet No. 29
Drainage Structures	Drainage Plan	Sheet No. N/A
Drainage Tabulation	Drainage Tabulation	Sheet No. N/A
Drainage Profile Sheets	Drainage Plan	Sheet No. N/A
Erosion Control Details	Erosion Control Plan	Sheet No. 24 - 28
Turf Establishment / Erosion	Erosion Control Plan & Turf Establishment Plan	Sheet No. & 29

Drainage Calculations
Computations are kept on file with the Anoka County Highway Department. Changes in the field should be discussed with the Project Manager and noted in the Contractor's log.

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-596-14\plan\0259614_SWPP.dgn 07/01/2010 2:08:05 PM

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: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 7-2-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

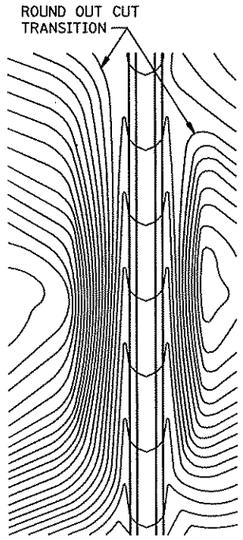
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)
COUNTY PROJECT NO. 10-32-66

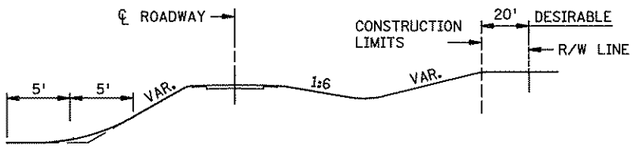
SWPPP NARRATIVE

Sheet 23 of 37 Sheets

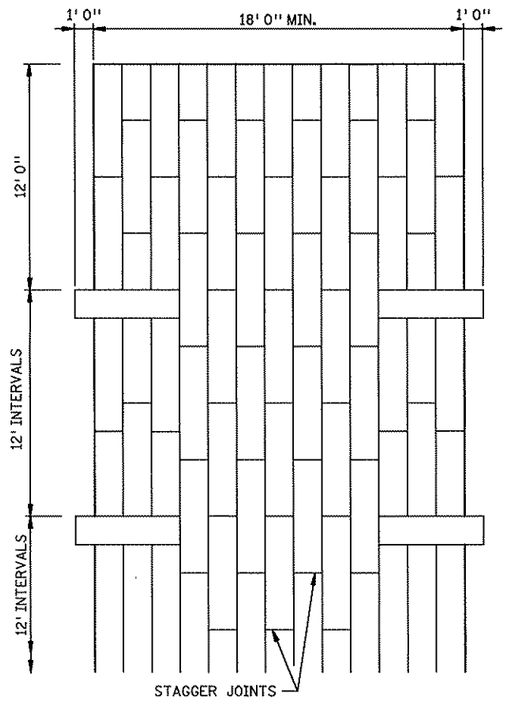
PLOTTED/REVISED: 07/01/2010



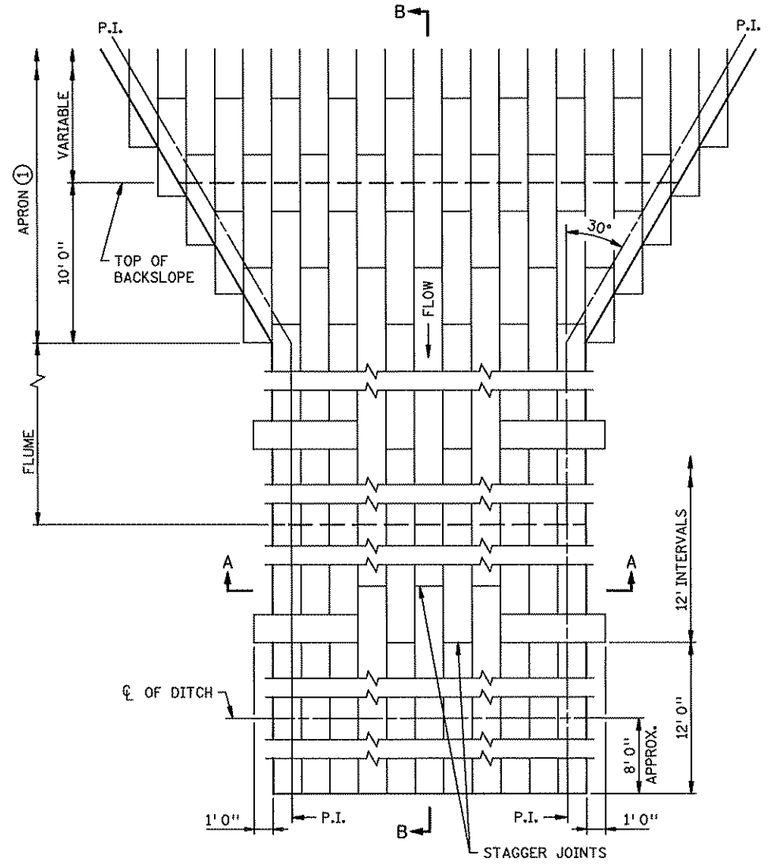
CONTOURING ROAD CUTS



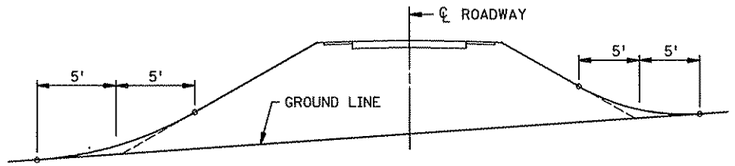
ROUNDING SHOULDERS AND BACKSLOPES



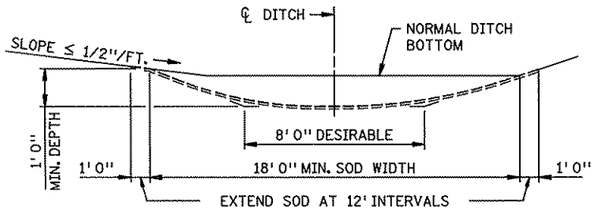
PLAN VIEW



PLAN VIEW

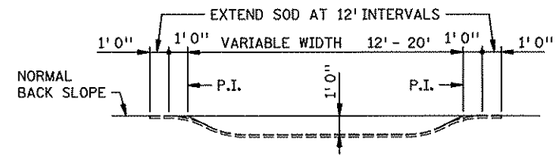


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

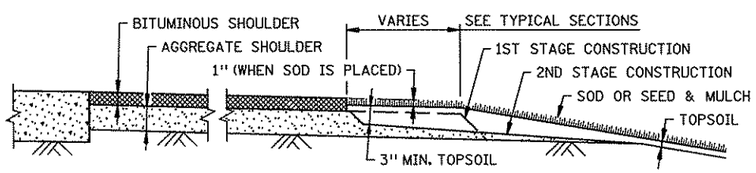


SODDED DITCH CROSS SECTION

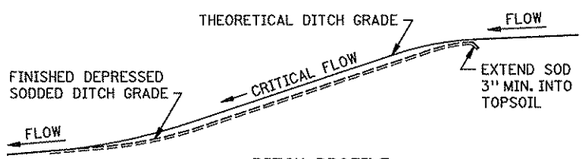
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



SECTION A-A

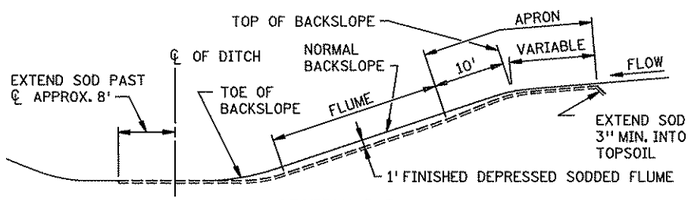


SHAPING AND TOPSOILING INSLOPES



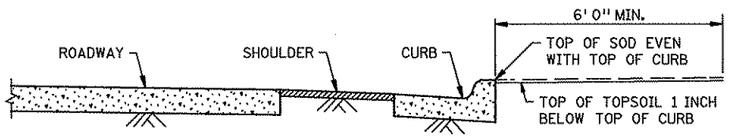
DITCH PROFILE

SODDED DITCH DETAILS



SECTION B-B

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

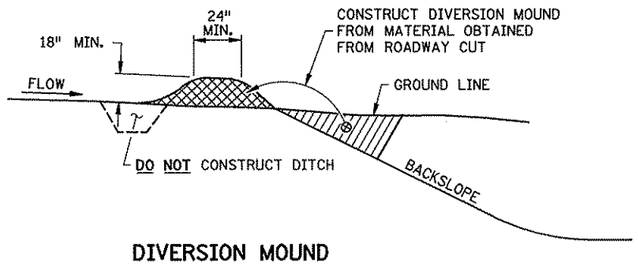
(1) CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

S.P. 0206-63 (TH 47)
C.P. 10-32-66

STANDARD SHEET NO. 5-297.404
STANDARD APPROVED: NOVEMBER 20, 2002

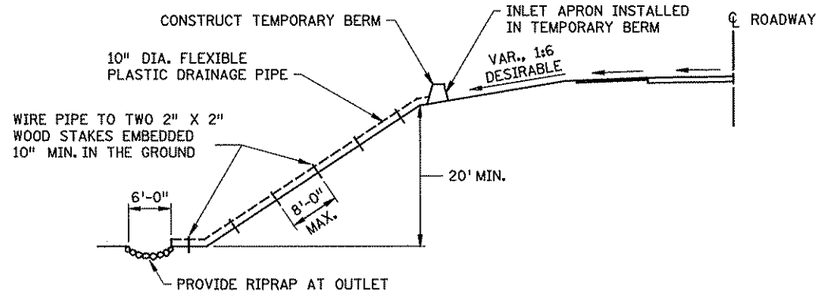
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

FILE NAME: p:\02-596-14\plan\5-297.404_spn.dgn



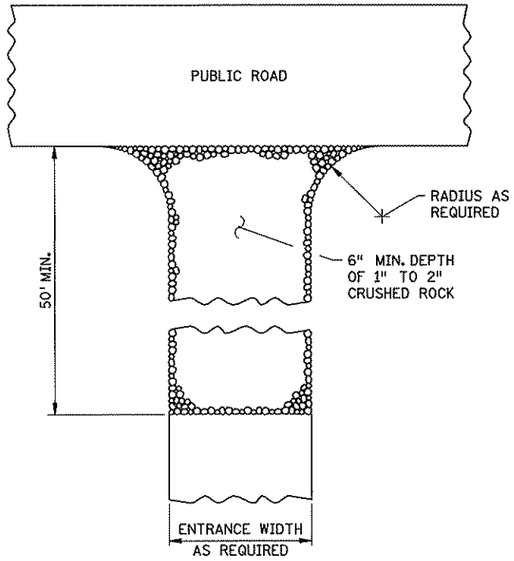
DIVERSION MOUND

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

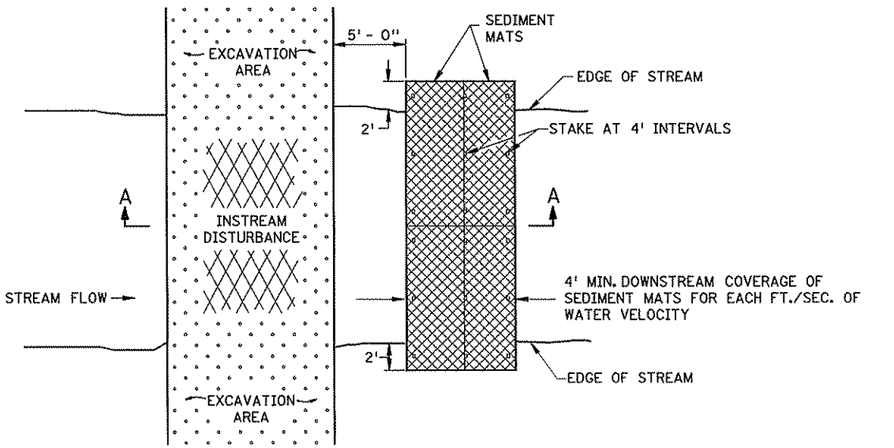


TEMPORARY DOWN DRAIN ON FILL SLOPE

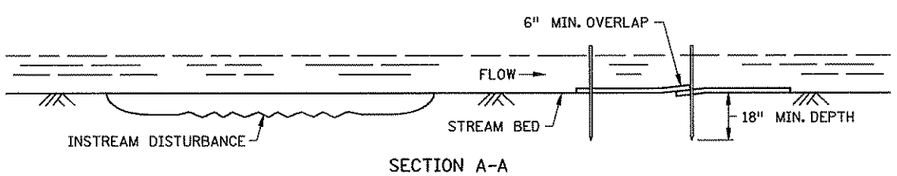
DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①



PLAN VIEW

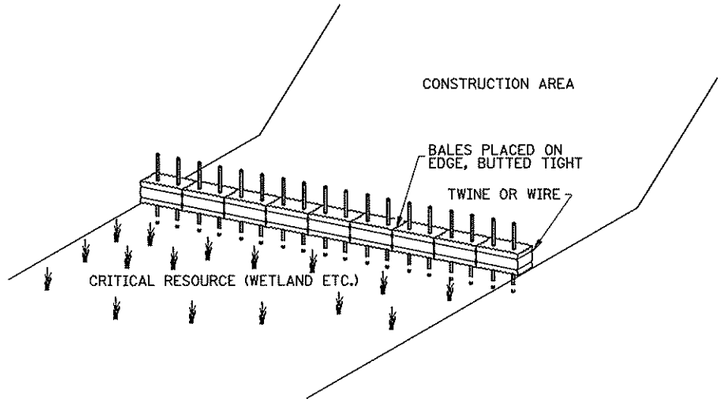


SECTION A-A

SEDIMENT MAT ⑥

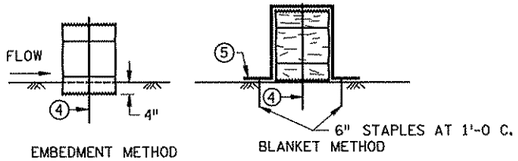
TYPICAL STREAM BED INSTALLATION

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



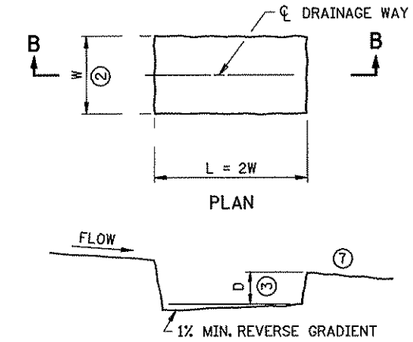
BALE BARRIERS

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.

S.P. 0206-63 (TH 47) C.P. 10-32-66	STANDARD SHEET NO. 5-297.405 (2 of 4)	TITLE: TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
	STANDARD APPROVED: SEPTEMBER 27, 2006	
		SHEET NO. 25 OF 37 SHEETS

PLOTTED/REVISED: 07/01/2010

FILE NAME:
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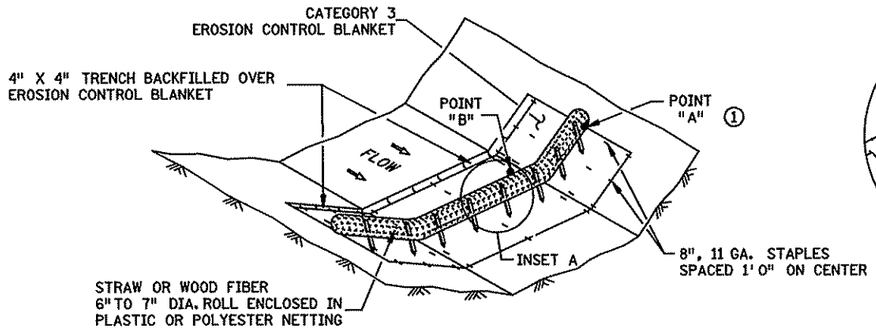
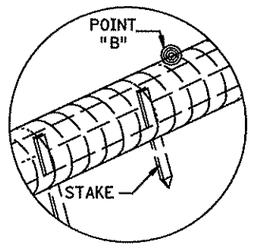
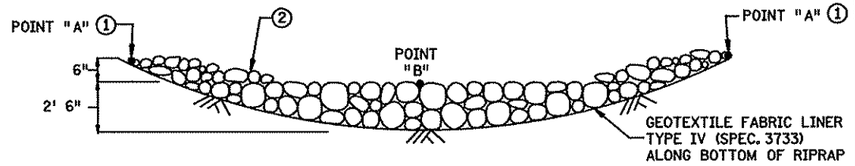
PLOTTED/REVISED: 07/01/2010



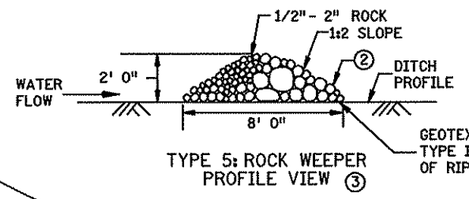
TYPE 3: BIOROLL BLANKET SYSTEM DITCH CHECK



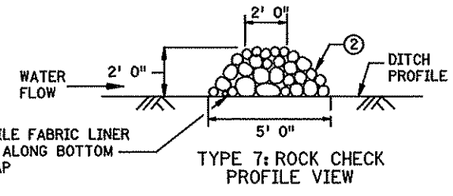
INSET A



CROSS SECTION (ROCK WEEPER AND ROCK CHECK)



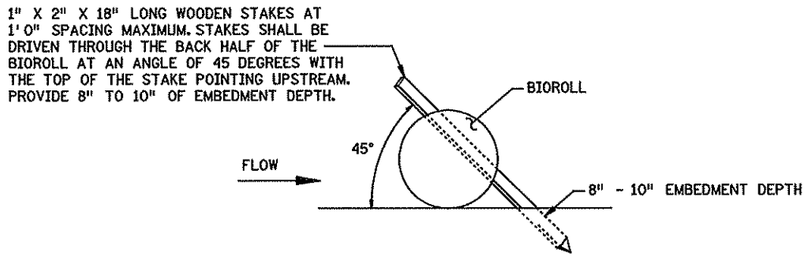
TYPE 5: ROCK WEEPER
PROFILE VIEW ③



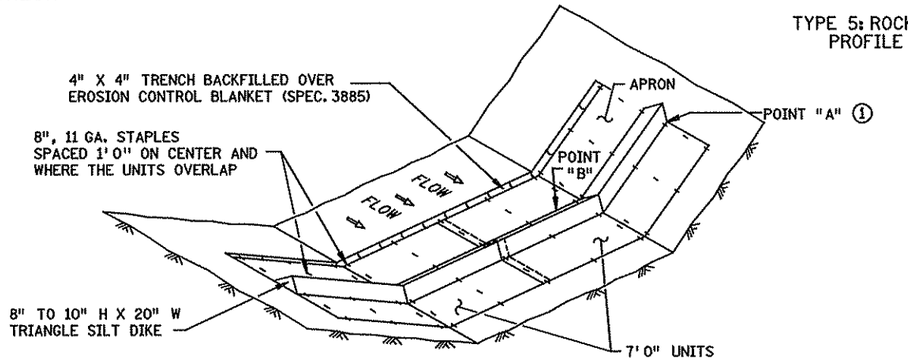
TYPE 7: ROCK CHECK
PROFILE VIEW

TYPE 5: ROCK WEEPER AND
TYPE 7: ROCK CHECK DITCH CHECKS ④

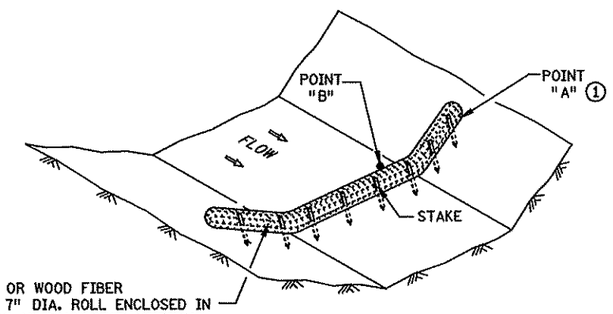
USE ON ROUGH GRADED AREAS



BIOROLL STAKING DETAIL

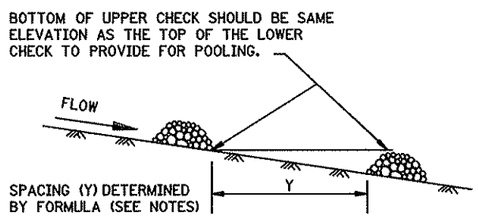


TYPE 6: GEOTEXTILE TRIANGULAR DIKE DITCH CHECK

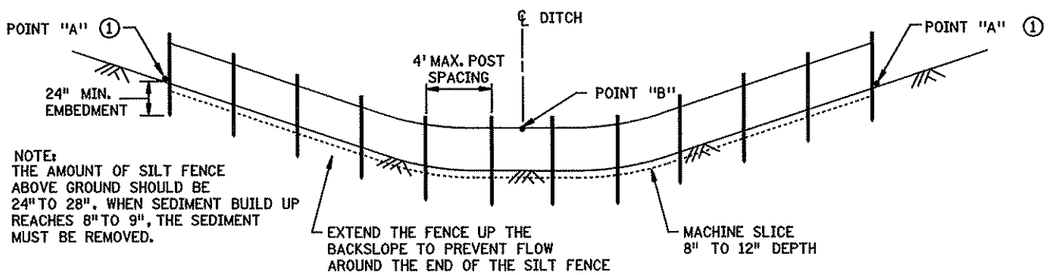


TYPE 2: BIOROLL DITCH CHECK

USE ON ROUGH GRADED AREAS



DITCH CHECK SPACING ④



TYPE 1: SLICED IN SILT FENCE DITCH CHECK

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

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\text{\% CHANNEL SLOPE}} \times 100$$

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.

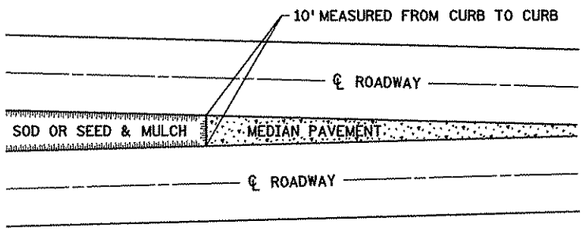
② CLASS I - IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC. 3733).

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.

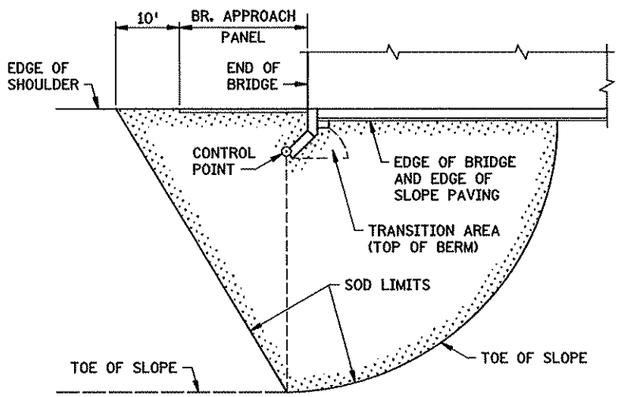
④ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

S.P. 0206-63 (TH 47) C.P. 10-32-66	STANDARD SHEET NO. 5-297.405 (3 OF 4)	TEMPORARY SEDIMENT CONTROL DITCH CHECK/BARRIER
	STANDARD APPROVED: SEPTEMBER 27, 2006	SHEET NO. 26 OF 37 SHEETS

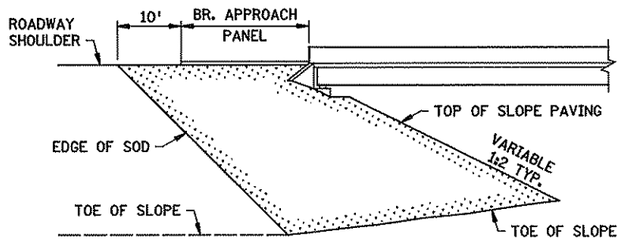
FILE NAME: P:\02-596\A\Plan\5-297.405_3.spndgn



SODDING LIMITS AT GORE AREA

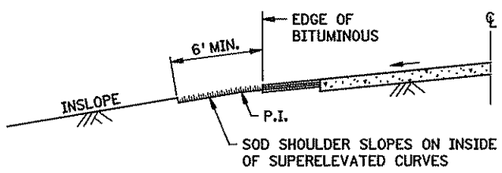


PLAN

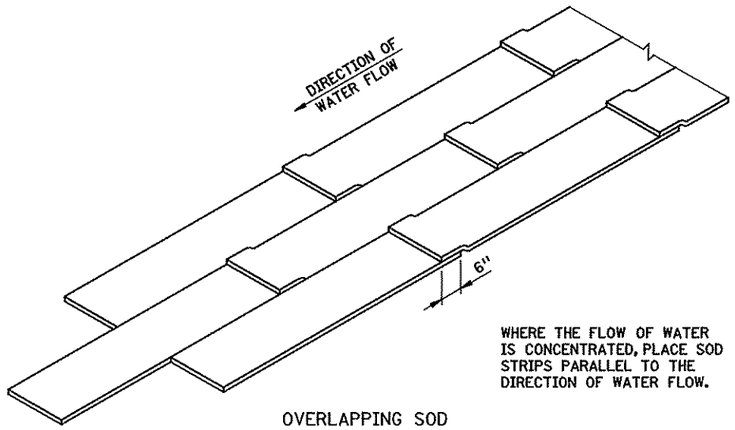


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

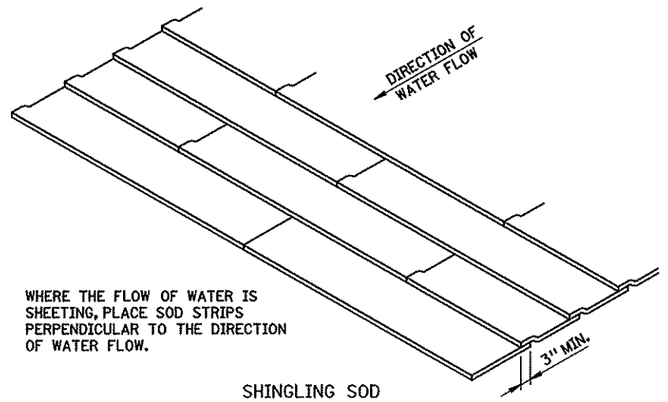


SODDING INSLOPES OF SUPERELEVATED CURVES



WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

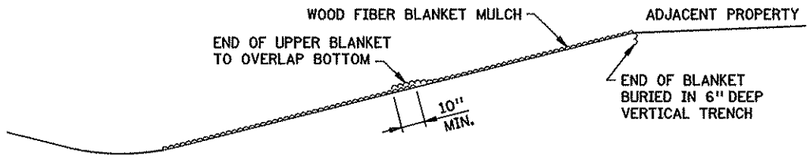
OVERLAPPING SOD



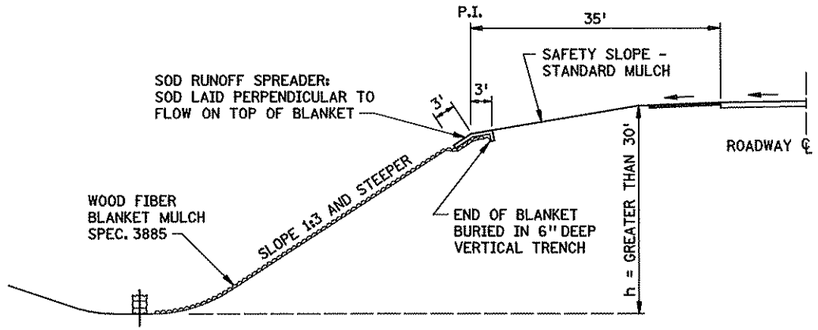
WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

SHINGLING SOD

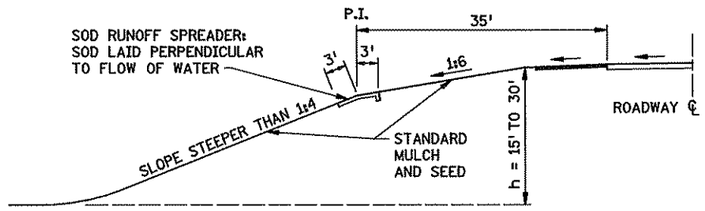
SPECIAL SOD PLACEMENT TECHNIQUES



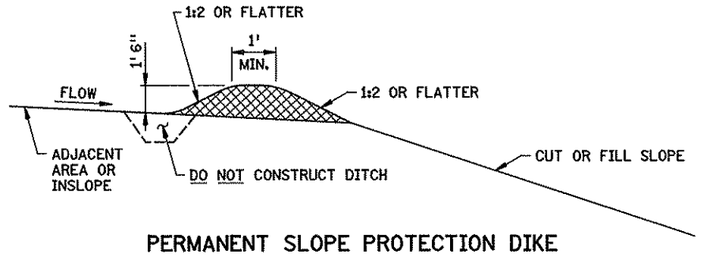
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



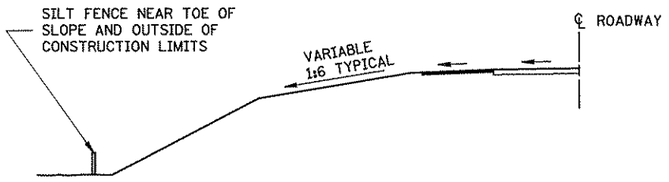
PERMANENT SLOPE PROTECTION DIKE

S.P. 0206-63 (TH 47) C.P. 10-32-66	STANDARD SHEET NO. 5-297.406 STANDARD APPROVED: JANUARY 31, 1985 REVISION DATE 10-26-2000	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS SHEET NO. 27 OF 37 SHEETS

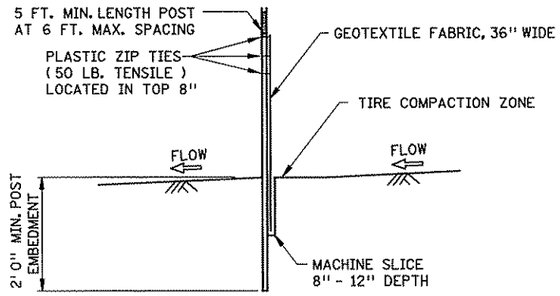
PLOTTED/REVISED: 07/01/2010

FILE NAME: p:\02-596-14\plan\5-297.406_spn.dgn

PLOTTED/REVISED: 07/01/2010

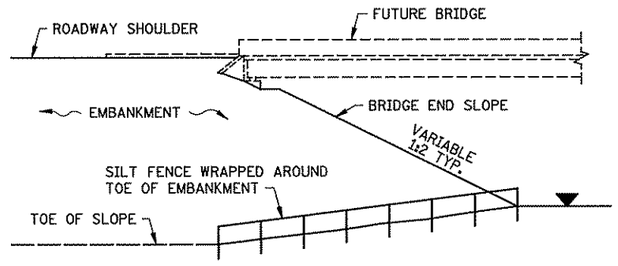


LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



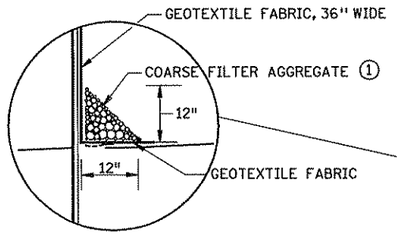
SILT FENCE, MACHINE SLICED

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

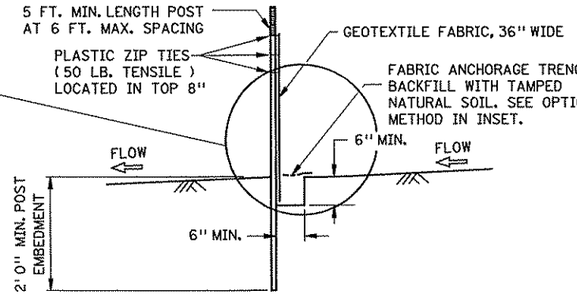


BRIDGE FILL

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

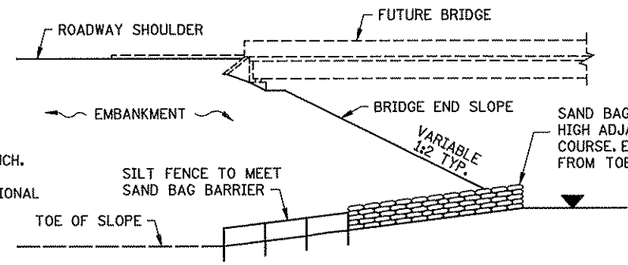


OPTIONAL METHOD FOR SILT FENCE, HEAVY DUTY



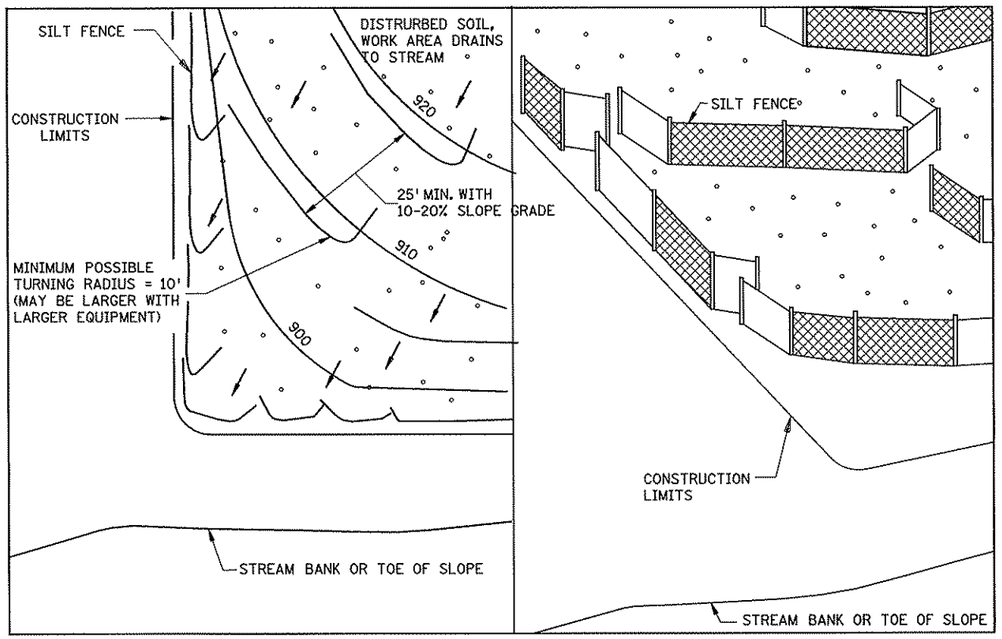
SILT FENCE, HEAVY DUTY (HAND INSTALLED)

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



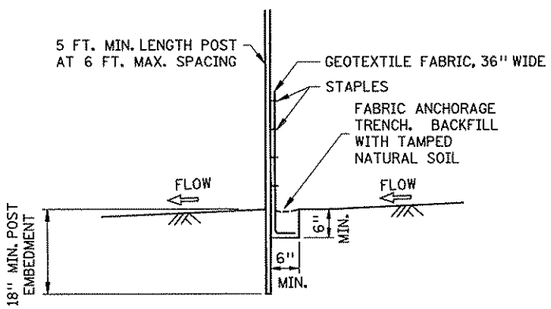
BRIDGE FILL

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



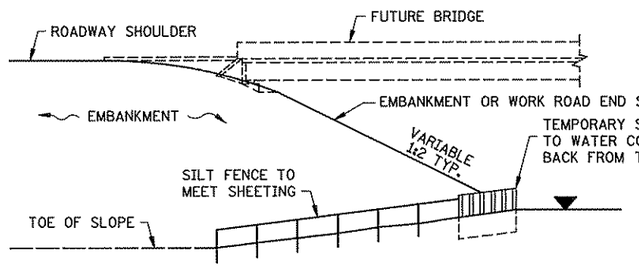
PLAN VIEW SIDE VIEW

SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED

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



EMBANKMENT OR WORK ROAD FILL

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.

S.P. 0206-63 (TH 47) C.P. 10-32-66	STANDARD SHEET NO. 5-297.408 (1 OF 2) STANDARD APPROVED: SEPTEMBER 27, 2006	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
		SHEET NO. 28 OF 37 SHEETS

FILE NAME: D:\02-596-14\plan\5-297.408.1_spn.dgn

LEGEND

- INPLACE APRON
- INPLACE CULVERT
- SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- SURFACE FLOW ARROW
- 40.0' OF DITCH CHECK TYPE 2
- SEED MIX 328 - MULCH W/ DISK ANCHORING
- SEED MIX 328 - EROSION CONTROL BLANKET CAT 1
- SEED MIX 350 - MULCH W/ DISK ANCHORING

SCALE 0 50 IN FEET

NOTES

1.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

2.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

3.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

4.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

5.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 7 DAYS OF THE COMPLETION OF GRADING.

BEGIN CONSTRUCTION
CP 10-32-66
CR 66 STA 114+88.52

℄ C.R. 66

115

18477

5617

EXISTING RIGHT OF WAY
PERMANENT EASEMENT

BEGIN CONSTRUCTION
SP 0206-63
TH 47 STA 717+70.49

E/C BLANKET TO ACCOMODATE
1.0' OF DITCH FLOW

℄ T.H. 47

720

18526

EXISTING RIGHT OF WAY

E.B. C.R. 66 STA. 118+91.85
= N.B. T.H. 47 STA. 721+62.31

725

MS MS MS MS MS

EXISTING RIGHT OF WAY

END CONSTRUCTION
SP 0206-63
TH 47 STA 724+28.81

PROPOSED RIGHT OF WAY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-14\Plan\0259614_EC_P1.dgn 6/22/2010 7:49:33 AM

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: CURT A. KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-22-10 LICENSE NO. 24756

DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY

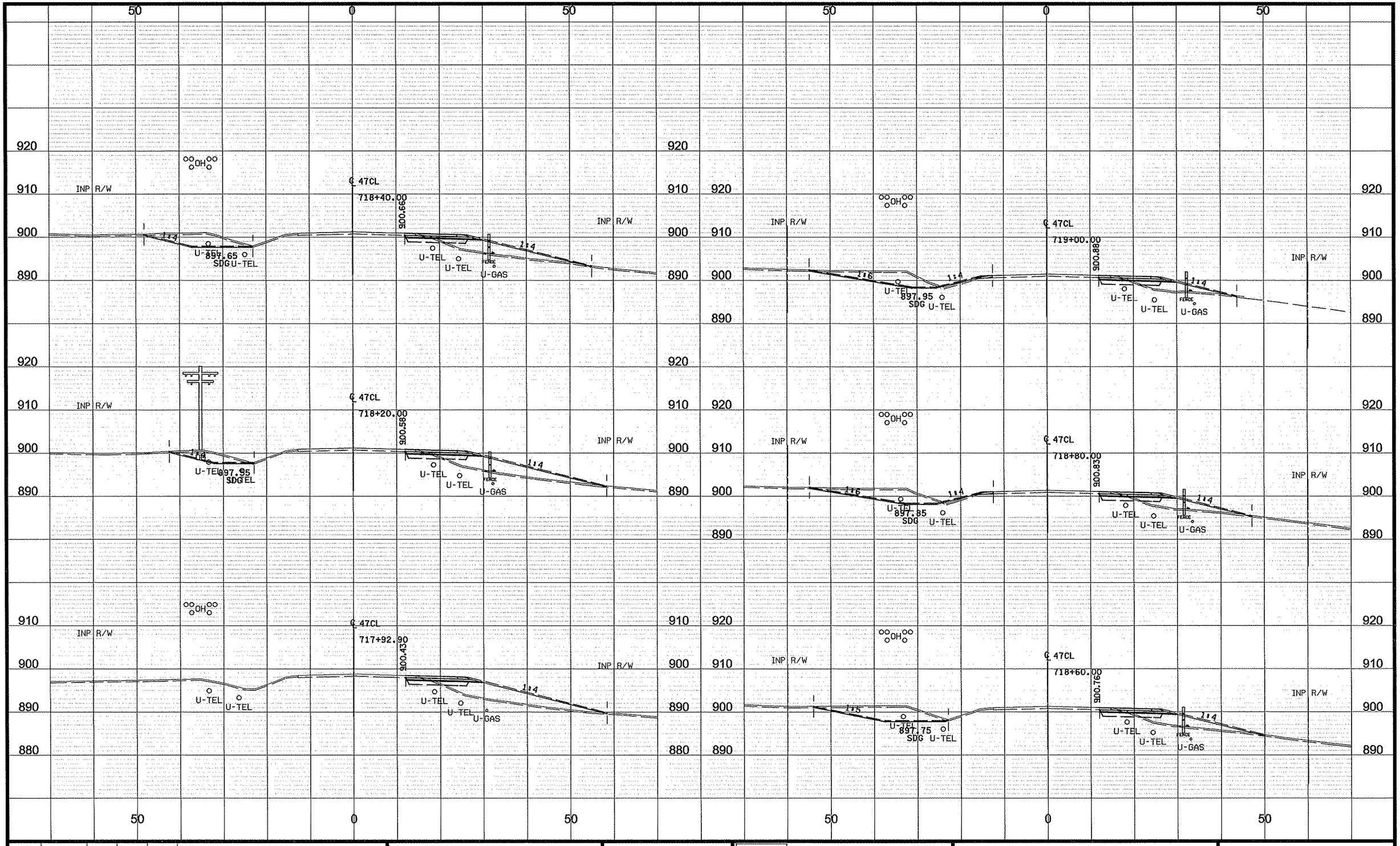
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

PERMANENT TURF ESTABLISHMENT & EROSION CONTROL PLAN

Sheet 29 of 37 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY NJD DATE 2-11-10

DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

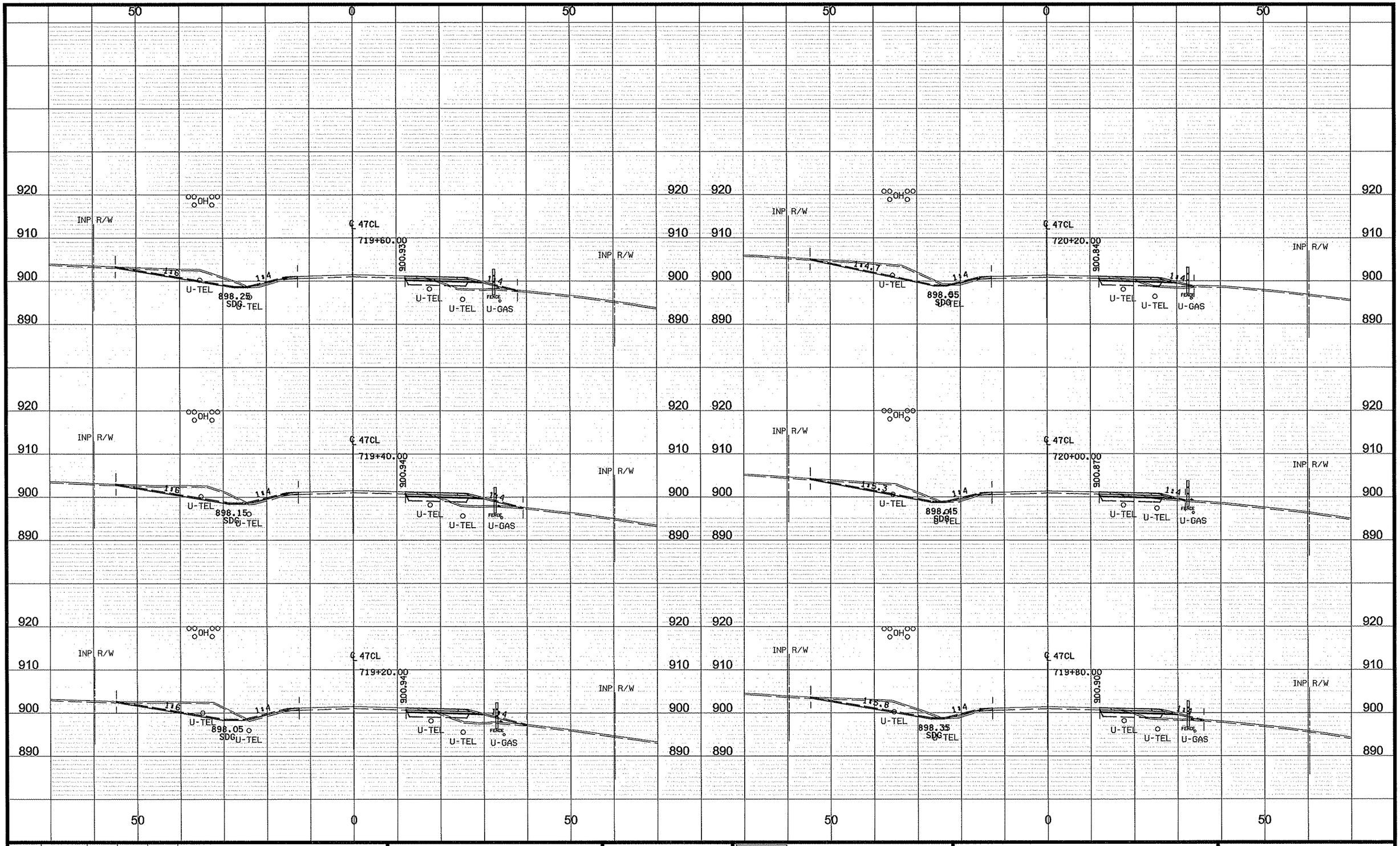
COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS

TH 47 (ST FRANCIS BLVD NW)

STA 717+92.90 TO 719+00.00

Sheet 30 of 37 Sheets



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DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

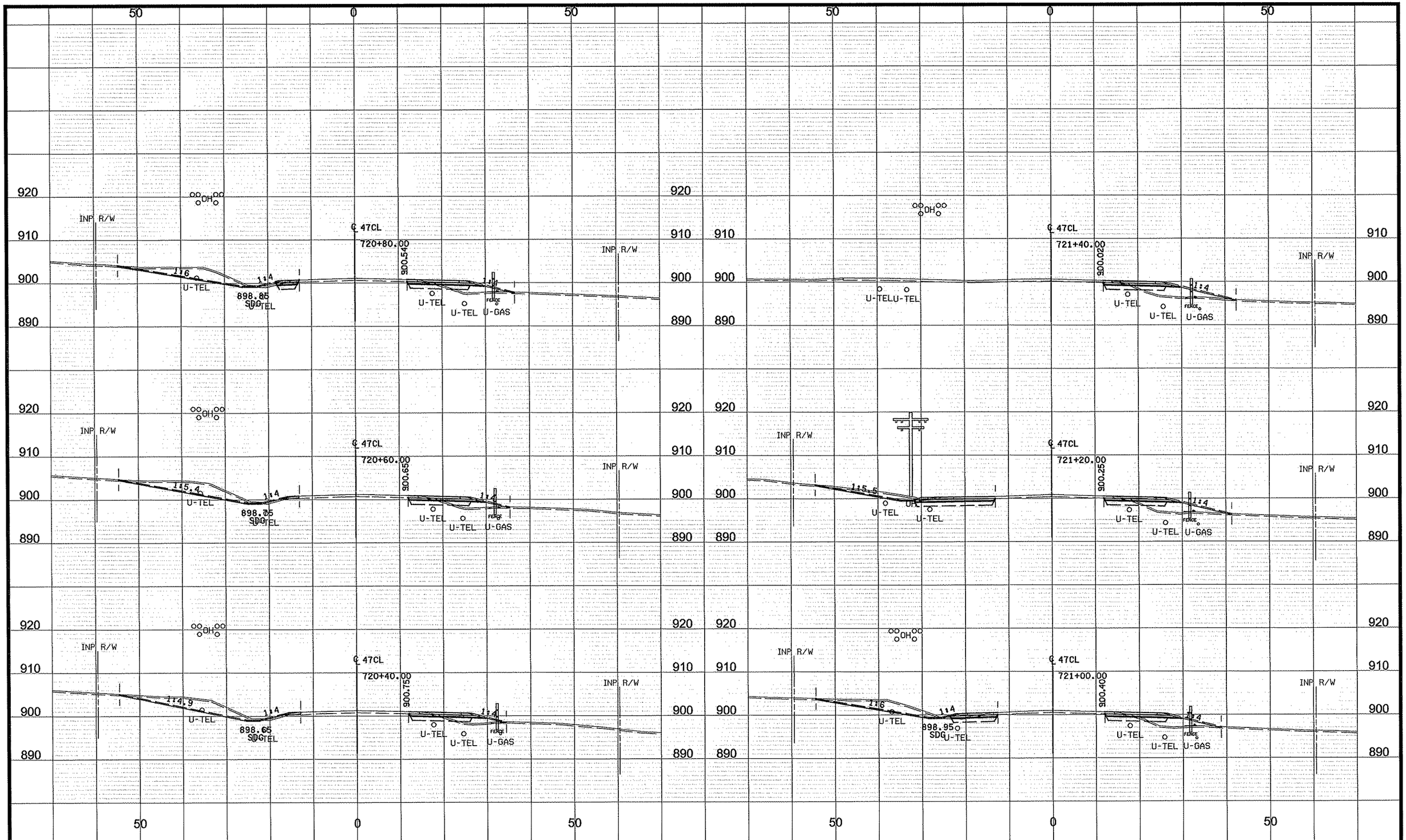
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
TH 47 (ST FRANCIS BLVD NW)
STA 719+20.00 TO 720+20.00

Sheet 31 of 37 Sheets



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DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

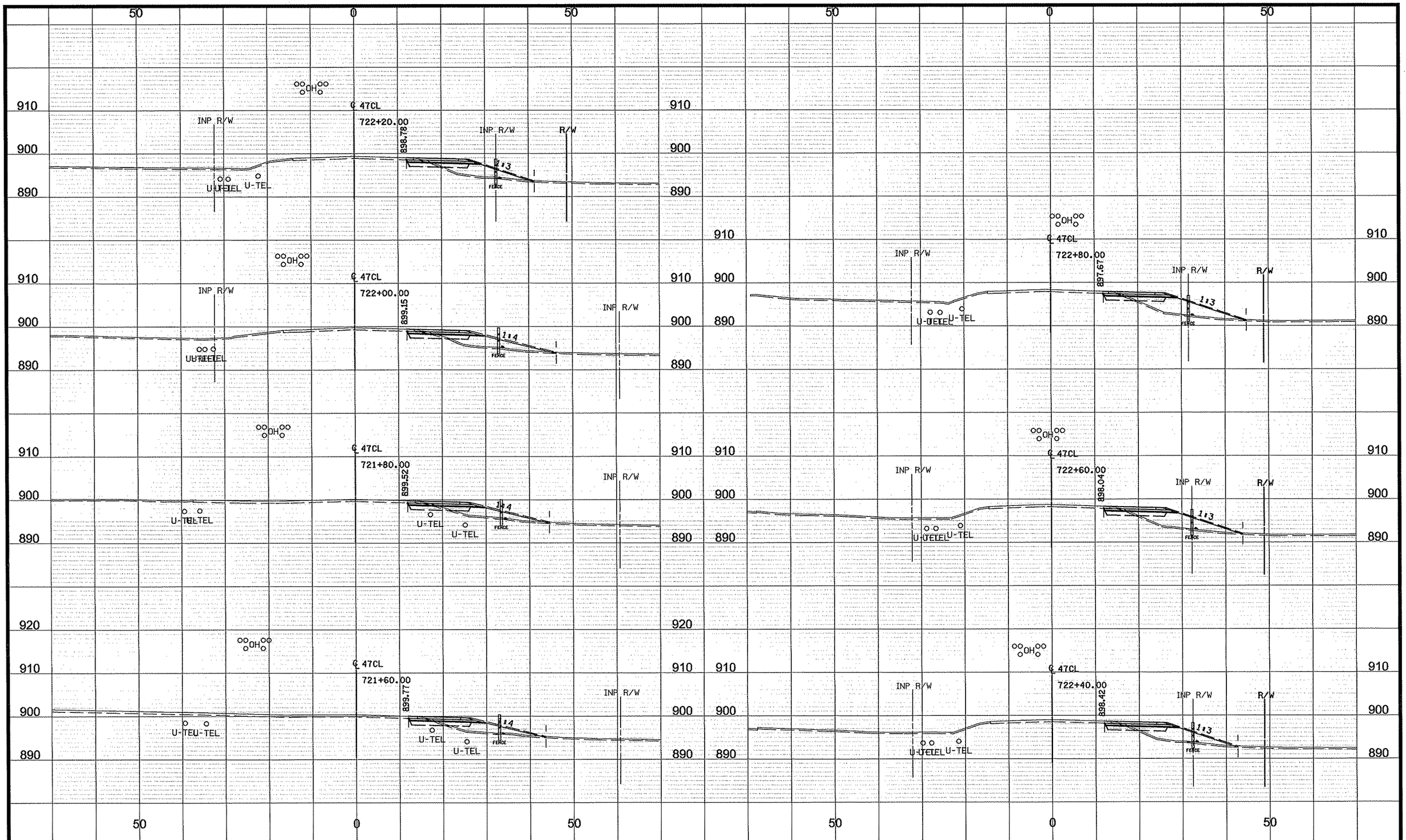
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
TH 47 (ST FRANCIS BLVD NW)
STA 720+40.00 TO 721+40.00

Sheet 32 of 37 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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DESIGN BY NJD DATE 9-4-09

CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

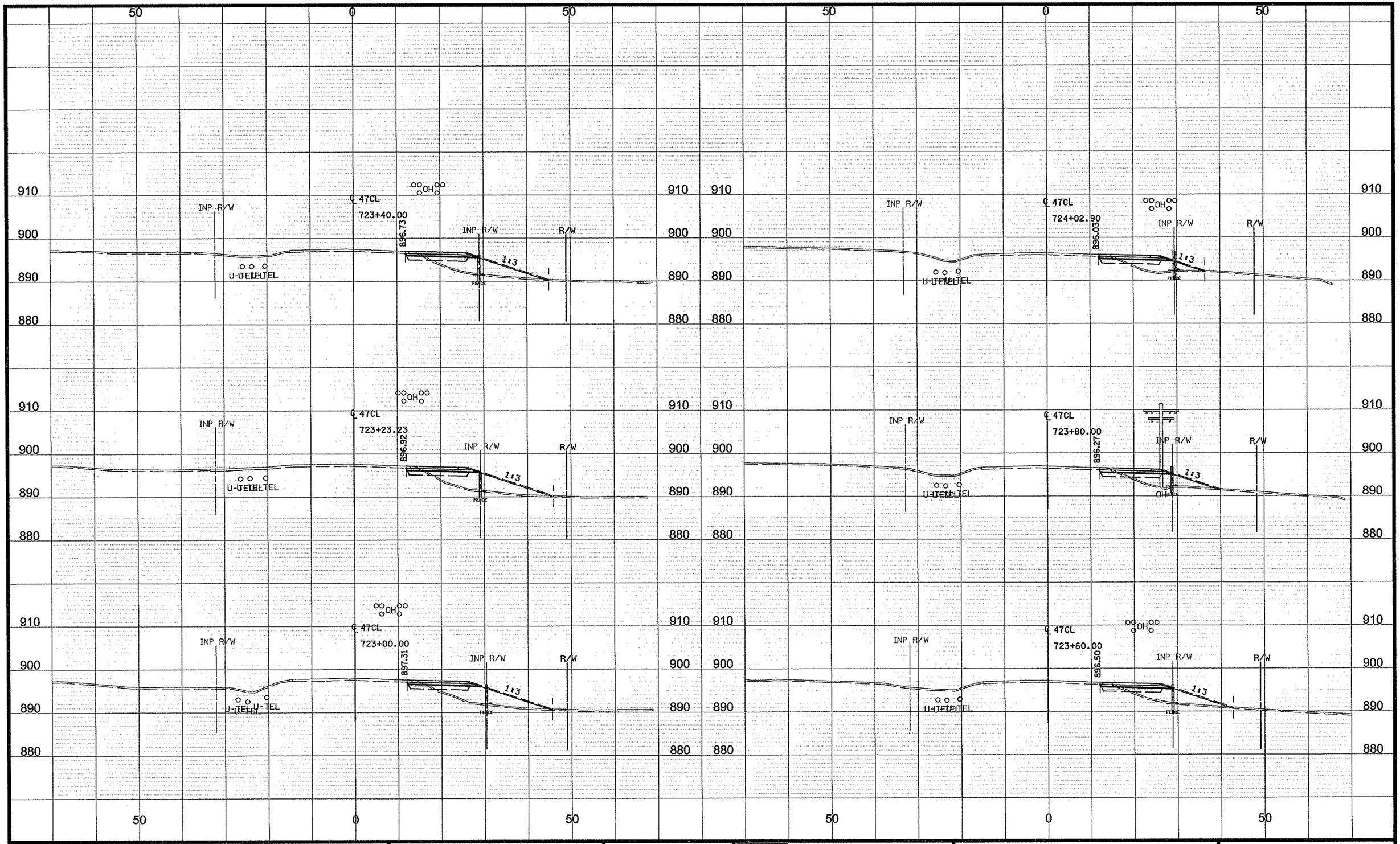
COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS

TH 47 (ST FRANCIS BLVD NW)

STA 721+60.00 TO 722+80.00

Sheet 33 of 37 Sheets



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DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

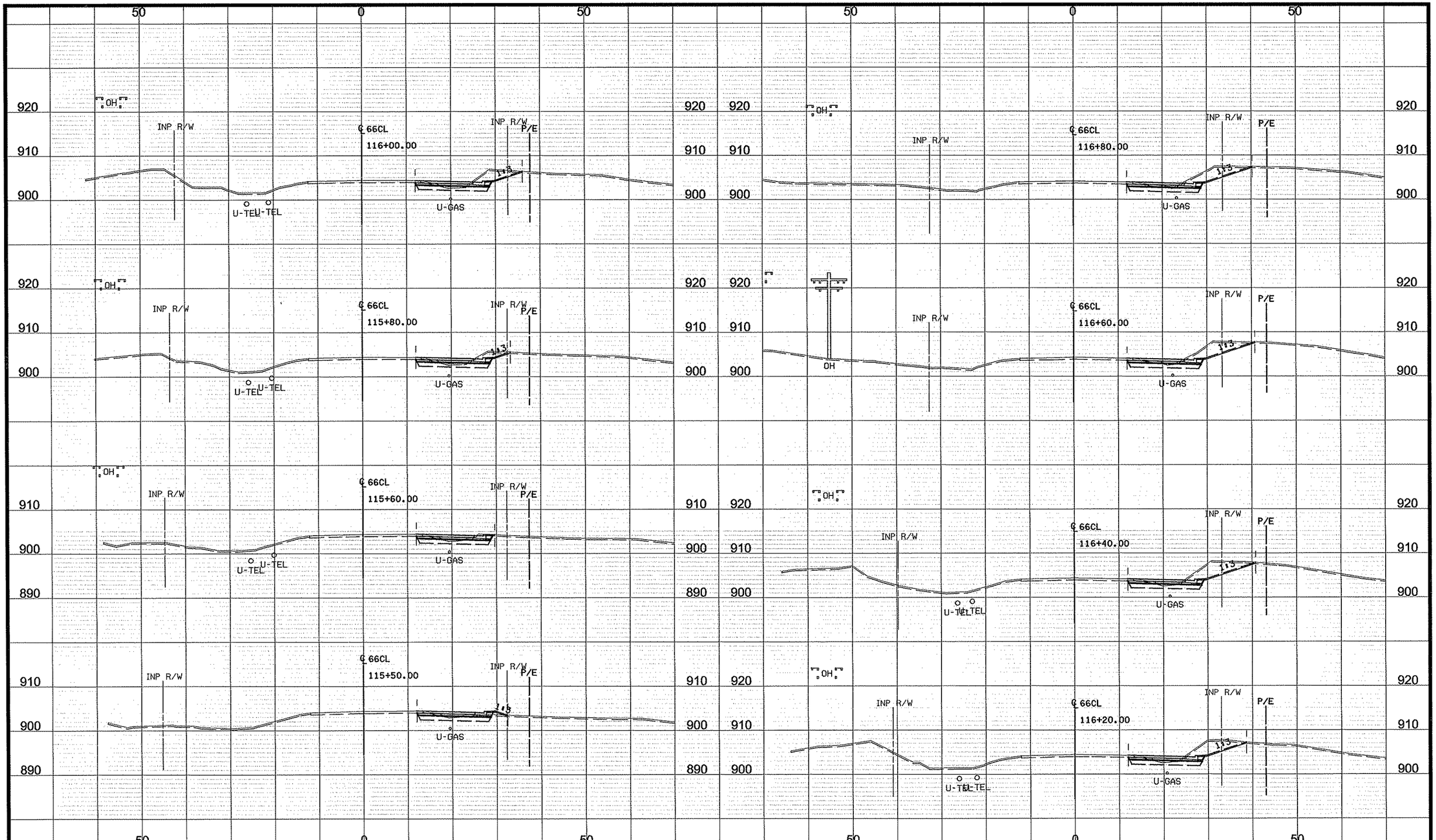
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
TH 47 (ST FRANCIS BLVD NW)
STA 723+00.00 TO 724+02.90

Sheet 34 of 37 Sheets



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DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

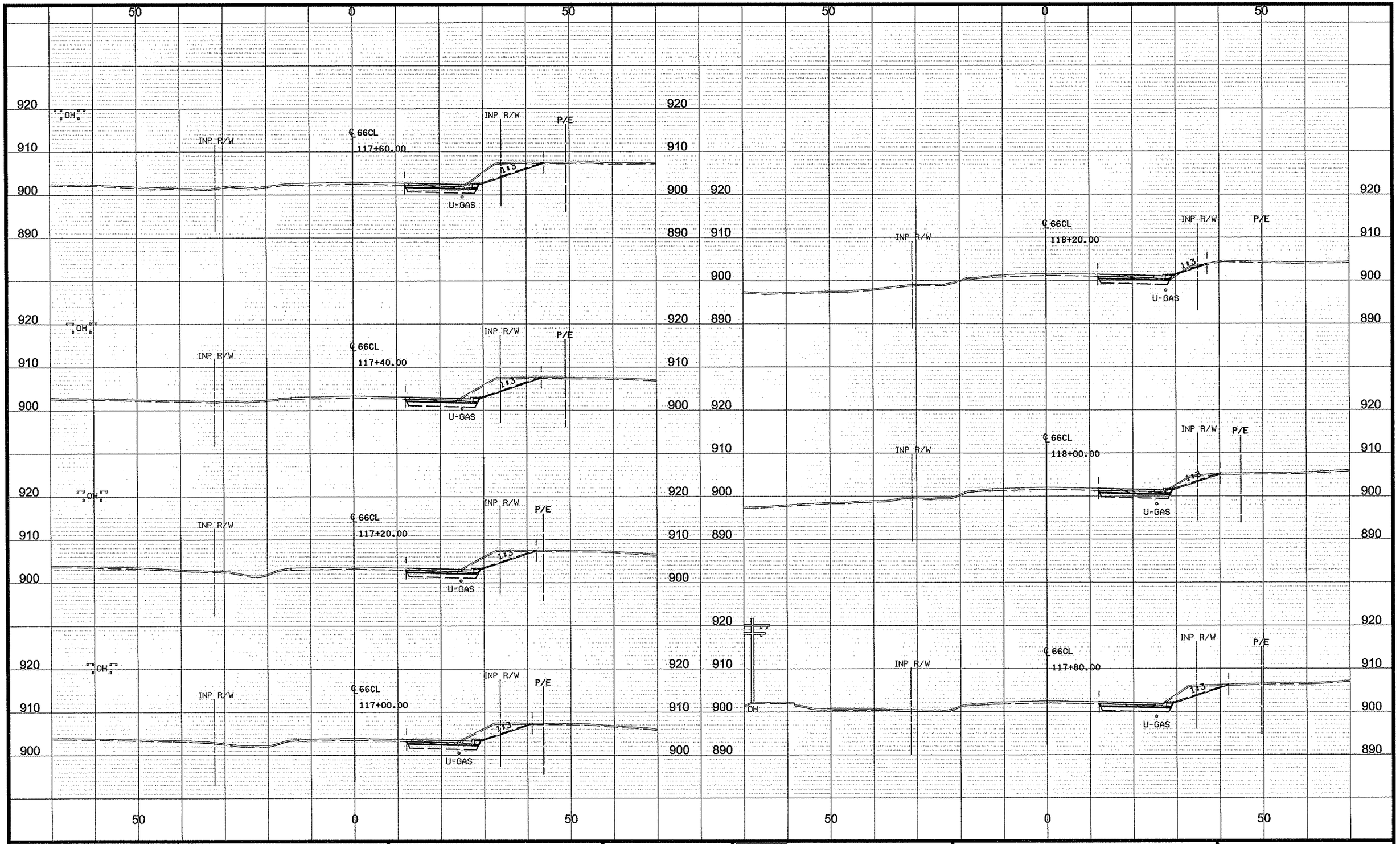
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
CR 66 (CLEARY RD NW)
STA 115+50.00 TO 116+80.00

Sheet 35 of 37 Sheets



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DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

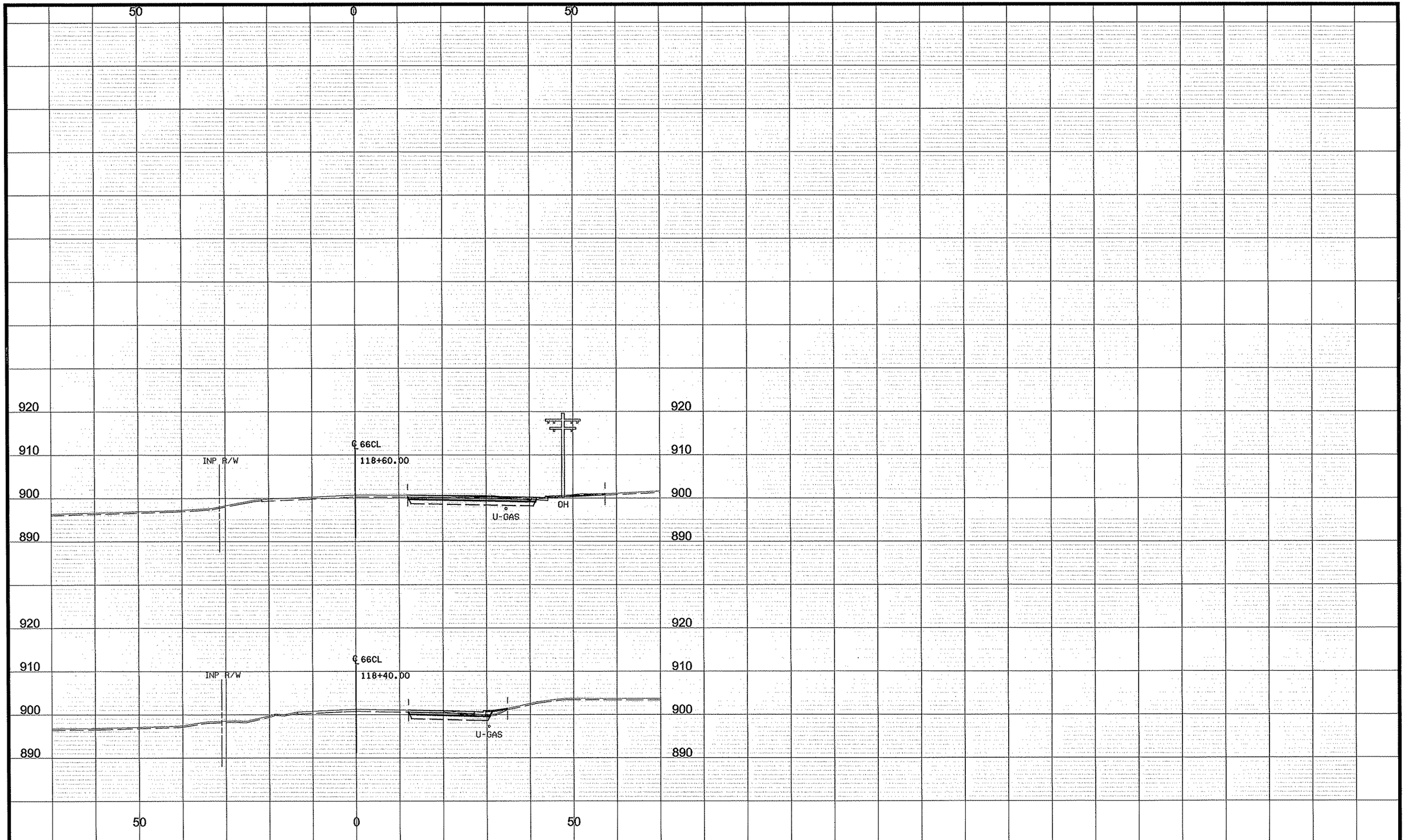
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
CR 66 (CLEARY RD NW)
STA 117+00.00 TO 118+20.00

Sheet 36 of 37 Sheets



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DRAWN BY NJD DATE 2-11-10
DESIGN BY NJD DATE 9-4-09
CHECKED BY GMP DATE 2-12-10

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 0206-63 (TH 47)

COUNTY PROJECT NO. 10-32-66

CROSS SECTIONS
CR 66 (CLEARY RD NW)
STA 118+40.00 TO 118+60.00

Sheet 37 of 37 Sheets