

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGG. BASE, BITUMINOUS SURFACING, DRAINAGE, CURB & GUTTER AND SIGNAL SYSTEM MODIFICATION.

LOCATED ON C.R. 79 BETWEEN RIVERDALE DR AND CSAH 9  
 LOCATED ON CSAH 9 BETWEEN C.R. 79/NORTHDALE BLVD AND 131ST LN NW

STATE PROJ. NO. 02-609-14, 114-020-034  
 CSAH 9

GROSS LENGTH 757.53 FEET 0.143 MILES  
 BRIDGES-LENGTH 0.00 FEET 0.000 MILES  
 EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES  
 NET LENGTH 757.53 FEET 0.143 MILES

### 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

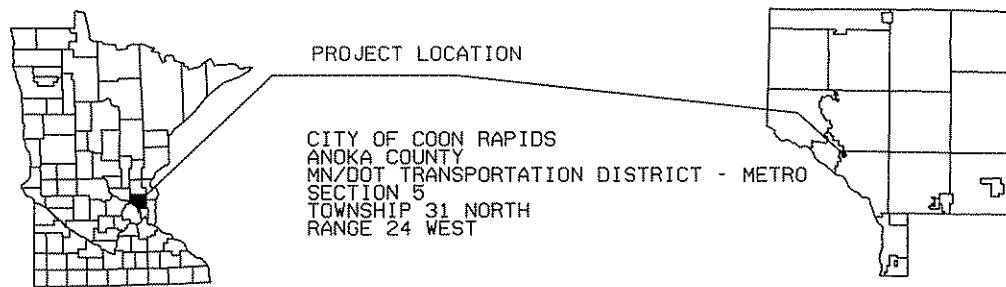
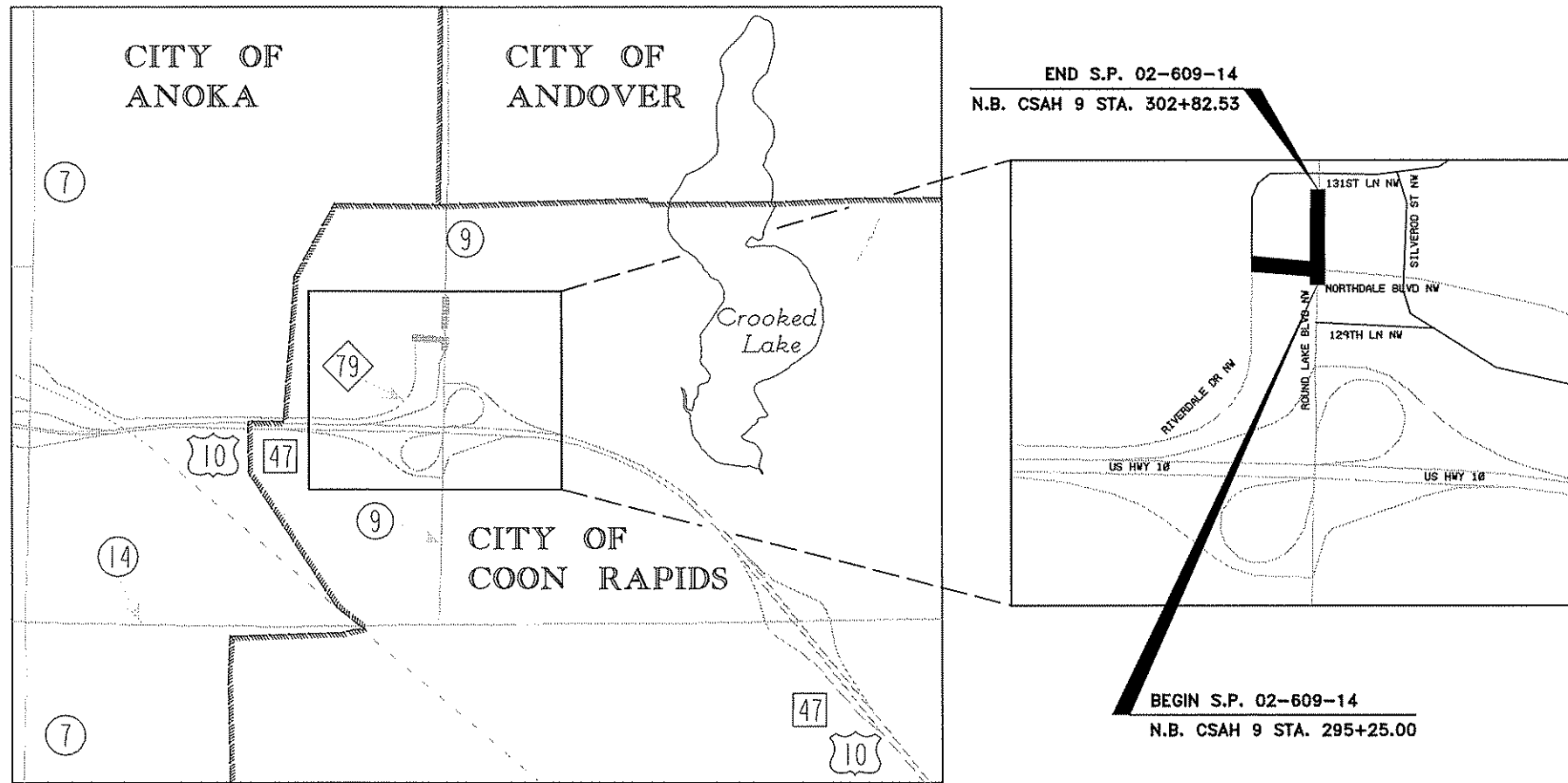
- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATTLE GUARD
- OVERPASS (HIGHWAY OVER)
- UNDERPASS (HIGHWAY UNDER)
- BRIDGE
- BUILDING (ONE STORY FRAME)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

### 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
- WATER MAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (SANITARY OR STORM)
- SEWER MANHOLE

### SCALES

- PLAN 0' 10' 50' 100'
- PROFILE HORIZONTAL 0' 10' 100'
- VERTICAL 0' 1' 5' 10'
- X-SECTIONS HORIZONTAL 0' 1' 5' 10'
- VERTICAL 0' 2' 10' 20'
- INDEX MAP 0' 0.5MI 1MI



### 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' (MNUCTD), AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.'

### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3	SOILS AND CONSTRUCTION NOTES
4	STATEMENT OF ESTIMATED QUANTITIES, STANDARD PLATES & BASIS OF QUANTITIES
5	TYPICAL SECTIONS
6-9	STAGING PLAN
10-11	UTILITIES, EXISTING CONDITIONS, & REMOVAL PLAN
12-13	CONSTRUCTION PLANS
14	DRAINAGE PROFILES
15	MISCELLANEOUS TAB SHEET
16	SIGNING & STRIPING PLAN
17-18	INTERSECTION DETAILS
19	STORM WATER POLLUTION PREVENTION PLAN
20-29	TRAFFIC SIGNAL PLANS
30-35	CROSS SECTIONS

THIS PLAN CONTAINS 35 SHEETS

### DESIGN DESIGNATION

ESAL <sub>20</sub>	1,593,000
R VALUE	67
ADT (2007)	12150
PROJ. ADT (2027)	23910
PROJ. HCADT (2027)	932
SOIL FACTOR	NA
DESIGN	10 TON DESIGN

FUNCTIONAL CLASSIFICATION A MINOR ARTERIAL  
 NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES 0  
 DESIGN SPEED N/A MPH N/A  
 BASED ON STOPPING SIGHT DISTANCE N/A  
 HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 2.0'  
 DESIGN SPEED NOT ACHIEVED AT:

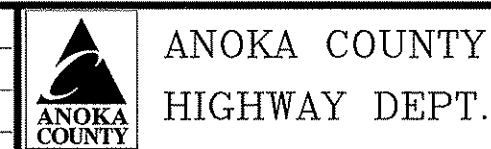
STA. _____ TO STA. _____ MPH _____
STA. _____ TO STA. _____ MPH _____
STA. _____ TO STA. _____ MPH _____

APPROVED 3/18/08 [Signature] ANOKA COUNTY ENGINEER  
 APPROVED 2-19-2008 [Signature] CITY OF COON RAPIDS  
 REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY [Signature] DISTRICT STATE AID ENGINEER  
 APPROVED FOR STATE AND FEDERAL AID FUNDING [Signature] STATE AID ENGINEER

NO	DATE	BY	CHKD	APPR	REVISION

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. Kabilansky  
 SIGNATURE: [Signature]  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: \_\_\_\_\_  
 DESIGN BY: OFF DATE: \_\_\_\_\_  
 CHECKED BY: CK DATE: \_\_\_\_\_



STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

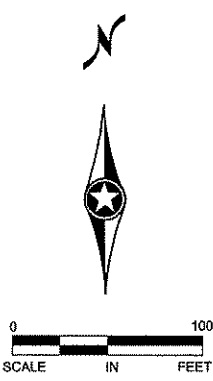
TITLE SHEET  
 Sheet 1 of 35 Sheets

END S.P. 02-609-14  
 C.S.A.H. 9  
 N.B. STA. 302+82.53

BEGIN S.P. 02-609-14  
 C.S.A.H. 9  
 N.B. STA. 295+25.00

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N	E	
<b>CR 79 EB</b>										
1002	POT	300+00.00						162,796.6581	476,031.3670	S 85° 02' 08.59" E
	PC	304+20.99						162,760.1279	476,450.7784	S 85° 02' 08.59" E
	PI	305+07.69	4° 57' 51.41"	2° 51' 53.24"	2000.00'	86.6973'	173.2861'	162,752.6255	476,537.1505	
1003	PT	312+39.62						162,752.6255	477,269.1920	
<b>CSAH 9 SB</b>										
52	POT	294+35.30						162,583.1157	476,512.2716	N 1° 31' 46.98" E
53	POT	302+82.51						163,430.0287	476,534.8863	

REVISE SIGNAL SYSTEM



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_GL1.DGN 2008-03-13 1:11:29 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 Kobilarsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: 03/18/08  
 DESIGN BY: OFF DATE: 03/18/08  
 CHECKED BY: JEO DATE: 03/18/08



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

GENERAL LAYOUT  
 Sheet 2 of 35 Sheets

SOILS AND CONSTRUCTION NOTES:

1. TOP OF THE THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.
2. BOTTOM OF SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE SELECT GRANULAR LAYER (BOTTOM OF FROST FREE ZONE).
3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL.
4. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B1.
5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2.
6. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.
7. REGULAR EMBANKMENT SHALL BE DEFINED AS ALL GRADING MATERIALS THAT ARE APPROPRIATE FOR REUSE ON THE PROJECT BUT THAT MAY NOT MEET THE REQUIREMENTS OF SUITABLE GRADING MATERIALS. REGULAR EMBANKMENT MAY CONSIST OF GRADING SOILS NOT MEETING GRANULAR SPECIFICATIONS AND THEREFORE NOT SUITABLE FOR REUSE UNDER ROAD CORE. REGULAR EMBANKMENT MAY CONSIST OF TOPSOIL AND ORGANIC SOILS, UNLESS THE ENGINEER DETERMINES THESE SOILS ARE NOT REUSABLE, IN WHICH CASE THE CONTRACTOR SHALL REMOVE THEM FROM THE PROJECT LIMITS. REGULAR EMBANKMENT SHALL NOT CONSIST OF DEBRIS.
8. UNLESS OTHERWISE REQUIRED, IN ANY NEW ROADWAY CORE EMBANKMENT CONSTRUCTION, THE UPPER 48" OF THE SUBGRADE SHALL BE CONSTRUCTED WITH GRANULAR MATERIAL OF WHICH THE UPPER 12" SHALL BE SELECT GRANULAR MATERIAL AS SPECIFIED IN THE PLANS. THE REMAINDER OF THE SUBGRADE SHALL BE CONSTRUCTED WITH SUITABLE GRADING MATERIAL. EXCEPTIONS INCLUDE FILLING IN SENSITIVE BOTTOM OR STANDING WATER CONDITIONS.
9. 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.
10. OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION, INCLUDING SELECT GRANULAR, IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS, MN/DOT SPECIFICATION 2105.3F2.
11. NOTE NOT USED
12. OBTAIN COMPACTION ON GRADING PORTIONS OF TEMPORARY CONSTRUCTION IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS. TEMPORARY GRADING AND AGGREGATE BASE PORTIONS PLACED BY THE "QUALITY COMPACTION METHOD" SHOULD BE REMOVED AFTER CONSTRUCTION IS COMPLETE.
13. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY IF DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3G. USE AN APPLICATION RATE OF APPROXIMATELY 200 POUNDS PER SQUARE YARD. STABILIZING AGGREGATE SHALL BE AT THE CONTRACTOR'S EXPENSE WHEN MATERIAL NEEDING STABILIZATION IS FURNISHED AS A BORROW ITEM
14. TEST ROLLING WILL BE REQUIRED AS DIRECTED BY ENGINEER.
15. UNLESS OTHERWISE REQUIRED, IN ALL TREATMENTS, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5.0 FEET OF THE ROADWAY.
16. UNLESS OTHERWISE REQUIRED, ADD 1:20 TAPERS TO THE FULL DEPTH STATION LIMITS OF ALL SUBGRADE EXCAVATIONS. PROVIDE 1:20 TRANSITION TAPERS BETWEEN CHANGES IN SUBGRADE EXCAVATION DEPTHS LONGITUDINALLY. THE 1:20 TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT PLASTIC SOIL BACKFILL.
17. 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.
18. 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 1:20 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

19. 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 1:4 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
20. 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.
21. THE BITUMINOUS MIXTURE SHALL MEET THE MOST CURRENT REQUIREMENTS OF MNDOT SPECIFICATION 2360. COMPACTION OF ALL BITUMINOUS MIXTURES SHALL BE BY THE "MAXIMUM DENSITY METHOD".
22. QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE AGGREGATE AND BITUMINOUS SUMMARY TABS.
23. FOR ALL ROADWAYS, UNLESS OTHERWISE REQUIRED, PROVIDE FOR AN 12' SUBCUT BELOW THE TOP OF THE GRADING GRADE TO ASSURE UNIFORMITY AND COMPACTION. THE BOTTOM OF THE SUBCUT SHALL BE SHAPED AND COMPACTED BY THE QUALITY COMPACTION METHOD WITH A MINIMUM OF 4 PASSES OF AN APPROVED ROLLER. REPLACEMENT FILL SHALL BE SELECT GRANULAR MATERIAL.
24. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
25. EXCESS UNSUITABLE SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.
26. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPECIFICATION 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SUITABLE GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
27. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATION 2105.3D.
28. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
29. AGGREGATE BASE MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MNDOT SPEC. 3138, CLASS 5.
30. THE CONTRACTOR IS REMINDED OF ITS RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA, PRIOR TO ANY DIGGING. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE CALL.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-609-14\PLAN\0260914_ND1.DGN					

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. Kobilarsik*

DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: 03/10/08

DESIGN BY: DFF DATE: 03/10/08

CHECKED BY: JEO DATE: 03/10/08



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14

STATE PROJECT NO. 114-020-034

CITY PROJECT NO.

COUNTY PROJECT NO.

SOILS AND CONSTRUCTION  
GENERAL NOTES

Sheet 3 of 35 Sheets

**STATEMENT OF ESTIMATED QUANTITIES**

TAB. NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL	ANOKA COUNTY	CITY OF COON RAPIDS	STORM SEWER
						SP 02-609-14	SP 114-020-034	SP 02- 609-14
						EST.	EST.	EST.
		2021.501	MOBILIZATION	LS	1	1		
P		2102.502	PAVEMENT MARKING REMOVAL	LIN FT	407	407		
C		2104.501	REMOVE CURB & GUTTER	LIN FT	637	637		
I		2104.503	REMOVE CONCRETE MEDIAN	SQ FT	8182	8182		
M		2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	576	576		
		2104.509	REMOVE CASTING	EACH	1	1		
L	[2]	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	44	44		
L,M		2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	783	783		
	[1]	2104.523	SALVAGE SIGN PANEL TYPE C	EACH	8	8		
		2105.501	COMMON EXCAVATION (EV) (P)	CU YD	473	473		
		2105.507	SUBGRADE EXCAVATION	CU YD	512	512		
		2105.522	SELECT GRANULAR BORROW (LV)	CU YD	128	128		
W		2211.503	AGGREGATE BASE (CV) CL 5 (P)	CU YD	213	213		
W		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	108	108		
W		2360.501	TYPE SP12.5 WEARING COARSE MIXTURE (4,E)	TONS	238	238		
W		2360.502	TYPE SP12.5 NON WEARING COARSE MIXTURE (4,B)	TONS	119	119		
S		2503.541	12" RC PIPE SEWER DES 3006 CLASS V	LIN FT	395	395		395
S		2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	3	3		3
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	7	7		7
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	9	9		9
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	5.7	5.7		5.7
S		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	6.1	6.1		6.1
S		2506.516	CASTING ASSEMBLY	EACH	11	11		11
R		2521.501	4" CONCRETE WALK	SQ FT	2884	2,884		
R		2531.602	6" CONCRETE WALK	SQ FT	105	105		
R		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	242	242		
R		2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	284	284		
		2563.601	TRAFFIC CONTROL	LS	1	1		
		2563.610	POLICE OFFICER	HOUR	40	40		
T		2564.531	SIGN PANELS TYPE C	SQ FT	63.5	63.5		
		2565.616	REVISE SIGNAL SYSTEM	SYST	1	0.5	0.5	
	[4]	2573.530	STORM DRAIN INLET PROTECTION	EACH	11	11		
		2573.550	EROSION CONTROL SUPERVISOR	LS	1	1		
V		2582.501	PAVEMENT MESSAGE (LT ARROW) PAINT	EACH	5	5		
V		2582.501	PAVEMENT MESSAGE (RT ARROW) PAINT	EACH	1	1		
V	[3]	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	712	712		
V	[3]	2582.502	4" BROKEN LINE WHITE-PAINT	LIN FT	240	240		
V		2582.502	24" STOP LINE WHITE-PAINT	LIN FT	97	97		
V		2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	505	505		
V		2582.503	CROSSWALK MARKING-PAINT	SQ FT	252	252		

NOTE: [1] SEE REMOVAL PLAN SHEET(S)  
 [2] ALL CONCRETE SAWING SHALL BE PAID FOR AS SAWING CONCRETE PAVEMENT FULL DEPTH, TO INCLUDE SAWING CONCRETE CURB & GUTTER, AND SIDEWALK  
 [3] INCLUDES PAVEMENT MARKINGS ON TRAFFIC CONTROL SHEETS  
 [4] ALL STORM DRAINS TO RECEIVE INLET PROTECTION AS REQUIRED BY SPEC. 2573.530

**STANDARD PLATES**

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4125D	CATCH BASIN FRAME CASTING
4134A	CURB BOX CASTING FOR CATCH BASIN
4143E	STOOL GRATE AND CONCRETE FRAME
4154B	CATCH BASIN GRATE CASTING
4180J	MANHOLE OR CATCH BASIN STEP
7100H	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8114A	PVC HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121E	TRANSFORMER BASE AND POLE BASE PLATE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126G	POLE FOUNDATION (PA90 AND PA100)

**BASIS FOR ESTIMATED QUANTITIES**

**BITUMINOUS MIXTURES (ROADWAY-2360): 110LB/SY/1" DEPTH**

**BITUMINOUS MATERIAL FOR TACK COAT: 0.05 GAL/SY**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_EST1.DGN 2008-03-14 7:43:07 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: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE 03/10/08  
 DESIGN BY: DFF DATE 03/10/08  
 CHECKED BY: JEO DATE 03/10/08



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO.  
 COUNTY PROJECT NO.

STATEMENT OF ESTIMATED QUANTITIES, STANDARD PLATES & BASIS OF QUANTITIES  
 Sheet 4 of 35 Sheets

**STATEMENT OF ESTIMATED QUANTITIES**

TAB. NO.	NOTE	ITEM NO.	ITEM	UNIT	TOTAL	ANOKA COUNTY	CITY OF COON RAPIDS	STORM SEWER
						SP 02-609-14	SP 114-020-034	SP 02- 609-14
						EST.	EST.	EST.
		2021.501	MOBILIZATION	LS	1	1		
P		2102.502	PAVEMENT MARKING REMOVAL	LIN FT	407	407		
C		2104.501	REMOVE CURB & GUTTER	LIN FT	637	637		
I		2104.503	REMOVE CONCRETE MEDIAN	SQ FT	8182	8182		
M		2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	576	576		
		2104.509	REMOVE CASTING	EACH	1	1		
L	[2]	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	44	44		
L,M		2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	783	783		
	[1]	2104.523	SALVAGE SIGN PANEL TYPE C	EACH	8	8		
		2105.501	COMMON EXCAVATION (EV) (P)	CU YD	473	473		
		2105.507	SUBGRADE EXCAVATION	CU YD	512	512		
		2105.522	SELECT GRANULAR BORROW (LV)	CU YD	128	128		
W		2211.503	AGGREGATE BASE (CV) CL 5 (P)	CU YD	213	213		
W		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	108	108		
W		2360.501	TYPE SP12.5 WEARING COARSE MIXTURE (4,E)	TONS	238	238		
W		2360.502	TYPE SP12.5 NON WEARING COARSE MIXTURE (4,B)	TONS	119	119		
S		2503.541	12" RC PIPE SEWER DES 3006 CLASS V	LIN FT	395			395
S		2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	3			3
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	7			7
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	9			9
S		2506.501	CONST DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	5.7			5.7
S		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	6.1			6.1
S		2506.516	CASTING ASSEMBLY	EACH	11			11
R		2521.501	4" CONCRETE WALK	SQ FT	2884	2,884		
R		2531.602	6" CONCRETE WALK	SQ FT	105	105		
R		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	242	242		
R		2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	284	284		
		2563.601	TRAFFIC CONTROL	LS	1	1		
		2563.610	POLICE OFFICER	HOUR	40	40		
T		2564.531	SIGN PANELS TYPE C	SQ FT	63.5	63.5		
		2565.616	REVISE SIGNAL SYSTEM	SYST	1	0.5	0.5	
	[4]	2573.530	STORM DRAIN INLET PROTECTION	EACH	11	11		
		2573.550	EROSION CONTROL SUPERVISOR	LS	1	1		
V		2582.501	PAVEMENT MESSAGE (LT ARROW) PAINT	EACH	5	5		
V		2582.501	PAVEMENT MESSAGE (RT ARROW) PAINT	EACH	1	1		
V	[3]	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	712	712		
V	[3]	2582.502	4" BROKEN LINE WHITE-PAINT	LIN FT	240	240		
V		2582.502	24" STOP LINE WHITE-PAINT	LIN FT	97	97		
V		2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	505	505		
V		2582.503	CROSSWALK MARKING-PAINT	SQ FT	252	252		

NOTE: [1] SEE REMOVAL PLAN SHEET(S)  
 [2] ALL CONCRETE SAWING SHALL BE PAID FOR AS SAWING CONCRETE PAVEMENT FULL DEPTH, TO INCLUDE SAWING CONCRETE CURB & GUTTER, AND SIDEWALK  
 [3] INCLUDES PAVEMENT MARKINGS ON TRAFFIC CONTROL SHEETS  
 [4] ALL STORM DRAINS TO RECEIVE INLET PROTECTION AS REQUIRED BY SPEC. 2573.530

**STANDARD PLATES**

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4125D	CATCH BASIN FRAME CASTING
4134A	CURB BOX CASTING FOR CATCH BASIN
4143E	STOOL GRATE AND CONCRETE FRAME
4154B	CATCH BASIN GRATE CASTING
4180J	MANHOLE OR CATCH BASIN STEP
7100H	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8114A	PVC HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121E	TRANSFORMER BASE AND POLE BASE PLATE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126G	POLE FOUNDATION (PA90 AND PA100)

**BASIS FOR ESTIMATED QUANTITIES**

BITUMINOUS MIXTURES (ROADWAY-2360): 110LB/SY/1" DEPTH

BITUMINOUS MATERIAL FOR TACK COAT: 0.05 GAL/SY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_EST1.DGN 2008-03-14 7:43:07 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. KOBIARCSIK  
 SIGNATURE: *Curt Koblarcsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE 03/18/08  
 DESIGN BY: DFF DATE 03/18/08  
 CHECKED BY: JED DATE 03/18/08



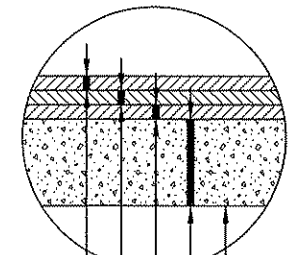
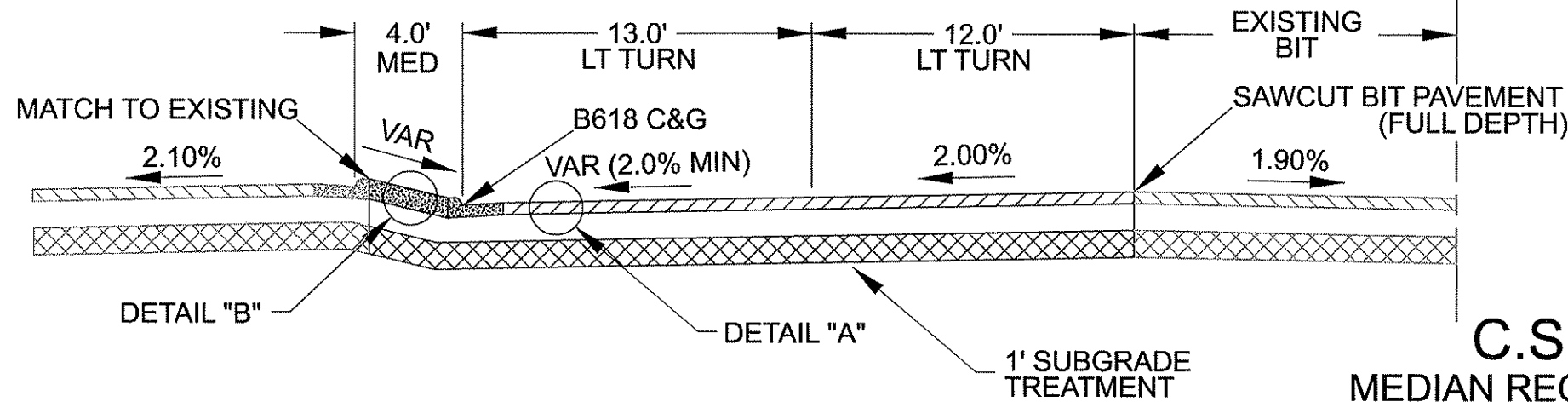
**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO.  
 COUNTY PROJECT NO.

STATEMENT OF ESTIMATED QUANTITIES, STANDARD PLATES & BASIS OF QUANTITIES

# C. R. 79

STA. 301+71.32 TO STA. 304+23.27



2" TYPE SP 12.5 WEARING COURSE  
MIXTURE SPWEB440E MNDOT SPEC. 2360

2" TYPE SP 12.5 WEARING COURSE  
MIXTURE SPWEB440E MNDOT SPEC. 2360

2" TYPE SP 12.5 NON-WEARING COURSE  
MIXTURE SPWEB430B MNDOT SPEC. 2360

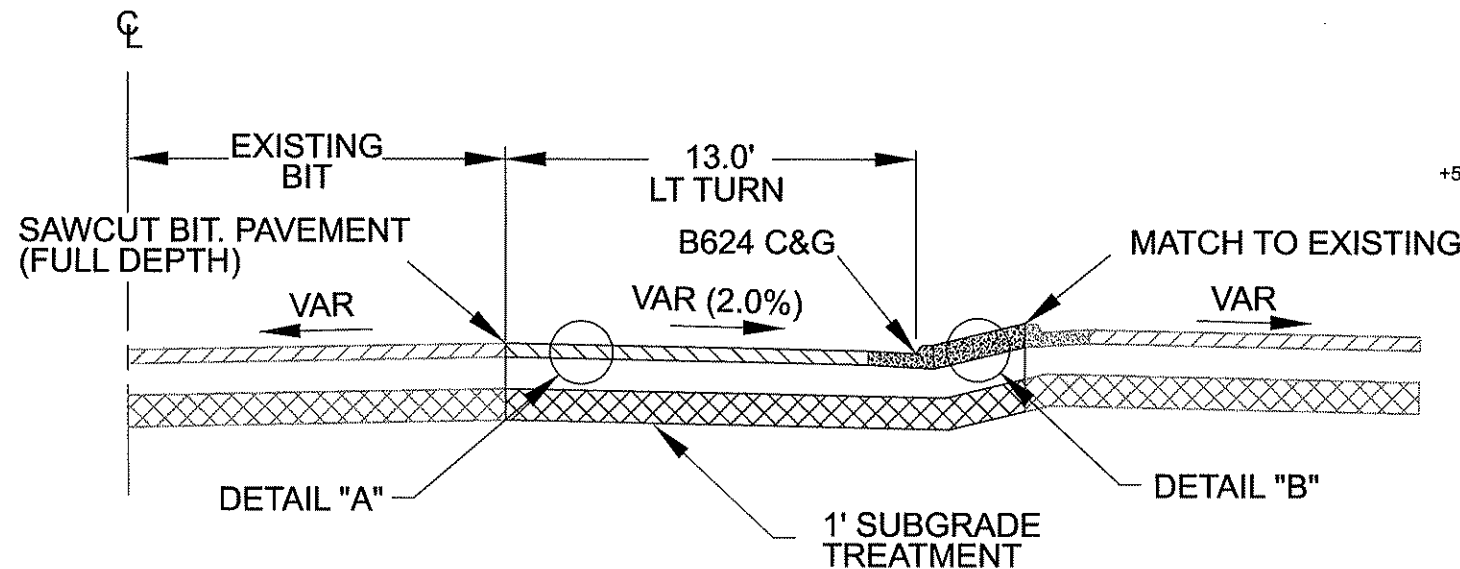
6" AGGREGATE BASE, CLASS 5  
MNDOT SPEC. 2211, 100% CRUSHED

GRADING GRADE

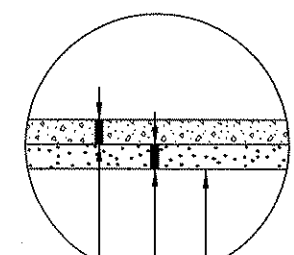
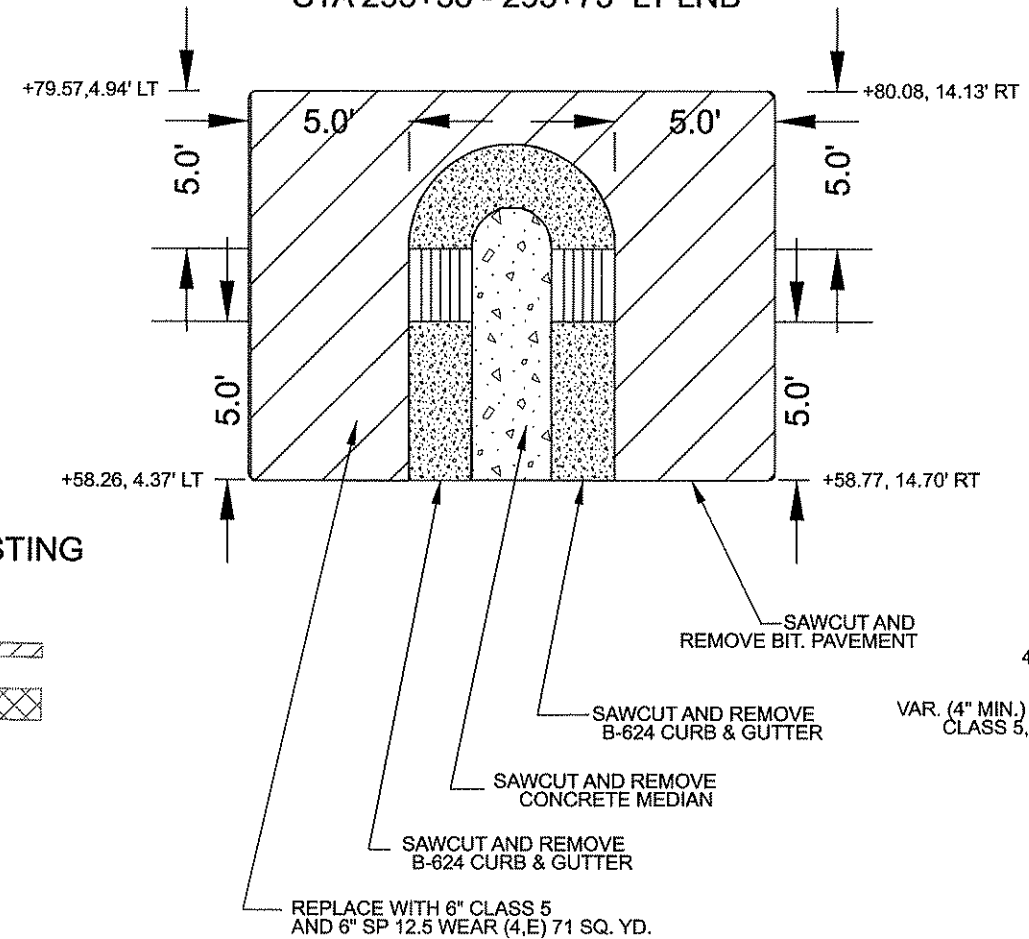
**DETAIL "A"**  
C.R. 79/C.S.A.H. 9

# C.S.A.H. 9

STA. 300+00 TO STA. 302+82.53



# C.S.A.H. 9 MEDIAN RECONSTRUCTION STA 295+58 - 295+75 LT LNB



4" CONCRETE WALK  
(SPEC. 2521)

VAR. (4" MIN.) AGGREGATE BASE,  
CLASS 5, MNDOT SPEC. 2211

GRADING GRADE

**DETAIL "B"**  
CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION

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. KOBILARSKI

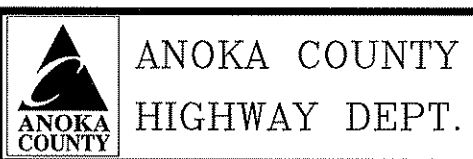
SIGNATURE: *Curt Kobilarcik*

DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: 03/18/08

DESIGN BY: OFF DATE: 03/18/08

CHECKED BY: JED DATE: 03/18/08



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STATE PROJECT NO. 114-020-034

CITY PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. \_\_\_\_\_




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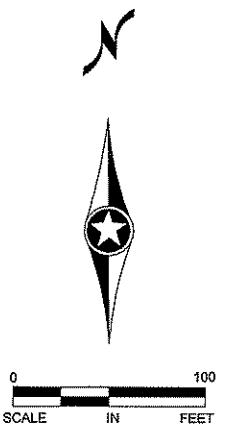
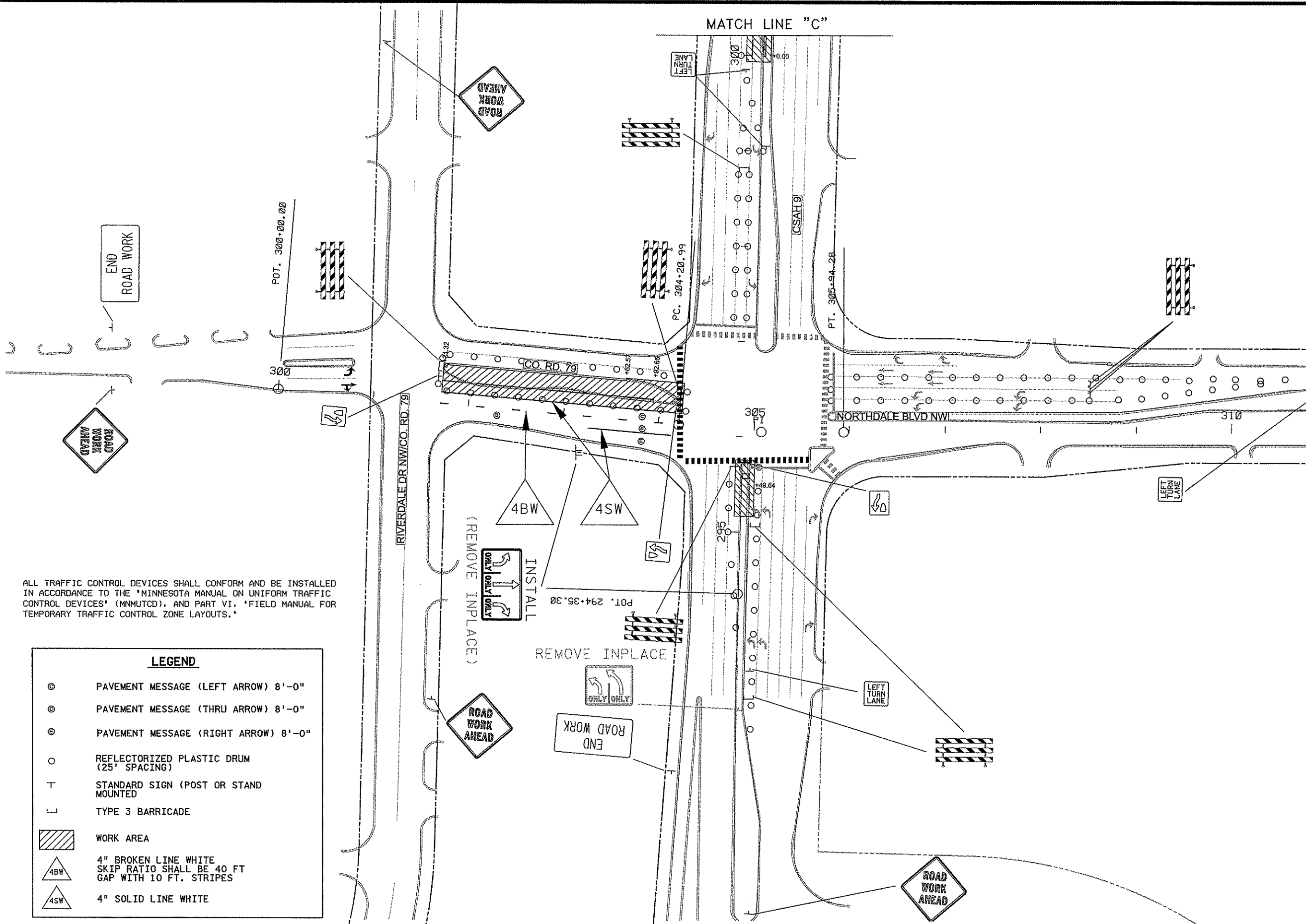
Sheet 5 of 35 Sheets

MATCH LINE "C"

MATCH LINE "A"

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

LEGEND	
⊙	PAVEMENT MESSAGE (LEFT ARROW) 8'-0"
⊙	PAVEMENT MESSAGE (THRU ARROW) 8'-0"
⊙	PAVEMENT MESSAGE (RIGHT ARROW) 8'-0"
○	REFLECTORIZED PLASTIC DRUM (25' SPACING)
T	STANDARD SIGN (POST OR STAND MOUNTED)
L	TYPE 3 BARRICADE
	WORK AREA
	4" BROKEN LINE WHITE SKIP RATIO SHALL BE 40 FT GAP WITH 10 FT. STRIPES
	4" SOLID LINE WHITE



1 OF 4


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914-STG1.DGN 2008-03-13 1:12:28 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 Kobilarsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

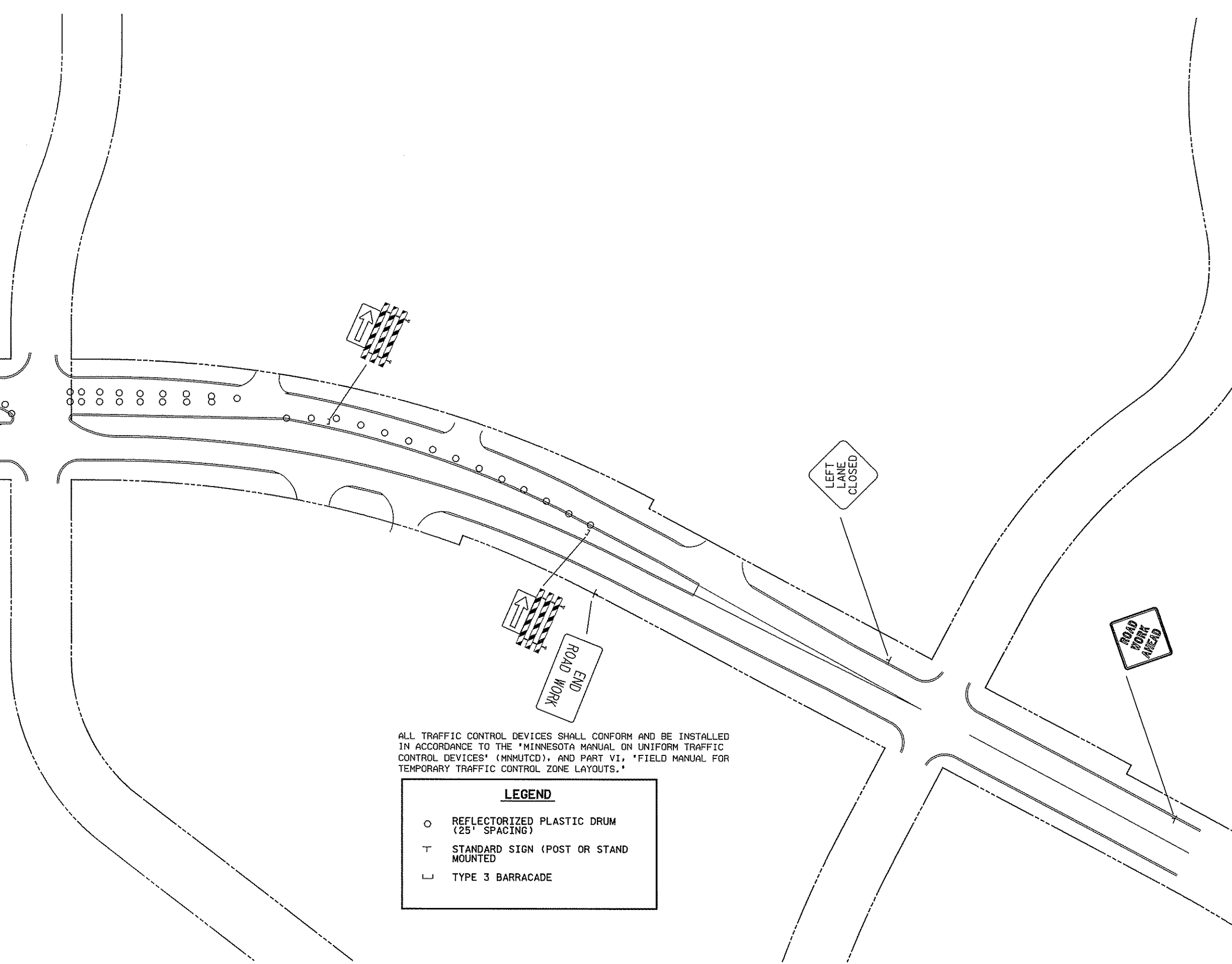
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 ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

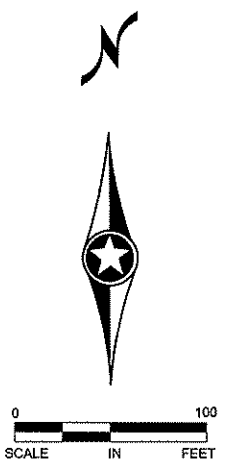
STAGING AND TRAFFIC CONTROL PLAN  
 Sheet 6 of 35 Sheets

MATCH LINE "A"



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

LEGEND	
○	REFLECTORIZED PLASTIC DRUM (25' SPACING)
T	STANDARD SIGN (POST OR STAND MOUNTED)
⌊	TYPE 3 BARRICADE



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_ST02.DGN 2008-03-13 1:12:41 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 Kobilarsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: 03/18/08  
 DESIGN BY: DEF DATE: 03/18/08  
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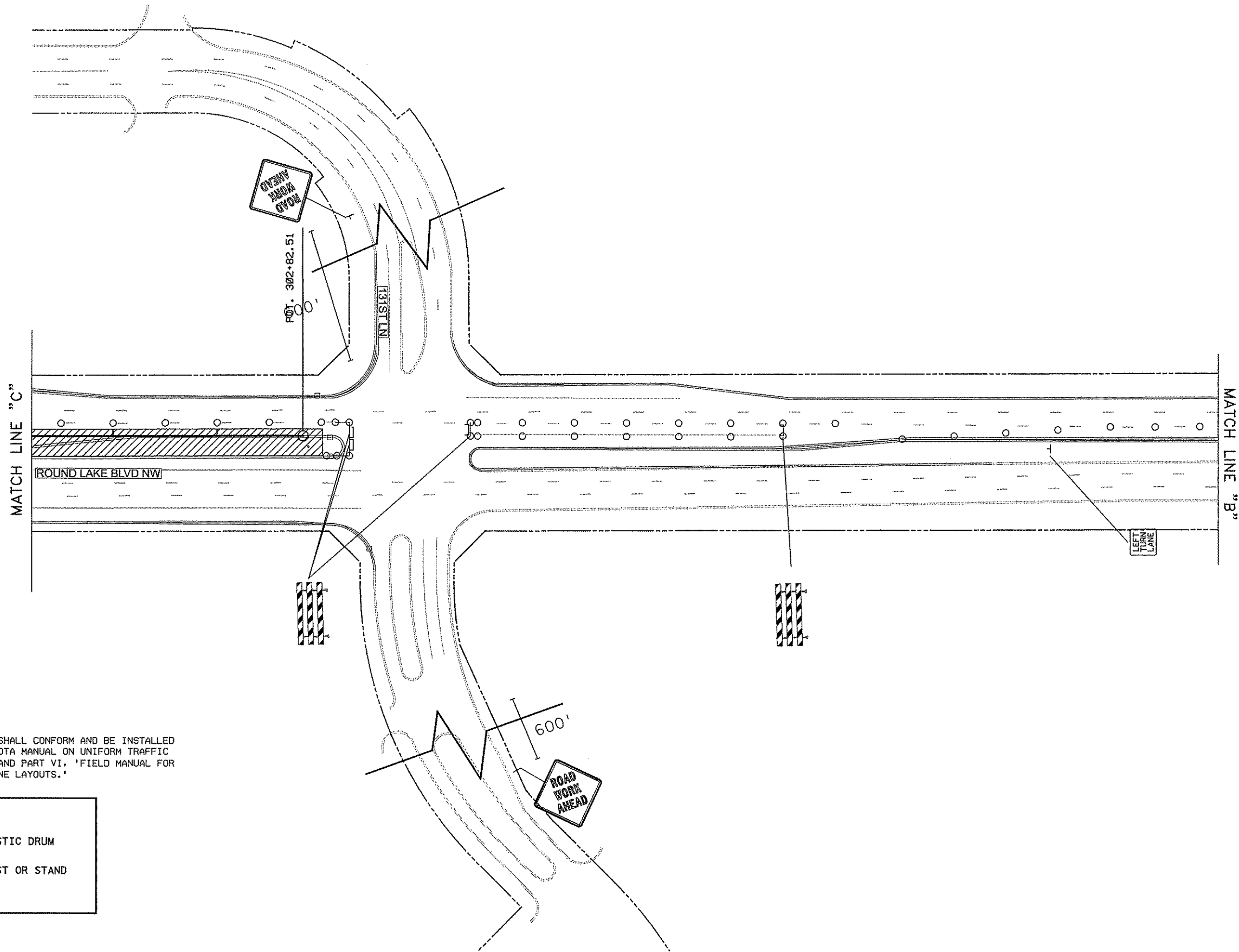


ANOKA COUNTY  
HIGHWAY DEPT.

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 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

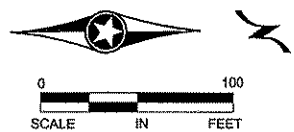
STAGING AND TRAFFIC CONTROL PLAN  
 Sheet 7 of 35 Sheets





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

LEGEND	
○	REFLECTORIZED PLASTIC DRUM (25' SPACING)
□	STANDARD SIGN (POST OR STAND MOUNTED)
▨	TYPE 3 BARRICADE



3 OF 4

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0268914\_STG3.DGN 2008-03-13 1:12:57 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 Kobilarsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE: 03/10/08  
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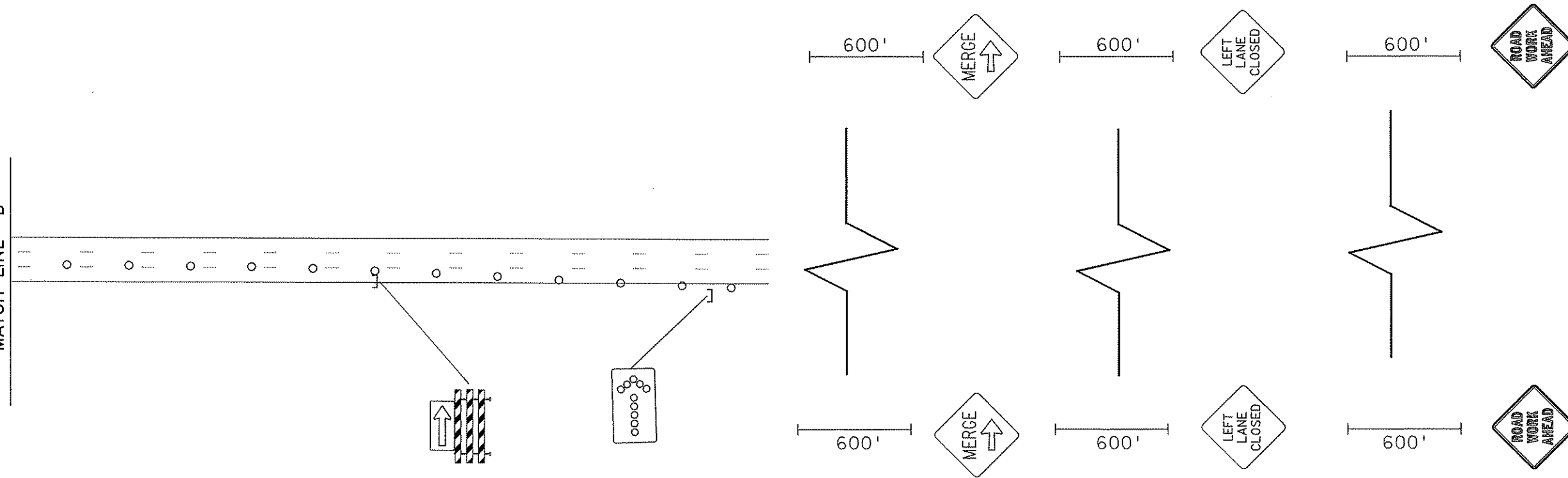


ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

STAGING AND  
 TRAFFIC CONTROL PLAN  
 Sheet 8 of 35 Sheets

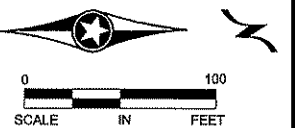
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ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MNMUTCD), AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.'

**LEGEND**

- REFLECTORIZED PLASTIC DRUM (25' SPACING)
- ⊥ STANDARD SIGN (POST OR STAND MOUNTED)
- ⊥ TYPE 3 BARRICADE



NO	DATE	BY	CKD	APPR	REVISION

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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. Kobilarsik*  
 DATE: 3-18-2008 LICENSE NO. 24796

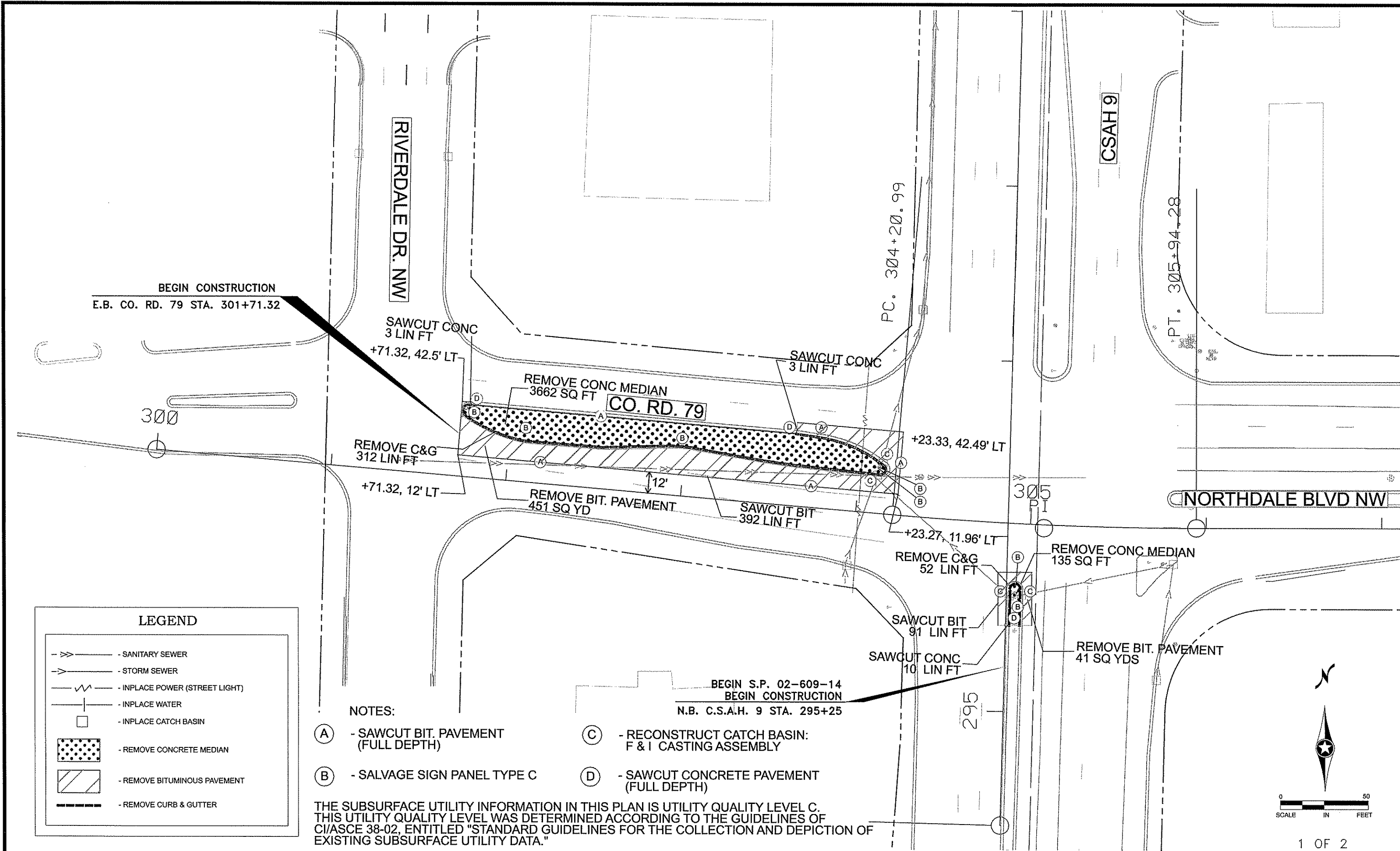
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ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

STAGING AND  
 TRAFFIC CONTROL PLAN  
 Sheet 9 of 35 Sheets



BEGIN CONSTRUCTION  
E.B. CO. RD. 79 STA. 301+71.32

**LEGEND**

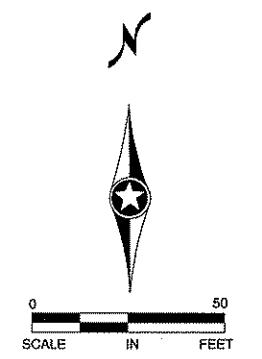
- >->- SANITARY SEWER
- >- STORM SEWER
- w- INPLACE POWER (STREET LIGHT)
- | INPLACE WATER
- INPLACE CATCH BASIN
- REMOVE CONCRETE MEDIAN
- // REMOVE BITUMINOUS PAVEMENT
- |-|- REMOVE CURB & GUTTER

**NOTES:**

- (A) - SAWCUT BIT. PAVEMENT (FULL DEPTH)
- (B) - SALVAGE SIGN PANEL TYPE C
- (C) - RECONSTRUCT CATCH BASIN: F & I CASTING ASSEMBLY
- (D) - SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL C. 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."

BEGIN S.P. 02-609-14  
BEGIN CONSTRUCTION  
N.B. C.S.A.H. 9 STA. 295+25



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_RE1.DGN 2008-03-13 1:13:33 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 Kobilarsik*  
DATE: 3-18-2008 LICENSE NO. 24756

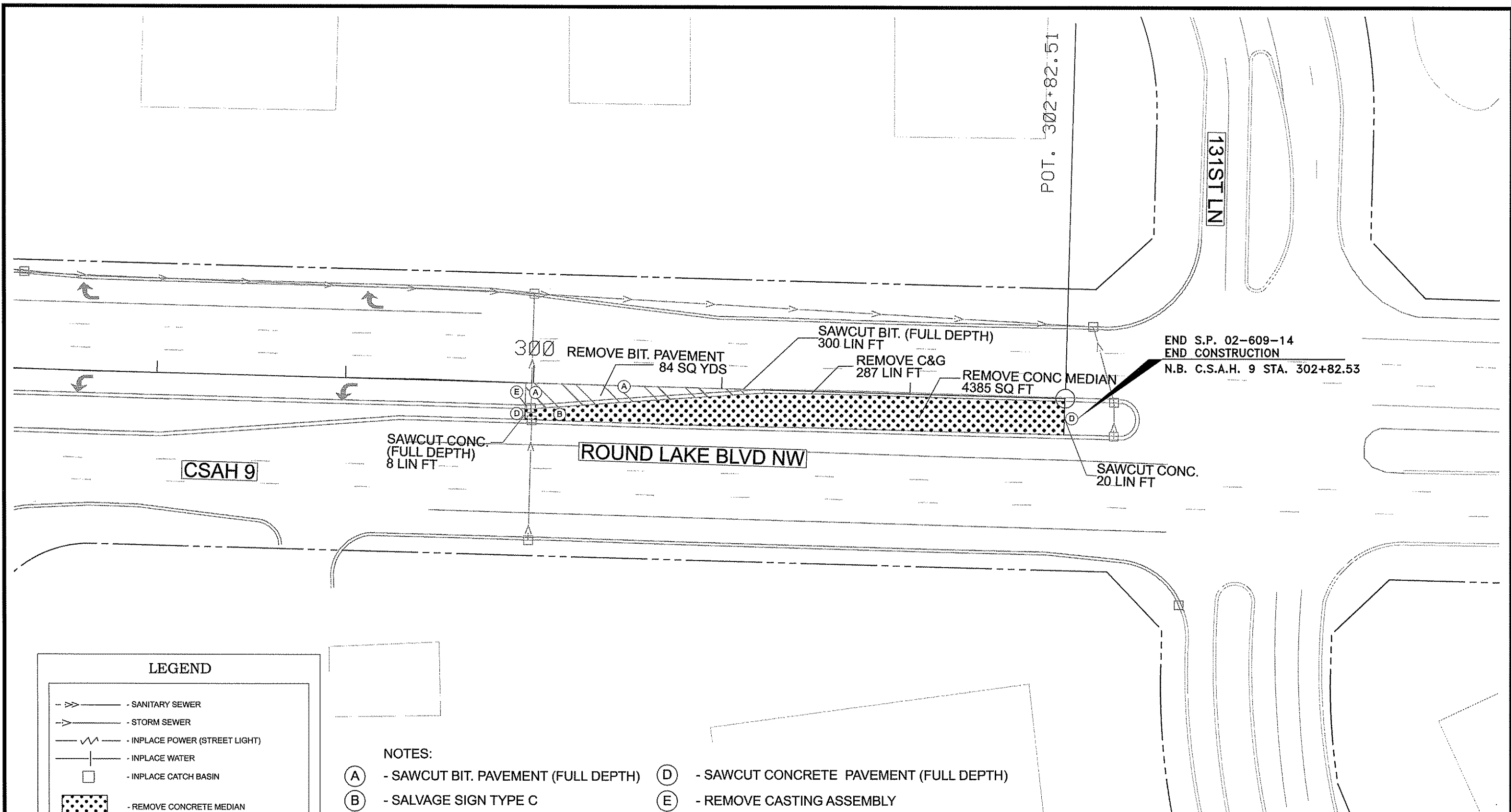
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CHECKED BY: [ ] JEO DATE: 03/18/08

**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. 02-609-14  
STATE PROJECT NO. 114-020-034  
CITY PROJECT NO. [ ]  
COUNTY PROJECT NO. [ ]

UTILITIES  
EXISTING CONDITIONS  
& REMOVAL PLAN

Sheet 10 of 35 Sheets

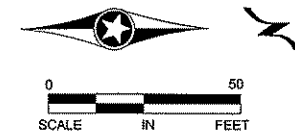


**LEGEND**

- SANITARY SEWER
- STORM SEWER
- INPLACE POWER (STREET LIGHT)
- INPLACE WATER
- INPLACE CATCH BASIN
- REMOVE CONCRETE MEDIAN
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CURB & GUTTER

**NOTES:**

- (A) - SAWCUT BIT. PAVEMENT (FULL DEPTH)
- (B) - SALVAGE SIGN TYPE C
- (D) - SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- (E) - REMOVE CASTING ASSEMBLY



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_RE3.DGN 2008-03-13 1:13:49 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: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE 03/10/08

DESIGN BY: OFF DATE 03/10/08

CHECKED BY: JEO DATE 03/10/08

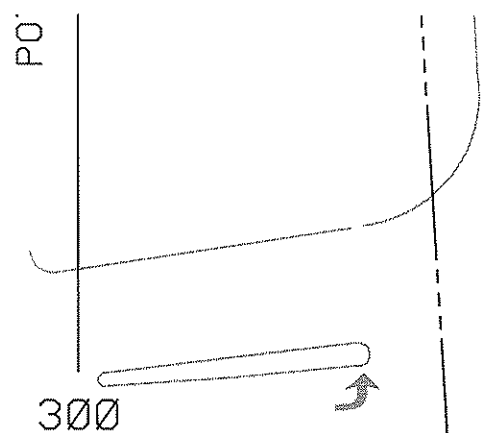


ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
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CITY PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

UTILITIES  
EXISTING CONDITIONS  
& REMOVAL PLAN

Sheet 11 of 35 Sheets



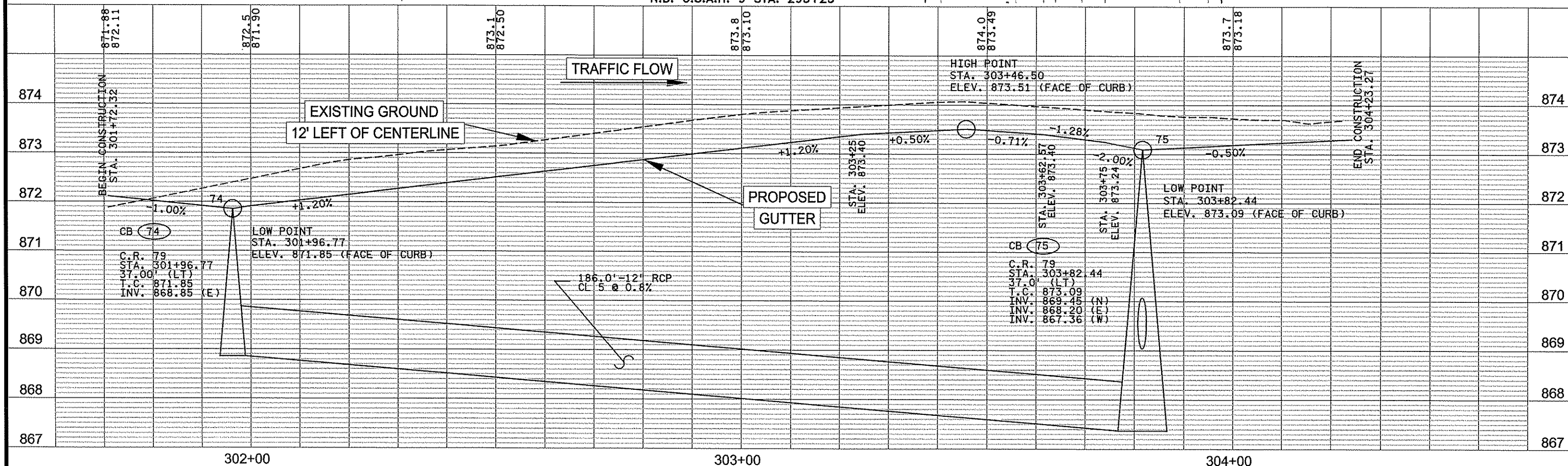
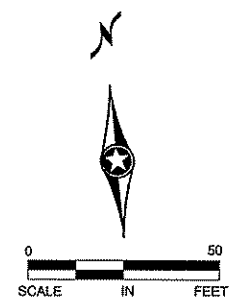
NEW BIT. PAVEMENT

NOTES:

- (A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113A (PAID FOR AS 6" CONCRETE)
  - (B) 4" CONCRETE WALK
  - (C) F & I CATCH BASIN
- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE
- STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.
- SEE DRAINAGE PROFILE SHEET AND DRAINAGE TABULATIONS FOR ADDITIONAL DRAINAGE INFORMATION

**DRAINAGE NARRATIVE**  
 STRUCTURES 74 & 75 FLOW TO STRUCTURE 76,  
 STRUCTURE 75 FLOWS TO STRUCTURE EX1

BEGIN S.P. 02-609-14  
 BEGIN CONSTRUCTION  
 N.B. C.S.A.H. 9 STA. 295+25



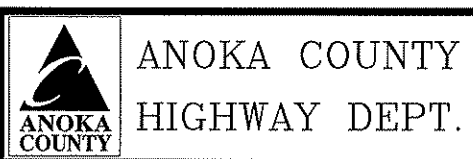
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt Kobilarsik*  
 DATE: 3-18-2008      LICENSE NO. 24756

DRAWN BY: HD      DATE: 03/10/08  
 DESIGN BY: DFF      DATE: 03/10/08  
 CHECKED BY: JED      DATE: 03/10/08



STATE PROJECT NO. 02-609-14  
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 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

CONSTRUCTION PLAN  
 C.R. 79  
 Sheet 12 of 35 Sheets

P.C. 304+20.99

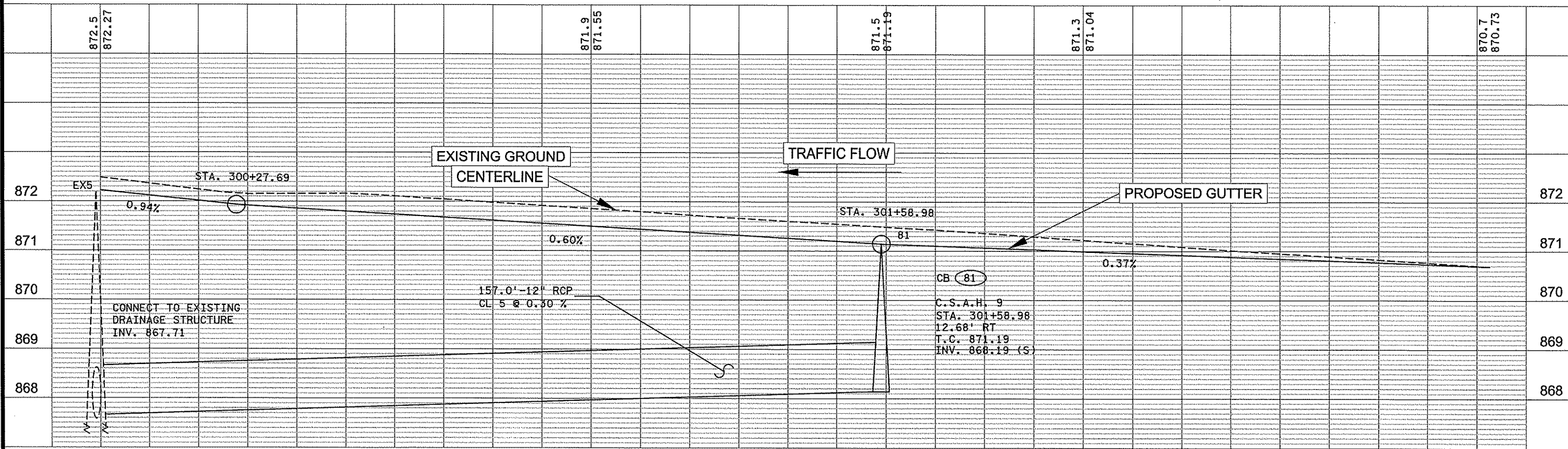
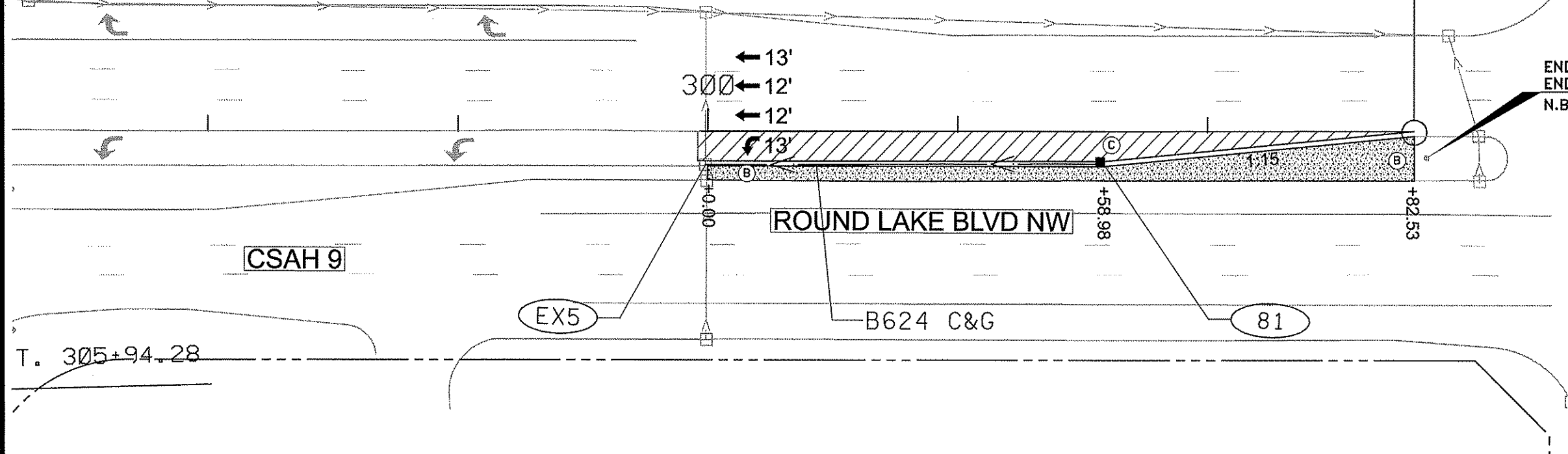
NOTES:

- (A) CONSTRUCT CONCRETE APPROACH NOSE PER MN/DOT STD. PLT. 7113
- (B) 4" CONCRETE WALK
- (C) F & I DRAINAGE STRUCTURE

END S.P. 02-609-14  
 END CONSTRUCTION  
 N.B. C.S.A.H. 9 STA. 302+82.53

- STREET DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE
- STRUCTURE LOCATION AND ELEVATION IS TO CENTER OF CASTING.
- SEE DRAINAGE PROFILES AND DRAINAGE TABULATIONS FOR ADDITIONAL DRAINAGE INFORMATION

 NEW BIT. PAVEMENT



300+00

301+00

302+00

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_PP3.DGN 2008-03-13 1:14:15 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. KOBILARCISIK  
 SIGNATURE: *Curt A. Kobilarcsik*  
 DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: JND DATE: 03/18/08  
 DESIGN BY: DJF DATE: 03/18/08  
 CHECKED BY: JEO DATE: 03/18/08



ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

CONSTRUCTION PLAN  
 C.S.A.H. 9

CB (76)

CB (75)

C.R. 79  
STA. 303+82.44  
41.0' (LT)  
T.C. 873.95  
INV. 869.50 (S)

CB (75)

CB (79)

CB (78)

C.S.A.H. 9  
STA. 295+55.26  
1.38' (RT)  
T.C. 874.59  
INV. 871.59 (W)

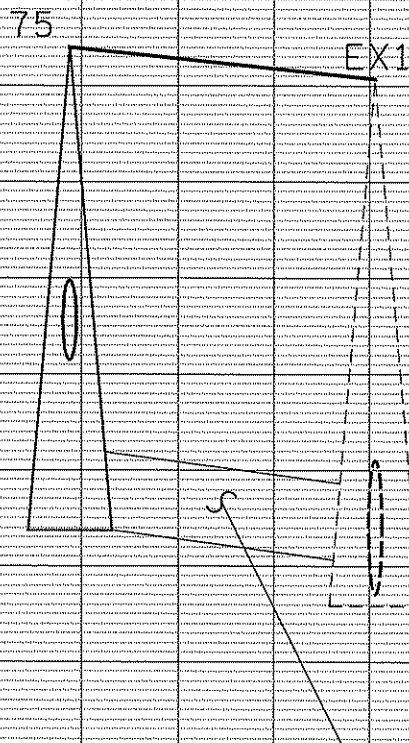
C.S.A.H. 9  
STA. 295+55.50  
8.78' (RT)  
T.C. 875.03  
INV. 871.57 (E)  
INV. 871.57 (N)

875

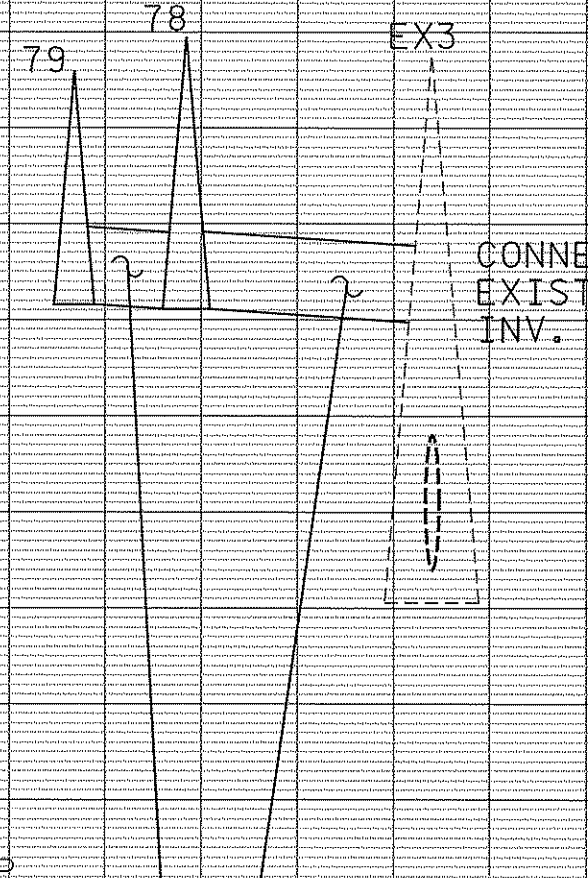
875



CONNECT TO  
NEW MANHOLE  
INV. 869.45



CONNECT TO  
EXISTING MANHOLE  
INV. 867.14



CONNECT TO  
EXISTING MANHOLE  
INV. 871.54

870

870

865

865

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_CP1.DGN  
2008-03-13 1:14:34 PM

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SIGNATURE: *Curt Kobilarsik*  
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DRAWN BY: ND DATE 03/18/08  
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CHECKED BY: JEO DATE 03/18/08



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
STATE PROJECT NO. 114-020-034  
CITY PROJECT NO.  
COUNTY PROJECT NO.

DRAINAGE PROFILES  
Sheet 14 of 35 Sheets

REMOVE CURB AND GUTTER						C
STATION TO STATION		LOCATION		DESCRIPTION		CONCRETE LIN FT
301+71.4	304+60.2	23.3 LT	43 LT	LEB	NORTHDAL BLVD	312
295+58.4	294+73.2	0 RT	9.7 RT	LSB	ROUND LAKE BLVD	36
299+96.0	302+82.5	0 RT	12.3 RT	LSB	ROUND LAKE BLVD	287
TOTALS						637

PAVEMENT MARKING REMOVAL						P
STATION TO STATION		LOCATION		DESCRIPTION		PAVEMENT MARKING REMOVAL LIN FT
302+61.0	303+46.1	6.3 RT	12 RT	LEB	RIVERDALE BLVD	85
303+27.6	304+16.1	12 LT	9.3 LT	LEB	RIVERDALE BLVD	89
301+72.4	304+16.6	9.9 LT	3.3 RT	LEB	RIVERDALE BLVD	110
300+00.0	301+22.5	12 RT	0 RT	LSB	ROUND LAKE BLVD	123
TOTAL						407

REMOVE CONCRETE MEDIAN						I	
STATION TO STATION		LOCATION		DESCRIPTION		REMOVE CONCRETE MEDIAN SQ FT	SAWING CONCRETE PAVEMENT (FULL DEPTH) LIN FT
301+71.4	304+60.2	23.3 LT	43 LT	LEB	RIVERDALE BLVD	3662	6
295+58.4	294+73.2	0 RT	9.7 RT	LSB	ROUND LAKE BLVD	135	10
299+96.0	302+82.5	0 RT	19.3 RT	LSB	ROUND LAKE BLVD	4385	
299+96.0		14 RT	19 RT	LSB	ROUND LAKE BLVD		8
302+82.5		1 RT	19 RT	LSB	ROUND LAKE BLVD		20
TOTAL						8182	44

REMOVE BITUMINOUS PAVEMENT						M	
STATION TO STATION		LOCATION		DESCRIPTION		REMOVE BITUMINOUS PAVEMENT SQ YD	SAWING BITUMINOUS PAVEMENT (FULL DEPTH) LIN FT
301+71.4	304+23.3	12 LT	42.5 LT	LEB	RIVERDALE DR.	451	392
295+58.4	295+74.7	5 LT	9.7 RT	LSB	ROUND LAKE BLVD	41	91
299+96.0	301+22.5	0 RT	12.3 RT	LSB	ROUND LAKE BLVD	84	300
TOTALS						576	783

CONCRETE CURB AND GUTTER, CONCRETE MEDIAN						R			
STATION TO STATION		LOCATION		DESCRIPTION		CONCRETE CURB & GUTTER DESIGN B-624 LIN FT	CONCRETE CURB & GUTTER DESIGN B-618 LIN FT	4" CONCRETE WALK (MEDIAN) SQ FT	CONCRETE ENTRANCE NOSE DES 7113 SQ FT
301+76.3	303+87.7	37 LT	LEB	CURB RIVERDALE DR.			212		
301+62.6	301+92.7	13 LT	LEB	CURB RIVERDALE DR.			30		
300+00.0	302+82.5	0 LT	LSB	CURB ROUND LAKE BLVD		284			
301+71.3	301+76.3	37 LT	LEB	NOSE RIVERDALE DR.					35
303+87.7	303+92.7	37 LT	LEB	NOSE RIVERDALE DR.					35
295+61.3	295.66.3	1.5 RT	LSB	NOSE ROUND LAKE BLVD					35
301+76.3	303+87.7	37 LT	LEB	MEDIAN RIVERDALE DR.				846	
299+96.0	302+82.5	0 LT	LSB	MEDIAN ROUND LAKE BLVD				2038	
TOTALS:						284	242	2884	105

GENERAL NOTES:  
1. CONCRETE ENTRANCE NOSE DES 7113A IS PAID FOR AS 6" CONCRETE WALK

BASE AND BITUMINOUS QUANTITIES						W			
STATION TO STATION		LOCATION		DESCRIPTION		TYPE SP12.5 WEAR (4,E) TON	TYPE SP12.5 NON-WEAR (4,B) TON	BITUMINOUS MATERIAL FOR TACK COAT GALLON	AGGREGATE BASE (CV) CL 5 (P) CU YD
301+71.4	304+23.3	12 LT	47.5 LT	LEB	NORTHDAL BLVD	158	79	72	134
295+49.1	295+80.1	4.1 LT	14.9 RT	LNB	ROUND LAKE BLVD	14	7	7	11
299+96.0	301+22.5	0 RT	12.3 RT	LNB	ROUND LAKE BLVD	65	33	30	69
TOTAL						238	119	108	213

DRAINAGE TABULATION											S	
STR. NO.	ALIGNMENT NAME	STRUCTURE LOCATION (A)			STR. OR APRON INLET POINT NO.	STRUCTURE CONSTRUCTION					12" RC PIPE SEWER DES 3006 CLASS V LIN FT	NOTES
		STATION	OFFSET FT	L / R		NEW/ RECONSTRUCT/ INSTALL	DESIGN (B)	PAY HEIGHT LIN FT	CASTING ASSEMBLY TYPE	STEPS REQ'D (C)		
74	C.R. 79	301+96.77	37	L	75	NEW	H	3.0	B-5		186	
75	C.R. 79	303+82.44	37	L	71	NEW	G	5.7	B-5	Y	28	C,D
76	C.R. 79	303+82.44	41	L	75	NEW	G	3.5	B-5		5	
79	C.S.A.H. 9	295+55.26	1.38	R	78	NEW	H	3.0	B-5		7	
78	C.S.A.H. 9	295+55.50	8.78	R	73	NEW	G	3.5	B-5		11	D
81	C.S.A.H. 9	301+57.10	12.68	R	80	NEW	H	3.0	B-5		158	D
EX1	C.R. 79	304+13.22	29.51	L		RECONSTRUCT		1.1	A-7			E
EX2	C.R. 79	304+10.65	21.88	L		RECONSTRUCT		1.9	A-7			E
EX3	C.S.A.H. 9	295+66.22	1.6	R		RECONSTRUCT		1.1	A-7			E
EX4	C.S.A.H. 9	295+66.74	8.59	R		RECONSTRUCT		2	A-7			E
EX5	C.S.A.H. 9	299+99.09	13.28	R		INSTALL			B-5			
PROJECT TOTALS											395	

NOTES:

- (A) STATIONS, OFFSETS, AND ELEVATIONS ARE GIVEN TO:  
- FLOW LINE AT MIDPOINT OF GRATE
- (B) THE FOLLOWING DESIGNATIONS ARE USED IN THE TABULATIONS TO DESIGN OF DRAINAGE STRUCTURE TO BE USED:  
- G & H SEE MNDOT STD. PLATE. 4006  
- 4020 SEE MNDOT STD. PLATE. 4020 AND COVER
- (C) STEPS REQUIRED WHEN PAY HEIGHT IS GREATER THAN 4.5 FEET.
- (D) CONNECT TO EXISTING DRAINAGE STRUCTURE.
- (E) RECONSTRUCT CONSISTS OF REMOVING CASTING, RINGS, AND TOPSLAB 4022A, FURNISH AND INSTALL RINGS AND TOPSLAB 4020J

SIGN PANELS TYPE C											T	
SIGN NO.	C.R. 79	C.S.A.H. 9	QUANTITY	POSTS (2)			(1) MTG. HEIGHT (MIN.) (FT)	PANEL			CODE NO.	PANEL LEGEND
				NO.	KNEE BRACE QUANT.	LENGTH (FT)		SIZE (IN)	AREA (SF)	TOTAL AREA (SF)		
C-1	2	1	3	1	0	13.0	7	24 x 30	5.0	15.0	R4-7	KEEP RIGHT
								18 x 18	2.3	6.8	X4-2	HAZARD MARKER
C-2	2	1	3	1	0	13.0	7	30 x 30	6.3	18.9	R5-1	DO NOT ENTER
C-3	1	0	1	1	0	15.0	7	24 x 24	4.0	4.0	M1-6	CO RD 79
								21 x 15	5.0	5.0	M6-1A	ARROW
C-4	1	0	1	1	0	13.0	7	36 x 30	7.5	7.5	R3-30AB	LEFT ONLY/LEFT ONLY
C-5	0	1	1	1	0	13.0	7	30 x 30	6.3	6.3	R3-X2	LEFT TURN LANE
PROJECT TOTALS											63.5	

GENERAL NOTES:

- POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAIL DRAWINGS OF TYPE C SIGN PANELS.

SPECIFIC NOTES:

- (1) MOUNTING HEIGHT IS MINIMUM. REFER TO ANOKA COUNTY STANDARDS FOR TYPICAL MOUNTING.
- (2) REFER TO ANOKA COUNTY STANDARDS FOR PUNCHING AND MOUNTING DETAILS.
- (3) MOUNT BACK TO BACK.

PERMANENT PAVEMENT MARKINGS								V
ALIGNMENT	STATION TO STATION	PAVEMENT MESSAGE		SOLID LINE			BROKEN LINE 4" WHITE (LF)	CROSS WALK MARKING (SF)
		LEFT ARROW (EACH)	RIGHT ARROW (EACH)	4" WHITE (LF)	24" WHITE (LF)	4" YELLOW (LF)		
C.R. 79	102+00.0 - 107+35.14	4	1	550	72	220	240	108
C.S.A.H. 9	295+25.0 - 308+82.53	1	0	162	25	285	0	144
PROJECT TOTALS								252

NOTES:

- ALL PERMANENT PAVEMENT MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE NOTED.
- ALL BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.
3. 24" WHITE IS FOR STOP BAR

NO	DATE	BY	CKD	APPR	REVISION

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 Kobilarscik*  
DATE: 3-18-2008 LICENSE NO. 24756

DRAWN BY: ND DATE 03/10/08  
DESIGN BY: DFF DATE 03/10/08  
CHECKED BY: JEO DATE 03/10/08



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
STATE PROJECT NO. 114-020-034  
CITY PROJECT NO.  
COUNTY PROJECT NO.

MISCELLANEOUS  
TAB SHEET  
Sheet 15 of 35 Sheets

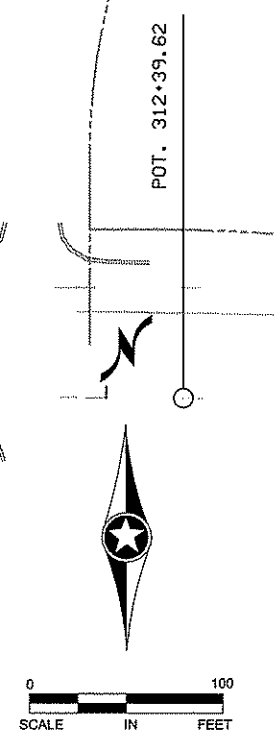
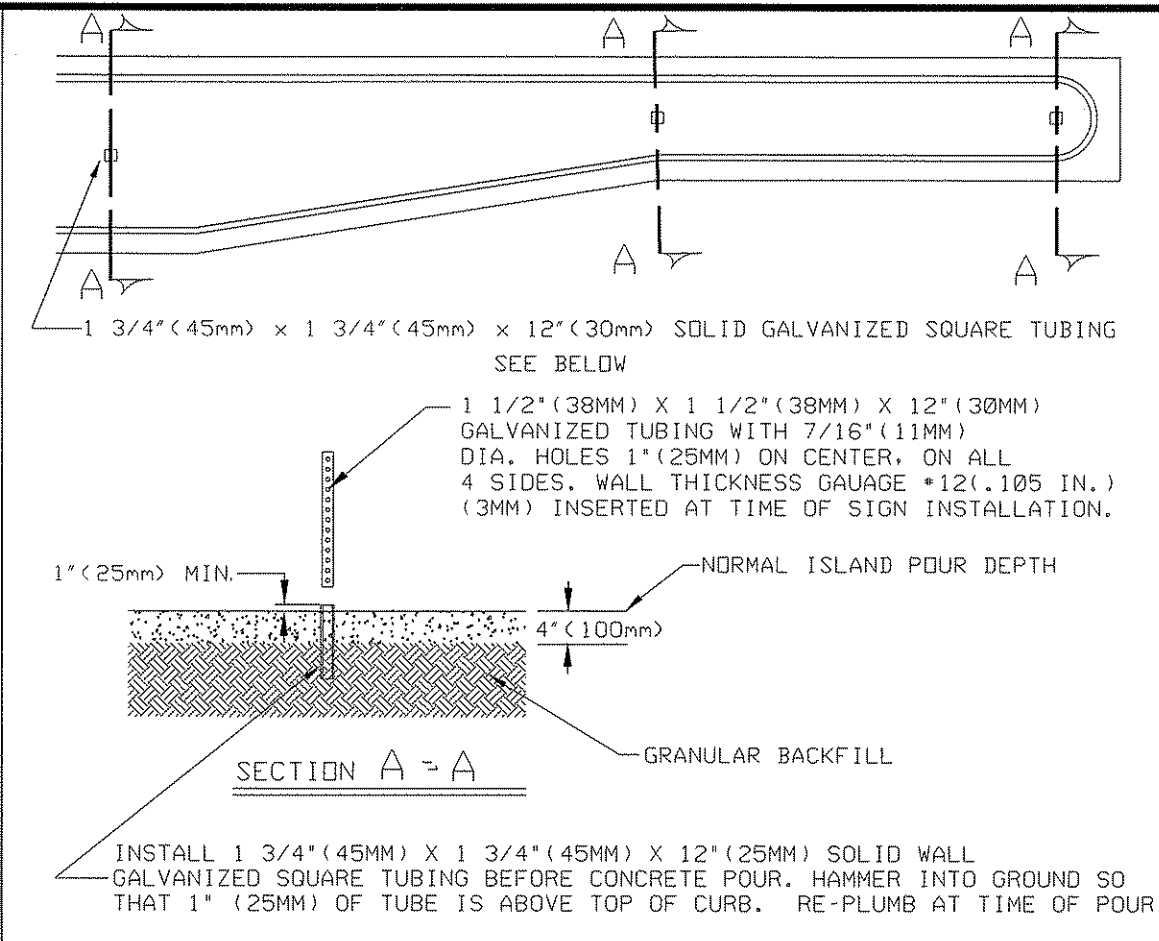
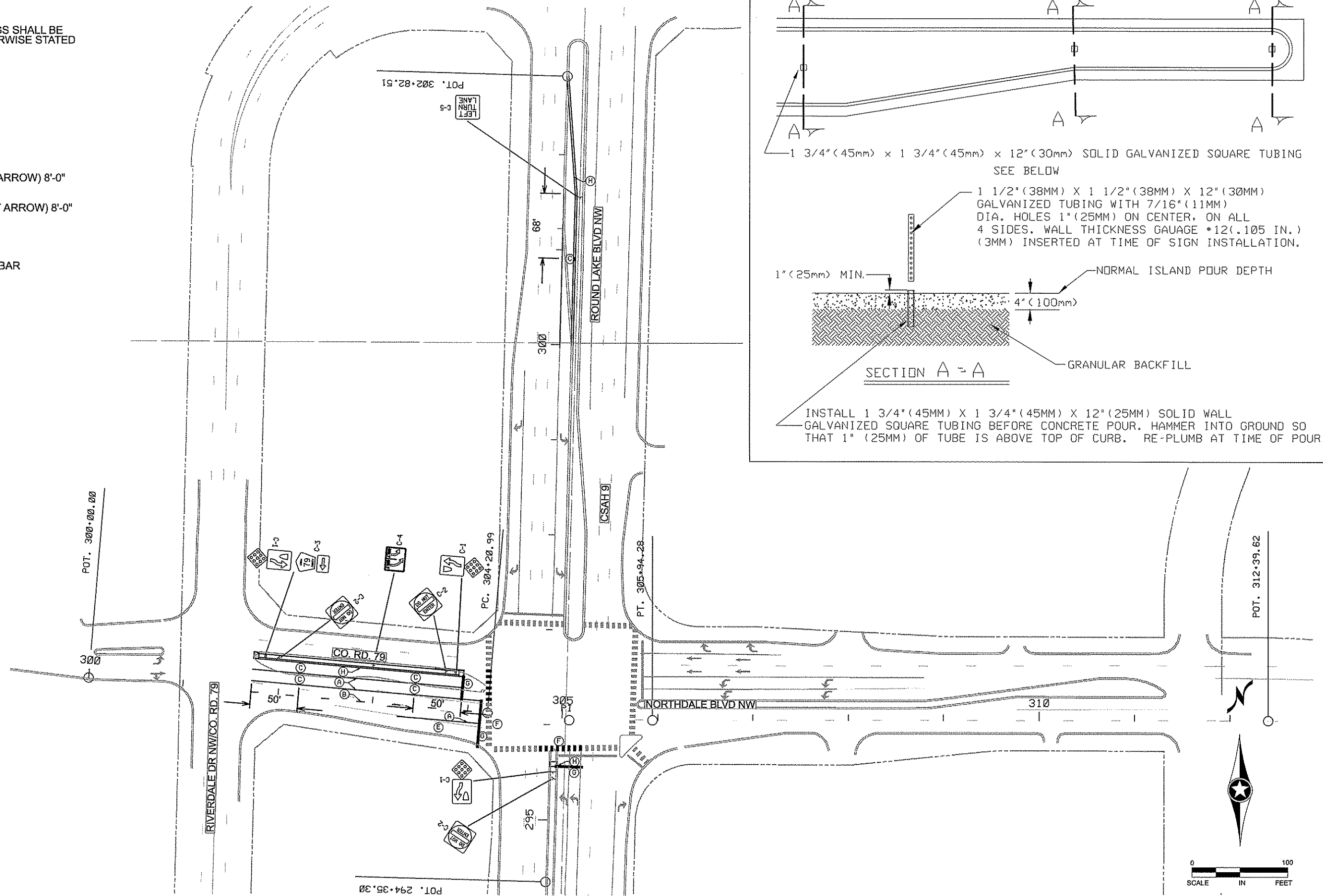


GENERAL NOTES:

- ALL STRIPING AND MARKINGS SHALL BE LATEX PAINT UNLESS OTHERWISE STATED

CONSTRUCTION NOTES:

- (A) 4" SOLID LINE WHITE
- (B) 4" BROKEN LINE WHITE SKIP RATIO SHALL BE 40 FT GAP WITH 10 FT. STRIPES
- (C) PAVEMENT MESSAGE (LEFT ARROW) 8'-0"
- (E) PAVEMENT MESSAGE (RIGHT ARROW) 8'-0"
- (F) ZEBRA CROSSWALK
- (G) 24" SOLID LINE WHITE STOP BAR
- (H) 4" SOLID LINE YELLOW

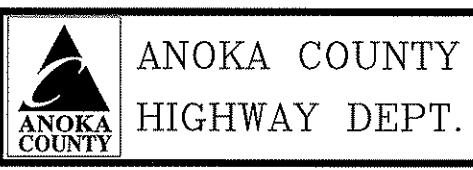


NO	DATE	BY	CHKD	APPR	REVISION

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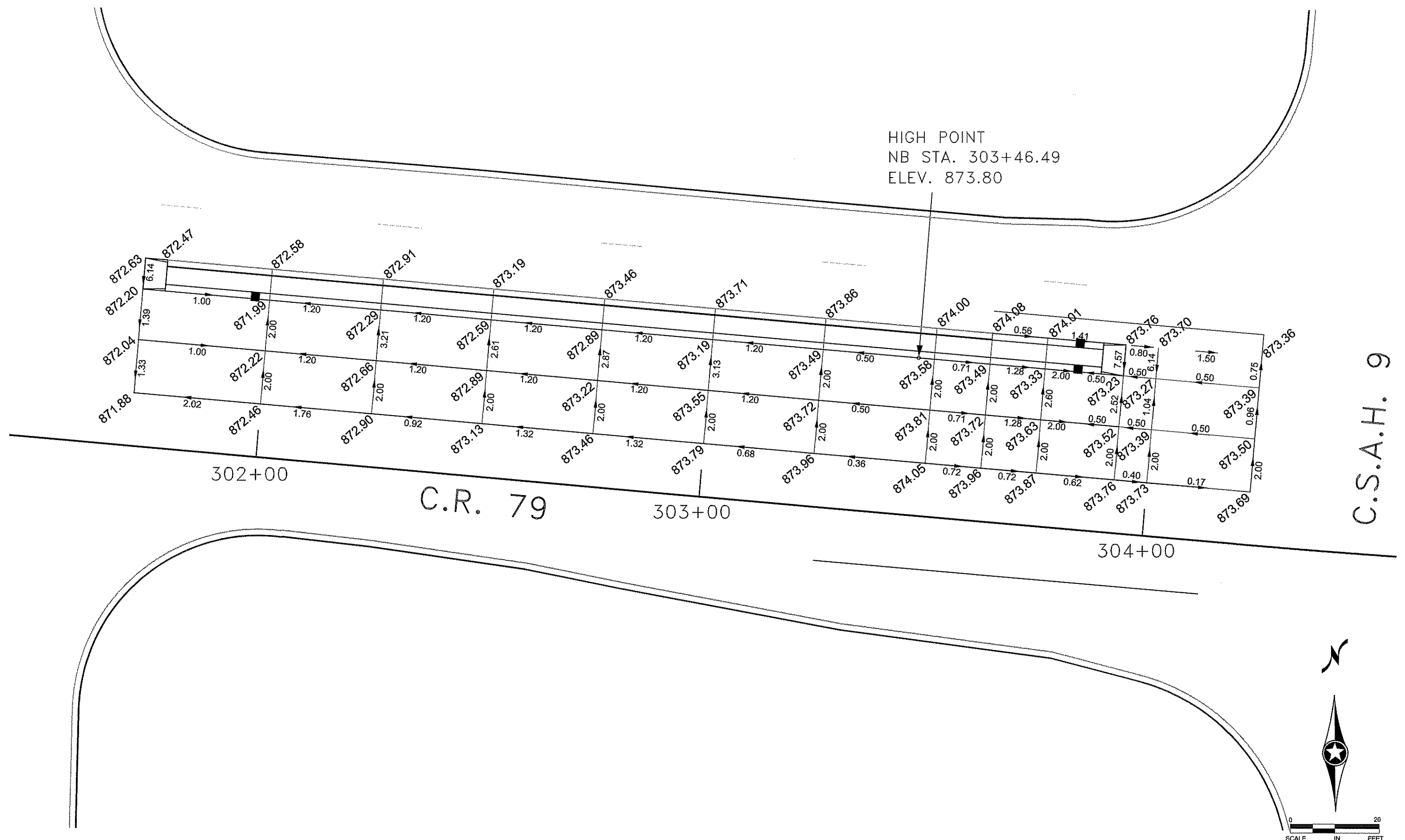
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 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

SIGNING AND STRIPING PLAN  
 Sheet 16 of 35 Sheets



C.S.A.H. 9



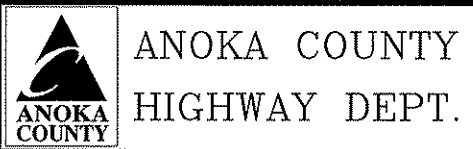
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NAME: P:\02-609-14\PLAN\0260914\_IN\_1.DGN 2008-03-13 1:15:18 PM

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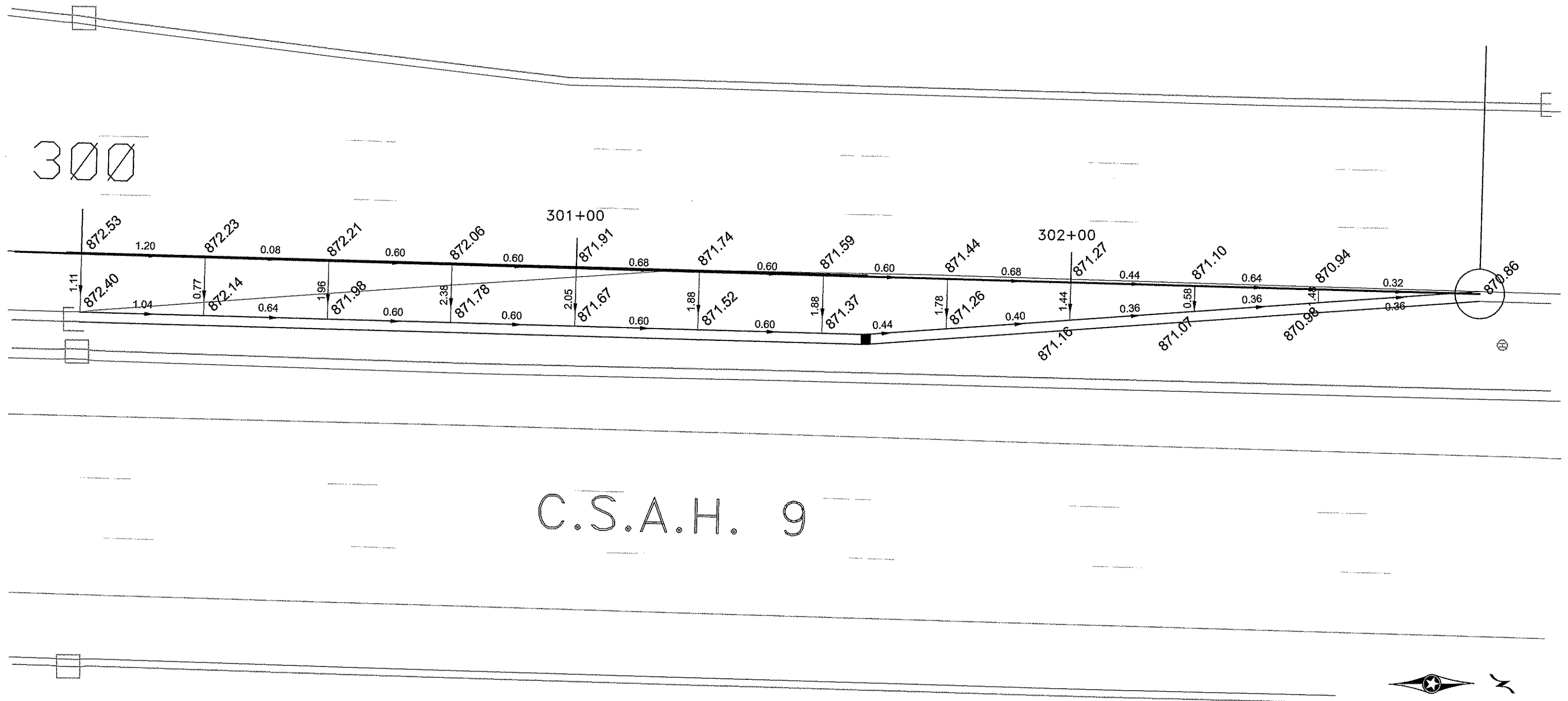
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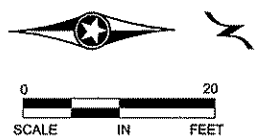
STATE PROJECT NO. 02-609-14  
STATE PROJECT NO. 114-020-034  
CITY PROJECT NO.  
COUNTY PROJECT NO.

INTERSECTION DETAIL  
RIVERDALE DR.  
Sheet 17 of 35 Sheets

300



C.S.A.H. 9




NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-609-14\PLAN\0260914\_IN\_2.DGN 2008-03-13 1:15:34 PM

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 ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

INTERSECTION DETAIL  
 C.S.A.H. 9 NORTH  
 Sheet 18 of 35 Sheets

# STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

**PROJECT DESCRIPTION**

SP 02-609-14 CONSTRUCTION ACTIVITIES CONSIST OF GRADING, BITUMINOUS SURFACING, STORM SEWER, CURB & GUTTER, AND SIGNAL SYSTEM MODIFICATION IN THE CITY OF COON RAPIDS AND ANOKA COUNTY. THE RECEIVING WATERS FOR STORM WATER FROM THIS PROJECT INCLUDE A WETLAND WHICH TREATS RUNOFF BEFORE DISCHARGING INTO OTHER WETLANDS, CREEKS, AND DITCHES.

**SITE MAPS**

ALL SITE MAP INFORMATION IS LOCATED WITHIN THIS PLAN.

**ENVIRONMENTALLY SENSITIVE AREAS**

NO WETLANDS ARE IMPACTED WITHIN THE PROJECT LIMITS.

**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 IMPLEMENTAION PLANS CONTAINING STORM WATER REQUIREMENTS**

NO TMDL IMPLEMENTAION PLANS CURRENTLY EXIST FOR THE RECEIVING WATERS ON THIS PROJECT.

**LAND FEATURE CHANGES**

TOTAL PROJECT AREA DISTURBED: 0.31 ACRES  
 TOTAL EXISTING IMPERVIOUS SURFACE: 0.31 ACRES  
 TOTAL EXISTING PERVIOUS SURFACE: 0.00 ACRES  
 TOTAL PROPOSED IMPERVIOUS SURFACE: 0.31 ACRES  
 TOTAL PROPOSED PERVIOUS SURFACE: 0.00 ACRES

**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, AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS. ALL SILT FENCE USED FOR CONTAINMENT SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS.

**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.

**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 BMP'S BEFORE AND DURING CONSTRUCTION. ANOKA COUNTY AND THE CITY OF COON RAPIDS 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

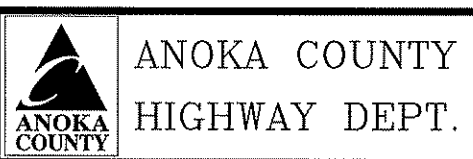
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NAME: P:\02-609-14\PLAN\0260914\_ESC.DGN 2008-03-13 1:15:43 PM

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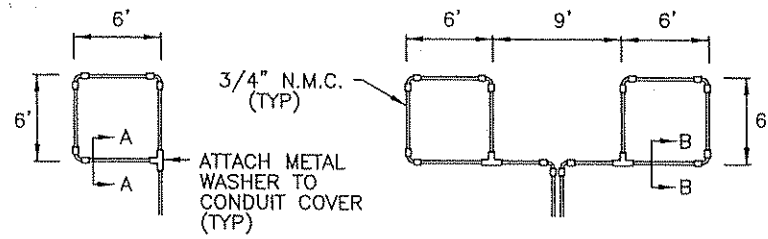
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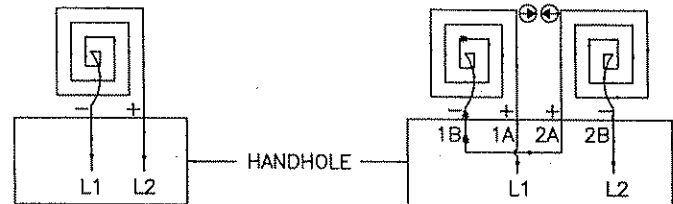
STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

STORMWATER POLLUTION PREVENTION PLAN NARRATIVE  
 Sheet 19 of 35 Sheets



3/4" N.M.C. (TYP)

ATTACH METAL WASHER TO CONDUIT COVER (TYP)

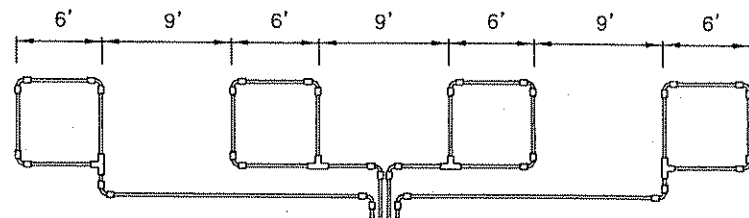


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

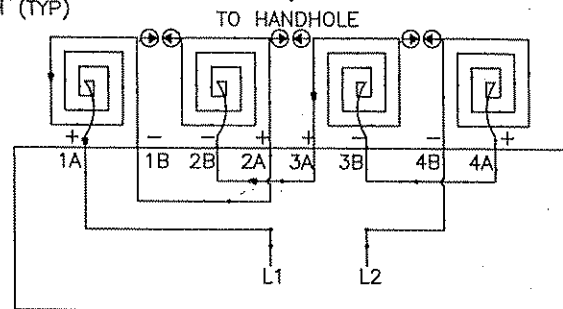
L1 TO 1A  
1B TO 2A  
2B TO L2

LOOP DETECTOR  
DETAIL 'B'  
(LOOP PHASING FOR  
SERIES CONNECTION)

LOOP DETECTOR  
DETAIL 'A'  
(LOOP PHASING FOR  
SINGLE CONNECTION)



LOOP RETURN CONDUITS  
MAY BE PLACED IN COMMON  
TRENCH (TYP)

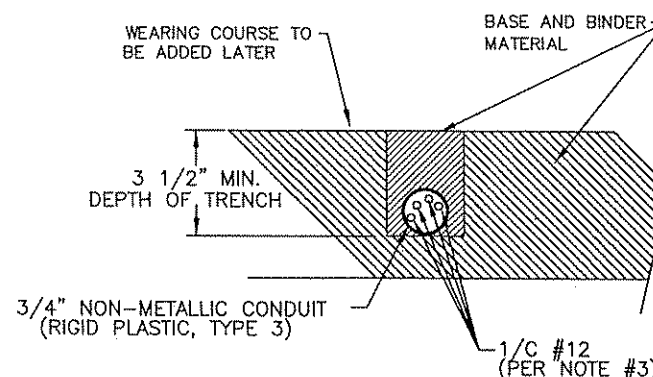


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED  
IN THE HANDHOLE AS FOLLOWS:

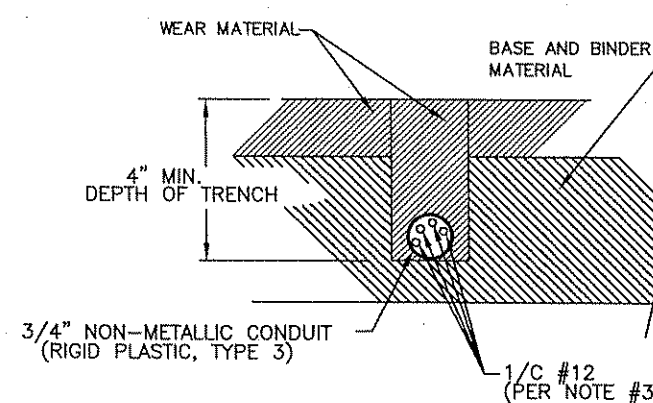
L1 TO 1A      3B TO 4A  
1B TO 2A      4B TO L2  
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.  
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE  
(1A, 1B, ECT)

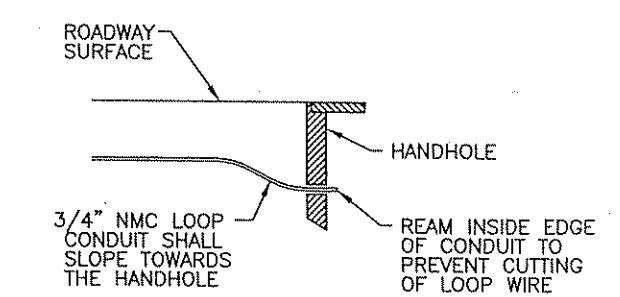
LOOP DETECTOR  
DETAIL 'C'  
(LOOP PHASING FOR  
SERIES CONNECTION)



SECTION A-A  
DETAIL FOR LOOP INSTALLATION  
IN NEW ROADWAY



SECTION B-B  
DETAIL FOR LOOP INSTALLATION  
IN EXISTING ROADWAY



DRAINAGE DETAIL

- LOOP DETECTOR WIRING**
- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
  - 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
  - 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
  - 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
  - 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

**LEGEND OF SYMBOLS**

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(1)
SIGNAL FACE NO.	(2)
LUMINAIRE NO.	(3)
CONTROLLER AND CABINET	(4)
CONTROLLER AND CABINET - IN PLACE	(5)
HANDHOLE - IN PLACE	(6)
RIGID STEEL CONDUIT (RSC)	(7)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(8)
SIGNAL FACE WITH BACKGROUND SHIELD	(9)
SIGNAL FACE W/O BACKGROUND SHIELD	(10)
SIGNAL FACE - IN PLACE	(11)
PEDESTRIAN INDICATORS	(12)
PEDESTRIAN INDICATORS - IN PLACE	(13)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(14)
PEDESTRIAN PUSH BUTTON STATION	(15)
TRAFFIC SIGNAL PEDESTAL	(16)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(17)
TRAFFIC SIGNAL POLE AND MAST ARM	(18)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(19)
STREET LIGHT POLE AND LUMINAIRE	(20)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(21)
MAST ARM AND LUMINAIRE	(22)
MAST ARM AND LUMINAIRE - INPLACE	(23)
WOOD POLE	(24)
WOOD POLE - IN PLACE	(25)
SOURCE OF POWER	(26)
RAILROAD SIGNAL - IN PLACE	(27)
RIGHT OF WAY LINE	(28)
CENTERLINE	(29)
EDGE OF ROADWAY	(30)
SHOULDERLINE	(31)
CURB LINE	(32)
STOP BAR	(33)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(34)

**ABBREVIATIONS**

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQQ	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

**CONDUCTOR COLOR CODE**

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

**TRAFFIC SIGNAL STANDARD PLATES**  
THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 D	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 L	PA85 POLE FOUNDATION
8121 E	TRANSFORMER BASE AND POLE BASE PLATE
* 8122 D	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
8126 G	PA90 AND PA100 POLE FOUNDATION

\* - APPLIES TO THIS PROJECT

S:\VEVA\ANOKA\CANON\SIGALS\9-NORTHDALE\NORTHDALE.DWG

DRAWN BY: JMG			
DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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**REVISE SIGNAL SYSTEM**  
**DETAILS + STANDARD PLATES**  
**CSAH 9 (ROUND LAKE BLVD) AT**  
**NORTHDALE BLVD (CORD. 79)**

FILE NO.  
AANOK0706  
SIGNAL SHEET  
SG1 OF SG10

20  
35

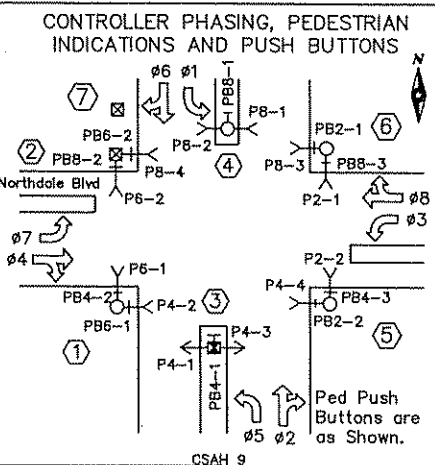
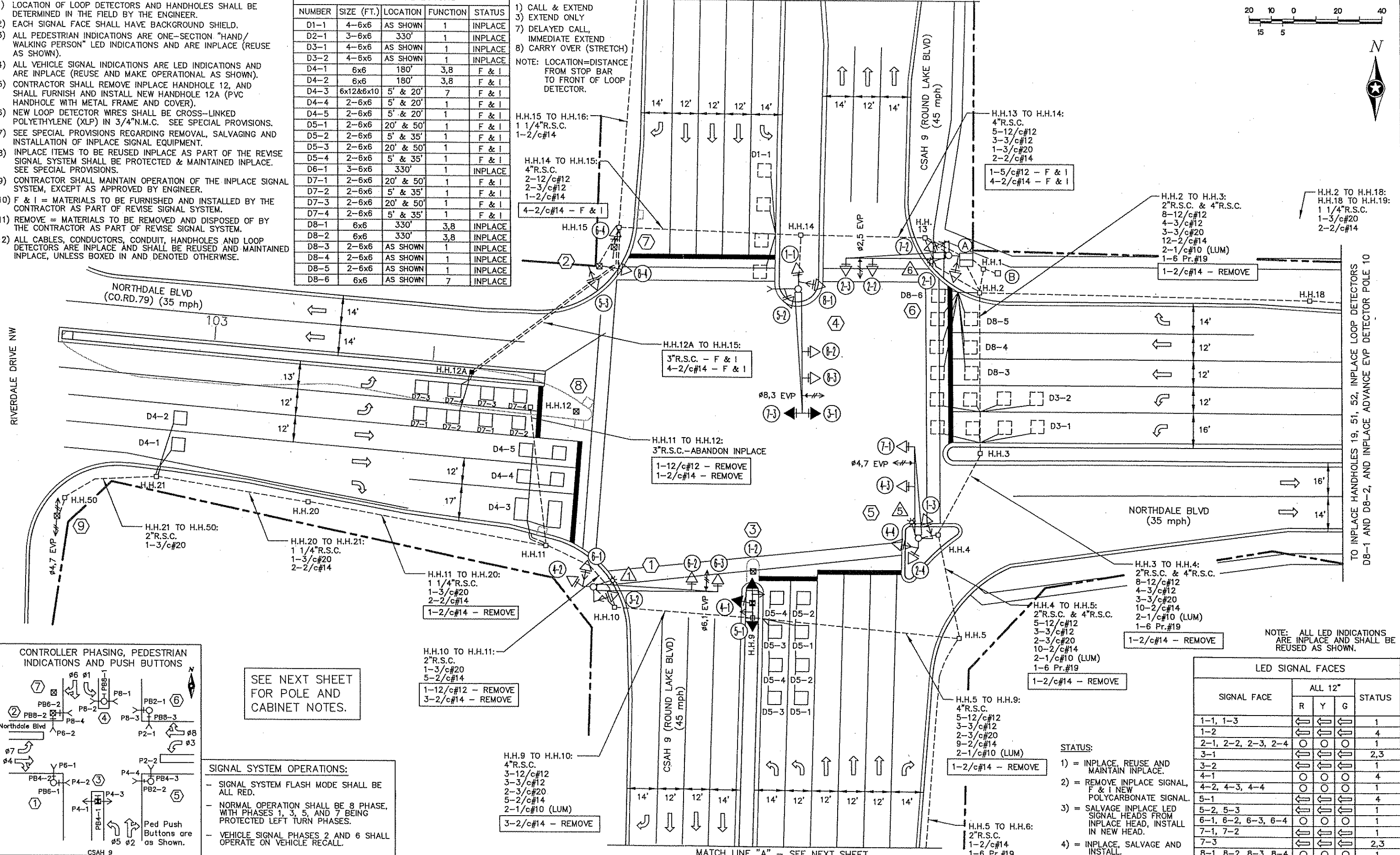
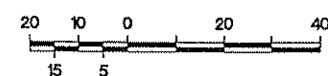
NOTES:

- 1) LOCATION OF LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) ALL PEDESTRIAN INDICATIONS ARE ONE-SECTION "HAND/WALKING PERSON" LED INDICATIONS AND ARE INPLACE (REUSE AS SHOWN).
- 4) ALL VEHICLE SIGNAL INDICATIONS ARE LED INDICATIONS AND ARE INPLACE (REUSE AND MAKE OPERATIONAL AS SHOWN).
- 5) CONTRACTOR SHALL REMOVE INPLACE HANDHOLE 12, AND SHALL FURNISH AND INSTALL NEW HANDHOLE 12A (PVC HANDHOLE WITH METAL FRAME AND COVER).
- 6) NEW LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 7) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND INSTALLATION OF INPLACE SIGNAL EQUIPMENT.
- 8) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF THE REVISE SIGNAL SYSTEM SHALL BE PROTECTED & MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
- 9) CONTRACTOR SHALL MAINTAIN OPERATION OF THE INPLACE SIGNAL SYSTEM, EXCEPT AS APPROVED BY ENGINEER.
- 10) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM.
- 11) REMOVE = MATERIALS TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM.
- 12) ALL CABLES, CONDUCTORS, CONDUIT, HANDHOLES AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS BOXED IN AND DENOTED OTHERWISE.

NMC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	4-6x6	AS SHOWN	1	INPLACE
D2-1	3-6x6	330'	1	INPLACE
D3-1	4-6x6	AS SHOWN	1	INPLACE
D3-2	4-6x6	AS SHOWN	1	INPLACE
D4-1	6x6	180'	3,8	F & I
D4-2	6x6	180'	3,8	F & I
D4-3	6x12&6x10	5' & 20'	7	F & I
D4-4	2-6x6	5' & 20'	1	F & I
D4-5	2-6x6	5' & 20'	1	F & I
D5-1	2-6x6	20' & 50'	1	F & I
D5-2	2-6x6	5' & 35'	1	F & I
D5-3	2-6x6	20' & 50'	1	F & I
D5-4	2-6x6	5' & 35'	1	F & I
D6-1	3-6x6	330'	1	INPLACE
D7-1	2-6x6	20' & 50'	1	F & I
D7-2	2-6x6	5' & 35'	1	F & I
D7-3	2-6x6	20' & 50'	1	F & I
D7-4	2-6x6	5' & 35'	1	F & I
D8-1	6x6	330'	3,8	INPLACE
D8-2	6x6	330'	3,8	INPLACE
D8-3	2-6x6	AS SHOWN	1	INPLACE
D8-4	2-6x6	AS SHOWN	1	INPLACE
D8-5	2-6x6	AS SHOWN	1	INPLACE
D8-6	6x6	AS SHOWN	7	INPLACE

- FUNCTIONS:
- 1) CALL & EXTEND
  - 3) EXTEND ONLY
  - 7) DELAYED CALL, IMMEDIATE EXTEND
  - 8) CARRY OVER (STRETCH)
- NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

TO INPLACE HANDHOLES 16 AND 17, AND INPLACE LOOP DETECTOR D6-1



SEE NEXT SHEET FOR POLE AND CABINET NOTES.

**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

LED SIGNAL FACES				
SIGNAL FACE	ALL 12"			STATUS
	R	Y	G	
1-1, 1-3	←	←	←	1
1-2	←	←	←	4
2-1, 2-2, 2-3, 2-4	○	○	○	1
3-1	←	←	←	2,3
3-2	←	←	←	1
4-1	○	○	○	4
4-2, 4-3, 4-4	○	○	○	1
5-1	←	←	←	4
5-2, 5-3	←	←	←	1
6-1, 6-2, 6-3, 6-4	○	○	○	1
7-1, 7-2	←	←	←	1
7-3	←	←	←	2,3
8-1, 8-2, 8-3, 8-4	○	○	○	1

- STATUS:
- 1) = INPLACE, REUSE AND MAINTAIN INPLACE.
  - 2) = REMOVE INPLACE SIGNAL, F & I NEW POLYCARBONATE SIGNAL.
  - 3) = SALVAGE INPLACE LED SIGNAL HEADS FROM INPLACE HEAD, INSTALL IN NEW HEAD.
  - 4) = INPLACE, SALVAGE AND INSTALL.

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG
DESIGN TEAM	NO. BY DATE	REVISIONS

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**CITY OF COON RAPIDS**  
 S.P. 02-609-14

**REVISE SIGNAL SYSTEM**  
**INTERSECTION LAYOUT**  
**CSAH 9 (ROUND LAKE BLVD) AT**  
**NORTHDALE BLVD (CO.RD. 79)**

FILE NO. ANOKC0706  
 SIGNAL SHEET SG2 OF SG10

① INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION  
 TYPE A100-A-55-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0', 11' FROM END OF MAST ARM)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 20B-POLE MOUNTED 180°  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 TYPE D SIGN PANEL-OVERHEAD  
 ONE WAY EVP DETECTOR AND LIGHT (ø6,1)  
 EXTENDED INTO H.H.10:  
 3"R.S.C.  
 3-12/c#12  
 3-3/c#12  
 1-3/c#20  
 2-1/c#10 (LUM)

INPLACE (REMOVE) 1-12/c#12 (BETWEEN POLE 1 AND POLE 8)

② INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 WIND COLLAR FOR PEDESTAL BASE  
 TYPE 2C  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R0-4b)  
 EXTENDED INTO H.H.15:  
 3"R.S.C.  
 2-12/c#12  
 2-3/c#12

③ INPLACE (REMOVE) PEDESTAL FOUNDATION  
 CUT EXCESS 3"R.S.C. FROM FOUNDATION TO NEW POLE BASE

INPLACE (SALVAGE & INSTALL) 10' PEDESTAL POLE AND BASE  
 WIND COLLAR FOR PEDESTAL BASE  
 TYPE 3C  
 1-PEDESTRIAN PUSH BUTTON & SIGN (R0-4b)  
 (RELOCATE FROM SOUTH SIDE TO NORTH SIDE OF POLE, AND CAP HOLES ON SOUTH SIDE OF POLE)  
 2-12/c#12  
 2-3/c#12

F & I PEDESTAL FOUNDATION  
 EXTEND INPLACE 3"R.S.C. FROM H.H.9 INTO NEW FOUNDATION

④ INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION  
 TYPE A100-A-55  
 2-ONE WAY SIGNALS-OVERHEAD (15', 27' FROM END OF MAST ARM) (8-3, 8-2)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 20B-POLE MOUNTED 180°  
 1-PEDESTRIAN PUSH BUTTON & SIGN (R10-4b)  
 TYPE D SIGN PANEL-OVERHEAD  
 ONE WAY EVP DETECTOR AND LIGHT (ø8,3)  
 EXTENDED INTO H.H.14:  
 3"R.S.C.  
 3-12/c#12  
 3-3/c#12  
 1-3/c#20

INPLACE (REMOVE) ONE WAY SIGNAL-OVERHEAD (3-1)

F & I 2-WAY MOUNT - END MOUNTED  
 2-ONE WAY SIGNALS-OVERHEAD AT 0' (3-1, 7-3)  
 1-5/c#12

⑤ INPLACE (MAINTAIN INPLACE) P100 POLE FOUNDATION  
 TYPE P100-A-40-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0', 17' FROM END OF MAST ARM)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 20B-POLE MOUNTED 180°  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 TYPE D SIGN PANEL-OVERHEAD  
 ONE WAY EVP DETECTOR AND LIGHT (ø4,7)  
 EXTENDED INTO H.H.4:  
 3"R.S.C.  
 3-12/c#12  
 3-3/c#12  
 1-3/c#20  
 4-1/c#10 (LUM)

⑥ INPLACE (MAINTAIN INPLACE) A100 POLE FOUNDATION  
 TYPE A100-A-45-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0', 11' FROM END OF MAST ARM)  
 TYPE 10B-POLE MOUNTED 90°  
 TYPE 10B-POLE MOUNTED 180°  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 TYPE D SIGN PANEL-OVERHEAD  
 ONE WAY EVP DETECTOR AND LIGHT (ø2,5)  
 EXTENDED INTO H.H.13:  
 3"R.S.C.  
 2-12/c#12  
 3-3/c#12  
 1-3/c#20  
 2-1/c#10 (LUM)

⑦ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 WIND COLLAR FOR PEDESTAL BASE  
 TYPE 1A  
 EXTENDED INTO H.H.15:  
 3"R.S.C.  
 2-12/c#12

Ⓐ INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION  
 CONTROLLER AND CABINET  
 EXTENDED INTO H.H.1:  
 METERED SIGNAL SERVICE  
 2"R.S.C.  
 3-1/c#6  
 CONTROLLER CABINET TO H.H.2:  
 4"R.S.C.  
 8-12/c#12  
 2-3/c#12  
 18-2/c#14  
 1-6 Pr.#19

INPLACE (REMOVE) 1-2/c#14

INPLACE (MAINTAIN INPLACE) 3"R.S.C.  
 4-3/c#12  
 6-3/c#20

F & I 1-5/c#12  
 4-2/c#14

INPLACE (MAINTAIN INPLACE) CONTROLLER CABINET TO H.H.13:  
 4"R.S.C.  
 7-12/c#12  
 2-3/c#12  
 2-2/c#14

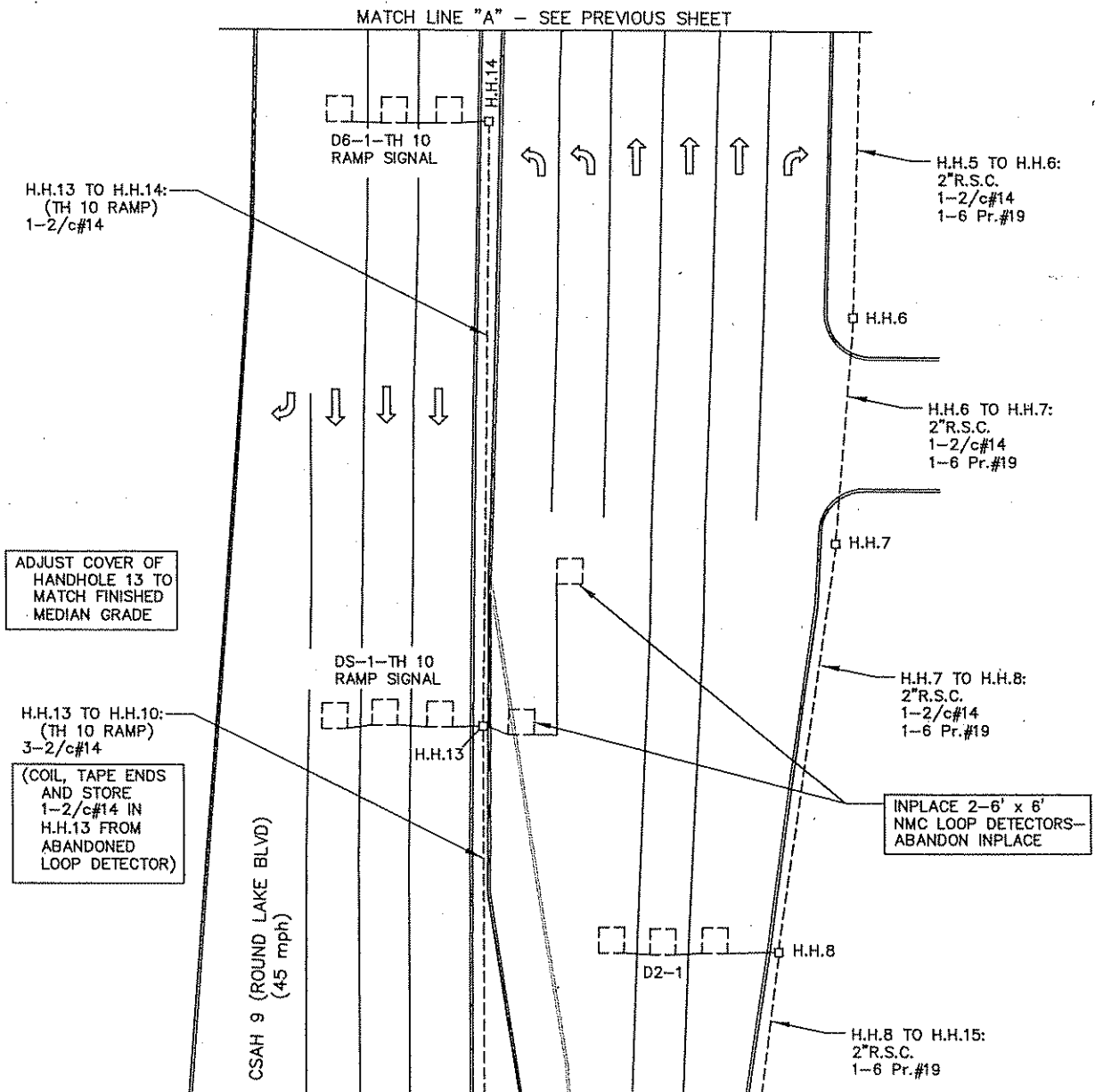
INPLACE (MAINTAIN INPLACE) BETWEEN H.H.2 AND H.H.13:  
 3"R.S.C.  
 2-3/c#12  
 2-3/c#20  
 2-1/c#10 (LUM)

F & I 1-5/c#12  
 4-2/c#14

⑧ INPLACE (REMOVE) PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 WIND COLLAR FOR PEDESTAL BASE  
 TYPE 1A  
 EXTENDED INTO H.H.12:  
 3"R.S.C.  
 1-12/c#12

⑨ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 WIND COLLAR FOR PEDESTAL BASE  
 TWO WAY EVP DETECTOR (ø4,7)  
 EXTENDED INTO H.H.50:  
 2"R.S.C.  
 1-3/c#20

Ⓑ INPLACE (MAINTAIN INPLACE) CABINET FOUNDATION  
 SIGNAL SERVICE CABINET  
 STUB OUT 2"R.S.C. (FOR SERVICE BY CONNEXUS)  
 EXTENDED INTO H.H.1:  
 METERED SIGNAL SERVICE  
 1 1/4"R.S.C.  
 3-1/c#6  
 UNMETERED STREET LIGHT SERVICE  
 1 1/4"R.S.C.  
 4-1/c#10 (LUM)  
 BETWEEN H.H.1 AND H.H.2:  
 2"R.S.C.  
 4-1/c#10 (LUM)



S:\VEVA\WORK\COMMON\SIGNALS\9-NORTHDALE\NORTHDALE.DWG

DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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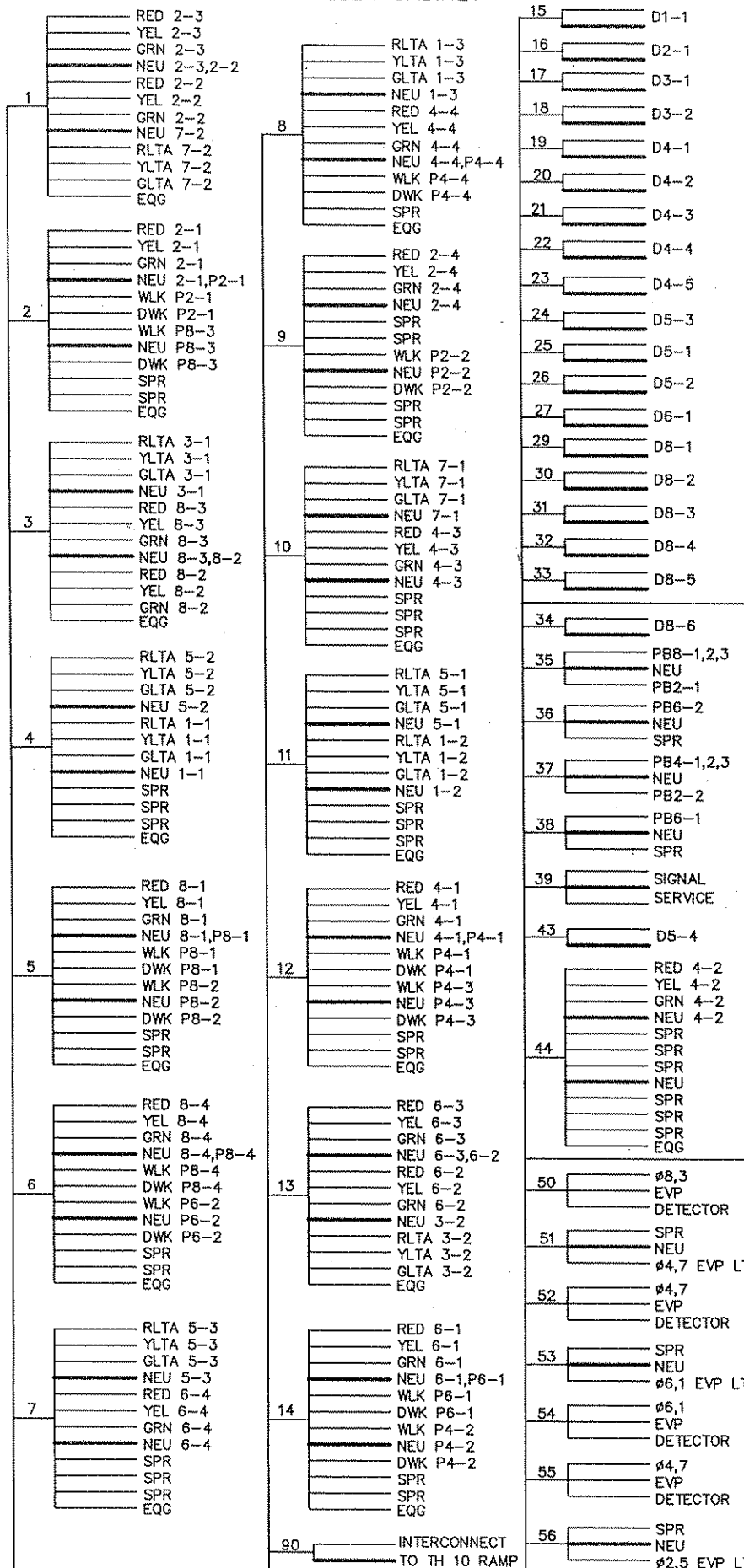
**ANOKA COUNTY**  
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REVISE SIGNAL SYSTEM  
 INTERSECTION LAYOUT  
 CSAH 9 (ROUND LAKE BLVD) AT  
 NORTHDALE BLVD (CO.RD. 79)

FILE NO.  
 AANOKC0706  
 SIGNAL SHEET  
 SG3 OF SG10

22  
 35

CONTROLLER CABINET

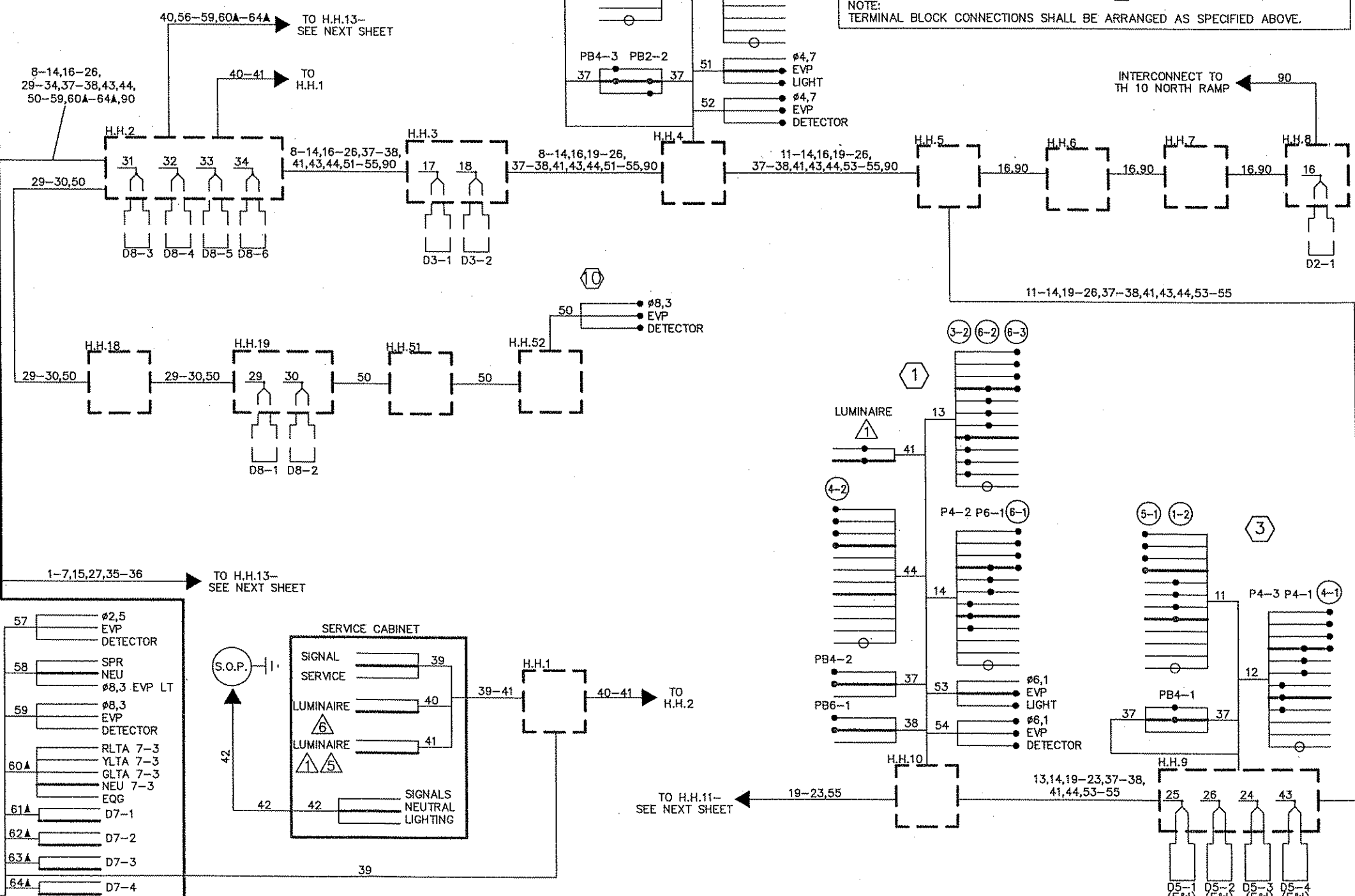


NOTES:  
 1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).  
 2) F & I = LOOP DETECTOR/HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.  
 3) INPLACE CABLES 24 AND 43 (2/C#14) SHALL BE REMOVED BY THE CONTRACTOR BACK FROM INPLACE HANDHOLES 11 AND 20 RESPECTIVELY TO INPLACE HANDHOLE 9, AND SHALL BE CONNECTED TO NEW LOOP DETECTORS D5-3 AND D5-4 AND MADE OPERATIONAL AS SHOWN AND TO THE SATISFACTION OF THE ENGINEER.  
 4) INPLACE CABLE 28 (2/C#14) SHALL BE REMOVED BY THE CONTRACTOR ALL THE WAY FROM INPLACE HANDHOLE 12 TO THE CONTROLLER CABINET AND SHALL BE DISPOSED OF BY THE CONTRACTOR.

CONDUCTOR COLOR CODE

TO SIGNAL CABINET		TO DEVICE	
R	RED	R	RED
O	YEL	BL	YEL
BL	GRN	WH	GRN
WH	NEU	Y	NEU
R/BLK	YLT	BLK	YLT
O/BLK	GLTA	BRN	GLTA
BL/BLK	SPR	BLK	SPR
WH/BLK	R	O	RED
BLK	YEL	BL	YEL
BLK/WH	GRN	WH	GRN
G/BLK	NEU	BLK	NEU
G	GLTA	R	DWK
R	SPR	BL	WLK
O	GLTA	WH	NEU
BL	SPR	G	BLK
WH	EVP/PB/FLASHER	R	BLK
G	NEU	WH	WH
BLK		BLK	BLK

NOTE: TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



S:\A\ANOKA\COMMON\SIG\ALS\NORTHDALE\NORTHDALE.DWG

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CHECKED BY: JMG				

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 John M. Gray, PE  
 Lic. No. 22457  
 Date: August 1, 2007

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ANOKA COUNTY  
 CITY OF COON RAPIDS  
 S.P. 02-609-14

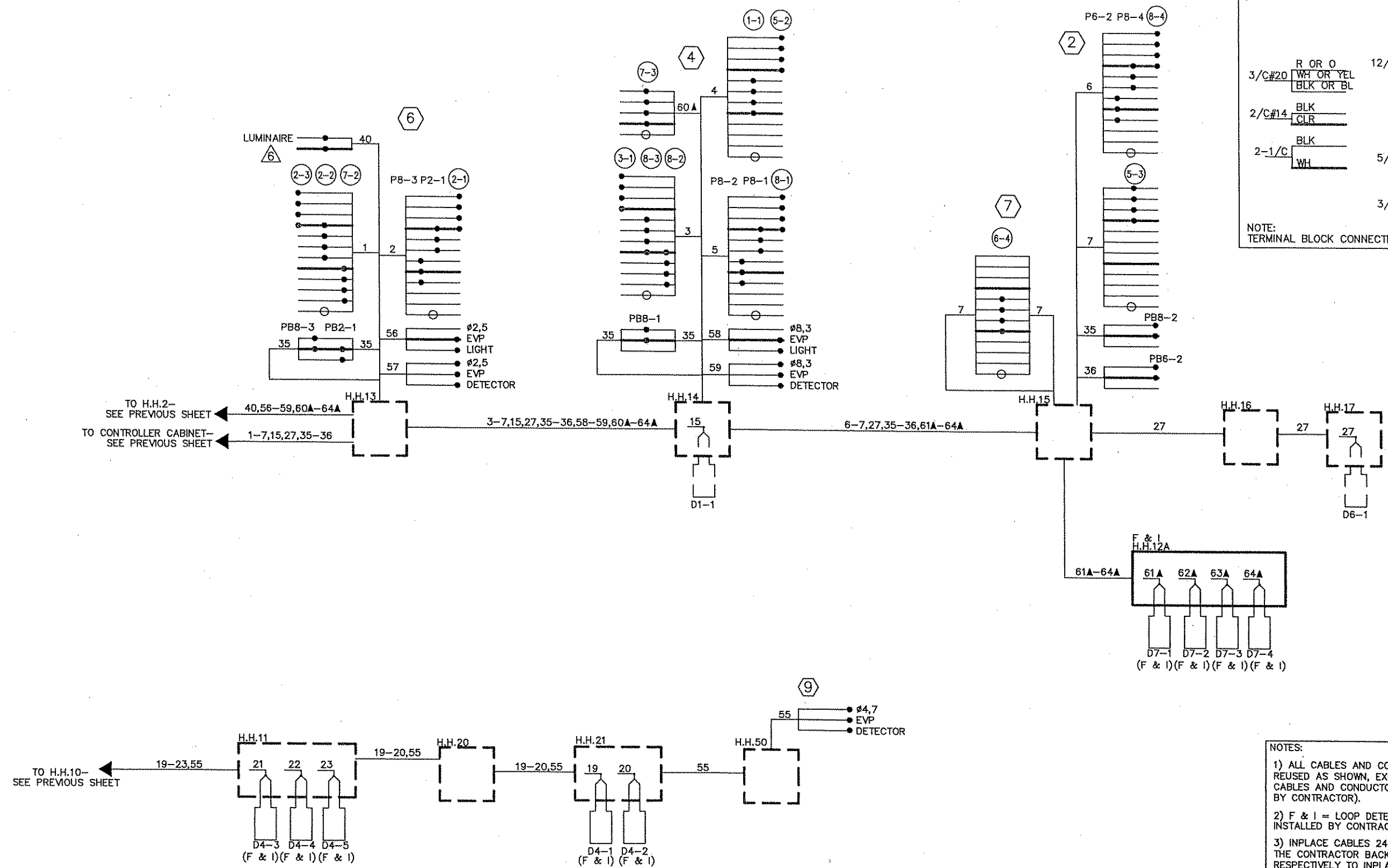
REVISE SIGNAL SYSTEM  
 FIELD WIRING DIAGRAM  
 CSAH 9 (ROUND LAKE BLVD) AT  
 NORTHDAL BLVD (COR. 79)

FILE NO.  
 ANOKC0706  
 SIGNAL SHEET  
 SG 4 OF SG 10  
 23/35



CONDUCTOR COLOR CODE				
TO SIGNAL CABINET	TO DEVICE			
3/C#20 R OR O WH OR YEL BLK OR BL	12/C#12 R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G	7/C#14 CABLE Y BLK BRN	R O BL WH R O BL WH R O BL WH G R O BL WH G	5-SECTION SIGNAL INDICATION 3 & 4- SECTION SIGNAL INDICATION PEDESTRIAN INDICATION EVP/PB/FLASHER NEU
2/C#14 BLK CLR	5/C#12 R O BL WH G	5/C#14 CABLE BLK WH BLK	R O BL WH G	
2-1/C BLK WH	3/C#12 R O BL WH G	2/C#14 CABLE BLK WH	R O BL WH G	

NOTE: TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



- NOTES:
- 1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).
  - 2) F & I = LOOP DETECTOR/HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
  - 3) INPLACE CABLES 24 AND 43 (2/C#14) SHALL BE REMOVED BY THE CONTRACTOR BACK FROM INPLACE HANDHOLES 11 AND 20 RESPECTIVELY TO INPLACE HANDHOLE 9, AND SHALL BE CONNECTED TO NEW LOOP DETECTORS D5-3 AND D5-4 AND MADE OPERATIONAL AS SHOWN AND TO THE SATISFACTION OF THE ENGINEER.
  - 4) INPLACE CABLE 28 (2/C#14) SHALL BE REMOVED BY THE CONTRACTOR ALL THE WAY FROM INPLACE HANDHOLE 12 TO THE CONTROLLER CABINET AND SHALL BE DISPOSED OF BY THE CONTRACTOR.

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DESIGN TEAM	NO.	BY	DATE

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*John M. Gray*  
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S.P. 02-609-14

REVISE SIGNAL SYSTEM  
FIELD WIRING DIAGRAM  
CSAH 9 (ROUND LAKE BLVD) AT  
NORTHDALÉ BLVD (CO. RD. 79)

FILE NO.  
AANOKC0706  
SIGNAL SHEET  
SG5 OF SG10

24  
35

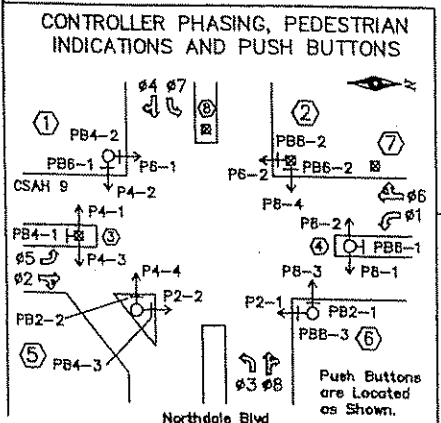
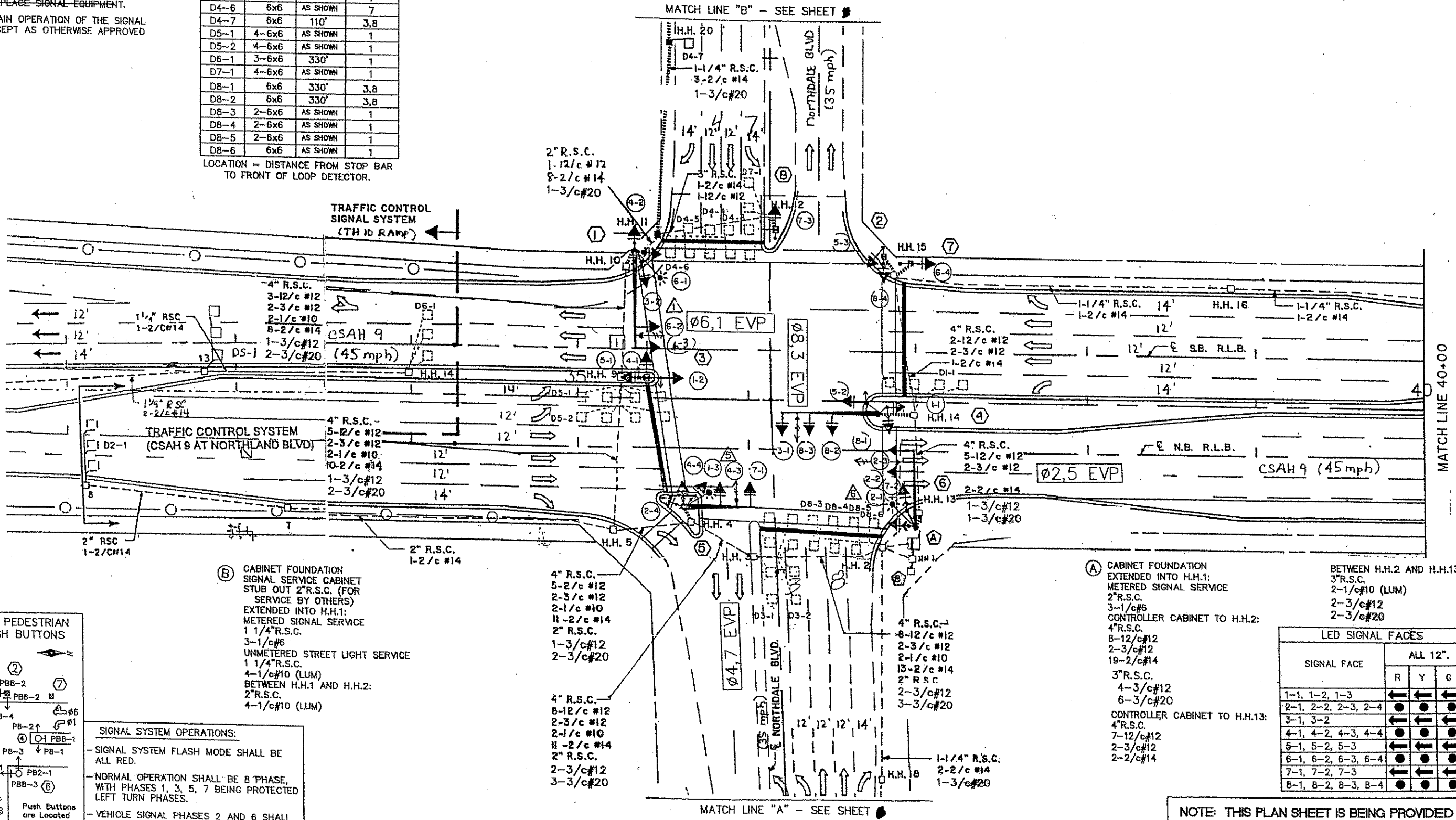
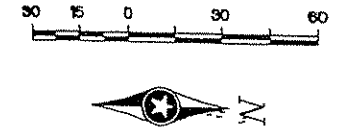
SCALE: VERTICAL COMMON SIGNALS - NORTHDALÉ/NORTHEAST/DWG

- NOTES:**
- 1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
  - 2) ALL SIGNAL FACES HAVE BACKGROUND SHIELDS.
  - 3) CONTRACTOR SHALL SALVAGE INPLACE 12 x 12 PEDESTRIAN SIGNAL INDICATORS, AND SHALL FURNISH AND INSTALL NEW ONE SECTION LED "HAND/WALKING PERSON" PEDESTRIAN INDICATORS IN THEIR PLACE (SEE SPECIAL PROVISIONS).
  - 4) CONTRACTOR SHALL SALVAGE ALL INPLACE INCANDESCENT VEHICLE SIGNAL INDICATION LENSES, AND SHALL FURNISH AND INSTALL NEW LED INDICATORS IN THEIR PLACE (SEE SPECIAL PROVISIONS).
  - 5) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND REINSTALLATION OF INPLACE SIGNAL EQUIPMENT.
  - 6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

INPLACE NMC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	4-6x6	AS SHOWN	1
D2-1	3-6x6	330'	1
D3-1	4-6x6	AS SHOWN	1
D3-2	4-6x6	AS SHOWN	1
D4-1	6x6	185'	3,8
D4-2	6x6	185'	3,8
D4-3	2-6x6	AS SHOWN	1
D4-4	2-6x6	AS SHOWN	1
D4-5	2-6x6	AS SHOWN	7
D4-6	6x6	AS SHOWN	7
D4-7	6x6	110'	3,8
D5-1	4-6x6	AS SHOWN	1
D5-2	4-6x6	AS SHOWN	1
D6-1	3-6x6	330'	1
D7-1	4-6x6	AS SHOWN	1
D8-1	6x6	330'	3,8
D8-2	6x6	330'	3,8
D8-3	2-6x6	AS SHOWN	1
D8-4	2-6x6	AS SHOWN	1
D8-5	2-6x6	AS SHOWN	1
D8-6	6x6	AS SHOWN	1

LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- FUNCTIONS:**
- 1 = CALL AND EXTEND
  - 3 = EXTEND ONLY
  - 7 = DELAYED CALL, IMMEDIATE EXTEND
  - B = CARRY OVER (STRETCH)



**SIGNAL SYSTEM OPERATIONS:**

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE B PHASE, WITH PHASES 1, 3, 5, 7 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

**(B) CABINET FOUNDATION SIGNAL SERVICE CABINET STUB OUT 2" R.S.C. (FOR SERVICE BY OTHERS) EXTENDED INTO H.H.1:**

- METERED SIGNAL SERVICE
- 1 1/4" R.S.C.
- 3-1/c#6
- UNMETERED STREET LIGHT SERVICE
- 1 1/4" R.S.C.
- 4-1/c#10 (LUM)
- BETWEEN H.H.1 AND H.H.2:
- 2" R.S.C.
- 4-1/c#10 (LUM)

**(A) CABINET FOUNDATION EXTENDED INTO H.H.1:**

- METERED SIGNAL SERVICE
- 2" R.S.C.
- 3-1/c#6
- CONTROLLER CABINET TO H.H.2:
- 4" R.S.C.
- 8-12/c#12
- 2-3/c#12
- 2-1/c#10
- 19-2/c#14
- 3" R.S.C.
- 4-3/c#12
- 6-3/c#20
- CONTROLLER CABINET TO H.H.13:
- 4" R.S.C.
- 7-12/c#12
- 2-3/c#12
- 2-2/c#14

BETWEEN H.H.2 AND H.H.13:

- 3" R.S.C.
- 2-1/c#10 (LUM)
- 2-3/c#12
- 2-3/c#20

LED SIGNAL FACES				
SIGNAL FACE	ALL 12"			
	R	Y	G	
1-1, 1-2, 1-3	←	←	←	
2-1, 2-2, 2-3, 2-4	●	●	●	●
3-1, 3-2	←	←	←	
4-1, 4-2, 4-3, 4-4	●	●	●	●
5-1, 5-2, 5-3	←	←	←	
6-1, 6-2, 6-3, 6-4	●	●	●	●
7-1, 7-2, 7-3	←	←	←	
8-1, 8-2, 8-3, 8-4	●	●	●	●

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 DESIGNER: JMG  
 CHECKED BY: JMG

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**ANOKA COUNTY**  
**CITY OF COON RAPIDS**  
 S.P. 02-609-14

**INPLACE SIGNAL SYSTEM**  
**"FOR INFORMATION ONLY"**  
**CSAH 9 (ROUND LAKE BLVD) AT**  
**NORTHDALE BLVD (CO.RD. 79)**

FILE NO.  
 AANOKC0706  
 SIGNAL SHEET  
 S66 OF S610

25/35

① A100 POLE FOUNDATION  
 TYPE A100-A-55-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0' & 11'  
 FROM END OF MAST ARM)  
 TYPE D SIGN PANEL-OVERHEAD  
 EXTENDED INTO H.H.10:  
 3"R.S.C.  
 4-12/c#12  
 2-3/c#12  
 2-1/c#10 (LUM)  
 TYPE 10B BRACKETING-POLE MOUNTED 90° (3-2, P4-2)  
 TYPE 20B BRACKETING-POLE MOUNTED 180° (4-2, 6-1, P6-1)  
 2-SETS PEDESTRIAN INDICATIONS  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 CAP POLE MOUNTED HUBS AT 0° & 270°  
 ONE WAY EVP DETECTOR AND LIGHT (#6,1)  
 1-3/c#12  
 1-3/c#20

④ A100 POLE FOUNDATION  
 TYPE A100-A-55  
 3-ONE WAY SIGNALS-OVERHEAD (0', 15', 27'  
 FROM END OF MAST ARM)  
 TYPE D SIGN PANEL-OVERHEAD  
 EXTENDED INTO H.H.14:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 TYPE 10B BRACKETING-POLE MOUNTED 90° (5-2, P8-2)  
 TYPE 20B BRACKETING-POLE MOUNTED 180° (1-1, 8-1, P8-1)  
 2-SETS PEDESTRIAN INDICATIONS  
 1-PEDESTRIAN PUSH BUTTON & SIGN (R10-4b)  
 CAP POLE MOUNTED HUBS AT 0° & 270°  
 ONE WAY EVP DETECTOR AND LIGHT (#8,3)  
 1-3/c#12  
 1-3/c#20

⑦ PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 TYPE 1A  
 EXTENDED INTO H.H.15:  
 3"R.S.C.  
 2-12/c#12  
 WIND COLLAR FOR PEDESTAL POLE  
 CAP ALL BRACKETING ON PEDESTAL POLE

② PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 EXTENDED INTO H.H.15:  
 3"R.S.C.  
 2-12/c#12  
 2-3/c#12  
 WIND COLLAR FOR PEDESTAL POLE  
 TYPE 2C BRACKETING  
 2-SETS PEDESTRIAN INDICATIONS  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)

⑤ P100 POLE FOUNDATION  
 TYPE P100-A-40-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0' & 17'  
 FROM END OF MAST ARM)  
 TYPE D SIGN PANEL-OVERHEAD  
 EXTENDED INTO H.H.4:  
 3"R.S.C.  
 3-12/c#12  
 2-3/c#12  
 4-1/c#10 (LUM)  
 TYPE 10B BRACKETING-POLE MOUNTED 90° (1-3, P2-2)  
 TYPE 20B BRACKETING-POLE MOUNTED 180° (2-4, 4-4, P4-4)  
 2-SETS PEDESTRIAN INDICATIONS  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 CAP POLE MOUNTED HUBS AT 0° & 270°  
 ONE WAY EVP DETECTOR AND LIGHT (#4,7)  
 1-3/c#12  
 1-3/c#20

⑧ PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 TYPE 1A  
 EXTENDED INTO H.H.12:  
 3"R.S.C.  
 1-12/c#12  
 WIND COLLAR FOR PEDESTAL POLE  
 CAP ALL BRACKETING ON PEDESTAL POLE

⑨ SCREW-IN FOUNDATION  
 10' PEDESTAL POLE (INCLUDES BASE)  
 WIND COLLAR FOR PEDESTAL POLE  
 TWO WAY EVP DETECTOR-MOUNT ON TOP  
 OF PEDESTAL POLE (#4,7)  
 EXTEND INTO H.H.50:  
 2"R.S.C.  
 1-3/c#20

⑩ SCREW-IN FOUNDATION  
 10' PEDESTAL POLE (INCLUDES BASE)  
 WIND COLLAR FOR PEDESTAL POLE  
 ONE WAY EVP DETECTOR-MOUNT ON TOP  
 OF PEDESTAL POLE (#8,3)  
 EXTEND INTO H.H.52:  
 2"R.S.C.  
 1-3/c#20

③ PEDESTAL FOUNDATION  
 10' PEDESTAL POLE AND BASE  
 EXTENDED INTO H.H.9:  
 3"R.S.C.  
 2-12/c#12  
 2-3/c#12  
 WIND COLLAR FOR PEDESTAL POLE  
 TYPE 3C BRACKETING  
 2-SETS PEDESTRIAN INDICATIONS  
 1-PEDESTRIAN PUSH BUTTON & SIGN (R10-4b)  
 CAP ALL BRACKETING ON PEDESTAL POLE

⑥ A100 POLE FOUNDATION  
 TYPE A100-A-45-X30-3 (DAVIT AT 0')  
 LUMINAIRE (SHOEBOX)  
 2-ONE WAY SIGNALS-OVERHEAD (0' & 11'  
 FROM END OF MAST ARM)  
 TYPE D SIGN PANEL-OVERHEAD  
 EXTENDED INTO H.H.13:  
 3"R.S.C.  
 2-12/c#12  
 2-3/c#12  
 2-1/c#10 (LUM)  
 TYPE 10B BRACKETING-POLE MOUNTED 90° (7-2, P8-3)  
 TYPE 10B BRACKETING-POLE MOUNTED 180° (2-1, P2-1)  
 2-SETS PEDESTRIAN INDICATIONS  
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)  
 CAP POLE MOUNTED HUBS AT 0° & 270°  
 ONE WAY EVP DETECTOR AND LIGHT (#2,5)  
 1-3/c#12  
 1-3/c#20

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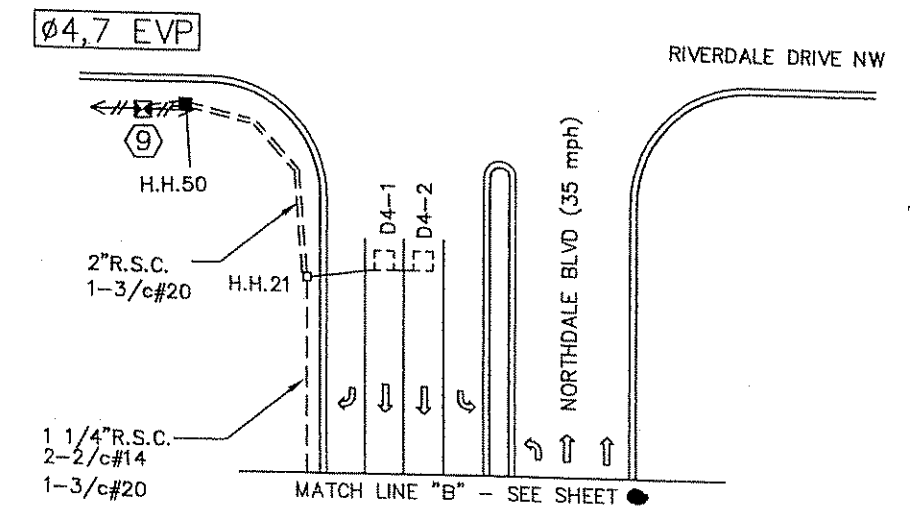
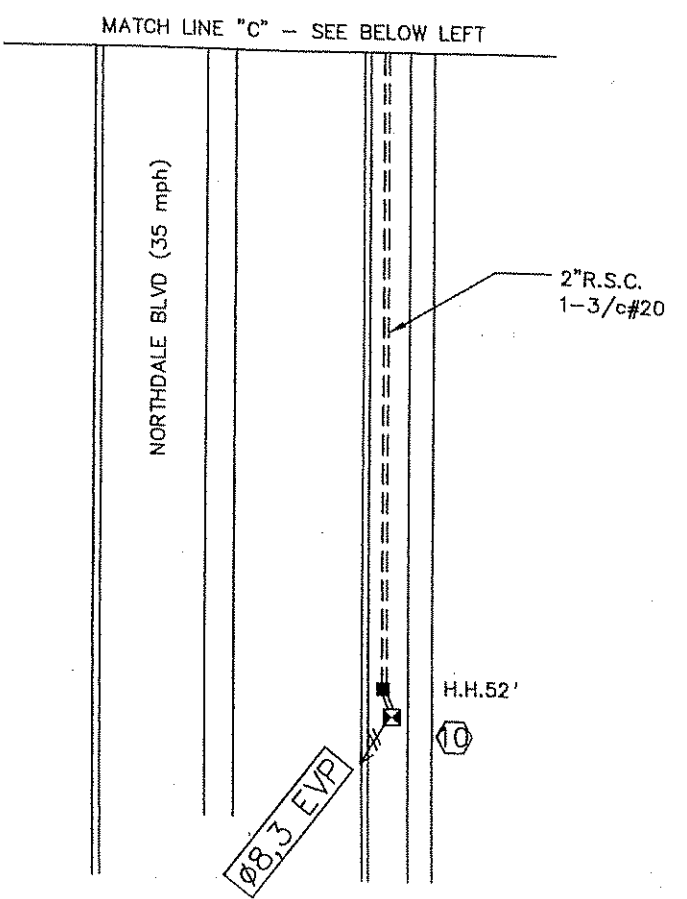
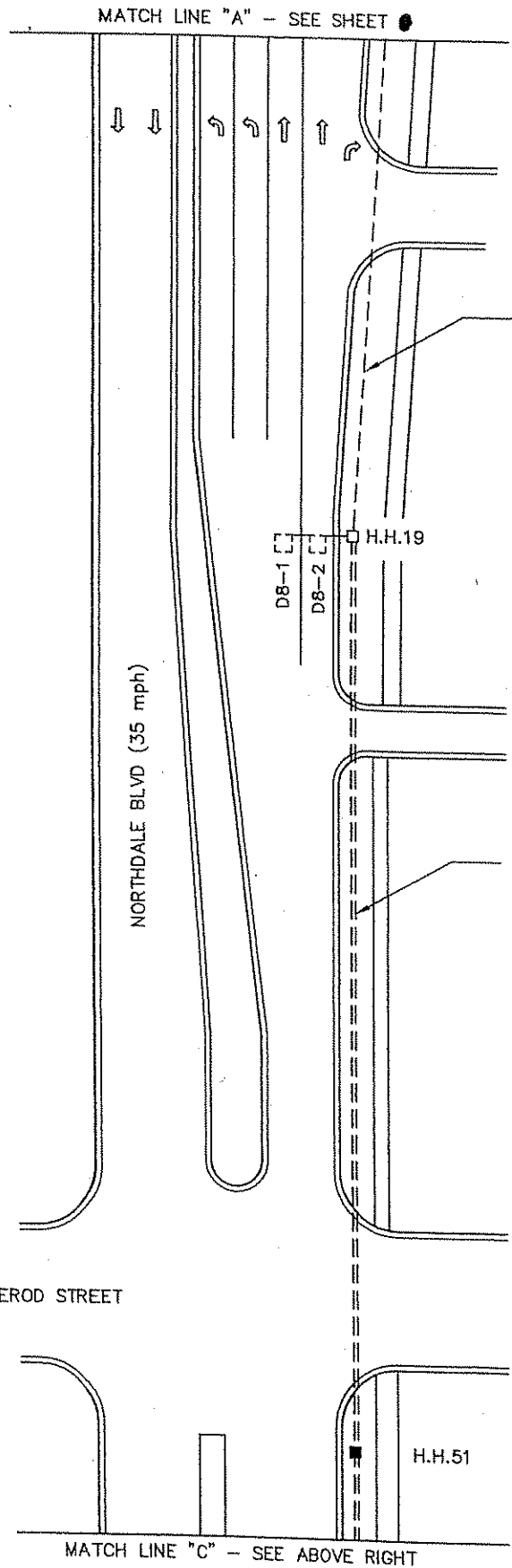
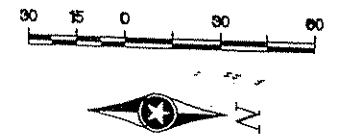
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 CITY OF COON RAPIDS  
 S.P. 02-609-14

INPLACE SIGNAL SYSTEM  
 "FOR INFORMATION ONLY"  
 CSAH 9 (ROUND LAKE BLVD) AT  
 NORTHDALÉ BLVD (CO.RD. 79)

FILE NO.  
 AANOKC0706  
 SIGNAL SHEET  
 SG7 OF SG10

26/35

S:\VIA\ANOKA\COUNTY SIGNALS\9-NORTHDALÉ\NORTHDALE.DWG



SILVEROD STREET

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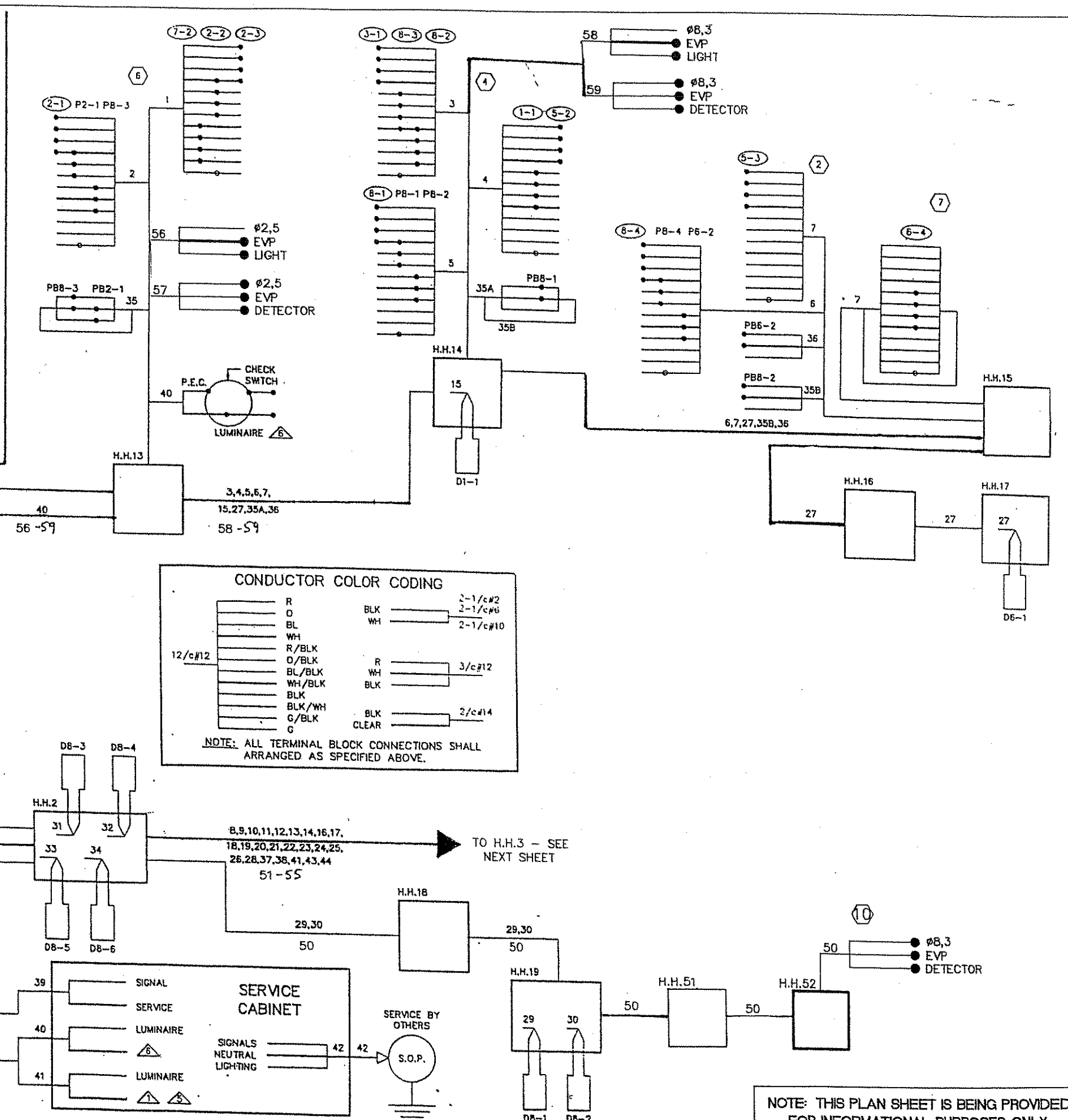
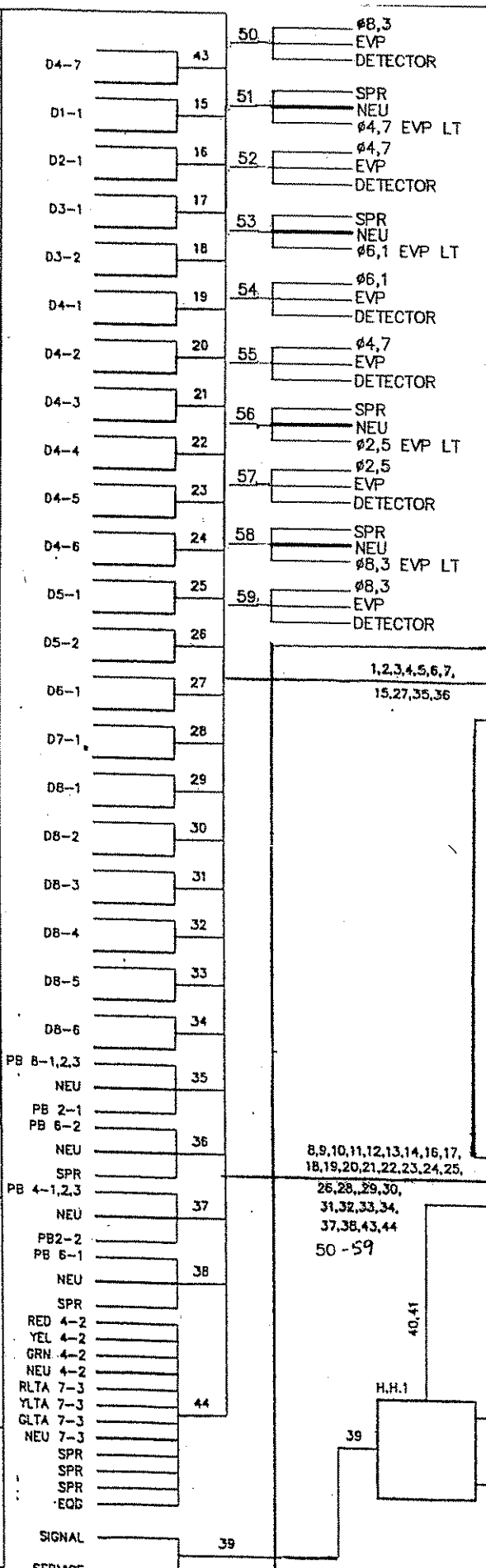
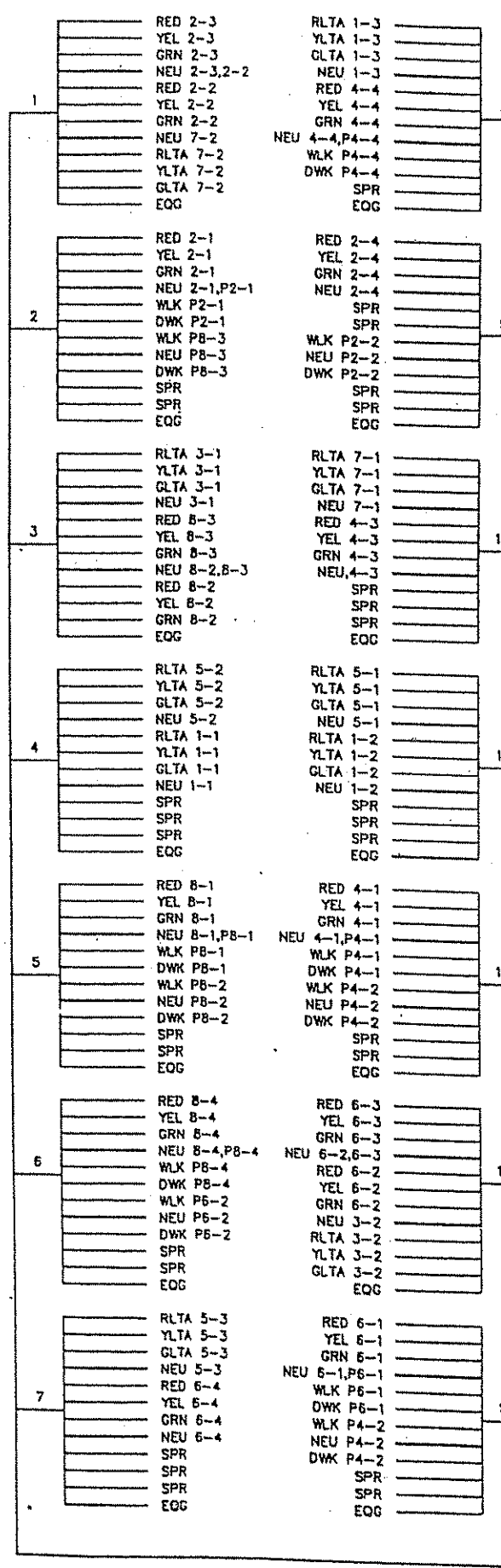
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ANOKA COUNTY  
CITY OF COON RAPIDS  
S.P. 02-609-14

INPLACE SIGNAL SYSTEM  
'FOR INFORMATION ONLY'  
CSAH 9 (ROUND LAKE BLVD) AT  
NORTHDALE BLVD (CO.RD. 79)

FILE NO.	AANOKC0706
SIGNAL SHEET	27
SG8 OF SG10	35

**CONTROLLER CABINET**



**CONDUCTOR COLOR CODING**

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL		2-1/c#10
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH		
G/BLK	CLEAR	
G		

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL ARRANGED AS SPECIFIED ABOVE.

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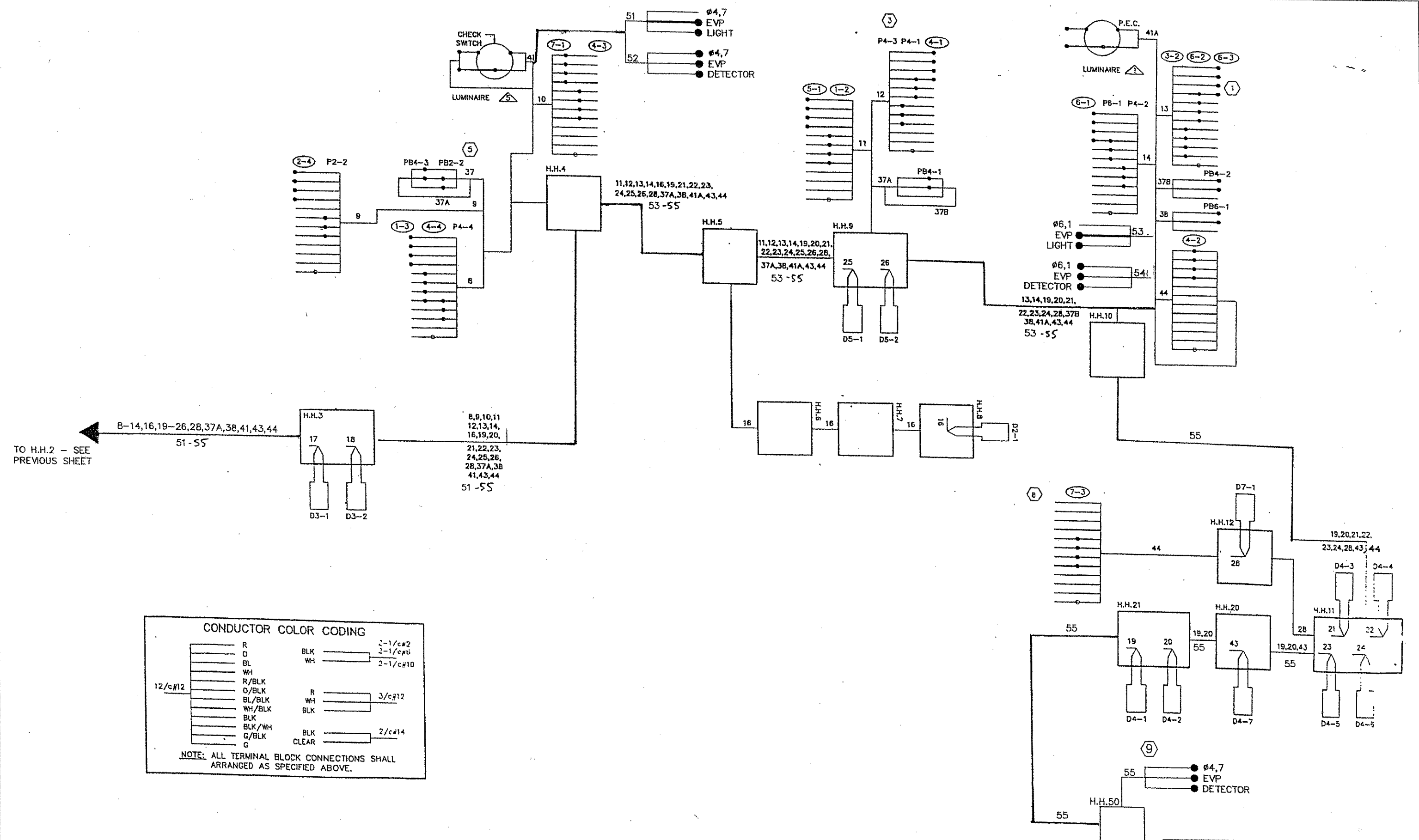
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**INPLACE SIGNAL SYSTEM**  
**"FOR INFORMATION ONLY"**  
 CSAH 9 (ROUND LAKE BLVD) AT  
 NORTHDAL BLVD (CO.RD. 79)

FILE NO.  
 AANOKC0706  
 SIGNAL SHEET  
 SG9 OF SG10

28  
35

S:\METRO\COMMON\SIGALS\NORTHDALE\NORTHBASE.DWG



**CONDUCTOR COLOR CODING**

12/c#12	R	BLK	2-1/c#2
	O	WH	2-1/c#6
	BL	WH	2-1/c#10
	WH		
	R/BLK	R	3/c#12
	O/BLK	WH	
	BL/BLK	BLK	
	WH/BLK		
	BLK	BLK	2/c#14
	BLK/WH		
	G/BLK	CLEAR	
	C		

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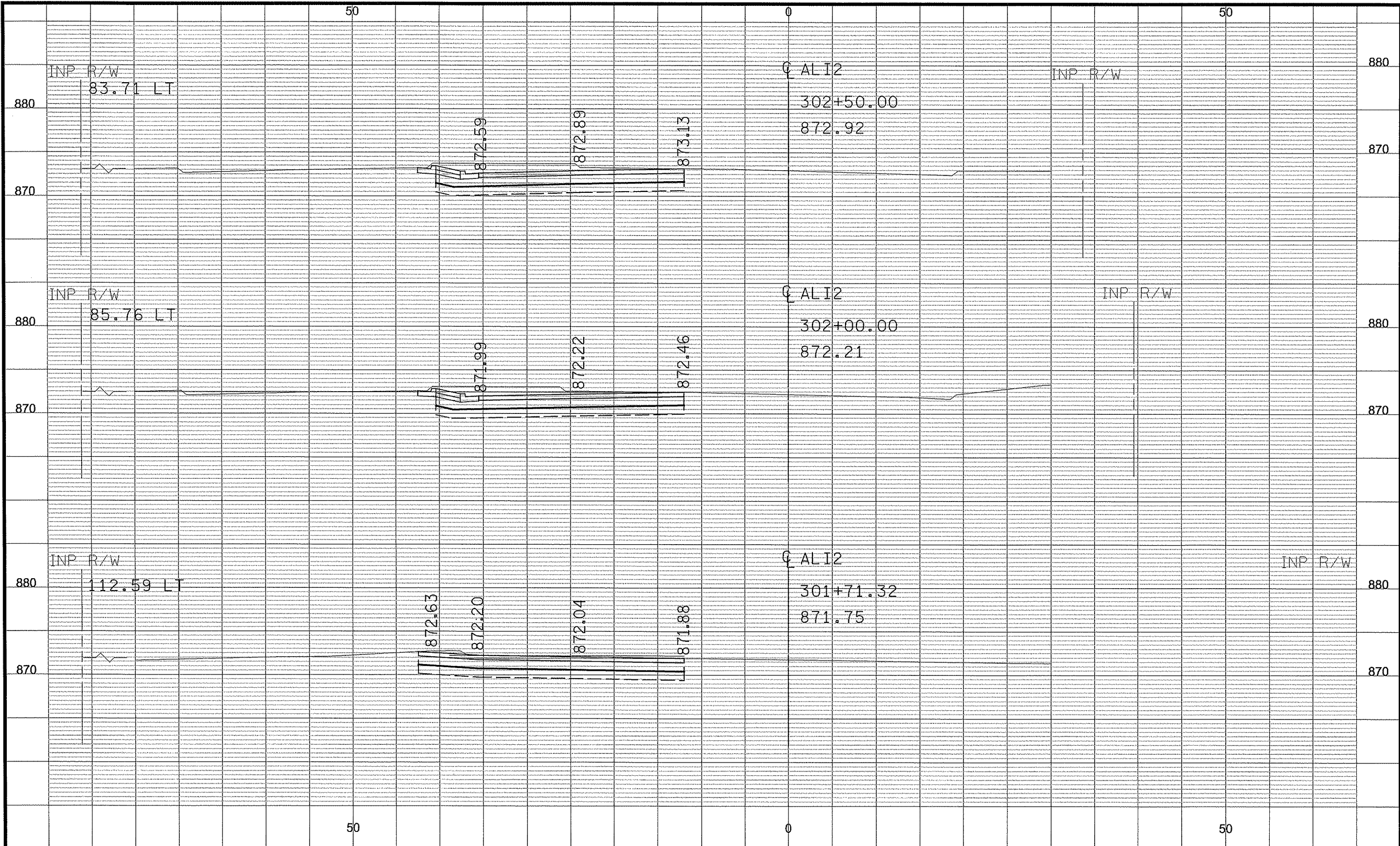
*John M. Gray*  
 Name: John M. Gray, PE  
 Lic. No. 22457  
 Date: August 1, 2007

**SEH**  
 PHONE: (651) 490-2000  
 3535 VADNAIS CENTER DR.  
 ST. PAUL, MN 55110

**ANOKA COUNTY**  
**CITY OF COON RAPIDS**  
 S.P. 02-609-14

**INPLACE SIGNAL SYSTEM**  
**"FOR INFORMATION ONLY"**  
 CSAH 9 (ROUND LAKE BLVD) AT  
 NORTHDAL BLVD (CO. RD. 79)

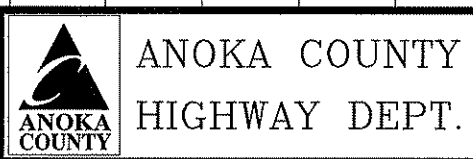
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SIGNAL SHEET S610 OF S610	



NO	DATE	BY	CKD	APPR	REVISION

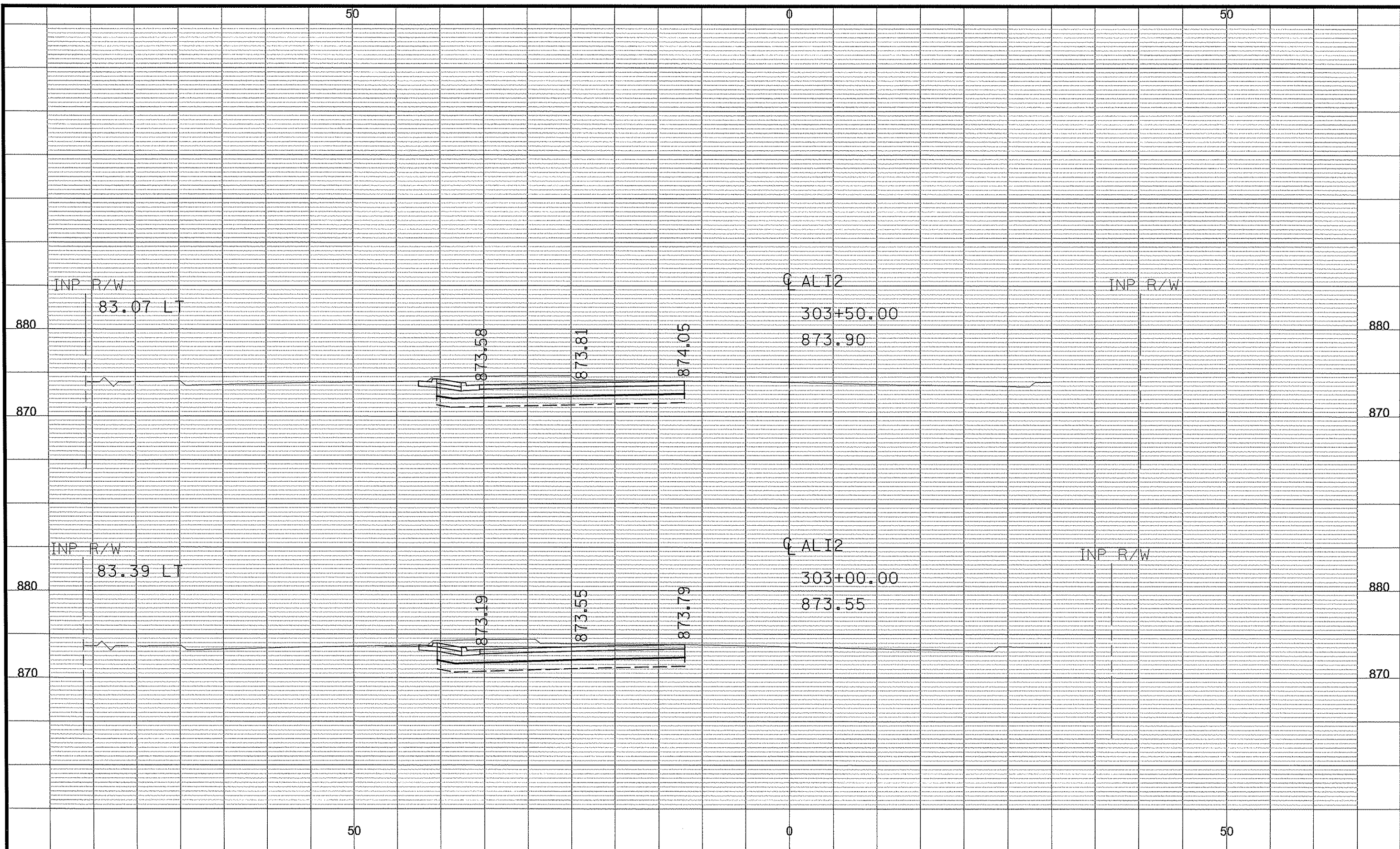
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 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO.  
 COUNTY PROJECT NO.

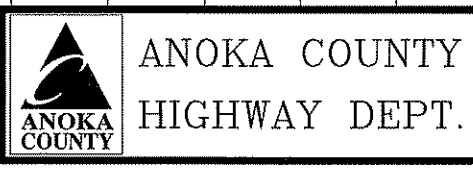
CROSS SECTIONS  
SUBTITLES  
STA 301+71.32 to STA 302+50  
Sheet 30 of 35 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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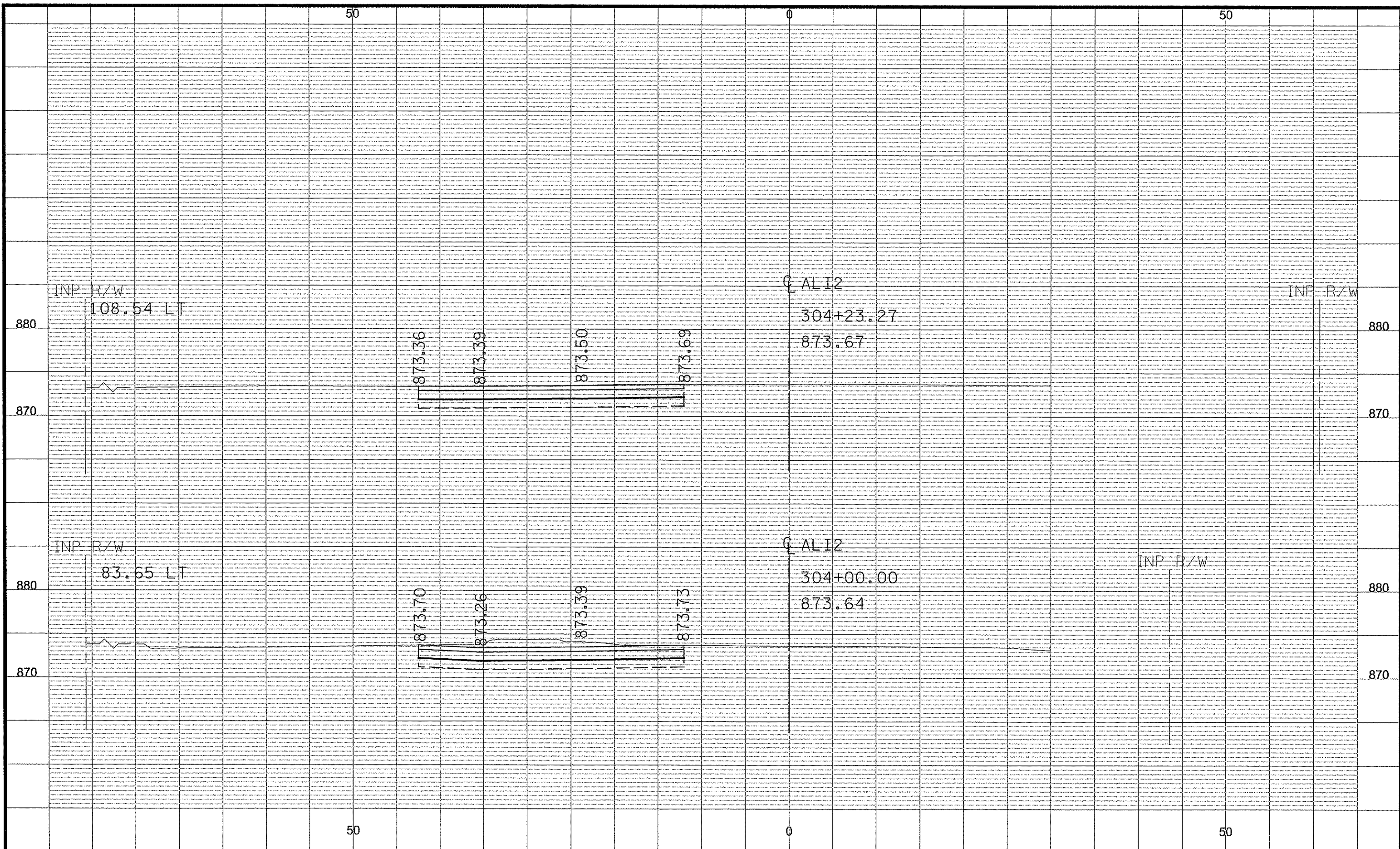
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 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

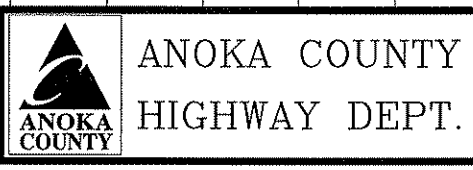
CROSS SECTIONS  
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 STA 303+00 to STA 303+50  
 Sheet 31 of 35 Sheets





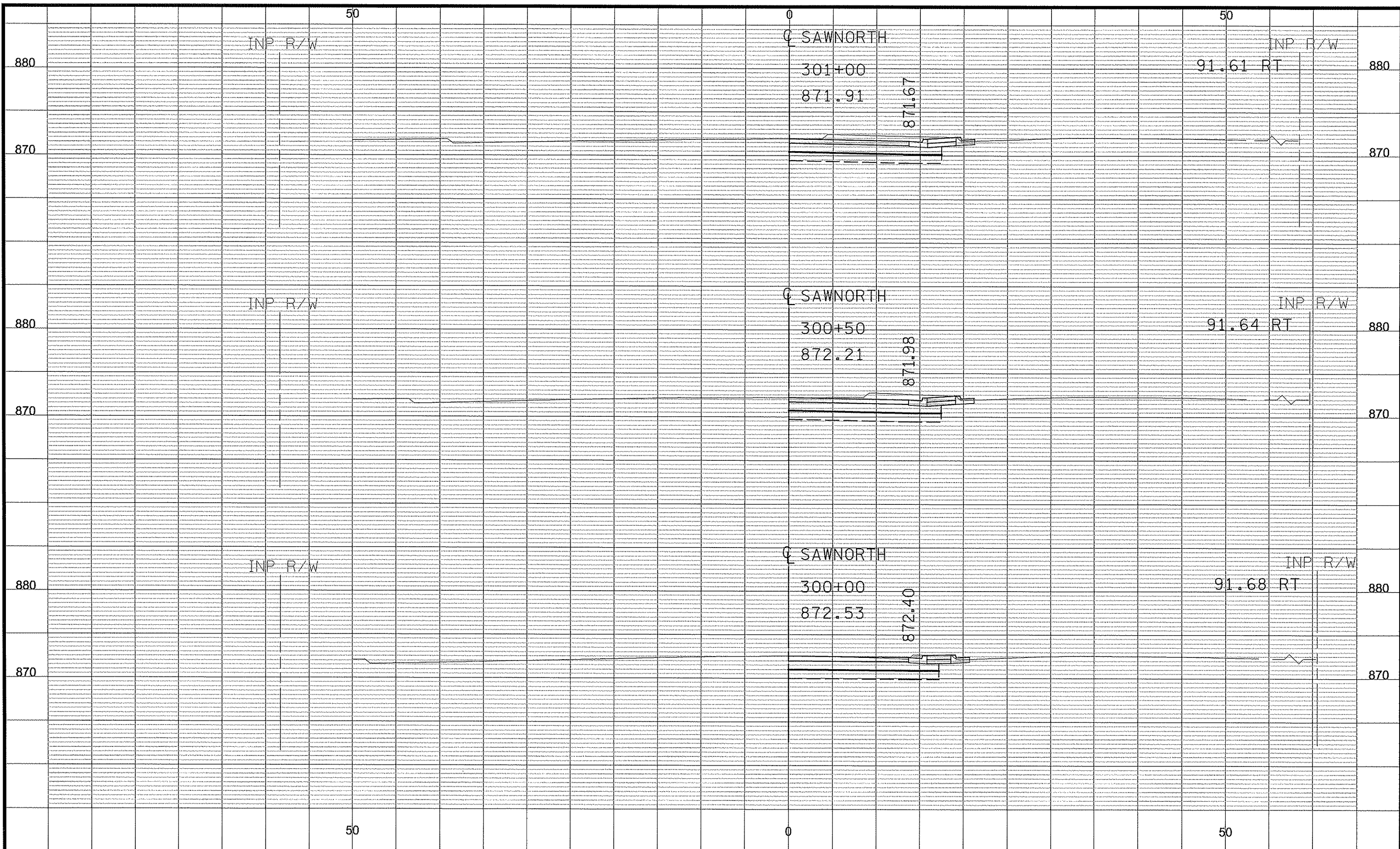
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 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

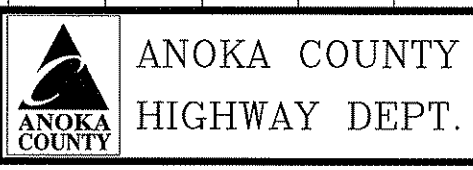
**CROSS SECTIONS**  
**SUBTITLES**  
 STA 304+00 to STA 304+23.27  
 Sheet 32 of 35 Sheets



NO	DATE	BY	CKD	APPR	REVISION

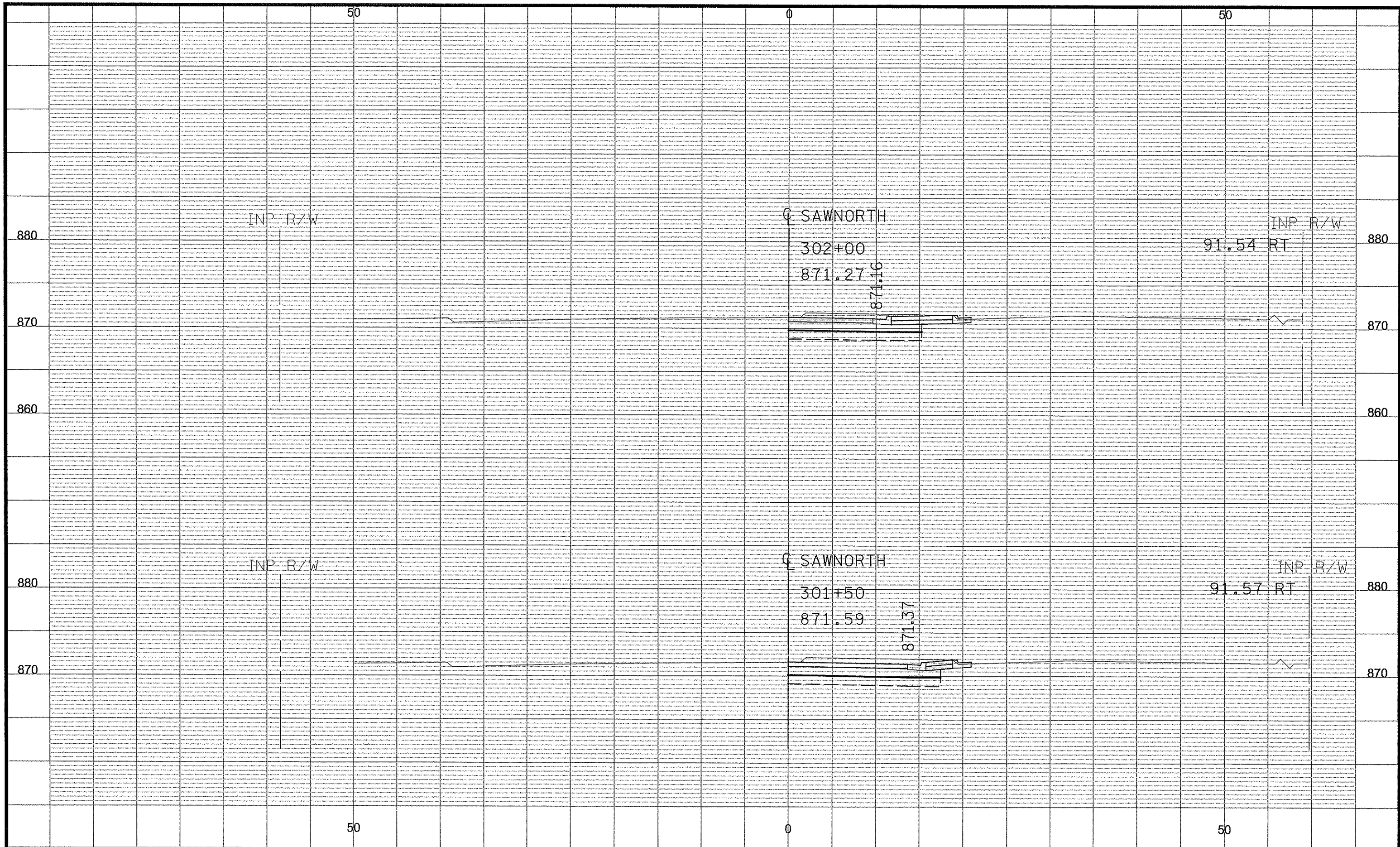
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STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO.  
 COUNTY PROJECT NO.

CROSS SECTIONS  
SUBTITLES  
STA 300+00 to STA 301+00  
Sheet 33 of 35 Sheets



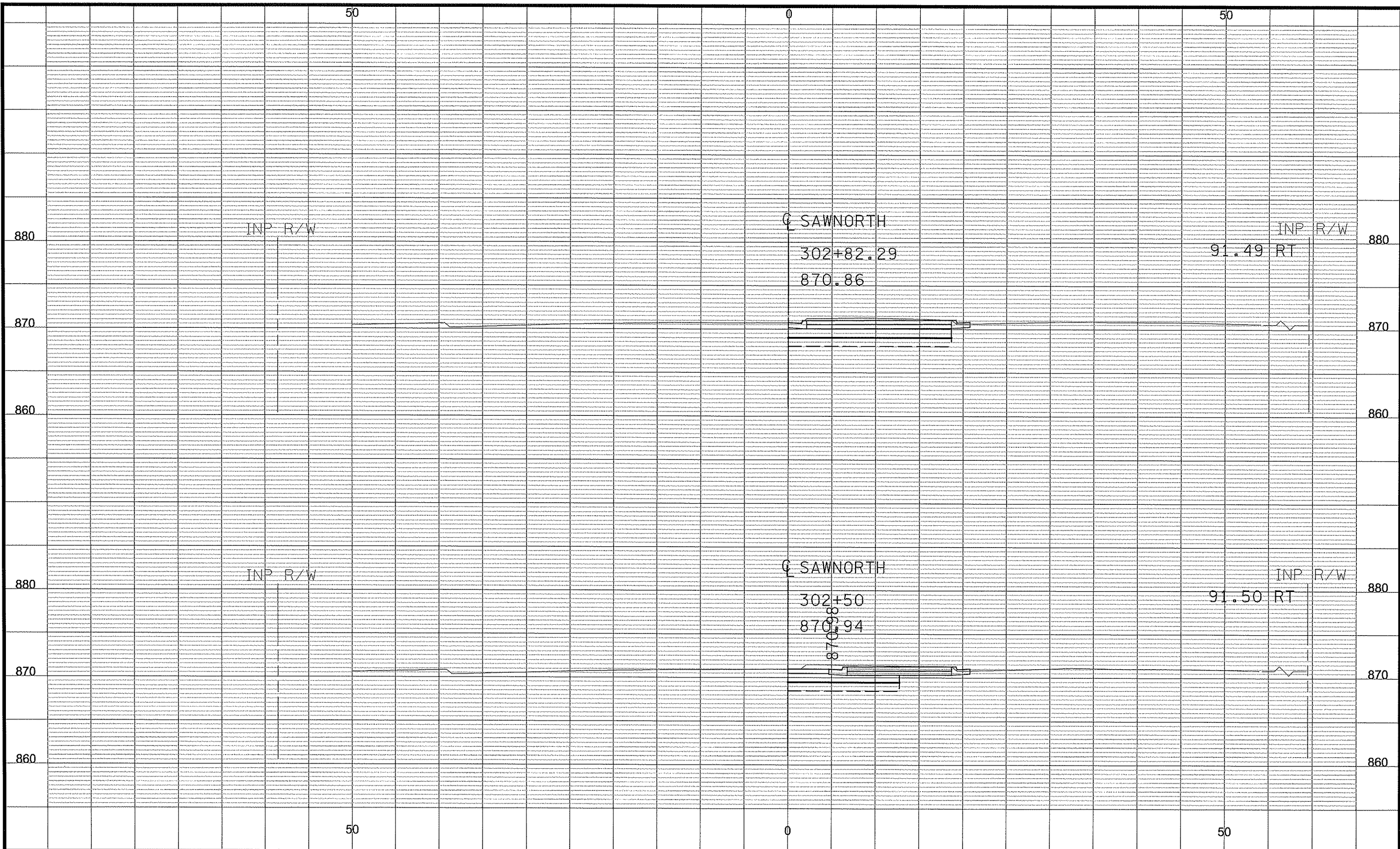
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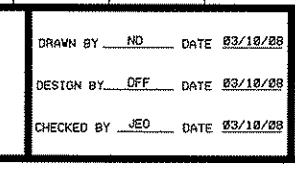
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 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

CROSS SECTIONS  
 SUBTITLES  
 STA 301+50 to STA 302+00  
 Sheet 34 of 35 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-609-14\PLAN\0260914_XS_NORTH.DGN					
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DRAWN BY	ND	DATE	03/10/08
DESIGN BY	OFF	DATE	03/10/08
CHECKED BY	JEQ	DATE	03/10/08



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. 02-609-14  
 STATE PROJECT NO. 114-020-034  
 CITY PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

**CROSS SECTIONS  
SUBTITLES**  
 STA 302+50 to STA 302+82.29  
 Sheet 35 of 35 Sheets