

PLAN SYMBOLS

Table of plan symbols including STATE LINE, COUNTY LINE, TOWNSHIP OR RANGE LINE, SECTION LINE, QUARTER LINE, SIXTEENTH LINE, RIGHT-OF-WAY LINE, PRESENT RIGHT-OF-WAY LINE, CONTROL OF ACCESS LINE, PROPERTY LINE, VACATED PLATTED PROPERTY, CORPORATE OR CITY LIMITS, TRUNK HIGHWAY CENTER LINE, RETAINING WALL, RAILROAD, RIVER OR CREEK, DRAINAGE DITCH, CULVERT, DROP INLET, GUARD RAIL, BARBED WIRE FENCE, WOVEN WIRE FENCE, CHAIN LINK FENCE, WOODEN FENCE, STONE WALL OR FENCE, HEDGE, RAILROAD CROSSING SIGN, RAILROAD CROSSING BELL, ELECTRIC WARNING SIGN, CROSSING GATE, MEANDER CORNER, SPRINGS, MARSH, TIMBER ORCHARD, BRUSH, NURSERY, CATCH BASIN, FIRE HYDRANT, CATTLE GUARD, OVERPASS (Highway Over), UNDERPASS (Highway Under), BRIDGE, BUILDING (One Story Frame), IRON PIPE OR ROD, MONUMENT (STONE, CONCRETE, OR METAL), WOODEN HUB, GRAVEL PIT, SAND PIT, BORROW PIT, ROCK QUARRY, SOIL BORING.

UTILITY SYMBOLS

Table of utility symbols including POWER POLE LINE, TELEPHONE OR TELEGRAPH POLE LINE, JOINT TELEPHONE AND POWER ON POWER POLES, ANCHOR, STEEL TOWER, STREET LIGHT, PEDESTAL TELEPHONE CABLE TERMINALS, GAS MAIN, WATER MAIN, CONDUIT, TELEPHONE CABLE IN CONDUIT, ELECTRIC CABLE IN CONDUIT, TELEPHONE MANHOLE, BURIED FIBER OPTIC, BURIED COMMUNICATION CABLE, BURIED TELEPHONE CABLE, BURIED ELECTRIC CABLE, SEWER (SANITARY), SEWER (STORM), SEWER MANHOLE, HANDHOLE, CATCH BASIN.

MINNESOTA DEPARTMENT OF TRANSPORTATION
RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR GRADING, BASE, BITUMINOUS PAVING, CONCRETE CURB & GUTTER, BR. NO. 02571,
TRAFFIC SIGNALS, STORM SEWER, SANITARY SEWER, & MISC. CONSTRUCTION
LOCATED ON COUNTY ROAD J/85TH AVE. FROM AIRPORT ROAD TO NAPLES STREET/RICE CREEK PARKWAY

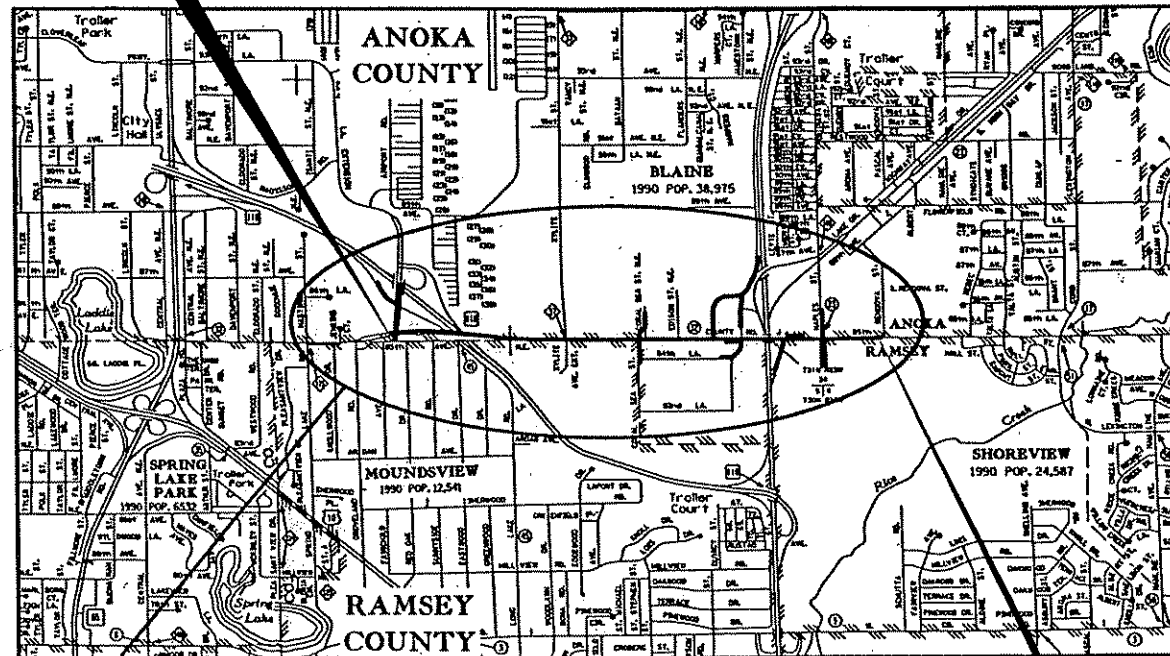
STATE AID PROJECT NO: 02-632-14 & 62-601-11

LEGAL DESCRIPTION

COUNTY ROAD J, BEGINNING AT A POINT 127.7' NORTH AND 200.24' EAST OF THE NORTH 1/4 CORNER OF SECTION 6, TWP. 30N, RANGE 23W, AND ENDING AT A POINT 0.79' NORTH AND 305.64' WEST OF THE NORTH 1/4 CORNER OF SECTION 4, TWP. 30N, RANGE 23W.

NOTE:
LENGTH AND DESCRIPTION IS BASED ON THE COUNTY ROAD J ALIGNMENT

BEGIN S.A.P. 02-632-14
BEGIN S.A.P. 62-601-11
STA. 22+72.05



PROJECT LOCATION

S.A.P. 02-632-14, S.A.P. 62-601-11

COUNTY ROAD J/85TH AVE

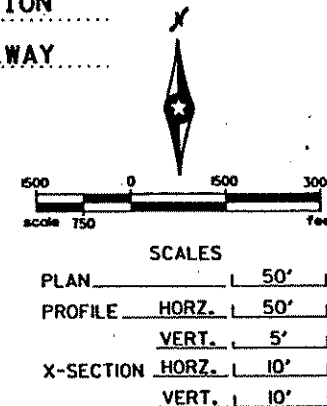
Table with 2 columns: Parameter and Value. Includes Functional Classification (A MINOR ARTERIAL), NO. OF TRAFFIC LANES (4), NO. OF PARKING LANES (0), STRUCTURAL DESIGN (10 TON), R VALUE (50), ADT (Current Year) (2006) (16,500), ADT (Future Year) (2030) (16,000), HCADT (Future Year) (2030) (7.7%), ESALS = 20 YEAR CUMULATIVE (5,500,000), GROSS LENGTH (1,0072.76 FT / 1,308 M), BRIDGE LENGTH (0 FT / 0 M), EXCEPTION LENGTH (35.7 FT / 0.59 M), NET LENGTH (9757.09 FT / 1,848 M), DESIGN SPEED (45 MPH), HEIGHT OF EYE (3.5 FT), STOPPING SIGHT DISTANCE (2.0 FT).

AGREEMENT NUMBER
RAMSEY COUNTY
S.P. 6284-137 (TH35W-394)
STATE FUNDS
METRO DISTRICT

NOTE:
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, PIPELINES, ELECTRIC, AND CABLE TV ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENTING EXCAVATION.

GOPHER STATE ONE CALL 1800-252-1866



STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS", SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".

INDEX

Table with 2 columns: SHEET NO. and DESCRIPTION. Lists sheets 1 through 247-297 and their corresponding descriptions.

** INCLUDES SHEETS 72A, 89A, 90A, 94A, 95A

THIS PLAN CONTAINS 365 SHEETS

Table for PLAN REVISIONS with columns DATE, SHEET NO., and APPROVED BY.

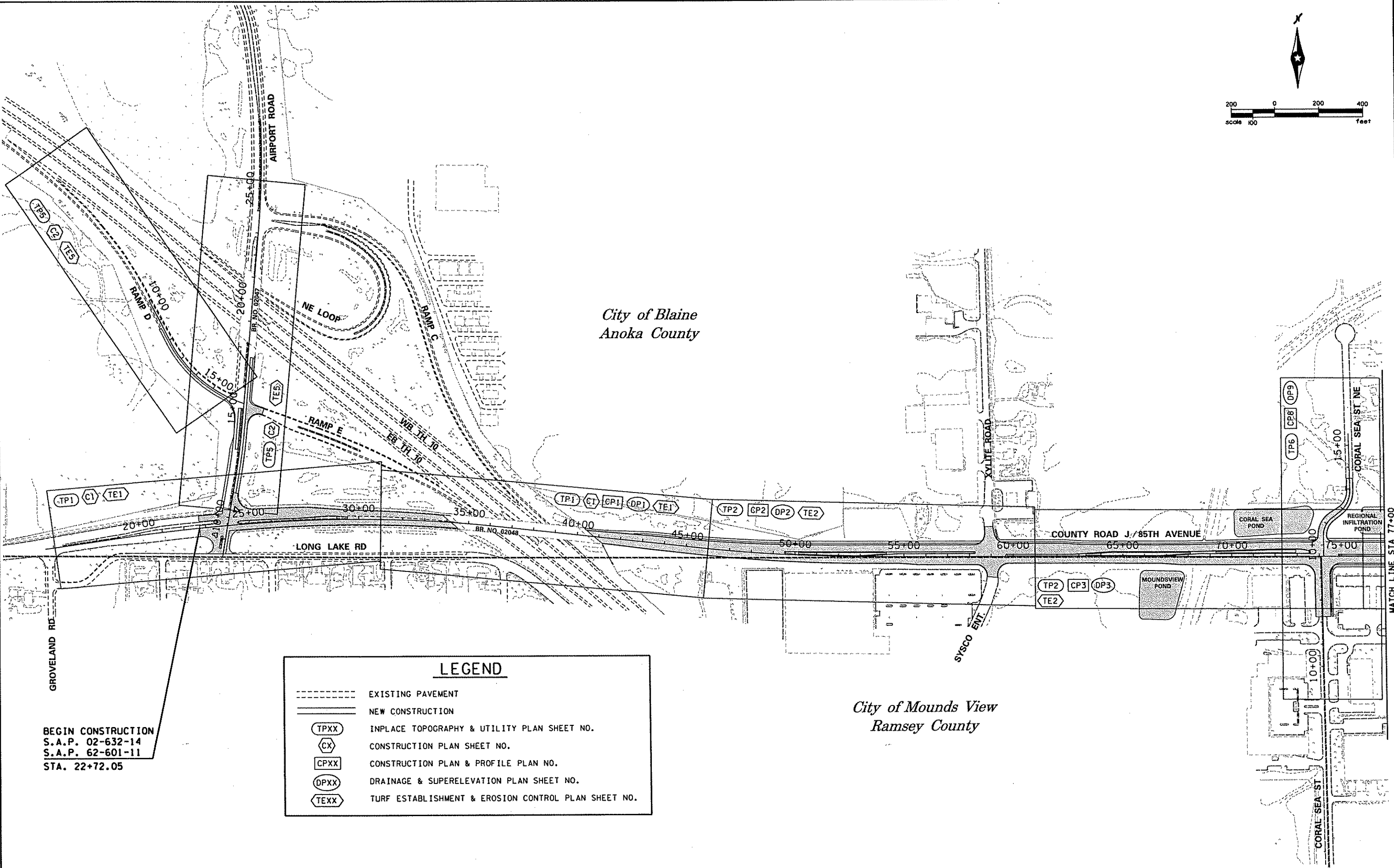
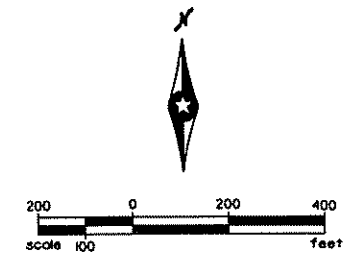
SEH logo and contact information: PHONE: (651) 490-2000, 3535 MADONNA CENTER DR., ST. PAUL, MN 55110.

Table of approvals with columns: APPROVED BY, DATE, and TITLE. Includes approvals from Ramsey County Engineer, Anoka County Engineer, City of Blaine, City of Moundsview, City of Shoreview, and Metro District.

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.
Aaron P. Moniza
LICENSED ENGINEER AARON P. MONIZA
DATE 2/21/06 REG. NO. 41654

PROJECT LOCATION
COUNTY: RAMSEY & ANOKA
DISTRICT: METRO

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City of Blaine
 Anoka County

City of Mounds View
 Ramsey County

LEGEND	
	EXISTING PAVEMENT
	NEW CONSTRUCTION
	INPLACE TOPOGRAPHY & UTILITY PLAN SHEET NO.
	CONSTRUCTION PLAN SHEET NO.
	CONSTRUCTION PLAN & PROFILE PLAN NO.
	DRAINAGE & SUPERELEVATION PLAN SHEET NO.
	TURF ESTABLISHMENT & EROSION CONTROL PLAN SHEET NO.

BEGIN CONSTRUCTION
 S.A.P. 02-632-14
 S.A.P. 62-601-11
 STA. 22+72.05

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	AFM		
	NO.	BY	DATE
			REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

GENERAL LAYOUT

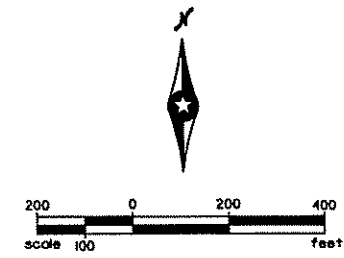
FILE NO.	2
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GL 1	
OF GL 2	297

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02/17/2006

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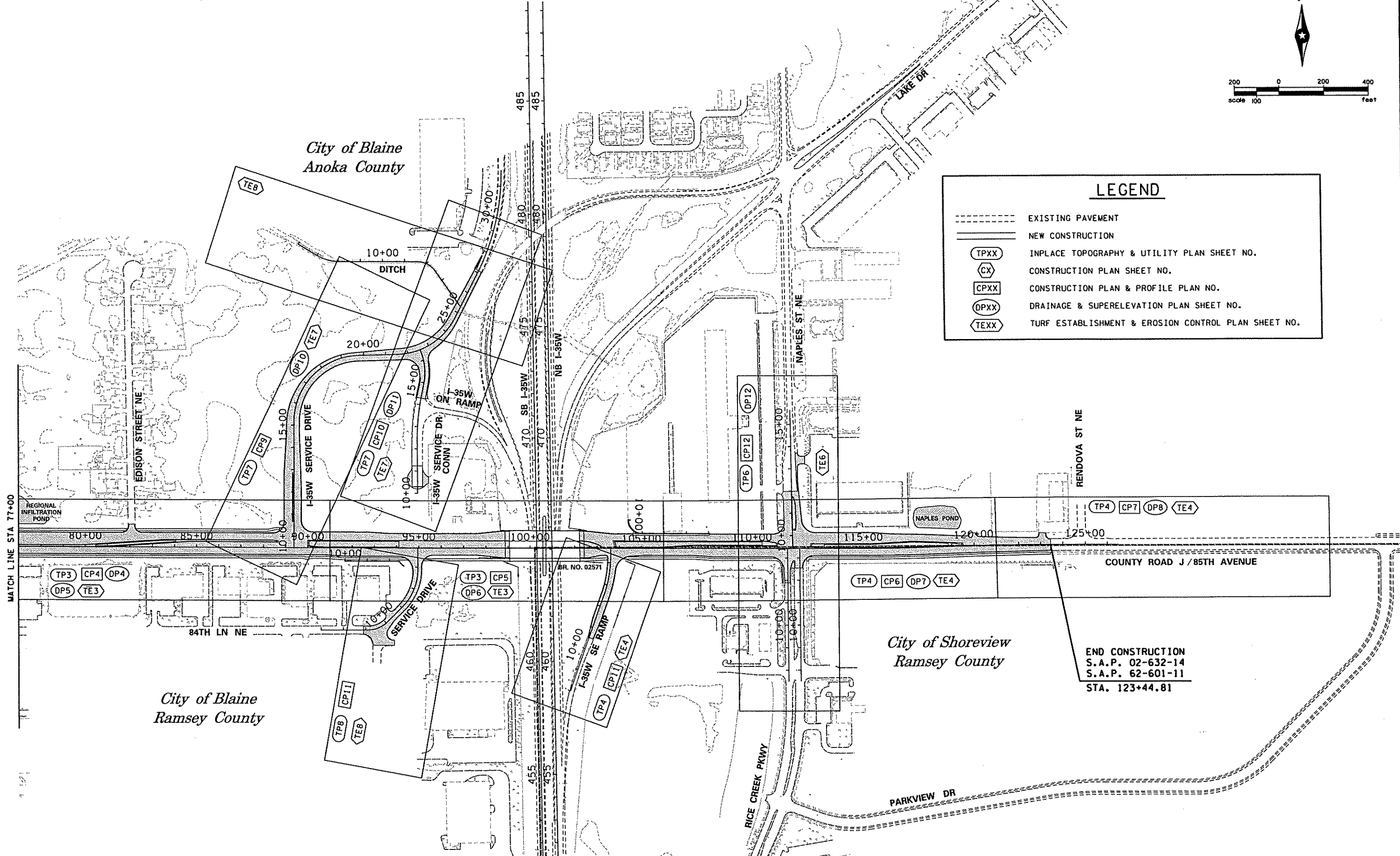
City of Blaine
Anoka County

City of Blaine
Ramsey County

City of Shoreview
Ramsey County

LEGEND

- EXISTING PAVEMENT
- NEW CONSTRUCTION
- INPLACE TOPOGRAPHY & UTILITY PLAN SHEET NO.
- CONSTRUCTION PLAN SHEET NO.
- CONSTRUCTION PLAN & PROFILE PLAN NO.
- DRAINAGE & SUPERELEVATION PLAN SHEET NO.
- TURF ESTABLISHMENT & EROSION CONTROL PLAN SHEET NO.



END CONSTRUCTION
S.A.P. 02-632-14
S.A.P. 62-601-11
STA. 123+44.81

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

GENERAL LAYOUT

FILE NO.	3
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GL2 OF GL2	297

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3/23/2006

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STATEMENT OF ESTIMATED QUANTITIES

Table with columns: TAB, NOTES, ITEM NO., ITEM DESCRIPTION, UNIT, TOTAL PROJECT QUANTITIES, COUNTY ROAD J ROADWAY QUANTITIES. Includes items like MOBILIZATION, CLEARING, PAVEMENT MARKING REMOVAL, etc.

BASIS OF ESTIMATED QUANTITIES

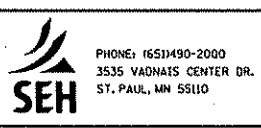
Table listing material specifications and quantities: 2105.522 SELECT GRANULAR BORROW 140 #/CU. FT, 2357.502 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL/SY, etc.

NOTES:

- 1 SEE TABULATION FOR ADDITIONAL INFO
2 WATERMAIN
3 REMOVE AND SALVAGE SANITARY MANHOLE
4 NOT USED
5 NOT USED
7 FOR MUCK EXCAVATION AROUND QWEST FACILITY
10 4" TRAIL / SHLD
11 4" CONCRETE WALK
12 8" NON-REINF. CONCRETE
13 SEE SPECIAL PROVISIONS
14 SEE SOIL AND CONSTRUCTION NOTES FOR EXISTING PAVEMENT THICKNESS
16 FOR USE IN MILL AND OVERLAY AREA
18 FOR EXCAVATION OF CONTAMINATED MATERIALS AT BLUE TOW PARCEL
19 FOR MUCK EXCAVATION AROUND EXISTING QWEST FACILITY (TO REMAIN INPLACE)

DESIGN TEAM table with columns: NO., BY, DATE. Includes entries for GRB 03/06 and ADDENDUM NO. 1.

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.
Certified By: Aaron P. Moniza Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 3/23/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

STATEMENT OF ESTIMATED QUANTITIES
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297

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STATEMENT OF ESTIMATED QUANTITIES						
TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES	
					ESTIMATED	
					COUNTY ROAD J	
					S.A.P. 62-601-II, S.A.P. 02-632-1A	
					ROADWAY QUANTITIES	
					ESTIMATED	
D		2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	9626	9626
N		2301.502	CONCRETE PAVEMENT STANDARD WIDTH (8.0")	SQ YD	1253	1253
N		2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH (8.0")	SQ YD	221	221
N		2301.511	STRUCTURAL CONCRETE	CU YD	328	328
N		2301.529	REINFORCEMENT BARS (EPOXY COATED)	POUND	534	534
N		2301.538	DOWEL BAR	EACH	843	843
N		2301.603	PERMANENT TERMINAL HEADERS	LIN FT	67	67
M		2301.553	BRIDGE APPROACH PANELS	SQ YD	550	550
		2331.603	SAWED/SEALED JOINT	LIN FT	25000	25000
J	6	2350.501	TYPE LV 4 WEARING COURSE MIX (B)	TON	2091	2091
J	15	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,F)	TON	3676	3676
J		2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TON	17322	17322
J		2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	1703	1703
J		2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)	TON	17959	17959
J		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	12632	12632
W		2401.513	PARAPET RAIL CONCRETE (3Y46)	LIN FT	275	275
X		2401.513	TYPE MOD P-4 RAILING CONCRETE (3Y46)	LIN FT	379	379
W		2411.501	STRUCTURAL CONCRETE (1A43)	CU YD	115	115
W,X		2411.501	STRUCTURAL CONCRETE (3Y43)	CU YD	442	442
W		2411.541	REINFORCEMENT BARS	POUND	10160	10160
W,X		2411.541	REINFORCEMENT BARS (EPOXY COATED)	POUND	49587	49587
X		2411.604	MECHANICALLY STABILIZED EARTH WALL	SQ YD	601	601
		2451.507	GRANULAR BEDDING	CU YD	363	363
A		2451.511	COARSE FILTER AGGREGATE (LV)	CU YD	4590	4590
BB		2451.607	ROCK BEDDING (LV)	CU YD	100	100
Q		2501.515	15" RC PIPE APRON	EACH	6	6
Q		2501.515	18" RC PIPE APRON	EACH	2	2
Q		2501.515	24" RC PIPE APRON	EACH	6	6
Q		2501.515	36" RC PIPE APRON	EACH	4	4
Q		2501.515	42" RC PIPE APRON	EACH	1	1
Q		2501.515	48" RC PIPE APRON	EACH	2	2
Q		2501.515	54" RC PIPE APRON	EACH	4	4
Q		2501.601	TEMPORARY DRAINAGE CONTROL	LUMP SUM	1	1
Q		2501.602	TRASH GUARD FOR 15" RC PIPE APRON	EACH	4	4
Q		2501.602	TRASH GUARD FOR 18" RC PIPE APRON	EACH	1	1
Q		2501.602	TRASH GUARD FOR 24" RC PIPE APRON	EACH	4	4
Q		2501.602	TRASH GUARD FOR 42" RC PIPE APRON	EACH	1	1
Q		2501.602	TRASH GUARD FOR 48" RC PIPE APRON	EACH	1	1
Q		2501.602	TRASH GUARD FOR 54" RC PIPE APRON	EACH	2	2
H		2502.541	4" PERF PE PIPE DRAIN	LIN FT	28432	28432
R		2502.604	4" INSULATION	SQ YD	6	6
Q		2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT	13	13
Q	△	2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	7978	7978
Q		2503.541	18" RC PIPE SEWER DES 3006 CL III	LIN FT	32	32
Q		2503.541	18" RC PIPE SEWER DES 3006 CL IV	LIN FT	1049	1049
Q		2503.541	21" RC PIPE SEWER DES 3006 CL III	LIN FT	563	563
Q		2503.541	21" RC PIPE SEWER DES 3006 CL IV	LIN FT	125	125
Q		2503.541	21" RC PIPE SEWER DES 3006 CL V	LIN FT	181	181
Q		2503.541	24" RC PIPE SEWER DES 3006 CL III	LIN FT	1226	1226
Q		2503.541	24" RC PIPE SEWER DES 3006 CL IV	LIN FT	325	325
Q		2503.541	27" RC PIPE SEWER DES 3006 CL III	LIN FT	531	531
Q		2503.541	30" RC PIPE SEWER DES 3006 CL III	LIN FT	770	770

BASIS OF ESTIMATED QUANTITIES

2105.522	SELECT GRANULAR BORROW	140 #/CU. FT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL/SY
2360.501	TYPE SP 12.5 WEARING COURSE	113 LBS/SY/INCH
2360.502	TYPE SP 12.5 NON-WEARING COURSE	113 LBS/SY/INCH
2575.502	SEED MIXTURE SPECIAL	40 LBS/ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS/ACRE
2575.532	COMM. FERT. ANALYSIS 23-0-30	300 LBS/ACRE
2575.608	SEED MIXTURE 250	70 LBS/ACRE
2575.608	SEED MIXTURE 310	82 LBS/ACRE
2575.608	SEED MIXTURE 330	85 LBS/ACRE

NOTES:

- 6 TRAIL
- 15 INCLUDES 20 TONS FOR TEMP PAVEMENT, REMOVAL IS INCIDENTAL

DESIGN TEAM	△	GRB	03/06	ADDENDUM NO.1
DRAWN BY:	JEO			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 03/20/2006

SEH
PHONE: 651490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-1A, S.A.P. 62-601-11

STATEMENT OF ESTIMATED QUANTITIES

FILE NO.	5
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OF E05	297

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STATEMENT OF ESTIMATED QUANTITIES						
TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES	COUNTY ROAD J
						S.A.P. 62-601-II, S.A.P. 02-632-14
						ROADWAY QUANTITIES
					ESTIMATED	ESTIMATED
Q		2503.541	30" RC PIPE SEWER DES 3006 CL IV	LIN FT	220	220
Q		2503.541	30" RC PIPE SEWER DES 3006 CL V	LIN FT	459	459
Q		2503.541	33" RC PIPE SEWER DES 3006 CL III	LIN FT	586	586
Q		2503.541	33" RC PIPE SEWER DES 3006 CL IV	LIN FT	84	84
		2503.541	36" RC PIPE SEWER DES 3006 CL III	LIN FT	643	643
Q		2503.541	36" RC PIPE SEWER DES 3006 CL IV	LIN FT	88	88
		2503.541	42" RC PIPE SEWER DES 3006 CL III	LIN FT	995	995
Q		2503.541	48" RC PIPE SEWER DES 3006 CL III	LIN FT	118	118
Q	▲	2503.541	54" RC PIPE SEWER DES 3006 CL IV	LIN FT	148	148
Q		2503.573	INSTALL CONCRETE APRON	EACH	1	1
T		2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	2	2
Q		2503.602	CONNECT TO EXISTING STORM SEWER	EACH	10	10
		2503.602	CONSTRUCT BULKHEAD	EACH	2	2
T		2503.603	8" PVC PIPE SEWER	LIN FT	997	997
R		2504.602	INSTALL HYDRANT	EACH	5	5
R		2504.602	INSTALL HYDRANT & VALVE	EACH	3	3
S		2504.602	HYDRANT (NEW)	EACH	3	3
R		2504.602	ADJUST VALVE BOX	EACH	8	8
S		2504.602	GATE VALVE BOX	EACH	2	2
S		2504.602	6" GATE VALVE & BOX	EACH	3	3
S		2504.602	8" GATE VALVE & BOX	EACH	1	1
S		2504.602	12" GATE VALVE & BOX	EACH	4	4
R		2504.602	6" X 6" WET TAP	EACH	1	1
R		2504.602	12" X 6" WET TAP	EACH	4	4
S		2504.602	12" X 8" WET TAP	EACH	1	1
S		2504.602	12" X 12" WET TAP	EACH	1	1
R,S		2504.602	CONNECT TO EXISTING WATERMAIN	EACH	9	9
S		2504.602	2" CORPORATION STOP	EACH	5	5
S		2504.602	2" CURB STOP & BOX	EACH	5	5
R		2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	182	182
S		2504.603	12" WATERMAIN DUCTILE IRON CL 50	LIN FT	10	10
S		2504.603	6" PVC WATERMAIN	LIN FT	58	58
R,S		2504.603	8" PVC WATERMAIN	LIN FT	291	291
S		2504.603	12" PVC WATERMAN	LIN FT	1905	1905
R		2504.603	VALVE BOX EXTENSION	LIN FT	12	12
S		2504.603	2" TYPE K COPPER PIPE	LIN FT	200	200
R,S		2504.608	DUCTILE IRON FITTINGS	POUND	2434	2434
Q		2506.501	CONST DRAINAGE STRUCTURE DESIGN F	LIN FT	129	129
Q	▲	2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	508	508
Q		2506.501	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	151	151
Q		2506.501	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	73	73
Q		2506.501	CONST DRAINAGE STRUCTURE DES 84-4020	LIN FT	53	53
Q	▲	2506.501	CONST DRAINAGE STRUCTURE DES 108-4020	LIN FT	32	32
DD	▲	2506.516	CASTING ASSEMBLY	EACH	187	187
T		2506.522	ADJUST FRAME & RING CASTING	EACH	6	6
T		2506.602	INSTALL MANHOLE	EACH	1	1
Q	21	2506.602	CONST DRAINAGE STRUCTURE DESIGN SPEC 1	EACH	5	5
Q,BB	22	2506.602	CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH	5	5
E,Q		2506.602	RECONSTRUCT DRAINAGE STRUCTURE	EACH	1	1
	20	2506.602	CONSTRUCT SURVEY MONUMENT MANHOLE	EACH	4	4
T		2506.603	CONSTRUCT SANITARY MANHOLES	LIN FT	64	63.7
T		2506.603	RECONSTRUCT SANITARY MANHOLES	LIN FT	40.3	40.3
		2511.501	RANDOM RIPRAP CLASS III	CU YD	185	185
M		2521.501	4" CONCRETE WALK	SQ FT	54697	54697
M		2521.501	6" CONCRETE WALK	SQ FT	1154	1154

BASIS OF ESTIMATED QUANTITIES		
2105.522	SELECT GRANULAR BORROW	140 #/CU. FT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL/SY
2360.501	TYPE SP 12.5 WEARING COURSE	113 LBS/SY/INCH
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2575.608	SEED MIXTURE 310	82 LBS/ACRE
2575.608	SEED MIXTURE 330	85 LBS/ACRE

NOTES:

- 20 SEE CONSTRUCTION PLANS
- 21 SKIMMER MANHOLE
- 22 SPECIAL CATCH BASIN

DESIGN TEAM	▲	GRB	03/06	ADDENDUM NO. 1
DRAWN BY:	JEO			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer

Printed Name: AARON P. MONIZA Date: 03/21/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STATEMENT OF
 ESTIMATED QUANTITIES

FILE NO.	6
ARAMSE0503	
EQ3	
OF E05	297

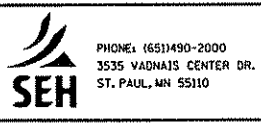
STATEMENT OF ESTIMATED QUANTITIES						
TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES	COUNTY ROAD J
						S.A.P. 62-601-11, S.A.P. 02-632-14
						ROADWAY QUANTITIES
					ESTIMATED	ESTIMATED
M		2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	28386	28386
M		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	5364	5364
M		2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MOD)	LIN FT	508	508
M		2531.501	CONCRETE CURB & GUTTER DESIGN D424	LIN FT	795	795
M		2531.618	TRUNCATED DOMES	SQ FT	128	128
V		2533.504	CONCRETE MEDIAN BARRIER DESIGN 8337	LIN FT	800	800
V		2533.603	RELOCATE CONCRETE MEDIAN BARRIER	LIN FT	600	600
L		2554.501	TRAFFIC BARRIER DESIGN 8338	LIN FT	663	663
L		2554.501	TRAFFIC BARRIER DESIGN SPECIAL	LIN FT	100	100
L		2554.501	TRAFFIC BARRIER DESIGN BULLNOSE	LIN FT	0	0
L		2554.521	ANCHORAGE ASSEMBLY - PLATE BEAM	EACH	4	4
L		2554.523	END TREATMENT-TANGENT TERMINAL	EACH	2	2
V		2554.602	IMPACT ATTENUATOR BARRELS	EACH	32	32
V		2554.602	RELOCATE ATTENUATOR BARRELS	EACH	32	32
I		2557.501	WIRE FENCE DESIGN 60-9320	LIN FT	835	835
I		2557.501	WIRE FENCE DESIGN 60V-9322	LIN FT	675	675
		2557.603	FENCE DESIGN SPECIAL	LIN FT	400	400
V	23	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
		2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	1
V		2563.602	MEDIAN BARRIER DELINEATOR	EACH	27	27
	23	2563.610	POLICE OFFICER	HOURL	50	50
Z		2564.531	SIGN PANELS TYPE C	SQ FT	742.25	742.25
Z		2564.531	SIGN PANELS TYPE D	SQ FT	108.25	108.25
AA		2564.531	SIGN PANELS TYPE D (SIGNALS)	SQ FT	442	442
Z		2564.531	SIGN PANELS TYPE OVERLAY	SQ FT	20	20
Z		2564.531	SIGN PANELS TYPE E0	SQ FT	23	23
Z		2564.531	SIGN PANELS TYPE OH	SQ FT	119	119
Z		2564.537	INSTALL SIGN TYPE C	EACH	3	3
Z		2564.537	INSTALL SIGN TYPE D	EACH	3	3
Z		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	3	3
Z		2564.552	HAZARD MARKER X4-2	EACH	17	17
Z		2564.553	CLEARANCE MARKER X4-4	EACH	6	6
V		2564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH	10	10
V		2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH	16	16
Y		2564.602	PAVEMENT MESSAGE (LT ARROW) POLY PREFORM	EACH	35	35
Y		2564.602	PAVEMENT MESSAGE (RT ARROW) POLY PREFORM	EACH	9	9
Y		2564.602	PAVEMENT MESSAGE (THRU ARROW) POLY PREFORM	EACH	1	1
Y		2564.602	PAVEMENT MESSAGE (LT-THRU ARROW) POLY PREFORM	EACH	3	3
Y		2564.602	PAVEMENT MESSAGE (RT-THRU ARROW) POLY PREFORM	EACH	1	1
V		2564.603	4" SOLID LINE WHITE - PAINT	LIN FT	23320	23320
V		2564.603	24" SOLID LINE WHITE - PAINT	LIN FT	46	46
V		2564.603	4" SOLID LINE YELLOW - PAINT	LIN FT	3460	3460
V		2564.603	4" DOUBLE SOLID YELLOW - PAINT	LIN FT	16880	16880
Y		2564.603	4" SOLID LINE WHITE - POLY PREFORMED	LIN FT	1160	1160
Y		2564.603	24" SOLID LINE WHITE - POLY PREFORMED	LIN FT	658	658
Y		2564.603	4" SOLID LINE WHITE - EPOXY	LIN FT	22650	22650
Y		2564.603	4" BROKEN LINE WHITE - EPOXY	LIN FT	4457	4457
Y		2564.603	12" SOLID LINE WHITE - EPOXY	LIN FT	20	20
Y		2564.603	24" SOLID LINE WHITE - EPOXY	LIN FT	665	665
Y		2564.603	4" SOLID LINE YELLOW - EPOXY	LIN FT	15650	15650
Y		2564.603	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	8480	8480
Y		2564.603	24" SOLID LINE YELLOW - EPOXY	LIN FT	915	915
Y		2564.618	ZEBRA CROSSWALK WHITE - POLY PREFORM	SQ FT	5860	5860

BASIS OF ESTIMATED QUANTITIES		
2105.522	SELECT GRANULAR BORROW	140 #/CU. FT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL/SY
2360.501	TYPE SP 12.5 WEARING COURSE	113 LBS/SY/INCH
2360.502	TYPE SP 12.5 NON-WEARING COURSE	113 LBS/SY/INCH
2575.502	SEED MIXTURE SPECIAL	40 LBS/ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS/ACRE
2575.532	COMM. FERT. ANALYSIS 23-0-30	300 LBS/ACRE
2575.608	SEED MIXTURE 250	70 LBS/ACRE
2575.608	SEED MIXTURE 310	82 LBS/ACRE
2575.608	SEED MIXTURE 330	85 LBS/ACRE

NOTES:
 23 DOES NOT INCLUDE COSTS FOR CMS AND BRIDGE DEMOLITION

DESIGN TEAM				
DRAWN BY: JEO				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41554
 Printed Name: AARON P. MONIZA Date: 3/8/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STATEMENT OF ESTIMATED QUANTITIES

FILE NO.	7
ARAMSE0503	
EQ4 OF E05	297

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3/23/2006

E01-E05

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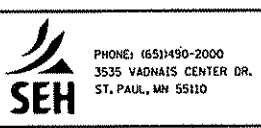
STATEMENT OF ESTIMATED QUANTITIES						
TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES	COUNTY ROAD J
					ESTIMATED	S.A.P. 62-601-11, S.A.P. 02-632-14
						ROADWAY QUANTITIES
					ESTIMATED	ESTIMATED
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM A	SIG SYS	1	1
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM C	SIG SYS	1	1
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM D	SIG SYS	1	1
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM E	SIG SYS	1	1
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM F	SIG SYS	1	1
AA		2565.511	FULL T ACT T CONTROL SIGNAL SYSTEM G	SIG SYS	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM A	LUMP SUM	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM C	LUMP SUM	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM D	LUMP SUM	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM E	LUMP SUM	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM F	LUMP SUM	1	1
AA		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM G	LUMP SUM	1	1
AA		2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1	1
AA		2565.602	PVC HANDHOLE - INTERCONNECT	EACH	12	12
AA		2565.603	6/c FIBER OPTIC CABLE - INTERCONNECT	LIN FT	9200	9200
AA		2565.603	1/c #14 - INTERCONNECT	LIN FT	9200	9200
AA		2565.603	2 INCH RIGID STEEL CONDUIT - INTERCONNECT	LIN FT	350	350
AA		2565.603	2 INCH NON-METALLIC CONDUIT - INTERCONNECT	LIN FT	4100	4100
AA		2565.603	3 INCH NON-METALLIC CONDUIT - INTERCONNECT	LIN FT	130	130
AA		2565.616	REVISE SIGNAL SYSTEM B	SYS	1	1
F		2572.501	TEMPORARY FENCE	LIN FT	1222	1222
P		2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	26724	26724
P		2573.505	FLOTATION SILT CURTAIN TYPE STILL WATER	LIN FT	582	582
P		2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER	LIN FT	595	595
P		2573.530	INLET PROTECTION TYPE A	EACH	4	4
P		2573.530	INLET PROTECTION TYPE B	EACH	46	46
P		2573.530	INLET PROTECTION TYPE D	EACH	7	7
P		2573.601	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1
P		2573.603	BIOROLL	LIN FT	897	897
	17	2573.604	RAPID STABILIZATION METHOD 3	SQ YD	1000	1000
O		2575.501	SEEDING	ACRE	14.9	14.9
O	9	2575.502	SEED MIXTURE SPECIAL	POUND	69.9	69.9
O		2575.505	SODDING TYPE SALT RESISTANT	SQ YD	27426	27426
O		2575.511	MULCH MATERIAL TYPE 3	TON	1.5	1.5
O		2575.523	EROSION CONTROL BLANKET CATEGORY 3	SQ YD	34324	34324
O		2575.532	COMMERCIAL FERT ANALYSIS 23-0-30	POUND	4461	4461
O	△	2575.607	SELECT TOPSOIL BORROW (SPECIAL) (LV)	CU YD	180	180
O		2575.608	SEED MIXTURE 250	POUND	764	764
O		2575.608	SEED MIXTURE 310	POUND	51.1	51.1
O		2575.608	SEED MIXTURE 330	POUND	69.9	69.9

BASIS OF ESTIMATED QUANTITIES		
2105.522	SELECT GRANULAR BORROW	140 #/CU. FT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL/SY
2360.501	TYPE SP 12.5 WEARING COURSE	113 LBS/SY/INCH
2360.502	TYPE SP 12.5 NON-WEARING COURSE	113 LBS/SY/INCH
2575.502	SEED MIXTURE SPECIAL	40 LBS/ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS/ACRE
2575.532	COMM. FERT. ANALYSIS 23-0-30	300 LBS/ACRE
2575.608	SEED MIXTURE 250	70 LBS/ACRE
2575.608	SEED MIXTURE 310	82 LBS/ACRE
2575.608	SEED MIXTURE 330	85 LBS/ACRE

NOTES:
 9 MIXTURE W4 NATIVE
 17 FOR TEMPORARY EROSION CONTROL

DESIGN TEAM	△	GRB	03/06	ADDENDUM NO. 1
DRAWN BY:	JEO			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 3/23/2006



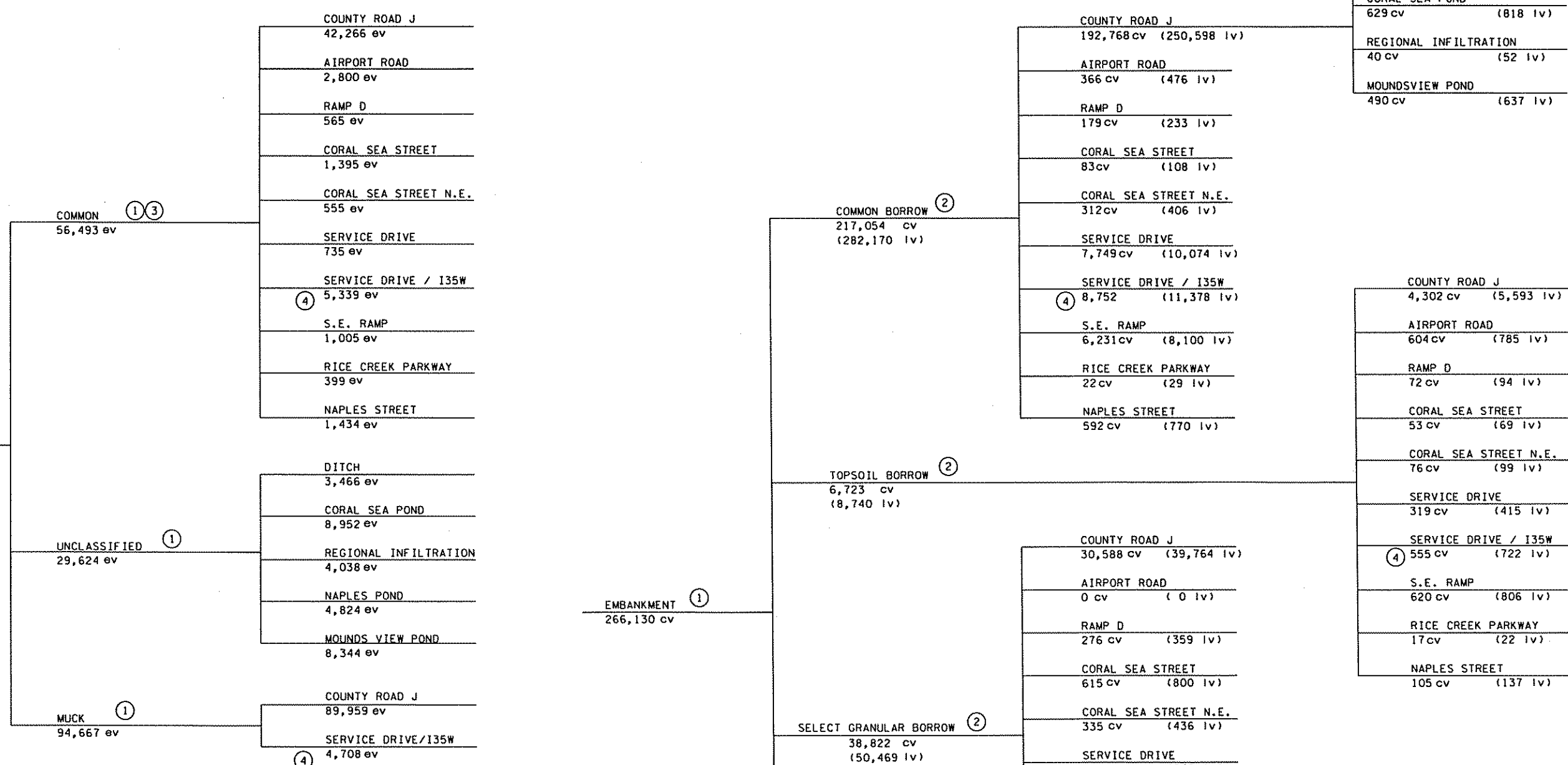
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STATEMENT OF
 ESTIMATED QUANTITIES

FILE NO. ARAMSE0503
 EQ5 OF E05
 8
 297

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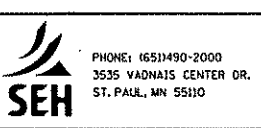
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- NOTES:
- ① ALL EXCAVATED MATERIAL IS THE PROPERTY OF THE CONTRACTOR AND MAY BE REUSED AS BORROW MATERIALS IF THEY MEET THE REQUIREMENTS. PLEASE NOTE THAT TO PROVIDE CONTRACTORS THE MOST FLEXIBILITY ALL EMBANKMENT VOLUMES ARE PAID AS BORROW ITEMS.
 - ② 130% SHRINKAGE FACTOR USED FROM LOOSE VOLUME (iv) TO COMPACTED VOLUME (cv). FOR INFORMATION ONLY.
 - ③ DOES NOT INCLUDE ANY PAVEMENT REMOVAL.
 - ④ INCLUDES SERVICE DRIVE CONNECTION VOLUMES

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EARTHWORK SUMMARY

FILE NO.	10
ARAME0503	
EW1	
OF EW	297

02/17/2006
TBI-TB2
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NOTES:

- ① CONCRETE HEADWALL - APPROXIMATELY 2 FT. HEIGHT
- ② MODULAR BLOCK WALL - APPROXIMATELY 3 FT. HEIGHT
- ③ CONCRETE WALL - 3 TO 5 FT. IN HEIGHT
- ④ 8" NON-REINFORCED

B CLEARING AND GRUBBING					
ALIGNMENT/ STATION	LOCATION	CLEAR		GRUB	
		ACRE	TREE	ACRE	TREE
CO. RD. J					
41+48 - 75+17	LT & RT	2.98	14	2.98	14
75+74 - 99+52	LT & RT	0.86	34	0.86	34
101+79 - 110+89	LT & RT	0.06	8	0.06	8
AIRPORT RD.					
11+62 - 17+35	LT & RT	0.05	5	0.05	5
I-35 SERVICE DRIVE					
10+66 - 24+69	LT & RT	1.80	2	1.80	2
SERVICE DRIVE					
11+33 - 11+63	RT	0.05	2	0.05	2
FUTURE DITCH					
7+87 - 13+91	LT & RT	0.36	4	0.36	4
PROJECT TOTAL					
		6.16	69	6.16	69

C PAVEMENT SAWING			
ALIGNMENT/ STATION	LOCATION	PAVEMENT SAWING(FULL DEPTH)	
		CONCRETE LIN FT	BITUMINOUS LIN FT
CO. RD. J			
23+28 - 23+81	LT		55
24+07 - 24+42	RT		34
40+78	LT & RT		108
58+70 - 59+09	LT		40
58+81 - 59+30	RT		49
68+69 - 68+78	LT		9
81+93 - 82+24	LT		31
122+91 - 123+25	LT	33	
123+45	LT & RT		69
AIRPORT RD.			
8+34 - 9+42	RT		161
10+11 - 15+02	LT		493
10+40 - 11+16	CL		76
11+16	RT		12
11+16 - 17+36	RT		621
13+14 - 15+02	LT		224
14+80 - 15+12	RT		34
17+36	RT		20
RAMP D			
11+37	RT		8
11+37 - 16+24	RT		491
CORAL SEA ST.			
12+25	LT & RT		35
CORAL SEA ST. NE			
12+94 - 13+12	LT		18
13+49	LT & RT		31
I-35W SERVICE DRIVE			
27+09	LT & RT	28	
27+09 - 27+77	LT	69	
I-35W SERVICE DR. CONN.			
10+31	LT & RT	46	
10+31 - 11+23	LT & RT	186	
14+28	LT & RT	54	
SERVICE DRIVE			
8+90	LT & RT		36
8+90 - 9+87	RT		122
10+21 - 10+50	LT		26
I-35W SE RAMP			
10+51	LT & RT	26	
RICE CREEK PKWY.			
11+91	LT		31
12+54	LT & RT	16	39
NAPLES ST.			
11+99	LT & RT	17	64
11+99 - 13+70	RT		171
13+70	RT		11
13+20 - 13+57	RT		37
PROJECT TOTAL			
		475	3156

D MISCELLANEOUS REMOVALS												
ALIGNMENT/ STATION	LOCATION	REMOVE BITUMINOUS PAVEMENT	REMOVE BITUMINOUS SHOULDER	REMOVE BITUMINOUS WALK	MILL BITUMINOUS PAVEMENT (2")	REMOVE CONCRETE PAVEMENT	REMOVE CONCRETE DRIVEWAY PAVEMENT	REMOVE CONCRETE WALK	REMOVE CURB & GUTTER	REMOVE GUARDRAIL (PLATE BEAM)	REMOVE RETAINING WALL	REMOVE FENCE
		SQ YD	SQ YD	SQ FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LIN FT	LIN FT	LIN FT
CO. RD. J												
22+72 - 76+00	LT & RT	23385		33351	9626			92	7108		55 ①	858
76+00 - 99+61	LT & RT	14627		17960		1260	103		4764	1135	275 ②	468
101+65 - 123+45	LT & RT	13609	597	15207			202		3423	1818	600 ③	1250
AIRPORT RD.												
11+16 - 17+36	LT & RT	1096	662					88	192			
RAMP D												
11+37 - 16+41	RT		386									
CORAL SEA ST.												
12+25 - 14+47	LT & RT	861							438			
CORAL SEA ST. NE												
10+00 - 13+49	LT & RT	1022					87		521			
I-35W SERVICE DRIVE												
22+75 - 27+78	LT & RT					1750						
I-35W SERVICE DR. CONN.												
9+65 - 19+58	LT & RT					950			65			
SERVICE DRIVE												
8+90 - 13+27	LT & RT	2532							850			
I-35W SE RAMP												
10+50 - 13+95	LT & RT					999			699			345
RICE CREEK PKWY.												
8+51 - 12+71	LT & RT	310						33	227			
NAPLES ST.												
10+31 - 13+70	LT & RT	1486						229	333			
PROJECT TOTAL												
		58928	1645	66518	9626	4959	392	442	18620	2953	930	2921

CLEARING AND GRUBBING
PAVEMENT SAWING
MISC. REMOVALS

DESIGN TEAM				
DRAWN BY: KLE				
DESIGNER:				
CHECKED BY: JEO				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO. 11
 ARAMSE0503
 TB1
 OF TB2 297

3/18/33 PM

3/22/2006

TBI-TB6

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J BITUMINOUS PAVEMENT									
ALIGNMENT/ STATION	LOC.	DESCRIPTION	TYPE LV 4 WEAR LVWE45030B	TYPE SP 12.5 NON-WEAR SPNWB330B	TYPE SP 12.5 NON-WEAR SPNWB430B	TYPE SP 12.5 WEAR SPWEB340F	TYPE SP 12.5 WEAR SPWEB440F	BITUMINOUS MATERIAL FOR TACK COAT	BITUMINOUS PATCHING MIXTURE ①
			TON	TON	TON	TON	TON	GAL	TON
CO. RD. J									
22+72 - 34+20	LT & RT	OVERLAY					1088	481	
40+78 - 76+00	LT & RT	ROADWAY			7459		6630	4400	5.6
40+78 - 76+00	LT & RT	TRAIL	437						
76+00 - 98+87	LT & RT	ROADWAY			5219		4639	3079	5.6
76+00 - 99+07	LT & RT	TRAIL	423						
102+23 - 123+45	RT	TRAIL	235						
102+43 - 123+45	LT & RT	ROADWAY			4603		4092	2716	8.5
AIRPORT RD.									
8+34 - 17+36	LT & RT	ROADWAY			325		520	230	
RAMP D									
11+37 - 16+40	RT	ROADWAY		69		139		61	
CORAL SEA ST.									
12+25 - 14+14	LT & RT	ROADWAY			315		315	70	
CORAL SEA ST. NE									
10+45 - 13+49	LT & RT	ROADWAY				250		55	
I-35W SERVICE DRIVE									
10+66 - 27+73	LT & RT	ROADWAY		1052		2105		931	
I-35W SERVICE DR. CONN.									
10+18 - 15+94	LT & RT	ROADWAY		201		402		178	
SERVICE DRIVE									
8+90 - 12+99	LT & RT	ROADWAY		247		494		219	
RICE CREEK PKWY.									
11+89 - 12+59	LT & RT	ROADWAY			38		38	34	
NAPLES ST.									
10+59 - 13+70	LT & RT	ROADWAY		133		267		177	
PROJECT TOTAL			2091	1703	17959	3657	17322	12632	19.7

K AGGREGATE BASE			
ALIGNMENT/ STATION	LOCATION	DESCRIPTION	AGGREGATE BASE CLASS 7
			TON Δ
CO. RD. J			
40+78 - 76+00	LT & RT	ROADWAY	16438
40+78 - 76+00	LT & RT	TRAIL	868
76+00 - 98+87	LT & RT	ROADWAY	14849
76+00 - 99+07	LT & RT	TRAIL	839
102+23 - 123+45	RT	TRAIL	468
102+43 - 123+45	LT & RT	ROADWAY	10833
AIRPORT RD.			
8+34 - 17+36	LT & RT	ROADWAY	1792
RAMP D			
11+37 - 16+40	RT	ROADWAY	273
CORAL SEA ST.			
12+25 - 14+14	LT & RT	ROADWAY	675
CORAL SEA ST. NE			
10+45 - 13+49	LT & RT	ROADWAY	393
I-35W SERVICE DR.			
10+66 - 27+73	LT & RT	ROADWAY	4490
I-35W SERVICE DR. CONN.			
10+18 - 15+94	LT & RT	ROADWAY	777
SERVICE DRIVE			
8+90 - 12+99	LT & RT	ROADWAY	1078
I-35W SE RAMP			
10+51 - 14+22	LT & RT	ROADWAY	328
RICE CREEK PKWY.			
11+89 - 12+59	LT & RT	ROADWAY	83
NAPLES ST.			
10+59 - 13+70	LT & RT	ROADWAY	420
PROJECT TOTAL			54604

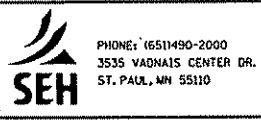
L TRAFFIC BARRIER						
ALIGNMENT/ STATION	LOCATION	TRAFFIC BARRIER DESIGN 8338	TRAFFIC BARRIER DESIGN SPECIAL	TRAFFIC BARRIER DESIGN BULLNOSE ③	ANCHORAGE ASSEMBLY PLATE BEAM	END TREATMENT TANGENT TERMINAL
		LIN FT	LIN FT	LIN FT	EACH	EACH
CO. RD. J						
97+69 - 98+87	RT	75	25		1	
95+80 - 98+85	LT	263	25		1	1
102+52 - 104+94	LT	225	25		2	
AIRPORT RD.						
16+02 - 17+46	RT	100	25			1
S.B. I-35W						
463+81 - 466+49	RT	0 ②		0 ②		
484+50 (CMS)	RT	②		②		
PROJECT TOTAL		663	100	0	4	2

- NOTES:
- ① PAID FOR AS TYPE SP 12.5 WEAR SPWEB340F
 - ② ITEMS PAID FOR AS PART OF BRIDGE/CMS PLAN
 - ③ GRADING IS INCIDENTAL

BITUMINOUS PAVEMENT
AGGREGATE BASE
TRAFFIC BARRIER

DESIGN TEAM	Δ	GRB	03/06	ADDENDUM NO. 1
DRAWN BY: KLE				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 3/22/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO. ARAMSE0503
TB3 OF TB2
13
297

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02/27/2006

TBI-TB6

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M CONCRETE ITEMS												
ALIGNMENT/ STATION	LOCATION	CONCRETE WALK	CONCRETE WALK	CONCRETE CURB AND GUTTER				CONCRETE NOSES		PEDESTRIAN CURB RAMP	TRUNCATED DOMES	BRIDGE APPROACH PANELS
		4"	6"	DESIGN B424	DESIGN B618	DESIGN B618 (MOD)	DESIGN D424	DESIGN 7109	DESIGN 7113	②		
		SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	SQ FT	SQ YD
CO. RD. J												
23+31 - 73+97	LT & RT	14011	210	11264				1	3	3	24	
73+97 - 99+06	LT & RT	24665	222	9525					3	7	56	275
102+22 - 123+45	LT & RT	10377	436	7418				1	4	4	40	275
AIRPORT RD.												
13+14 - 14+93	LT & RT	1073	50	179						1	8	
CORAL SEA ST.												
12+25 - 14+10	LT & RT	1336			367							
CORAL SEA ST. NE												
10+46 - 13+95	LT & RT				606							
12+25 - 14+14	RT											
I-35W SERVICE DRIVE												
10+71 - 27+11	LT & RT	844			3235				2			
I-35W SERVICE DR. CONN.												
21+07 - 21+79	LT & RT		70		74							
SERVICE DRIVE												
8+90 - 12+92	LT & RT				767							
I-35W SE RAMP												
10+50 - 14+22	LT & RT						795					
RICE CREEK PKWY.												
11+89 - 12+82	LT & RT	349	42			224			1			
NAPLES ST.												
10+28 - 13+70	LT & RT	2042	124		315	284			2			
PROJECT TOTAL		54697	1154	28386	5364	508	795	2	15	15	128	550

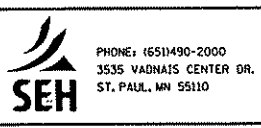
- ① FOR INFORMATION ONLY. PAID FOR AS 4" CONCRETE WALK.
- ② PAID FOR AS 6" CONCRETE WALK.

N CONCRETE PAVEMENT							
ALIGNMENT/ STATION	LOCATION	CONCRETE PAVEMENT STANDARD WIDTH 8"	CONCRETE PAVEMENT IRREGULAR WIDTH 8"	STRUCTURAL CONCRETE	REINF. BARS (EPOXY COATED)	DOWEL BARS	PERMANENT TERMINAL HEADERS
		SQ YD	SQ YD	CU YD	POUND	EACH	LIN FT
I-35W SE RAMP							
10+50 - 14+22	LT & RT	1253	221	328	534	843	67
PROJECT TOTAL		1253	221	328	534	843	67

CONCRETE ITEMS
CONCRETE PAVEMENT

DESIGN TEAM				
DRAWN BY: KLE				
DESIGNER:				
CHECKED BY: JEO				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/27/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO.	14
ARAMSE0503	
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DD CASTING ASSEMBLY				
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	NO.
A-9	700-9	716		40 ▲
B-9	805	816		93 ▲
B-14	806	811	825	45
B-7	805	814A		2
M-11	731	731		7
TOTAL				187 ▲

ALIGNMENT/ STATION	LOCATION	SEED MIXTURE 250 (70 LBS/ACRE)	SEED MIXTURE 310 (82 LBS/ACRE)	SEED MIXTURE 330 (85 LBS/ACRE)	EROSION CONTROL BLANKET CATEGORY 3 ①	MULCH MATERIAL TYPE 3 ① (2 TONS/ACRE)	COMMERCIAL FERT. ANALYSIS 23-0-30 (300 LBS/ACRE) ①	SEEDING ①	SEED MIXTURE SPECIAL (40 LBS/ACRE)	SODDING TYPE SALT RESISTANT ①
		POUND	POUND	POUND	SQ YD	TON	POUND	ACRE	POUND	SQ YD
CO. RD. J										
41+20 - 73+79	RT	146.80	9.45	17.57	6380		874	2.91		2641
74+49 - 100+00	RT	81.25			4313		418	1.39		2848
101+34 - 123+49	RT	44.27			3018		228	0.76		2006
40+30 - 73+95	LT	140.78	23.98	32.12	4536		970	3.23		5082
74+36 - 99+93	LT	123.71	9.34	11.47	5539		728	2.43		3954
101+33 - 123+49	LT	71.41	8.38	8.78	2864		443	1.48		4249
CORAL SEA ST.										
12+25 - 14+10	RT	1.32				0.045	7	0.02		185
12+25 - 14+07	LT	1.18				0.040	6	0.02		149
CORAL SEA ST. NE										
10+48 - 13+49	LT	1.55				0.053	8	0.03		249
10+51 - 13+50	RT	4.19				0.144	22	0.07		243
I-35W SERVICE DRIVE										
10+66 - 27+77	LT	20.59				0.706	106	0.35		1353
10+66 - 27+11	RT	21.41			196		110	0.37		1262
I-35W SERVICE DR. CONN.										
21+79 - 22+72	RT					0.000	0	0.00		63
21+07 - 22+68	LT	0.74				0.026	4	0.01		87
25+78 - 26+81	RT & LT									233
SERVICE DRIVE										
8+88 - 12+81	LT	15.92			1321		82	0.27		
9+89 - 12+72	RT	22.55			1871		116	0.39		
I-35W SE RAMP										
10+51 - 13+18	LT	27.16			2120		140	0.47		1353
10+51 - 13+74	RT	26.09			2165		134	0.45		1089
RICE CREEK PKWY.										
11+88 - 12+44	LT	0.17				0.006	1	0.003		79
NAPLES ST.										
10+66 - 11+84	LT	0.13				0.005	1	0.002		57
10+73 - 13+72	RT	12.81				0.439	66	0.22		244
FUTURE DITCH										
11+83 - 13+90	LT & RT								69.9	
PROJECT TOTAL		764.0	51.1	69.9	34324	1.46	4461	14.87	69.9	27426

① QUANTITIES HAVE BEEN INCREASED 20% TO ACCOUNT FOR TEMPORARY TURF ESTABLISHMENT NEEDS.

CASTING ASSEMBLY
TURF ESTABLISHMENT

DESIGN TEAM	▲	CRB	03/06	ADDENDUM NO. 1
DRAWN BY: KLE				
DESIGNER:				
CHECKED BY: JEO				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 03/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO.	15
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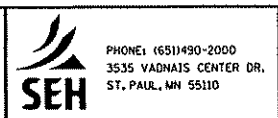
P EROSION CONTROL								
ALIGNMENT/ STATION	LOCATION	SILT FENCE TYPE	FLOTATION	FLOTATION	BIOROLL	INLET PROTECTION TYPE A	INLET PROTECTION TYPE B	INLET PROTECTION TYPE D
		MACHINE SLICED	SILT CURTAIN TYPE STILL WATER	SILT CURTAIN TYPE MOVING WATER				
		LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH
AIRPORT RD.								
8+49 - 9+51	RT	106						
10+22 - 14+56	LT	438						
10+91 - 17+37	RT	704						
RAMP D								
11+39 - 16+38	RT	502						
CO. RD. J								
41+20 - 73+79	RT	3763		123	145		9	1
74+49 - 100+00	RT	2453	582				2	1
101+34 - 123+49	RT	2026					6	
40+30 - 73+95	LT	3817		121	290		9	3
74+36 - 99+93	LT	2393		72	192		3	1
101+33 - 123+49	LT	4821				3	12	1
CORAL SEA ST.								
12+25 - 14+10	RT	191						
12+25 - 14+07	LT	186						
CORAL SEA ST. NE								
10+48 - 13+49	LT	221						
10+51 - 13+50	RT	186						
I-35W SERVICE DRIVE								
10+66 - 27+77	LT	2097		127	108		3	
10+66 - 27+11	RT	1602		152			1	
I-35W SERVICE DR. CONN.								
21+79 - 22+72	RT	92						
21+07 - 22+68	LT	181						
25+78 - 26+81	RT & LT	301						
SERVICE DRIVE								
8+88 - 12+81	LT	315						
9+89 - 12+72	RT	374						
I-35W SE RAMP								
10+51 - 13+18	LT	280						
10+51 - 13+74	RT	377						
RICE CREEK PKWY.								
11+88 - 12+44	LT	56						
NAPLES ST.								
10+66 - 11+84	LT	126						
10+73 - 13+72	RT	364				1	1	
FUTURE DITCH								
11+83 - 13+90	LT & RT				162			
PROJECT TOTAL		26724	582	595	897	4	46	7

EROSION CONTROL

DESIGN TEAM				
DRAWN BY: KLE				
DESIGNER:				
CHECKED BY: JEO				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

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STORM SEWER STRUCTURE SCHEDULE

NOTE: ALL PIPE LENGTHS IN L.F.

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3/8/2006

TB7-TB10

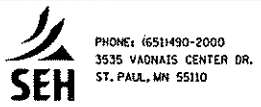
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Main schedule table with columns: STR. NO., LOCATION (STATION, STREET C/L, ALIGNMENT), DESIGN, CASTING TYPE, TOP OF CASTING, OUTLET ELEV., PAY HEIGHT (TYPE G, F, 60-4020, 72-4020, 84-4020, 108-4020), DRAINS TO (NO, %, INLET ELEV.), REMARKS, and various RCP sizes (12" to 54").

STORM SEWER STRUCTURE SCHEDULE

DESIGN TEAM table with columns: DESIGNER, CHECKED BY, NO., BY, DATE, REVISIONS.

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... BRAD T. Wozniak 3/8/2006



RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO. 17 ARAMSE0503 TB7 OF TB12 297

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Q STORM SEWER STRUCTURE SCHEDULE

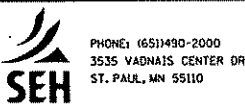
NOTE: ALL PIPE LENGTHS IN L.F

Main table with columns: STR. NO., STATION, STREET C/L (LT, RT), ALIGNMENT, DESIGN, CASTING TYPE, TOP OF CASTING, OUTLET ELEV., ADJUST., PAY HEIGHT (TYPE G, TYPE F, 60-4020, 72-4020, 84-4020, 108-4020), DRAINS TO (NO, % GRADE, INLET ELEV.), REMARKS, and RCP sizes (12" to 54").

STORM SEWER STRUCTURE SCHEDULE

DESIGN TEAM: GRB 03/06 ADDENDUM NO.1
DRAWN BY: CIF
DESIGNER: DAO
CHECKED BY: DAO
NO. BY DATE REVISIONS

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.
Certified By: Brad T. Moznak
Lic. No. 41674
Printed Name: BRAD T. MOZNAK Date: 3/23/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS
FILE NO. 18
ARAMSE0503
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297

Q STORM SEWER STRUCTURE SCHEDULE

NOTE: ALL PIPE LENGTHS IN L.F

Table with columns: STR. NO., STATION, STREET C/L, LOCATION, DESIGN, CASTING TYPE, TOP OF CASTING, OUTLET ELEV., ADJUST, PAY HEIGHT (TYPE G, F, 60-4020, 72-4020, 84-4020, 108-4020), DRAINS TO (NO, % GRADE, INLET ELEV.), REMARKS, and pipe size columns (12" RCP to 54" RCP).

TOTAL 507.94 128.69 150.51 72.23 53.06 30.94 13 7978 32 1049 563 125 181 1226 325 531 770 220 459 586 84 643 88 995 118 148

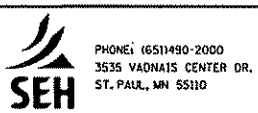
NOTES:

- 1 DRAIN TILE OPENINGS IN STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. DRAIN TILE HOLES SHALL BE CORE DRILLED AND SEALED WITH GROUT AT THE DRAIN TILE DOGHOUSE.
2 WHEN POSSIBLE CONTRACTOR SHALL INCLUDE A 1' MANHOLE SECTION IN THE BUILD PREFERABLY INSTALLED JUST UNDER THE CONE SECTION.
3 ALL PIPE SHALL BE CONSTRUCTED AS PER MN/DOT CLASS B BEDDING UTILIZING EXIST ON SITE GRANULAR SOILS.
4 ALL STRUCTURE OFFSETS LEFT AND RIGHT ARE TO THE CENTER OF THE STRUCTURE. ALL OFFSETS TO APRONS ARE TO THE END AND CENTER OF THE APRON.
5 APRONS ARE PAID AS INDIVIDUAL ITEMS. LENGTH OF PIPE PAID IN PROFILE DOES NOT INCLUDE LENGTH OF APRON.
6 INSTALL CULVERT MARKERS AT ALL APRONS. SEE STANDARD PLATE 8150B. INSTALLATION OF MARKER SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
7 GEOTEXILE TYPE IV USED UNDER CL. III RIPRAP IS INCIDENTAL TO THE COST OF THE RIPRAP.
8 TOP OF CASTING ELEVATIONS INCLUDES ALL ADJUSTMENTS.

STORM SEWER STRUCTURE SCHEDULE

Table with columns: DESIGN TEAM, DRAWN BY, DESIGNER, CHECKED BY, NO., BY, DATE, ADDENDUM NO. 1, REVISIONS.

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. Certified By: Brad T. Woznak, Lic. No. 41674. Printed Name: BRAD T. WOZNAK Date: 03/21/2006.



RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO. 20 ARAMSE0503 TB10 OF TB12 297

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02/21/2006

TB11-TB12

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R EXISTING WATERMAIN																			
ITEM	STATION	LOCATION		TYPE	ABANDON VALVE EACH	REMOVE PIPE (LEAD) LIN FT	SALVAGE HYDRANT AND VALVE EACH	① ADJUST GV BOX EACH	CONNECT TO EXISTING WM EACH	6" x 6" WET TAP EACH	12" x 6" WET TAP EACH	GV EXTENSIONS LIN FT	FURNISH & INSTALL						REMARKS
		LT	RT										INSTALL HYDRANT AND VALVE EACH	INSTALL HYDRANT EACH	8" PVC C 900 LIN FT	6" DIP CL 52 LIN FT	DUCTILE IRON FITTINGS LBS	4" INSULATION SY	
CO. RD. J																			
V-1	45+75		20	12" GV				1											
H-1	52+34	57		HYDRANT		5	1		1				1				34	64	ADJUST HYDRANT WITH FITTINGS
H-2	58+12	57		HYDRANT		15	1				1			1			36	89	12" X 6" TAPPING SLEEVE & VALVE, ADJ. HYD. W/FITTINGS
V-2	58+87	20		12" GV								2.1							
H-3	63+79	57		HYDRANT		10	1		1				1				36	64	ADJUST HYDRANT WITH FITTINGS
H-4	69+98	64		HYDRANT		11	1											25	ABANDON HYDRANT, PLUG TEE
V-3	73+67	21		12" GV								3.1							
V-4	73+91	15		12" GV								3.3							
V-5	73+91		65	12" GV				1											
V-6	75+60	50		6" GV				1				3.3							
H-5	75+70	53		HYDRANT		10	1											25	ABANDON HYDRANT, PLUG TEE
H-6	78+79	69		HYDRANT		15	1											25	ABANDON HYDRANT, PLUG TEE
V-7	82+22	40		6" GV				1											
H-7	82+30	103		HYDRANT		8	1			1							10	25	6" X 6" TAPPING SLEEVE & VALVE
V-8	94+90		68	12" GV	1														ABANDON GATE VALVE
V-9	95+33		58	12" GV	1														ABANDON GATE VALVE
V-10	112+24	74		12" GV				1											
V11	112+27	106		12" GV				1											
CORAL SEA ST.																			
H-8	14+05	38		HYDRANT		4	1							1			18	25	12" X 6" TAPPING SLEEVE & VALVE
OFFSET	12+04	61							2							21		230	6.2
SERVICE DRIVE																			
V-12	9+16		22	12" GV				1											
H-9	12+84	28		HYDRANT		22	1				1						21	89	12" X 6" TAPPING SLEEVE & VALVE, ADJ. HYD. W/FITTINGS
RICE CREEK PKWY.																			
V-13	12+19	25		8" GV				1											
NAPLES ST.																			
H-10	12+41	24		HYDRANT		45	1		1				1				27	145	
H11	10+72		51	HYDRANT		10	1											25	12" X 6" TAPPING SLEEVE & VALVE
PROJECT TOTAL					2	155	11	8	5	1	4	11.8	3	5	21	182	831	6.2	

S PROPOSED WATERMAIN																			
ITEM	STATION	LOCATION		HYDRANT	12" x 12" WET TAP EACH	12" x 8" WET TAP EACH	12" PVC C 900 LIN FT	12" DIP C 900 LIN FT	8" PVC C 900 LIN FT	6" PVC C 900 LIN FT	12" GV & BOX EACH	8" GV & BOX EACH	6" GV & BOX EACH	DUCTILE IRON FITTINGS LBS	CONNECT TO EXISTING WM EACH	2" CORP EACH	2" CURB STOP & BOX EACH	2" COPPER LIN FT	
		LT	RT																
COUNTY ROAD J																			
8" STUB	68+32	22				1		70				1		45					
I-35W SERVICE DR. CONN.																			
V-15	10+83		35				5				1			76	2				
I-35W SERVICE DRIVE																			
V-16	94+52	83			1		582				1			280					
H-12	10+81		39.5	1					30				1	110					
STUB	14+90							57						170	1	1		57	
STUB	16+73							77						252	2	2		77	
H-13	16+78		31	1			1100			9			1	72					
STUB	19+34							66						252	2	2		66	
H-14	21+73		29.3	1					19				1	110					
V-17	23+18						223				1			160	1				
V-18								5			1			76	1				
PROJECT TOTAL					3	1	1	1905	10	270	58	4	1	3	1603	4	5	5	200

NOTES:

① INCLUDES INTERIM ADJUSTMENTS.

WATERMAIN

DESIGN TEAM				
DRAWN BY: CIF				
DESIGNER: TJM				
CHECKED BY: SMM				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Brad T. Moznak* Lic. No. 41674
Printed Name: BRAD T. MOZNAK Date: 02/21/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO. ARAMSE0503	21
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02/16/06 PM

02/17/2006

TB11-TB12

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T SANITARY SEWER																	
STRUCT. NUMBER	ALIGNMENT	STATION	LOCATION	EXISTING					PROPOSED								
				③ ④ SALVAGE MANHOLE EACH	REMOVE PIPE LIN FT	② ③ INSTALL MANHOLE EACH	② ADJUST CASTING EACH	② ③ RECONSTRUCT MANHOLE LIN FT	CONNECT TO EXISTING SAN. SEWER	EXISTING CASTING ELEV.	PROPOSED CASTING ELEV.	MANHOLE INVERT	② ③ PAY HEIGHT	PIPE GRADE %	FLOWS TO	8" PVC SOR 35 LIN FT	
S-1	CO. RD. J	58+95	50' LT				1				904.40	905.33					
S-2	CORAL SEA ST.	13+18	CL				1				908.50	909.14					
S-3	CO. RD. J	75+48 (1)	85' LT	1	15	1				1	907.40	907.30					
S-4	CORAL SEA ST. NE	12+27	22' RT				1				906.50	906.00					
S-5	CORAL SEA ST. NE	12+68	3' RT				1				906.30	906.51					
S-6	CO. RD. J	82+07	98' LT				1				904.60	905.10					
S-7	SERVICE DRIVE	9+49	5' RT				1				909.00	908.04					
S-8	SERVICE DRIVE	11+11	CL						10.9		910.70	917.57					
S-9	SERVICE DRIVE	11+27	20' RT						11.6		911.00	918.64					
S-10	CO. RD. J	93+80	101' LT						11.2		907.60	914.75					
S-11	I-35W SERVICE DR.	22+76	36' RT						6.6		905.10	907.70				EXIST.	
S-12	I-35W SERVICE DR.	22+63	20' RT							1		908.01	893.70	14.31	0.40	11	EXIST.
S-13	I-35W SERVICE DR.	19+24	CL									907.21	895.08	12.13	0.40	12	344
S-14	I-35W SERVICE DR.	18+03	CL									907.82	895.56	12.26	0.40	13	120
S-15	I-35W SERVICE DR.	16+63	CL									908.52	896.12	12.40	0.40	14	139
S-16	I-35W SERVICE DR.	15+00	CL									909.33	896.77	12.56	0.40	15	163
	I-35W SERVICE DR.	SERVICES	LT/RT														231 (5)
PROJECT TOTAL				1	15	1	6	40.3	2					63.66			997

NOTES:

- ① MOVE 15' NORTH FROM EXISTING.
- ② INCLUDES INTERIM ADJUSTMENTS.
- ③ INCLUDES CASTING.
- ④ PAID FOR AS "REMOVE MANHOLE".
- ⑤ INCLUDES SERVICE END CAPS (INCIDENTAL TO PIPES).

SANITARY SEWER

DESIGN TEAM				
DRAWN BY: CIF				
DESIGNER: TJM				
CHECKED BY: SMM				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TABULATIONS

FILE NO.	22
ARAMSE0503	
TB12	297
OF TB12	

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UTI-UT4

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POWER							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
53+34 - 59+39	LT	P-OH	X			XCEL	
55+35	74' LT	PP	X			CONNEXUS	
57+50	76' LT	PP	X			CONNEXUS	
59+60	78' LT	PP	X			CONNEXUS	
59+84 - 94+32	RT	P-OH	X			XCEL	
62+60	80' LT	PP	X			CONNEXUS	
65+60	82' LT	PP	X			CONNEXUS	
68+60	84' LT	PP	X			CONNEXUS	
71+60	85' LT	PP	X			CONNEXUS	
74+55	86' LT	PP	X			CONNEXUS	
76+75	44' RT	PP	X			XCEL	
79+03	44' RT	PP	X			XCEL	
79+20	86' LT	PP	X			CONNEXUS	
81+30	45' RT	PP	X			XCEL	
81+50	86' LT	PP	X			CONNEXUS	
81+76	37' RT	PP	X			XCEL	
83+53	45' RT	PP	X			XCEL	
85+80	45' RT	PP	X			XCEL	
86+85	86' LT	PP	X			CONNEXUS	
88+05	44' RT	PP	X			XCEL	
90+34	45' RT	PP	X			XCEL	
92+36	42' RT	PP	X			XCEL	
94+30	40' LT	PP	X			XCEL	
94+32	RT & LT	PP/P-OH	X			XCEL	
94+32 - 124+32	LT	P-OH	X			XCEL	
95+25	80' RT	PP	X			XCEL	
95+48	56' LT	PP	X			XCEL	
97+17	56' LT	PP	X			XCEL	
98+65 - 99+43	64' LT - 253' RT	P-OH	X			XCEL	
98+74	62' LT	PP	X			XCEL	
99+05	100' RT	PP	X			XCEL	
102+27	100' RT	PP	X			XCEL	
104+33	90' RT	PP	X			XCEL	
107+60	59' RT	PP	X			XCEL	
108+80	79' RT	PP	X			XCEL	
111+05	69' RT	PP	X			XCEL	
112+70	56' RT	PP	X			XCEL	
110+00 - 110+85	110' RT - 44' LT	P-BUR	X			XCEL	
115+05	53' RT	PP	X			XCEL	
116+15	53' RT	PP	X			XCEL	
117+25	54' RT	PP	X			XCEL	
118+35	57' RT	PP	X			XCEL	
119+35	60' RT	PP	X			XCEL	
120+35	63' RT	PP	X			XCEL	
121+60	40' LT	PP	X			XCEL	
121+60	65' RT	PP	X			XCEL	
122+70	65' RT	PP	X			XCEL	
122+70 - 123+83	29' LT - 87' RT	P-BUR	X			XCEL	
123+50	32' LT	PP	X			XCEL	
124+32 - 124+60	LT	P-BUR	X			XCEL	
CORAL SEA ST. NE							
9+87 - 15+53	RT	P-OH	X			XCEL	
I-35W SERVICE DRIVE							
22+46 - 28+33	LT	P-BUR	X			XCEL	
I-35W SERVICE DR. CONN.							
10+00 - 16+51	LT	P-BUR	X			XCEL	
NAPLES ST.							
9+87 - 15+63	LT	P-OH	X			XCEL	
9+82 - 12+76	RT	P-BUR	X			XCEL	

UTILITY CONTACTS		
THE FOLLOWING LIST SHOWS THE CONTACT PERSONS AT THE UTILITY COMPANIES INVOLVED ON THIS PROJECT		
COMPANY	CONTACT NAME	ADDRESS
ANOKA COUNTY HIGHWAY DEPT	MARK LEKSON	1440 BUNKER LAKE BLVD, ANDOVER, MN 55304
CITY OF BLAINE	TOM SCOTT	10801 TOWN SQUARE DR NE BLAINE, MN 55449
CITY OF SHOREVIEW	TOM HAMMITT	4600 VICTORIA ST N SHOREVIEW, MN 55126
COMCAST CABLE COMMUNICATON	ROB LUCAS	1238 GREY FOX RD ARDEN HILLS 55112
CONNEXUS ENERGY	TOM GUTTORMSON	14601 RAMSEY BLVD RAMSEY 55303
CENTERPOINT ENEGRY RESOURCES	STEVE GUHANICK	700 W. LINDEN AVE, BOX 1165 MPLS 55440
MAGELLAN PIPELINE COMPANY, L.P.	DANIEL SMITH	ONE WILLIAMS CENTER, MD 27-2 TULSA, OK 74172
MNDOT - RTMC	SCOTT COOZENNOY	RTMC BLDG, 1500 W. COUNTY RD B ROSEVILLE, MN 55113
NORTHSTAR ACCESS, LLC	RUSS VANCE	440 EAGLE LAKE RD, BOX 207 BIG LAKE, MN 55309
QWEST CORPORATION	TOM BURNEY	425 MONROE STREET ANOKA, MN 55303
RAMSEY COUNTY	JIM TOLAAS	DEPARTMENT OF PUBLIC WORKS 1425 PAUL KIRKWOOD DRIVE ARDEN HILLS, MN 55112
XCEL ENERGY (GAS)	CONRAD MILLER	825 RICE STREET ST. PAUL, MN 55117
XCEL ENERGY (DISTRIBUTION)	B.J. GRANT	1700 E. COUNTY RD E WHITE BEAR LAKE, MN 55110
MNDOT - ELECTRICAL SERVICES	DAVE LINDORFF	6000 MINNEHAHA AVE ST. PAUL, MN 55111

UTILITY	
COM = COMMUNICATION	SAN = SANITARY SEWER
F/O = FIBER OPTIC	SGNL LIN = TRAFFIC SIGNAL POWER
GV = GATE VALVE	T-BUR = BURIED TELEPHONE
GAS = GASLINE	T-PED = TELEPHONE PEDESTAL
HYD = HYDRANT	TMS = TRAFFIC MANAGEMENT SYS.
L = LIGHTPOLE	T-PED = TELEPHONE PEDESTAL
MH = MANHOLE	TV-BUR = BURIED TELEVISION
PP = POWER POLE	TV-OH = OVERHEAD TELE LINE
P-BUR = BURIED POWER	WM = WATERMAIN
P-OH = OVERHEAD POWER LINE	
PEL = PEDESTAL	
PIP = PIPE	
POW = POWER	

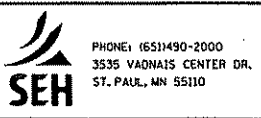
UTILITY WORK TO BE DONE BY OTHERS. UTILITY WORK APPLIES TO THE CONSTRUCTION/EXCAVATION AREA LIMITS ONLY.

GENERAL NOTES:
ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL FOR THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINE OF CI/ASCE 83-02, ENTITLED STANDARD FOR THE COLLECTIONS AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA.

DESIGN TEAM			
DRAWN BY:	JEO		
DESIGNER:	JEO		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/20/2006



PHONE: (651)490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.	23
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UT1	297
OF UT4	

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STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
U GAS							
CO. RD. J							
39+54 - 99+45	RT	GAS		X		XCEL	
41+70 - 59+67	RT	GAS		X		XCEL	
45+07	85' RT	GAS MH		X		XCEL	
47+62 - 126+28	RT	GAS		X		MEGELLAN	
52+44 - 59+35	LT	GAS		X		CENTERPOINT MINNEGASCO	
58+44	RT & LT	GAS		X		XCEL	
58+97 - 59+35	580' LT - 32' LT	GAS		X		CENTERPOINT MINNEGASCO	
58+97 - 59+07	1090' LT - 580' LT	GAS		X		CENTERPOINT MINNEGASCO	
59+35 - 82+67	LT	GAS		X		CENTERPOINT MINNEGASCO	
59+54	38' RT	GAS MH		X		XCEL	
59+67 - 73+63	RT	GAS		X		XCEL	
68+74	39' RT	GAS MH		X		XCEL	
72+50	38' RT	GAS MH		X		XCEL	
73+68 - 94+22	RT	GAS		X		XCEL	
75+22	35' RT	GAS MH		X		XCEL	
81+70 - 81+94	1170' LT - 33' LT	GAS		X		CENTERPOINT MINNEGASCO	
84+09	34' RT	GAS MH		X		XCEL	
93+47	34' RT	GAS MH		X		XCEL	
93+94	114' LT	GAS VALVE		X		XCEL	
93+94 - 94+29	32' RT - 244' LT	GAS		X		XCEL	
94+08	33' RT	GAS VALVE		X		XCEL	
94+22 - 99+45	RT	GAS		X		XCEL	
99+45 - 104+39	RT	GAS		X		XCEL	
102+30	106' RT	GAS MH		X		XCEL	
104+39	71' RT	GAS MH		X		XCEL	
104+39 - 124+79	RT	GAS		X		XCEL	
111+27 - 125+20	LT	GAS		X		CENTERPOINT MINNEGASCO	
CORAL SEA ST.							
10+00 - 14+63	LT	GAS		X		XCEL	
10+00 - 14+66	RT	GAS		X		CENTERPOINT MINNEGASCO	
12+58 - 14+60	RT	GAS		X		XCEL	
CORAL SEA ST. NE							
9+50 - 15+54	RT & LT	GAS		X		XCEL	
9+81 - 15+54	RT & LT	GAS		X		CENTERPOINT MINNEGASCO	
I-35W SERVICE DRIVE							
22+93 - 31+01	LT	GAS		X		XCEL	
I-35W SERVICE DR. CONN.							
10+00 - 16+51	LT	GAS		X		XCEL	
SERVICE DRIVE							
7+00 - 10+75	LT	GAS		X		CENTERPOINT MINNEGASCO	
NAPLES ST.							
10+00 - 15+63	LT	GAS		X		CENTERPOINT MINNEGASCO	

UTILITY			
COM = COMMUNICATION	SAN = SANITARY SEWER	SGNL LIN = TRAFFIC SIGNAL POWER	
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GV = GATE VALVE	T-PED = TELEPHONE PEDESTAL		
GAS = GASLINE	TMS = TRAFFIC MANAGEMENT SYS.		
HYD = HYDRANT	T-PED = TELEPHONE PEDESTAL		
L = LIGHTPOLE	TV-BUR = BURIED TELEVISION		
MH = MANHOLE	TV-OH = OVERHEAD TELE LINE		
PP = POWER POLE	WM = WATERMAIN		
P-BUR = BURIED POWER			
P-OH = OVERHEAD POWER LINE			
PED = PEDESTAL			
PIP = PIPE			
POW = POWER			

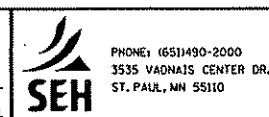
U TELEVISION							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
16+27 - 59+28	LT	TV-BUR	X			COMCAST	
16+27 - 95+48	LT	TV-F/O-BUR	X			NORTH STAR ACCESS	
58+32	42' LT	TV-PED	X			COMCAST	
59+28	40' LT - 714' LT	TV-BUR	X			COMCAST	
59+39 - 93+36	LT	TV-OH	X			COMCAST	
81+78	42' LT	TV-PED	X			COMCAST	
81+78	94' RT - 295' LT	TV-BUR	X			COMCAST	
93+41 - 94+55	LT	TV-BUR	X			COMCAST	
94+47 - 112+69	LT	TV-OH	X			COMCAST	
94+55	45' LT - 27' RT	TV-BUR	X			COMCAST	
95+48	CL	TV-F/O-BUR	X			NORTH STAR ACCESS	
95+48 - 112+64	RT	TV-F/O-BUR	X			NORTH STAR ACCESS	
112+64	CL	TV-F/O-BUR	X			NORTH STAR ACCESS	
112+64 - 126+50	LT	TV-F/O-BUR	X			NORTH STAR ACCESS	
112+65 - 126+50	LT	TV-BUR	X			COMCAST	
CORAL SEA ST.							
12+88 - 14+99	RT	TV-BUR	X			COMCAST	
CORAL SEA ST. NE							
9+87 - 15+54	RT	TV-OH	X			COMCAST	
SERVICE DRIVE							
11+58 - 13+58	LT	TV-BUR	X			COMCAST	
NAPLES ST.							
9+83 - 15+63	LT	TV-BUR	X			COMCAST	

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL FOR THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

DESIGN TEAM				
DRAWN BY:	JEO			
DESIGNER:	JEO			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE UTILITY TABULATIONS

FILE NO. ARAMSE0503
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UT2
OF UT4
297

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02/20/2006

UT1-UT4

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U WATERMAIN							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
21+10 - 26+36	RT	WM			X	CITY OF BLAINE	
21+07 - 74+32	LT	WM			X	CITY OF BLAINE	
74+32 - 82+22	LT	WM			X	CITY OF BLAINE	
45+76	14' RT - 115' RT	WM			X	CITY OF BLAINE	
45+75	20' RT	VALVE		X		CITY OF BLAINE	
46+10 - 54+04	RT	WM			X	CITY OF BLAINE	
47+02	86' RT	VALVE			X	CITY OF BLAINE	
47+10	77' RT	VALVE			X	CITY OF BLAINE	
49+51	81' RT	VALVE			X	CITY OF BLAINE	
52+34	27' LT	HYD		X		CITY OF BLAINE	
53+73	60' RT	VALVE			X	CITY OF BLAINE	
58+54	36' LT	HYD		X		CITY OF BLAINE	
58+87	21' LT	VALVE			X	CITY OF BLAINE	
63+79	31' LT	HYD		X		CITY OF BLAINE	
69+98	32' LT	HYD	X			CITY OF BLAINE	
73+66	22' LT	VALVE			X	CITY OF BLAINE	
73+91	16' LT	VALVE			X	CITY OF BLAINE	
73+88	60' RT	HYD	X			CITY OF BLAINE	
73+91	65' RT	VALVE		X		CITY OF BLAINE	
75+60	50' LT	VALVE		X		CITY OF BLAINE	
75+70	53' LT	HYD	X			CITY OF BLAINE	
78+79	38' LT	VALVE			X	CITY OF BLAINE	
78+79	49' LT	HYD	X			CITY OF BLAINE	
82+13 - 82+22	457' LT - 34' LT	WM			X	CITY OF BLAINE	
82+22	40' LT	VALVE		X		CITY OF BLAINE	
82+29	49' LT	HYD	X			CITY OF BLAINE	
94+65 - 112+25	RT & LT	WM			X	CITY OF BLAINE	
94+67	60' RT	HYD		X		CITY OF BLAINE	
94+70	60' RT	VALVE			X	CITY OF BLAINE	
94+88	69' RT	VALVE			X	CITY OF BLAINE	
95+32	58' RT	VALVE			X	CITY OF BLAINE	
95+30 - 95+32	246' LT - 66' RT	WM			X	CITY OF BLAINE	
109+25 - 112+75	RT	WM			X	CITY OF BLAINE	
112+24	74' LT	VALVE		X		CITY OF BLAINE	
112+27	106' LT	VALVE		X		CITY OF BLAINE	
125+11 - 125+13	284' LT - 22' LT	WM			X	CITY OF BLAINE	
CORAL SEA ST. NE							
9+83 - 14+15	RT	WM			X	CITY OF BLAINE	
I-35W SERVICE DRIVE							
23+73 - 31+70	RT	WM			X	CITY OF BLAINE	
I-35W SERVICE DR. CONN.							
10+00 - 16+51	RT	WM			X	CITY OF BLAINE	
SERVICE DRIVE							
9+16	22' RT	VALVE		X		CITY OF BLAINE	
9+22 - 13+23	LT	WM			X	CITY OF BLAINE	
SB RICE CREEK PKWY.							
9+33 - 12+75	RT	WM			X	CITY OF BLAINE	
12+19	25' LT	VALVE		X		CITY OF BLAINE	
12+75	19' LT	HYD	X			CITY OF BLAINE	
NAPLES ST.							
9+73 - 11+47	RT	WM			X	CITY OF BLAINE	
10+15	41' RT	VALVE			X	CITY OF BLAINE	
10+21	52' RT	HYD	X			CITY OF BLAINE	
10+46	44' RT	VALVE			X	CITY OF BLAINE	

GENERAL NOTES:

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UTILITY		
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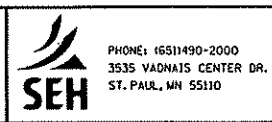
U SIGNALS / LIGHTS							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
20+89 - 24+26	RT	SGNL LIN			X	ANOKA COUNTY	
22+48 - 23+08	RT	SGNL LIN			X	ANOKA COUNTY	
23+12 - 24+86	LT	SGNL LIN			X	ANOKA COUNTY	
23+25	61' LT - 35' RT	SGNL LIN			X	ANOKA COUNTY	
24+54 - 27+15	LT	SGNL LIN			X	ANOKA COUNTY	
26+91 - 40+90	415' LT - 337' RT	POW			X	MN/DOT	
27+28 - 40+82	391' LT - 331' RT	TMS			X	MN/DOT	
28+00 - 33+31	LT	TMS			X	MN/DOT	
33+69	36' LT	TMS			X	MN/DOT	
33+70 - 40+40	LT	TMS			X	MN/DOT	
34+56	33' RT	TMS			X	MN/DOT	
36+00 - 43+08	267' LT2 - 74' RT	POW			X	MN/DOT	
34+09	94' LT	L			X	MN/DOT	
34+09 - 36+00	92' LT - 267' LT	POW			X	MN/DOT	
35+52	228' LT	L			X	MN/DOT	
36+00	267' LT	L			X	MN/DOT	
37+64	127' RT	L			X	MN/DOT	
37+69	122' LT	L			X	MN/DOT	
40+39	39' LT	TMS			X	MN/DOT	
40+51	94' RT	L			X	MN/DOT	
91+76 - 94+59	RT	SGNL LIN			X	MN/DOT	
94+28 - 94+62	LT	SGNL LIN			X	MN/DOT	
95+54 - 100+05	570' LT - 343' RT	POW			X	MN/DOT	
95+55 - 103+54	RT	SGNL LIN			X	MN/DOT	
95+55 - 95+98	RT	SGNL LIN			X	MN/DOT	
95+57 - 99+46	LT	SGNL LIN			X	MN/DOT	
96+19 - 98+80	594' LT - 597' LT	TMS			X	MN/DOT	
97+35 - 99+58	885' LT - 323' RT	TMS			X	MN/DOT	
97+64 - 101+67	530' LT - 422' LT	TMS			X	MN/DOT	
97+81 - 99+96	506' LT - 13' LT	TMS			X	MN/DOT	
98+76	450' LT	L			X	MN/DOT	
99+46	291' LT	L			X	MN/DOT	
98+98 - 99+47	159' LT - 216' LT	TMS			X	MN/DOT	
99+84	118' LT	L			X	MN/DOT	
99+84 - 103+50	LT	POW			X	MN/DOT	
99+95	109' RT	L			X	MN/DOT	
100+05	342' RT	L			X	MN/DOT	
101+22 - 101+68	544' LT - 864' RT	POW			X	MN/DOT	
101+38 - 101+67	413' RT - 422' LT	TMS			X	MN/DOT	
101+39 - 103+50	LT	POW			X	MN/DOT	
101+40	119' LT	L			X	MN/DOT	
101+40	98' RT	L			X	MN/DOT	
101+49	301' LT	L			X	MN/DOT	
101+50	30' LT	TMS			X	MN/DOT	
101+52	24' LT	TMS			X	MN/DOT	
104+16 - 110+78	LT	SGNL LIN			X	MN/DOT	
AIRPORT ROAD							
8+62 - 9+14	RT	SGNL LIN			X	ANOKA COUNTY	
10+49 - 11+59	LT	SGNL LIN			X	ANOKA COUNTY	
13+88	541' RT	TMS			X	MN/DOT	
14+21 - 15+35	RT & LT	POW			X	MN/DOT	
14+88 - 16+27	310' RT - 331' RT	TMS			X	MN/DOT	
17+41	39' RT	TMS			X	MN/DOT	
17+75	50' LT	TMS			X	MN/DOT	
RAMP D							
11+57	77' RT	TMS			X	MN/DOT	
11+58	34' LT	TMS			X	MN/DOT	
I-35W SE RAMP							
11+40 - 14+36	RT	SGNL LIN			X	MN/DOT	

DESIGN TEAM					
DRAWN BY: JEO					
DESIGNER: JEO					
CHECKED BY: APM					
NO.	BY	DATE	REVISIONS		

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer

Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE UTILITY
 TABULATIONS

FILE NO. 25
 ARAMSE0503
 UT3
 OF UT4 297

03:52:38 PM

02/20/2006

UT1-UT4

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WATERMAIN							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
20+70 - 23+55	247' RT - 157' RT	SAN			X	RAMSEY COUNTY	
58+70 - 58+96	1357' LT - 57' LT	SAN			X	CITY OF BLAINE	
81+88 - 82+07	LT	SAN			X	CITY OF BLAINE	
75+48	85' LT	SAN MH	X			CITY OF BLAINE	
82+06	100' LT	SAN MH		X		CITY OF BLAINE	
93+81	114' RT	SAN MH			X	CITY OF BLAINE	
93+81	101' LT	SAN MH			X	CITY OF BLAINE	
93+81	RT	SAN			X	CITY OF BLAINE	
93+81 - 94+60	LT	SAN			X	CITY OF BLAINE	
94+60	181' LT	SAN MH			X	CITY OF BLAINE	
95+17 - 98+83	RT	SAN			X	CITY OF BLAINE	
96+03 - 98+52	374' RT - 1150' RT	SAN			X	MET COUNCIL	
98+83 - 125+13	RT & LT	SAN			X	RAMSEY COUNTY	
CORAL SEA ST.							
10+00 - 13+17	CL	SAN			X	CITY OF BLAINE	
13+18	CL	SAN MH		X		CITY OF BLAINE	
CORAL SEA ST. NE							
10+19 - 15+54	RT	SAN			X	CITY OF BLAINE	
10+19	127' RT	SAN MH			X	CITY OF BLAINE	
12+27	22' RT	SAN MH			X	CITY OF BLAINE	
12+68	3' RT	SAN MH		X		CITY OF BLAINE	
I-35W SERVICE DRIVE							
23+03 - 27+78	LT	SAN			X	CITY OF BLAINE	
I-35W SERVICE DR. CONN.							
10+00 - 16+41	LT	SAN			X	CITY OF BLAINE	
12+30	35' LT	SAN MH			X	CITY OF BLAINE	
14+25	31' LT	SAN MH			X	CITY OF BLAINE	
16+18	21' RT	SAN MH		X		CITY OF BLAINE	
SERVICE DRIVE							
7+00 - 13+12	RT & LT	SAN			X	CITY OF BLAINE	
9+49	5' RT	SAN MH		X		CITY OF BLAINE	
10+35	75' RT	SAN MH			X	CITY OF BLAINE	
10+48	104' RT	SAN MH			X	CITY OF BLAINE	
11+11	CL	SAN MH			X	CITY OF BLAINE	
11+27	20' LT	SAN MH		X		CITY OF BLAINE	
SB RICE CREEK PKWY.							
10+44	264' LT - 41' RT	SAN			X	RAMSEY COUNTY	

TELEPHONE							
STATION TO STATION	OFFSET	ITEM IN PLACE	REMARKS			OWNERSHIP	REMARKS
			RELOCATE	ADJUST	LEAVE AS IS		
CO. RD. J							
16+42 - 43+24	LT	T-BUR			X	QWEST	
18+90 - 32+70	RT	T-BUR			X	QWEST	
20+67	86' RT - 313' RT	T-BUR			X	QWEST	
26+27	77' LT	MH			X	QWEST	
33+00 - 37+25	LT & RT	T-BUR			X	QWEST	
43+24 - 45+07	LT & RT	T-BUR			X	QWEST	
45+27 - 47+29	RT & LT	T-BUR			X	QWEST	
47+29 - 126+50	LT	T-BUR			X	QWEST	
51+03 - 51+36	609' LT - 33' LT	T-BUR			X	QWEST	
53+50 - 59+60	RT	T-BUR			X	QWEST	
59+10 - 59+25	711' LT - 37' LT	T-BUR			X	QWEST	
59+60	CL	T-BUR			X	QWEST	
61+77	39' LT	VAULT			X	QWEST	
69+79	40' LT	MH/VAULT			X	QWEST	
69+81	CL	T-BUR			X	QWEST	
69+81 - 73+81	RT	T-BUR			X	QWEST	
74+82 - 78+61	RT	T-BUR			X	QWEST	
78+59	41' LT	MH/VAULT			X	QWEST	
78+61	CL	T-BUR			X	QWEST	
82+31	42' LT - 316' LT	T-BUR			X	QWEST	
81+83 - 82+31	LT	T-BUR			X	QWEST	
87+92	42' LT	MH/VAULT			X	QWEST	
93+43	43' LT	T-PED			X	QWEST	
94+27	43' LT	MH/VAULT			X	QWEST	
94+28 - 94+45	CL - 243' LT	T-BUR			X	QWEST	
103+14	61' LT	MH			X	QWEST	
104+48 - 112+24	RT	T-BUR			X	QWEST	
107+97 - 111+33	RT	T-BUR			X	QWEST	
112+23	44' LT	VAULT			X	QWEST	
112+48	51' RT	T-PED			X	QWEST	
112+48 - 126+50	RT	T-BUR			X	QWEST	
118+53	54' RT	MH			X	QWEST	
119+99 - 120+13	59' RT - 387' RT	T-BUR			X	QWEST	
121+80 - 124+85	61' RT - 397' RT	T-BUR			X	QWEST	
125+18 - 125+20	569' LT - 39' LT	T-BUR			X	QWEST	
AIRPORT ROAD							
14+03	CL	T-BUR			X	QWEST	
14+02 - 19+79	RT	T-BUR			X	QWEST	
CORAL SEA ST.							
10+71 - 14+60	LT	T-BUR			X	QWEST	
10+00 - 14+59	RT	T-BUR			X	QWEST	
CORAL SEA ST. NE							
9+90 - 15+54	RT & LT	T-BUR			X	QWEST	
I-35W SERVICE DRIVE							
23+03 - 26+72	LT	T-BUR			X	QWEST	
I-35W SERVICE DR. CONN.							
10+00 - 16+45	LT	T-BUR			X	QWEST	
SERVICE DRIVE							
7+00 - 13+85	LT	T-BUR			X	QWEST	
I-35W SE RAMP							
8+00 - 13+78	RT	T-BUR			X	QWEST	
NAPLES ST.							
9+42 - 15+63	RT	T-BUR			X	QWEST	
14+29 - 15+63	LT	T-BUR			X	QWEST	
SB RICE CREEK PKWY.							
7+50 - 12+84	LT	T-BUR			X	QWEST	
7+50 - 13+42	RT	T-BUR			X	QWEST	

UTILITY

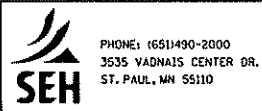
COM = COMMUNICATION	SAN = SANITARY SEWER
F/O = FIBER OPTIC	SGNL LIN = TRAFFIC SIGNAL POWER
GV = GATE VALVE	T-BUR = BURIED TELEPHONE
GAS = GASLINE	T-PED = TELEPHONE PEDESTAL
HYD = HYDRANT	TMS = TRAFFIC MANAGEMENT SYS.
L = LIGHTPOLE	T-PED = TELEPHONE PEDESTAL
MH = MANHOLE	TV-BUR = BURIED TELEVISION
PP = POWER POLE	TV-OH = OVERHEAD TELE LINE
P-BUR = BURIED POWER	WM = WATERMAIN
P-OH = OVERHEAD POWER LINE	
PED = PEDESTAL	
PIP = PIPE	
POW = POWER	

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL FOR THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

DESIGN TEAM				
DRAWN BY: JEO				
DESIGNER: JEO				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE UTILITY
 TABULATIONS

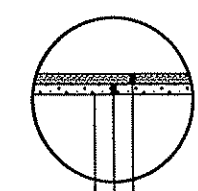
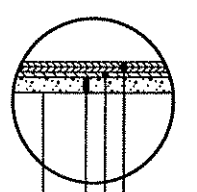
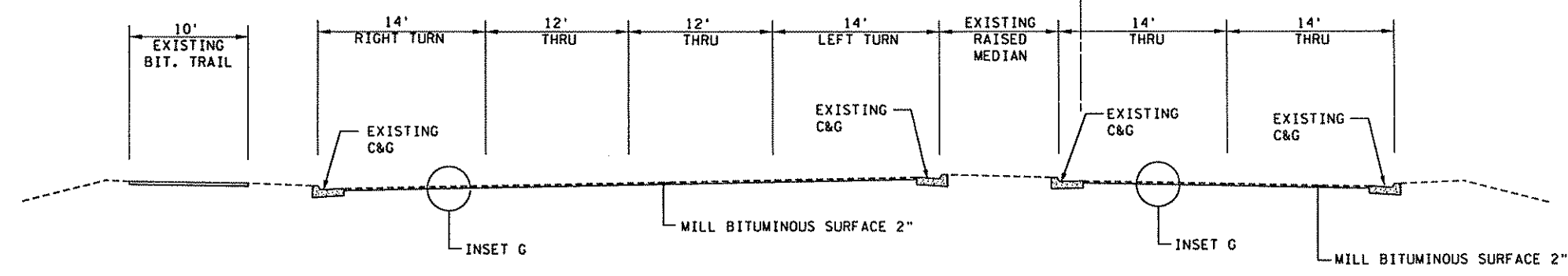
FILE NO.
 ARAMSE0503
 UT 4
 OF UT 4

26
 297

02/16/13 PM
02/17/2006
ts1-9
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COUNTY ROAD J

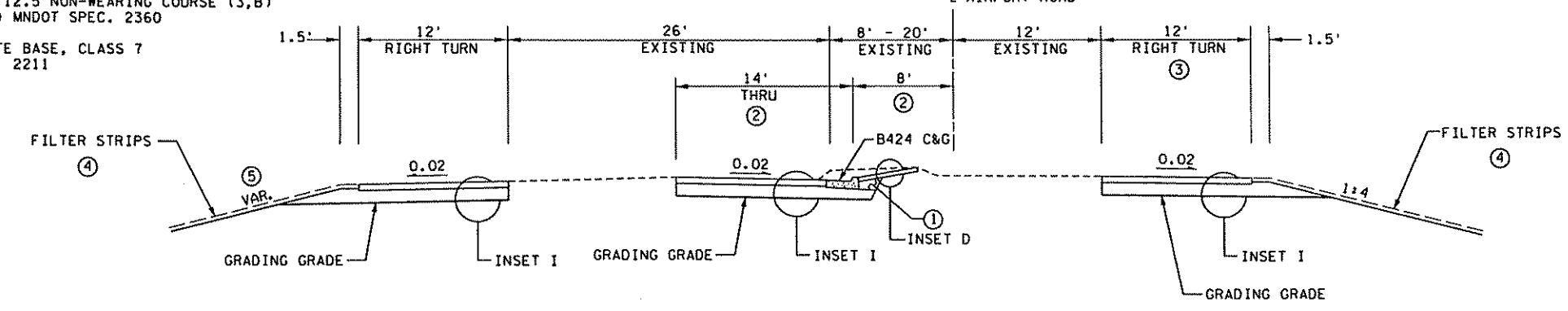
STA 22+72 TO 34+20



4" CONCRETE WALK
MNDOT SPEC. 2521
4" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
GRADING GRADE

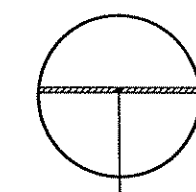
AIRPORT ROAD

STA 10+11 TO 15+26



GRADING GRADE
4" TYPE SP 12.5 WEARING COURSE (3,F)
(SPWEB340F) MNDOT SPEC. 2360
2 LIFTS
2" TYPE SP 12.5 NON-WEARING COURSE (3,B)
(SPNWB330B) MNDOT SPEC. 2360
6" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211

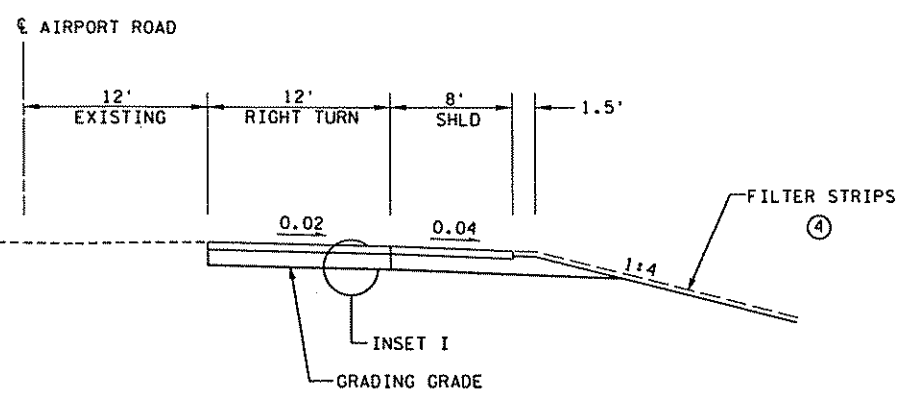
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2" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB440F) MNDOT SPEC. 2360

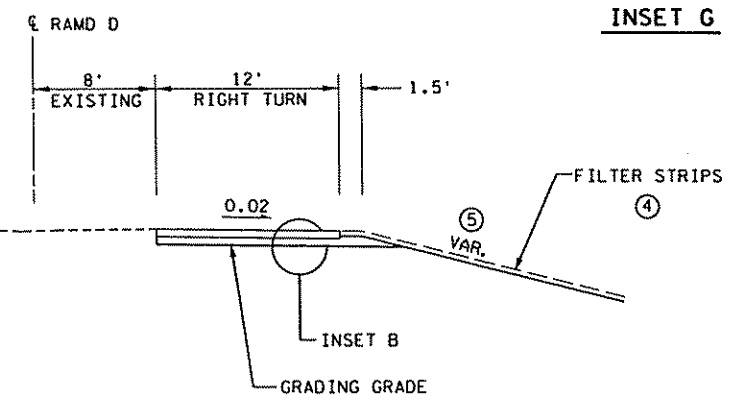
AIRPORT ROAD

STA 15+26 TO 17+36

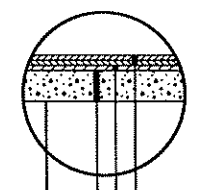


RAMP D

STA 11+37 TO 15+66



INSET G



GRADING GRADE
4" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB440F) MNDOT SPEC. 2360
2 LIFTS
2.5" TYPE SP 12.5 NON-WEARING COURSE (4,B)
(SPNWB430B) MNDOT SPEC. 2360
12" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211

INSET I

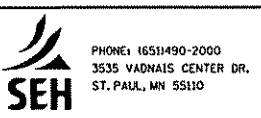
- SPECIFIC NOTES:**
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 - ② BETWEEN STA. 13+14 TO 15+02.
 - ③ BETWEEN STA. 8+34 TO 9+41.
 - ④ PAID FOR AS SOD AND SEED. SEE TURF ESTABLISHMENT PLANS.
 - ⑤ SEE CROSS SECTIONS FOR MORE DETAILS.

GENERAL NOTES:

ALL CROSS SLOPES ARE IN FT/FT.
MAXIMUM ROLLOVER 0.07 FT/FT.
NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.
UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.
UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	APM		
CHECKED BY:	APM		
	NO.	BY	DATE
			REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



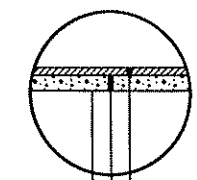
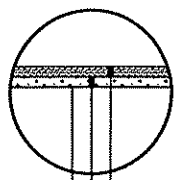
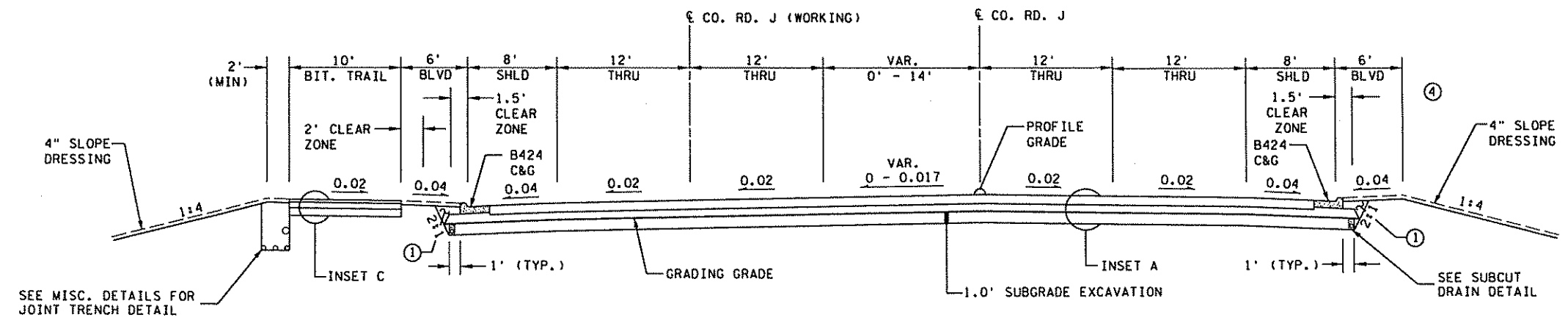
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TYPICAL SECTIONS
AIRPORT ROAD & RAMP D

FILE NO. 27
ARAMSE0503
TS1
OF TSB 297

02/17/2006 1:51-9 50300\p\shnts\detail\ramse0503.tsa.dgn

COUNTY ROAD J
 STA 40+78 TO 49+51
 STA 119+49 TO 123+45



- 4" CONCRETE WALK
MNDOT SPEC. 2521
- 4" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
- GRADING GRADE

- 2" TYPE LV 4 WEARING COURSE B
(LVWE45030B) MNDOT SPEC. 2350
- 4" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
- COMPACTED SUBGRADE (INCIDENTAL)

INSET D

INSET C

INSET D

INSET C

INSET A

INSET A(*)

INSET A

INSET A(*)

INSET A

INSET A(*)

INSET A

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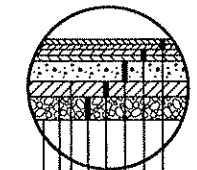
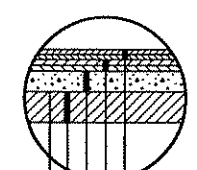
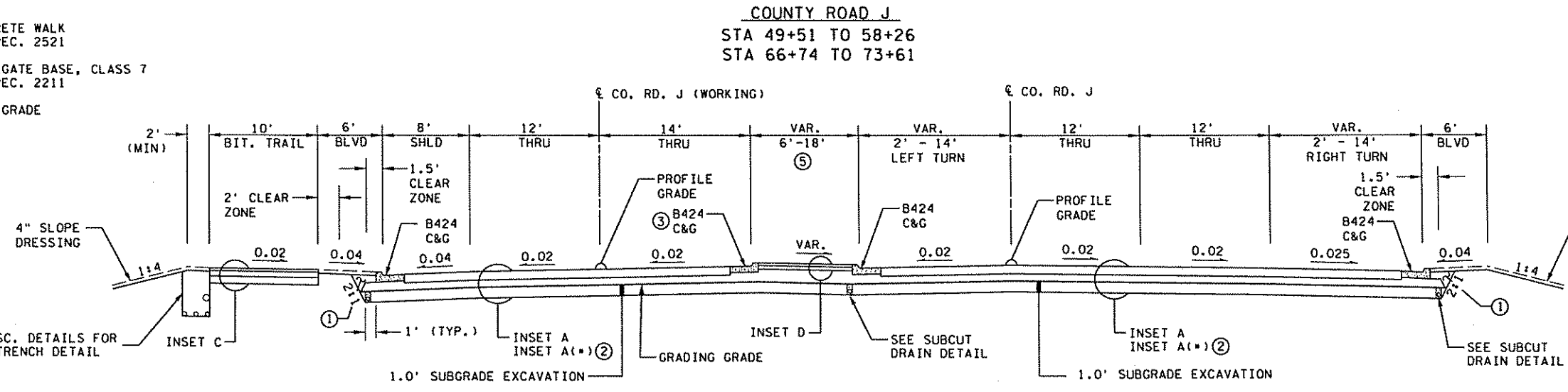
INSET A(*)

INSET A

INSET A(*)

INSET A

INSET A(*)



- 4" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB440F) MNDOT SPEC. 2360
2 LIFTS
- 4.5" TYPE SP 12.5 NON-WEARING COURSE (4,B)
(SPNWB430B) MNDOT SPEC. 2360
2 LIFTS
- 8" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
- 12" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)

- GEOTEXTILE TYPE VI
- GEOTEXTILE TYPE IV
- GRADING GRADE
- 4" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB440F) MNDOT SPEC. 2360
2 LIFTS
- 4.5" TYPE SP 12.5 NON-WEARING COURSE (4,B)
(SPNWB430B) MNDOT SPEC. 2360
2 LIFTS
- 8" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
- 6" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)
- 9" COARSE FILTER AGGREGATE (LV)
MNDOT SPEC. 3149.2H

GENERAL NOTES:


- ALL CROSS SLOPES ARE IN FT/FT.
- MAXIMUM ROLLOVER 0.07 FT/FT.
- NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.
- UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.
- SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTHS.

SPECIFIC NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② COUNTY ROAD J PAVEMENT SECTION TO BE USED BETWEEN STATIONS 54+00 TO 68+00 AND 84+00 TO 88+00. SEE MISC. DETAILS.
- ③ THE CROSS SLOPE OF GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. SEE MISCELLANEOUS DETAILS FOR TABULATION OF AREAS WHERE THIS APPLIES.
- ④ TRAIL ON SOUTH SIDE OF COUNTY ROAD J STA 119+49 TO 123+45.
- ⑤ SEE MEDIAN DETAIL AND TABULATION OF SODDED MEDIAN STA. LIMITS ON MISC. DETAILS SHEET MD1.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	APM		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Montiza* Lic. No. 41654
 Printed Name: AARON P. MONTIZA Date: 02/17/2006


 PHONE: (651)90-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

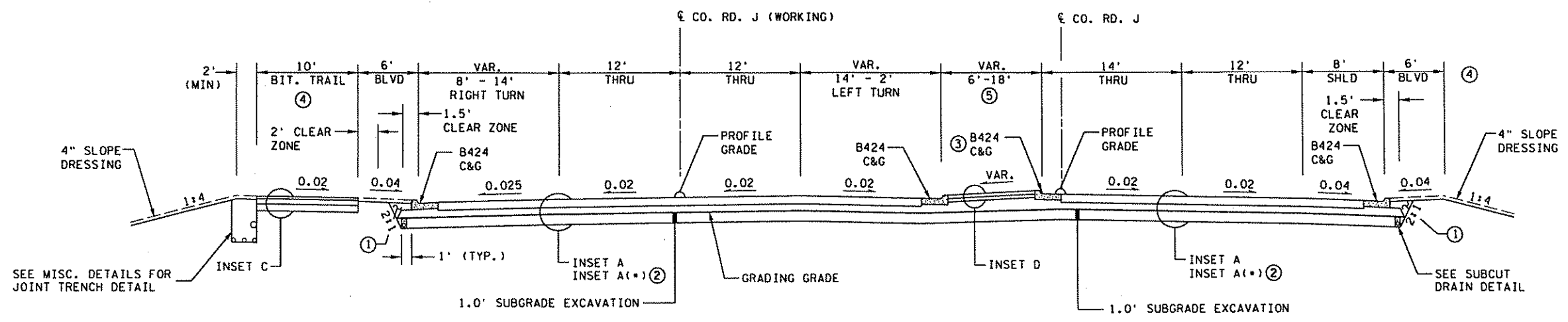
TYPICAL SECTIONS
COUNTY ROAD J

FILE NO. ARAMSE0503	28
TS2 OF TSB	297

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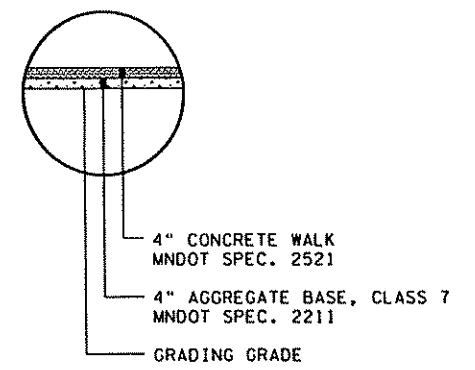
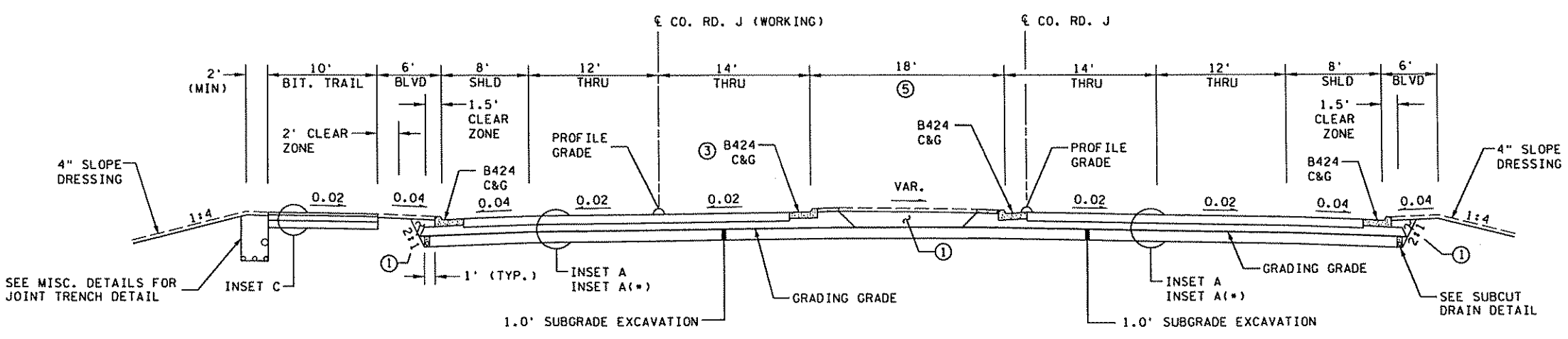
COUNTY ROAD J

STA 59+66 TO 64+51
STA 112+63 TO 119+49



COUNTY ROAD J

STA 64+51 TO 66+74



INSET D

GENERAL NOTES:

ALL CROSS SLOPES ARE IN FT/FT.
MAXIMUM ROLLOVER 0.07 FT/FT.

NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.

UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.

UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.

SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTHS.

SPECIFIC NOTES:

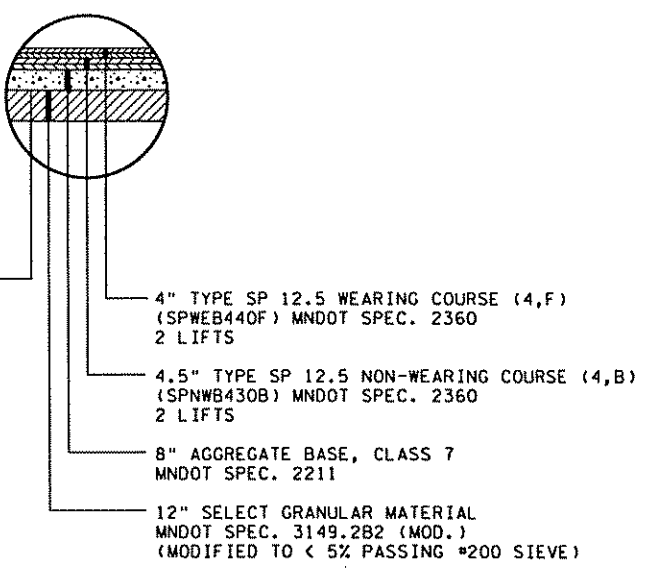
① BACKFILL WITH SUITABLE GRADING MATERIAL.

② COUNTY ROAD J PAVEMENT SECTION TO BE USED BETWEEN STATIONS 54+00 TO 68+00 AND 84+00 TO 88+00. SEE MISC. DETAILS.

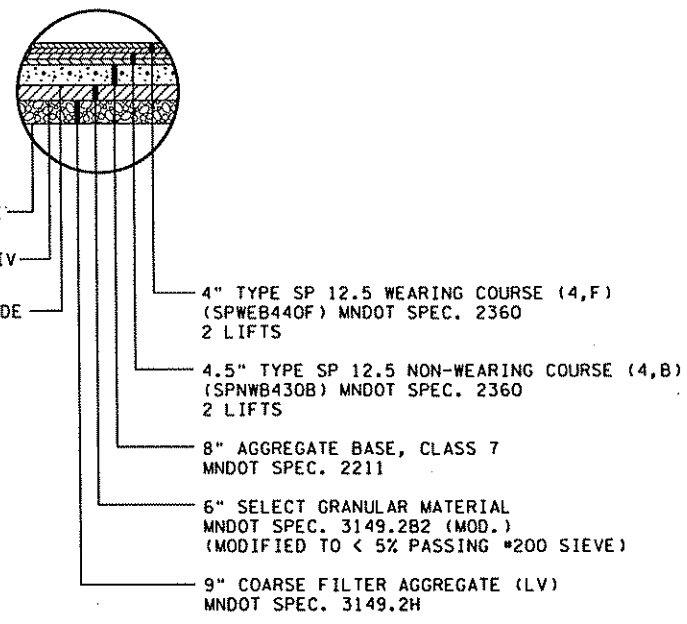
③ THE CROSS SLOPE OF GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. SEE MISCELLANEOUS DETAILS FOR TABULATION OF AREAS WHERE THIS APPLIES.

④ TRAIL ON SOUTH SIDE OF COUNTY ROAD J STA 112+63 TO 119+49.

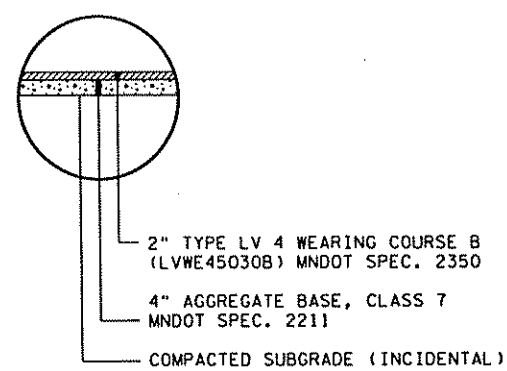
⑤ SEE MEDIAN DETAIL AND TABULATION OF SODDED MEDIAN STA. LIMITS ON MISC. DETAILS SHEET MD1.



INSET A



INSET A(*) ②

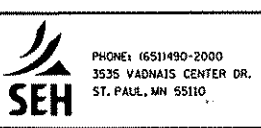


INSET C

DESIGN TEAM			
DRAWN BY:	MIT		
DESIGNER:	APM		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006

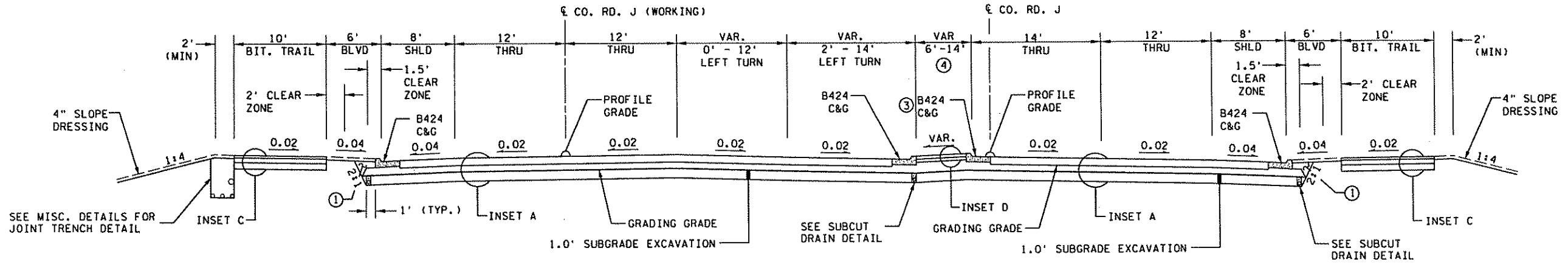


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

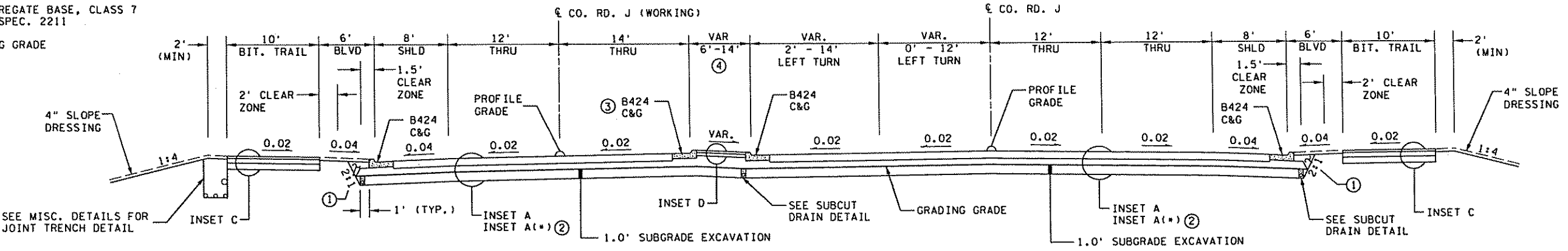
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TS3	
OF TS8	297

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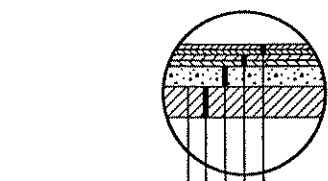
COUNTY ROAD J
 STA 74+87 TO 81+06



COUNTY ROAD J
 STA 81+06 TO 88+66

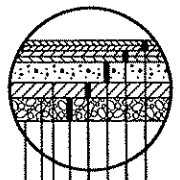


INSET D



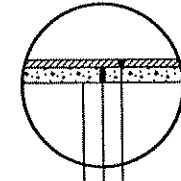
- GRADING GRADE
- 4" TYPE SP 12.5 WEARING COURSE (4,F) (SPWEB440F) MNDOT SPEC. 2360 2 LIFTS
- 4.5" TYPE SP 12.5 NON-WEARING COURSE (4,B) (SPNWB430B) MNDOT SPEC. 2360 2 LIFTS
- 8" AGGREGATE BASE, CLASS 7 MNDOT SPEC. 2211
- 12" SELECT GRANULAR MATERIAL MNDOT SPEC. 3149.2B2 (MOD.) (MODIFIED TO < 5% PASSING #200 SIEVE)

INSET A



- GEOTEXTILE TYPE VI
- GEOTEXTILE TYPE IV
- GRADING GRADE
- 4" TYPE SP 12.5 WEARING COURSE (4,F) (SPWEB440F) MNDOT SPEC. 2360 2 LIFTS
- 4.5" TYPE SP 12.5 NON-WEARING COURSE (4,B) (SPNWB430B) MNDOT SPEC. 2360 2 LIFTS
- 8" AGGREGATE BASE, CLASS 7 MNDOT SPEC. 2211
- 6" SELECT GRANULAR MATERIAL MNDOT SPEC. 3149.2B2 (MOD.) (MODIFIED TO < 5% PASSING #200 SIEVE)
- 9" COARSE FILTER AGGREGATE (LV) MNDOT SPEC. 3149.2H

INSET A (*) 2



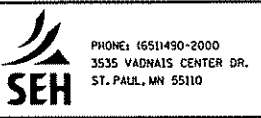
- 2" TYPE LV 4 WEARING COURSE B (LVWE45030B) MNDOT SPEC. 2350
- 4" AGGREGATE BASE, CLASS 7 MNDOT SPEC. 2211
- COMPACTED SUBGRADE (INCIDENTAL)

INSET C

- GENERAL NOTES:**
- ALL CROSS SLOPES ARE IN FT/FT.
 - MAXIMUM ROLLOVER 0.07 FT/FT.
 - NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.
 - UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.
 - UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.
 - SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTHS.
- SPECIFIC NOTES:**
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 - ② COUNTY ROAD J PAVEMENT SECTION TO BE USED BETWEEN STATIONS 54+00 TO 68+00 AND 84+00 TO 88+00. SEE MISC. DETAILS.
 - ③ THE CROSS SLOPE OF GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. SEE MISCELLANEOUS DETAILS FOR TABULATION OF AREAS WHERE THIS APPLIES.
 - ④ SEE MEDIAN DETAIL AND TABULATION OF SODDED MEDIAN STA. LIMITS ON MISC. DETAILS SHEET MD1.

DESIGN TEAM				
DRAWN BY:	MTT			
DESIGNER:	APM			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006

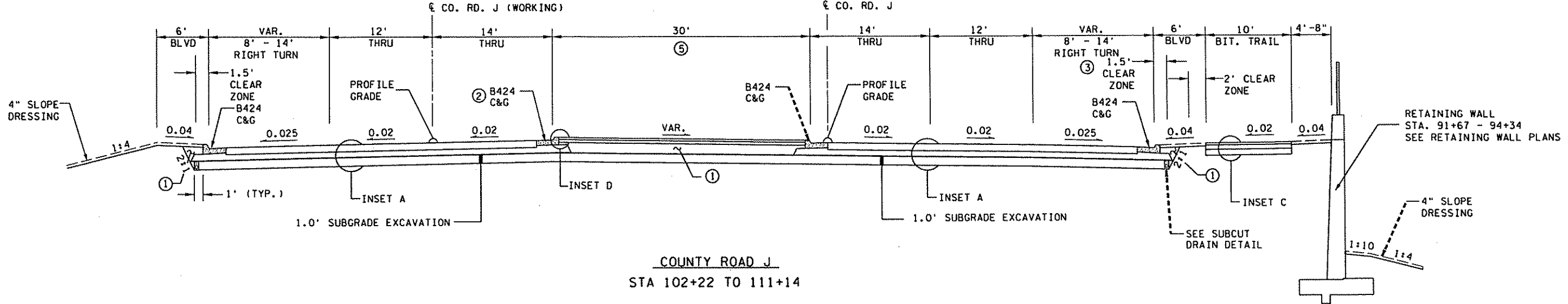


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

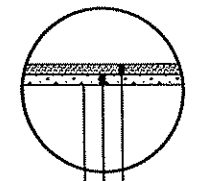
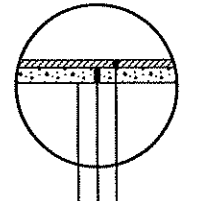
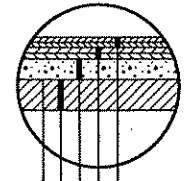
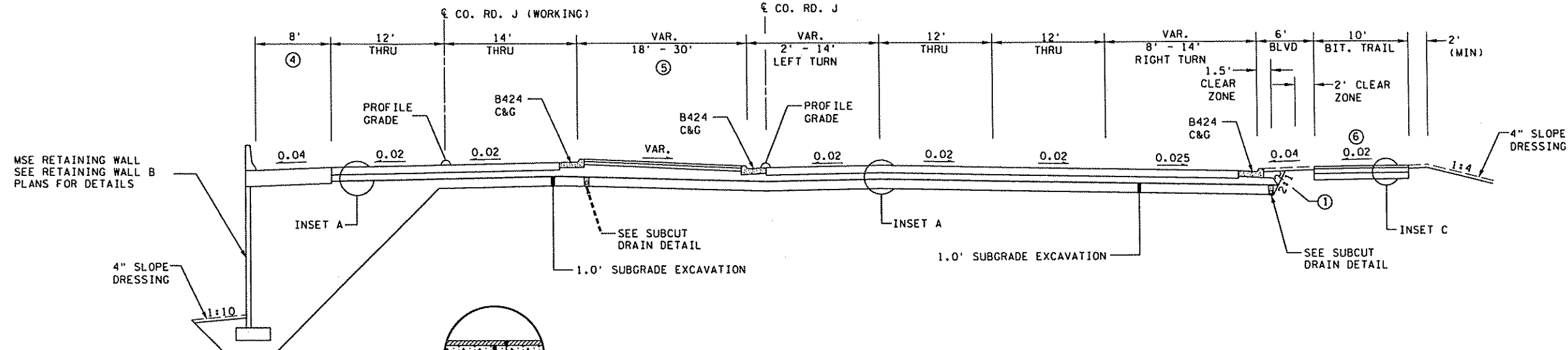
FILE NO.	30
ARAMSE0503	
TS4	
OF TSB	297

3/7/2006 6:44:24 AM ts1-9 J:\PT\Boms_0300\p1nshfts\vdetail\ramse0503.tso.dgn

COUNTY ROAD J
STA 89+99 TO 99+06



COUNTY ROAD J
STA 102+22 TO 111+14



GENERAL NOTES:

ALL CROSS SLOPES ARE IN FT/FT.
MAXIMUM ROLLOVER 0.07 FT/FT.

NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.

UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.

UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.

SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTHS.

SPECIFIC NOTES:

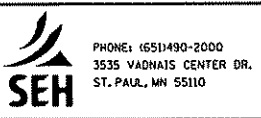
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② THE CROSS SLOPE OF GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. SEE MISCELLANEOUS DETAILS FOR TABULATION OF AREAS WHERE THIS APPLIES.
- ③ RIGHT TURN LANE BEGINS STA 90+75.
- ④ CONCRETE SHOULDER/MOMENT BLOCK, SEE BLOCK WALL PLANS.
- ⑤ SEE MEDIAN DETAIL AND TABULATION OF SODDED MEDIAN STA. LIMITS ON MISC. DETAILS SHEET MD1.
- ⑥ TRAIL SLOPES AWAY FROM ROADWAY AT 0.02 FT/FT FROM STA. 102+23 TO 103+47 RT.

INSET A (ENGINEER IN FIELD TO DETERMINE WHEN PLACEMENT OF FINAL WEAR COURSE TO OCCUR)

INSET D

DESIGN TEAM				
DRAWN BY:	MTT			
DESIGNER:	APM			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 3/7/2006

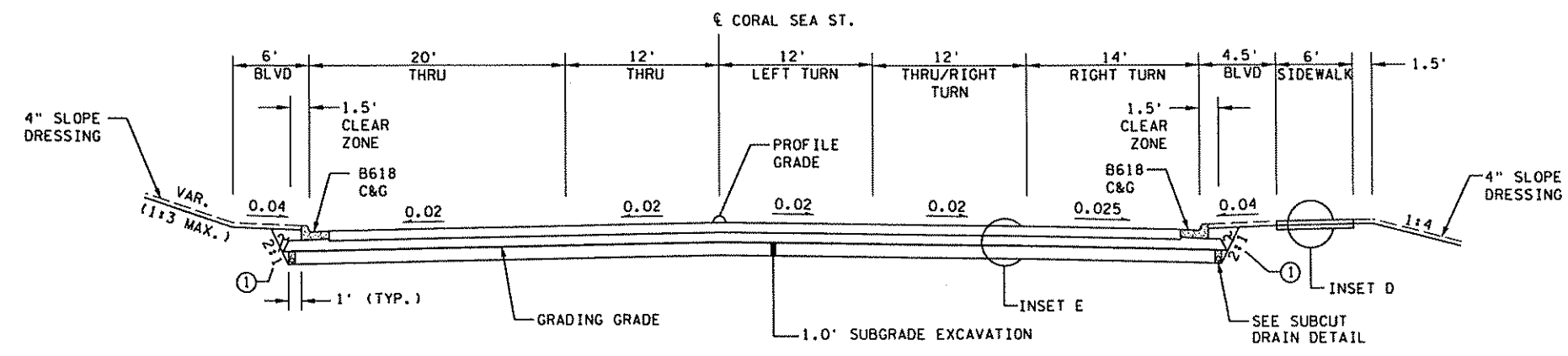


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

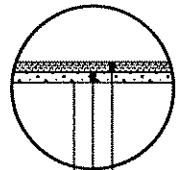
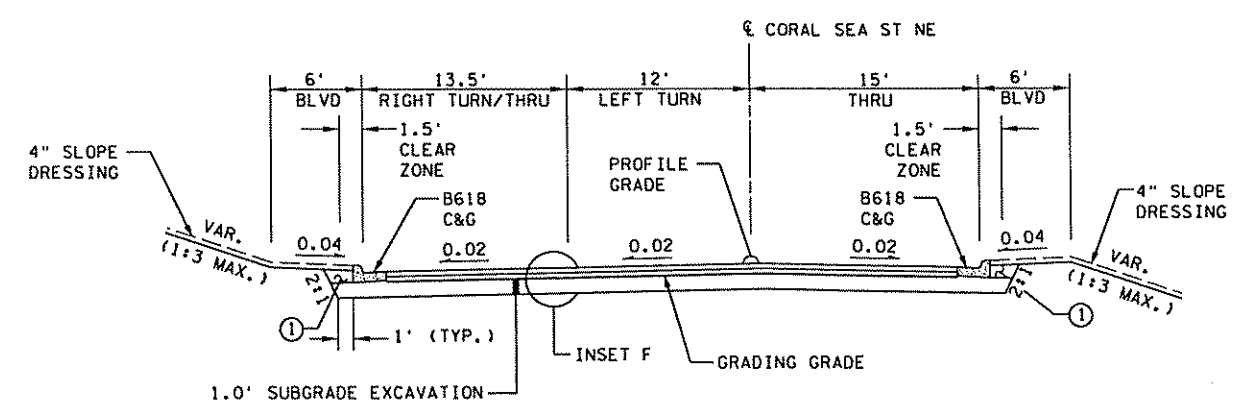
TYPICAL SECTIONS COUNTY ROAD J	FILE NO.	31
	ARAME0503	
	TS5	
	OF TSB	297

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CORAL SEA ST.

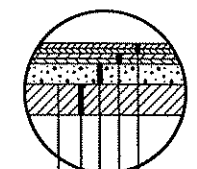


CORAL SEA ST. N.E.



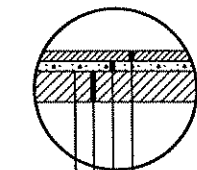
4" CONCRETE WALK
MNDOT SPEC. 2521
4" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
GRADING GRADE

INSET D



GRADING GRADE
4" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB440F) MNDOT SPEC. 2360
2 LIFTS
4" TYPE SP 12.5 NON-WEARING COURSE (4,B)
(SPNWB430B) MNDOT SPEC. 2360
2 LIFTS
8" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
12" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)

INSET E



GRADING GRADE
4" TYPE SP 12.5 WEARING COURSE (3,F)
(SPWEB340F) MNDOT SPEC. 2360
2 LIFTS
6" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
9" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)

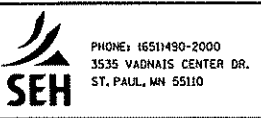
INSET F

GENERAL NOTES:
ALL CROSS SLOPES ARE IN FT/FT.
MAXIMUM ROLLOVER 0.07 FT/FT.
NORMAL CROSS SLOPES ARE SHOWN, FOR
SUPERELEVATION TRANSITIONS SEE
SUPERELEVATION PLAN.
UNLESS OTHERWISE SPECIFIED, THE GRADING
GRADE CROSS SLOPES SHALL BE THE SAME AS
THE FINISHED SURFACE.
UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE
WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE
OF BITUMINOUS BASE COURSE.

SPECIFIC NOTES:
① BACKFILL WITH SUITABLE GRADING MATERIAL.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	APM		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

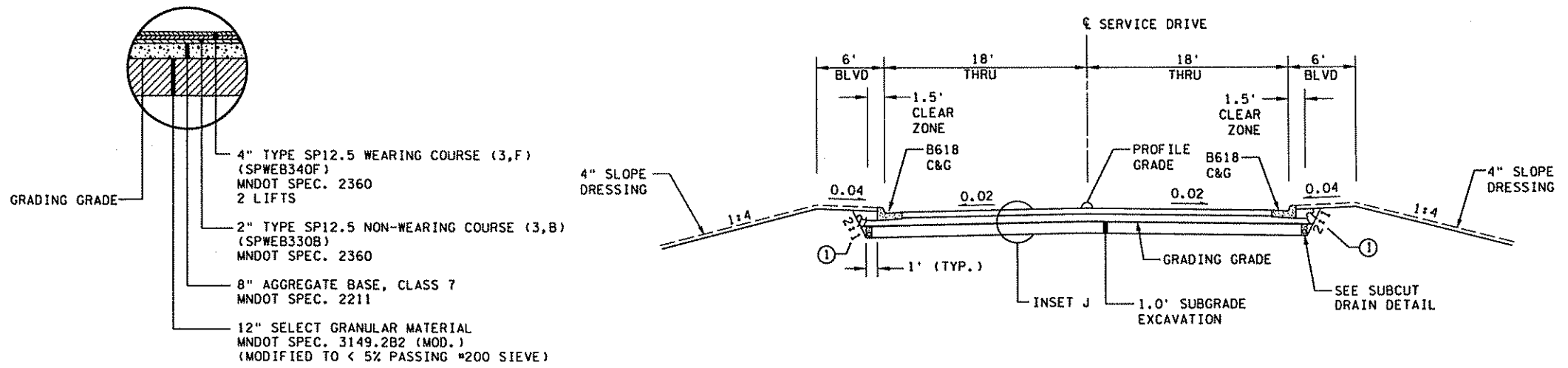
FILE NO.	32
ARANSE0503	
TS6	
OF TSB	297

02/17/2006

tsl-9

0300\pinshits\detail\ramse0503.tso.dgn

SERVICE DRIVE



GENERAL NOTES:

ALL CROSS SLOPES ARE IN FT/FT.

MAXIMUM ROLLOVER 0.07 FT/FT.

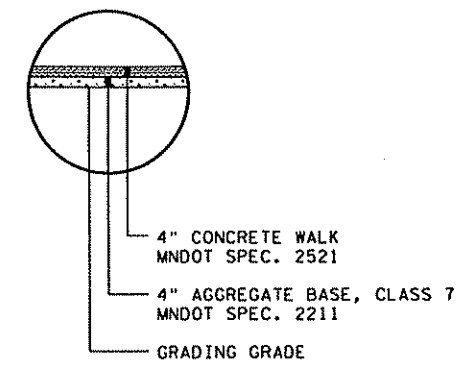
NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.

UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.

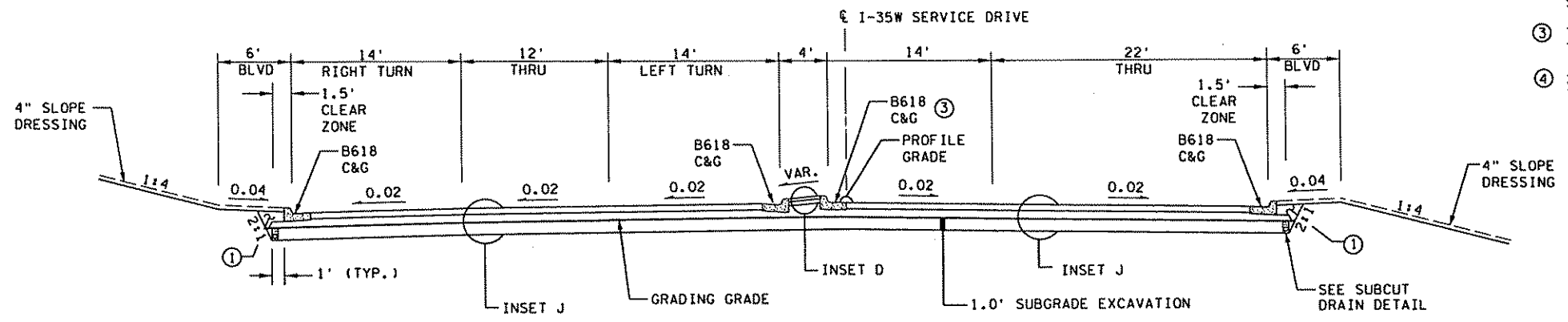
UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.

SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTHS AND LOCATIONS.

INSET J



I-35W SERVICE DRIVE STA 9+50 TO 12+87



SPECIFIC NOTES:

① BACKFILL WITH SUITABLE GRADING MATERIAL.

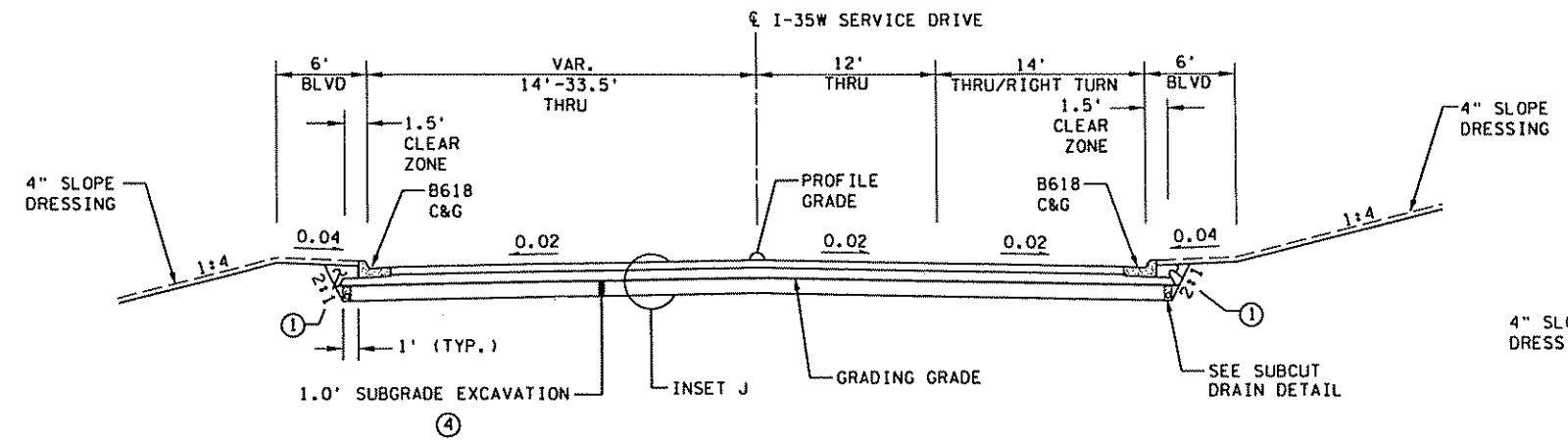
② SEE PROFILES AND CROSS SECTIONS FOR LOCATION AND DEPTH OF SUBGRADE EXCAVATION REQUIRED. SUBCUT EXCAVATION IN CUT SECTIONS ONLY.

③ THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.

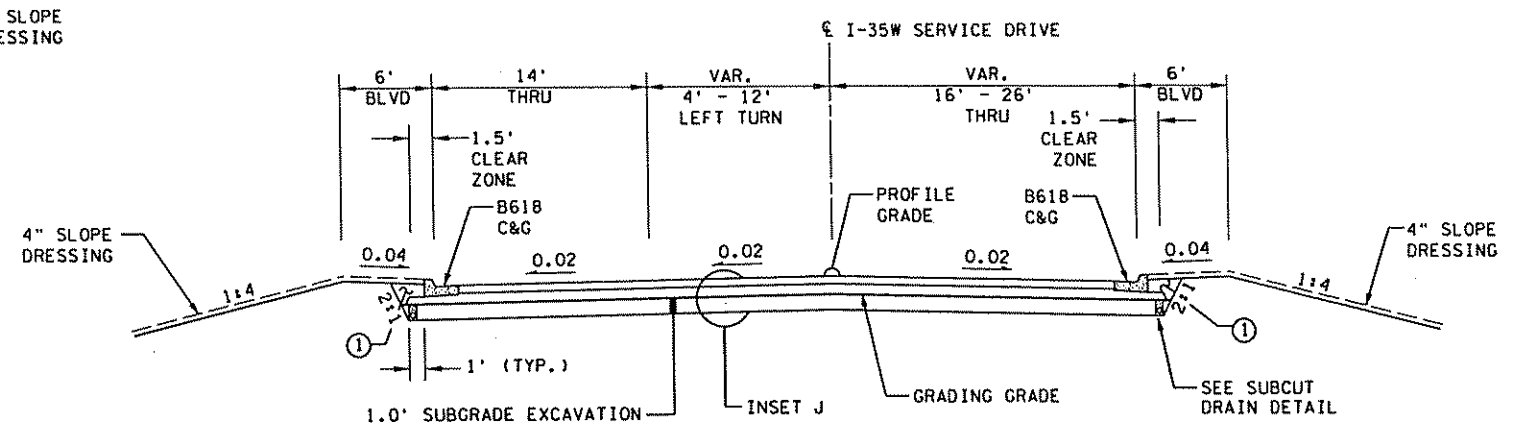
④ 2.0 FT SUBGRADE EXCAVATION FROM STA.18+00 TO 22+50.

INSET D

I-35W SERVICE DRIVE STA 12+87 TO 22+58



I-35W SERVICE DRIVE STA 22+58 TO 27+08



DESIGN TEAM					
DRAWN BY:	MTT				
DESIGNER:	APM				
CHECKED BY:	APM				
	NO.	BY	DATE		REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654

Printed Name: AARON P. MONIZA Date: 02/17/2006

PHONE: (651)90-2000
3535 WADNATS CENTER DR.
ST. PAUL, MN 55110

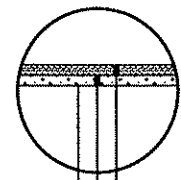
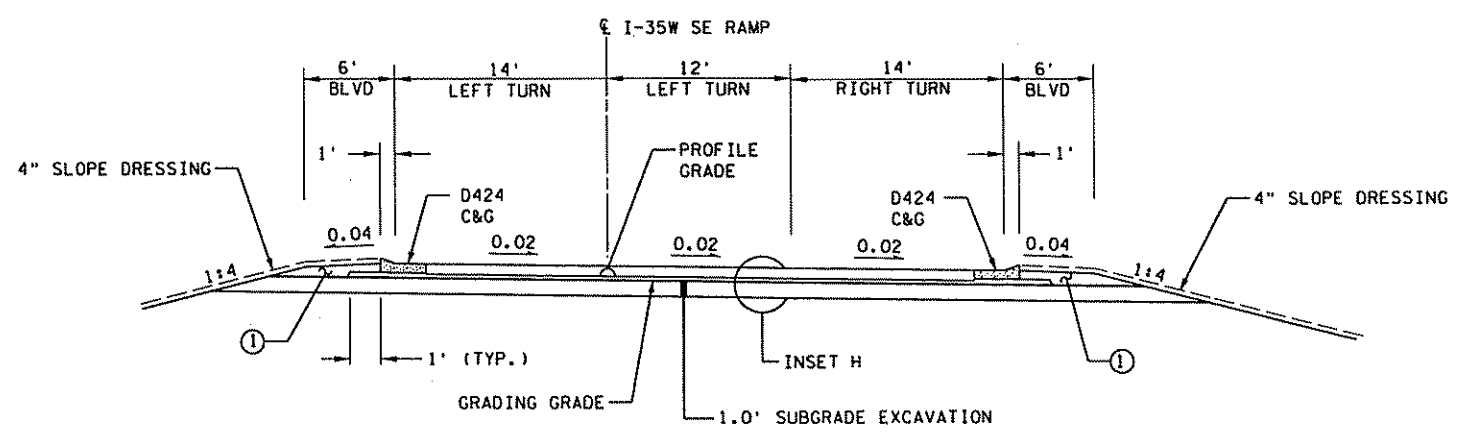
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TYPICAL SECTIONS
SERVICE DRIVE &
I-35W SERVICE DRIVE

FILE NO. ARAMSE0503	33
TS7 OF TSB	297

02/17/2006
ts1-9
0300\p1nshts\detail\ramse0503_tsa.dgn

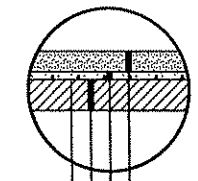
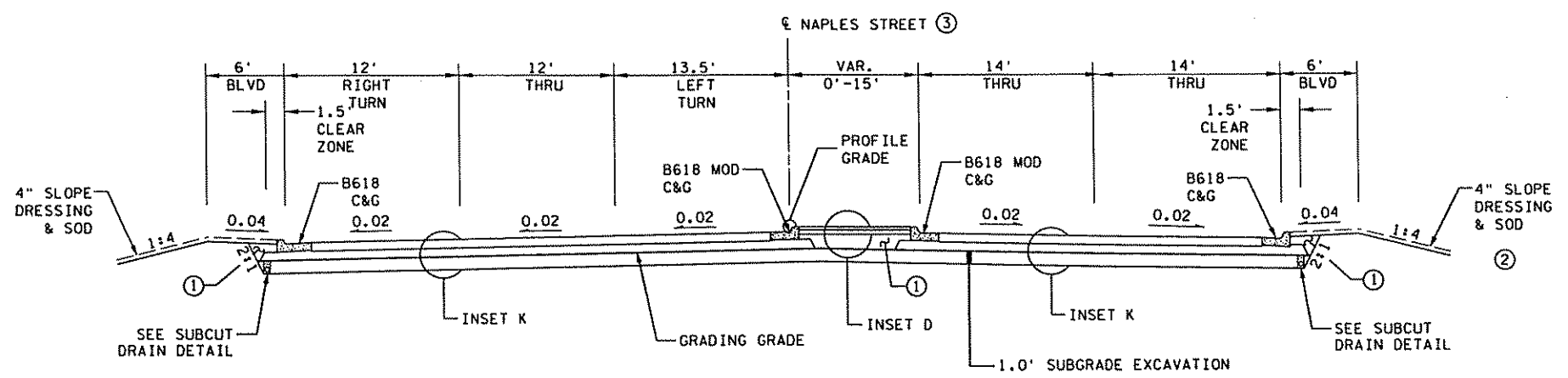
I-35W SE RAMP



4" CONCRETE WALK
MNDOT SPEC. 2521
4" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
GRADING GRADE

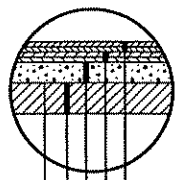
INSET D

NAPLES STREET



8" UNIFORM CONCRETE PAVEMENT
3" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
12" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)

INSET H



4" TYPE SP 12.5 WEARING COURSE (4,F)
(SPWEB340F) MNDOT SPEC. 2360
2 LIFTS
2" TYPE SP 12.5 NON-WEARING COURSE (4,B)
(SPNWB330B) MNDOT SPEC. 2360
2 LIFTS
6" AGGREGATE BASE, CLASS 7
MNDOT SPEC. 2211
12" SELECT GRANULAR MATERIAL
MNDOT SPEC. 3149.2B2 (MOD.)
(MODIFIED TO < 5% PASSING #200 SIEVE)

INSET K

GENERAL NOTES:

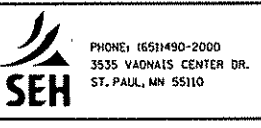
ALL CROSS SLOPES ARE IN FT/FT.
MAXIMUM ROLLOVER 0.07 FT/FT.
NORMAL CROSS SLOPES ARE SHOWN, FOR SUPERELEVATION TRANSITIONS SEE SUPERELEVATION PLAN.
UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.
UNLESS OTHERWISE SPECIFIED, CLASS 7 AGGREGATE WILL EXTEND 1.0' BEYOND BACK OF CURB OR EDGE OF BITUMINOUS BASE COURSE.

SPECIFIC NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② SPECIAL DITCH GRADES SEE CROSS SECTIONS AND PROFILES FOR DITCH GRADES AND ELEVATIONS.
- ③ FULL WIDTH CONSTRUCTION FROM STA. 10+09 TO 11+99 AND ROADWAY WIDENING FROM STA. 11+99 TO 13+70 RT.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	APM		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TYPICAL SECTIONS
I-35W SE RAMP & NAPLES STREET

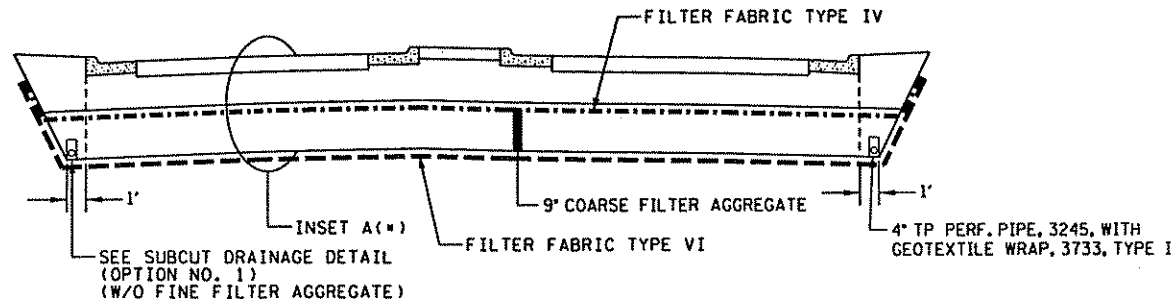
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34
TS8 OF TS8
297

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3/8/2006

MD1

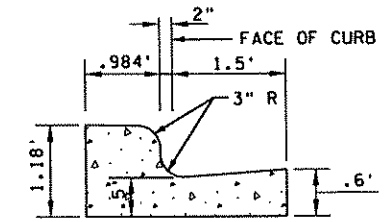
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CAPILLARY BREAK DETAIL

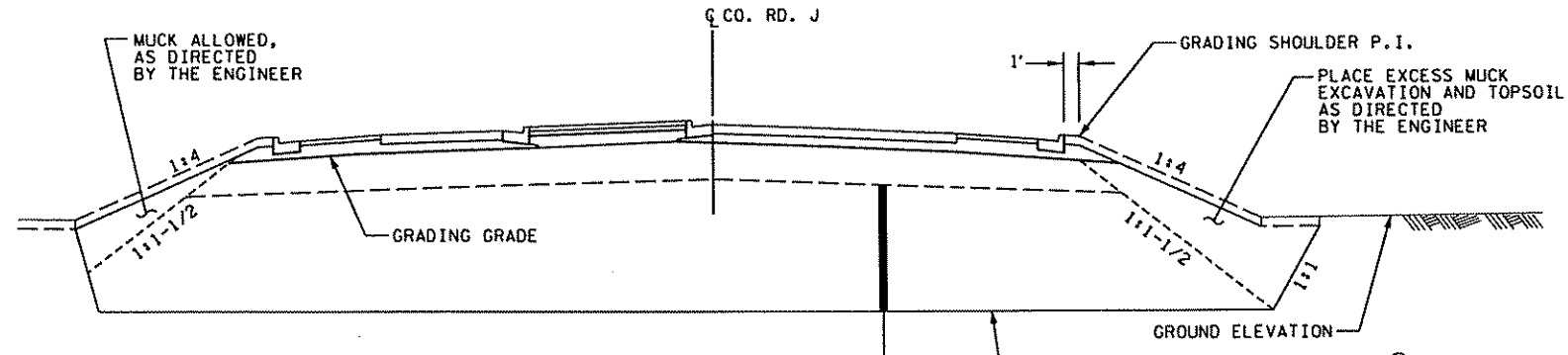
COUNTY ROAD J
STA 54+00 TO 68+00
STA 84+00 TO 88+00

OUTFLOW GUTTER STATION LIMITS			
ROADWAY	DIRECTION	RT/LT	STATION
COUNTY ROAD J	EASTBOUND	LT	59+71 - 62+71
COUNTY ROAD J	EASTBOUND	LT	74+92 - 81+06
COUNTY ROAD J	EASTBOUND	LT	112+68 - 119+43
COUNTY ROAD J	WESTBOUND	RT	49+56 - 58+21
COUNTY ROAD J	WESTBOUND	RT	64+51 - 73+57
COUNTY ROAD J	WESTBOUND	RT	83+47 - 88+61
COUNTY ROAD J	WESTBOUND	RT	90+04 - 99+06
COUNTY ROAD J	WESTBOUND	RT	102+22 - 103+14
COUNTY ROAD J	WESTBOUND	RT	103+78 - 111+09
I-35W SERVICE DRIVE	NORTHBOUND	LT	10+71 - 12+82



DESIGN B618 MODIFIED MEDIAN CURB

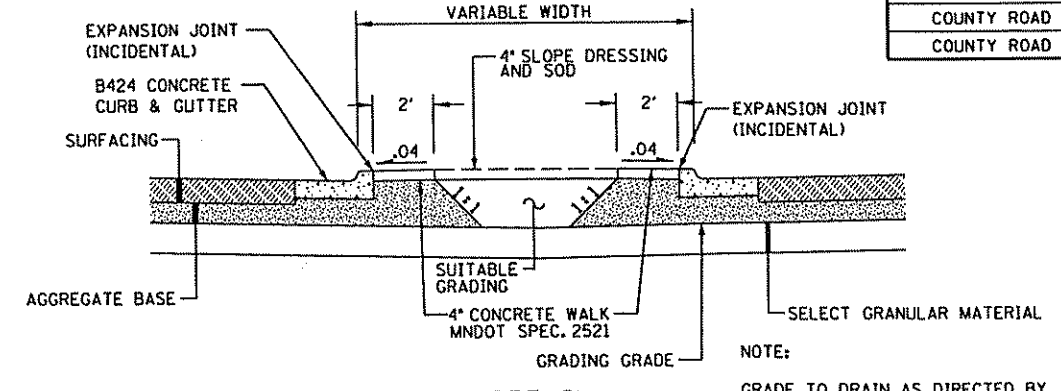
SODDED MEDIAN STATION LIMITS	
ALIGNMENT	STATION
COUNTY ROAD J	50+17 - 54+20
COUNTY ROAD J	63+31 - 68+11
COUNTY ROAD J	69+27 - 72+94
COUNTY ROAD J	80+47 - 84+06
COUNTY ROAD J	89+99 - 94+12
COUNTY ROAD J	103+80 - 110+44
COUNTY ROAD J	113+24 - 118+84



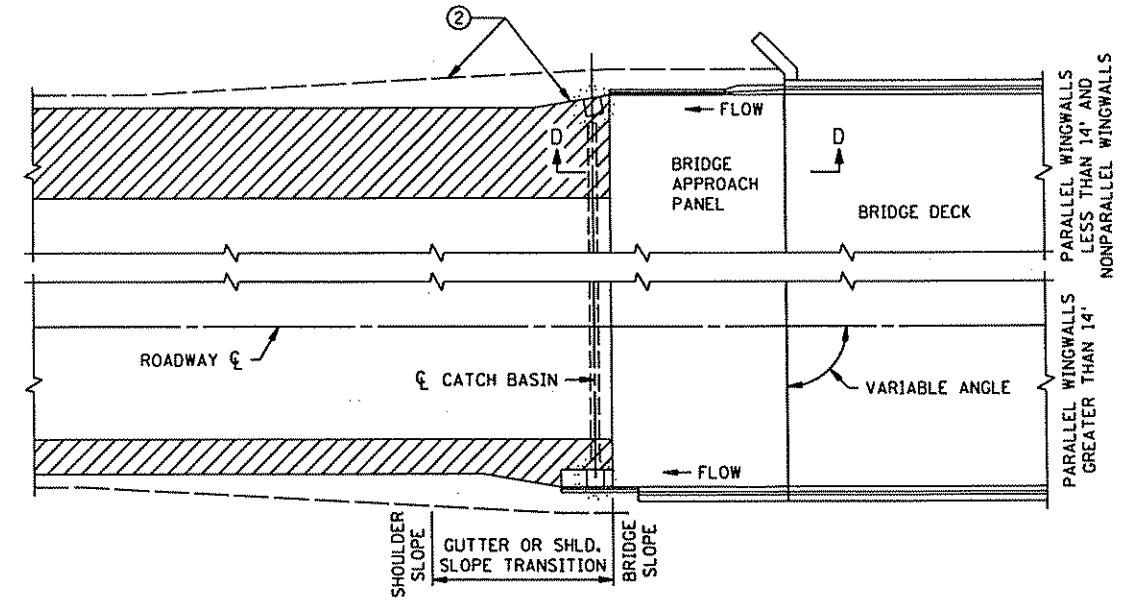
MUCK EXCAVATION

COUNTY ROAD J

- ① SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTH.
- ② BACKFILL WITH MODIFIED SELECT GRANULAR MATERIAL (MODIFIED TO < 7% PASSING #200 SIEVE).

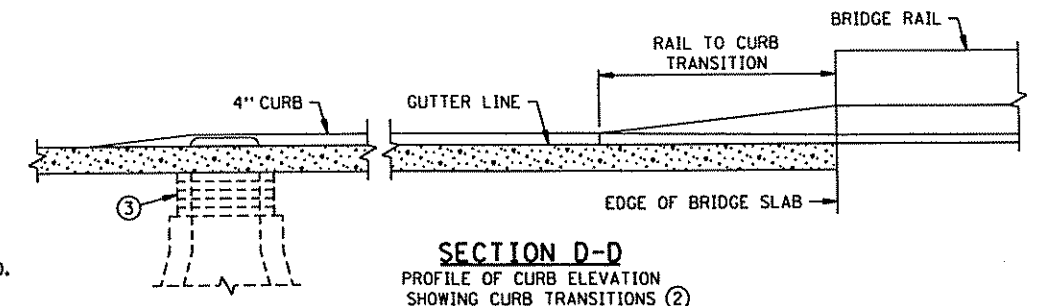


MEDIAN DETAIL FOR SODDED MEDIAN



SURFACING PLAN

- NOTES:
- ① SEE BRIDGE APPROACH PANEL SHEET FOR FURTHER INFORMATION.
 - ② SEE BRIDGE APPROACH AREA SHEET FOR SHOULDER AND TAPER INFORMATION.
 - ③ ADJUST AS REQUIRED PER SPEC. 2506, WITH CONCRETE ADJUSTING RINGS. SEE STANDARD PLATE 4010 & 4026.
 - ④ THESE ITEMS ARE PROPRIETARY AS PER SPEC. 1703. OTHER EQUAL ITEMS MAY BE USED AS APPROVED BY THE ENGINEER IN THE FIELD.



SECTION D-D PROFILE OF CURB ELEVATION SHOWING CURB TRANSITIONS

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	APM						
CHECKED BY:	APM						

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Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 3/8/2006

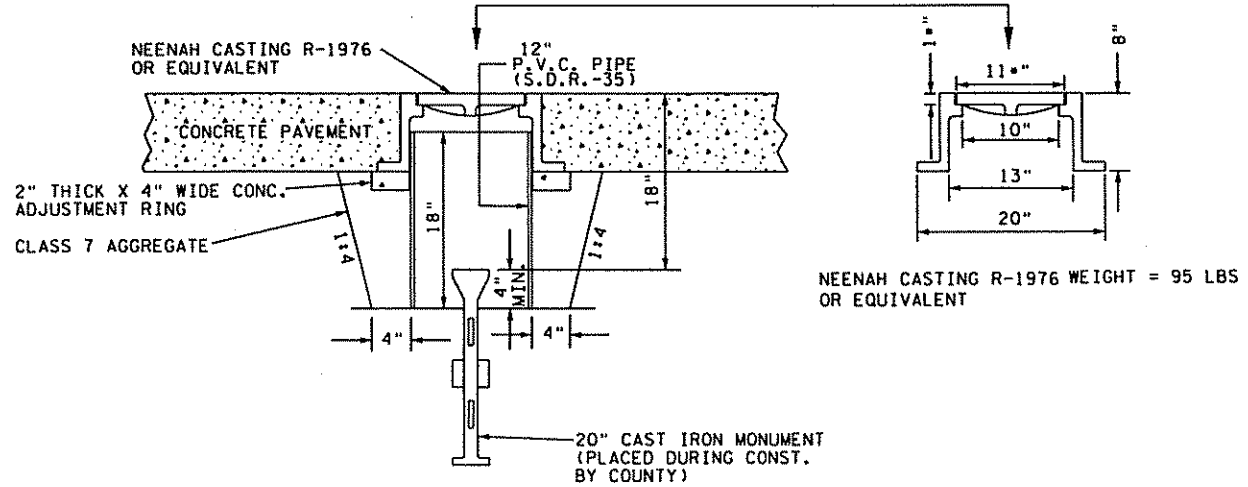
SEH
 PHONE: 651/490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

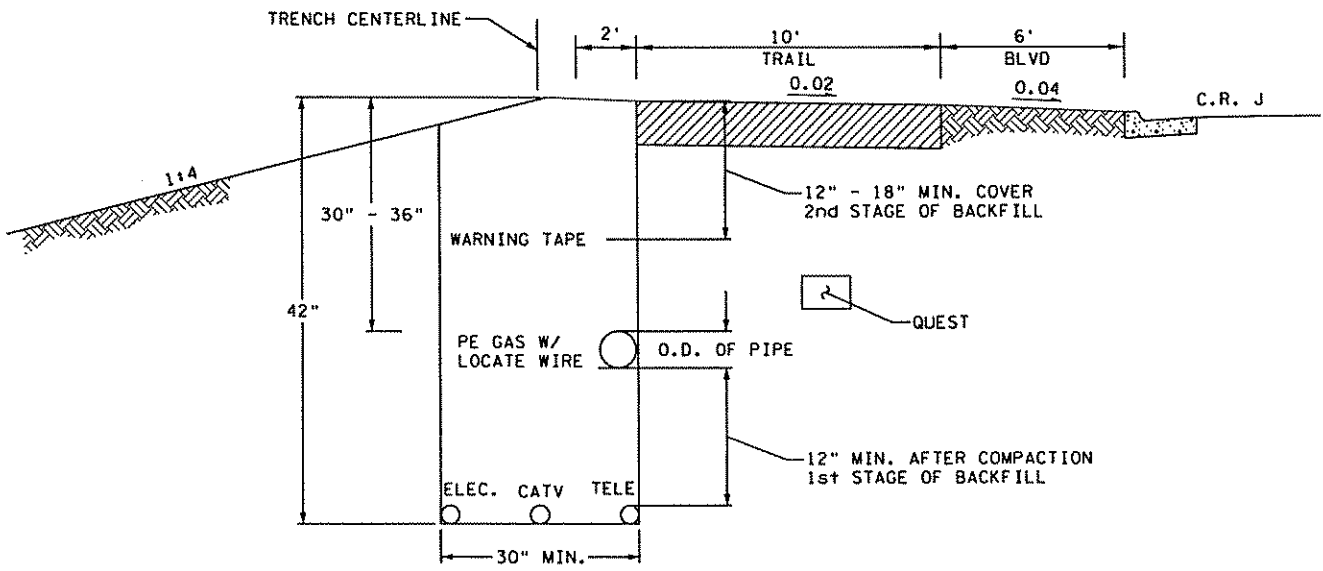
MISCELLANEOUS DETAILS

FILE NO. 35
 ARAMSE0503
 MD1 OF MD6
 297

02/16/21 PM
02/17/2006



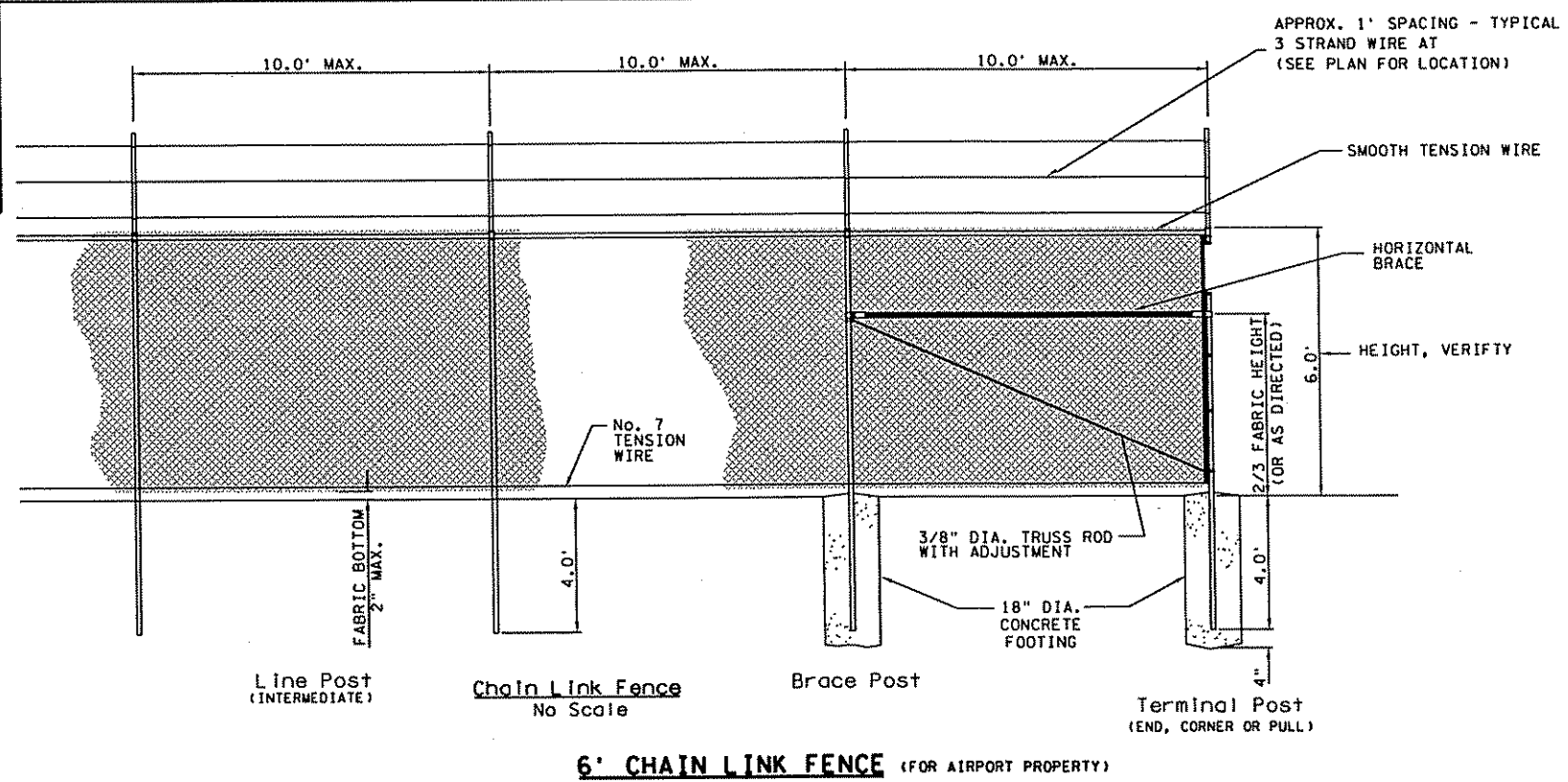
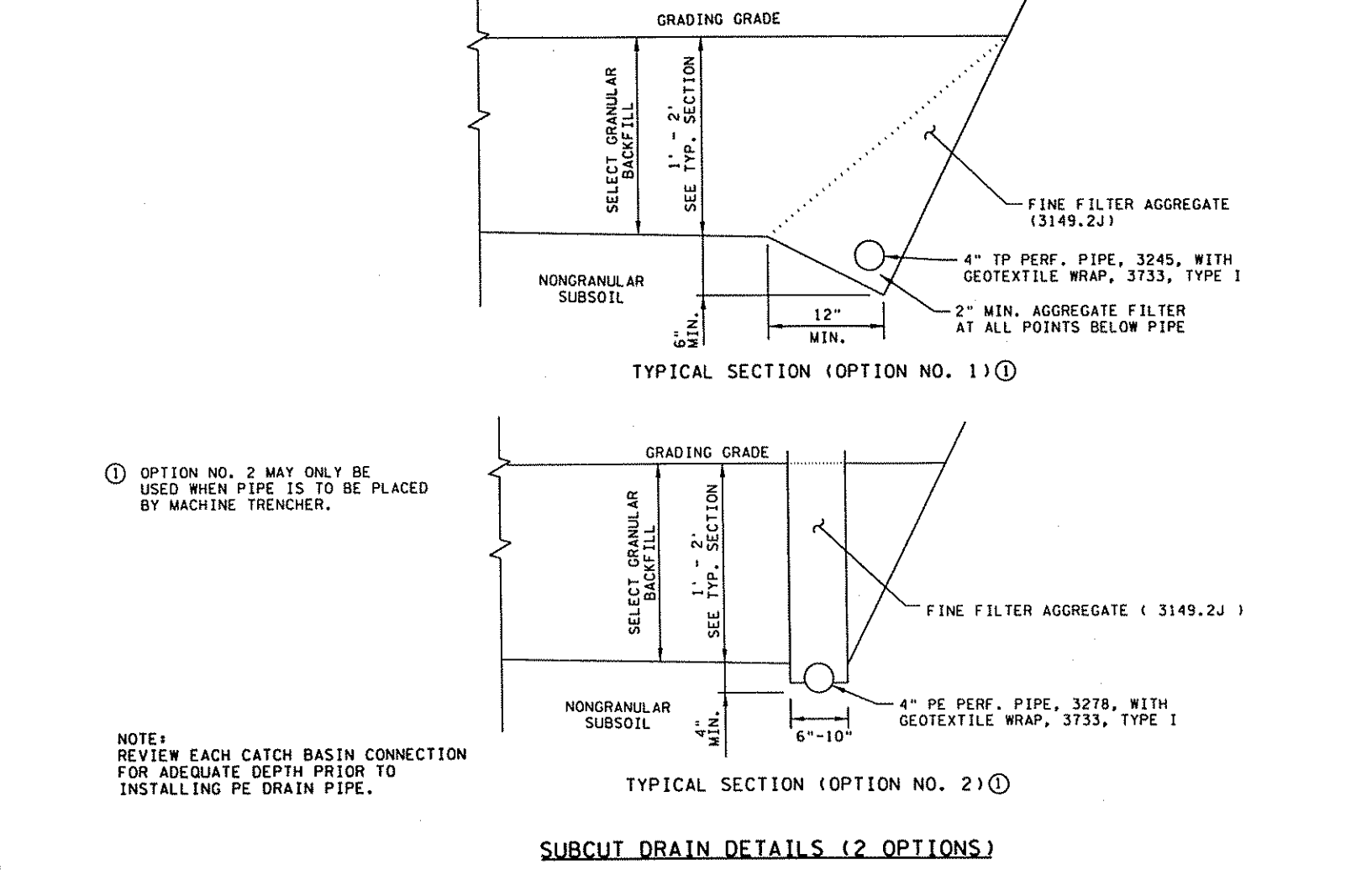
SURVEY MONUMENT MANHOLE
COORDINATE WITH RAMSEY CO SURVEYS
CONTACT: (651) 266-2600



JOINT TRENCH DETAIL
BOULEVARD INSTALLATION

GENERAL NOTES:

TERMINAL POSTS SHALL BE: 2" NOM. DIA., 3.65 LB./FT.
LINE POSTS SHALL BE: 14' LONG 1-1/2" NOM. DIA., 2.72 LBS./FT. ROLL FORMED (1-5/8" X 1-7/8") 1.60 LBS./FT. MIN.
BRACE BARS SHALL BE: 1-1/4" NOM. DIA., 2.27 LB./FT. ALL LINE POSTS SHALL BE GRADE 45.
ALL POSTS SHALL HAVE AN APPROVED METHOD TO SECURELY HOLD THE TOP TENSION WIRE IN POSITION AND ALLOW FOR REMOVAL AND REPLACEMENT OF A POST WITHOUT DAMAGING THE TOP TENSION WIRE. SEE DETAIL.
PULL POST SPACING NOT TO EXCEED 500FT.
CHAIN LINK FABRIC SHALL BE: 9 GA., 2 IN. MESH WITH KNUCKLED SALVAGE TOP AND BOTTOM AND CONFORM TO THE REQUIREMENTS OF AASHTO M 181 TYPE II, IV. DESIGN 60-9322 SHALL BE FURNISHED IN TYPE II (ALUMINUM COATED STEEL).
WIRE TIES MAY BE 9 GA. GALVANIZED STEEL OR 0.179 IN. MIN. ALUMINUM ALLOY CONFORMING TO ASTM B211, ALLOY 1100-H18. USE 12-1/2" GA. GALV. STEEL HOG RINGS FOR TENSION WIRE TIES.
WHERE THE FENCE MUST CROSS SMALL BODIES OF WATER (SUCH AS PONDS) THAT FREEZE DURING WINTER, USE 11 GA GALVANIZED STEEL TIES OR 0.149 IN. ALUMINUM TIES. PROVIDE ONLY 2 TIES BETWEEN LIN POSTS.
WHEN THE ALTERNATE DRIVEN LINE POSTS ANCHORAGE IS USED, THE REQUIREMENTS FOR THE CONCRETE ANCHORAGE IS WAIVED.
A CONCRETE ANCHORAGE SHALL BE USED FOR ALL TERMINAL POSTS AND FOR FIRST LINE POSTS(S) ADJACENT TO THE TERMINAL POSTS.
THE TOP OF THE CONCRETE ANCHORAGE SHALL BE CROWNED 1 IN. ABOVE THE NATURAL GROUND.



MD2
03000\pingshts\detail\ramse0503_mis_details.dgn

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: APM				
CHECKED BY: APM				
	NO.	BY	DATE	REVISIONS

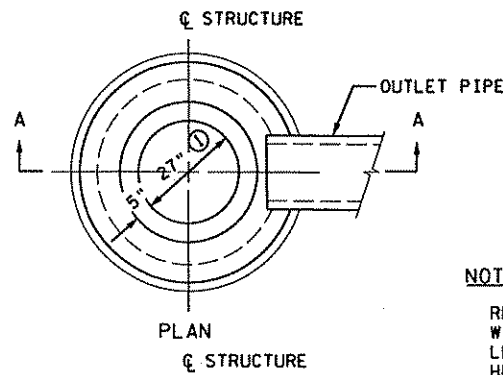
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

MISCELLANEOUS DETAILS

FILE NO. ARAMSE0503	36
MD2 OF MD6	297



NOTES:

REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.

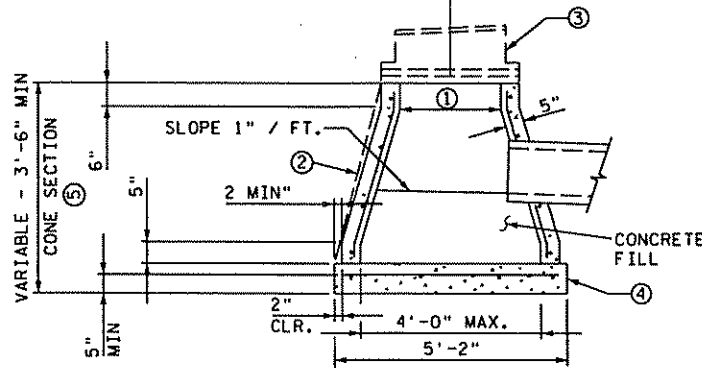
① 2'-3" NOMINAL OPENING. WHEN GRATE FRAME CASTING NO. 802A OR NO. 805 IS USED, SEE STANDARD PLATES CASTING LIST.

② A STRAIGHT TAPERED WALL IS ACCEPTABLE.

③ REFER TO PLAN FOR CASTINGS REQUIRED. USE ADJUSTING RINGS WHERE NECESSARY. SEE STANDARD PLATES INDEX. CASTING AND PRECAST CONCRETE ADJUSTING RINGS, SHALL BE SET ON FULL MORTAR BEDS.

④ 8 INCH POURED CONCRETE BASE. BASE REINFORCEMENT: 0.12 SQ. IN. PER FOOT IN EACH DIRECTION. AN APPROVED ALTERNATE PRECAST CONCRETE BASE MAY BE USED.

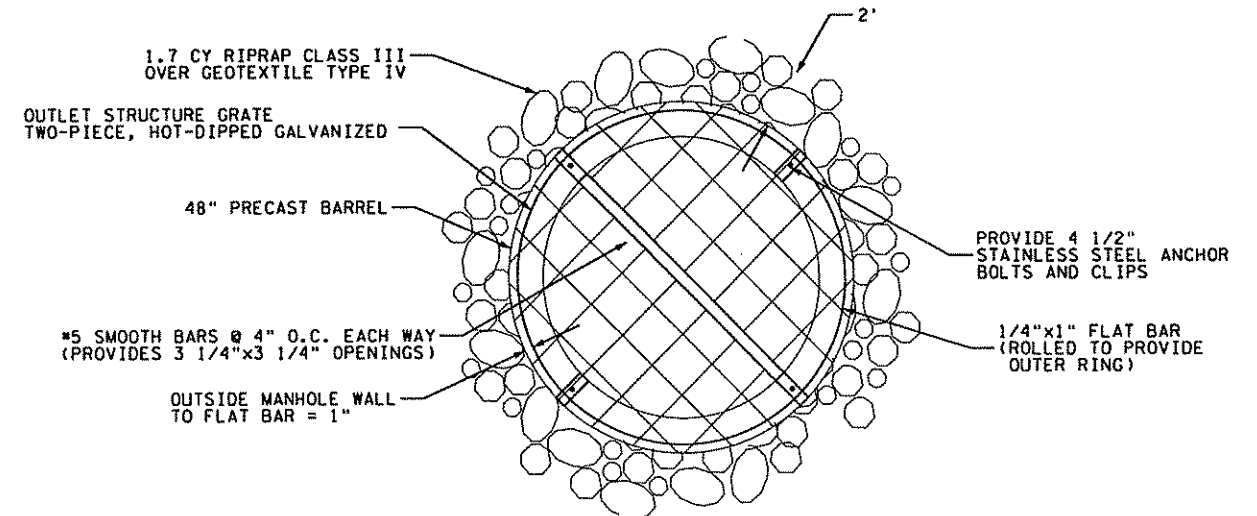
⑤ HEIGHT OF STRUCTURE MAY BE INCREASED UP TO 1 FOOT BY THE USE OF A PRECAST SECTION OR CONCRETE BLOCK CONSTRUCTION ABOVE THE CONE SECTION. SEE MNDOT STANDARD PLATE 4002 FOR BLOCK CONSTRUCTION.



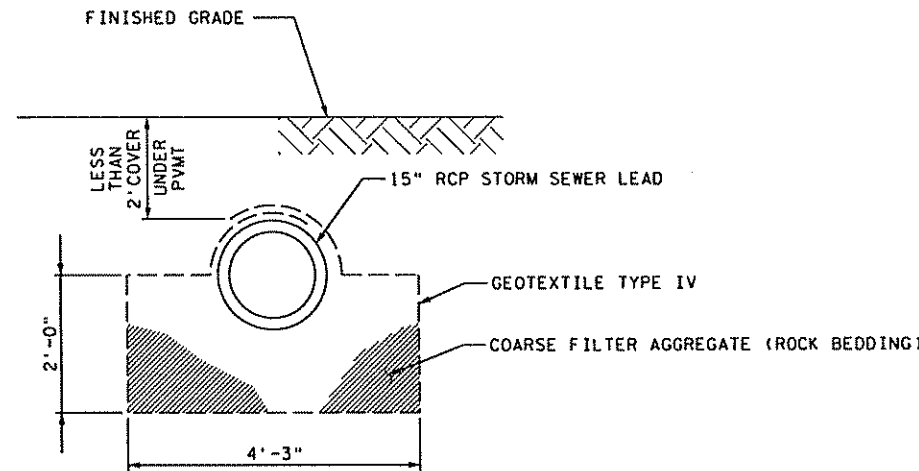
SECTION A-A

CATCH BASIN SPECIAL

FOR STRUCTURE WITH BUILDS OF LESS THAN 3'-0" (CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2)

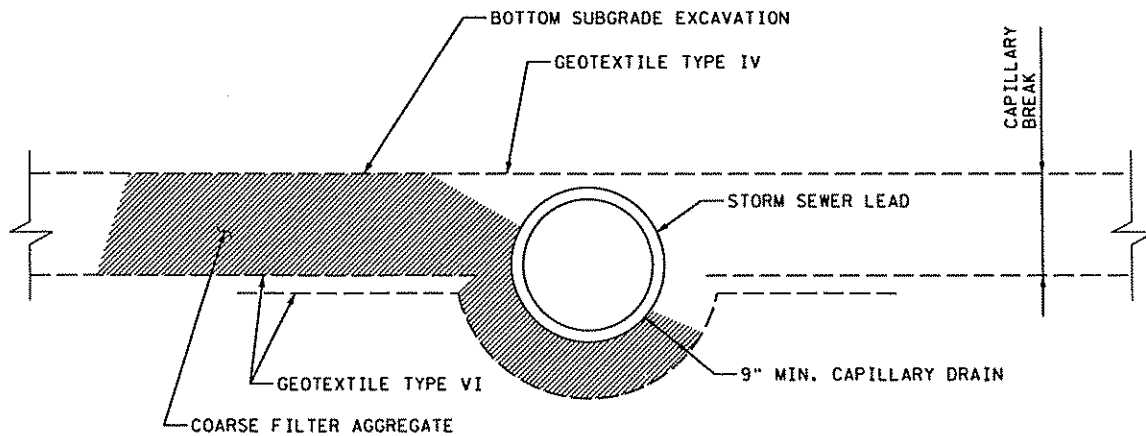


TYPICAL OUTLET STRUCTURE GRATE AND RIPRAP DETAIL



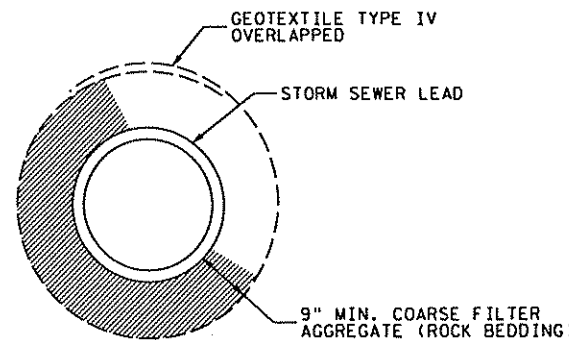
SHALLOW STORM SEWER INSTALLATION DETAIL

BB ROCK BEDDING		
PIPE LOCATION	SPECIAL CATCH BASIN	AGGREGATE CY
391-392	1	9.4
392-390	1	9.4
482-503	1	42.5
482-483		21.3
483-484	1	17
450	1	
TOTAL	5	99.6

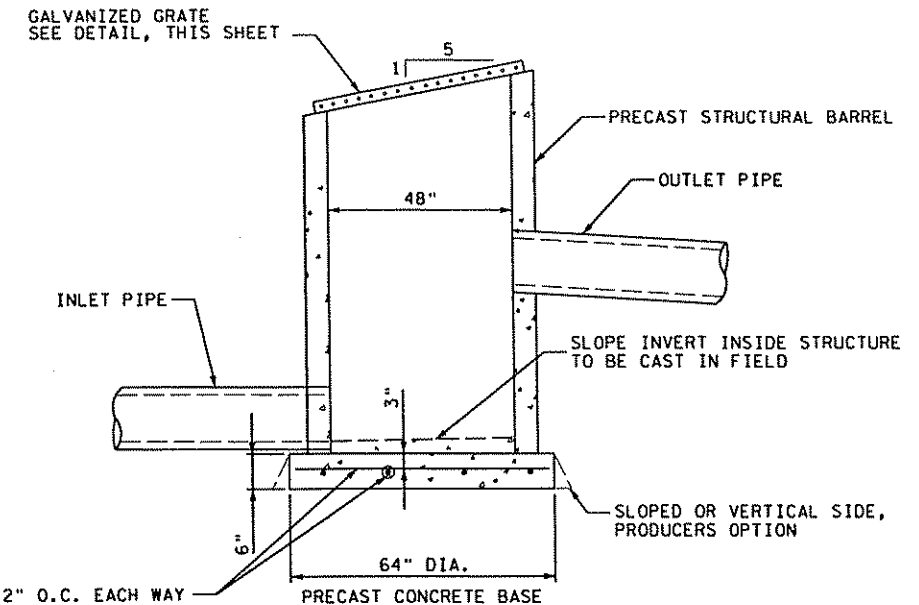


CAPILLARY BREAK INTERFACE WITH STORM SEWER LEAD

(PAID FOR AS COARSE FILTER AGGREGATE)



TEMPORARY WRAP AND COVER SHALLOW LEADS



TYPICAL SECTION SKIMMER MANHOLE

(CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1)

DESIGN TEAM				REVISIONS			
NO.	BY	DATE		NO.	BY	DATE	
1	MTT						
2	DAO						
3	APM						

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/20/2006

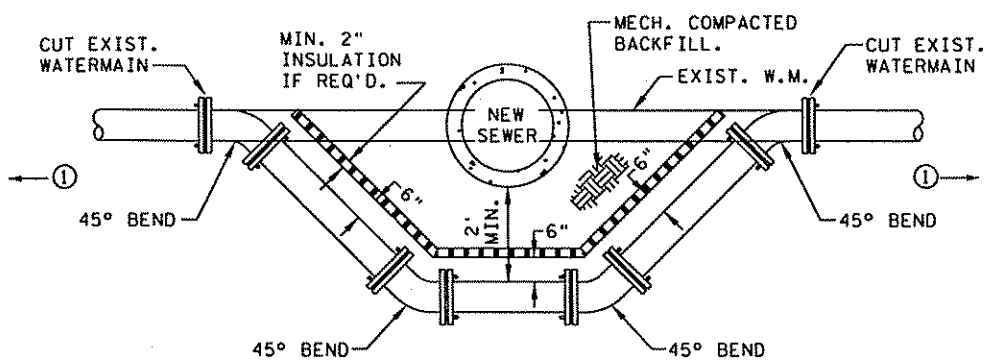
SEH

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RAMSEY COUNTY
COUNTY ROAD J
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MISCELLANEOUS DETAILS

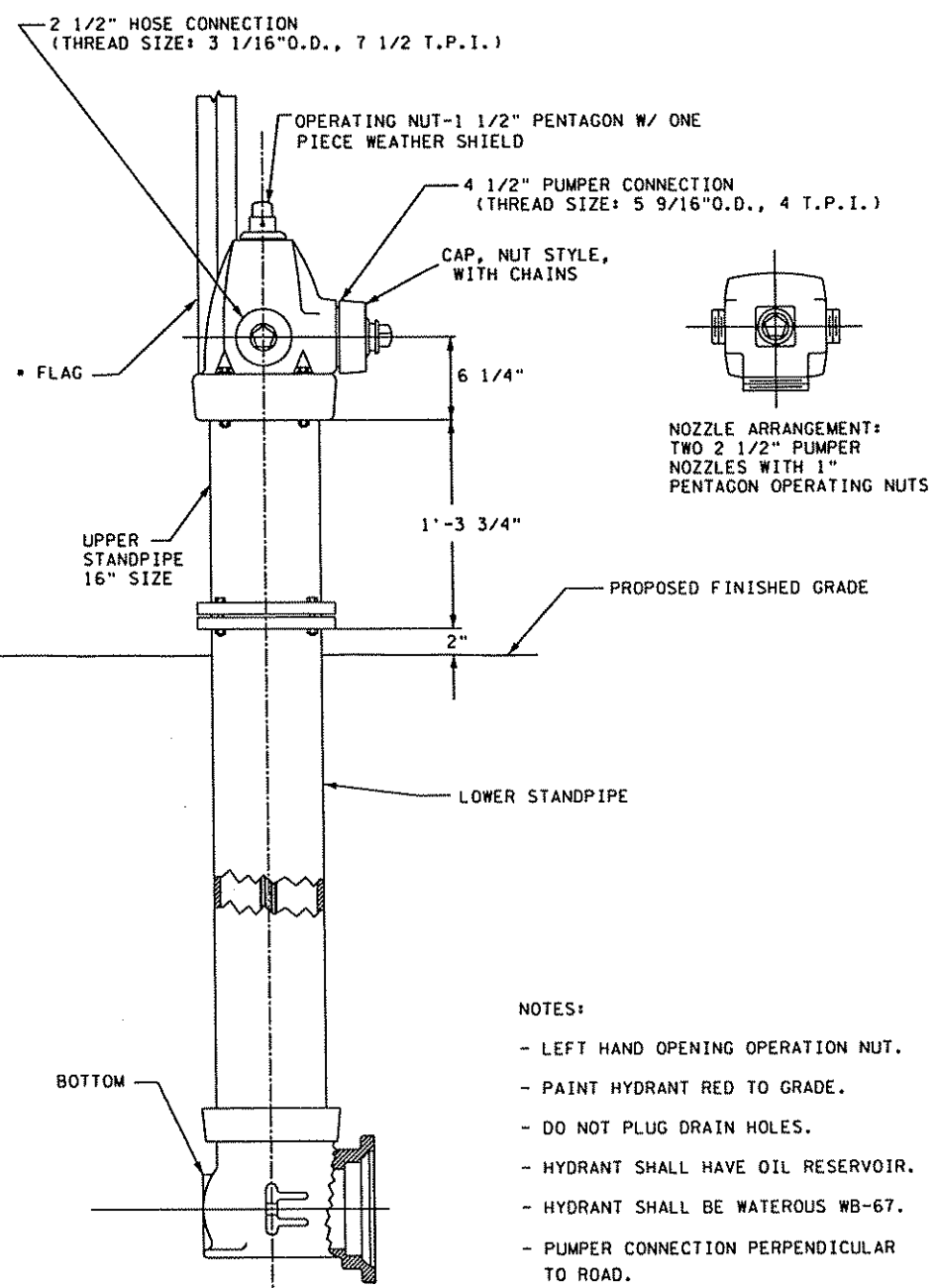
FILE NO.	37
ARAMSE0503	
MD3	
OF MD6	297



TIE ALL JOINTS WITH MEGALUG RESTRAINTS (8 REQ.)

LOWER EXISTING WATERMAIN

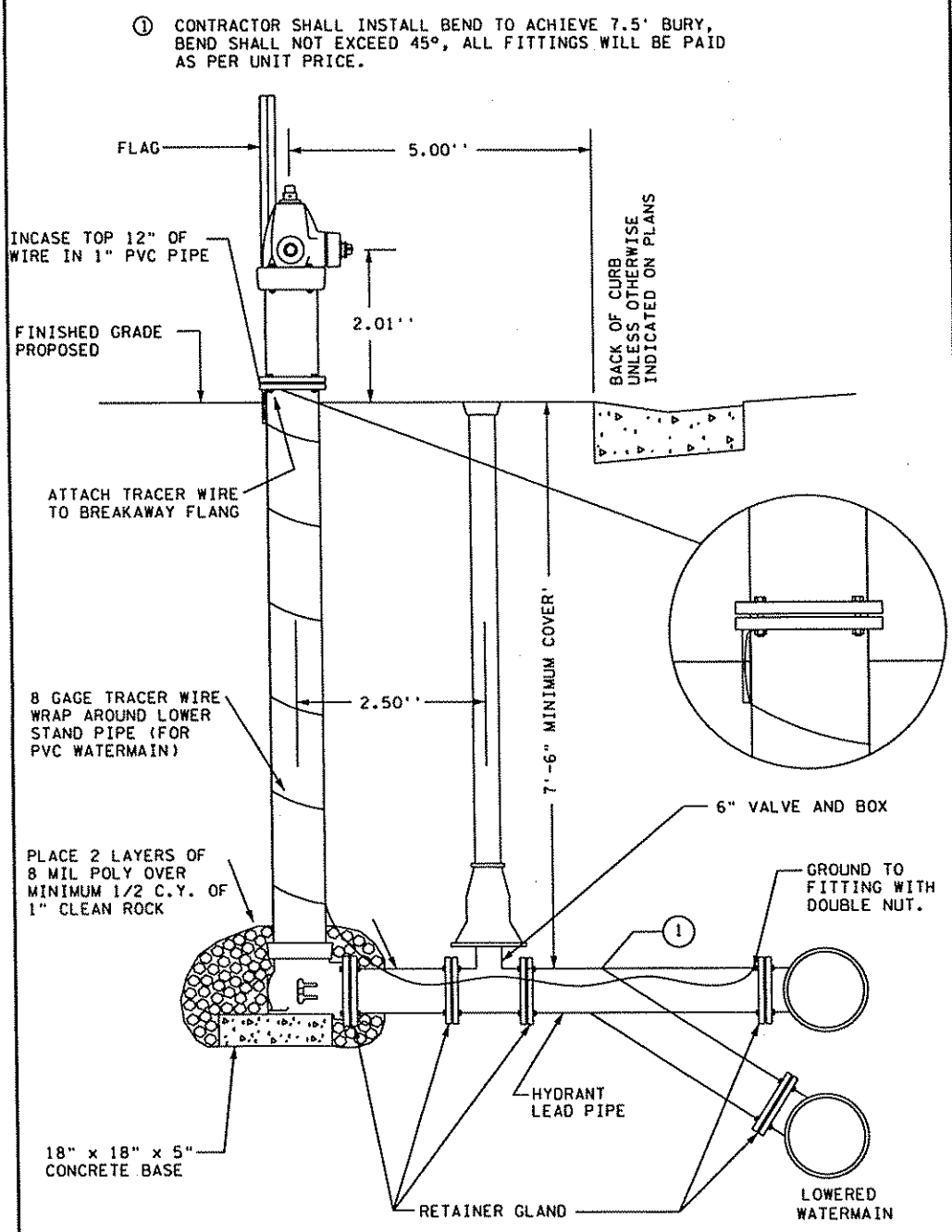
① FOR 12" DIAMETER PIPE - RESTRAIN OUTER MOST JOINTS 40' (2 ADDITIONAL PIPE)



- NOTES:
- LEFT HAND OPENING OPERATION NUT.
 - PAINT HYDRANT RED TO GRADE.
 - DO NOT PLUG DRAIN HOLES.
 - HYDRANT SHALL HAVE OIL RESERVOIR.
 - HYDRANT SHALL BE WATEROUS WB-67.
 - PUMPER CONNECTION PERPENDICULAR TO ROAD.

* FLAG TO BE EITHER INSTALLED OR DELIVERED AS DIRECTED IN FIELD BY THE ENGINEER.

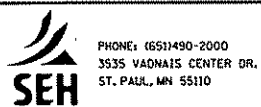
TYPICAL HYDRANT
PLATE NO. WS-1



① CONTRACTOR SHALL INSTALL BEND TO ACHIEVE 7.5' BURY, BEND SHALL NOT EXCEED 45°, ALL FITTINGS WILL BE PAID AS PER UNIT PRICE.

HYDRANT INSTALLATION
PLATE NO. WS-2

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/21/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

MISCELLANEOUS DETAILS
WATERMAIN

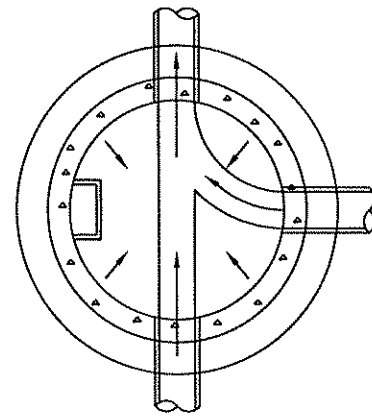
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ARAMSE0503	
MD4 OF MD6	297

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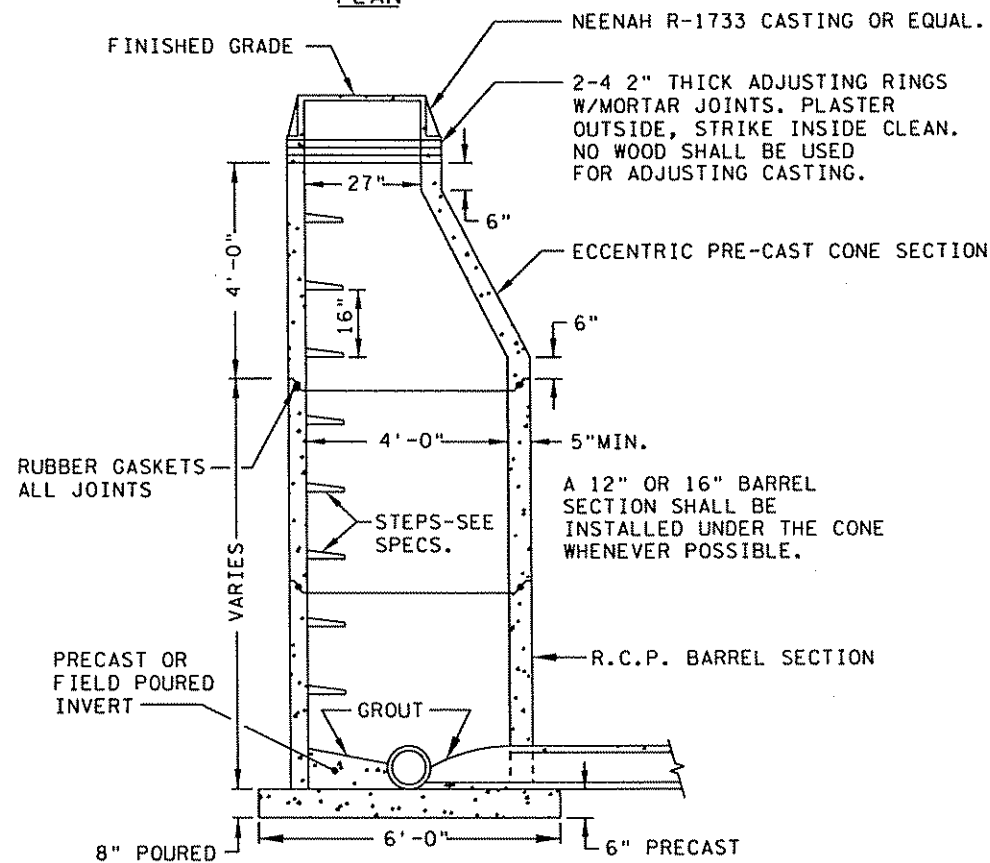
02/17/2006

MD5

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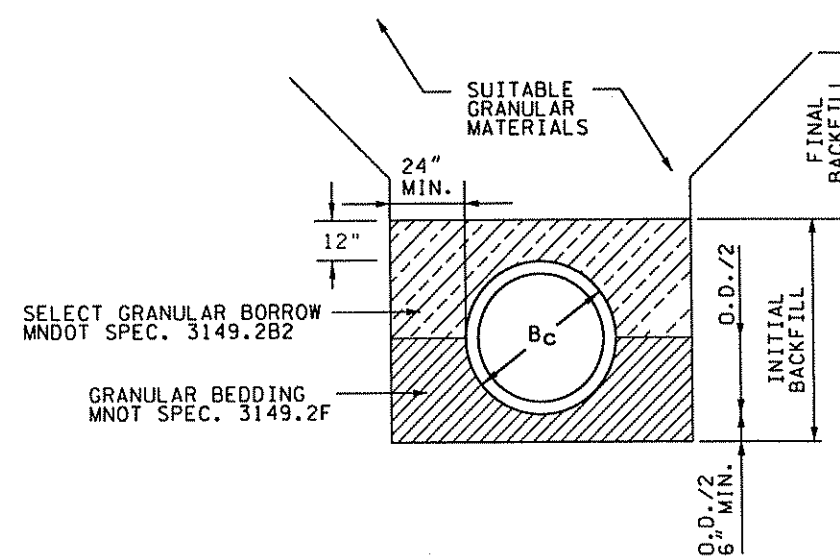
PLAN



SANITARY SEWER MANHOLE (ECCENTRIC)

PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER SLEEVE & CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

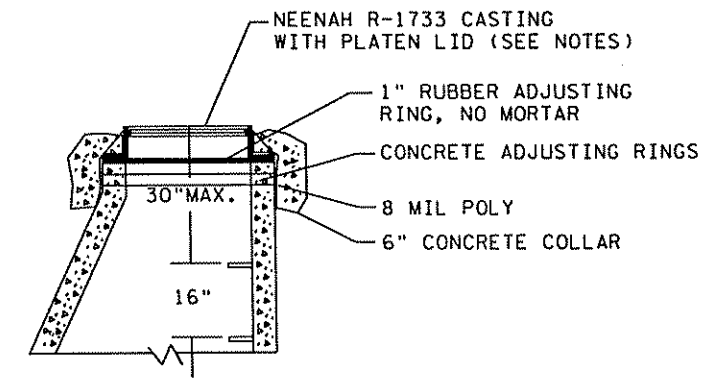
FLEXIBLE EXTERNAL RUBBER SEAL REQUIRED ON JOINTS BELOW GROUND WATER.



THIS BEDDING DETAIL DOES NOT APPLY TO STORM SEWER. SEE DRAINAGE NOTES ON STORM SEWER STRUCTURE SCHEDULE.

NOTES:

1. CONTRACTOR SHALL CONSTRUCT TRENCH AND PROVIDE PROTECTIVE MEASURES AS REQUIRED TO COMPLY WITH OSHA REGULATIONS.
2. IF COARSE FILTER AGGREGATE (MNDOT SPEC. 3149.2H) OR CRUSHED ROCK IS USED AT THE DISCRETION OF THE CONTRACTOR AT LOCATIONS BELOW THE GROUNDWATER TABLE, THE AGGREGATE OR ROCK SHALL BE WRAPPED WITH TYPY IV GEOTEXTILE FILTER. SANITARY ON WATERMAIN BEDDING, AGGREGATE, ROCK, AND GEOTEXTILE WILL NOT BE PAID SEPERATELY, AND ARE INCIDENTAL TO THE COST OF THE PIPE.



MANHOLE

NOTES:

1. USE MINIMUM OF 2-0.2' ADJUSTING RINGS, MAXIMUM OF 5-0.2' ADJUSTING RINGS, ALL SET IN MORTAR.
2. MANHOLE STEPS SHALL BE PER MNDOT PLATE 4180, TYPE W. STEPS SHALL BE LOCATED ON UPSTREAM WALL FOR PIPE SIZES UP TO AND INCLUDING 15" AND ON SIDE WALL FOR GREATER THAN 15".
3. LIDS FOR SANITARY SEWER SHALL BE MARKED "SANITARY".
4. NO WOOD SHIMS WILL BE ALLOWED.

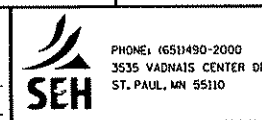
ADJUSTING RINGS & STEPS PLATE NO. MI-2

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: TM				
CHECKED BY: APM				
	NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
Licensed Professional Engineer

Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

MISCELLANEOUS DETAILS
SANITARY SEWER

FILE NO. ARAMSE0503
MD5 OF M06
39
297

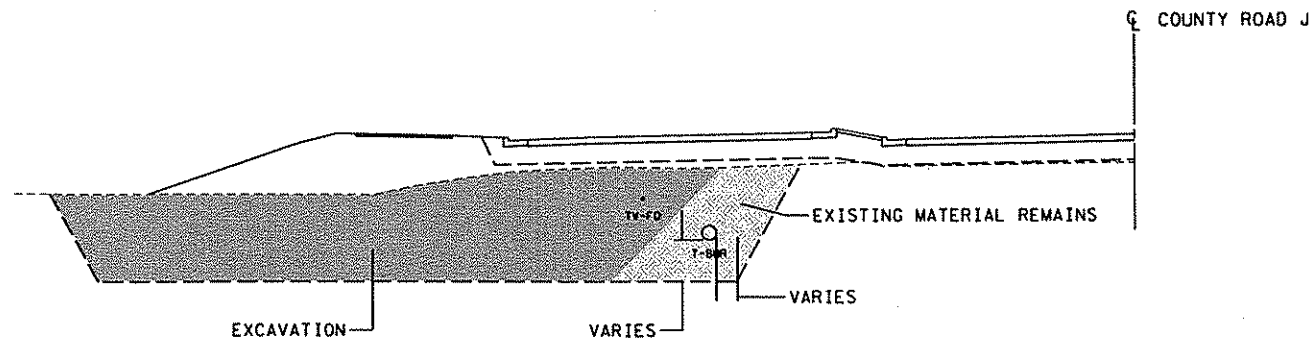
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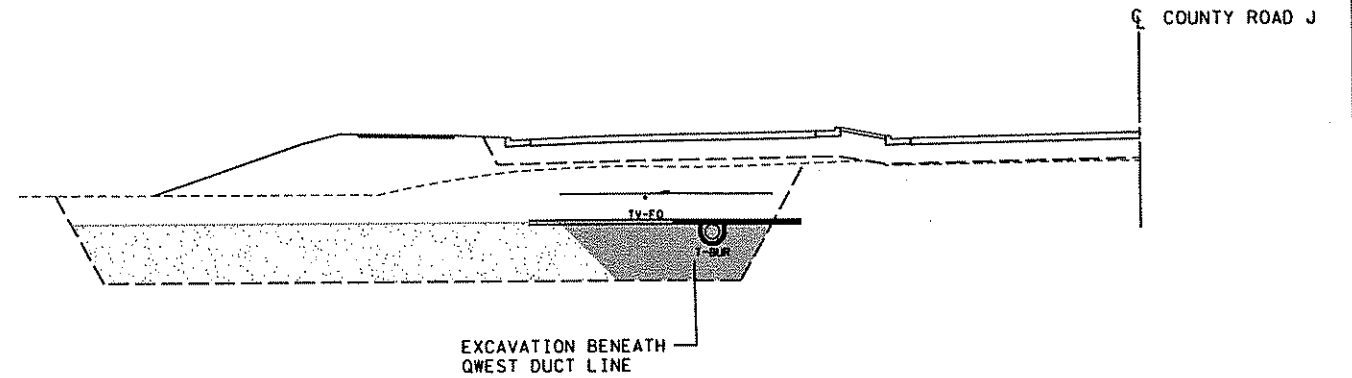
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STA 78+50 TO 80+50
STA 85+50 TO 89+50

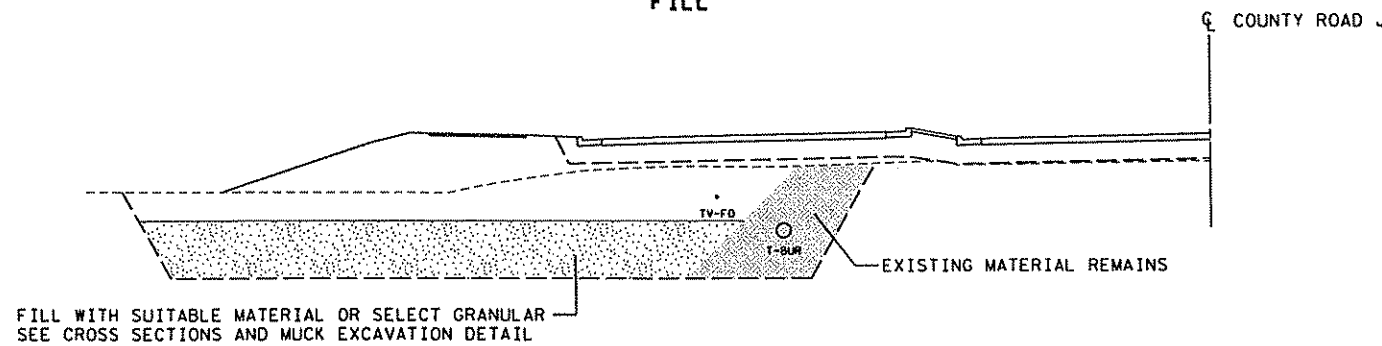
STEP 1 EXCAVATION



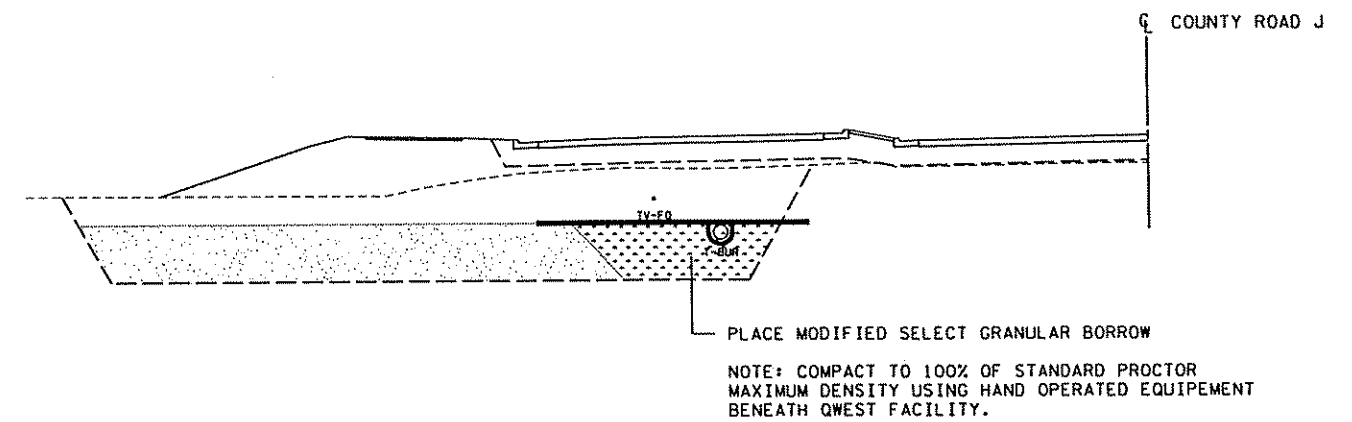
STEP 4 EXCAVATION



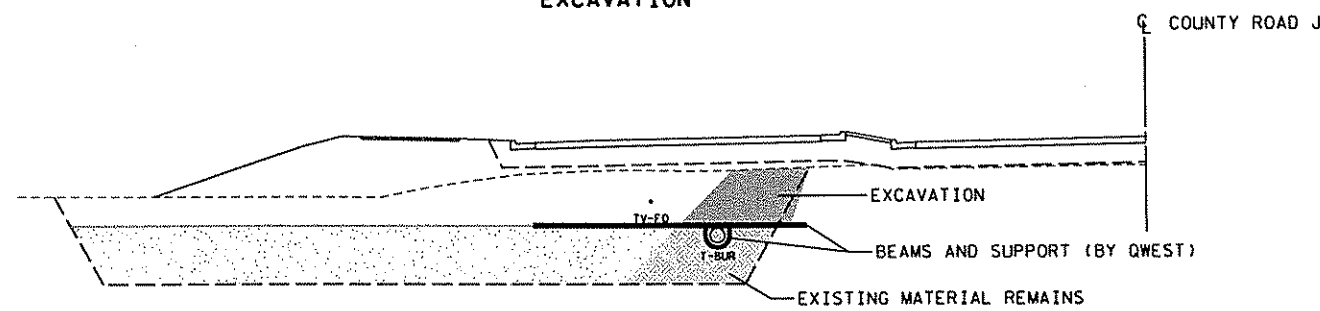
STEP 2 FILL



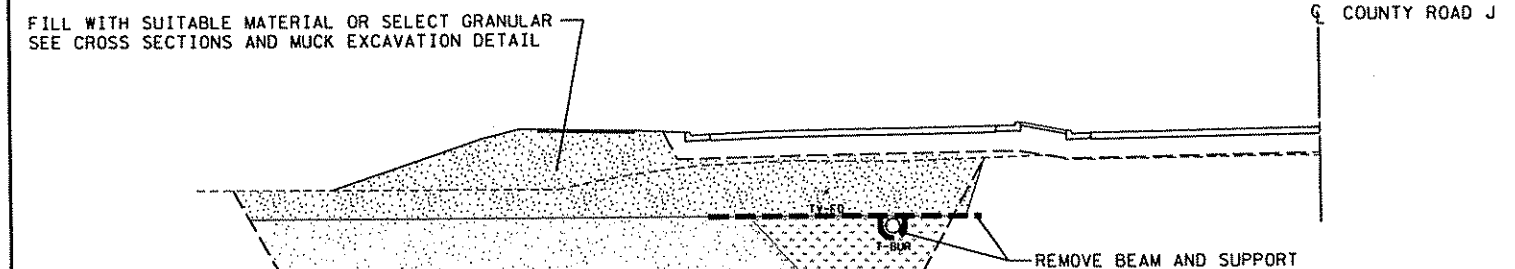
STEP 5 FILL



STEP 3 EXCAVATION



STEP 6 FILL



1. EXCAVATE
2. PLACE BEAMS AND SUPPORT QWEST DUCT AT 10' INTERVALS ALONG DUCT ALIGNMENT


GENERAL NOTE:
BEAM AND SUPPORT WORK TO BE PERFORMED BY OTHERS, INCIDENTAL TO COUNTY ROAD J CONSTRUCTION.

1. REMOVE BEAM AND STRUCTURAL SUPPORT
2. BACKFILL WITH SELECT GRANULAR BORROW

QWEST DUCT LINE EXCAVATION

DESIGN TEAM			
DRAWN BY:	CIF		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 3/2/2006



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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

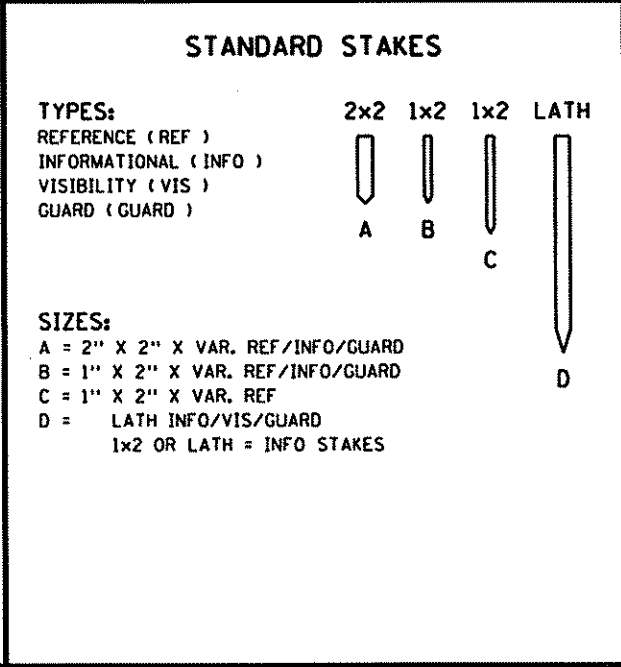
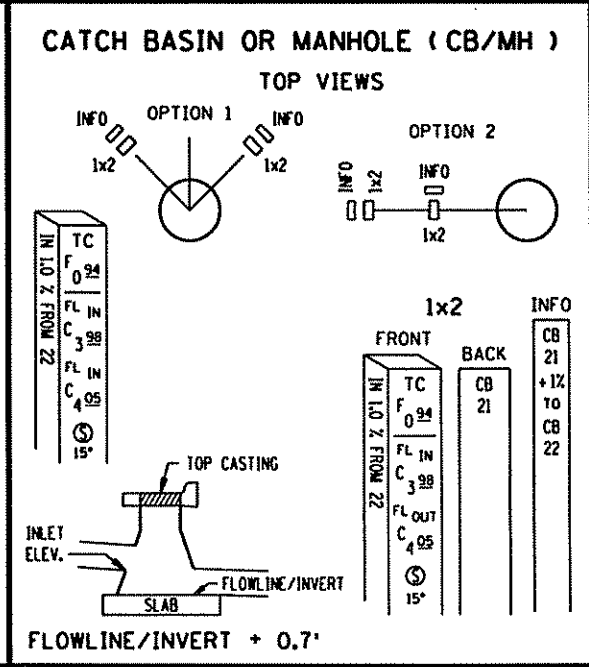
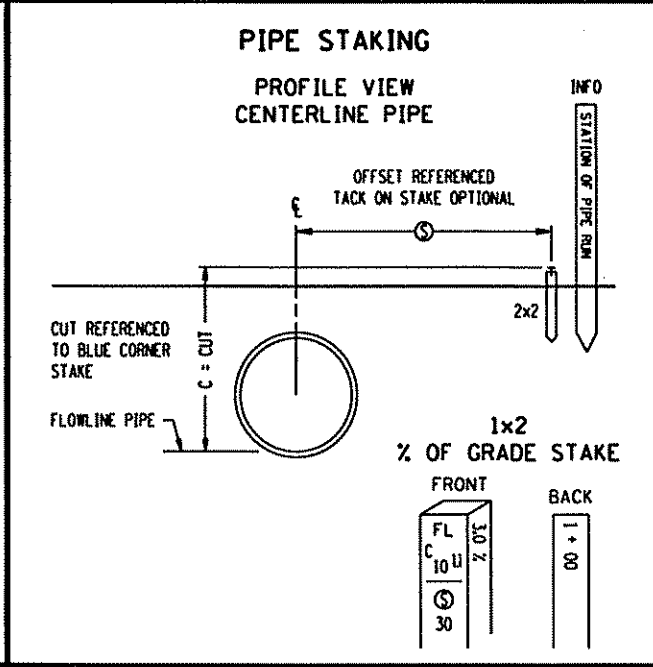
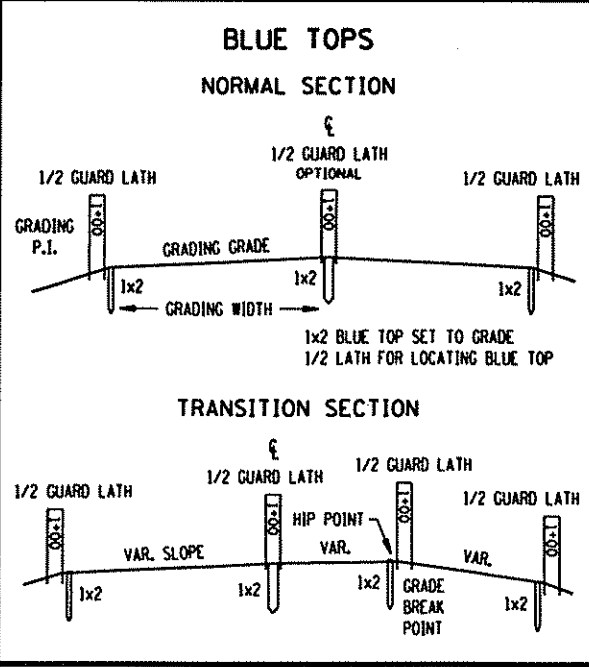
MISCELLANEOUS DETAILS

FILE NO. 40
ARAMSE0503
MD6 OF MD6
297

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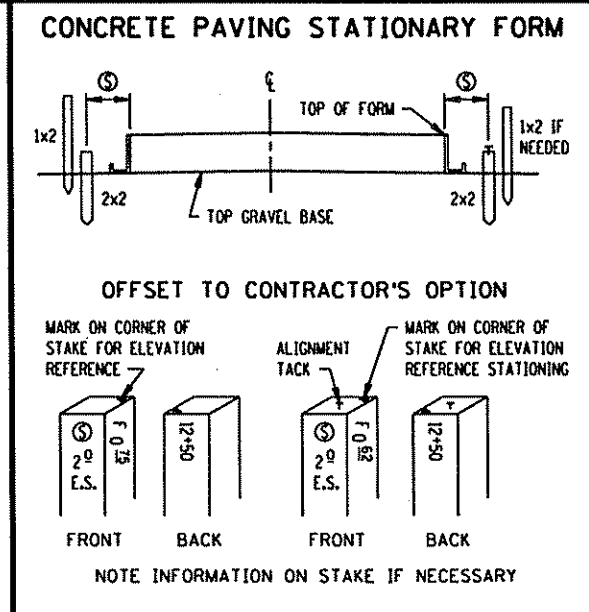
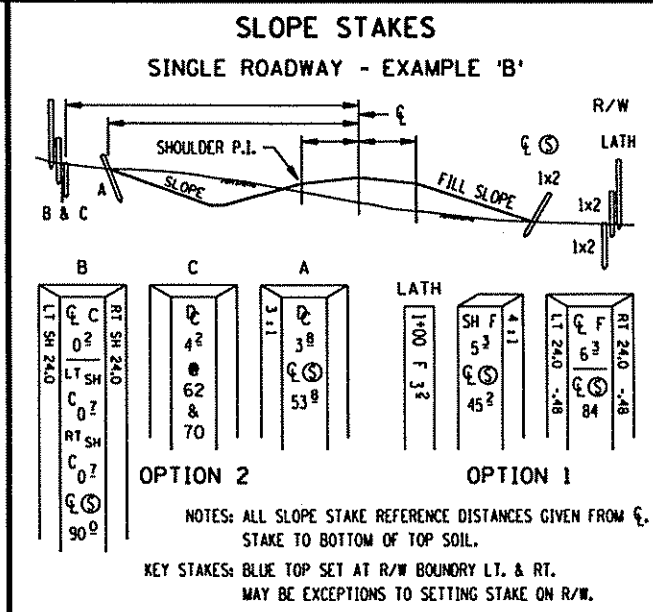
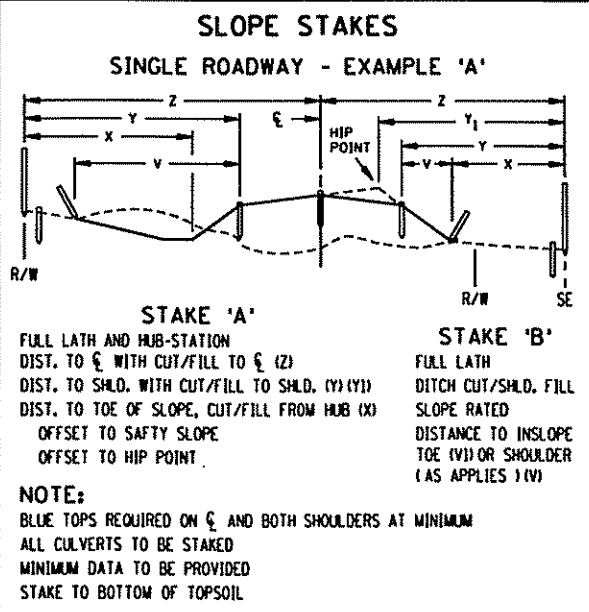
SPN1

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ABBREVIATIONS

BBL = BARREL (PIPE)	HH = HANDHOLE
B.C. = BACK CURB	HP = HIP POINT
C & G = CURB & GUTTER	LT = LEFT
C = CUT	MH = MANHOLE
CAP = CORR. ALUM. PIPE	NB = NORTHBOUND
CB = CATCH BASIN	⊙ = OFFSET
CL = CENTERLINE	PAR = PARCEL
CL & GR = CLEAR & GRUB	% = PERCENT GRADE
CMP = CORR. METAL PIPE	P.E. = PERM. EASEMENT
COR = CORNER	RAD = RADIUS POINT
CR = CROWN	RCP = REINF. CONC. PIPE
CSP = CORR. STEEL PIPE	RP = REFERENCE POINT
⊕ = DITCH CUT	RSC = REINF. SECT. CONC.
D.E. = DRAINAGE EASEMENT	RT = RIGHT
DI = DROP INLET	R/W = RIGHT OF WAY
EB = EASTBOUND	SB = SOUTHBOUND
E.M. = EDGE BITUMINOUS MAT	SCP = SECT. CONC. PIPE
E.S. = EDGE CONCRETE SLAB	SH = SHOULDER
F = FILL	TC = TOP CASTING
FF = FRONT FACE	OR TOP CURB
FL = FLOW LINE	T.E. = TEMP. EASEMENT
FL IN = FLOWLINE INLET	3 : 1 = SLOPE (EXAMPLE)
FL OUT = FLOWLINE OUTLET	WB = WESTBOUND
GR = GRADE	WP = WORKING POINTS
GW = GRADING WIDTH	



RECOMMENDED STAKING INTERVALS

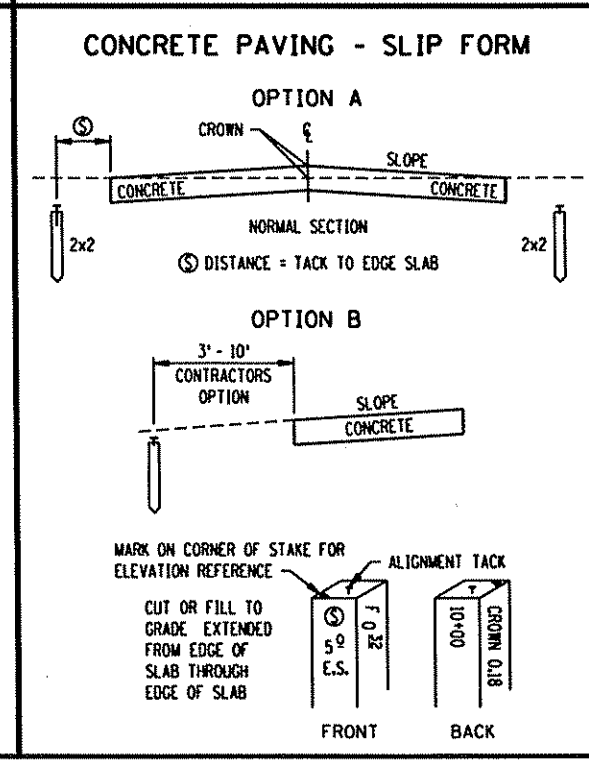
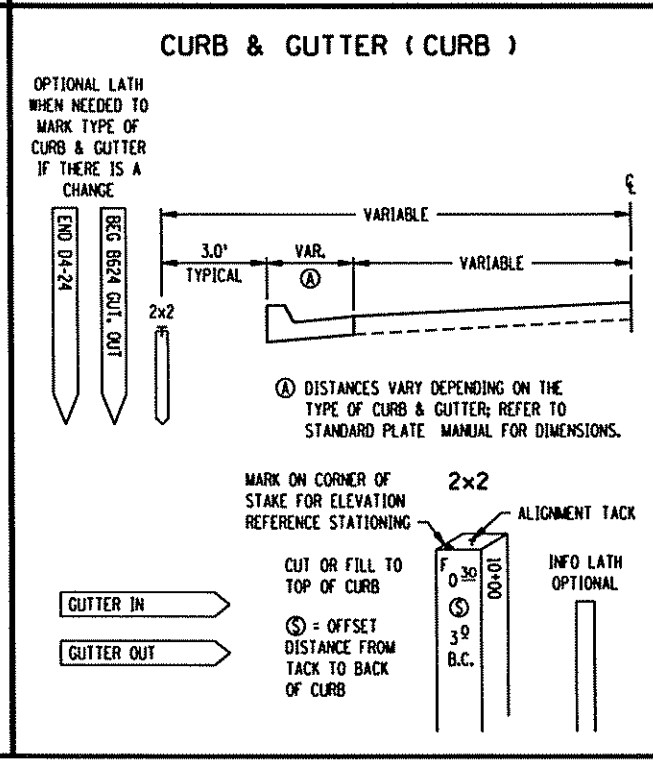
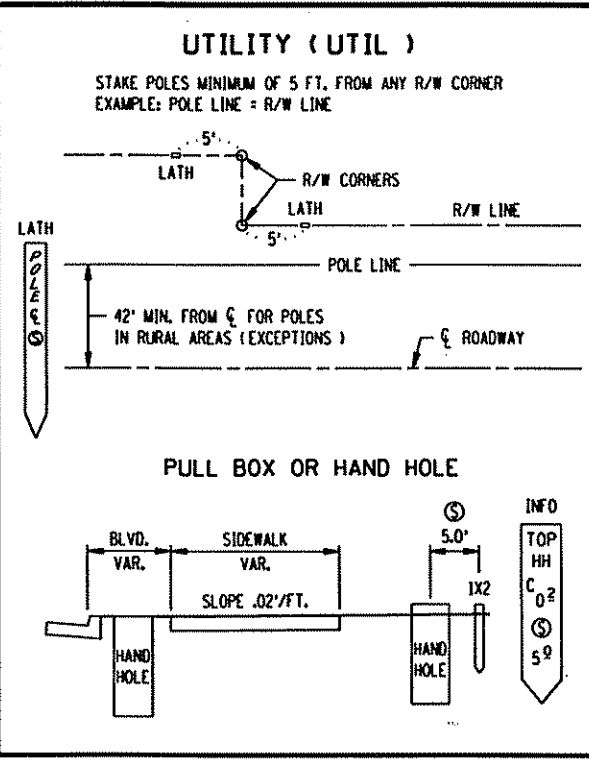
FIGURE A

	SLOPE STAKES	SUB GRADE B.T.	CLASS MATERIAL B.T.	CONC PAVT	C & G	CL & GR LIMITS	MUCK EXC.	R/W	TEMP. EASE.
TANGENT	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
HORIZ. CURVE									
0 - 3°	100	100	100	50	50	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
OVER 3°	100	50	50	25	25	ALL CORNERS	100	ALL CORNERS	ALL CORNERS
VERT. CURVE									
M' 100' CHORD	100	100	100	50	50				
M' OVER .25	100	50	50	25	25				
TRAN.		50	50						

STAKING TOLERANCES (FEET)

	HORIZONTAL	VERTICAL
CONSTRUCTION LIMITS	± 1.5	
CLEARING & GRUBBING	2.0	
SLOPE STAKES	2.0	± 0.2
KEY STAKES	0.2	0.03
DRAINAGE STAKES	0.05	0.05
CURB & GUTTER	0.07	0.03
PAVING	0.05	0.03
ALIGNMENT	0.07	
UTILITY	0.10	0.05
STRUCTURAL	0.02	0.02
GUARD RAIL	0.5	
BUILDINGS	0.04	
O.H. SIGNS	0.05	0.05
MUCK EXCAVATION LIMITS	2.0	
R/W B-POINTS	0.10	
NOISE WALLS	1.0	0.5

THE TOLERANCES ARE RELATIVE TO PROJECT DATUM



DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

SPN1 OF SPN22

STANDARD SHEET NO. 5-297.115 (1 OF 2)	TITLE: STAKING INFORMATION SHEET
STANDARD APPROVED: DECEMBER 21, 1994	

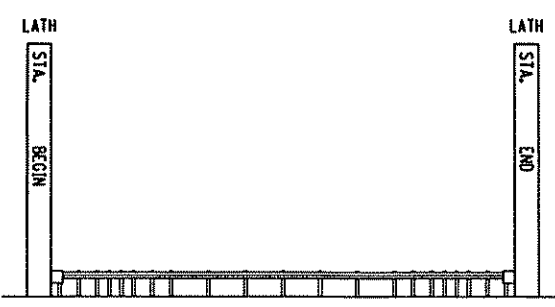
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 41 OF 297 SHEETS

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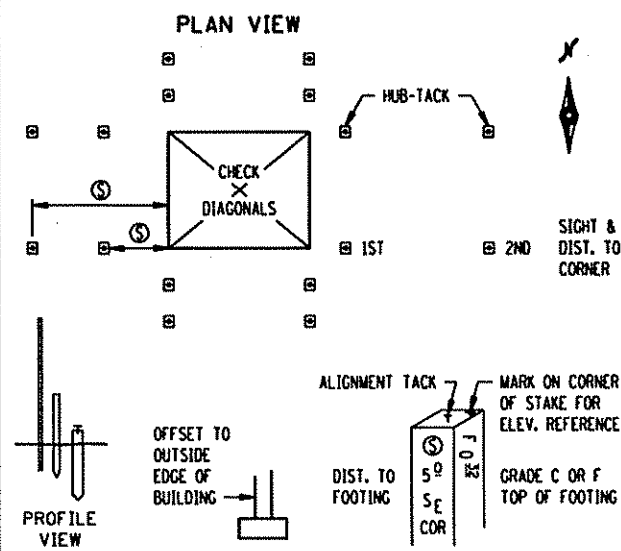
SPN2

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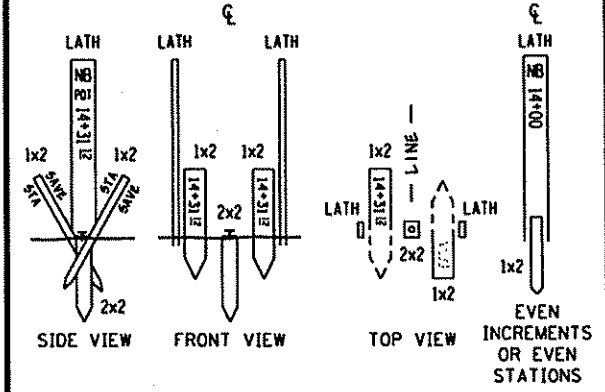
GUARDRAIL (GUARD)



BUILDING (BUILD) FOUNDATION / FOOTING

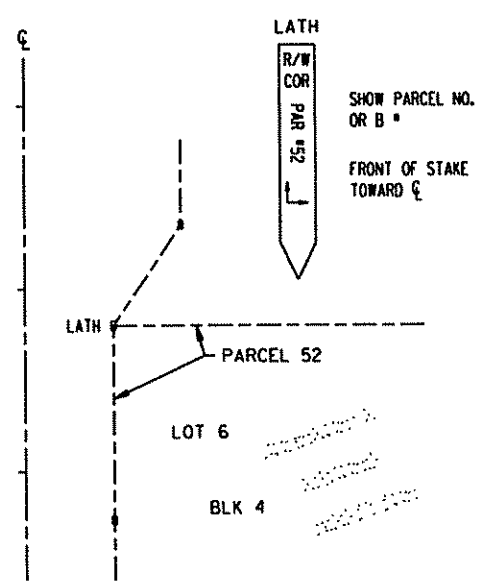


ALIGNMENT POINTS (ALIGN)

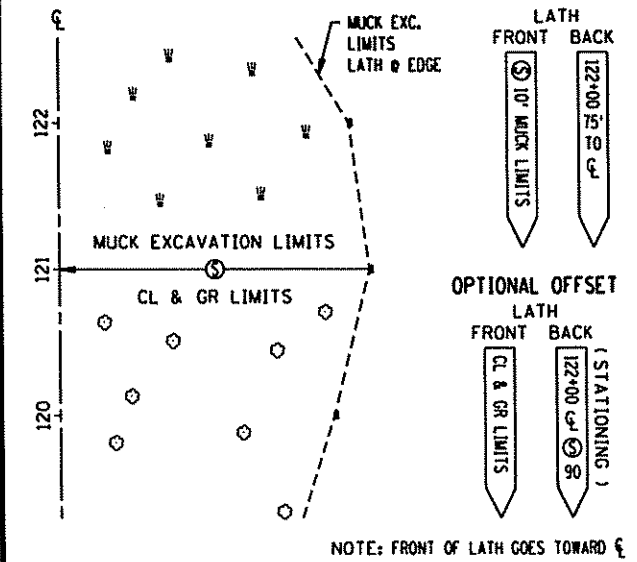


STAKE C = 2" X 2" HUB (LENGTH MAY VARY) SET AS TEMPORARY STAKE. MAY BE REPLACED BY M-DOT MARKER AFTER CONSTRUCTION IS COMPLETED.
SET AT GROUND LEVEL (TEMPORARY CONSTRUCTION STAKE). TACK SET AT ALIGNMENT POINTS.
STAKE A = GUARD STAKES SET AT ANGLE IN GROUND 6" EACH SIDE OF STAKE D, WITH STATIONING READ WHEN LOOKING UP STATION.

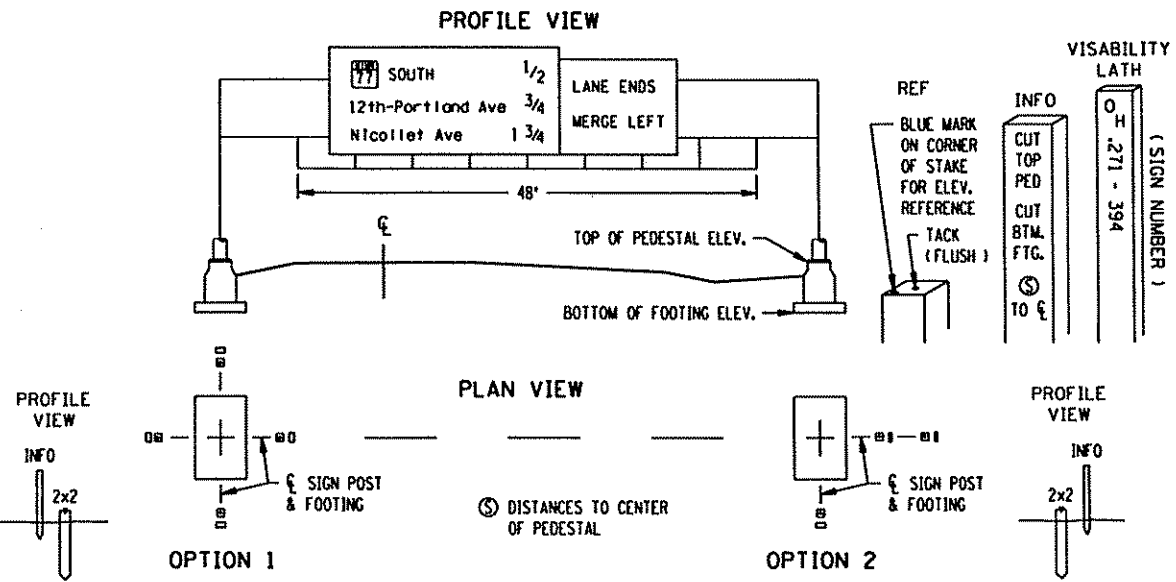
R/W & TEMP. EASEMENT (R/W)



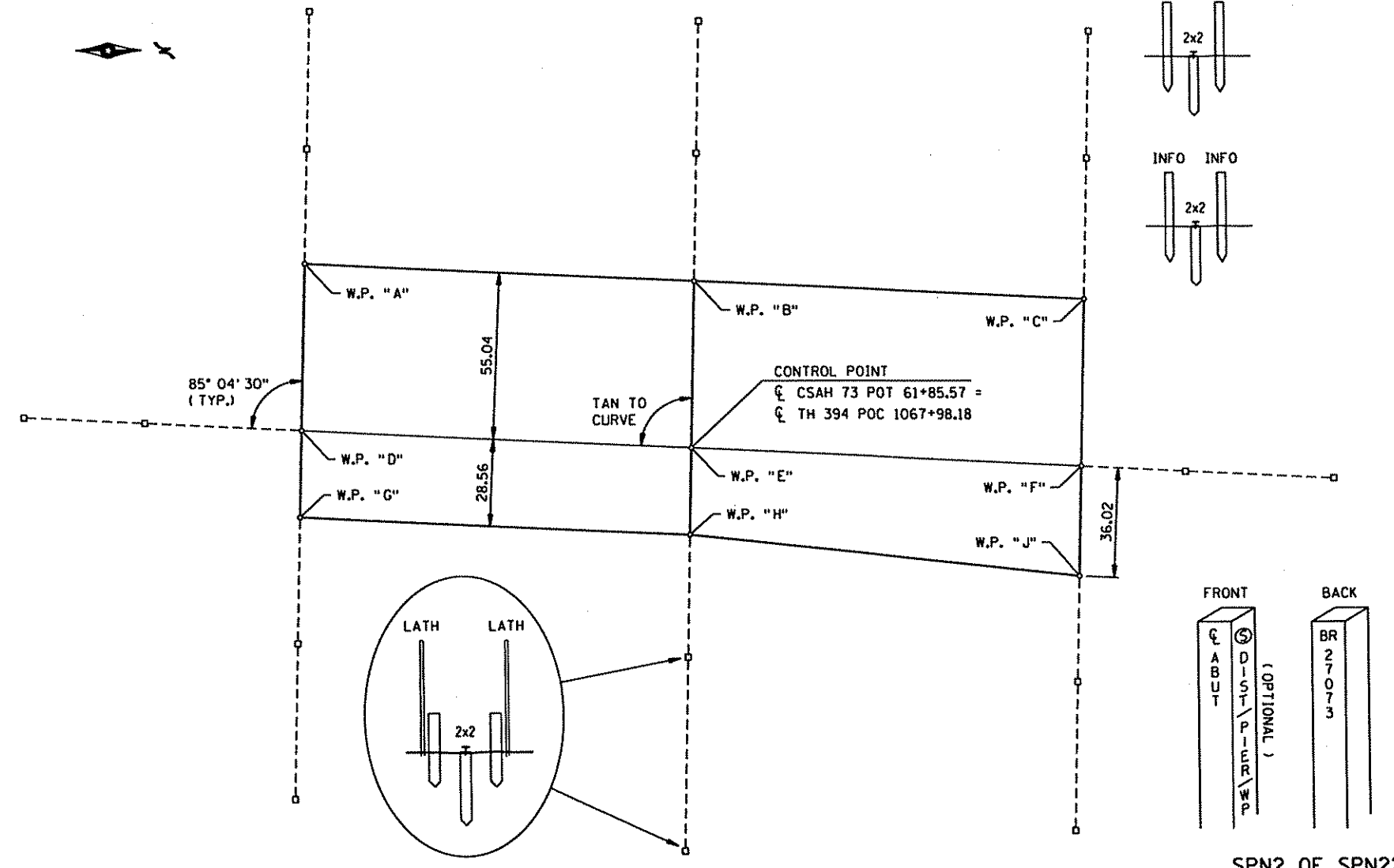
CLEAR & GRUBBING LIMITS (CLEAR) OR MUCK EXCAVATION LIMITS (MUCK)



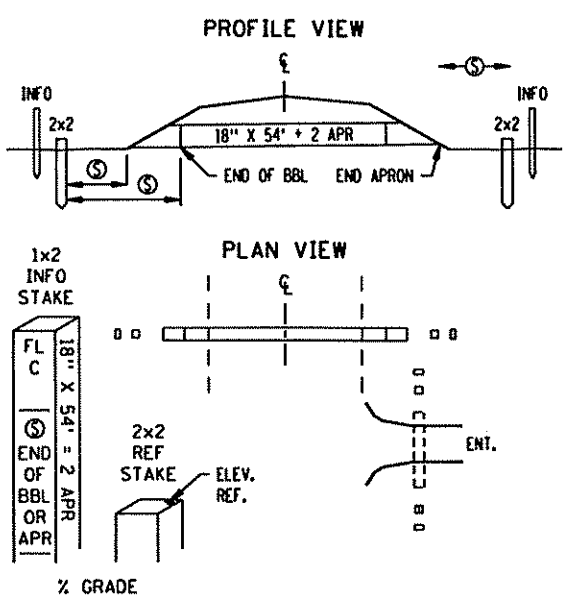
OVERHEAD SIGNS (SIGN)



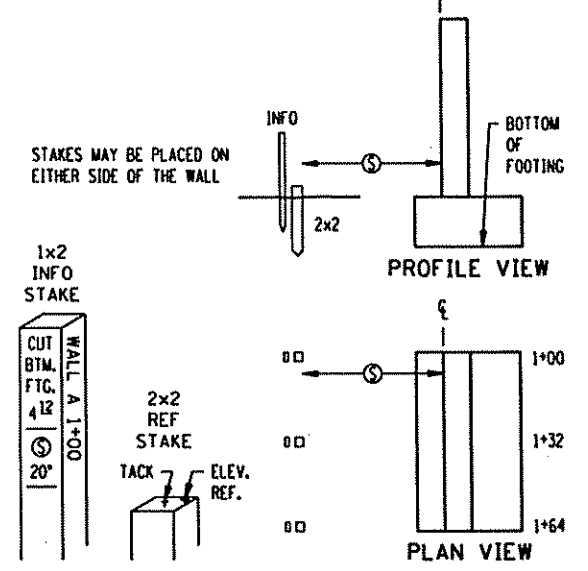
BRIDGESTAKING (BRIDGE) WORKING POINTS LAYOUT



CULVERT



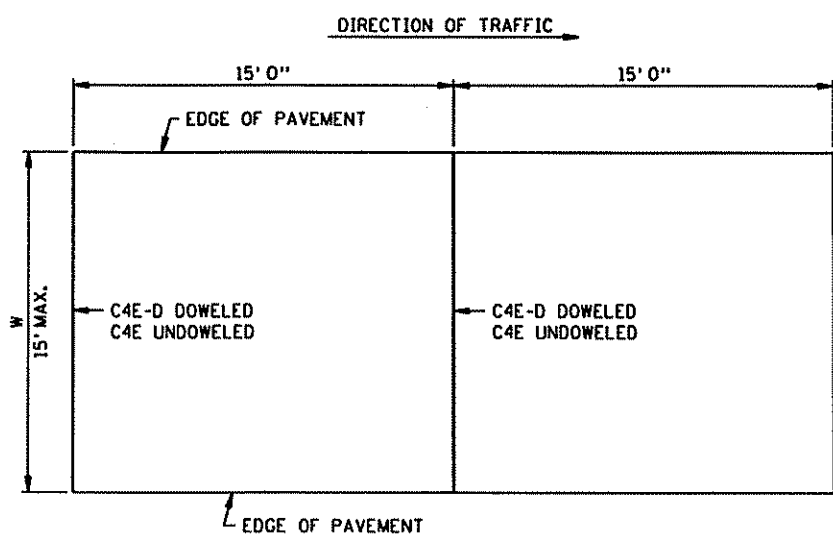
WALL



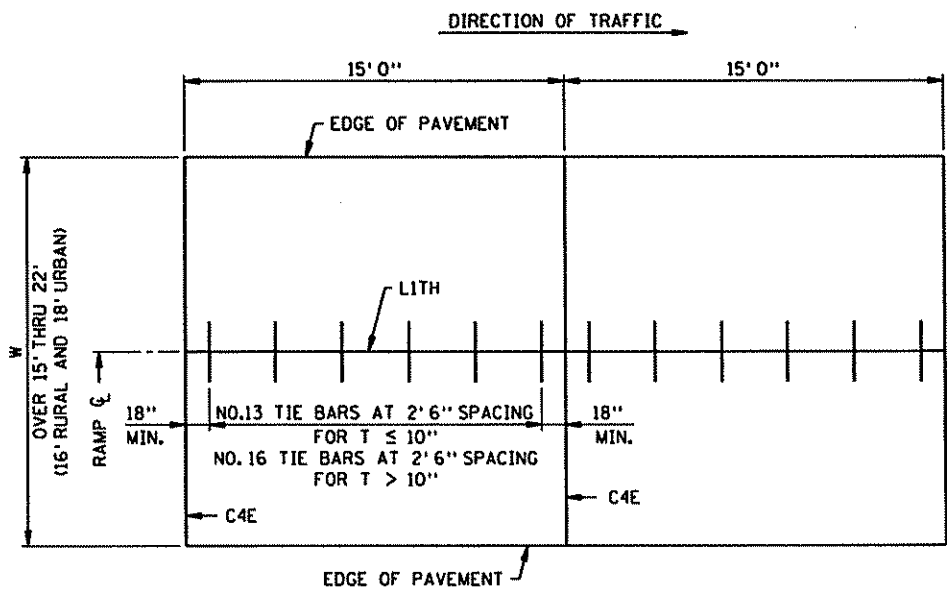
STANDARD SHEET NO. 5-297.115 (2 OF 2)
STANDARD APPROVED: DECEMBER 21, 1994

STAKING INFORMATION SHEET

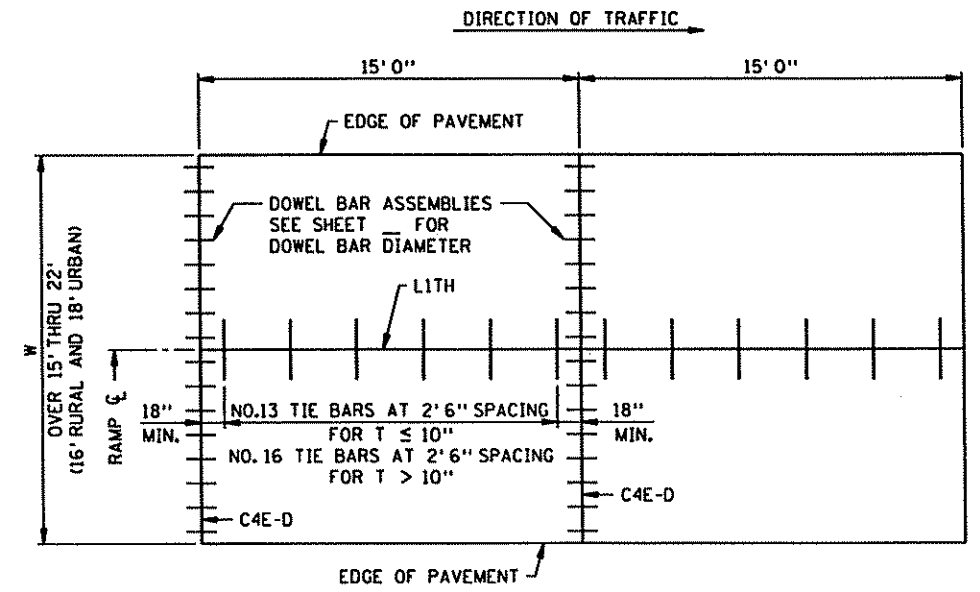
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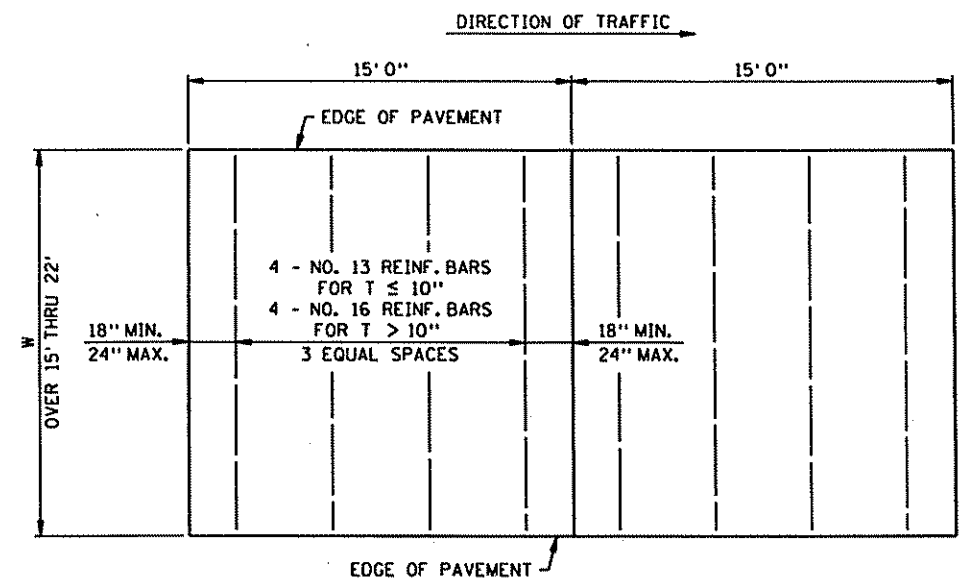
PAVEMENT 1 FT. THRU 15 FT. WIDTH



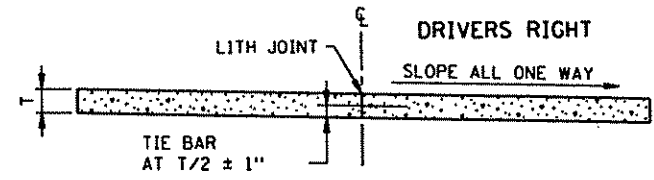
PAVEMENT OVER 15 FT. THRU 22 FT. WIDTH UNDOWELED



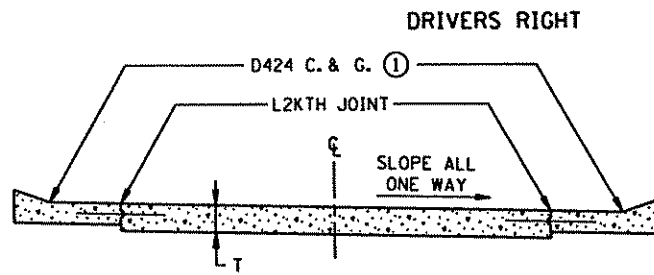
PAVEMENT OVER 15 FT. THRU 22 FT. WIDTH DOWELED



SUPPLEMENTAL PANEL REINFORCEMENT
PANELS OVER 15 FT. THRU 22 FT. WIDTHS
IT IS PREFERRED TO ADD A LONGITUDINAL JOINT
RATHER THAN PAVE GREATER THAN 15 FT. IN WIDTH



RURAL DESIGN RAMP
SECTION A-A



URBAN DESIGN RAMP
CROSS SECTION

GENERAL NOTES:

- ALL REBARS ARE IN METRIC DESIGNATIONS
- WHEN RIGID PAVEMENT ADJOINS FLEXIBLE PAVEMENT, BRIDGE APPROACHES, R.R. CROSSINGS OR OTHER TYPES OF FREE ENDS, THE FOLLOWING MODIFICATIONS SHALL BE MADE: THE FIRST OR LAST 10 JOINTS SHALL BE DOWELED CONTRACTION JOINTS, C4E-D.
- DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103. SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, T.
- ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31M OR M-53. FOR ADDITIONAL REINFORCEMENT OVER CULVERTS, SEE STANDARD PLATE 1070.
- TIE BARS:
USE NO. 13 BARS 2'6" LONG, AT 2'6" SPACING. FOR T ≤ 10". USE NO. 16 BARS 3'0" LONG, AT 2'6" SPACING FOR T > 10".

- SUPPLEMENTAL PANEL REINFORCEMENT:
PLACE IN PANELS WHERE PAVEMENT WIDTHS EXCEED 15 FT. WITHOUT A LONGITUDINAL JOINT. USE NO. 13 BARS FOR PAVEMENT THICKNESSES 10" OR LESS. USE NO. 16 BARS FOR THICKNESSES OVER 10". PLACEMENT DEPTH SHALL BE PLANNED T/2 ± 1".

SPECIFIC NOTES:

- ① THE CONTRACTOR SHALL HAVE THE OPTION TO CONSTRUCT INTEGRANT CURBS WITH ONE LIT JOINT, LOCATED AT THE RAMP C IN PLACE OF D424 CURB AND GUTTERS WITH L2KT JOINTS. IN EITHER OPTION, DOWEL BAR ASSEMBLIES WILL NOT BE REQUIRED IN THE CURB AND GUTTER AREA. PAYMENT WILL BE BASED ON THE D424 CURB AND GUTTER OPTION, REGARDLESS OF THE METHOD OF CONSTRUCTION USED.

SPN3 OF SPN22

STANDARD SHEET NO. 5-297.219	TITLE: CONCRETE RAMP PAVEMENT 15 FT. PANEL LENGTH
STANDARD APPROVED: OCTOBER 1, 1998	
REVISION DATE 1-21-2000	S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 43 OF 297 SHEETS

02/16/34 PM

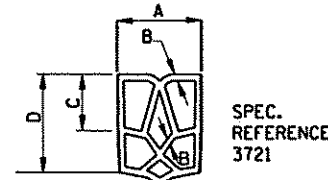
02/17/2006

SPN

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REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16"
A	0.69" + 0.13" - 0.05"
B	0.08" ± 0.02"
C	0.25" MIN.
D	0.63" MIN.



TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

CONTRACTION JOINT SEALER
PREFORMED ELASTIC TYPE

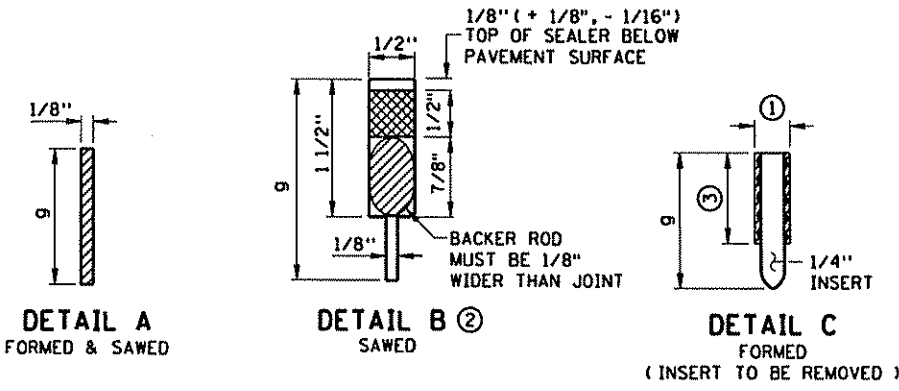
NOTES:
"A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.
SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A-D	A	UNSEALED
C2A	C2A-D	A	3725
C2B	C2B-D	B	3725
C2X	C2X-D	B OR C	3725
C3D	C3D-D	D	3721
C3X	C3X-D	C OR D	3721
C4E	C4E-D	E	3722

DOWEL BAR DIAMETER TABLE

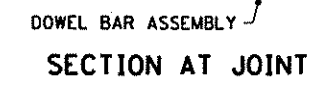
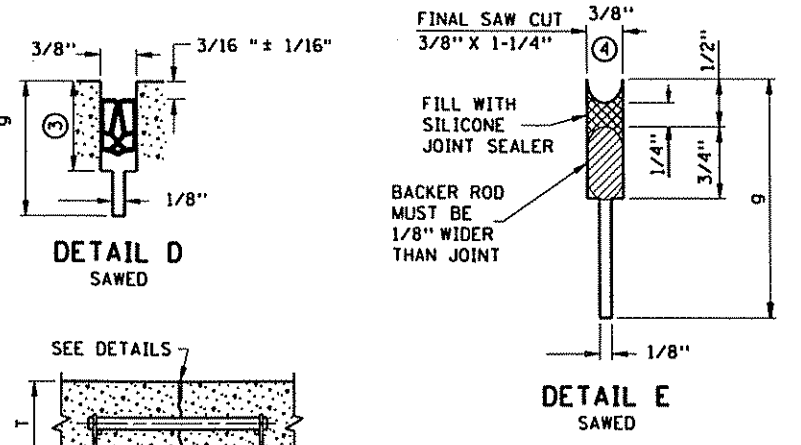
PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
6" - 6 1/2"	1"
7" - 10"	1 1/4"
10 1/2" - 14"	1 1/2"



LEGEND
C = CONTRACTION JOINT
NO. = SEALANT TYPE
1 = UNSEALED
2 = 3725
3 = 3721
4 = 3722

EXAMPLE
C2B-D

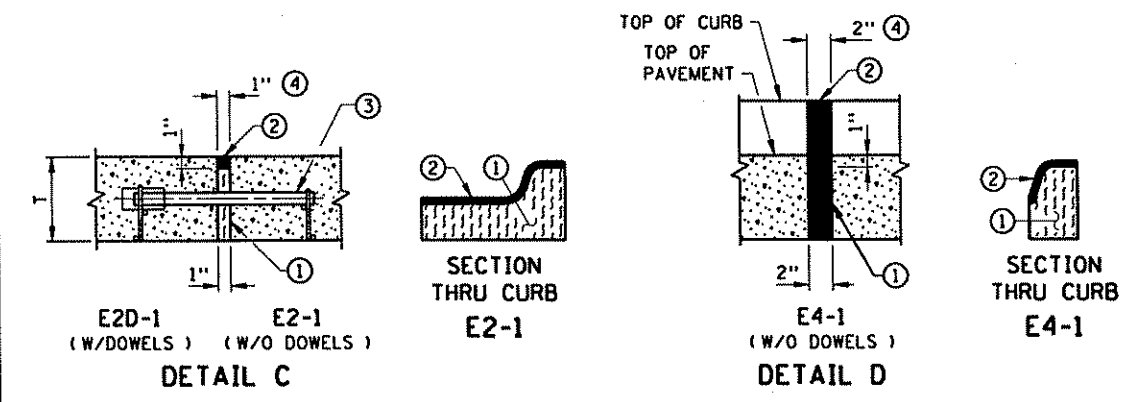
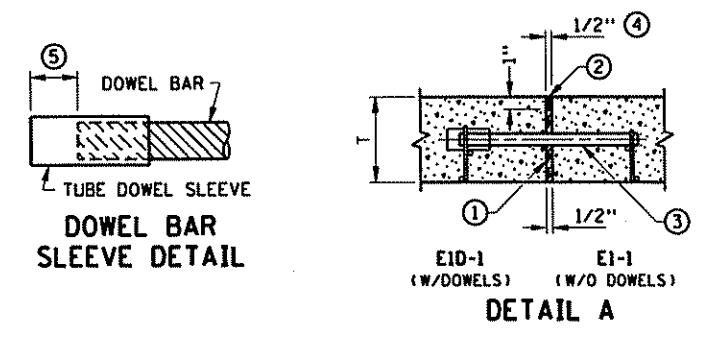
LETTER = DETAIL
X = MORE THAN 1 DETAIL
-D = DOWEL BARS



GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1150, CONSTRUCTION OF HEADER JOINTS. SEE STANDARD PLANS 5-297.217 AND 5-297.219, CONCRETE MAINLINE/RAMP PAVEMENT.
SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
FOR UNBONDED OVERLAYS, THE JOINT DEPTH "g" SHALL BE T/3.
FOR CONCRETE PAVEMENT, THE JOINT DEPTH "g" SHALL BE T/4.

CONTRACTION JOINTS
DESIGN C



EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D-1	E1-1	A	3723
E2D-1	E2-1	C	3723
	E4-1	D	3723
E4D-1		E	3723
	E8S-1	⑥	3725

LEGEND
E = EXPANSION JOINT
NO. = JOINT REFERENCE
D = DOWEL BARS
S = CONCRETE SILL
-1 = HOT POURED SEAL

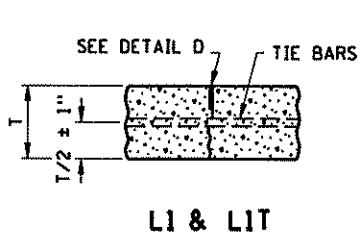
EXAMPLE
E1D-1
HOT POURED SEAL
DOWEL BARS
JOINT REFERENCE
EXPANSION JOINT

NOTES:
① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE ± 1/8".
③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
④ THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2", AND E8 = 4").
⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.
⑥ SEE STANDARD PLAN 5-297.223 FOR E8S JOINT DETAIL.

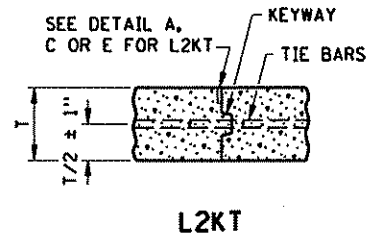
EXPANSION JOINTS
DESIGN E

SPN4 OF SPN22

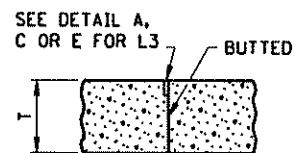
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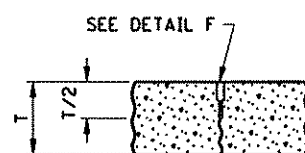
L1 & LIT



L2KT



L3

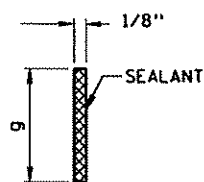


L4

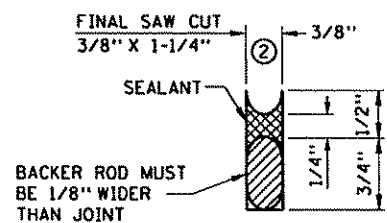
LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1H			B	3723
		L2KTH		D OR E	3723
		L2KTS		C	3722
			L3H	D OR E	3723
			L3S	C	3722
L4S				F	3722

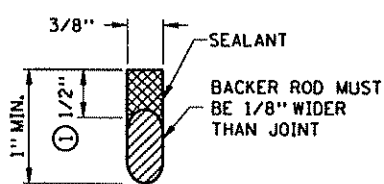
- LEGEND**
- L = LONGITUDINAL JOINT
 - NO. = JOINT REFERENCE NO.
 - K = KEYWAY
 - T = TIE BARS
 - U = UNSEALED
 - H = HOT POUR (SEALANT)
 - S = SILICONE (SEALANT)
- JOINT REFERENCE NUMBERS**
- 1 = SAWED TO A DEPTH OF 1/3
 - 2 = KEYED CONSTRUCTION JOINT
 - 3 = BUTTED CONSTRUCTION JOINT
 - 4 = SAWED TO A DEPTH OF 1/2



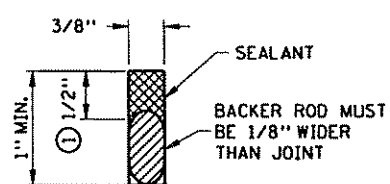
DETAIL B
 (SAWED & SEALED WITH SPEC. 3723)



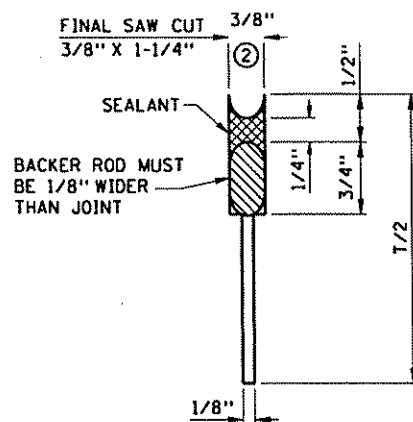
DETAIL C
 (SAWED AND SEALED WITH SPEC. 3722)



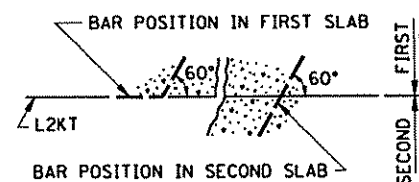
DETAIL D
 (FORMED & SEALED WITH SPEC. 3723)



DETAIL E
 (SAWED & SEALED WITH SPEC. 3723)



DETAIL F
 (SAWED AND SEALED WITH SPEC. 3722)



TIE BAR BENDING DETAIL

LONGITUDINAL JOINT NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2KT JOINTS SHALL BE 2' - 6" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE LIT JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 13 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.

FOR CONCRETE PAVEMENT THE JOINT DEPTH "g" SHALL BE 1/3 INCHES.

SPEC. 3723 SEALER - TOP OF SEALER FLUSH TO - 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

- ① THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.
- ② THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. NON-SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

GENERAL NOTES:

SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1141, PAVEMENT KEYWAY. SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED & SPECIAL REINFORCEMENT REQUIRED.

SPN5 OF SPN22

STANDARD SHEET NO. 5-297.221 (2 OF 2)	TITLE: PAVEMENT JOINTS LONGITUDINAL (DESIGN L)
STANDARD APPROVED: JUNE 6, 2005	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 45 OF 297 SHEETS	

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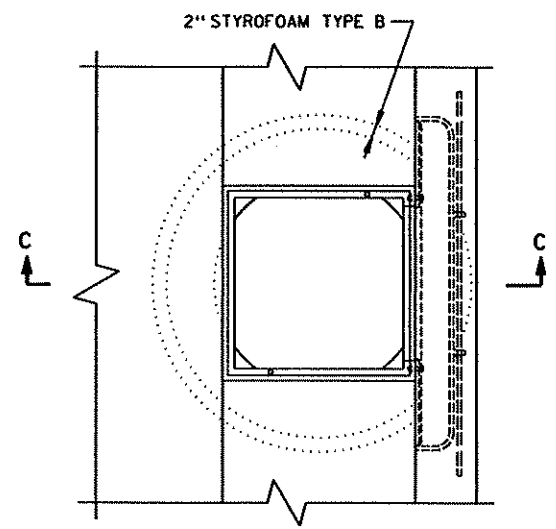
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SUMMARY OF QUANTITIES FOR TWO BRIDGE APPROACH PANELS

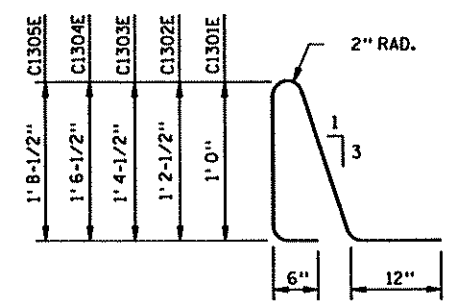
5	BRIDGE APPROACH PANELS	550 SQ. YD.
6	REINFORCEMENT BARS (EPOXY COATED)	910 LBS.
8	TYPE MOD P-4 RAILING CONCRETE (3Y46)	37 LIN. FT.
7	RAISED CONCRETE MEDIAN (4")	1200 SQ. FT.

QUANTITY NOTES

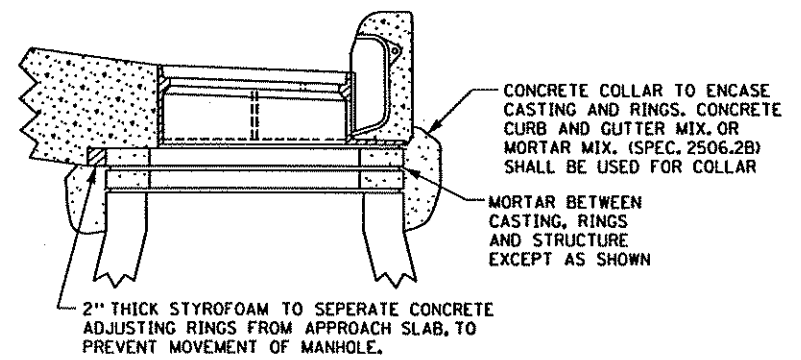
- ⑤ INCLUDES 153 CU YDS CONCRETE MIX NO 3X42. INCLUDES 27550 LBS OF REINF BARS (EPOXY COATED).
- ⑥ QUANTITY IS FOR TYPE MOD P-4 RAILING ONLY.
- ⑦ PAID FOR AS 4" CONCRETE WALK.
- ⑧ INCLUDES 6 CU YDS CONCRETE MIX (3Y46)



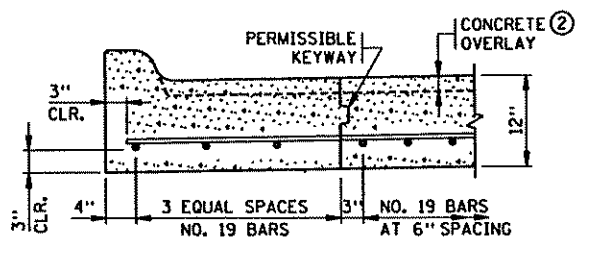
PLAN VIEW OF C. B. CASTING



C1301E - C1305E ①



SECTION C-C (GRATE NOT SHOWN)



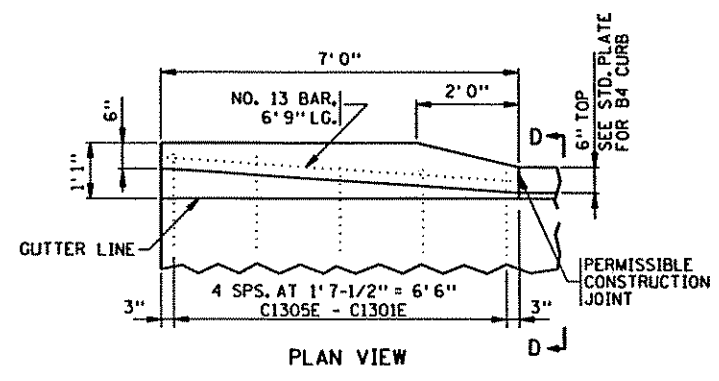
CURB DETAIL ①

(B4 INTEGRANT CURB OR B424 MODIFIED CURB AND GUTTER)

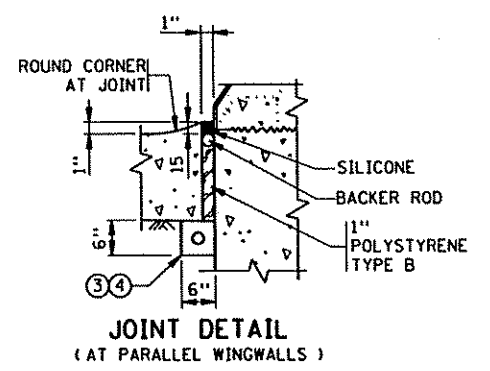
NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

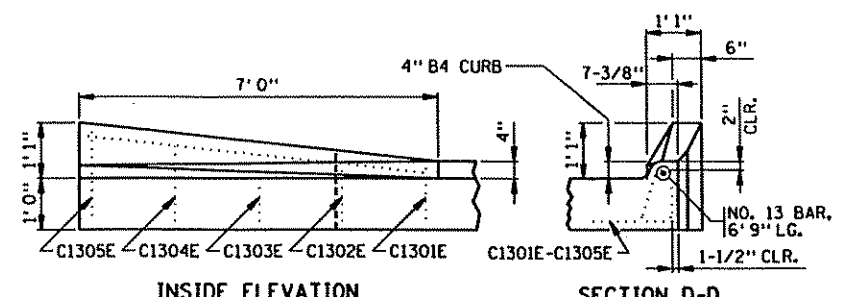
- ① ALL REINFORCEMENT IN APPROACH PANEL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. SEE BRIDGE PLANS FOR REQUIREMENTS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ③ 2" NOMINAL DIA. THERMOPLASTIC PIPE, AS PER ASTM D1785M, SCHEDULE 40. SLOPE PIPE TO DITCH, FURNISHING AND INSTALLING DRAIN SYSTEM SHALL BE INCIDENTAL, WITH NO DIRECT PAYMENT. WRAP PERFORATED PIPE WITH GEOTEXTILE AS PER SPEC. 3733. 1/8" PER 12" MINIMUM SLOPE.
- ④ BACKFILL WITH FINE AGGREGATE, SPEC. 3149, MODIFIED TO 0-3% PASSING A NO. 200 SIEVE.



PLAN VIEW



JOINT DETAIL (AT PARALLEL WINGWALLS)



INSIDE ELEVATION

SECTION D-D

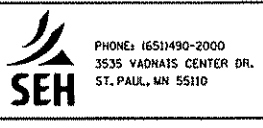
CURB TRANSITION DETAILS ①

MODIFIED

STANDARD SHEET NO.	5-297.224
STANDARD APPROVED	NOVEMBER 9, 1999

DESIGN TEAM				
DRAWN BY:	MAW			
DESIGNER:	JDS			
CHECKED BY:	JDS			
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *John D. Steenberg* License No. 13865
 Printed Name: JOHN D. STEENBERG Date: 02/27/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

BRIDGE APPROACH PANEL
 BITUMINOUS MAINLINE ROADWAY
 (MISCELLANEOUS DETAILS)

FILE NO.	46
ARAME0503	
SPN6	
OF SPN22	297

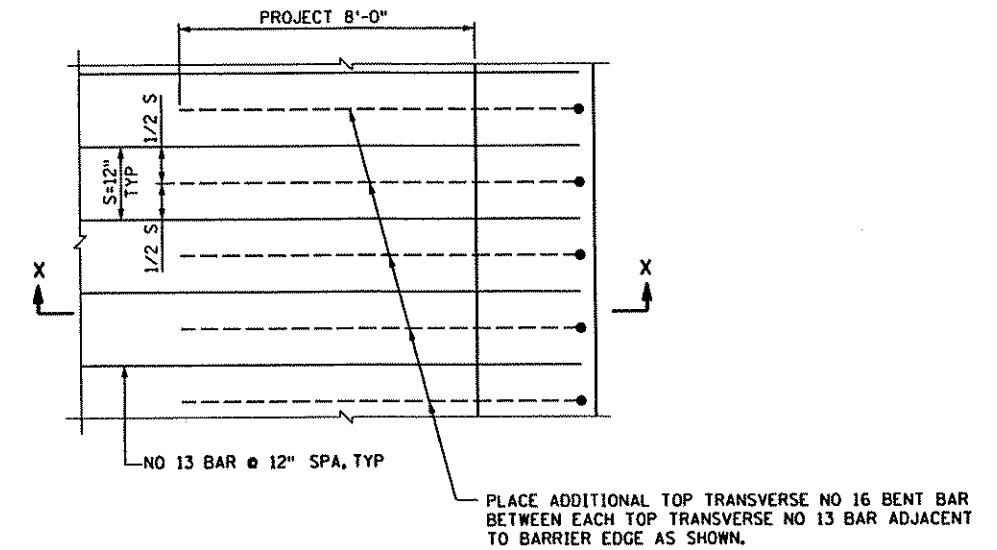
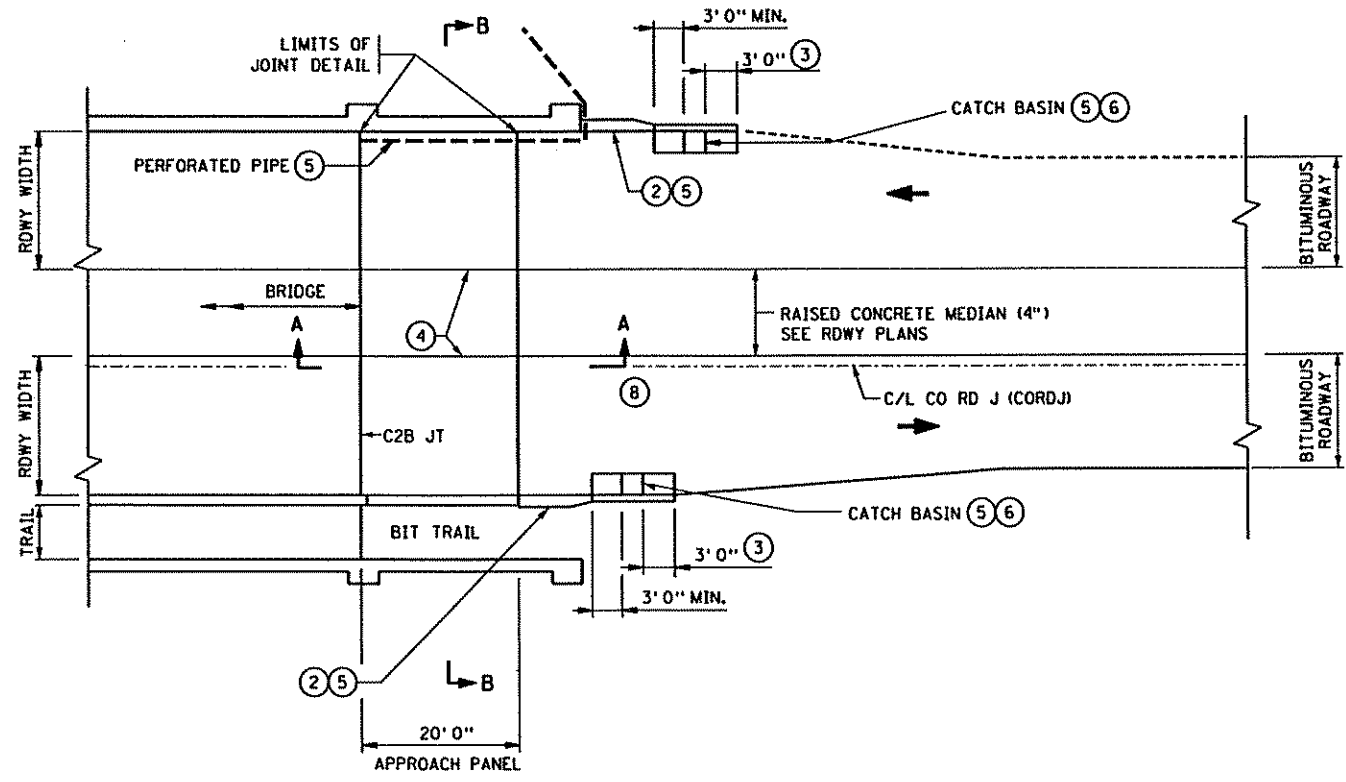
07-45520 AM

02/27/2006/27/2006

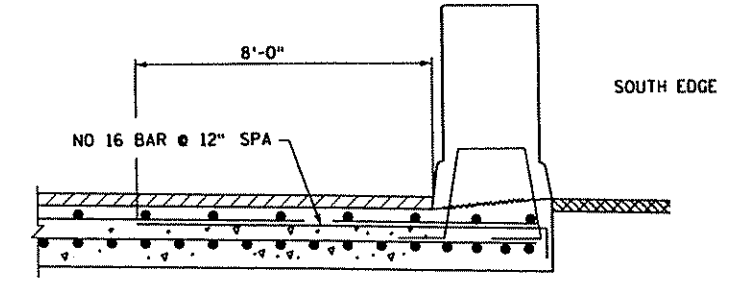
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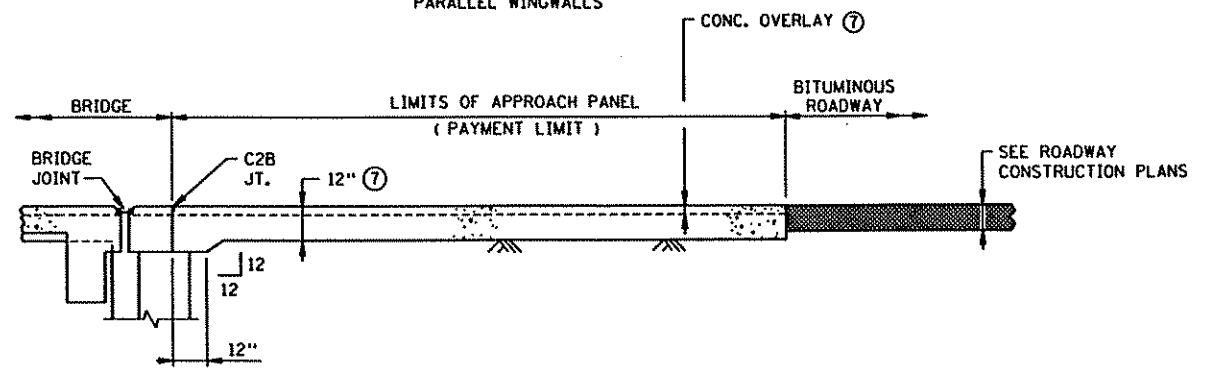
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ADDITIONAL TRANSVERSE REINFORCEMENT DETAIL



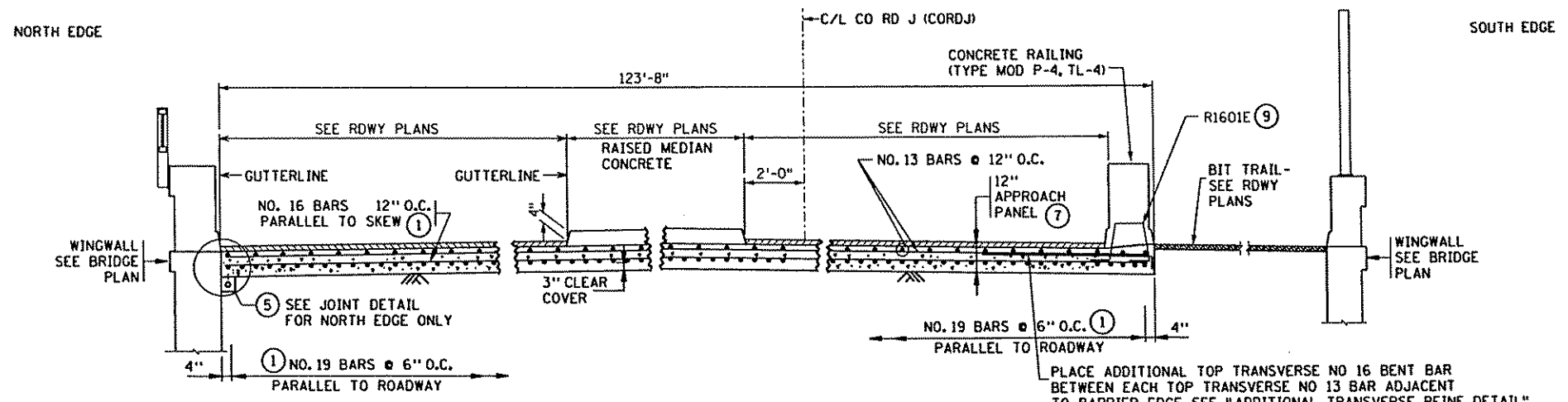
SECTION X-X RAIL EDGE ONLY



SECTION A-A (REINFORCEMENT NOT SHOWN)

NOTES:

- ① ALL REBARs ARE IN METRIC DESIGNATIONS
- ① ALL REINFORCEMENT IN APPROACH PANEL, SILL AND CURB SHALL BE GRADE 60 AND EPOXY COATED AS PER SPEC. 3301.
- ② TRANSITION FACE OF 4" CURB INTO PROFILE OF CONCRETE RAILING. SEE CURB TRANSITION DETAILS.
- ③ TRANSITION APPROACH PANEL CURB HEIGHT 4" TO 0" WHERE THERE IS NO ROADWAY CURB.
- ④ L2KT OR L1T LONGITUDINAL JOINT IS REQUIRED. SEE STANDARD PAVEMENT JOINT SHEET FOR DETAILS.
- ⑤ SEE PLAN SHEET SPNG FOR REQUIRED MISCELLANEOUS DETAILS.
- ⑥ LOCATE BETWEEN GUARD RAIL POSTS OR AS DETERMINED BY THE DESIGNER. SEE ROAD DESIGN MANUAL CHAPTER 7 FOR CATCH BASIN INFORMATION. SEE DRAINAGE SHEETS.
- ⑦ APPROACH SLAB THICKNESS SHOWN INCLUDES ANY CONCRETE OVERLAY THAT MAY BE REQUIRED. SEE BRIDGE PLANS FOR REQUIREMENTS. CONCRETE OVERLAYS TO BE INCLUDED IN BRIDGE QUANTITIES AND DONE AT THE SAME TIME BY BRIDGE CONTRACTOR.
- ⑧ SEE PLAN SHEET CP5 FOR BRIDGE APPROACH ROADWAY INFORMATION.
- ⑨ SEE CONCRETE RAILING (TYPE MOD P-4) FOR R1601E SPACING. DOWEL INCLUDED WITH RAILING QUANTITIES.



SECTION B-B (SEE ROADWAY PLAN VIEW)

DESIGN TEAM			
DRAWN BY:	MAW		
DESIGNER:	JDS		
CHECKED BY:	JDS		
NO.	BY	DATE	REVISIONS

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.

Certified By: *John D. Steenberg*
 Licensed Professional Engineer, No. 19655
 Printed Name: JOHN D. STEENBERG DoF: 02/27/2006



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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

BRIDGE APPROACH PANEL
 BITUMINOUS MAINLINE - JOINT AT ABUTMENT
 SQUARE TO 10° SKEWS

MODIFIED
 STANDARD SHEET NO. 5-297.229
 STANDARD APPROVED: MAY 7, 2002

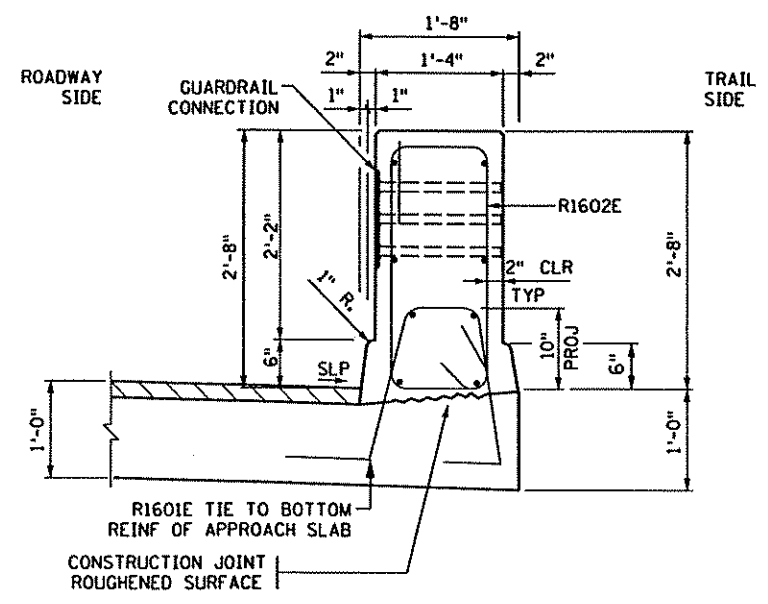
FILE NO. 47
 ARAMSE0503
 SPN7
 OF SPN22 297

08/12/08 AM

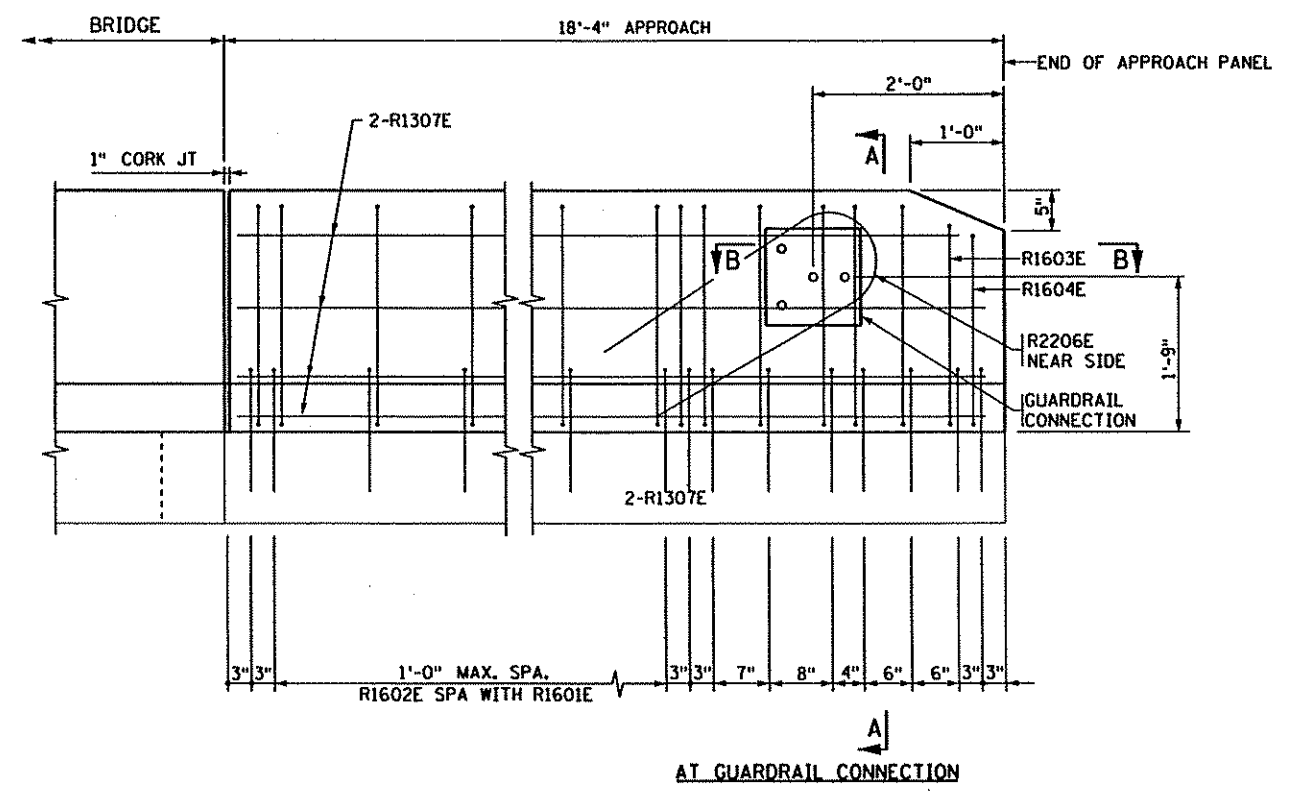
02/27/2006

MODEL

X:\PT\Romsee\050300\plans\stdeht\romsee0503_214AP.dgn



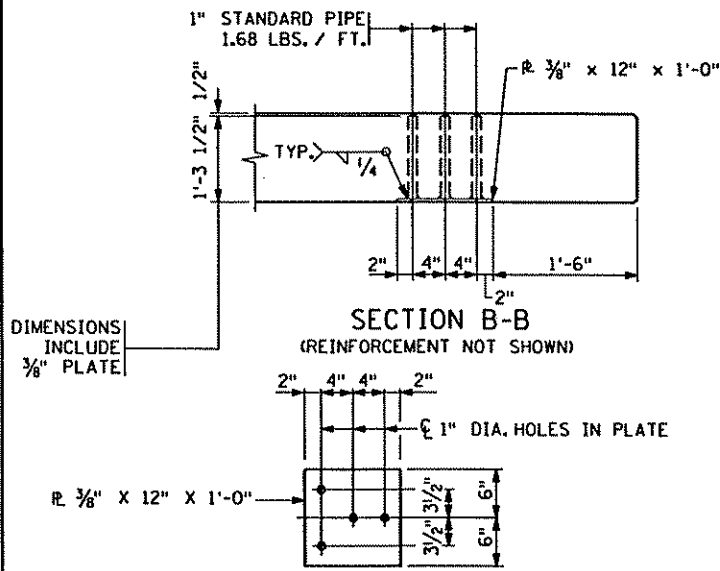
SECTION A-A



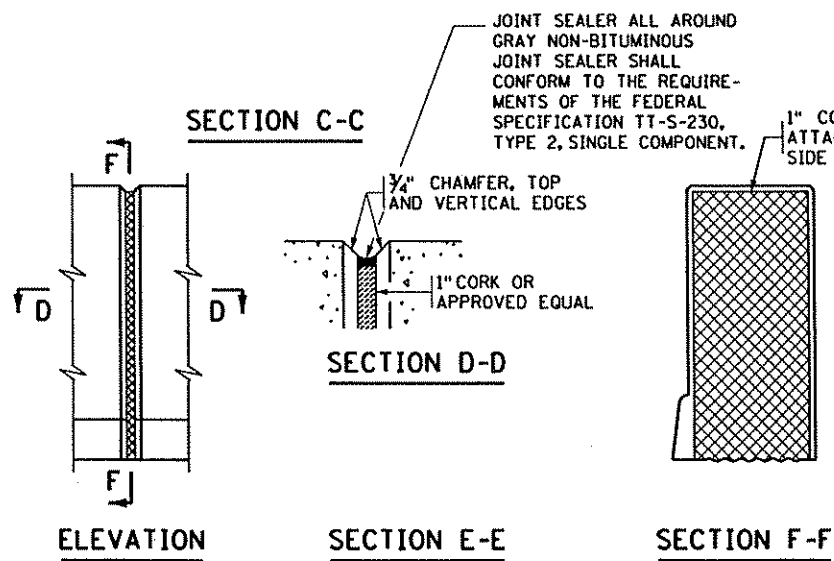
CONCRETE RAILING (TYPE MOD P)
(INSIDE ELEVATION)

RAIL MEETS TEST LEVEL 4 REQUIREMENTS OF NCHRP REPORT 350

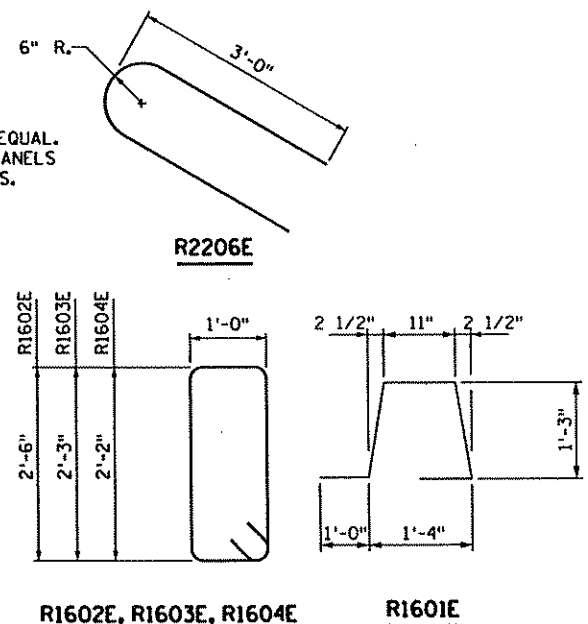
BILL OF REINFORCEMENT					
TYPICAL RAILING ON BRIDGE APPROACH PANELS (2) (INCLUDES BOTH PANELS)					
BAR	NO.	LENGTH	SHAPE	LOCATION	WT.
R1601E	50	5'-6"	BENT	BARRIER VERTICAL	287
R1602E	46	7'-9"	BENT	BARRIER VERTICAL	372
R1603E	2	7'-1"	BENT	BARRIER VERTICAL	15
R1604E	2	6'-11"	BENT	BARRIER VERTICAL	14
R2206E	2	6'-7"	BENT	BARRIER END	27
R1307E	16	18'-0"	STR	BARRIER LONGITUDINAL	192
TYPE MOD P-4 RAIL CONC. (3Y46)				REINF BARS (EPOXY)	
① 5.3 CU YD				① 907 POUND	



GUARDRAIL CONNECTION DETAIL
GALVANIZE AFTER FABRICATION PER SPEC. 3394
ESTIMATED WEIGHT = 24 LBS.



CORK JOINT DETAILS
ESTIMATED QUANTITY OF CORK PER JOINT = 2.15 SQ. FT.



NOTES

CONCRETE RAILING: 588 LBS./FT. (.145 CU. YD./FT.)

LENGTH OF "TYPE MOD P-4, TL-4 BARRIER CONCRETE (3Y46)" FOR PAYMENT SHALL BE MEASURED BETWEEN OUTSIDE FACES OF THE CONCRETE BARRIER.

THE GUARDRAIL CONNECTION IS INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

FINISH ALL EDGES OF BARRIER W/ 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.

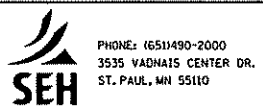
GUARDRAIL CONNECTION SHALL BE STRUCTURAL STEEL, SPEC. 3306 AND GALVANIZED AFTER FABRICATION PER SPEC. 3394.

- ① QUANTITY GIVEN FOR FOR INFORMATIONAL PURPOSES ONLY.
- ② REINFORCEMENT FOR RAILING INCLUDED IN BID TAB SEE SHEET SPNG.

DESIGN TEAM			
DRAWN BY:	MAW		
DESIGNER:	JDS		
CHECKED BY:	JDS		
NO.	BY	DATE	REVISIONS

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.

Printed Name: JOHN D. STEENBERG Date: 02/27/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CONCRETE RAILING
(TYPE MOD P-4, TL-4)
FOR BRIDGE APPROACH PANEL

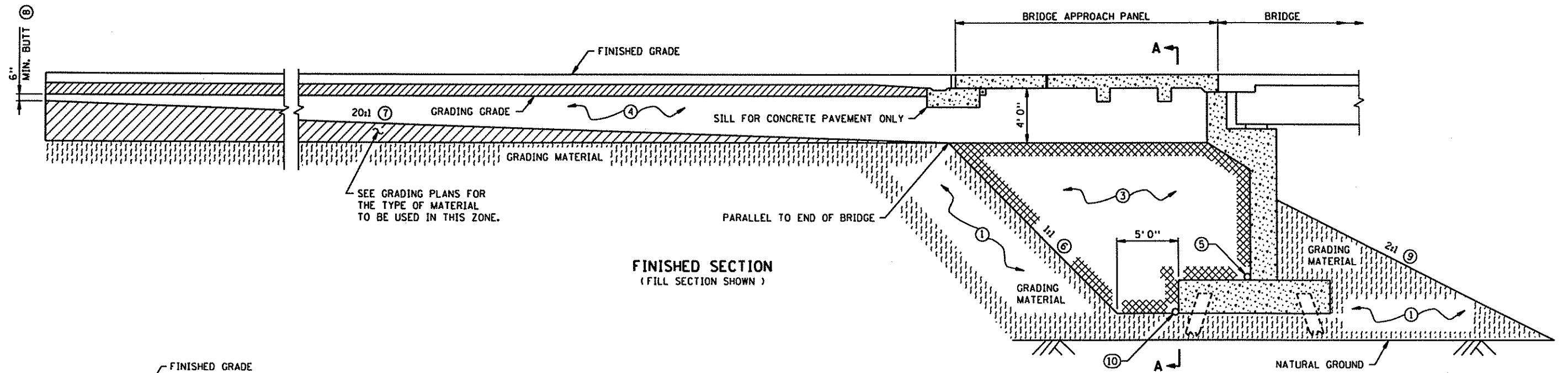
FILE NO. 47A
ARAME0503
SPN7A
OFSPN22
297

02/16/42, PM

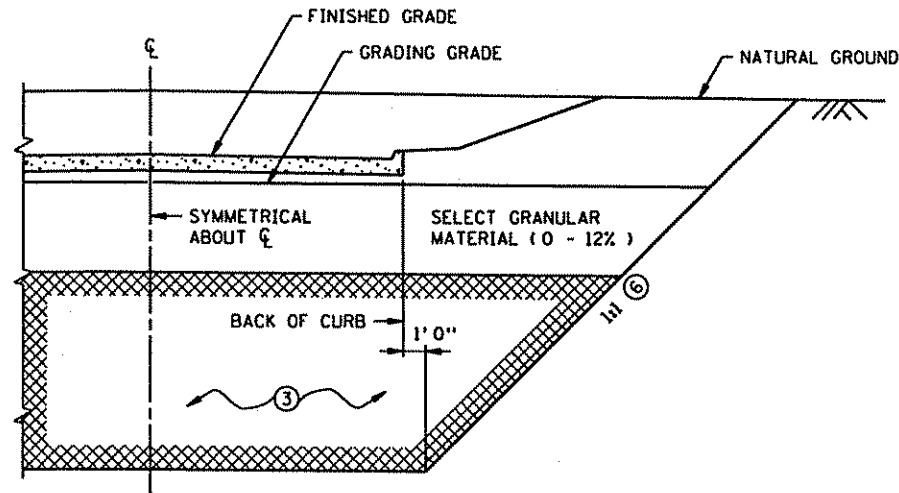
02/17/2006

SPN.

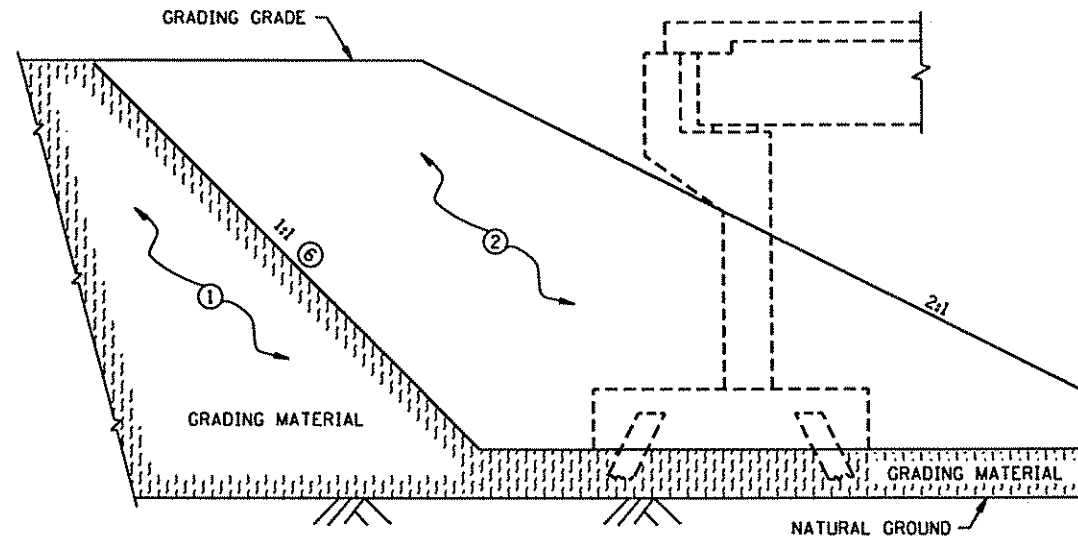
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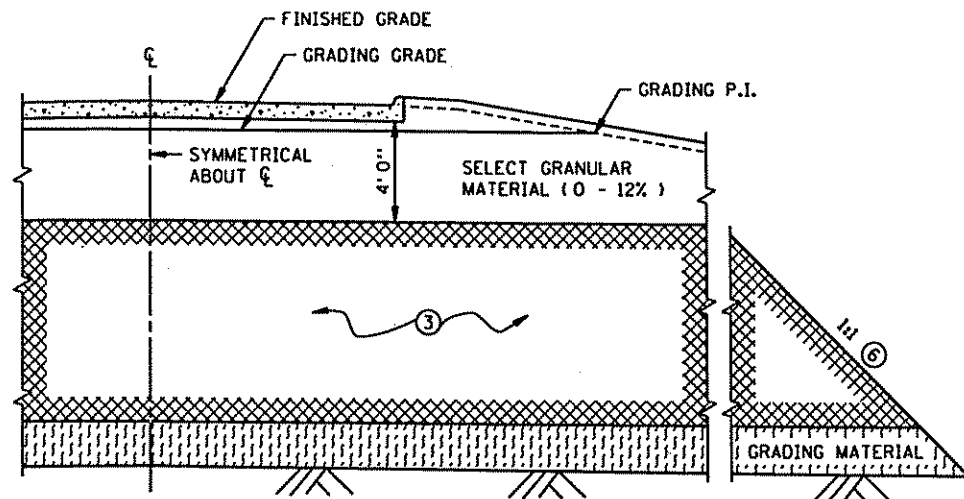
FINISHED SECTION (FILL SECTION SHOWN)



HALF SECTION A-A (CUT SECTION)



GRADING SECTION AT ABUTMENT



HALF SECTION A-A (FILL SECTION)

- NOTES:
- ① GRADING MATERIAL PLACED BY THE CONTRACTOR.
 - ② GRADING MATERIAL CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE BRIDGE CONSTRUCTION. TO BE REMOVED LATER BY THE CONTRACTOR.
 - ③ SELECT GRANULAR MATERIAL MODIFIED SHALL COMPLY WITH SPEC. 3149.2B2, MODIFIED TO 10% OR LESS PASSING THE NUMBER 200 SIEVE. MATERIAL SHALL BE PLACED BY THE CONTRACTOR AFTER COMPLETION OF THE ABUTMENT.
 - ④ BACKFILL PLACED BY THE CONTRACTOR. MATERIAL SHALL COMPLY WITH SPEC. 3149.2B2 (SELECT GRANULAR BORROW).
 - ⑤ DRAIN IF REQUIRED. SEE BRIDGE STANDARD DETAIL B910.
 - ⑥ ACTUAL SLOPE TO BE DETERMINED DURING CONSTRUCTION BY THE CONTRACTOR, DEPENDING ON INSITU SOIL PROPERTIES AND/OR SAFETY FACTORS. (USE 1:1 FOR DESIGN)
 - ⑦ START 20:1 TAPER AT END OF APPROACH PANELS ON SKEWED BRIDGES.
 - ⑧ GRADING TO BE SQUARED OFF ON SKEWED APPROACHES.
 - ⑨ SEE BRIDGE PLANS FOR SLOPE PAVING.
 - ⑩ SUBSURFACE PIPE DRAIN WHEN REQUIRED AS DIRECTED BY THE DISTRICT SOILS ENGINEER. 4 INCH NOM. DIA. PLASTIC PIPE PER SPEC. 3245 PLACED BY THE CONTRACTOR. PERFORATED PIPE TO BE WRAPPED WITH GEOTEXTILE MEETING THE REQUIREMENTS OF SPEC. 3733 TYPE 1. FOUNDATION SHALL BE SHAPED TO FIT LOWER ONE THIRD CIRCUMFERENCE OF PIPE.

SPN8 OF SPN22

STANDARD SHEET NO. 5-297.233	TITLE: BRIDGE APPROACH TREATMENT FOR BOTH HIGH AND LOW ABUTMENTS ON PILING
STANDARD APPROVED: AUGUST 4, 1992	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 48 OF 297 SHEETS	

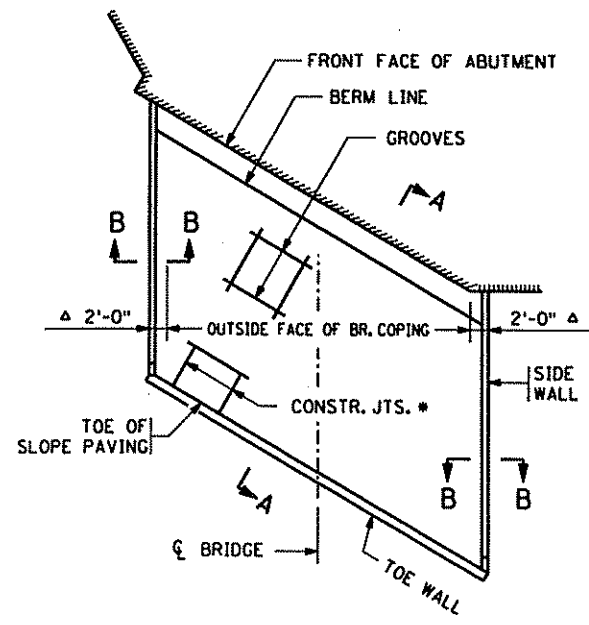
REVISION DATE
8-20-99

02/16/44 PM

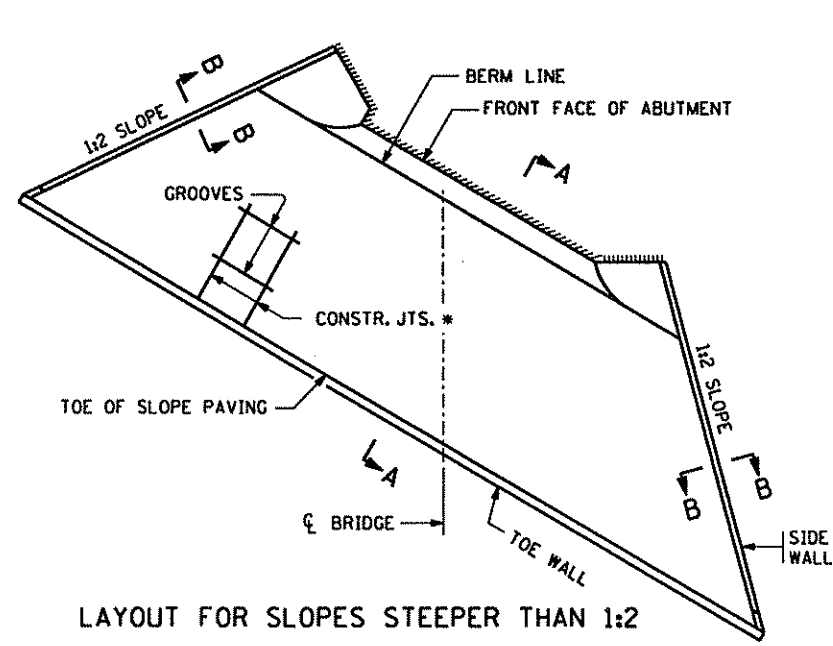
02/17/2006

SPN

30300\plans\stdsh\stdsh\402189_spn.dgn

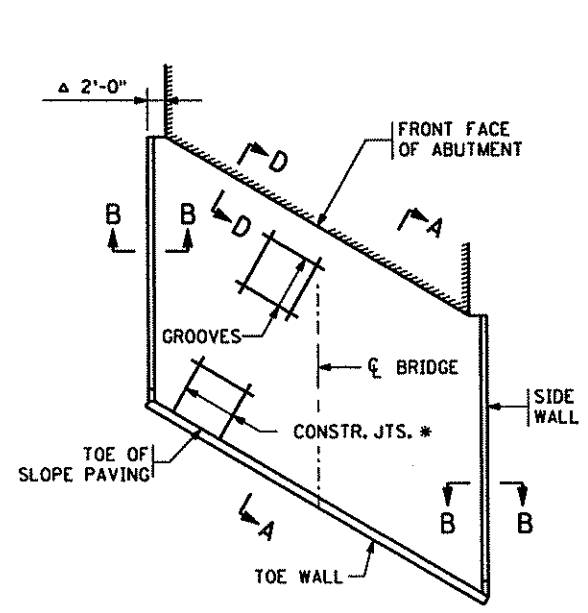


LAYOUT FOR SLOPES 1:2 OR FLATTER

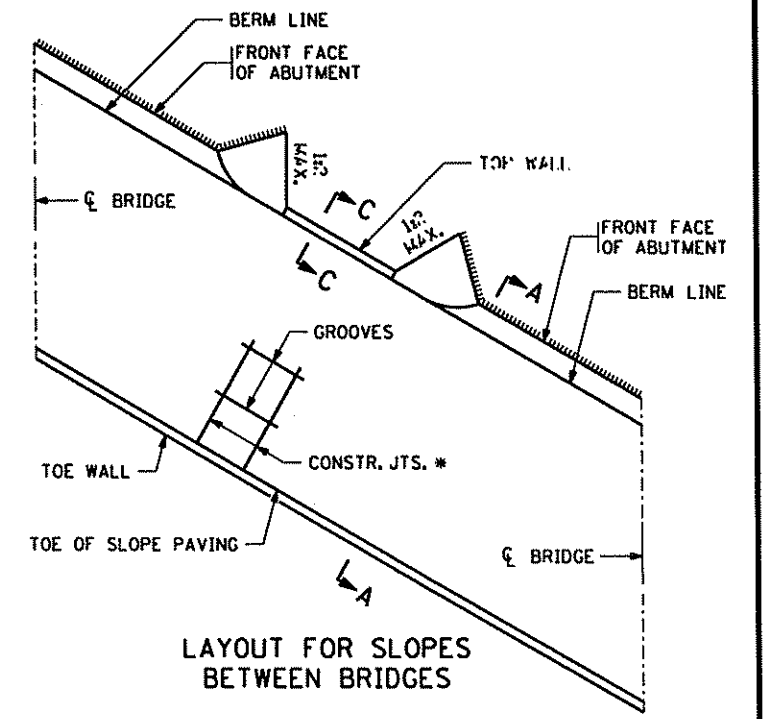


LAYOUT FOR SLOPES STEEPER THAN 1:2

Δ 2'-0" FOR TANGENT BRIDGE SUPERSTRUCTURES. VARIES 2'-0" MINIMUM FOR CURVED BRIDGE SUPERSTRUCTURES.

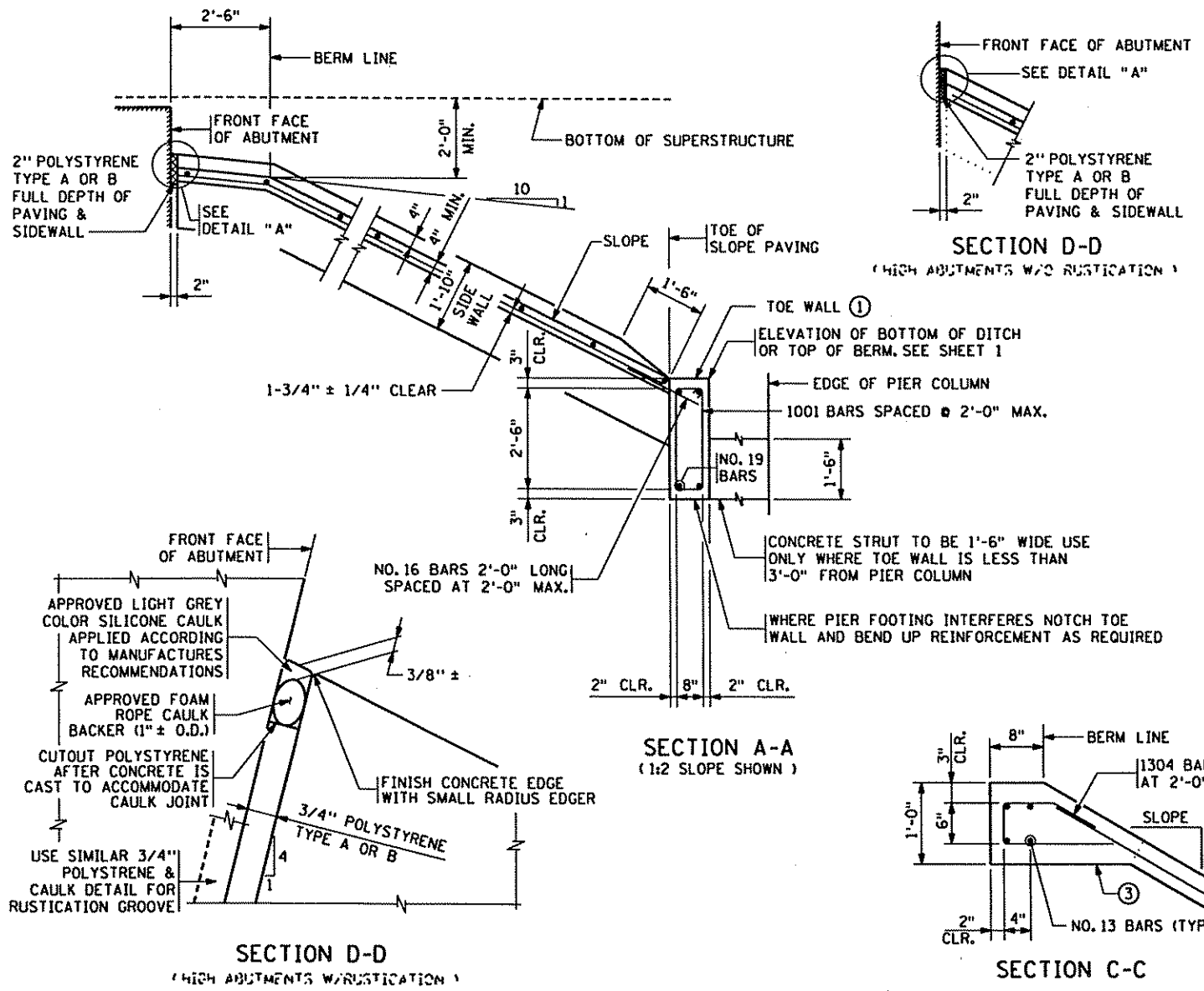


LAYOUT FOR SLOPES AT HIGH ABUTMENTS



LAYOUT FOR SLOPES BETWEEN BRIDGES

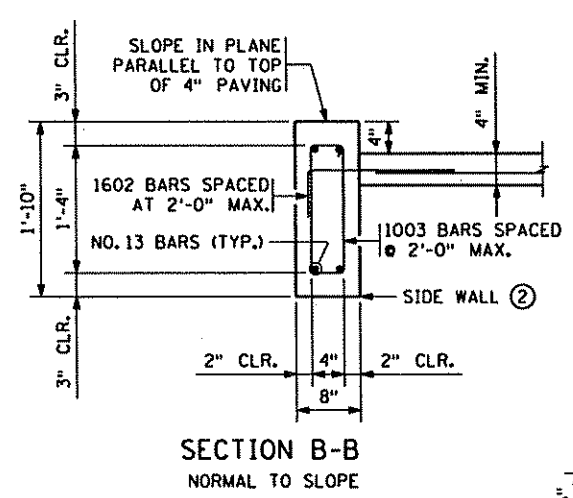
*VERTICAL CONSTRUCTION JOINTS MAY BE CONSTRUCTED PARALLEL TO C OF BRIDGE FOR SKEWS TO 10° ONLY.



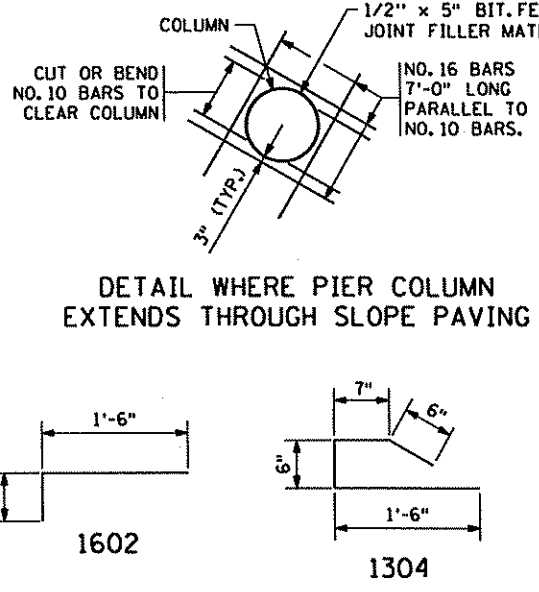
SECTION D-D (HIGH ABUTMENTS W/O RUSTICATION)

SECTION A-A (1:2 SLOPE SHOWN)

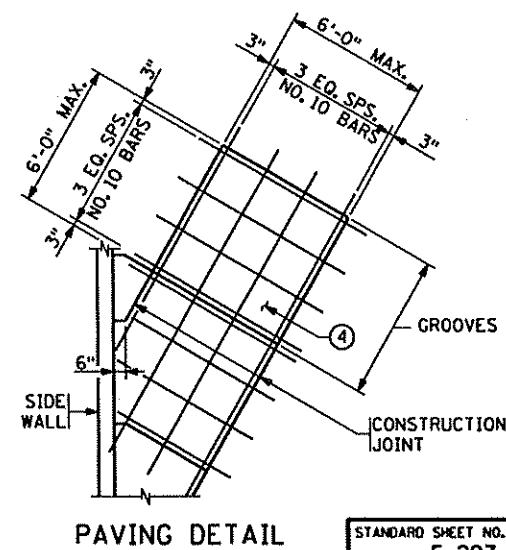
SECTION C-C



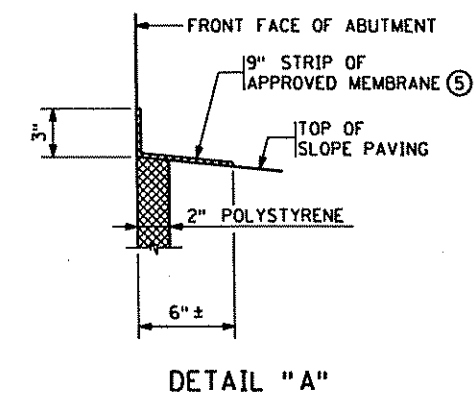
SECTION B-B NORMAL TO SLOPE



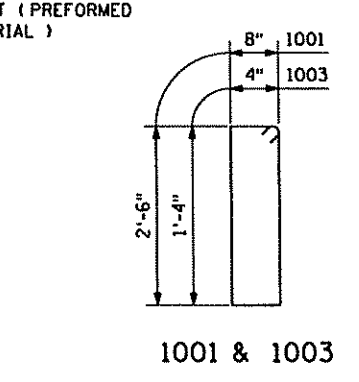
DETAIL WHERE PIER COLUMN EXTENDS THROUGH SLOPE PAVING



PAVING DETAIL



DETAIL "A"



1001 & 1003

CONCRETE & REINFORCEMENT UNIT QUANTITIES:

ALL REBARS ARE IN METRIC DESIGNATIONS

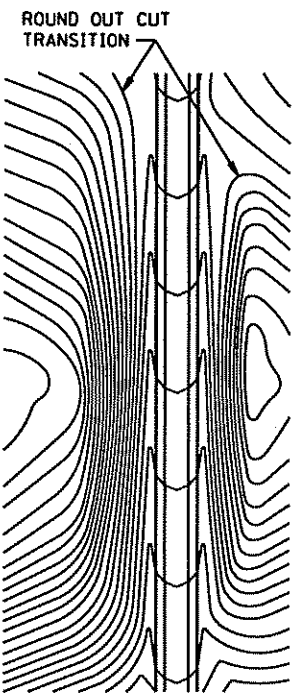
- ① 0.111 CU. YD. OF CONCRETE/LIN. FT. 8.37 LBS. OF REINFORCEMENT/LIN. FT.
- ② 0.046 CU. YD. OF CONCRETE/LIN. FT. 4.46 LBS. OF REINFORCEMENT/LIN. FT.
- ③ 0.058 CU. YD. OF CONCRETE/LIN. FT. 3.70 LBS. OF REINFORCEMENT/LIN. FT. BASED ON A SLOPE OF 1:2.
- ④ 0.111 CU. YD. OF CONCRETE/SQ. YD. 4.50 LBS. OF REINFORCEMENT/SQ. YD.

- NOTES:
- SLOPE PAVING AS PER SPEC. 2514.
 - ⑤ MEMBRANE SHALL BE RUBBERIZED ASPHALT INTEGRALLY BONDED TO POLYETHYLENE SHEETING OR APPROVED EQUAL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

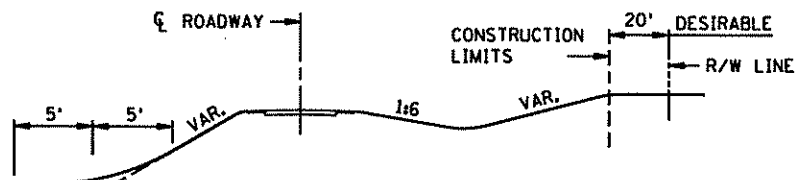
SPN9 OF SPN22

STANDARD SHEET NO. 5-297.402	TITLE: CONCRETE SLOPE PAVING UNDER BRIDGES
STANDARD APPROVED: SEPTEMBER 11, 1989	
REVISION DATE 4-5-2001	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 49 OF 297 SHEETS	

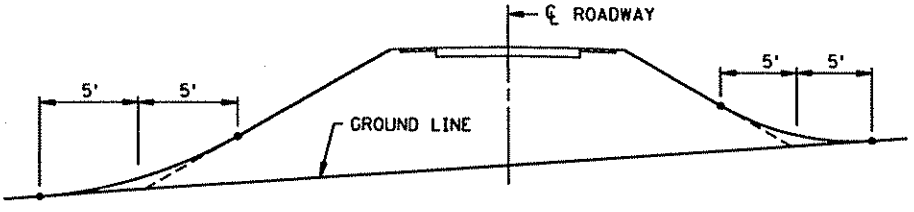
02/17/2006 02:16:45 PM SPN 0300\pinsh\st\dsh\404k02_spn.dgn



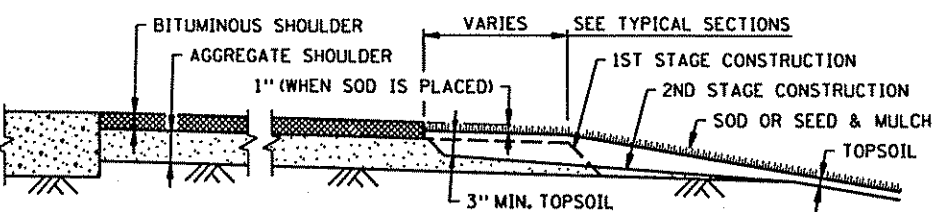
CONTOURING ROAD CUTS



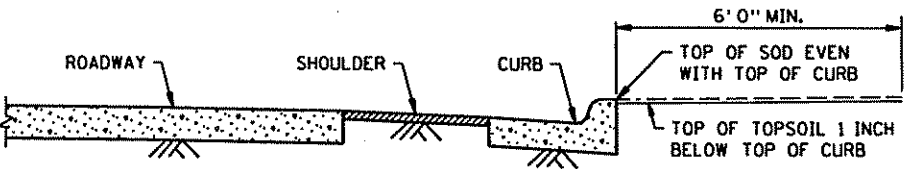
ROUNDING SHOULDERS AND BACKSLOPES



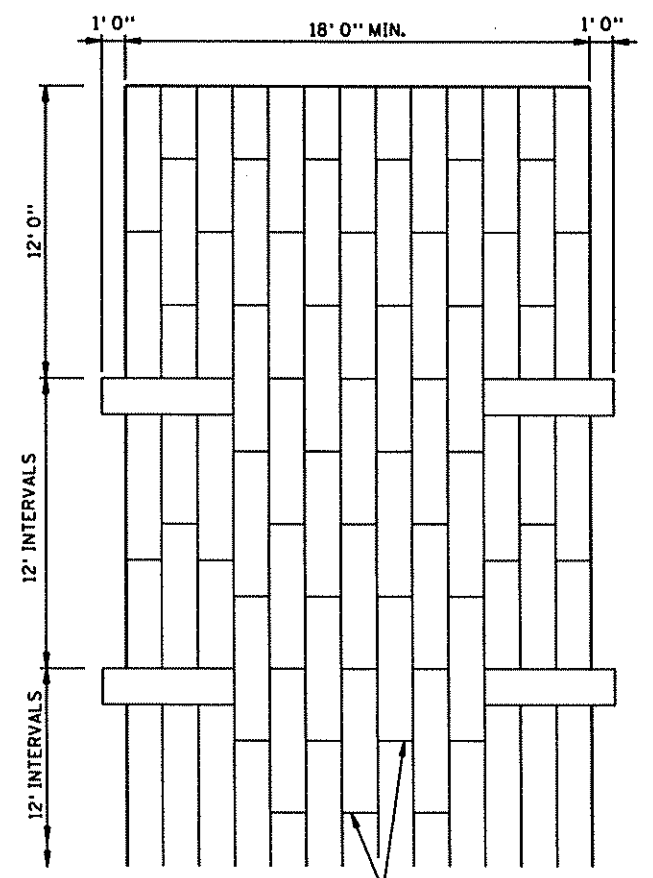
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



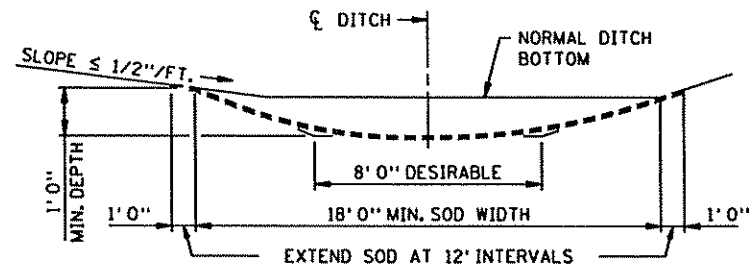
SHAPING AND TOPSOILING INSLOPES



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

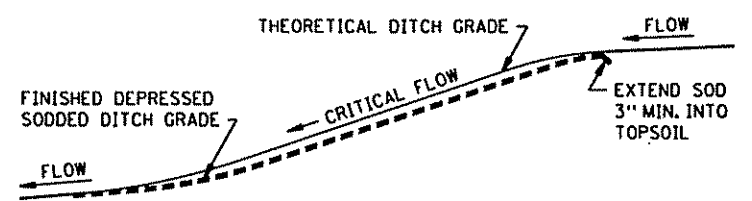


PLAN VIEW

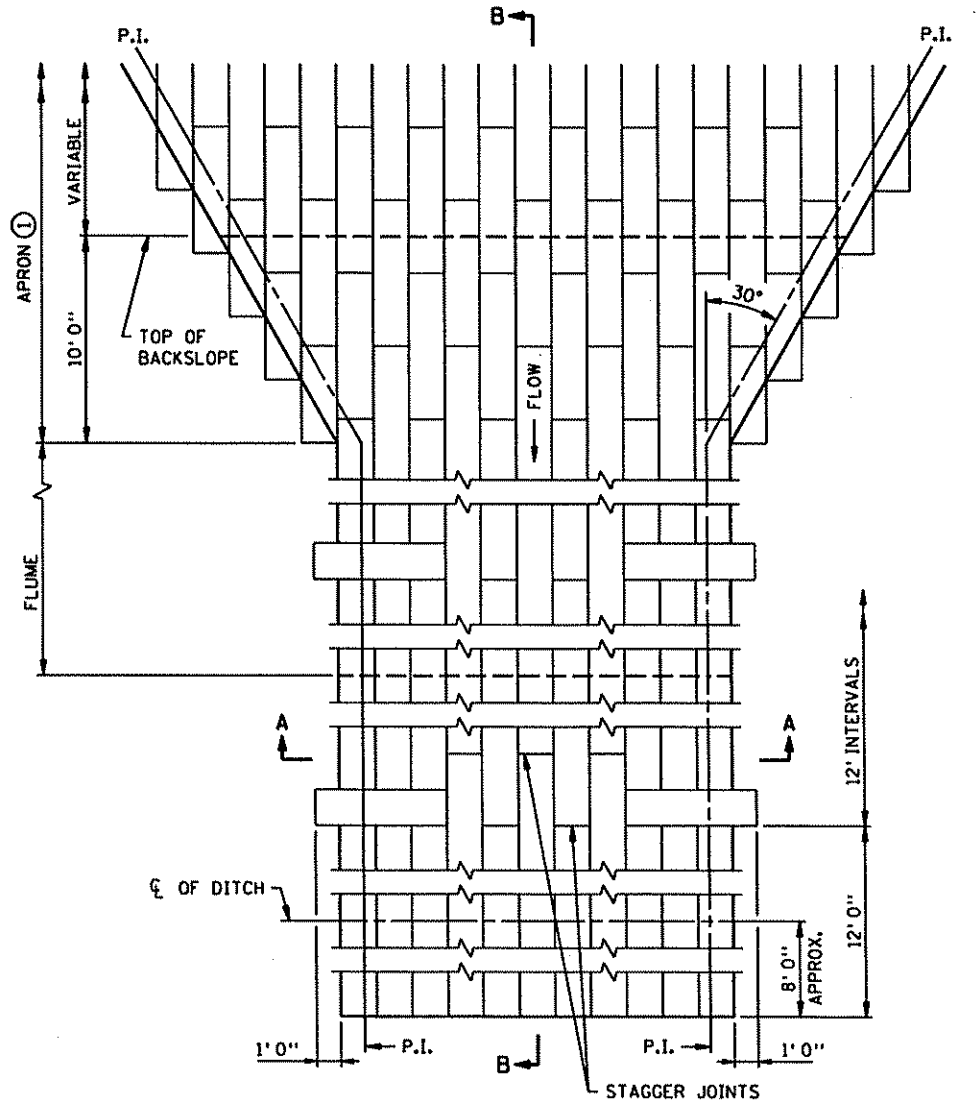


SODDED DITCH CROSS SECTION

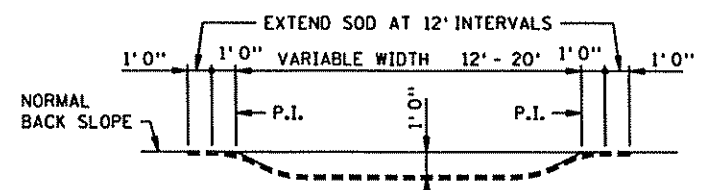
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



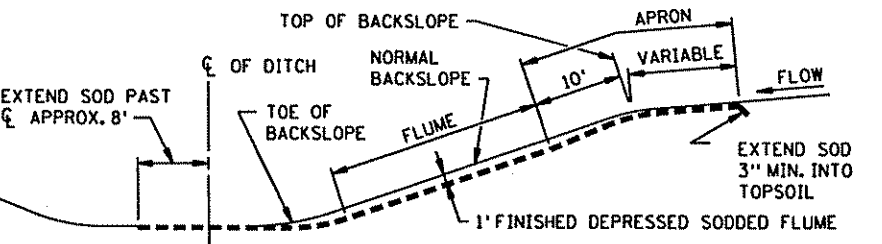
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



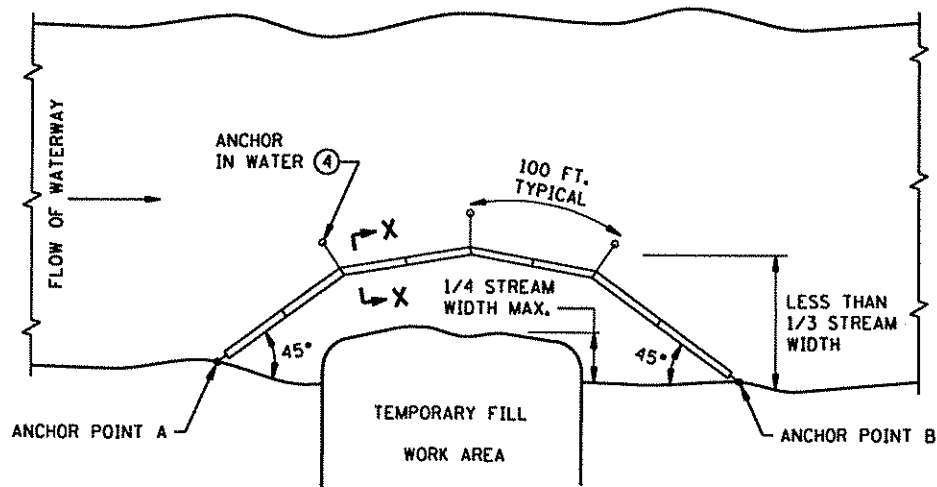
SECTION B-B
SODDED FLUME DETAILS

NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED NOVEMBER 20, 2002	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 50 OF 297 SHEETS	

SPN10 OF SPN22

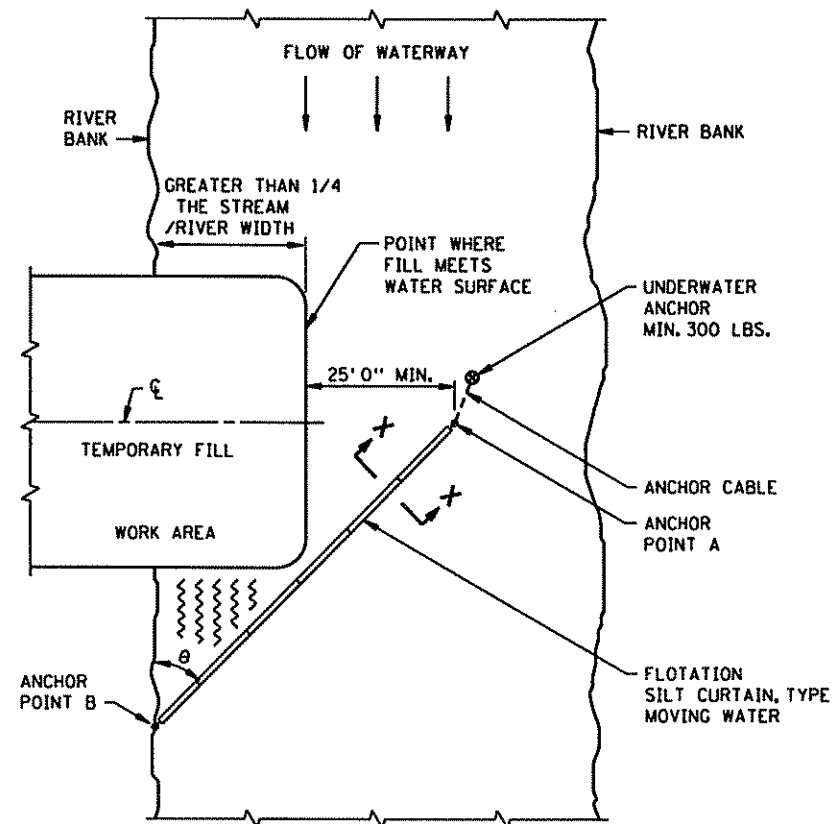
02/11/2006 02:16:47 PM SPN 0300\pinshf\stdshf\4051g01.spn.dgn



PLAN VIEW
FLOTATION SILT CURTAIN - TYPE WORK AREA
 (SPEC. 3887)

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

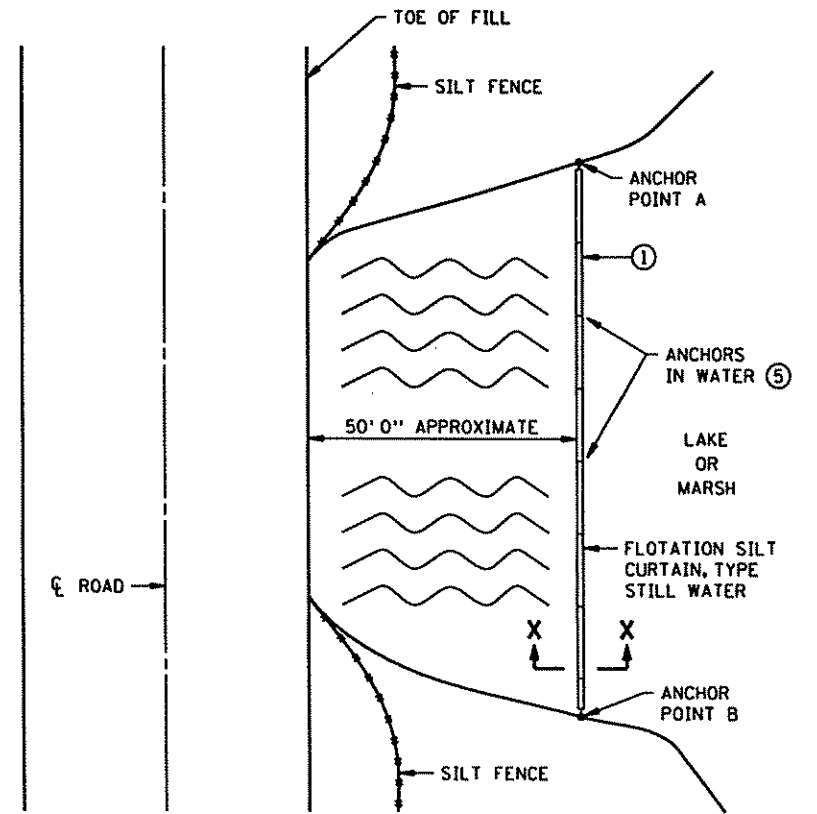
DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WATER DEPTH: 11 FT.



$\angle \theta$	RIVER VELOCITY
45°	SLOW, LESS THAN 3 FT./SEC.
35°	MODERATE, 3 - 5 FT./SEC.

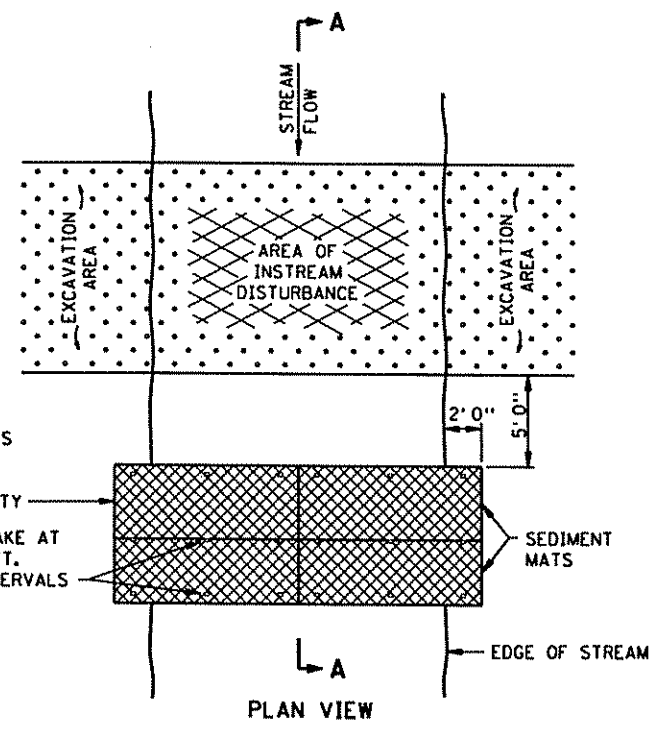
PLAN VIEW
FLOTATION SILT CURTAIN - TYPE MOVING WATER
 (SPEC. 3887)

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

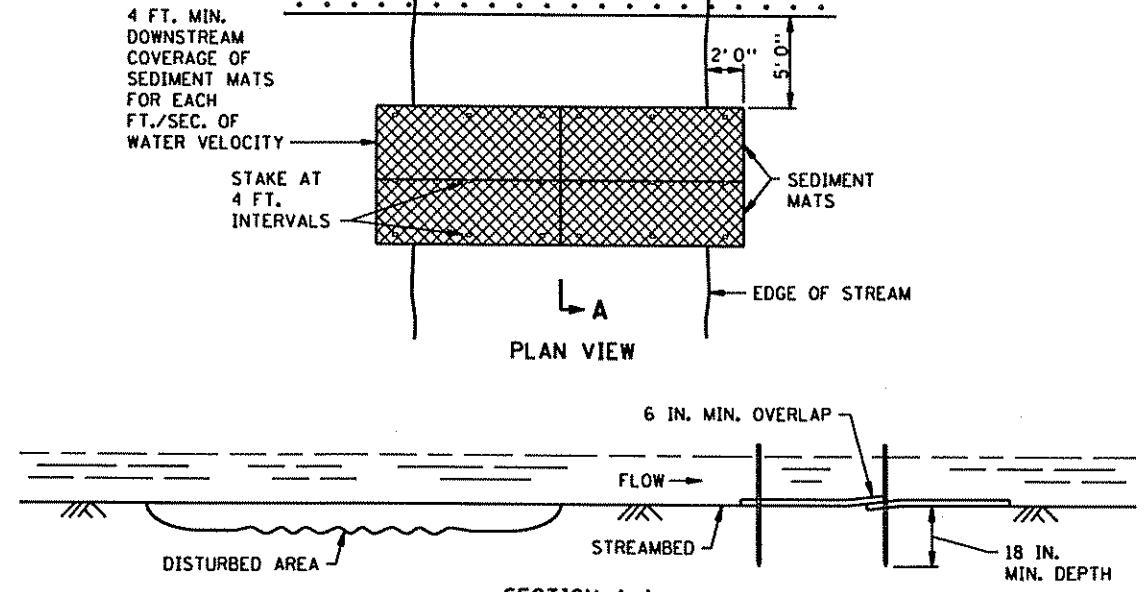


PLAN VIEW
FLOTATION SILT CURTAIN - TYPE STILL WATER
 (SPEC. 3887)

DESIGN GUIDELINES:
 MAXIMUM WATER DEPTH: 11 FT. ①
 MINIMUM WATER DEPTH: 3 FT.

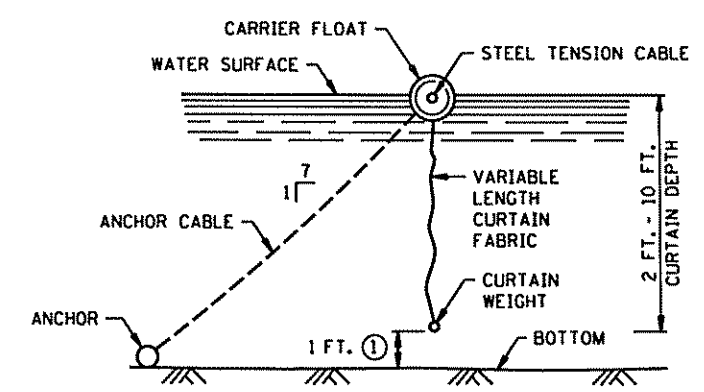


PLAN VIEW

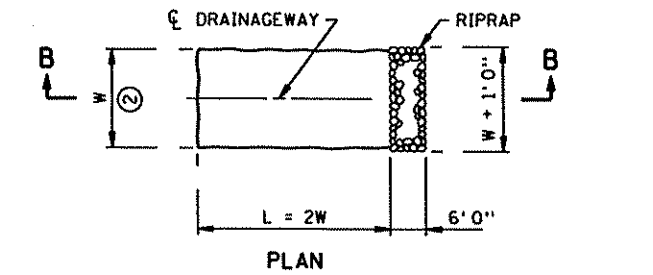


SECTION A-A
SEDIMENT MAT
 (SPEC. 3894)
 TYPICAL STREAMBED INSTALLATION

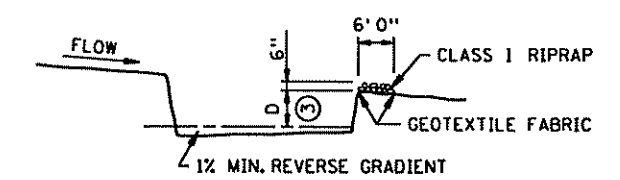
DESIGN GUIDELINES:
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.
 MAXIMUM FLOW DEPTH: 2 FT.



SECTION X-X
FLOTATION SILT CURTAINS
 (SPEC. 3887)



PLAN



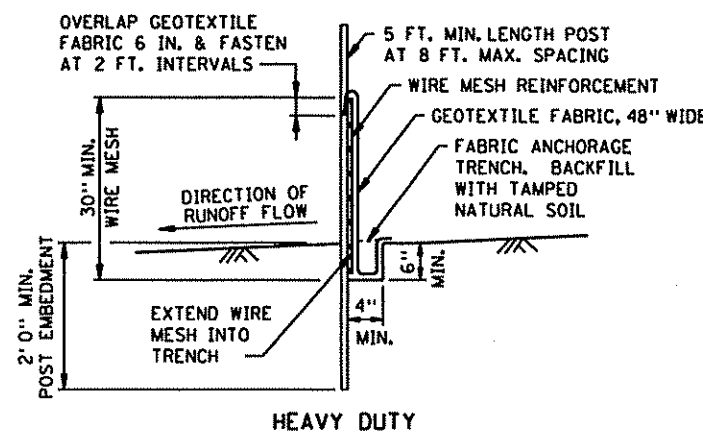
SECTION B-B
SEDIMENT TRAP DETAIL
 (SPEC. 2573)

- NOTES:**
 SEE SPECS. 2573, 3887 & 3894.
 ① CURTAIN 1 FT. FROM BOTTOM
 ② W = 10 FT. MIN., 20 FT. MAX.
 ③ D = 2 FT.
 ④ 100 FT. MAX. SPACING BETWEEN ANCHORS, MIN. 40 LBS.
 ⑤ USE ENOUGH ANCHORS TO HOLD SILT CURTAIN IN PLACE.

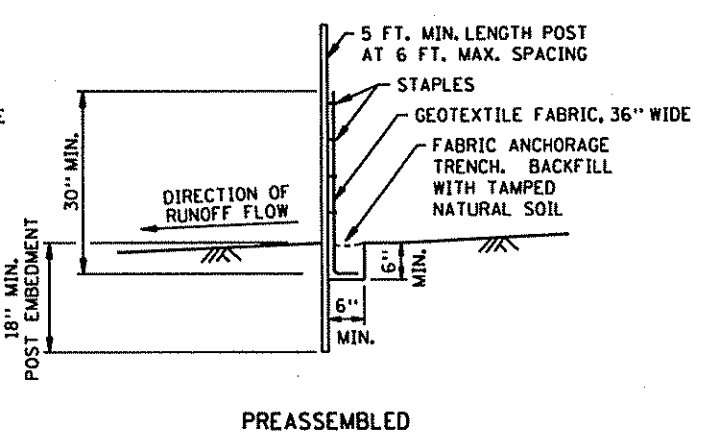
SPN11 OF SPN22

STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: July 30, 2001	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 51 OF 297 SHEETS	

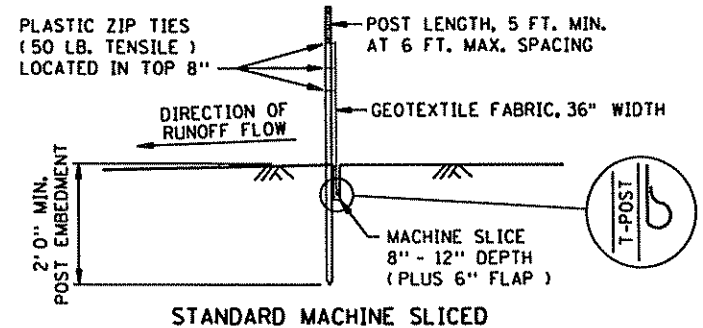
02/16/49 PM
02/17/2006
SPN
xp1\p01..._0300\p01...s\stdeht\4052901_spn.dgn



HEAVY DUTY



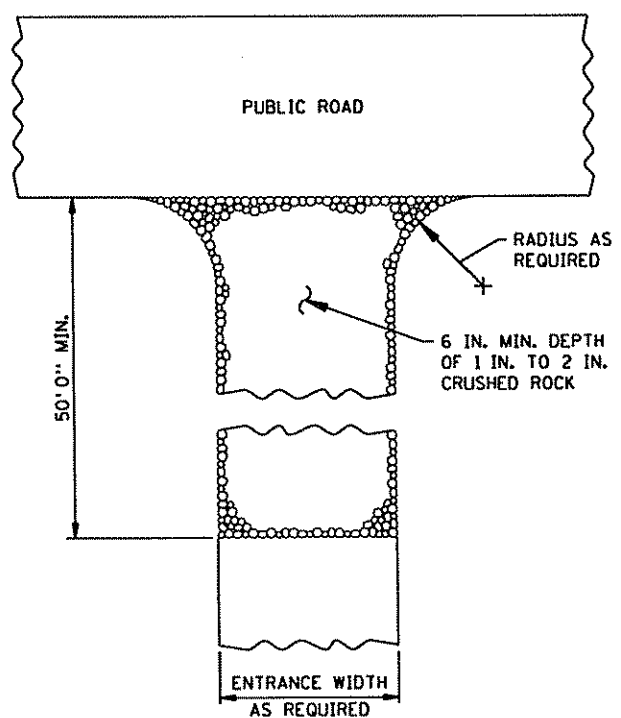
PREASSEMBLED



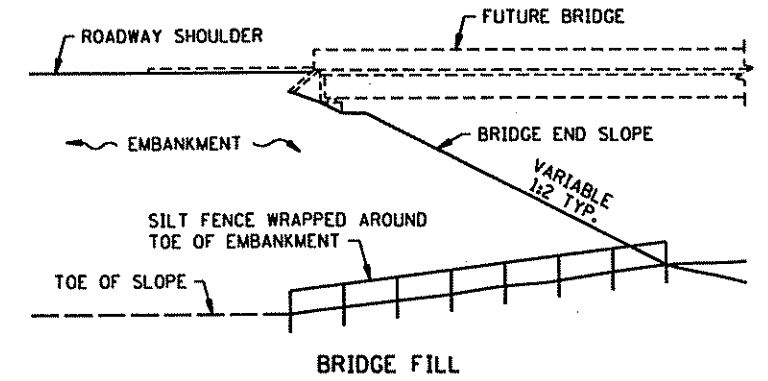
STANDARD MACHINE SLICED

DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

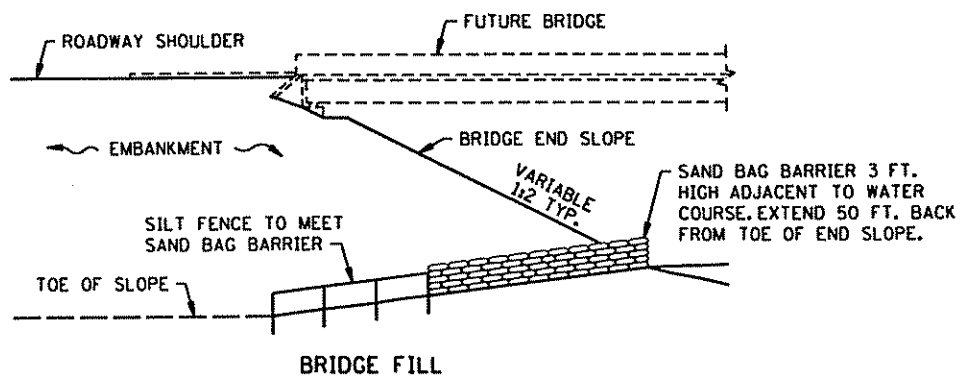
SILT FENCE DETAILS
TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)



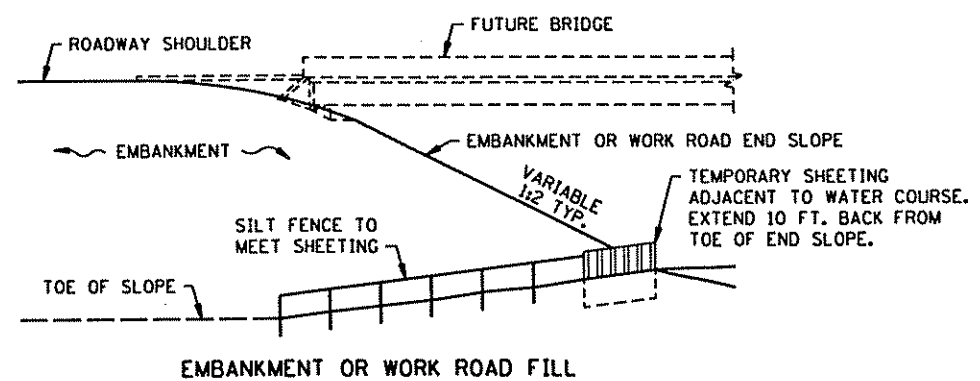
ROCK CONSTRUCTION ENTRANCE ①



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



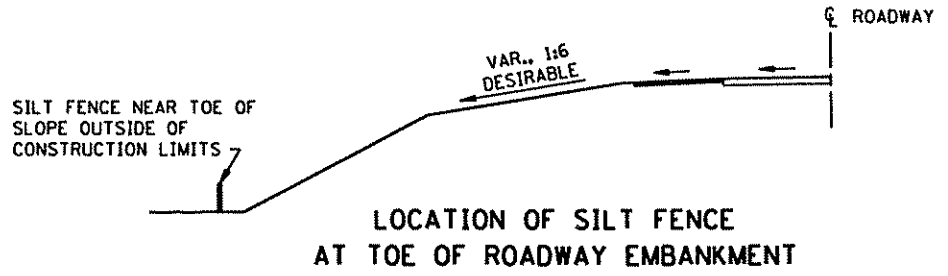
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



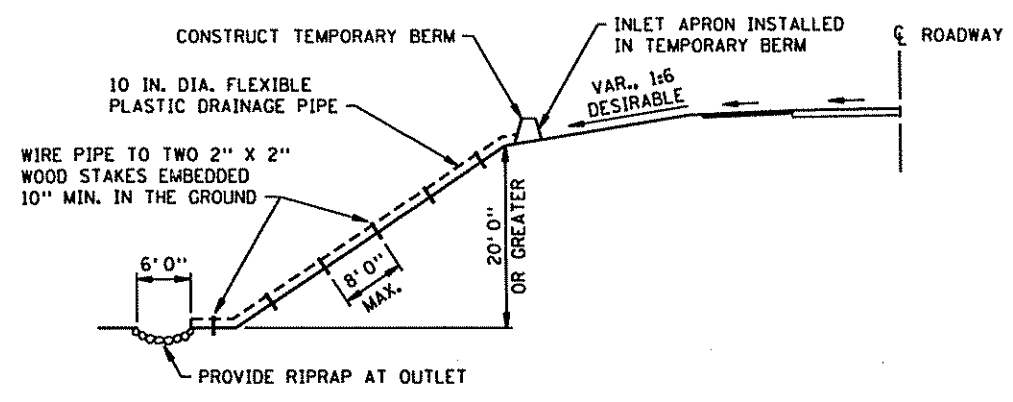
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

NOTES:
SEE SPECS. 2573 & 3886.
① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

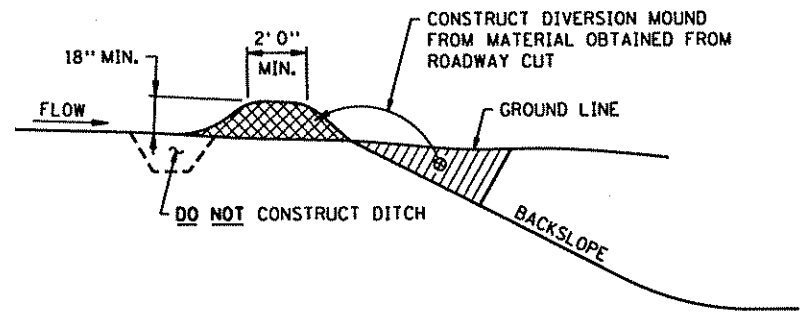


LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

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

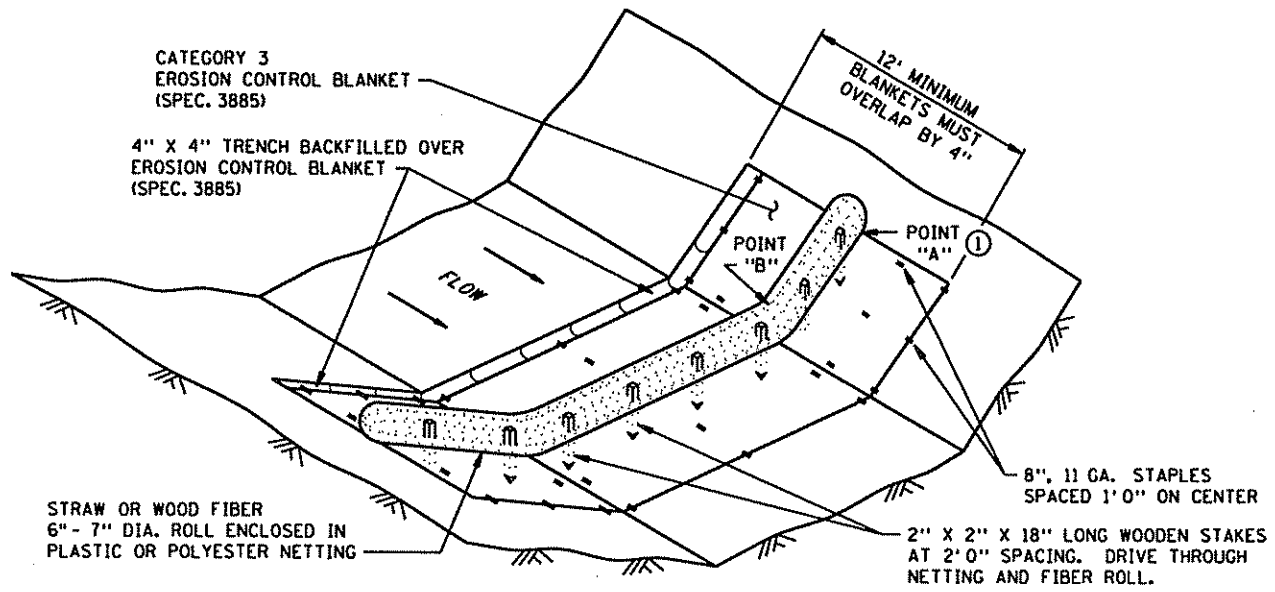


DIVERSION MOUND

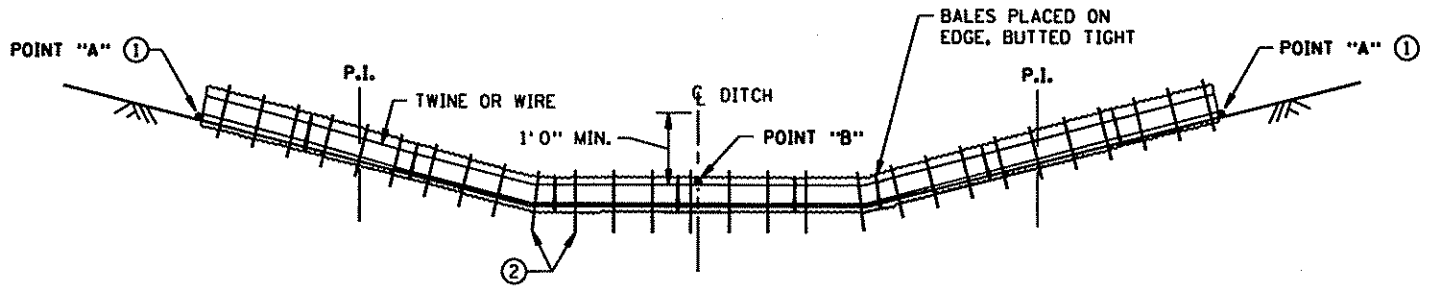
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: JULY 30, 2001	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 52 OF 297 SHEETS	

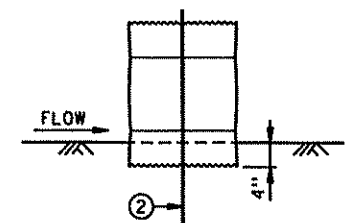
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02/17/2006
SPN
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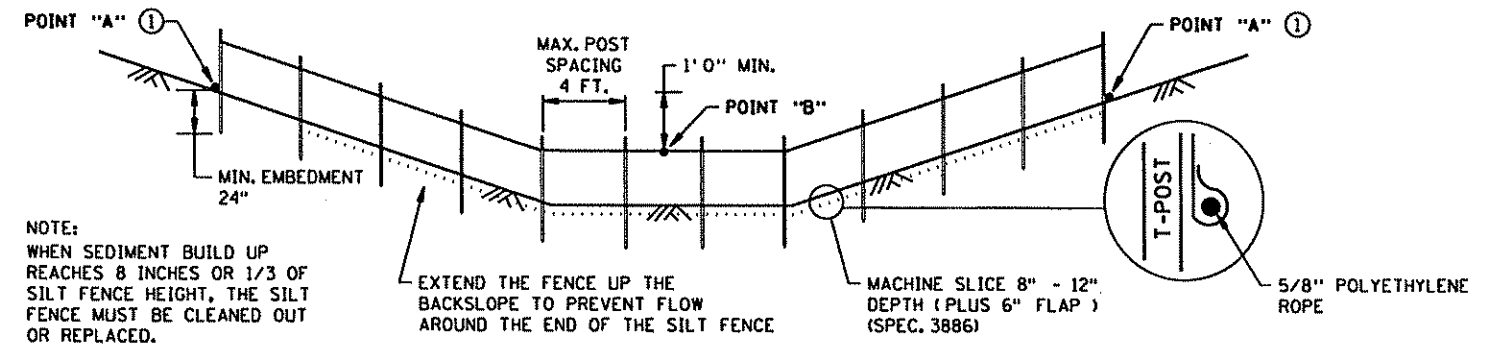
BIOROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



BALE DITCH CHECK
(USED ON ROUGH GRADED SOIL. REMOVE AFTER ROUGH GRADING IS COMPLETED. CAN BE USED AT WETLAND PERIMETERS, ANYTIME)

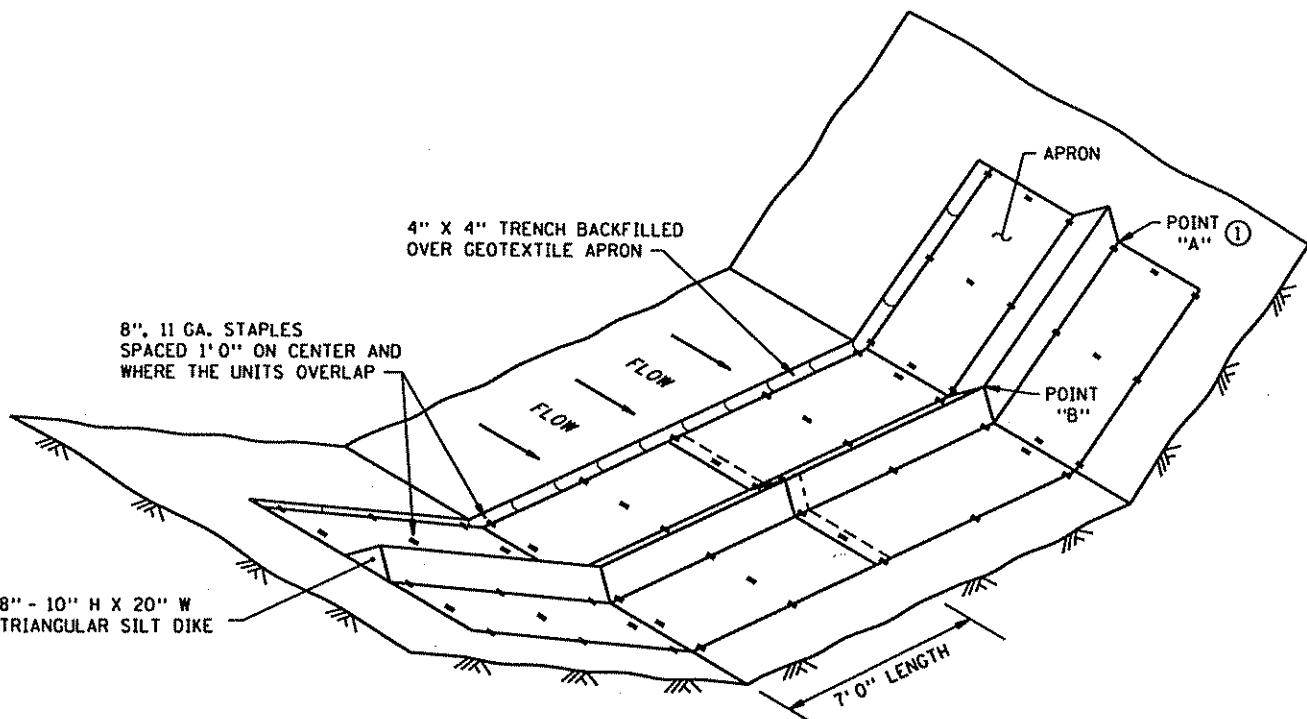


**EMBEDMENT METHOD
BALE CHECK DETAIL**

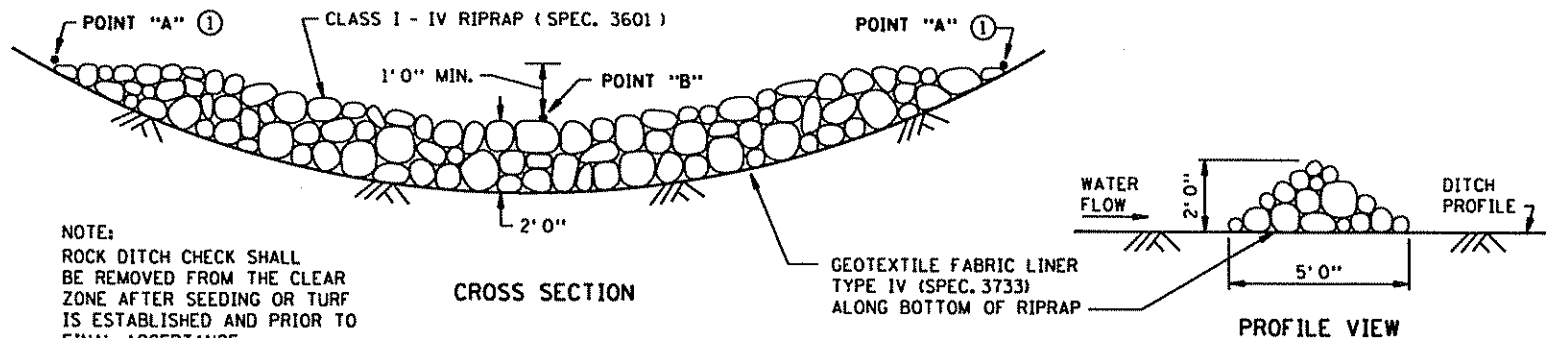


NOTE:
WHEN SEDIMENT BUILD UP REACHES 8 INCHES OR 1/3 OF SILT FENCE HEIGHT, THE SILT FENCE MUST BE CLEANED OUT OR REPLACED.

MACHINE SLICED SILT FENCE
(TYPE 1 SPEC. 3889)



GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)



NOTE:
ROCK DITCH CHECK SHALL BE REMOVED FROM THE CLEAR ZONE AFTER SEEDING OR TURF IS ESTABLISHED AND PRIOR TO FINAL ACCEPTANCE.

ROCK CHECK
(TYPE 7 SPEC. 3889)

NOTES:
SEE SPECS. 2573, 3882, 3885, 3886 & 3889.
SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:
SPACING OF DITCH CHECKS (FT) = $\frac{(\text{HEIGHT OF DITCH CHECK (FT)} \times 100)}{\text{DITCH GRADE IN PERCENT}}$
① POINT A MUST BE 1'0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
② TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

STANDARD SHEET NO. 5-297.405 (3 OF 4)	TITLE: TEMPORARY EROSION CONTROL DITCH CHECKS
STANDARD APPROVED: NOVEMBER 5, 2002	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 53 OF 297 SHEETS	

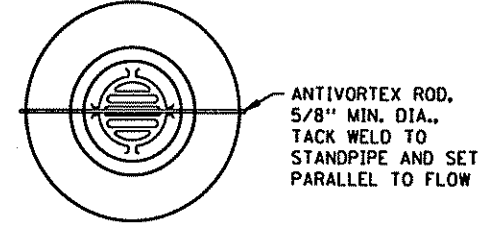
SPN13 OF SPN22

02/16/03 PM

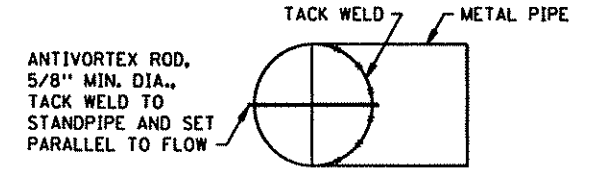
02/17/2006

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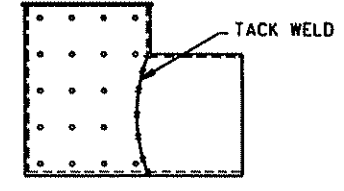
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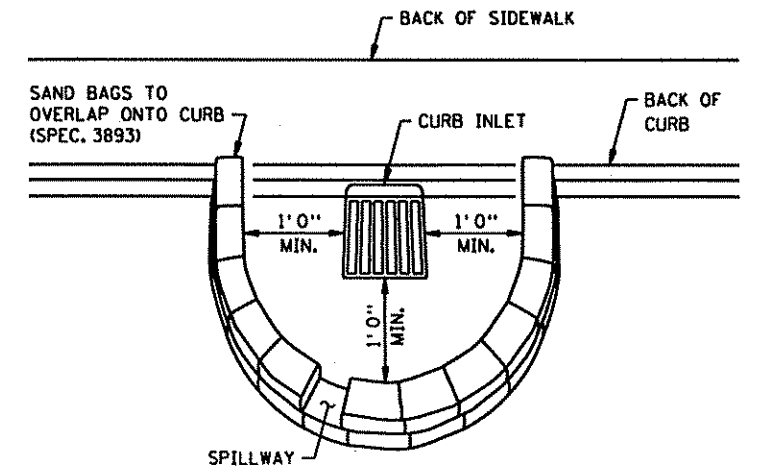
PLAN VIEW



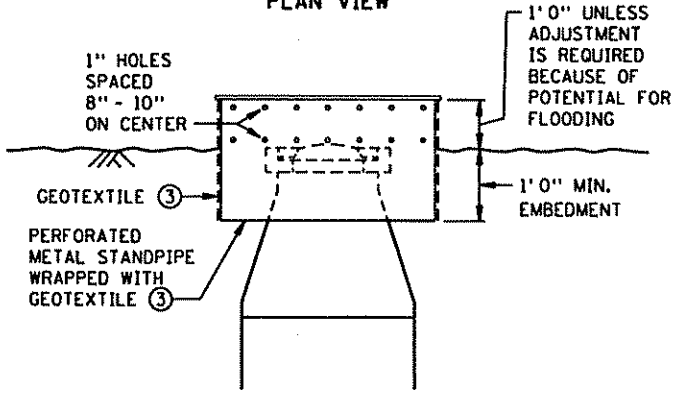
PLAN VIEW



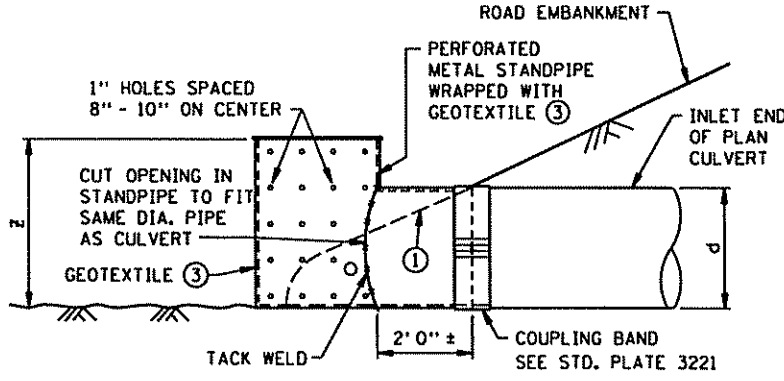
CULVERT STANDPIPE



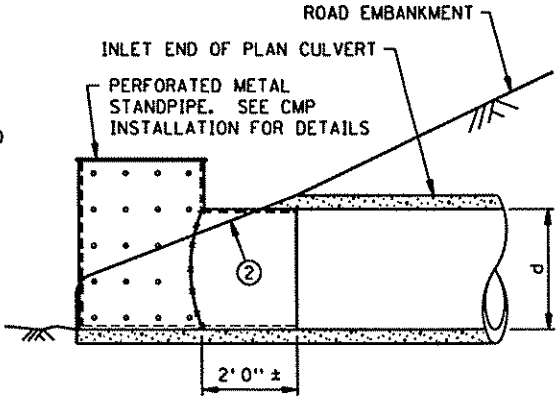
SANDBAG BARRIER AT STREET INLET
 THIS INLET PROTECTION IS USED DURING ROUGH GRADING ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED. (SPEC. 3893)



RISER STANDPIPE TO PROTECT DROP INLET



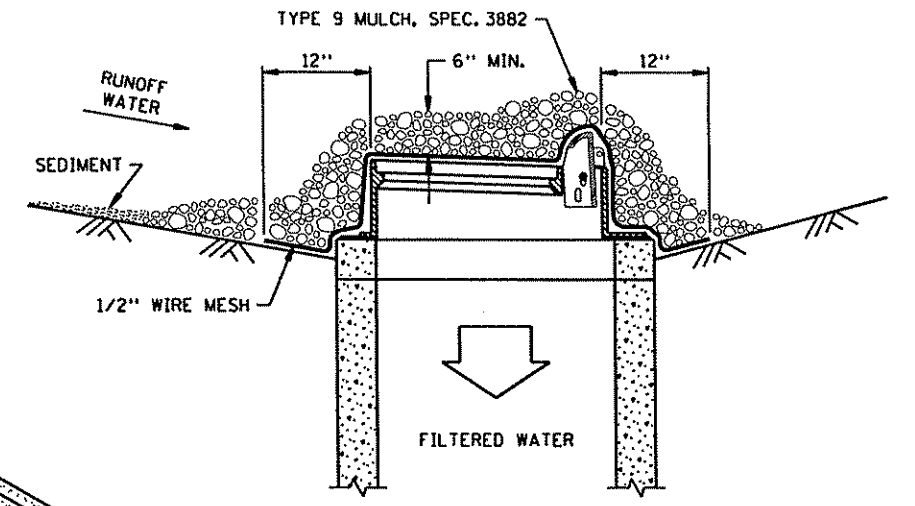
ELEVATION OF CSP INSTALLATION



ELEVATION OF RCP INSTALLATION

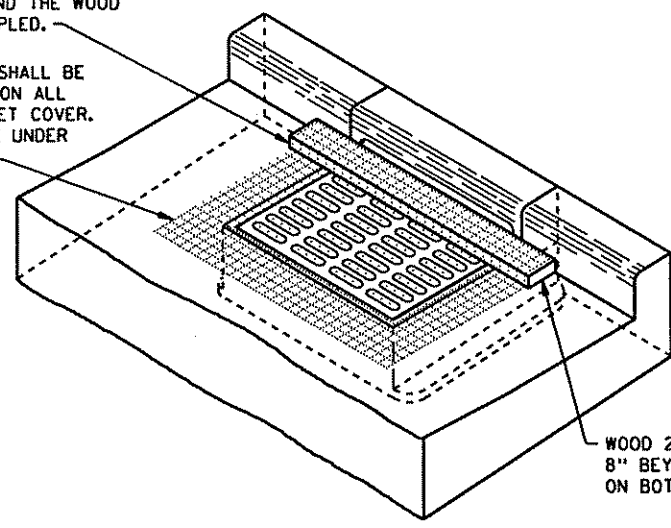
CULVERT STANDPIPE PROTECTION
 FOR SEDIMENT CONTROL ON CULVERT INLET
 (TYPE D SPEC. 3891)

CULVERT SIZE: 12" - 36"
 d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
 Z = LENGTH OF PERFORATED STANDPIPE ($d + 12"$)

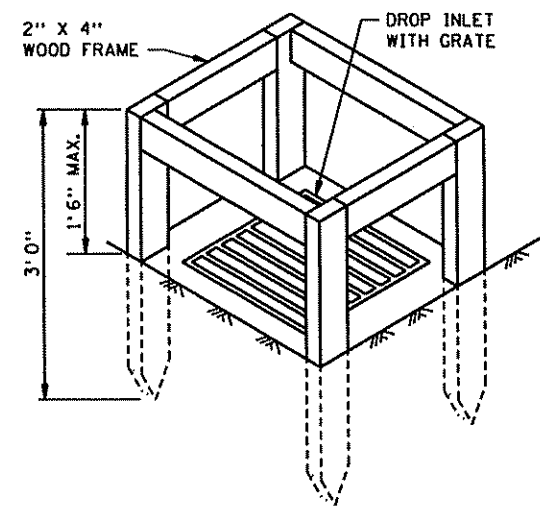


AGGREGATE FILTER AT CURB INLET
 (TYPE B WITHOUT CURB SPEC. 3891)
 (TYPE C WITH CURB SPEC. 3891)

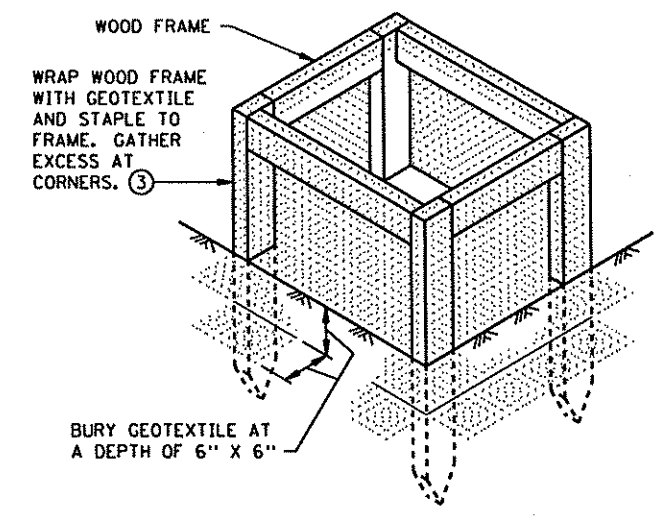
AN ADDITIONAL 18" OF GEOTEXTILE IS WRAPPED AROUND THE WOOD 2" X 4" AND STAPLED.
 GEOTEXTILE SIZE SHALL BE 8" MIN. GREATER ON ALL SIDES OF THE INLET COVER. PLACE GEOTEXTILE UNDER INLET COVER. ③



GEOTEXTILE FILTER AT STREET INLET WITH CURB BOX
 TYPE C SPEC. 3891



SILT FENCE BOX TO PROTECT DROP INLETS
 USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS
 (TYPE A SPEC. 3891)



- NOTES:**
 SEE SPECS. 2573, 3891 & 3893.
 MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① FOR CSP, REMOVE TEMPORARY STANDPIPE AND INSTALL CULVERT APRON AFTER VEGETATION IS ESTABLISHED.
 - ② FOR RCP, INSTALL CULVERT APRON AND SLIDE TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
 - ③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 FOR MACHINE SLICED.

SPN14 OF SPN22

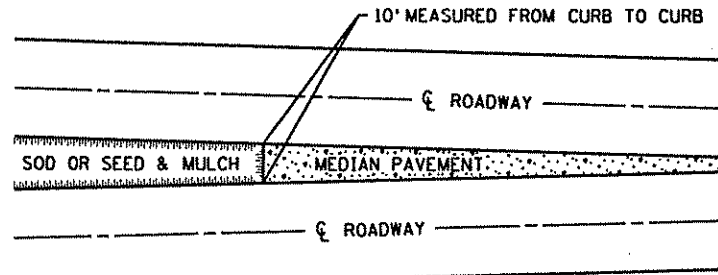
STANDARD SHEET NO. 5-297.405 (4 OF 4)	TITLE: TEMPORARY EROSION CONTROL TEMPORARY INLET PROTECTION
STANDARD APPROVED: NOVEMBER 5, 2002	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 54 OF 297 SHEETS	

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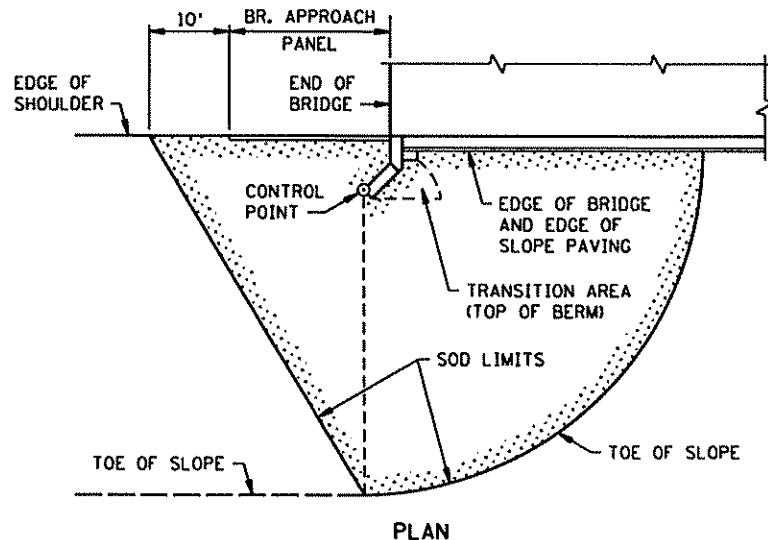
02/17/2006

SPA

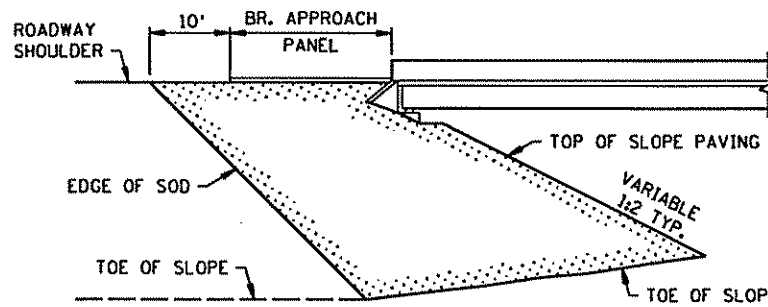
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SODDING LIMITS AT GORE AREA

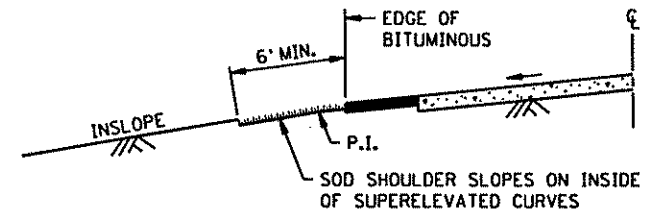


PLAN

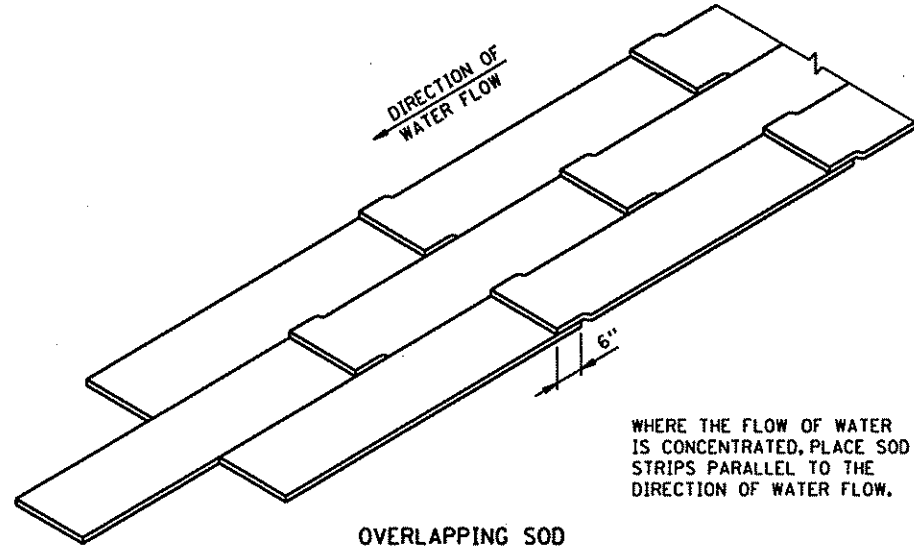


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

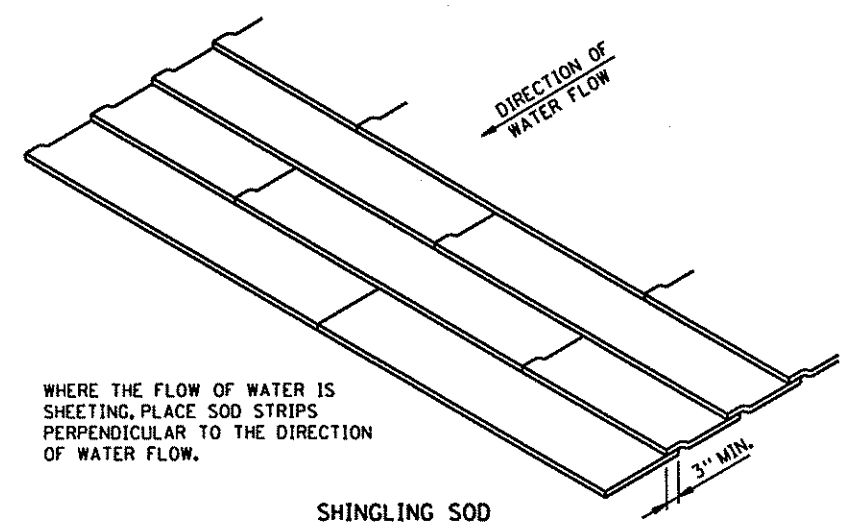


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

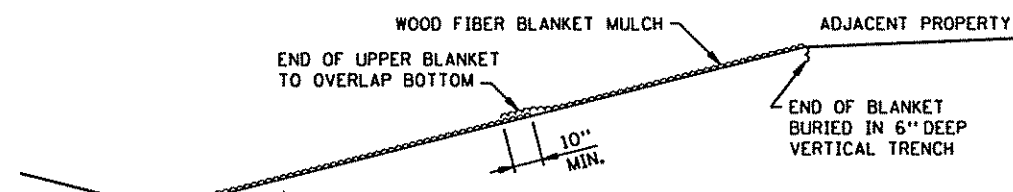
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



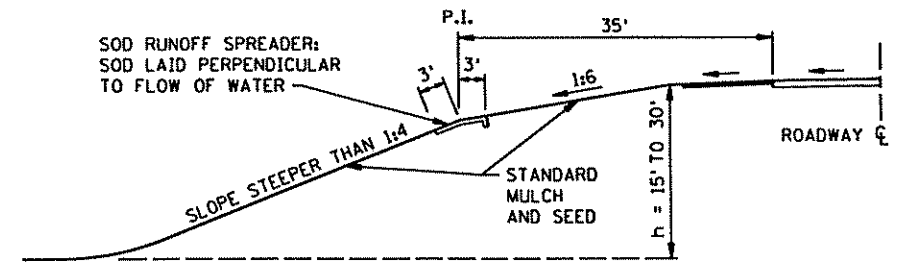
SHINGLING SOD

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

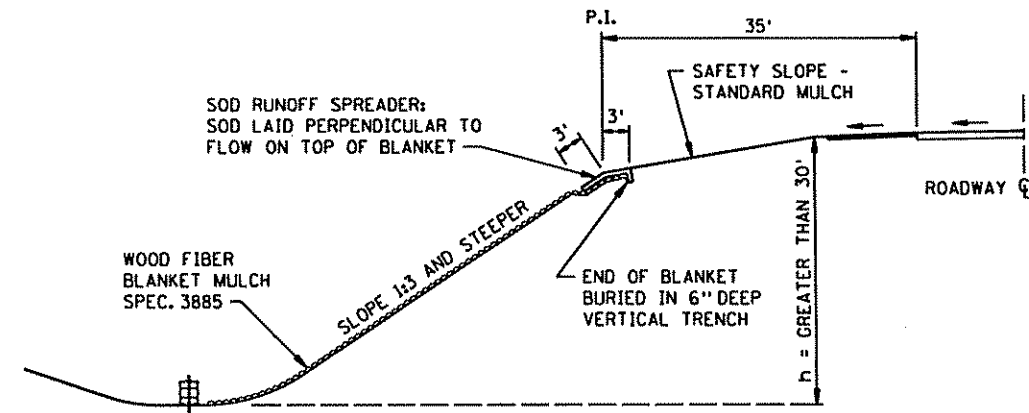
SPECIAL SOD PLACEMENT TECHNIQUES



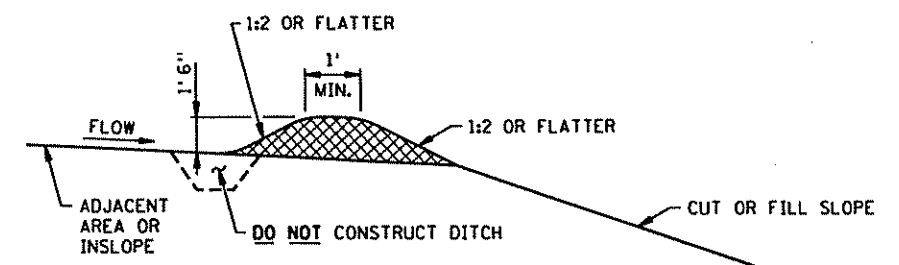
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

SPN15 OF SPN22

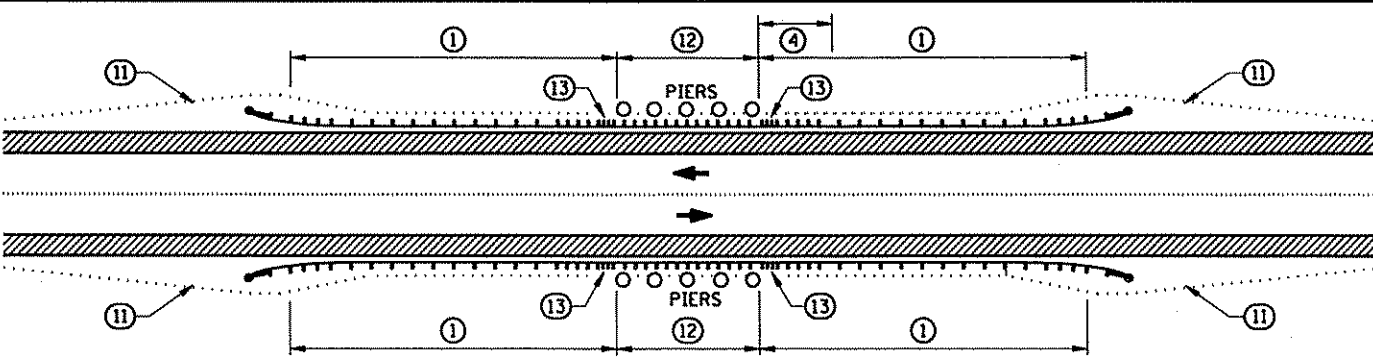
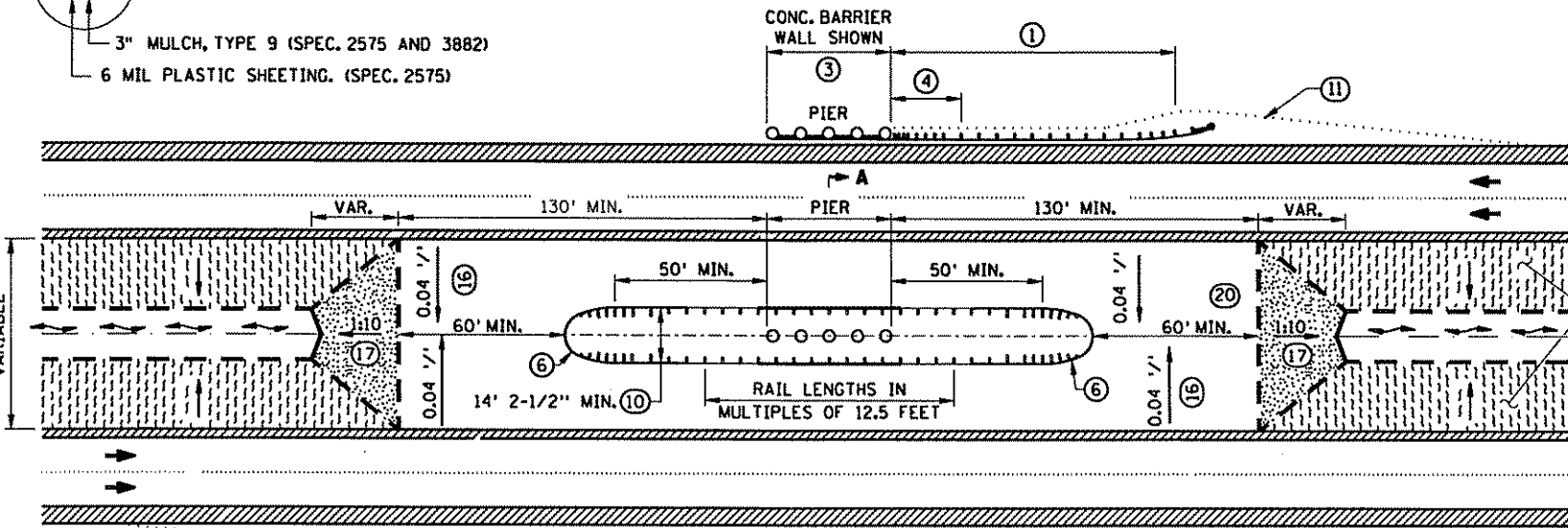
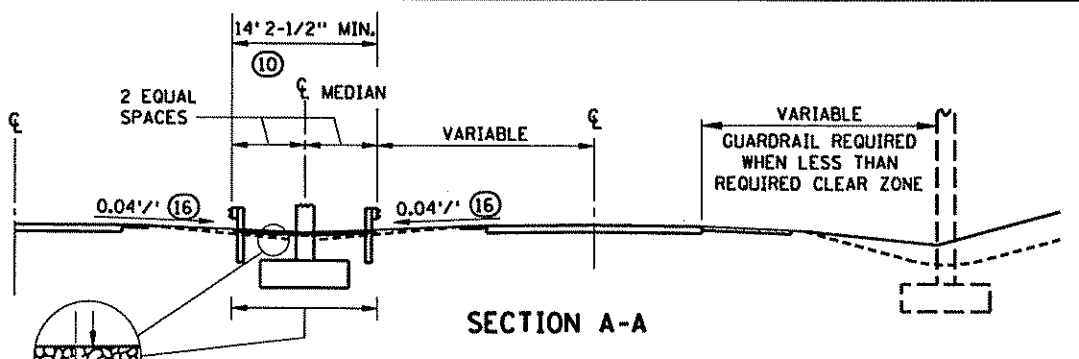
STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
REVISION DATE 10-26-2000	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 55 OF 297 SHEETS	

02/16/57 PM

02/17/2006

SPN

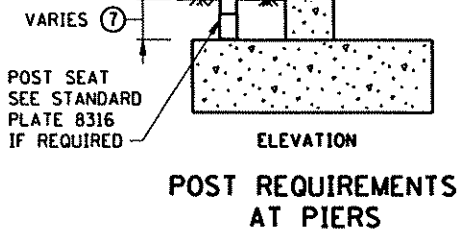
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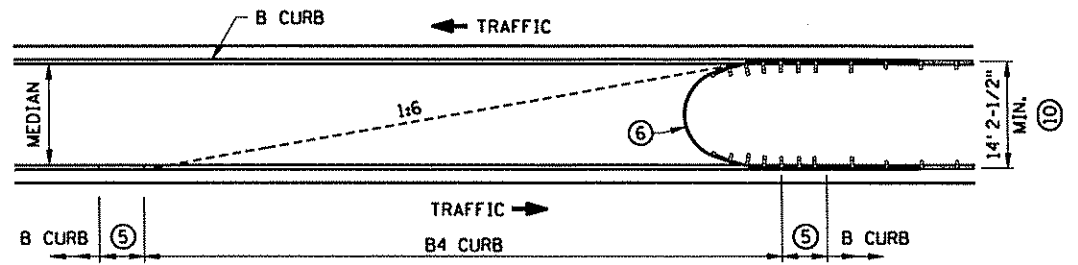
TWO-WAY UNDERPASS

ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL

6' 3" POST SPACING	3' 0"
6' 3" POST SPACING WITH DOUBLE NESTED RAIL	2' 8"
MODIFIED 3' 1-1/2" POST SPACING	2' 3"
MODIFIED POST SPACING WITH DOUBLE NESTED RAIL	2' 0"

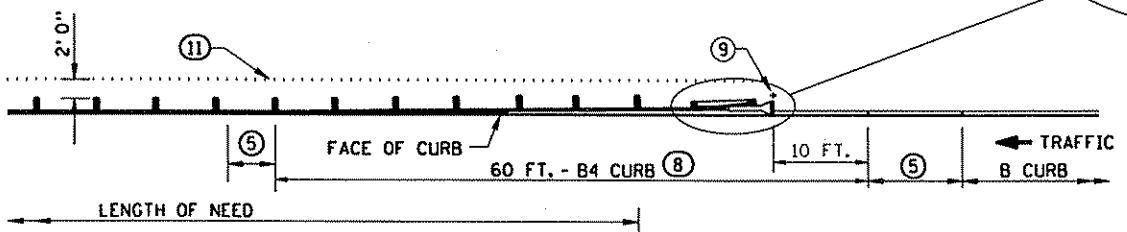


POST REQUIREMENTS AT PIERS

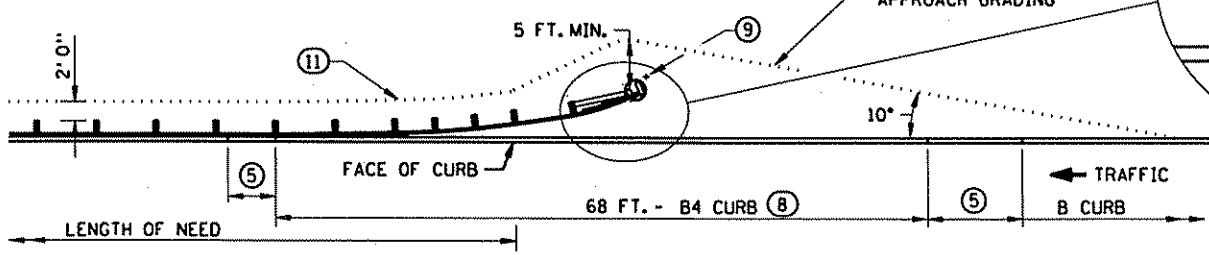


MODIFIED CURB AT RAISED MEDIAN

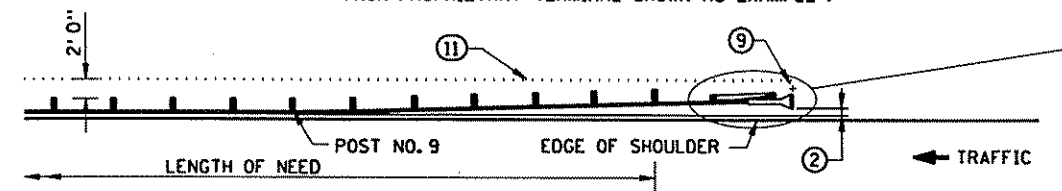
UNDERPASS-DEPRESSED MEDIAN



PLAN VIEW MODIFIED CURB



PLAN VIEW MODIFIED CURB AND SLOPE (NON-PROPRIETARY TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW NO CURB

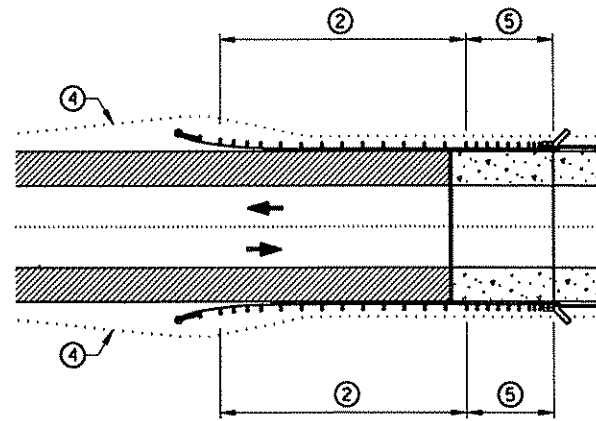
NOTES:

- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.
- ① FOR REQUIRED LENGTH OF INSTALLATION SEE ROAD DESIGN MANUAL CHAPTER 10.
- ② THE LAST 50 FT. OF TANGENT TERMINALS MAY BE FLARED AT 1:50 TAPER.
- ③ CONC. BARRIER WALL BETWEEN PIER COLUMNS MAY BE USED. STD. PLAN 5-297.610. SEE SHEET NO. ... FOR WALL DETAILS. CONNECT GUARDRAIL TO BARRIER WALL ANCHORAGE PLATE, SEE SHEET NO. ... FOR DETAILS.
- ④ AN APPROVED TRANSITION MUST BE USED.
- ⑤ 10 FT. CURB TRANSITION, USE IF ADJACENT CURB IS GREATER THAN 4 INCHES.
- ⑥ THREE BEAM BULLNOSE. SEE SHEET SPN20 - SPN22 FOR DETAILS.
- ⑦ IF EMBEDMENT IS GREATER THAN 3 FT. 0 IN., OR IF EMBEDMENT IS 2 FT. 6 IN. TO 3 FT. 0 IN. AND ADJACENT POSTS ARE EMBEDDED 3 FT. 0 IN. OR MORE, POST SEAT IS NOT REQUIRED.
- ⑧ FOR CURB 6 IN. OR HIGHER, MILL TO 3 IN. HEIGHT.
- ⑨ SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND. EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
- ⑩ MEASUREMENT IS FROM BACK OF RAIL TO BACK OF RAIL.
- ⑪ 1:10 OR FLATTER SLOPE P.I..
- ⑫ SEE ESTIMATED DESIGN DEFLECTION TABLE FOR DESIGN B W-BEAM GUARDRAIL.
- ⑬ WHEN CLOSE POST SPACING OR DOUBLE NESTED RAIL IS USED, THIS POST SPACING SHOULD EXTEND A MINIMUM OF 12 FT. IN THE DIRECTION OF APPROACHING TRAFFIC.
- ⑭ THE ANCHOR ASSEMBLY MUST BE LOCATED DOWNSTREAM OF THE HAZARD.
- ⑮ MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING) STRIPES SLOPED DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.
- ⑯ 0.04 FT./FT. CROSS SLOPE TYPICAL. 0.10 FT./FT. CROSS SLOPE MAXIMUM.
- ⑰ 1:10 SLOPE OR FLATTER.
- ⑱ USE ONLY FOR RETROFITS WITH SITE RESTRICTIONS. FOR RETROFITS WITHOUT SITE RESTRICTIONS AND NEW CONSTRUCTION, SEE SHEET 3.
- ⑲ MEDIAN GRADING DETAIL SHOWN APPLIES TO THREE-BEAM BULLNOSE ONLY.
- ⑳ DRAINAGE DETAILS SHOWN ON GRADING PLAN.

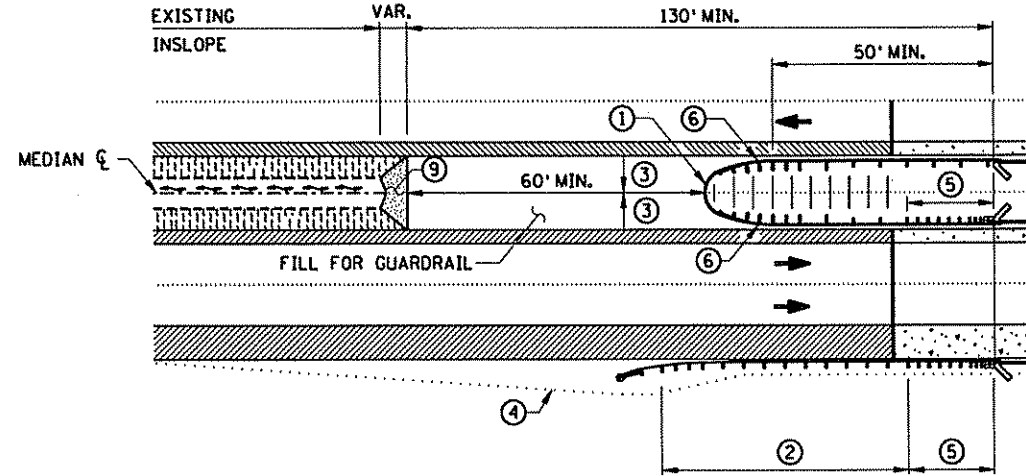
SPN16 OF SPN22

STANDARD SHEET NO.
5-297.601 (1 OF 3)
STANDARD APPROVED:
AUGUST 17, 2005

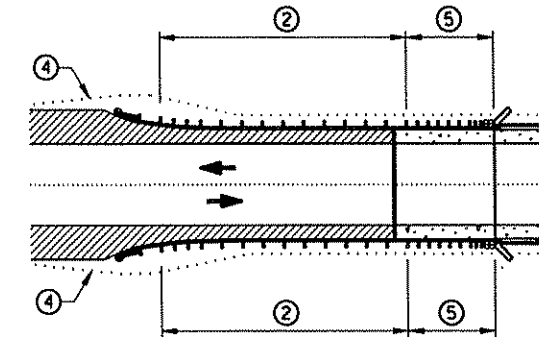
TITLE:
GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS



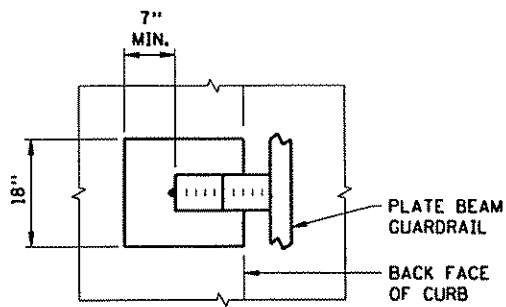
**TWO - WAY BRIDGE
WITH FULL SHOULDERS**



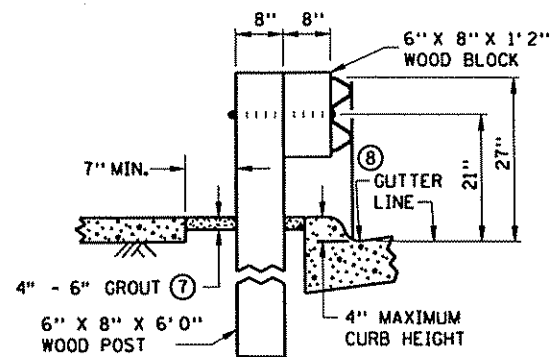
**ONE - WAY BRIDGE
WITH FULL RIGHT SHOULDER
(FOR 14' 2-1/2" THRIE BEAM BULLNOSE)**



**TWO - WAY BRIDGE
WITHOUT FULL SHOULDERS**

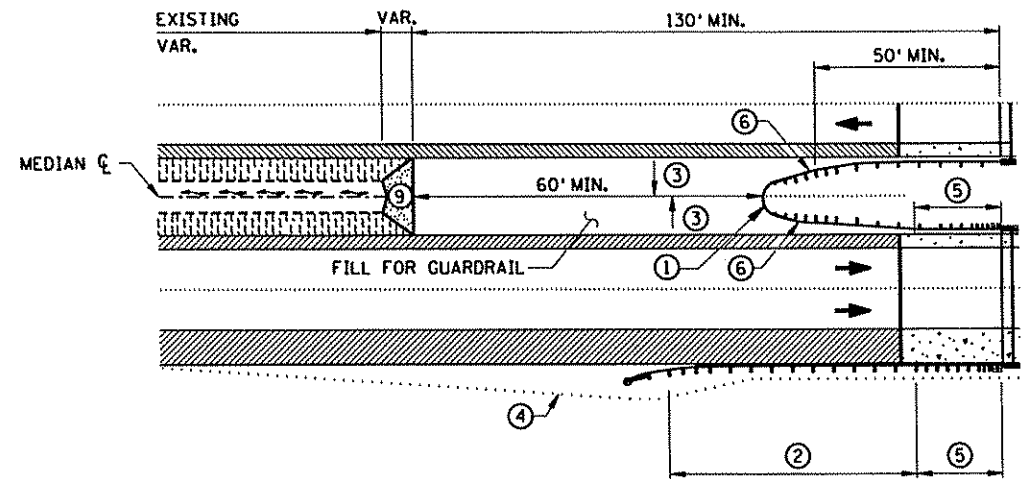


PLAN VIEW



ELEVATION

**TYPICAL SECTION AT POST
SET IN CONCRETE**



**ONE - WAY BRIDGE
WITH FULL RIGHT SHOULDER
(FOR MEDIANS WIDER THAN 14' 2-1/2" THRIE BEAM BULLNOSE)**

NOTES:

- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- THE LATEST APPROVED VERSION OF STANDARD PLATES SHOWN OR AS INDICATED IN THE PLANS SHALL APPLY.
- ① THRIE BEAM BULLNOSE, SEE SHEET SPN20 - SPN22 FOR DETAILS.
- ② FOR THE REQUIRED LENGTH SEE ROAD DESIGN MANUAL CHAPTER 10.
- ③ 0.04 FT./FT. CROSS SLOPE TYPICAL, 0.10 FT./FT. CROSS SLOPE MAXIMUM.
- ④ 1:10 OR FLATTER SLOPE P.I.. APPROACH GRADING VARIES WITH TERMINAL TYPE.
- ⑤ PLATE BEAM GUARDRAIL ATTACHMENTS TO FIXED OBJECTS REQUIRE AN APPROVED TRANSITION SECTION.
- ⑥ FOR MEDIANS WIDER THAN THE 14 FT. 2-1/2 IN., BEFORE TAPERING THE APPROACH SIDE TAPER THE OPPOSING SIDE AS SHOWN ON THE BULLNOSE DESIGN DETAIL. APPROACH TAPER SHOULD NOT EXCEED 1:25 IF THE BARRIER IS WITHIN THE SHY LINE OR 1:15 IF IT IS OUTSIDE.
- ⑦ TWO-SACK GROUT MIX (BY VOLUME: 1 PART CEMENT, 14 PARTS SAND, 5 PARTS WATER).
- ⑧ PLACE FRONT FACE OF W-BEAM DIRECTLY ABOVE FRONT FACE OF CURB.
- ⑨ 1:10 SLOPE OR FLATTER.

SPN17 OF SPN22

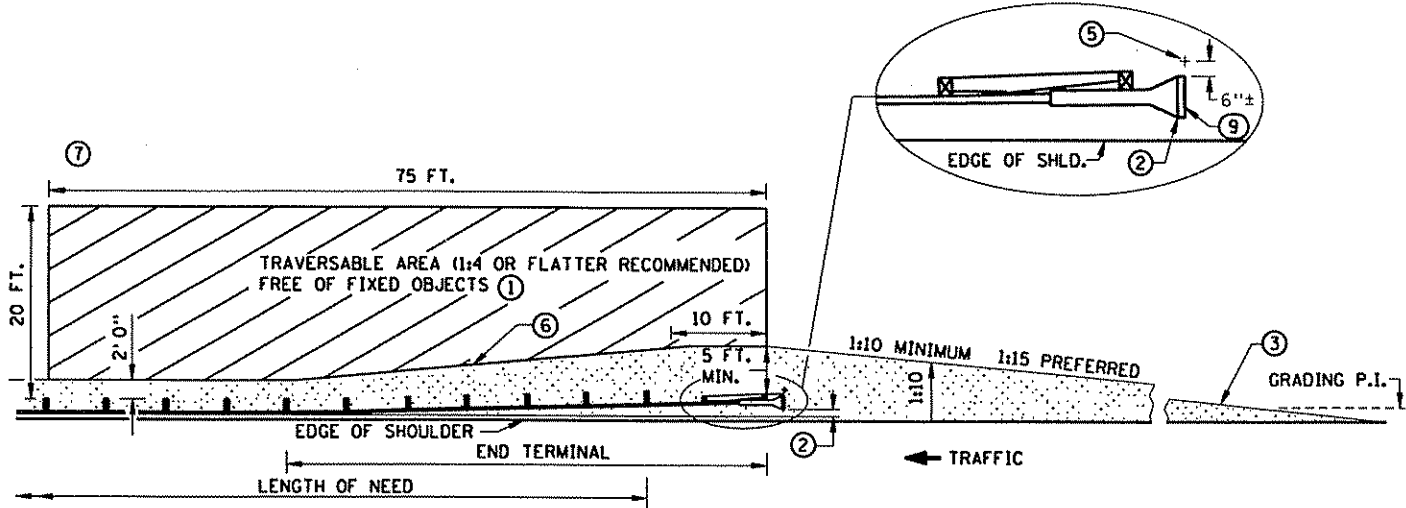
STANDARD SHEET NO. 5-297.601 (2 OF 3)	TITLE GUARDRAIL INSTALLATIONS AT MEDIANS AND END TREATMENTS
STANDARD APPROVED: AUGUST 17, 2005	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 57 OF 297 SHEETS	

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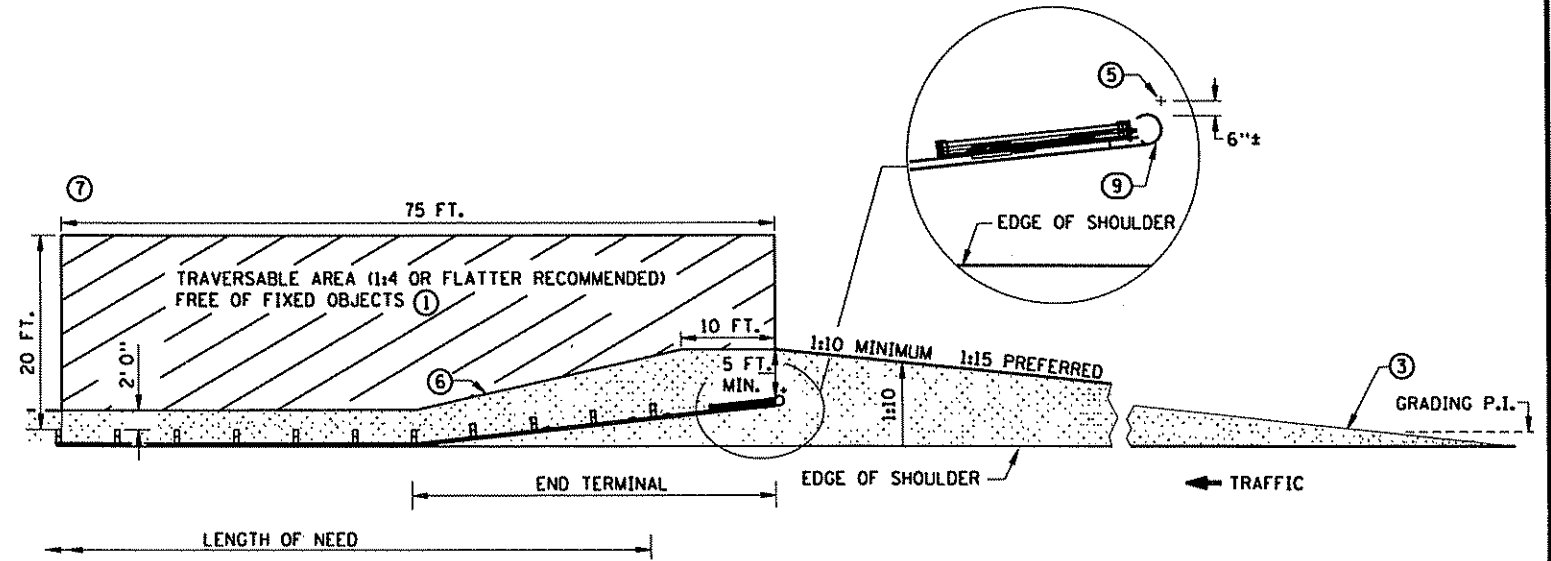
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SPA

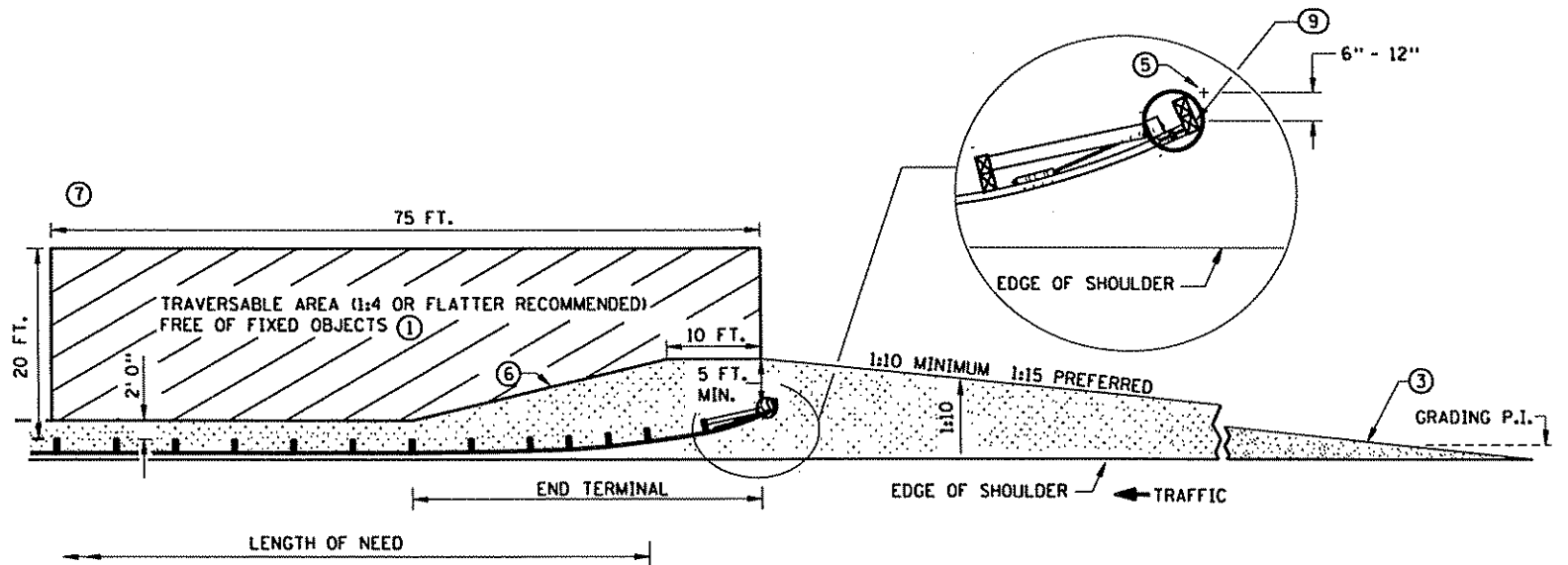
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PLAN VIEW
(PROPRIETARY TANGENT TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ⑧
(PROPRIETARY FLARED TERMINAL SHOWN AS EXAMPLE)



PLAN VIEW ④ ⑧
(ELT)

NOTES:

- ALL CROSS SLOPES ARE IN FOOT/FOOT UNLESS OTHERWISE NOTED.
- ALL GUARDRAIL POSTS SHALL BE 6 FT. 3 IN. CENTER TO CENTER (DESIGN B), EXCEPT WHERE NOTED.
- CHANGES (TO SUBJECTS COVERED BY THIS SHEET) INDICATED IN THE PLANS OR ON PLATES WITH MORE RECENT APPROVAL DATES SHALL APPLY.
- GRADING AND DRAINAGE HARDWARE ARE NOT INCIDENTAL TO GUARDRAIL INSTALLATION.
- ① SLOPES BETWEEN 1:3 AND 1:4 PERMITTED WHEN 1:4 OR FLATTER IS NOT POSSIBLE. FOR SLOPES STEEPER THAN 1:3 THE AREA IMMEDIATELY BEHIND AND BEYOND THE END TERMINAL SHOULD, AT LEAST, BE SIMILAR IN CROSS SECTION TO THE UNSHIELDED ROADSIDE AREA UPSTREAM OF THE END TERMINAL.
- ② THE LAST 50 FT. OF TANGENT TERMINALS CAN BE FLARED AT 1:50 TAPER.
- ③ WHEN GRADING PLATFORMS ARE BUILT, THEY MUST BE SMOOTHLY TRANSITIONED TO EXISTING SIDE SLOPE SO THE ENTIRE ROADSIDE APPROACH TO THE BARRIER REMAINS TRAVERSABLE, AS WELL AS THE AREA IMMEDIATELY BEHIND IT.

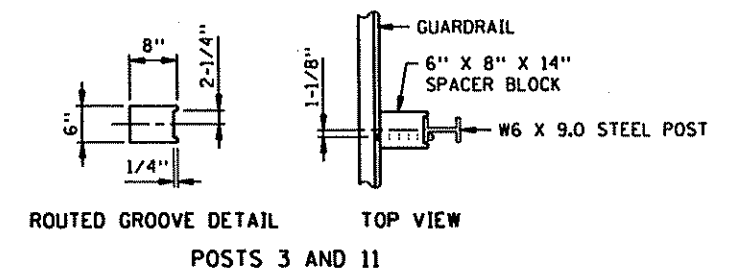
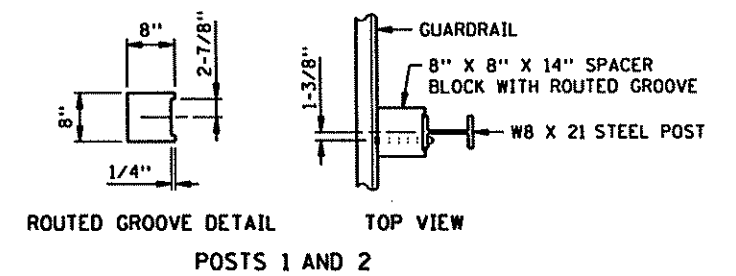
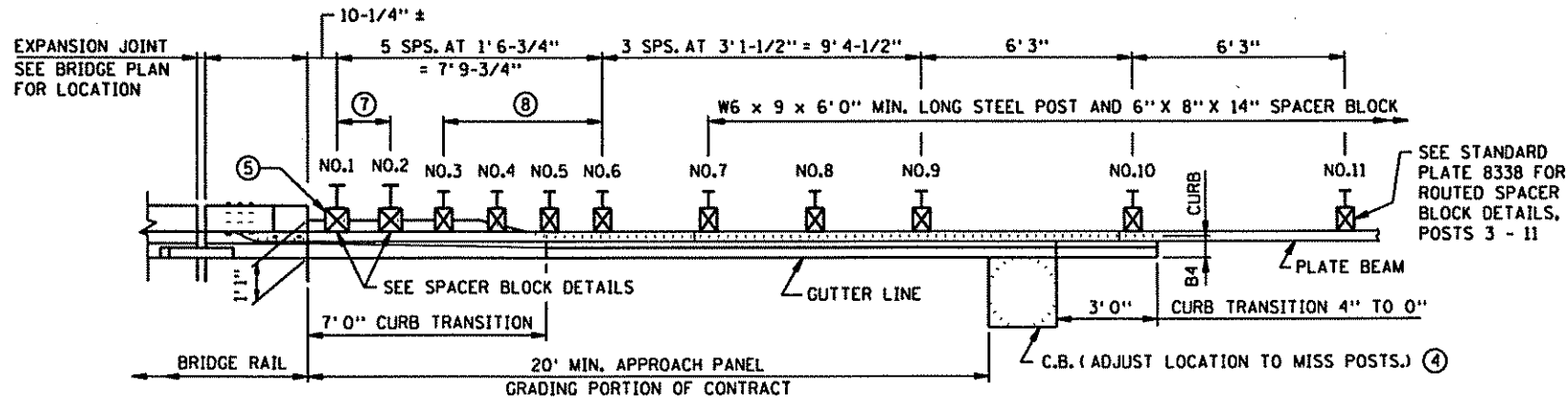
- ④ SEE STANDARD PLATE 8329.
- ⑤ SNOWPLOW MARKER (X4-5) WITH A 2 LB./FT. DELINEATOR POST 8 FT. LONG (SPEC. 3401) DRIVEN INTO THE GROUND, EXTEND 3 FT. ABOVE TERMINAL. THE MARKER IS INCIDENTAL FOR WHICH NO DIRECT PAYMENT WILL BE MADE. MARK BOTH THE BEGINNING AND END OF PLATE BEAM GUARDRAIL INSTALLATION.
- ⑥ 1:10 OR FLATTER SLOPE P.I..
- ⑦ GRADUALLY BLEND SLOPE FROM TRAVERSABLE AREA TO STEEP EXISTING SLOPE (WHEN SLOPE IS STEEPER THAN 1:6).
- ⑧ IF THE TERRAIN BEYOND THE TERMINAL END AND IMMEDIATELY BEHIND THE BARRIER IS NOT SAFELY TRAVERSABLE, A TANGENT (ENERGY- ABSORBING) TERMINAL SHALL BE USED.

- ⑨ MARK THE APPROACH END OF PLATE BEAM GUARDRAIL INSTALLATIONS WITH A STRIPED OBJECT MARKER SIZED TO FIT THE END TERMINAL, HAVING ALTERNATING BLACK AND REFLECTIVE YELLOW (WIDE ANGLE PRISMATIC RETROREFLECTIVE SHEETING), STRIPES SHALL SLOPE DOWNWARD AT A 45 DEGREE ANGLE TOWARD THE SIDE ON WHICH TRAFFIC PASSES. FOR FLAT END TREATMENTS THE OBJECT MARKER SHALL FIT INSIDE THE RECESSED AREA. FOR ROUNDED END TREATMENTS THE OBJECT MARKER SHALL WRAP AROUND THE CIRCULAR END AND BE MOUNTED SO THE TOP OF THE OBJECT MARKER LINES UP WITH THE TOP OF THE END TREATMENT.

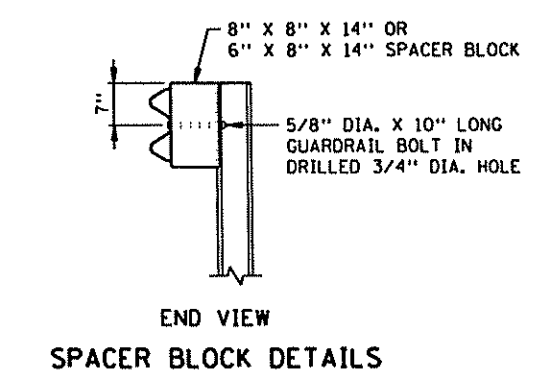
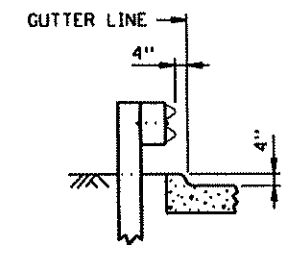
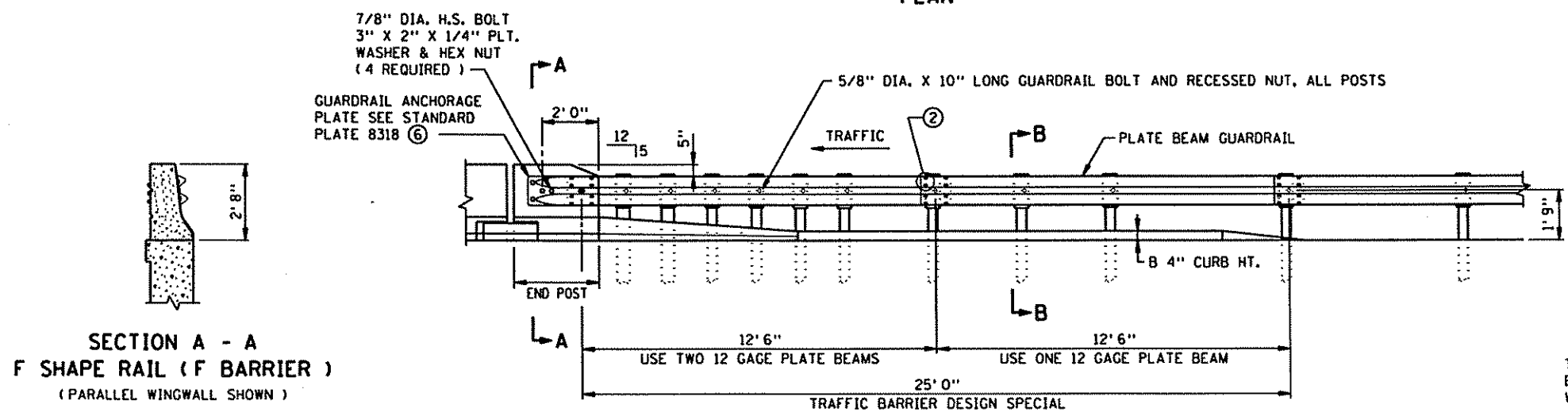
SPN18 OF SPN22

STANDARD SHEET NO. 5-297.601 (3 OF 3)	TITLE: GUARDRAIL INSTALLATIONS AT MEDIANS & END TREATMENTS (FOR NEW CONSTRUCTION AND RETROFITS WITHOUT SITE RESTRICTIONS)
STANDARD APPROVED: AUGUST 17, 2005	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 58 OF 297 SHEETS	

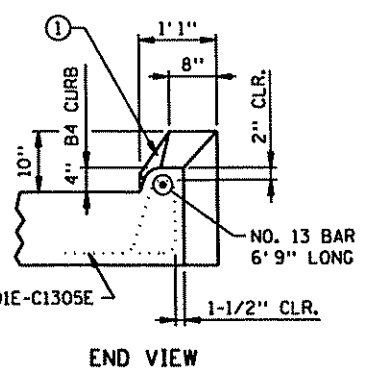
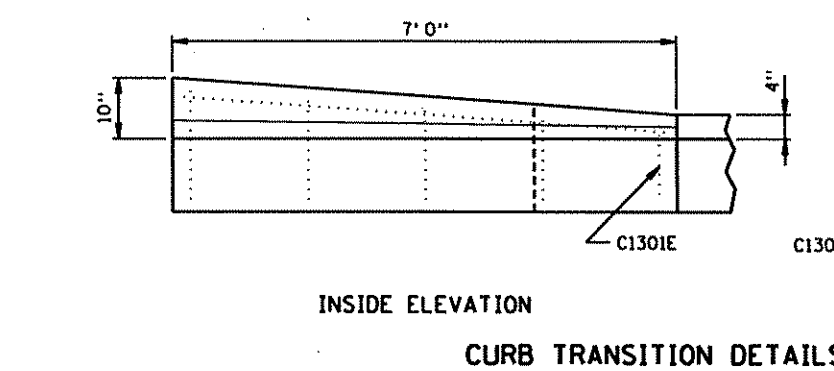
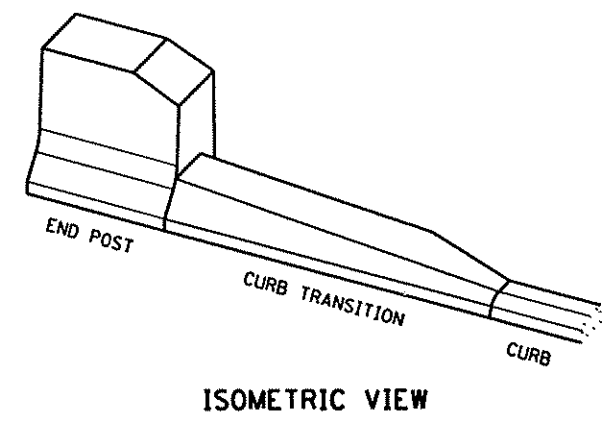
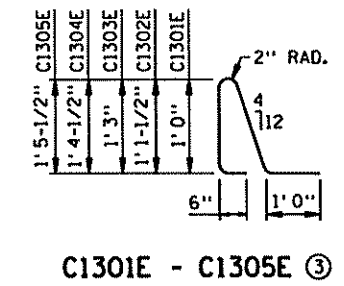
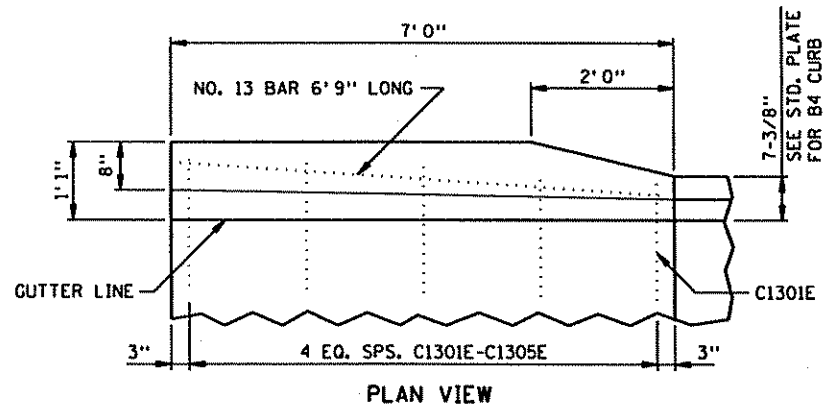
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PLAN



ELEVATION



CURB TRANSITION DETAILS

NOTES:

- ① ALL REBARS ARE IN METRIC DESIGNATIONS
- ① END OF TRANSITION TO MATCH BRIDGE RAIL SURFACE.
- ② 5/8" DIA. X 1-1/4" LONG GUARDRAIL BOLTS AND NUTS TYPICAL AT SPLICES.
- ③ REINFORCEMENT TO BE EPOXY COATED AS PER SPEC. 3301.
- ④ SEE ROAD PLANS TO VERIFY ACTUAL DIMENSION AND LOCATION.
- ⑤ ADDITIONAL BLOCKING MAY BE REQUIRED TO CLEAR BRIDGE STRUCTURE. VERIFY IN FIELD.
- ⑥ SANDWICH ANCHOR PLATE BETWEEN RAIL BEAMS.
- ⑦ POSTS 1 AND 2 TO BE W8 x 21 x 8'0" MINIMUM LONG STEEL POST AND 8" x 8" x 14" SPACER BLOCK.
- ⑧ POSTS 3, 4, 5, AND 6 TO BE W6 x 9 x 6'0" MIN. LONG STEEL POST AND 6" x 8" x 14" SPACER BLOCK.

TRAFFIC BARRIER DESIGN SPECIAL SPN19 OF SPN22

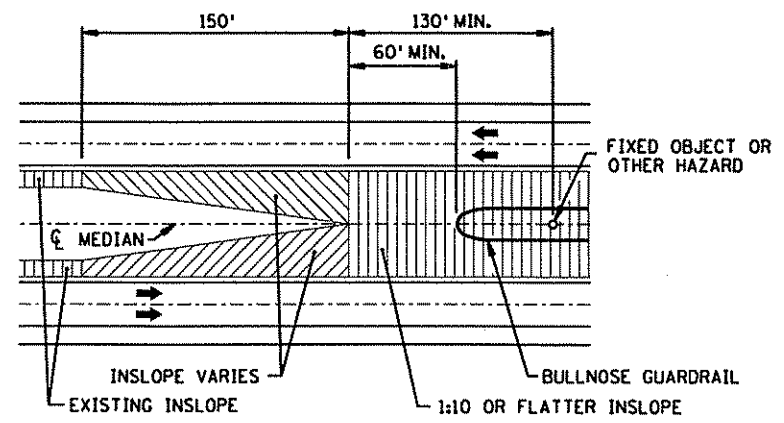
STANDARD SHEET NO. 5-297.603	TITLE NEW W-BEAM TRANSITION TO CONCRETE F-SHAPE SAFETY RAIL WITH APPROACH CURB (STEEL POST)
STANDARD APPROVED: DECEMBER 20, 2001	
S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 59 OF 297 SHEETS	

02/17/04 PM

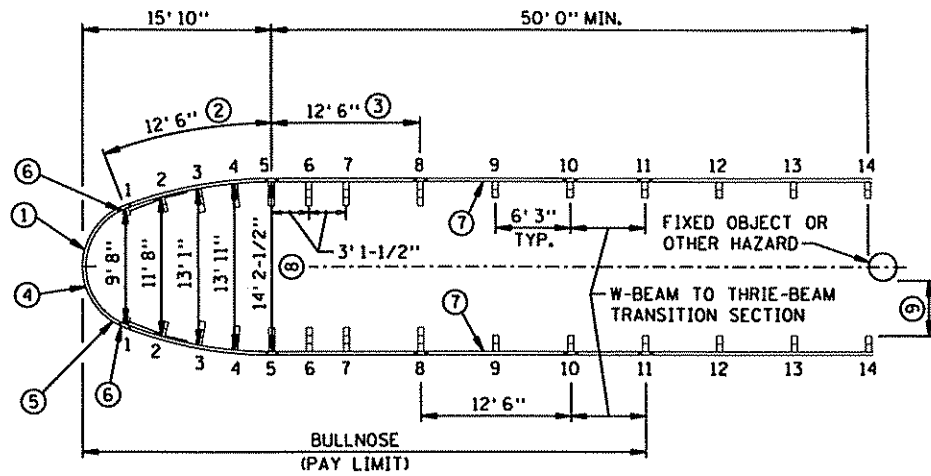
02/17/2006

SPN

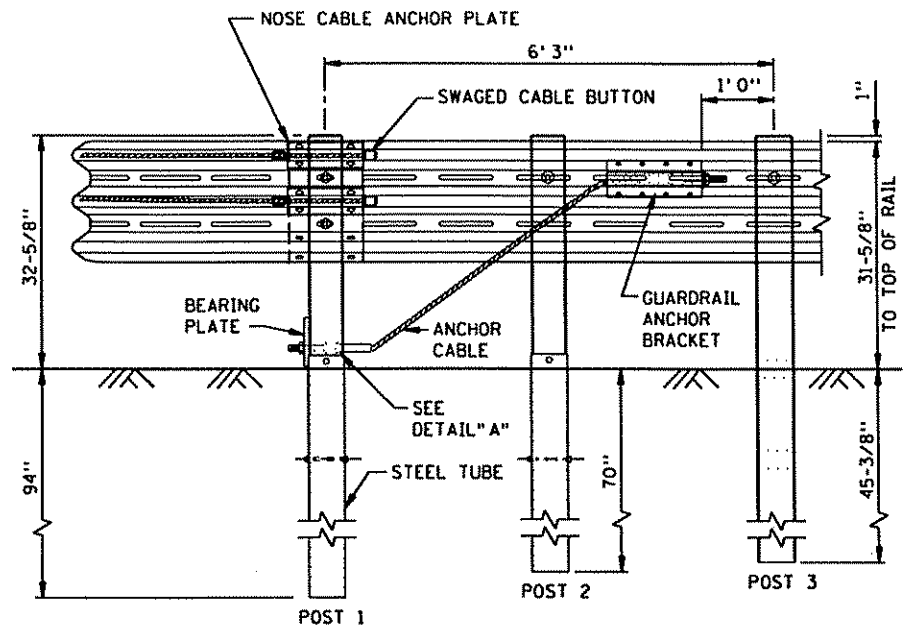
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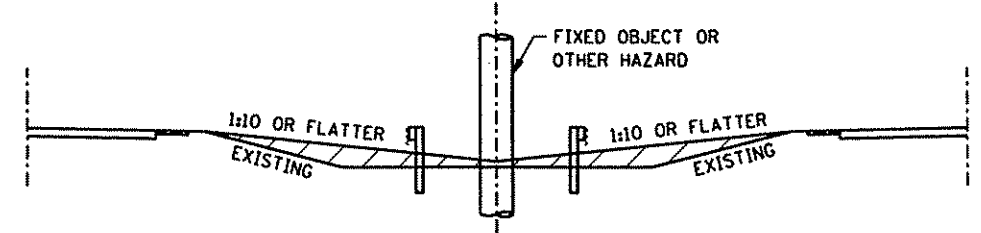
GRADING AT BULLNOSE (DEPRESSED MEDIAN)



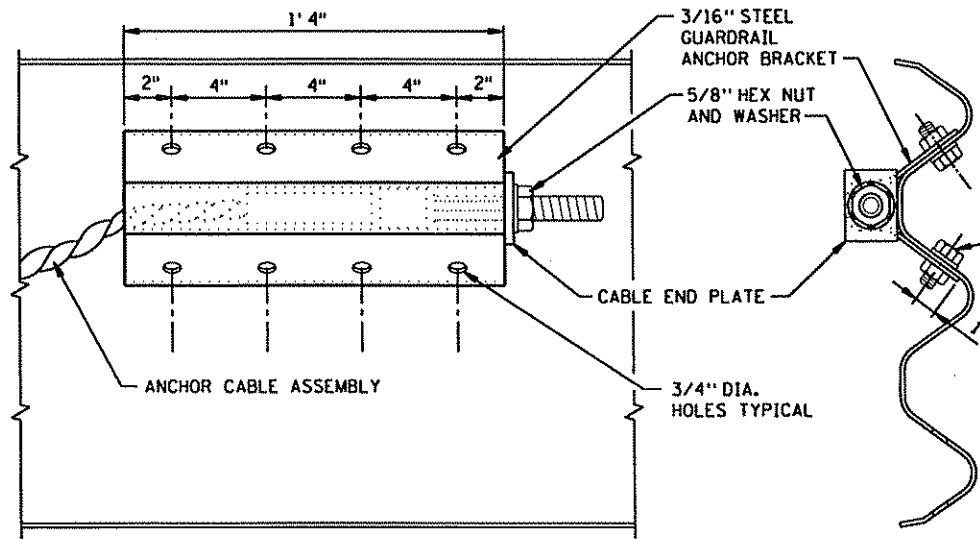
PLAN VIEW DETAILS OF BULLNOSE



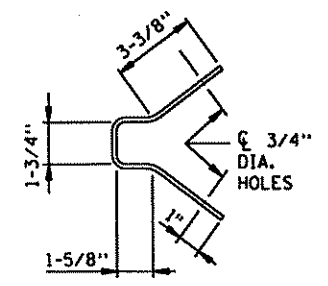
ELEVATION BULL NOSE ASSEMBLY



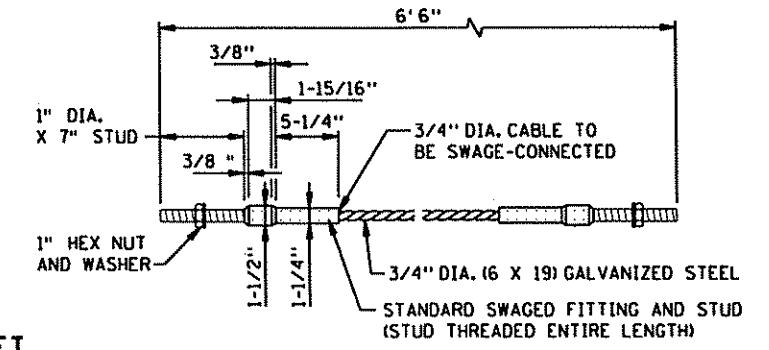
MEDIAN GRADING SECTION (AT FIXED OBJECT)



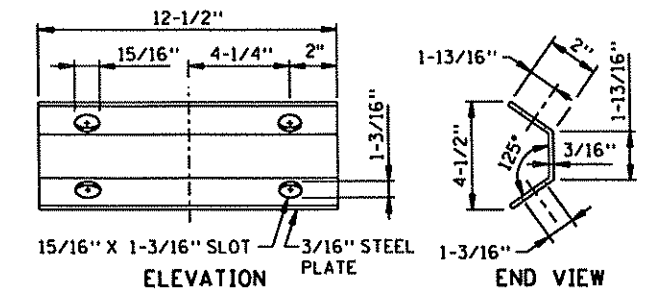
FRONT VIEW GUARDRAIL ANCHOR BRACKET DETAILS



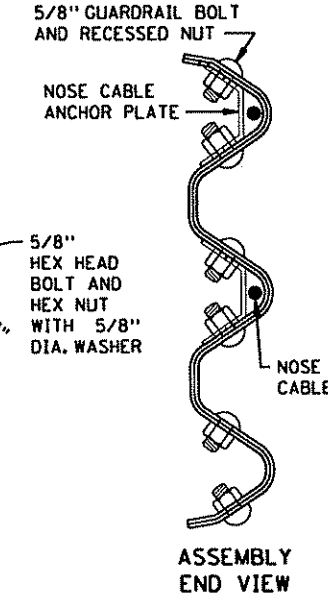
END VIEW GUARDRAIL ANCHOR BRACKET



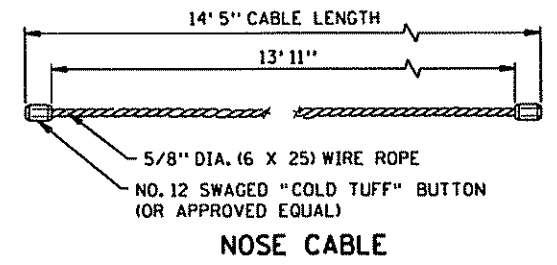
ANCHOR CABLE ASSEMBLY DETAILS



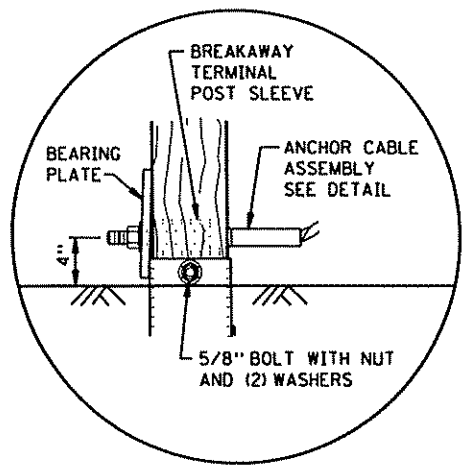
ELEVATION END VIEW NOSE CABLE ANCHOR PLATE



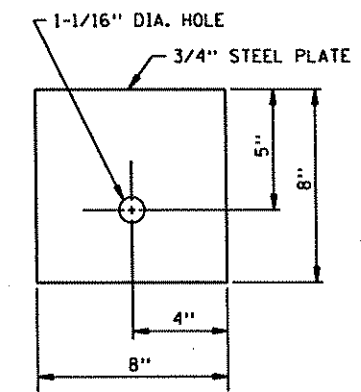
ASSEMBLY END VIEW NOSE CABLE ANCHOR PLATE DETAILS



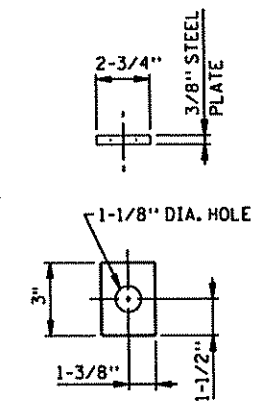
NOSE CABLE



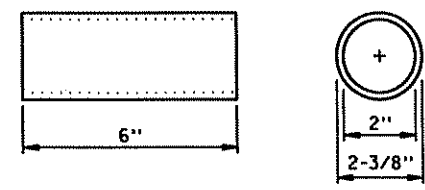
DETAIL "A"



BEARING PLATE



CABLE END PLATE



BREAKAWAY TERMINAL POST SLEEVE

NOTES:

- OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.
- ALTERNATE HARDWARE DESIGNS WILL BE CONSIDERED FOR APPROVAL PROVIDED THEIR CONNECTION DETAILS, FOR THE PURPOSE OF MAINTENANCE SUBSTITUTIONS, ARE COMPATIBLE WITH THE DETAILS OF THIS STANDARD AND THEIR OPERATING CHARACTERISTICS ARE SIMILAR TO THOSE OF THE HARDWARE SHOWN IN THIS STANDARD.
- BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
- SEE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" FOR ADDITIONAL HARDWARE INFORMATION. THE MN/DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL GOVERN.
- ① SLOTTED RAIL NO. 1, 12' 6", SHOP BEND TO R=5' 3"
- ② SLOTTED RAIL NO. 2, 12' 6", SHOP BEND TO R=34' 2"
- ③ SLOTTED RAIL NO. 3, 12' 6", TANGENT
- ④ U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- ⑤ NOSE CABLE W/SWAGED END BUTTONS
- ⑥ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- ⑦ THRIE-BEAM GUARDRAIL, 12' 6".
- ⑧ MEASUREMENTS ARE FROM BACK OF RAIL TO BACK OF RAIL. FOR GUARDRAIL LAPPING DETAIL, SEE SHEET 2 OF 3.
- ⑨ MINIMUM DESIGN DEFLECTION FOR BARRIER USED.

SPN20 OF SPN22

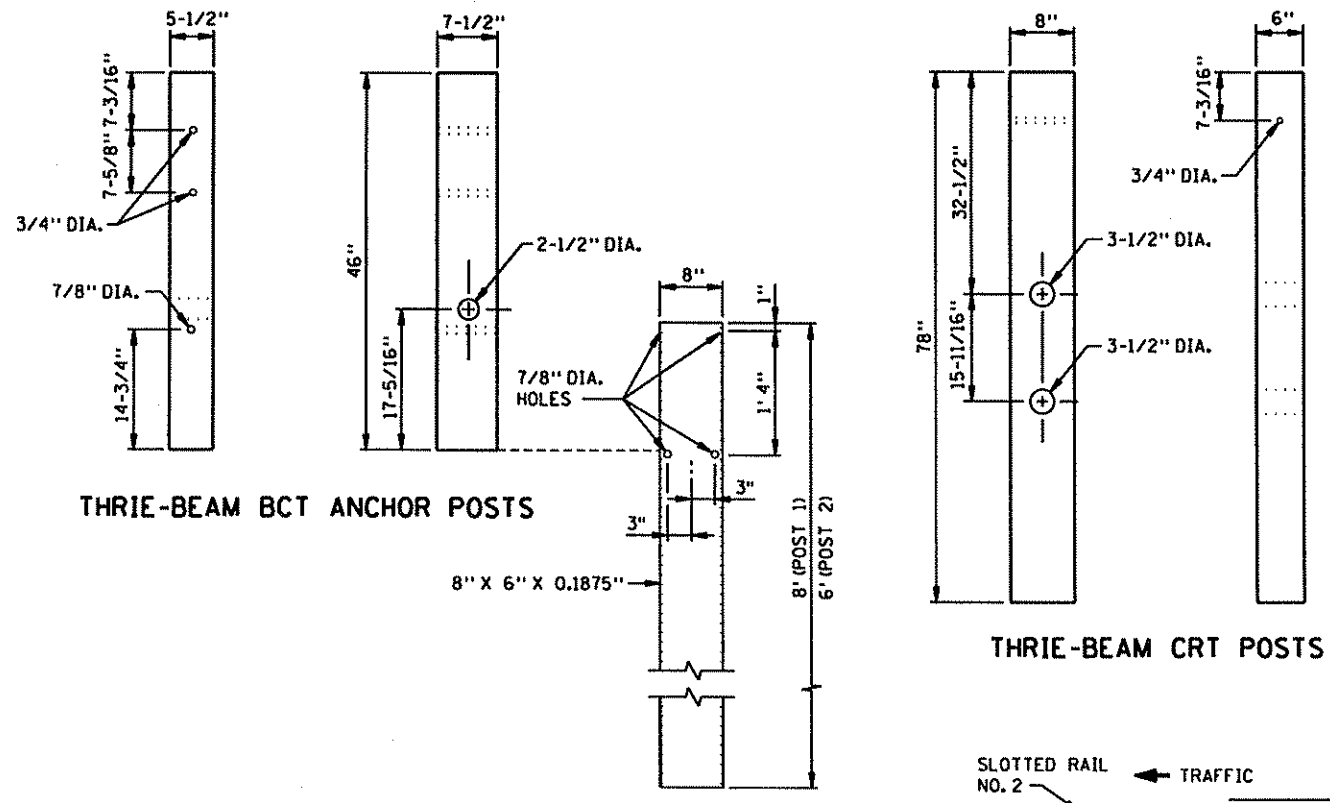
STANDARD SHEET NO.
5-297.611 (1 OF 3)
STANDARD APPROVED:
AUGUST 20, 2001

THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS
(14' 2-1/2" WIDTH)

REVISION DATE 7-11-02

S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 60 OF 297 SHEETS

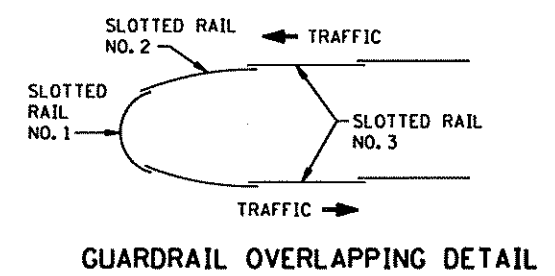
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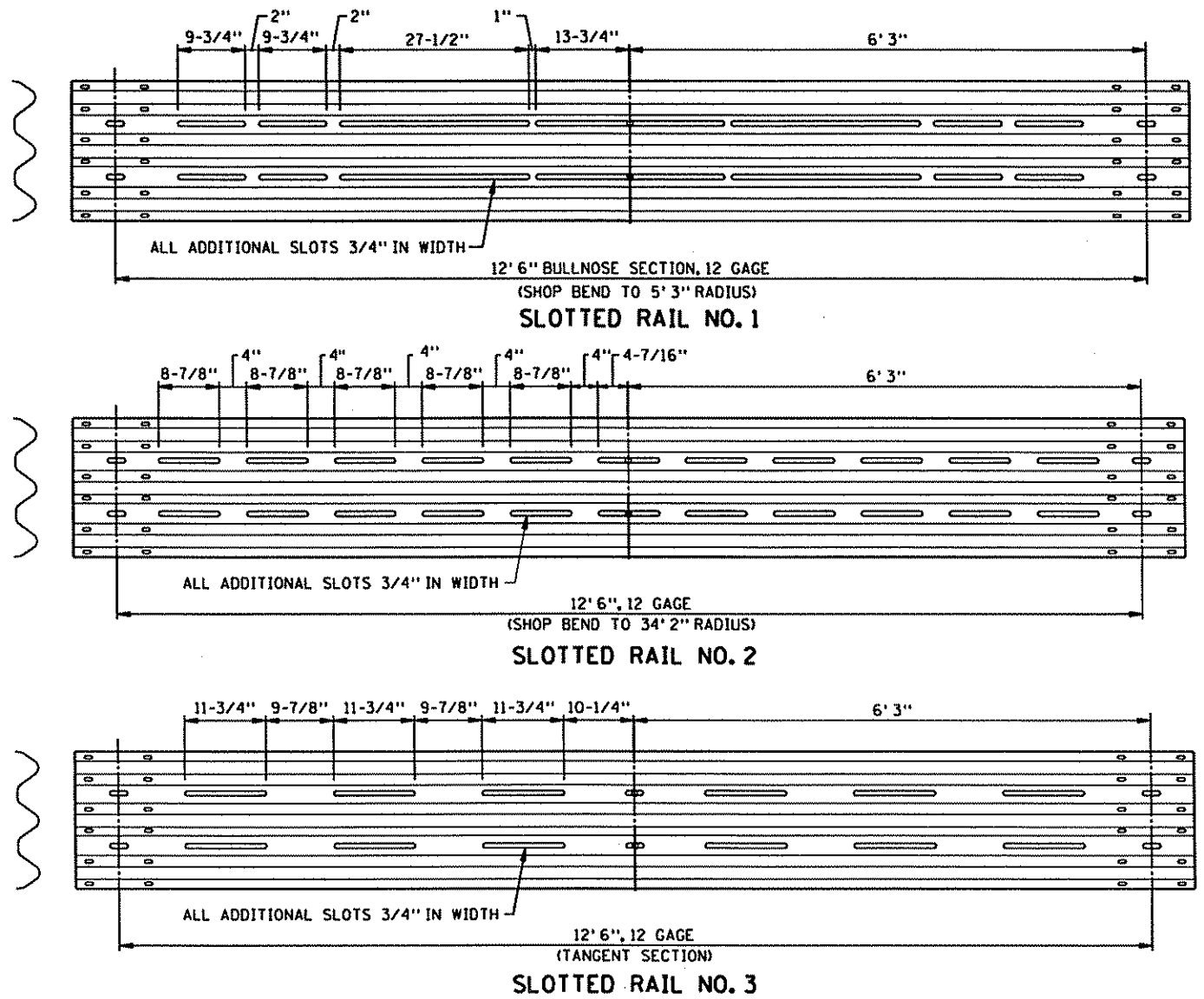
THRIE-BEAM BCT ANCHOR POSTS

THRIE-BEAM CRT POSTS

STEEL TUBE



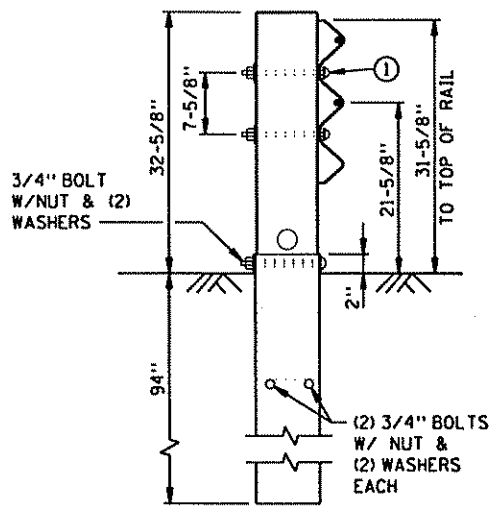
GUARDRAIL OVERLAPPING DETAIL



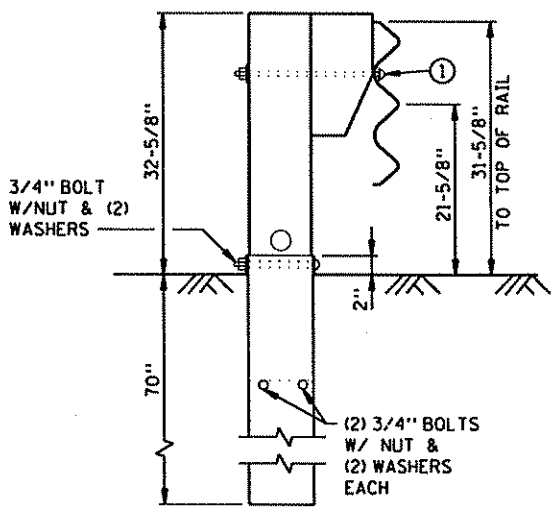
SLOTTED RAIL NO. 1

SLOTTED RAIL NO. 2

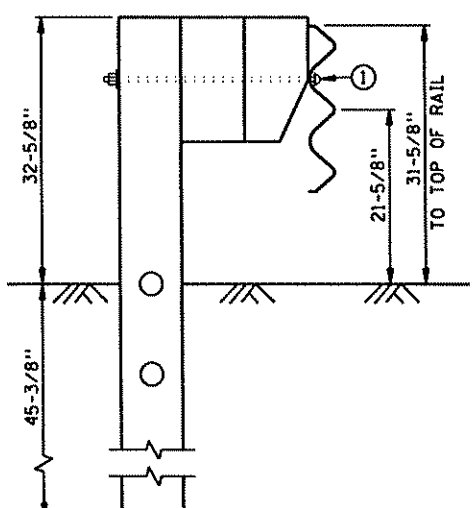
SLOTTED RAIL NO. 3



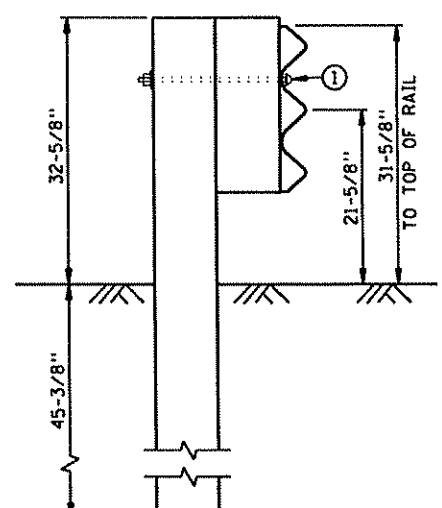
THRIE-BEAM BCT POST
(WITH 96" STEEL TUBE)
POST NO. 1



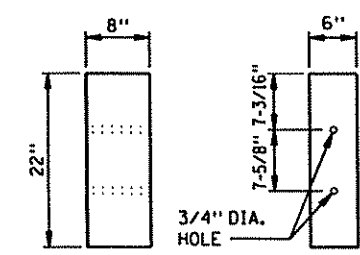
THRIE-BEAM BCT POST
(WITH 72" STEEL TUBE
AND 14" TAPERED BLOCK)
POST NO. 2



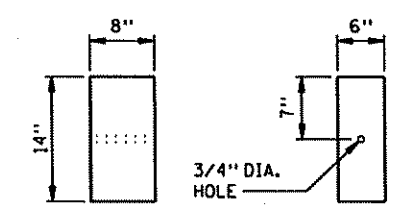
THRIE-BEAM CRT POST
(78" LONG WITH 14" BLOCK
AND 14" TAPERED BLOCK)
POST NO. 3, 4, 5, 6, 7, & 8



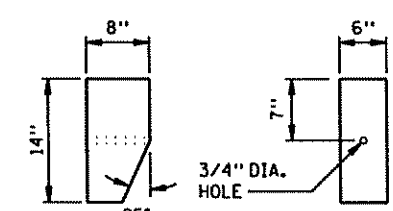
THRIE-BEAM POST
(6" X 8" X 78" LONG POST
WITH 6" X 8" X 22" BLOCK)
POST NO. 9 & 10



STANDARD
22" LONG BLOCK



STANDARD BLOCK



TAPERED BLOCK

NOTES:
① 5/8" DIA. BUTTON HEAD BOLT X LENGTH AS REQUIRED,
SECURED WITH WASHER AND HEX NUT.

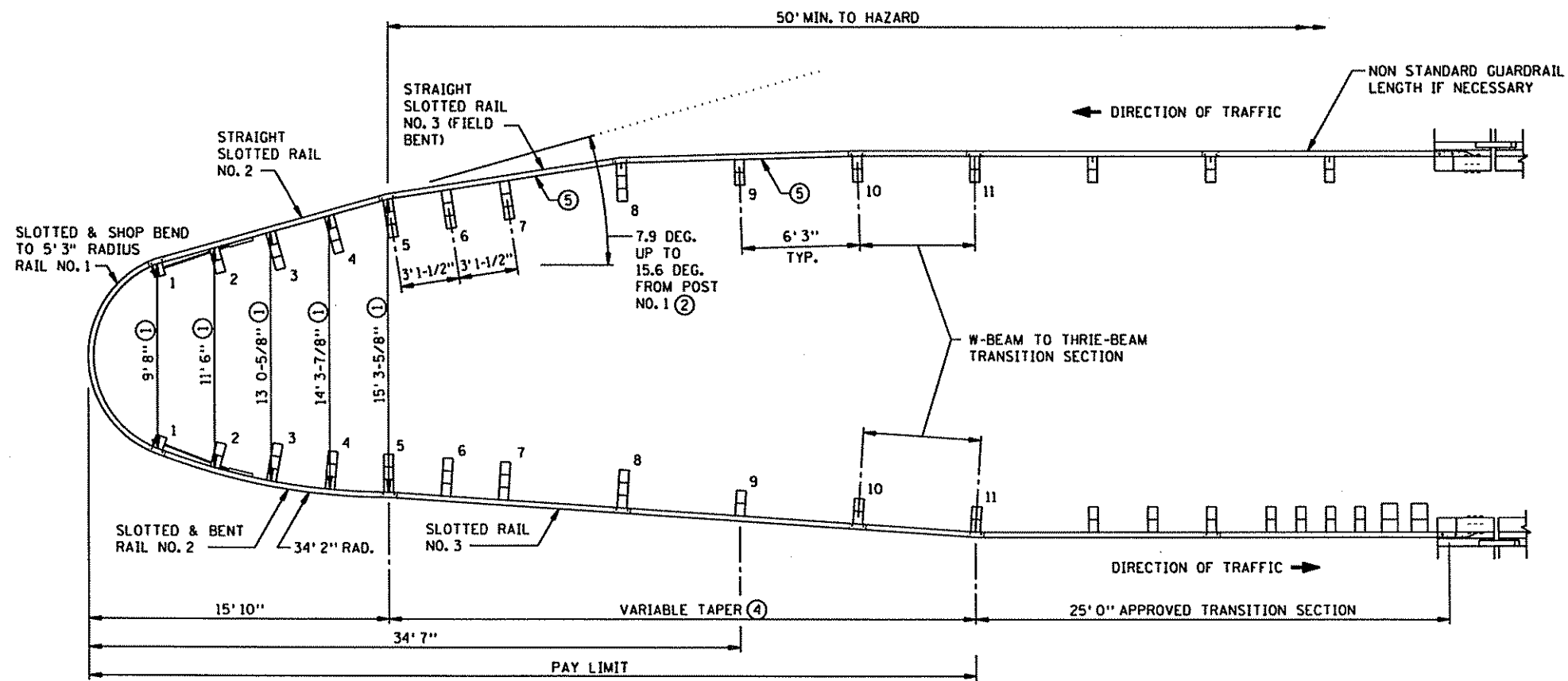
STANDARD SHEET NO. 5-297.611 (2 OF 3)	TITLE: THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS (14' 2-1/2" WIDTH)
STANDARD APPROVED: AUGUST 20, 2001	
REVISION DATE 7-11-2002	S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 61 OF 297 SHEETS

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PLAN VIEW

WIDENED BULLNOSE DESIGN ③

NOTES:

- ① POST SPACINGS ACROSS THE BARRIER ARE MEASURED AS PERPENDICULAR DISTANCE ACROSS THE BARRIER FROM THE CENTER OF POST.
- ② TAPER BEGINNING AT POST NO.1 MUST CONTINUE TO POST NO.5. PAST POST NO.5, TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS.
- ③ THRIE BEAM BULLNOSE, SEE SHEET SPN20 FOR DETAILS.
- ④ FOR MEDIANS WIDER THAN 14' 2 1/2", BEFORE TAPERING THE APPROACH SIDE, TAPER THE OPPOSING SIDE AS SHOWN ON THE BULLNOSE DESIGN DETAIL. APPROACH TAPER SHOULD NOT EXCEED 1:25 IF THE BARRIER IS WITHIN THE SHY LINE OR 1:15 IF IT IS OUTSIDE.
- ⑤ THRIE BEAM MAY BE FIELD BENT UP TO 18" IN A 12'6" LENGTH (APPROX. 6.9 DEG.). ADJUST BENDS TO FIT BULLNOSE TO SITE. SLOTTED RAIL NO. 2 ON OPPOSING SIDE MAY BE USED STRAIGHT OR NORMAL (SHOP BEND TO 34' 2" RAD.). SLOTTED RAIL NO. 3 ON OPPOSING SIDE DOES NOT HAVE TO BE SHOP BENT (BEND IN FIELD).

SPN22 OF SPN22

STANDARD PLAN SHEET NO.
5-297.611 (3 OF 3)
STANDARD APPROVED:
MAY 30, 2002

THRIE BEAM BULLNOSE GUARDRAIL FOR MEDIANS
(WIDER THAN 14' 2-1/2")

REVISION DATE
7-11-02

S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 62 OF 297 SHEETS

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
7. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION STAGING WITH UTILITY CONTRACTORS.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNEOSTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD) AND PART IV, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING.

BARRIER & DELINEATION:













1. TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

MILL & OVERLAY

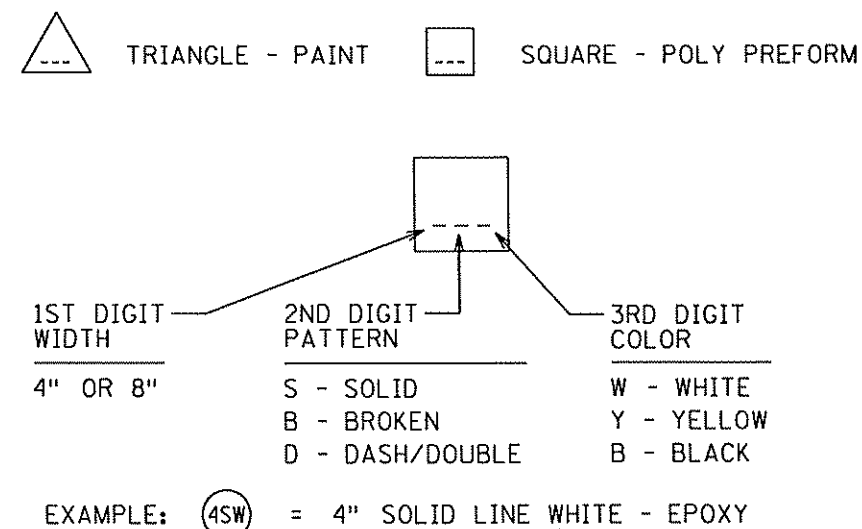
1. USE TEMPORARY LANE CLOSURES FOR MILL & OVERLAY OPERATIONS AS PER TRAFFIC PROVISIONS.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

-  AREA CLOSED TO TRAFFIC / WORK AREA
-  STORM SEWER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC
-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE =
-  PORTABLE CHANGEABLE MESSAGE SIGN
-  DRUM-LIKE CHANNELIZER = 
-  TYPE A FLASHING WARNING LIGHT
-  DIRECTION OF TRAFFIC
-  PAVEMENT MESSAGE (LEFT ARROW) EPOXY
-  EXISTING SIGN

STRIPING KEY



INDEX

TRAFFIC CONTROL SHEET NO. DESCRIPTIONS

TC1	TITLE SHEET
TC2	PAY ITEM TABULATION SHEET
TC3-TC7	TRAFFIC CONTROL TABULATION SHEET
TC8	DETOUR SIGNS
TC9-TC17	TRAFFIC CONTROL STAGE 1 PHASE 1
TC18-TC21	TRAFFIC CONTROL STAGE 1 PHASE 2
TC22-TC29	TRAFFIC CONTROL STAGE 2 PHASE 1
TC30	TRAFFIC CONTROL STAGE 2 PHASE 2
TC31-TC36	TRAFFIC CONTROL STAGE 2 PHASE 3
TC37-TC41	TRAFFIC CONTROL STAGE 3 PHASE 1
TC42-TC44	TRAFFIC CONTROL STAGE 3 PHASE 2
TC45	TRAFFIC CONTROL STAGE 4
TC46	ADVANCED SIGNING AND DETOUR PLAN STAGE 3 PHASE 1
TC47	ADVANCED SIGNING AND DETOUR PLAN STAGE 3 PHASE 2
TC48-TC50	ADVANCED SIGNING AND DETOUR PLAN - WEEKEND CLOSURE FOR BRIDGE REMOVAL
TC51	TRAFFIC CONTROL BRIDGE CONSTRUCTION
TC52-TC53	TRAFFIC CONTROL TYPICALS

I HEREBY CERTIFY THAT TRAFFIC CONTROL SHEETS TC1 THROUGH TC48 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

TRAF ENG NAME HERE: TIFFANY J. DAGON
 DATE: 3/3/2006 LIC. NO.: 40535
 DESIGNER: TIFFANY J. DAGON

TRAFFIC CONTROL SHEET NO. **TC1 OF TC53** TITLE: **TRAFFIC CONTROL TITLE SHEET**

S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 63 OF 297 SHEETS

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V TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE											
SIGN OR DEVICE	CODE NO.	COLOR	SIZE (INCHES)	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 2	STAGE 2 PHASE 3	STAGE 3 PHASE 1	STAGE 3 PHASE 2	STAGE 4	BRIDGE ABUTMENT	BRIDGE MEDIAN	BRIDGE REMOVAL	REMARKS
	R1-1	WHITE ON RED	36 x 36	7	6	7	7	8	8	1	1				
	R1-4	WHITE ON RED	18 x 6	6	6	4	4	7	7						
	R2-1	BLACK ON WHITE	24 x 30			1	1								
	R2-1	BLACK ON WHITE	24x30		1										
	R2-1	BLACK ON WHITE	24 x 30			6	6	6	6						XX - TO BE DETERMINED
	R2-5a	BLACK ON WHITE	24 x 30			2	2	1	1						
	R3-1	BLACK AND RED ON WHITE	24 x 24						2						
	R3-2	BLACK AND RED ON WHITE	24 x 24						2	8	2				
	R3-7	BLACK ON WHITE	30 x 30	1	2	4	4	2	2						RIGHT TURN LANE SIGNS MAY BE USED IN PLACE OF RIGHT LANE MUST TURN RIGHT SIGNS
	R3-7	BLACK ON WHITE	30 x 30	1											LEFT TURN LANE SIGNS MAY BE USED IN PLACE OF LEFT LANE MUST TURN LEFT SIGN
	R3-30AA	BLACK ON WHITE	36 x 30						4	4					
	R3-30AB	WHITE ON BLACK	36 x 30							2					
	R3-30BA	WHITE ON BLACK	36 x 30							1					
	R4-7	BLACK ON WHITE	24 x 30	1											
	R5-1	WHITE ON RED	30 x 30	1											
	R6-1L	BLACK ON WHITE	36 x 12	1											
	R6-1R	BLACK ON WHITE	36 x 12	2											
	R9-9	BLACK ON WHITE	30 x 18	4	4				1	1					
	R11-2	BLACK ON WHITE	48 x 30					2	8	6	1			5	

NOTE: SIGN PANELS ARE IN ENGLISH UNITS.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: Jeffery J. Dagon Lic. No. 40535
 Printed Name: JEFFERY J. DAGON Date: 3/8/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.	65
ARAME0503	
TRAFFIC CONTROL TABULATIONS	
TC3	
OF TC53	297

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3/8/2006

tc3-7

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V TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE											
SIGN OR DEVICE	CODE NO.	COLOR	SIZE (INCHES)	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 2	STAGE 2 PHASE 3	STAGE 3 PHASE 1	STAGE 3 PHASE 2	STAGE 4	BRIDGE ABUTMENT	BRIDGE MEDIAN	BRIDGE REMOVAL	REMARKS
	R11-2	BLACK ON WHITE	48 x 30						1					5	
	R11-3a	BLACK ON WHITE	60 x 30						1						
	R11-3a	BLACK ON WHITE	60 x 30					1	1						
	R11-4	BLACK ON WHITE	60 x 30						3						
	W1-4 L	BLACK ON ORANGE	48 x 48	1	2	1		1	1						
	W1-4 R	BLACK ON ORANGE	48 x 48		1	1		2							
	W1-6	BLACK ON ORANGE	48 x 24	3		1		2	2	2					
	W3-1a	BLACK, RED, WHITE ON ORANGE	48 x 48	5	5	4		5							
	W3-3	BLACK, RED, GREEN ON ORANGE	36 x 36	1											
	W4-2 L	BLACK ON ORANGE	48 x 48			1									
	W20-1	BLACK ON ORANGE	48 x 48	11	6	7	7	7	9	3	1	7			
	W20-2	BLACK ON ORANGE	48 x 48						1	2	2		7		
	W20-3	BLACK ON ORANGE	48 x 48						1	4	5			1	
	W20-100p	BLACK ON ORANGE	36 x 24											4	
	W20-100p	BLACK ON ORANGE	42 x 24						1	1				1	
	W20-100p	BLACK ON ORANGE	42 x 24						1	1					
	W20-100p	BLACK ON ORANGE	42 x 24							1					
	W20-100p	BLACK ON ORANGE	42 x 24								1			1	
	W20-100p	BLACK ON ORANGE	42 x 24							1					

NOTE: SIGN PANELS ARE IN ENGLISH UNITS.

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: TJD				
CHECKED BY: TJD				
NO.	BY	DATE	REVISIONS	

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.

Certified By: Tiffany J. Dagon Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 3/8/2006



PHONE: 651/490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO. ARAMSE0503	66
TRAFFIC CONTROL TABULATIONS	297
TC4 OF TC53	

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V TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE											
SIGN OR DEVICE	CODE NO.	COLOR	SIZE (INCHES)	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 2	STAGE 2 PHASE 3	STAGE 3 PHASE 1	STAGE 3 PHASE 2	STAGE 4	BRIDGE ABUTMENT	BRIDGE MEDIAN	BRIDGE REMOVAL	REMARKS
	W20-100p	BLACK ON ORANGE	42 x 24							1					
	W20-100p	BLACK ON ORANGE	42 x 24							1				1	
	W20-X3	BLACK ON ORANGE	48 x 48			1	1		1						
	W20-X13L	BLACK ON ORANGE	48 x 48	2											
	W21-X1	BLACK ON YELLOW	48 x 48									1			
	W21-X5L	BLACK ON ORANGE	48 x 48			2	2						2		
	W21-X5R	BLACK ON ORANGE	48 x 48	2					1						
	M1-1AT	WHITE ON RED AND BLUE	30 x 24												
	M3-1	BLACK ON WHITE	30 x 15											16	
	M3-2	BLACK ON WHITE	24 x 12					2	5	5					
	M3-2	BLACK ON WHITE	30 x 15						10	6					FOR USE ON TH 10 & 35W
	M3-3	BLACK ON WHITE	30 x 15											16	FOR USE ON TH 10 & 35W
	M3-4	BLACK ON WHITE	24 x 12						5	5				15	
	M3-4	BLACK ON WHITE	30 x 15						6	6					FOR USE ON TH 10 & 35W
	M4-8	BLACK ON ORANGE	24 x 12											5	
	M4-8	BLACK ON ORANGE	30 x 15						6	6				16	FOR USE ON TH 10 & 35W
	M4-8a	BLACK ON ORANGE	24 x 18						1	1					
	M4-9ATL	BLACK ON ORANGE	30 x 24					1	1	1				1	
	M4-9ATR MOD.	BLACK ON ORANGE	42 x 36						1	1				3	FOR USE ON TH 10 & 35W

NOTE: SIGN PANELS ARE IN ENGLISH UNITS.

DESIGN TEAM				
DRAWN BY:	MTT			
DESIGNER:	TJD			
CHECKED BY:	TJD			
	NO.	BY	DATE	REVISIONS

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.
 Certified By: *Jeffery J. Dagon* Lic. No. 40535
 Printed Here: JEFFERY J. DAGON Date: 3/8/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC CONTROL TABULATIONS	FILE NO. ARAMSE0503	67
	TC5 OF TC53	297

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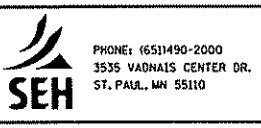
V TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE											
SIGN OR DEVICE	CODE NO.	COLOR	SIZE (INCHES)	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 2	STAGE 2 PHASE 3	STAGE 3 PHASE 1	STAGE 3 PHASE 2	STAGE 4	BRIDGE ABUTMENT	BRIDGE MEDIAN	BRIDGE REMOVAL	REMARKS
	M4-9L	BLACK ON ORANGE	30 x 24					1	4	4				2	
	M4-9R	BLACK ON ORANGE	30 x 24						3	3				3	
	M4-9R MOD.	BLACK ON ORANGE	42 x 36						3	2					FOR USE ON TH 10 & 35W
	M4-9T	BLACK ON ORANGE	30 x 24						2	2					
	M4-9T	BLACK ON ORANGE	42 x 36						4	3					FOR USE ON TH 10 & 35W
	M4-10R	BLACK ON ORANGE	48 x 18						1	1					
	M5-2R	BLACK ON WHITE	30 x 24											2	
	M5-2L	BLACK ON WHITE	30 x 24											1	
	M6-2L	BLACK ON WHITE	30 x 24											1	
	M6-2R	BLACK ON WHITE	30 x 24											1	
	M6-3	BLACK ON WHITE	30 x 24											1	
	G20-2a	BLACK ON ORANGE	48 x 24			2	2	2							
	G20-X1	BLACK ON ORANGE	72 x 60						2						INSTALL MIN. 7 DAYS PRIOR TO CLOSURE
	G20-X1	BLACK ON ORANGE	72 x 60						1					3	INSTALL MIN. 7 DAYS PRIOR TO CLOSURE
	G20-X1	BLACK ON ORANGE	90 x 78						1						INSTALL MIN. 7 DAYS PRIOR TO CLOSURE FOR USE ON TH 10 & 35W
	X4-4L	YELLOW ON BLACK	18 x 36										2		
	X4-4R	YELLOW ON BLACK	18 x 36									2			
	D-200	WHITE ON GREEN	96 x 48	1											RELOCATE EXISTING SIGN

NOTE: SIGN PANELS ARE IN ENGLISH UNITS.

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: TJD				
CHECKED BY: TJD				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Jeffrey J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: JEFFREY J. DAGON Date: 3/8/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11


TRAFFIC CONTROL TABULATIONS

FILE NO. 68
 ARAMSE0503
 TC6
 OF TC53
 297

V TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITY BY STAGE											REMARKS
SIGN OR DEVICE	CODE NO.	COLOR	SIZE (INCHES)	STAGE 1 PHASE 1	STAGE 1 PHASE 2	STAGE 2 PHASE 1	STAGE 2 PHASE 2	STAGE 2 PHASE 3	STAGE 3 PHASE 1	STAGE 3 PHASE 2	STAGE 4	BRIDGE ABUTMENT	BRIDGE MEDIAN	BRIDGE REMOVAL	REMARKS
	D-201	WHITE ON GREEN	78 x 78	1											RELOCATE EXISTING SIGN
	D-202	WHITE ON GREEN	54 x 66	1											RELOCATE EXISTING SIGN
	DT-1	BLACK ON ORANGE	132 x 72						2	2				1	
	DT-2	BLACK ON ORANGE	174 x 96						1						FOR USE ON TH 10 & 35W
	DT-3	BLACK ON ORANGE	132 x 72						1						
	DT-4	BLACK ON ORANGE	132 x 72							1					
	DT-5	BLACK ON ORANGE	174 x 96							1					FOR USE ON TH 10 & 35W
	DT-6	BLACK ON ORANGE	30 x 18					2	10	10				17	
	DT-7	BLACK ON ORANGE	48 x 24						15	12					FOR USE ON TH 10 & 35W
	-	WHITE ON GREEN	108 x 24						1	1					TEMPORARILY GROUND MOUNT BRIDGE MOUNTED SIGN
	-	WHITE ON GREEN	204 x 60						1	1					TEMPORARILY GROUND MOUNT BRIDGE MOUNTED SIGN
	TYPE "A" FLASHER	-	-	24	20	23	23	34	68	30	4	10	9	18	
	TYPE III	WHITE ON BLACK	8'	11	6	11	16	23	64	35	5	2		13	
	REFLECTORIZED DRUM	BLACK ON ORANGE	18 x 36 (MIN)	245	95	185	85	95	72	81	14				

DESIGN TEAM			
DRAWN BY: MTI			
DESIGNER: TJD			
CHECKED BY: TJD			
NO.	BY	DATE	REVISIONS

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.
 Certified By: Tiffany J. Dagon Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 3/8/2006



PHONE: 651/490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

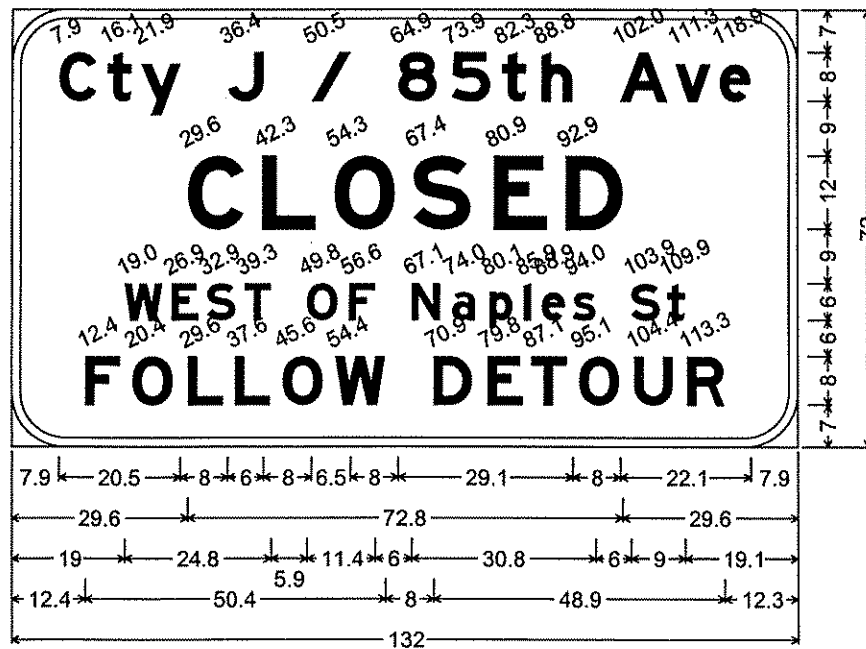
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TC7	297
OF TC53	

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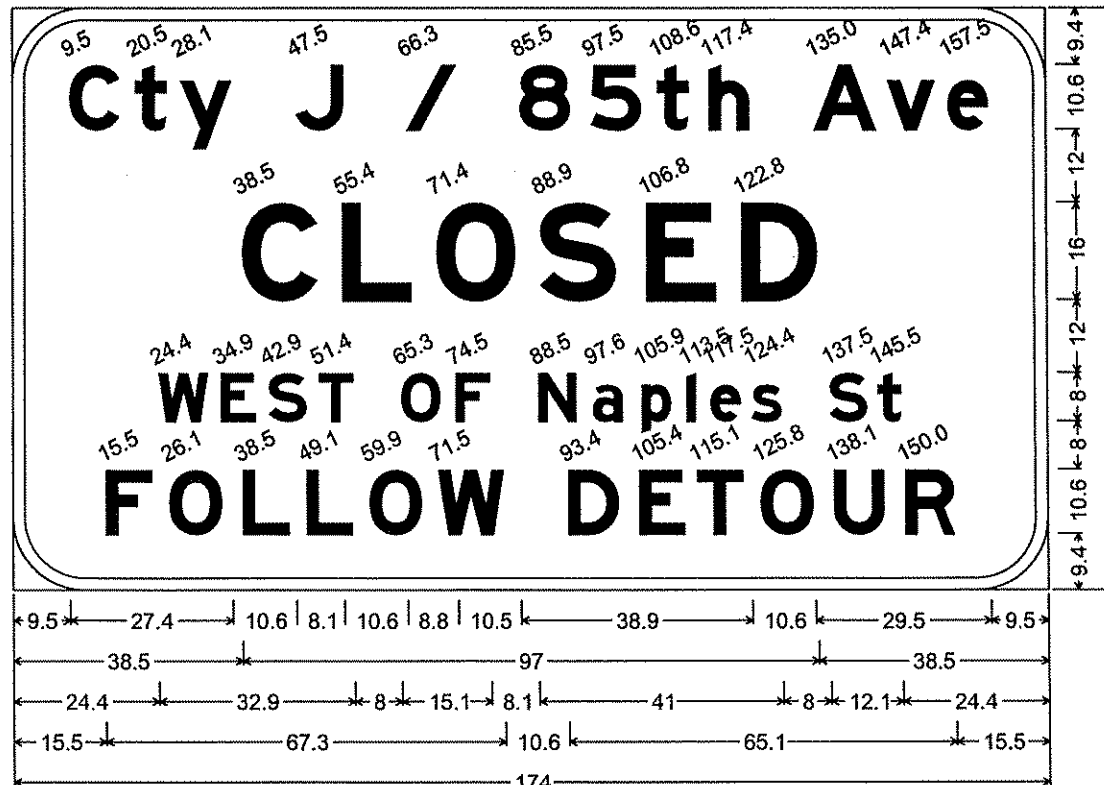
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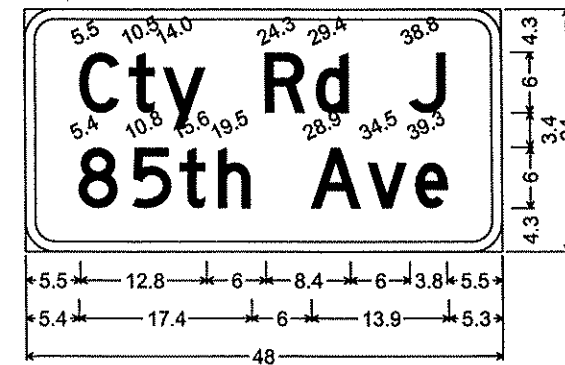
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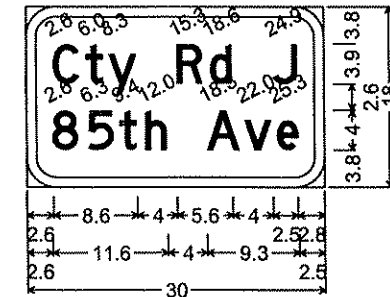
DT-1; 9.0" Radius, 1.5" Border, Black on Orange;
 [Cty J / 85th Ave] E Mod; [CLOSED] E Mod;
 [WEST OF Naples St] E Mod; [FOLLOW DETOUR] E Mod;



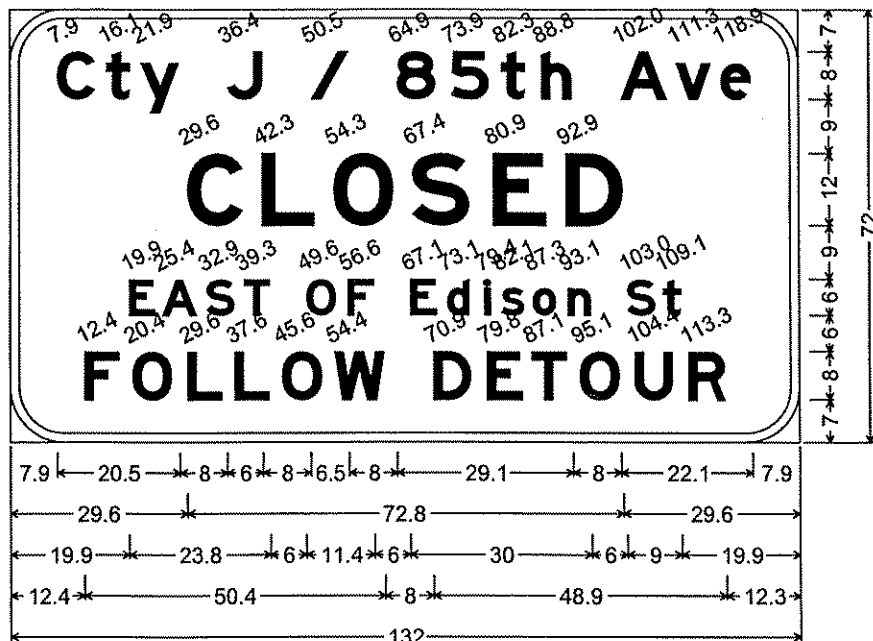
DT-2; 12.0" Radius, 2.0" Border, Black on Orange;
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 [FOLLOW DETOUR] E Mod;



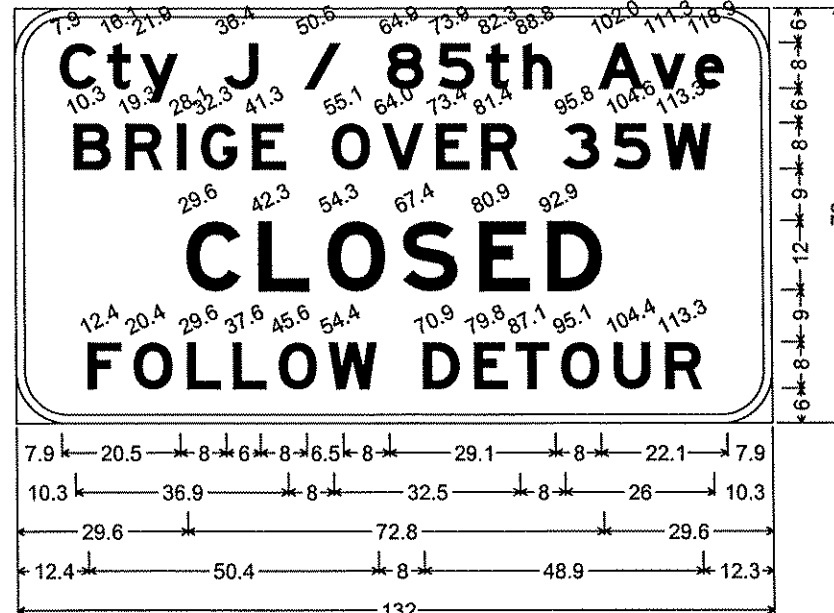
DT-7;
 3.0" Radius, 1.0" Border, Black on Orange;
 [Cty Rd J] D; [85th Ave] D;



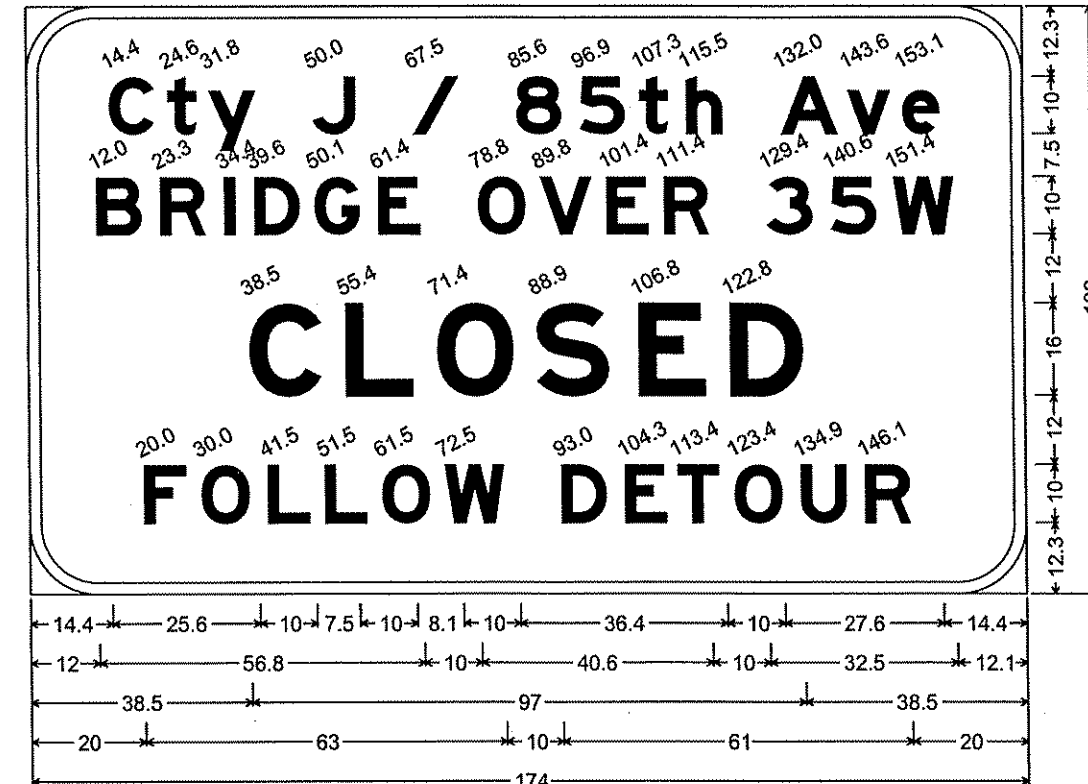
DT-6;
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 [Cty Rd J] D; [85th Ave] D;



DT-3; 9.0" Radius, 1.5" Border, Black on Orange;
 [Cty J / 85th Ave] E Mod; [CLOSED] E Mod;
 [EAST OF Edison St] E Mod; [FOLLOW DETOUR] E Mod;



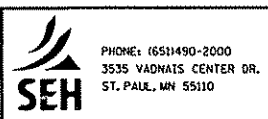
DT-4; 9.0" Radius, 1.5" Border, Black on Orange;
 [Cty J / 85th Ave] E Mod; [BRIGE OVER 35W] E Mod;
 [CLOSED] E Mod; [FOLLOW DETOUR] E Mod;



DT-5; 12.0" Radius, 2.0" Border, Black on Orange;
 [Cty J / 85th Ave] E Mod; [BRIDGE OVER 35W] E Mod; [CLOSED] E Mod;
 [FOLLOW DETOUR] E Mod;

DESIGN TEAM				REVISIONS			
DRAWN BY:	DESIGNER:	CHECKED BY:	NO.	BY	DATE	NO.	DATE
MTT	TJD	TJD					

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DETOUR SIGNS
 TC8 OF TC53

FILE NO. 70
 ARAMSE0503
 297










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TC9

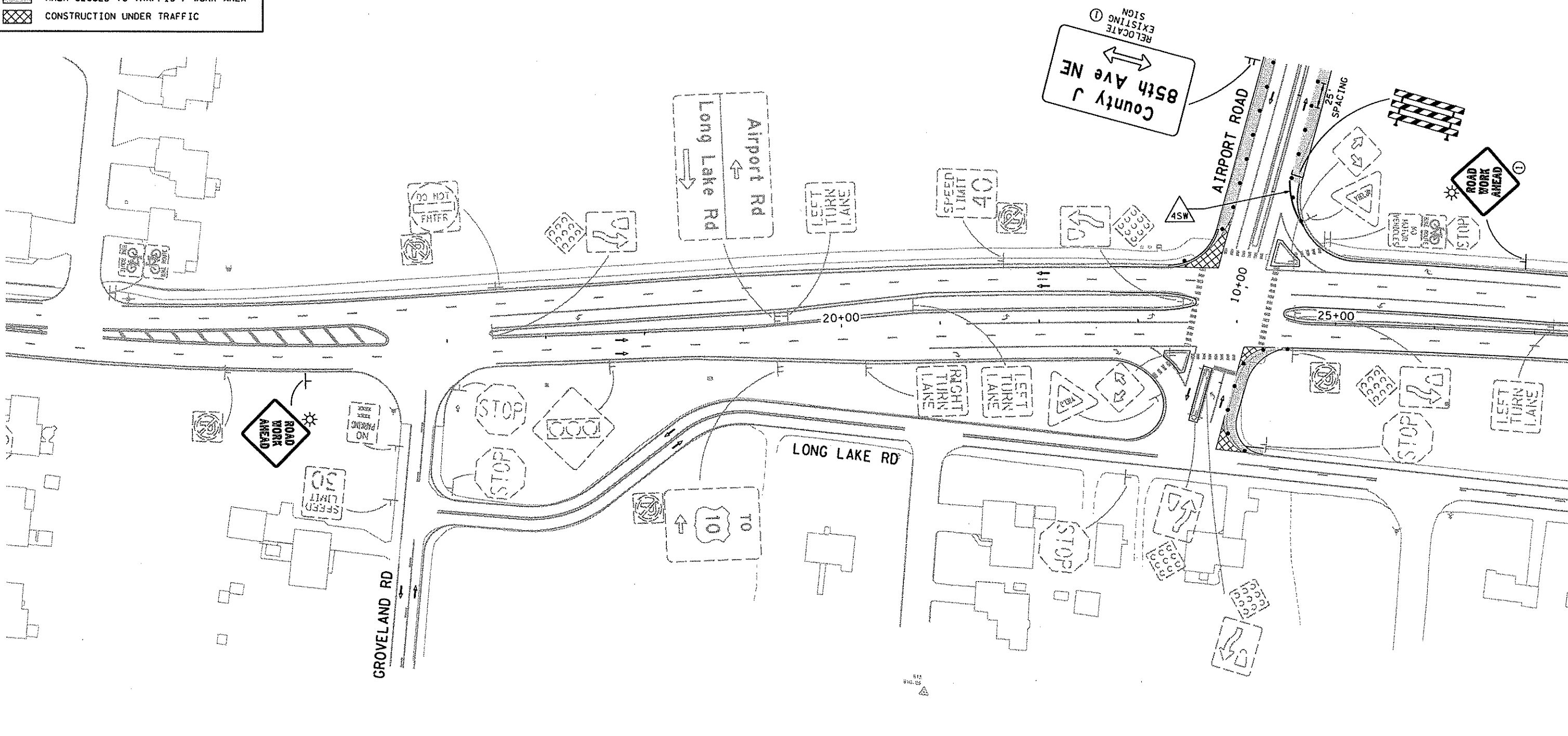
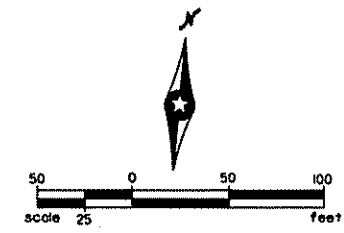
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LEGEND

-  TYPE III BARRICADE
-  TRAFFIC CONTROL SIGN
-  DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
-  EXISTING SIGN
-  DIRECTION OF TRAFFIC
-  PAVEMENT MESSAGE ARROWS
-  TYPE "A" FLASHING WARNING LIGHT
-  AREA CLOSED TO TRAFFIC / WORK AREA
-  CONSTRUCTION UNDER TRAFFIC

STAGE I PHASE I CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).




SPECIFIC NOTE:
 ① PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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 Printed Name: TIFFANY J. DAGON Date: 03/02/2006



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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

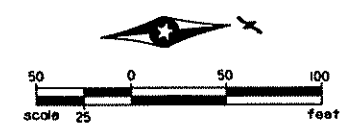
STAGING & TRAFFIC CONTROL
 STAGE I PHASE I

FILE NO. 71
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 TC9 OF TC53
 297

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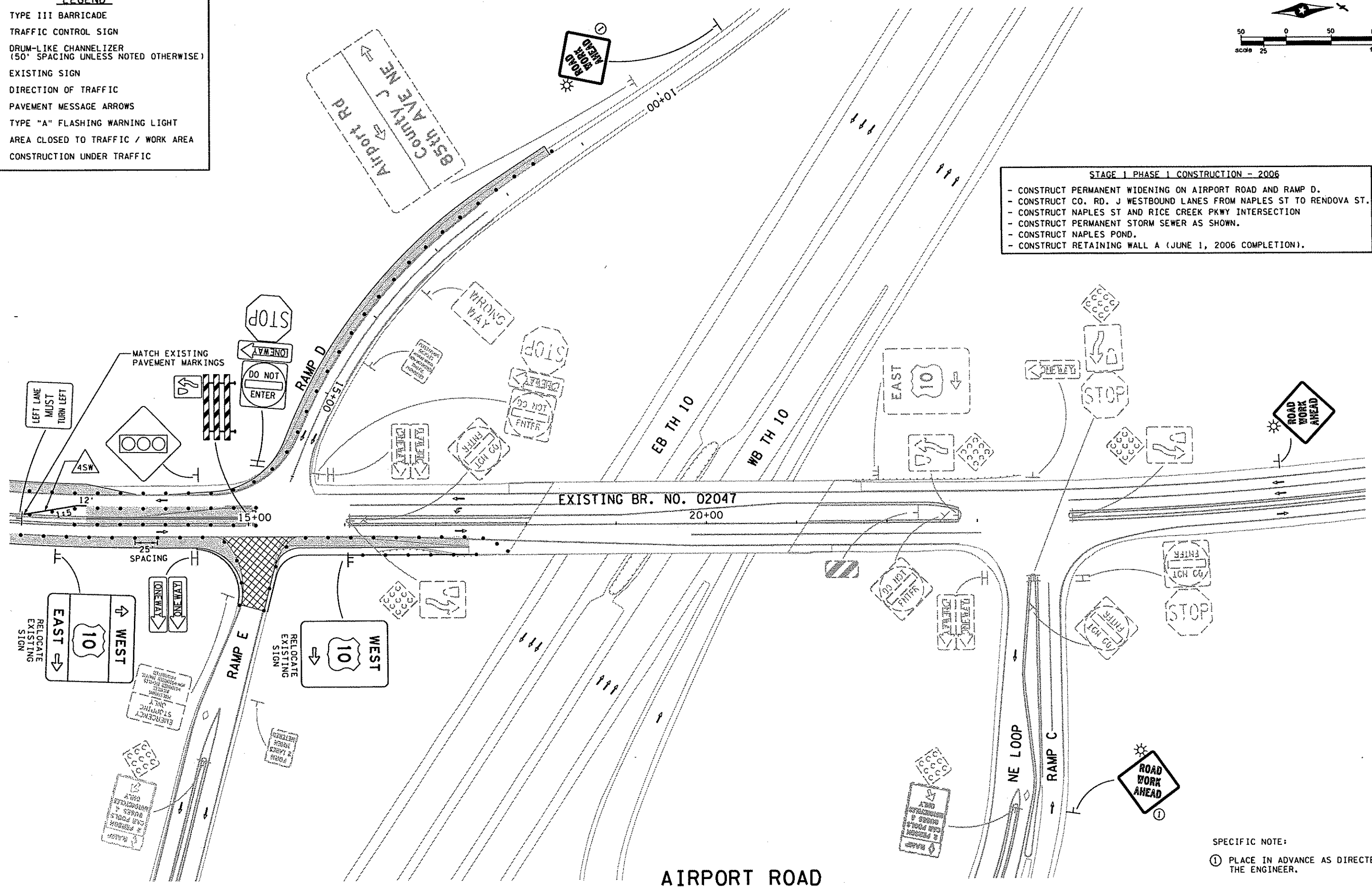
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- [L] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [□] EXISTING SIGN
- [↑] DIRECTION OF TRAFFIC
- [→] PAVEMENT MESSAGE ARROWS
- [⚡] TYPE "A" FLASHING WARNING LIGHT
- [■] AREA CLOSED TO TRAFFIC / WORK AREA
- [▨] CONSTRUCTION UNDER TRAFFIC



STAGE I PHASE I CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



SPECIFIC NOTE:
① PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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 Printed Name: TIFFANY J. OAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE I PHASE I

FILE NO.	72
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TC10	
OF TC53	297

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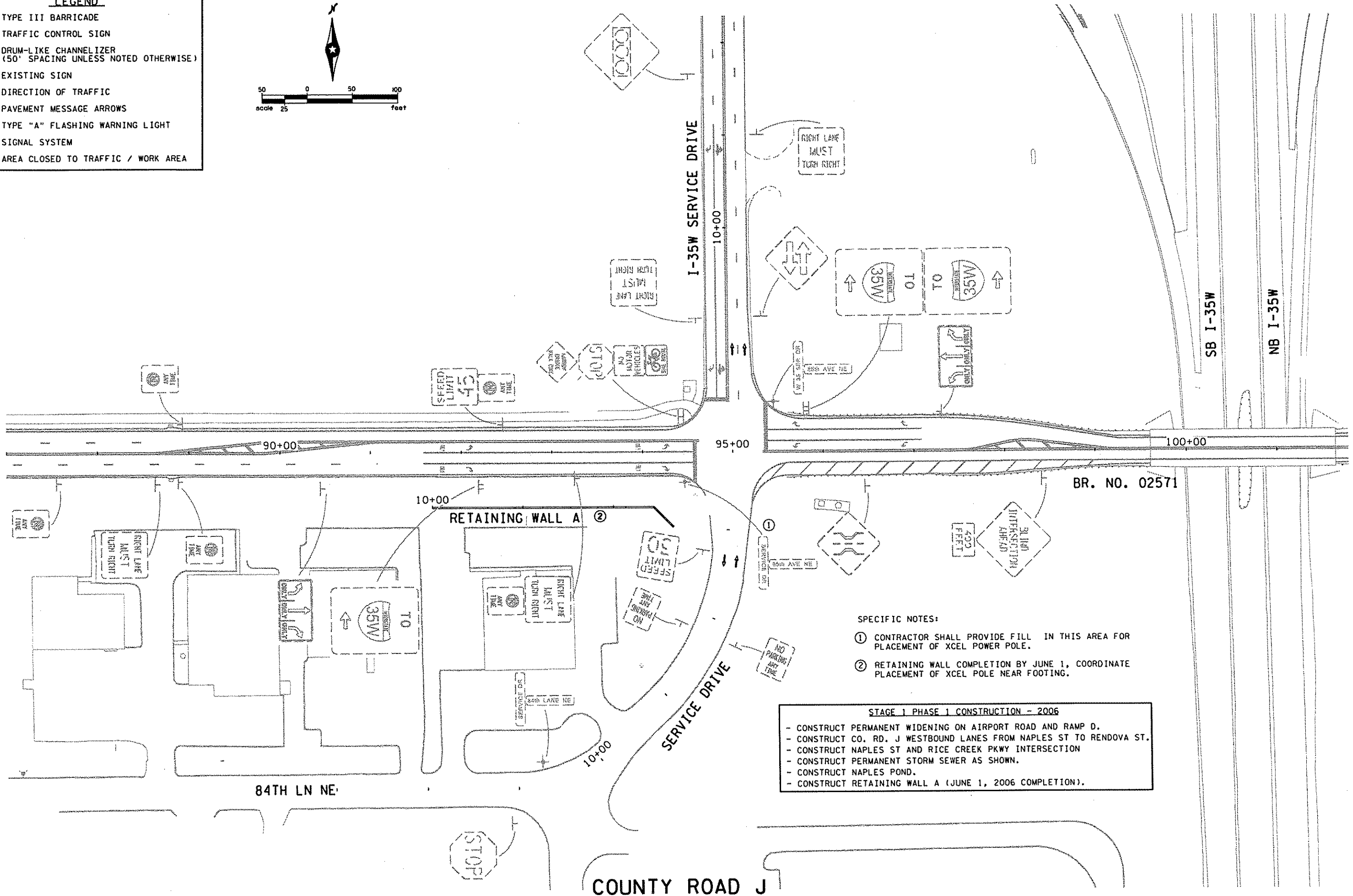
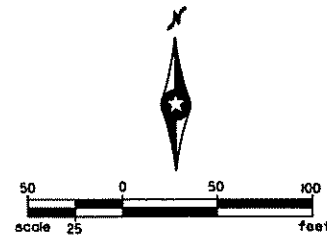
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LEGEND

- [L] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [□] EXISTING SIGN
- [→] DIRECTION OF TRAFFIC
- [→] PAVEMENT MESSAGE ARROWS
- [⊙] TYPE "A" FLASHING WARNING LIGHT
- [⊕] SIGNAL SYSTEM
- [■] AREA CLOSED TO TRAFFIC / WORK AREA



- SPECIFIC NOTES:**
- ① CONTRACTOR SHALL PROVIDE FILL IN THIS AREA FOR PLACEMENT OF XCEL POWER POLE.
 - ② RETAINING WALL COMPLETION BY JUNE 1, COORDINATE PLACEMENT OF XCEL POLE NEAR FOOTING.

STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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 Printed Name: **JEFFREY J. DAGON** Date: 03/02/2006

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

FILE NO. ARAMSE0503	72A
TC11 OF TC53	297

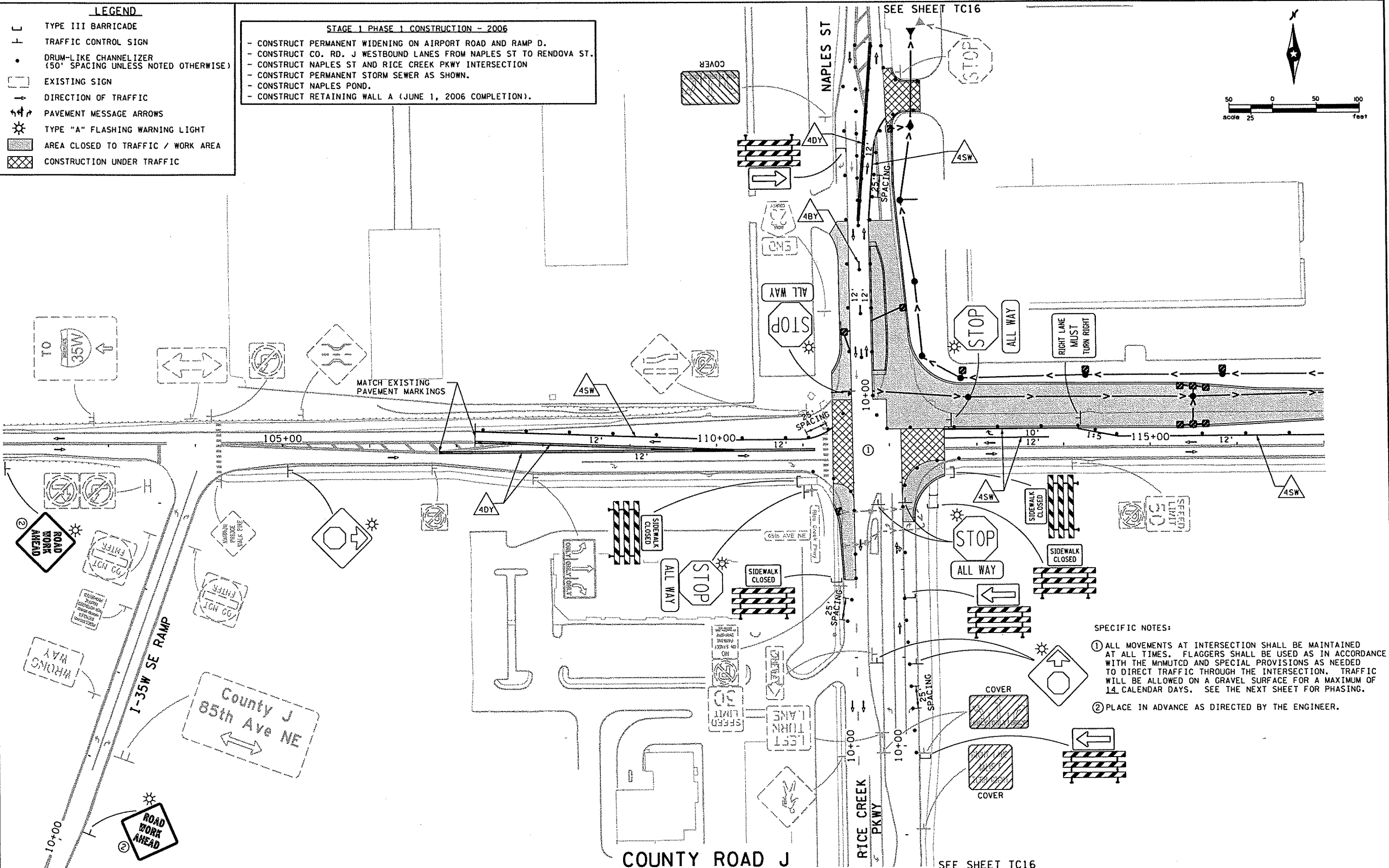
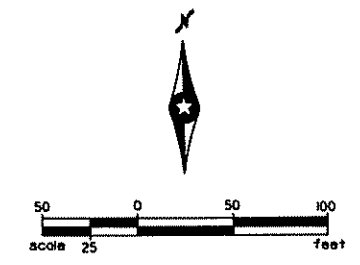
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LEGEND

- TYPE III BARRICADE
- TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- EXISTING SIGN
- DIRECTION OF TRAFFIC
- PAVEMENT MESSAGE ARROWS
- TYPE "A" FLASHING WARNING LIGHT
- AREA CLOSED TO TRAFFIC / WORK AREA
- CONSTRUCTION UNDER TRAFFIC

STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



- SPECIFIC NOTES:**
- ① ALL MOVEMENTS AT INTERSECTION SHALL BE MAINTAINED AT ALL TIMES. FLAGGERS SHALL BE USED AS IN ACCORDANCE WITH THE MnMUTCD AND SPECIAL PROVISIONS AS NEEDED TO DIRECT TRAFFIC THROUGH THE INTERSECTION. TRAFFIC WILL BE ALLOWED ON A GRAVEL SURFACE FOR A MAXIMUM OF 14 CALENDAR DAYS. SEE THE NEXT SHEET FOR PHASING.
 - ② PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.

DESIGN TEAM			
DRAWN BY: MTT			
DESIGNER: TJD			
CHECKED BY: TJD			
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE-1

FILE NO. ARAMSE0503
TC12
 OF TC53

73
297

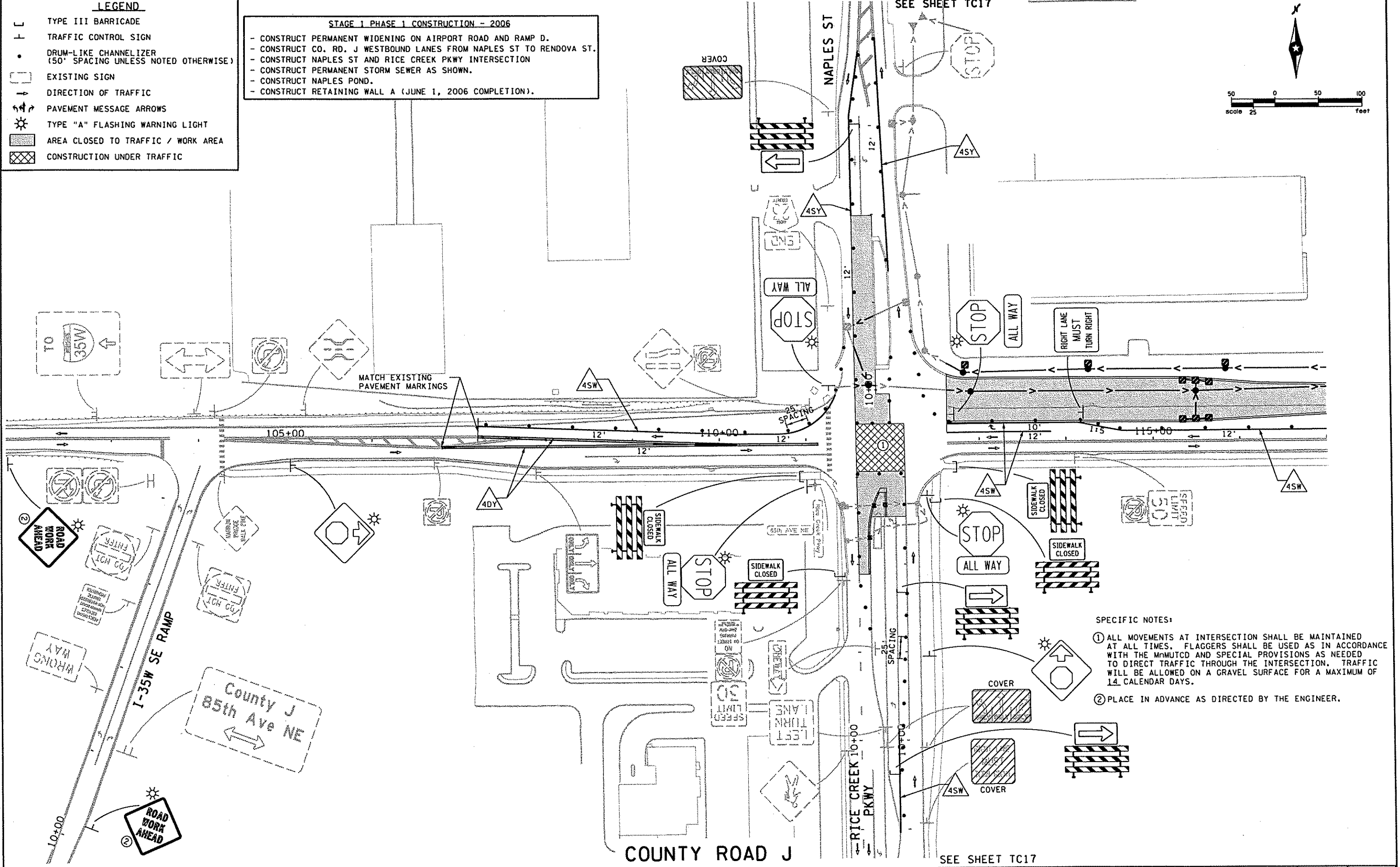
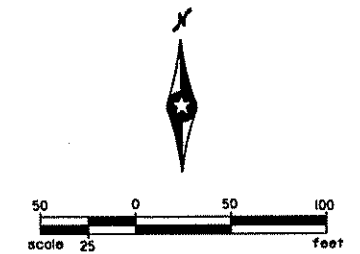
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LEGEND

- L TYPE III BARRICADE
- T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- EXISTING SIGN
- DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ▨ AREA CLOSED TO TRAFFIC / WORK AREA
- ▩ CONSTRUCTION UNDER TRAFFIC

STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



SPECIFIC NOTES:

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- ② PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

PHONE: 1651490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
STAGE 1 PHASE 1

FILE NO. ARAMSE0503
74
TC13 OF TC53
297

06/26/59 PM

03/02/2006

TC14

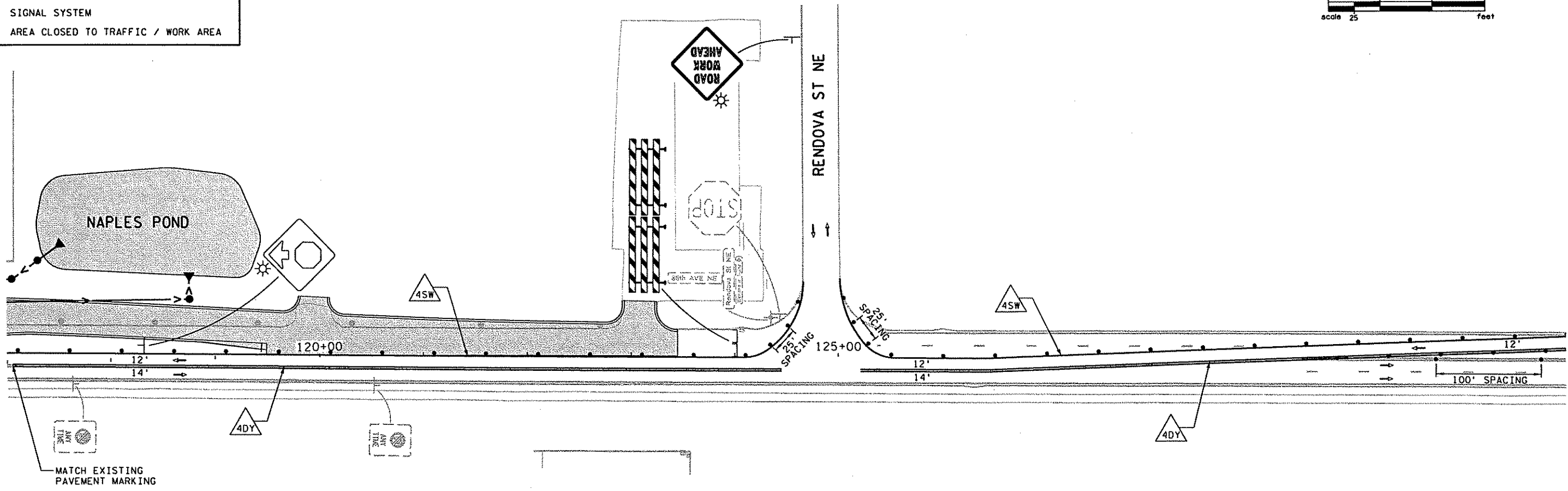
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LEGEND

- [] TYPE III BARRICADE
- + TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- [] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

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TC14 OF TC53	297

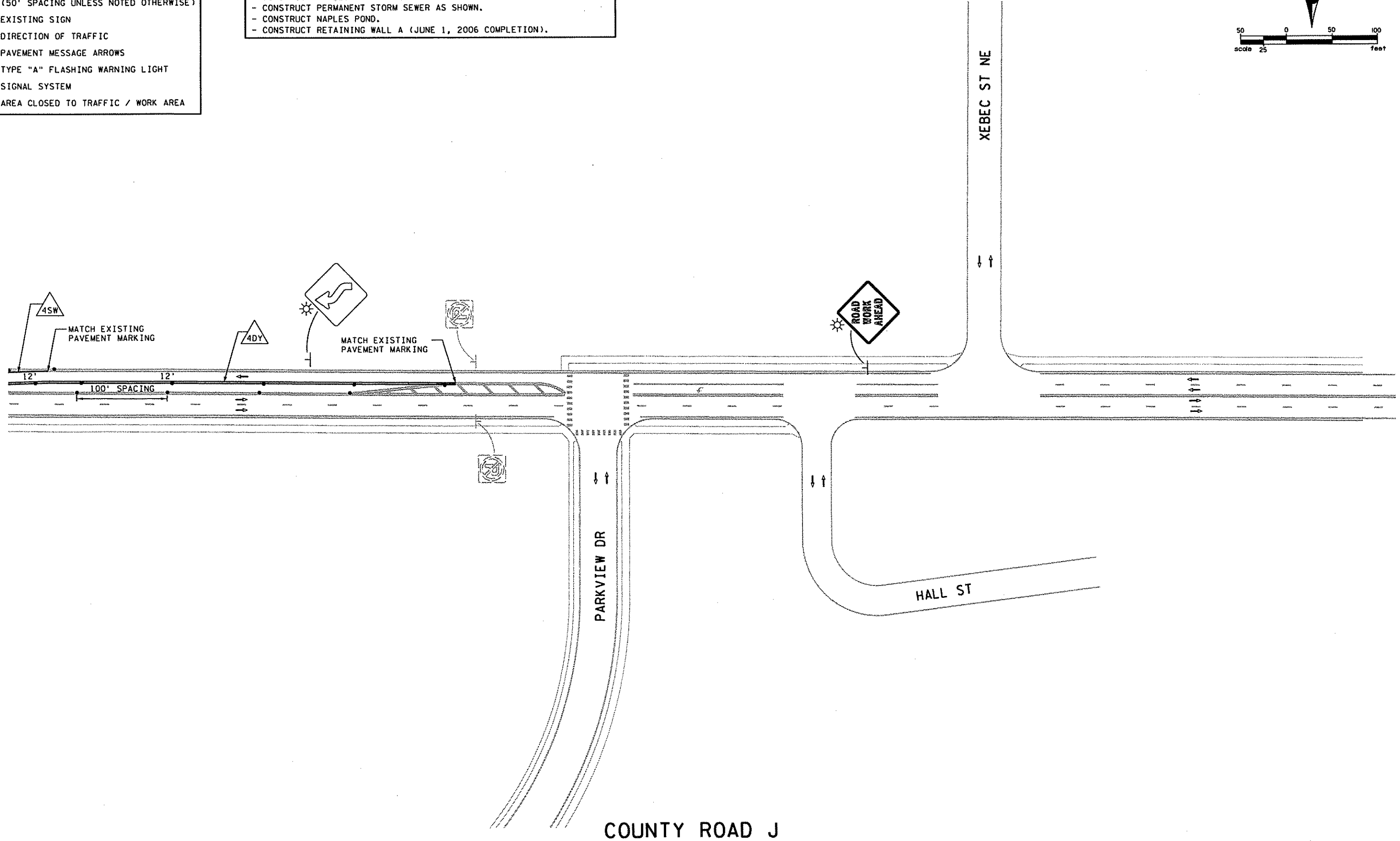
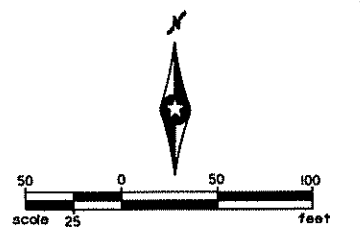
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LEGEND

- [] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [↑] DIRECTION OF TRAFFIC
- [↔] PAVEMENT MESSAGE ARROWS
- [⊙] TYPE "A" FLASHING WARNING LIGHT
- [⊕] SIGNAL SYSTEM
- [■] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 1 CONSTRUCTION - 2006


- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006



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

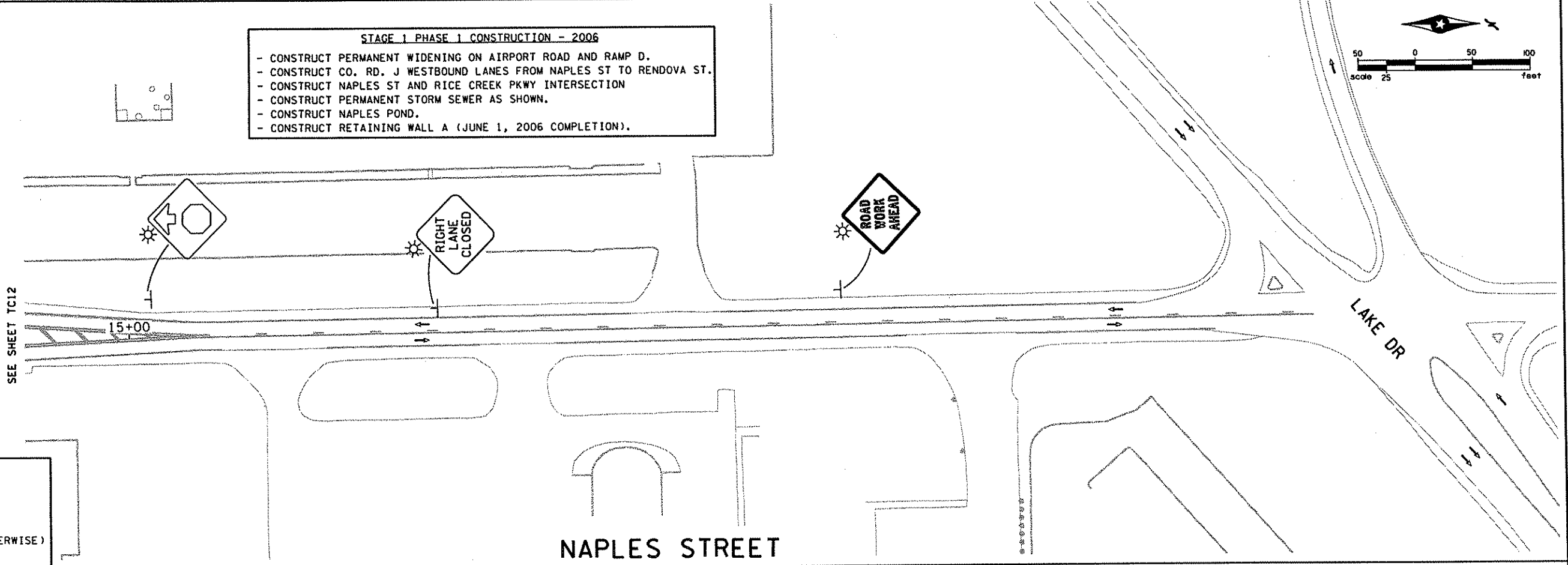
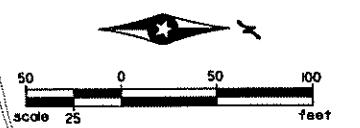
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

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OF TC53	297

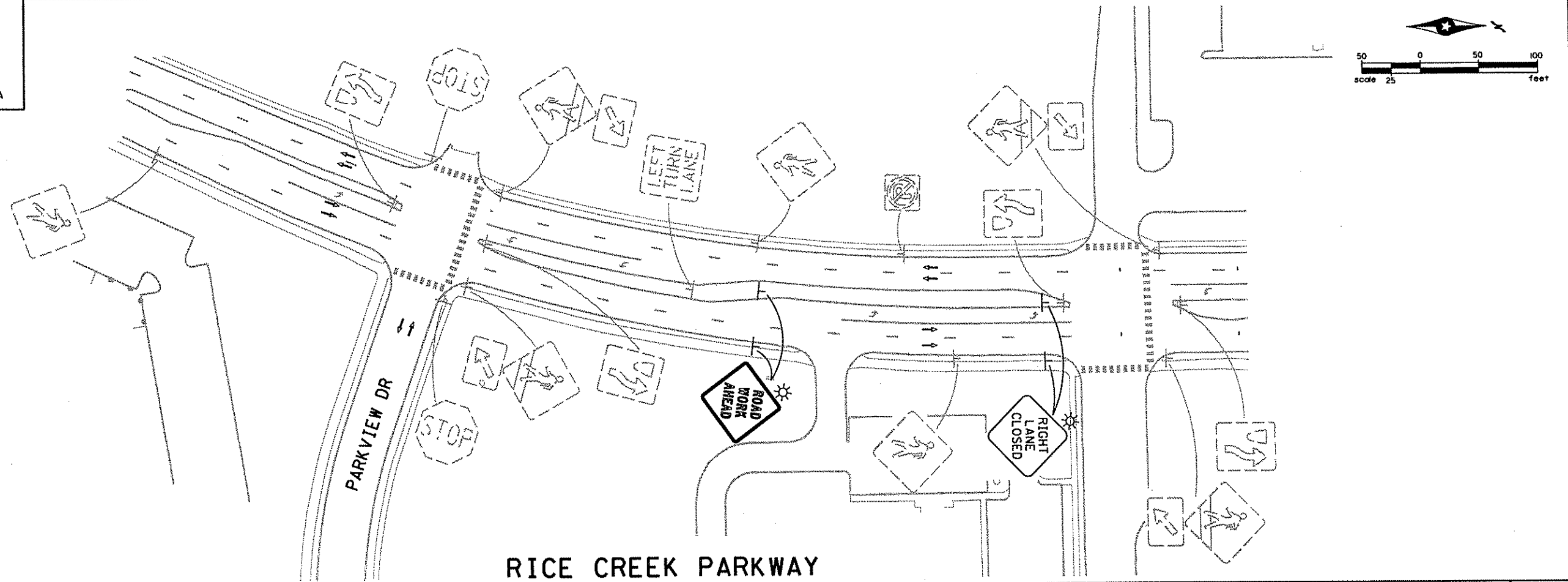
STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



LEGEND

- [Symbol] TYPE III BARRICADE
- [Symbol] TRAFFIC CONTROL SIGN
- [Symbol] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [Symbol] EXISTING SIGN
- [Symbol] DIRECTION OF TRAFFIC
- [Symbol] PAVEMENT MESSAGE ARROWS
- [Symbol] TYPE "A" FLASHING WARNING LIGHT
- [Symbol] SIGNAL SYSTEM
- [Symbol] AREA CLOSED TO TRAFFIC / WORK AREA



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tc16
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

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OF TC53	297

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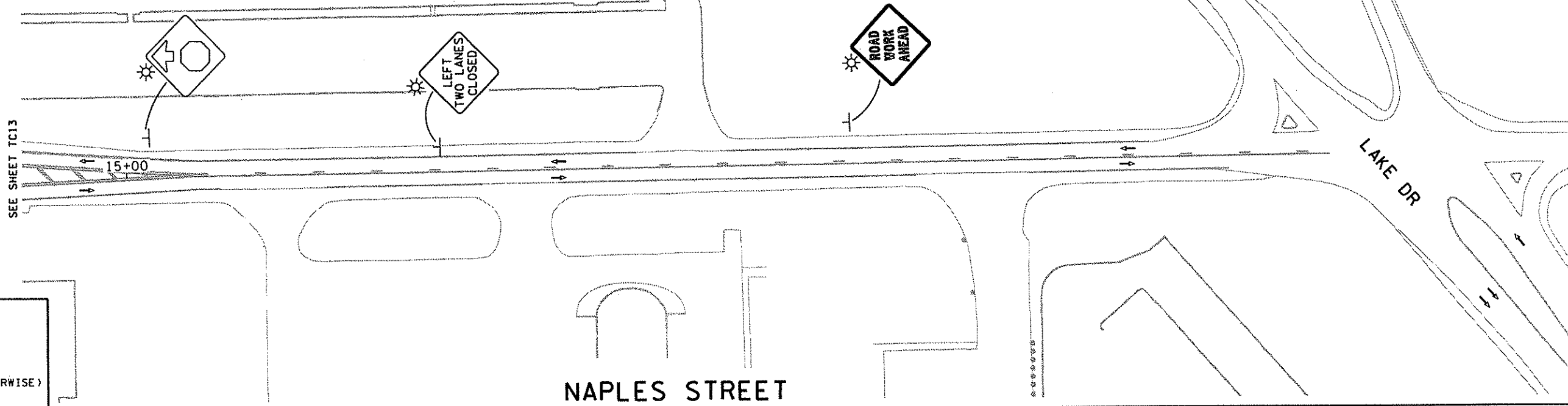
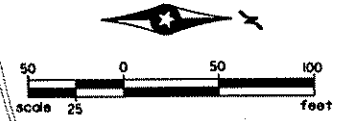
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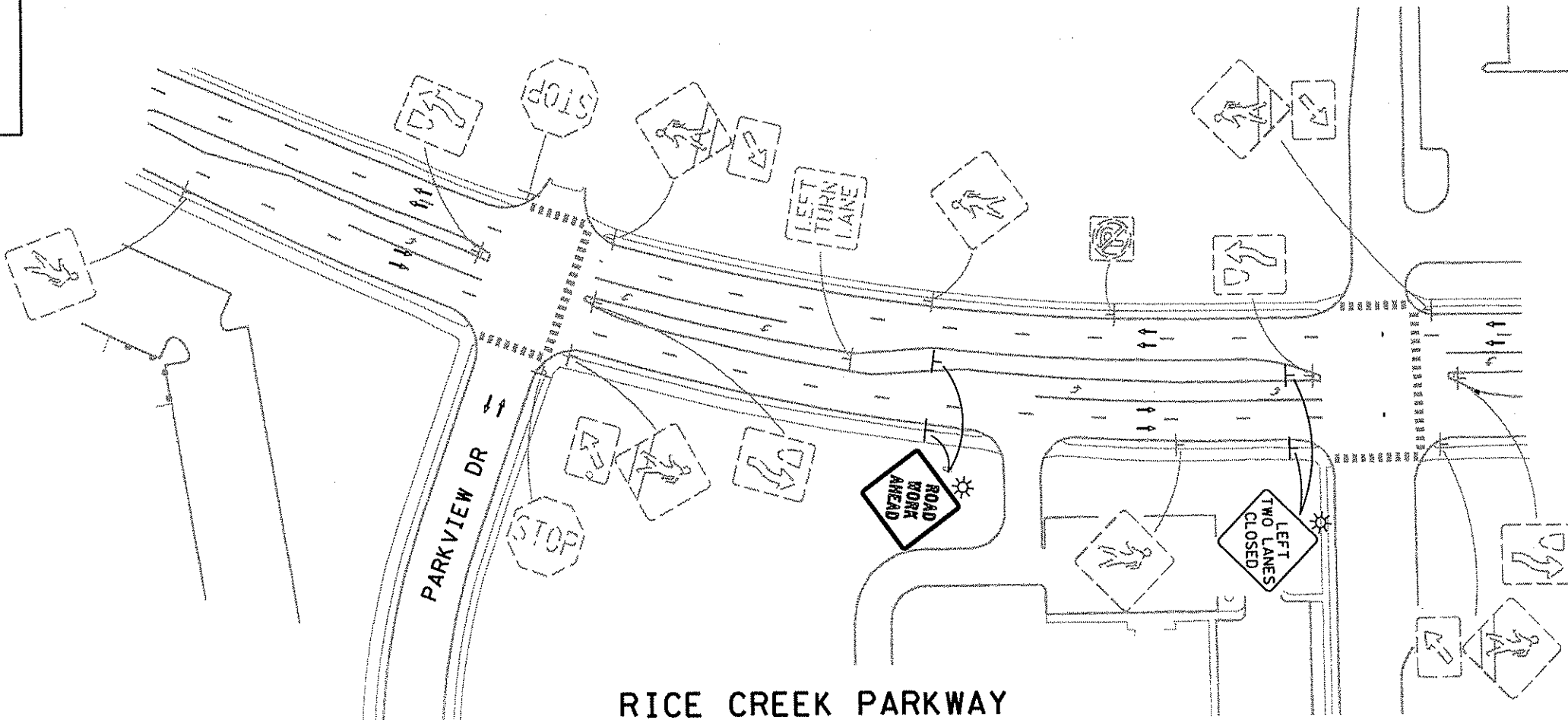
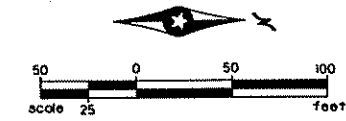
STAGE 1 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT PERMANENT WIDENING ON AIRPORT ROAD AND RAMP D.
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT NAPLES ST AND RICE CREEK PKWY INTERSECTION
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT NAPLES POND.
- CONSTRUCT RETAINING WALL A (JUNE 1, 2006 COMPLETION).



LEGEND

[]	TYPE III BARRICADE
[T]	TRAFFIC CONTROL SIGN
•	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[]	EXISTING SIGN
[>]	DIRECTION OF TRAFFIC
[>]	PAVEMENT MESSAGE ARROWS
[*]	TYPE "A" FLASHING WARNING LIGHT
[⊕]	SIGNAL SYSTEM
[shaded]	AREA CLOSED TO TRAFFIC / WORK AREA



DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

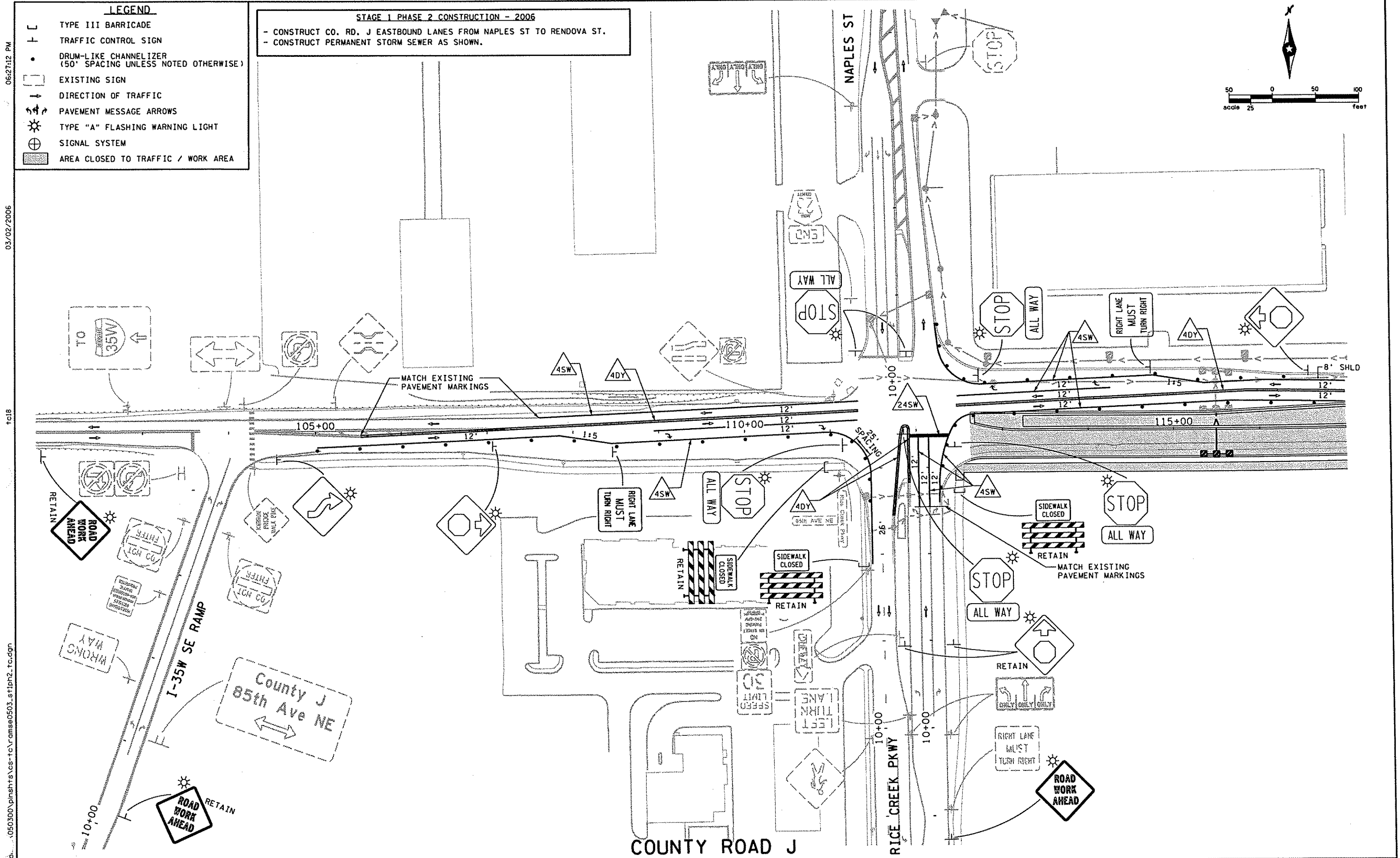
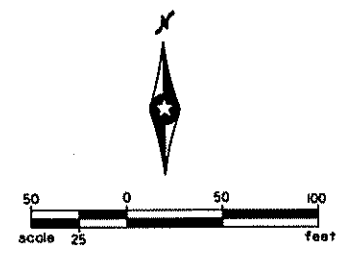
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LEGEND

[]	TYPE III BARRICADE
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[•]	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[]	EXISTING SIGN
[→]	DIRECTION OF TRAFFIC
[→]	PAVEMENT MESSAGE ARROWS
[⚡]	TYPE "A" FLASHING WARNING LIGHT
[⊕]	SIGNAL SYSTEM
[]	AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 2 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



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DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

PHONE: 1650490-2000
 3535 VAONAS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

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OF TC53	297

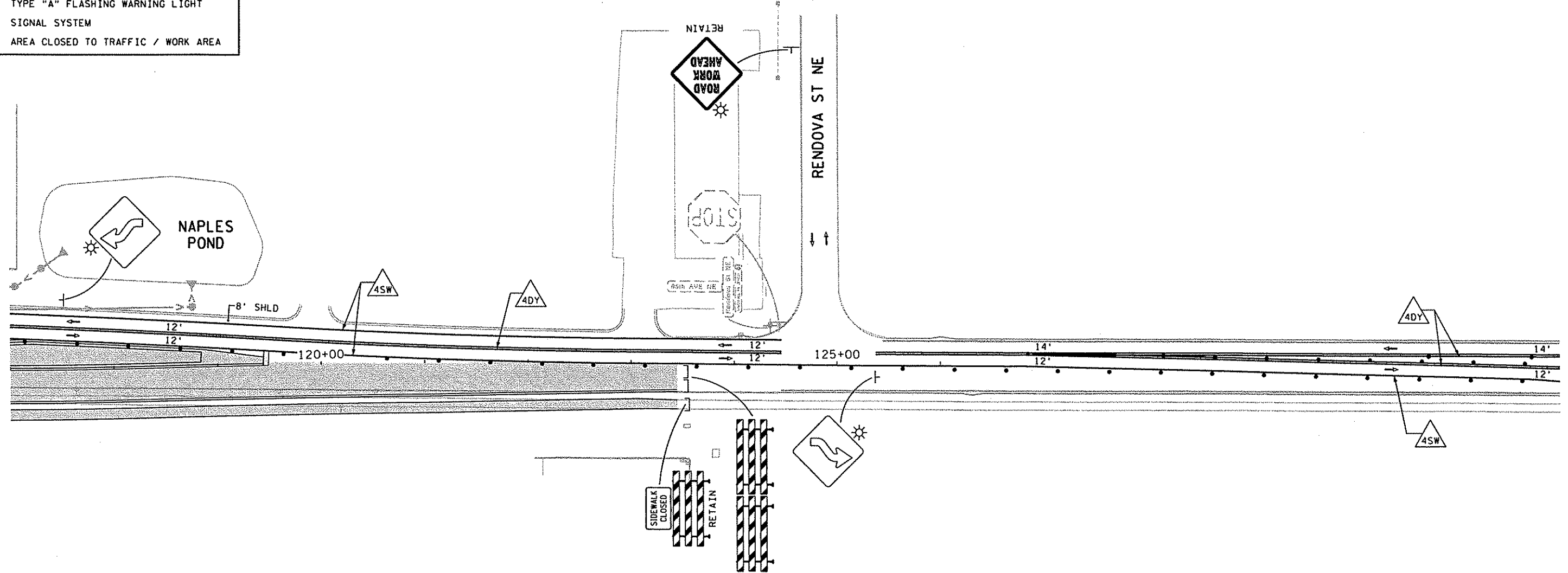
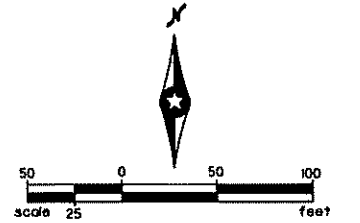
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LEGEND

- [] TYPE III BARRICADE
- + T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- ▨ AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 2 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

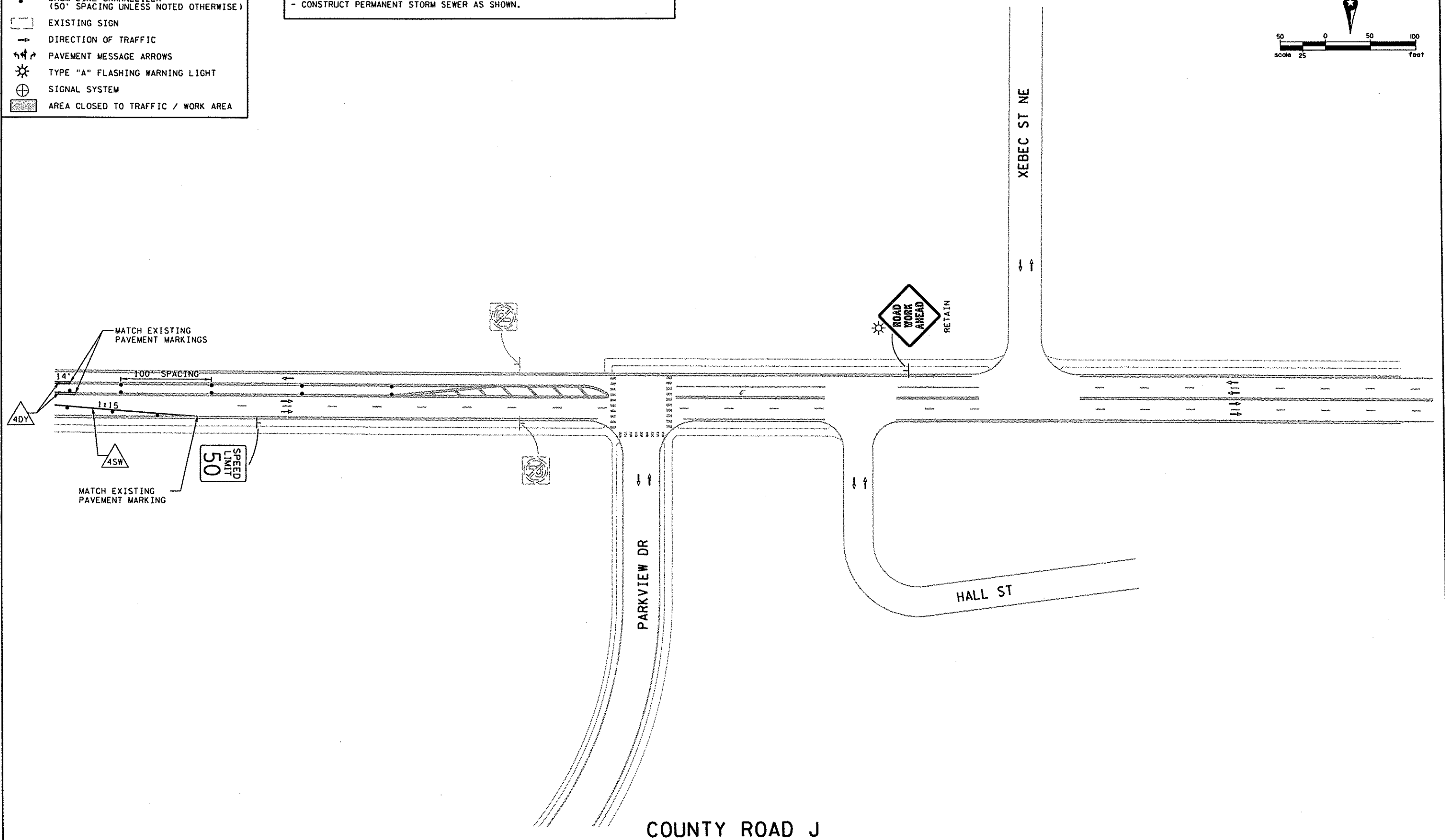
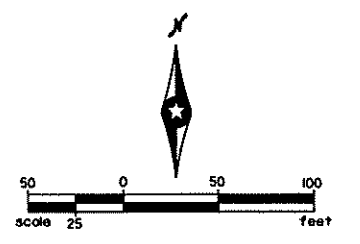
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LEGEND

- [L] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [□] EXISTING SIGN
- [→] DIRECTION OF TRAFFIC
- [↗ ↘] PAVEMENT MESSAGE ARROWS
- [☀] TYPE "A" FLASHING WARNING LIGHT
- [⊕] SIGNAL SYSTEM
- [■] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 2 CONSTRUCTION - 2006
 - CONSTRUCT CO. RD. J EASTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
 - CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
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 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

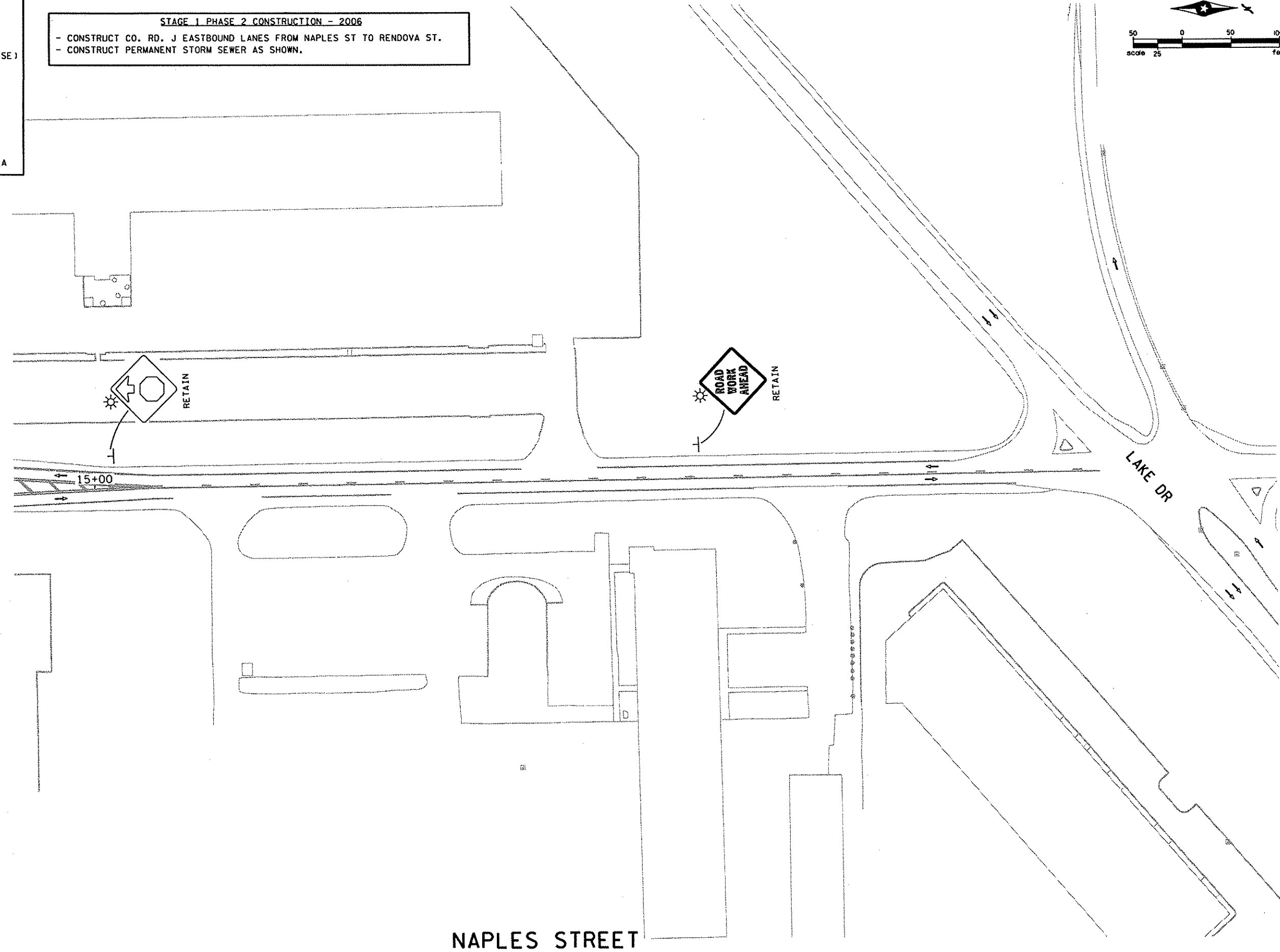
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LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☼ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 1 PHASE 2 CONSTRUCTION - 2006
 - CONSTRUCT CO. RD. J EASTBOUND LANES FROM NAPLES ST TO RENDOVA ST.
 - CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
	NO.	BY	DATE
			REVISIONS

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 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

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OF TC53	297

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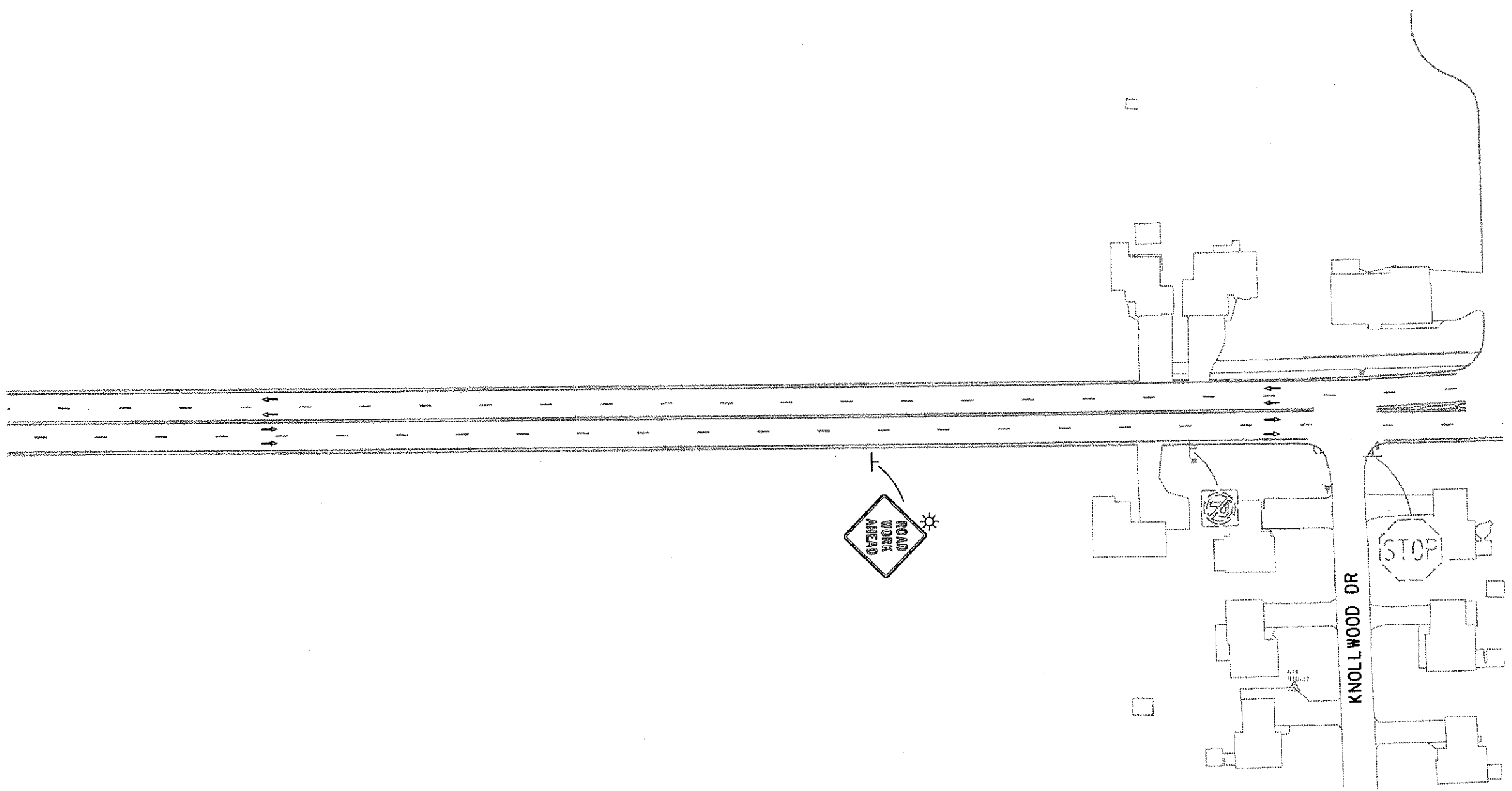
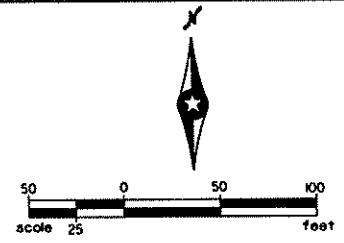
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LEGEND

- [] TYPE III BARRICADE
- + T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☼ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 - STAGE 2 PHASE 1

FILE NO. ARAMSE0503	83
TC22 OF TC53	297

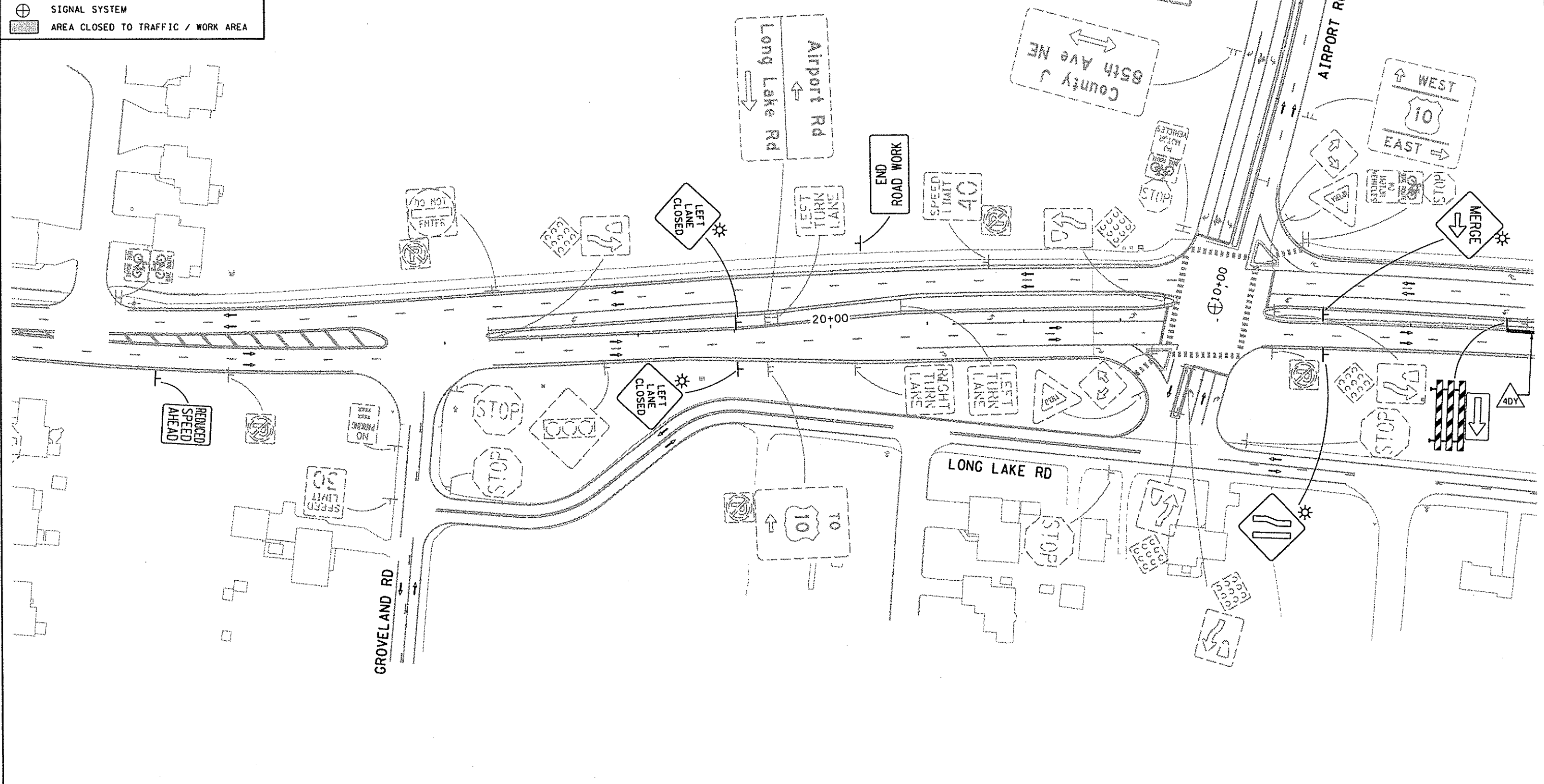
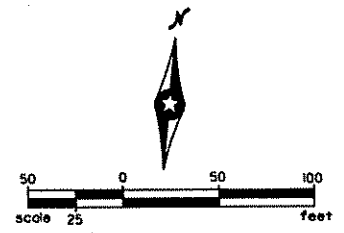
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03/02/2006
tc23
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LEGEND

- [] TYPE III BARRICADE
- T T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☼ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- [] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

FILE NO. **84**
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 TC23
 OF TC53
297

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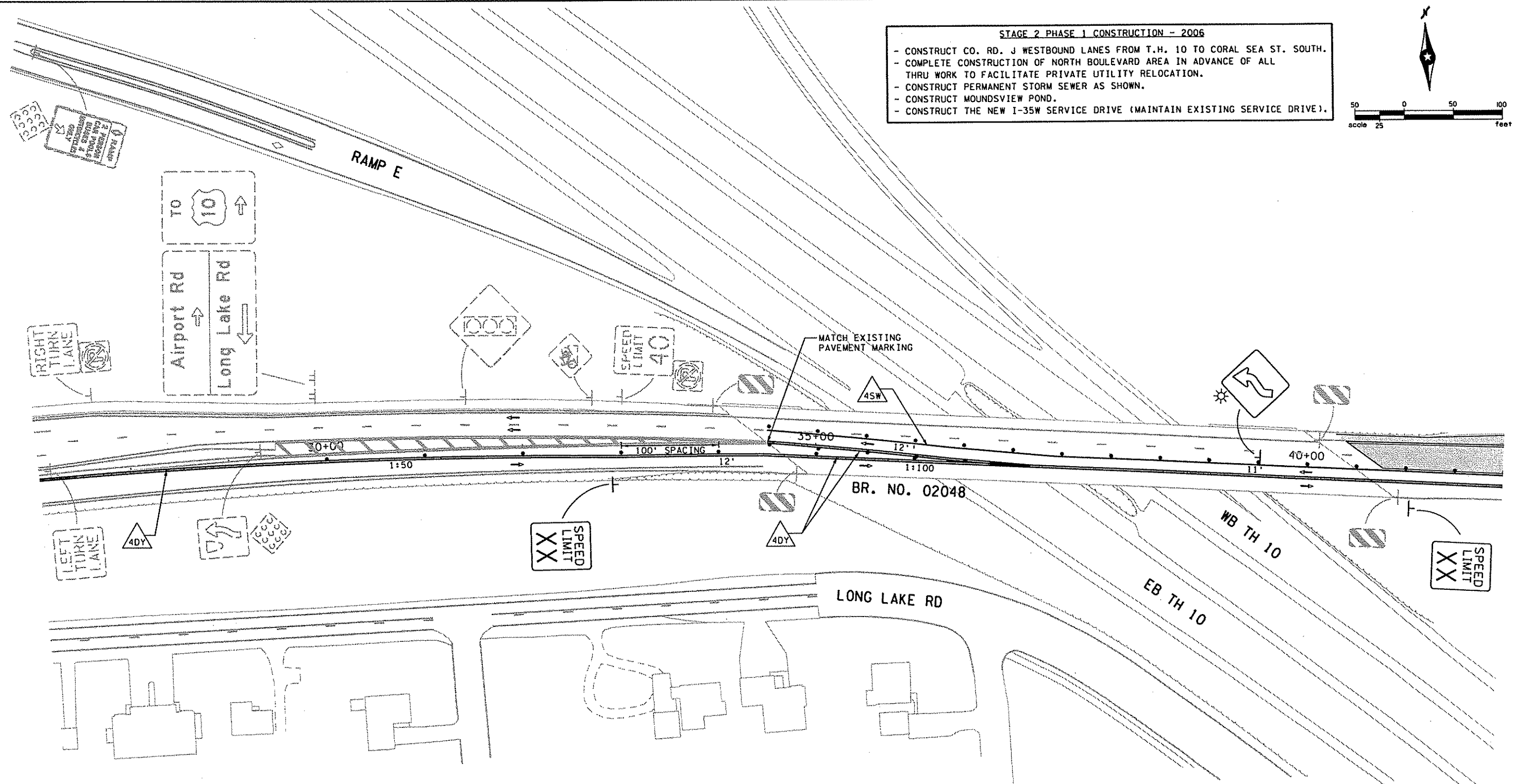
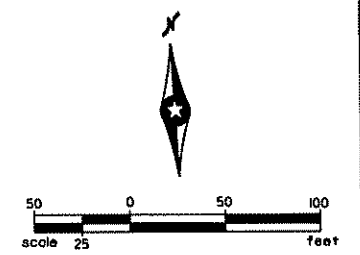
03/02/2006

tc24

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STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).



LEGEND

- [L] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [□] EXISTING SIGN
- [→] DIRECTION OF TRAFFIC
- [↔] PAVEMENT MESSAGE ARROWS
- [☀] TYPE "A" FLASHING WARNING LIGHT
- [⊕] SIGNAL SYSTEM
- [■] AREA CLOSED TO TRAFFIC / WORK AREA

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
	NO.	BY	DATE
			REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

SEH

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

FILE NO. **85**
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 TC24
 OF TC53
297

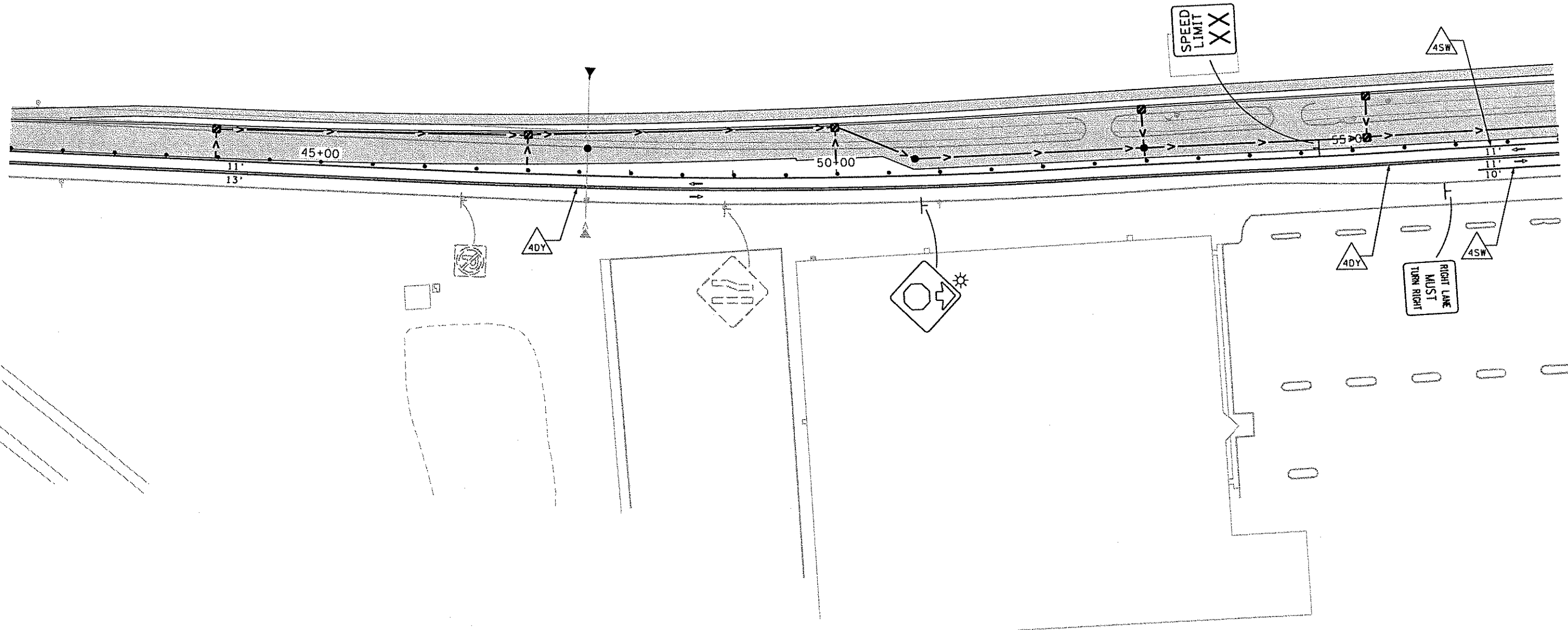
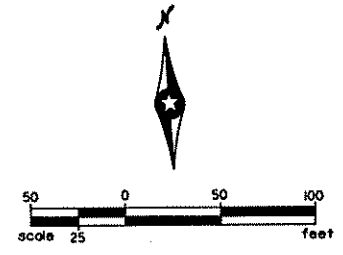
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tc25
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LEGEND

- [] TYPE III BARRICADE
- T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- ▨ AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
	NO.	BY	DATE
			REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

**RAMSEY COUNTY
 COUNTY ROAD J**

S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL

STAGE 2 PHASE 1

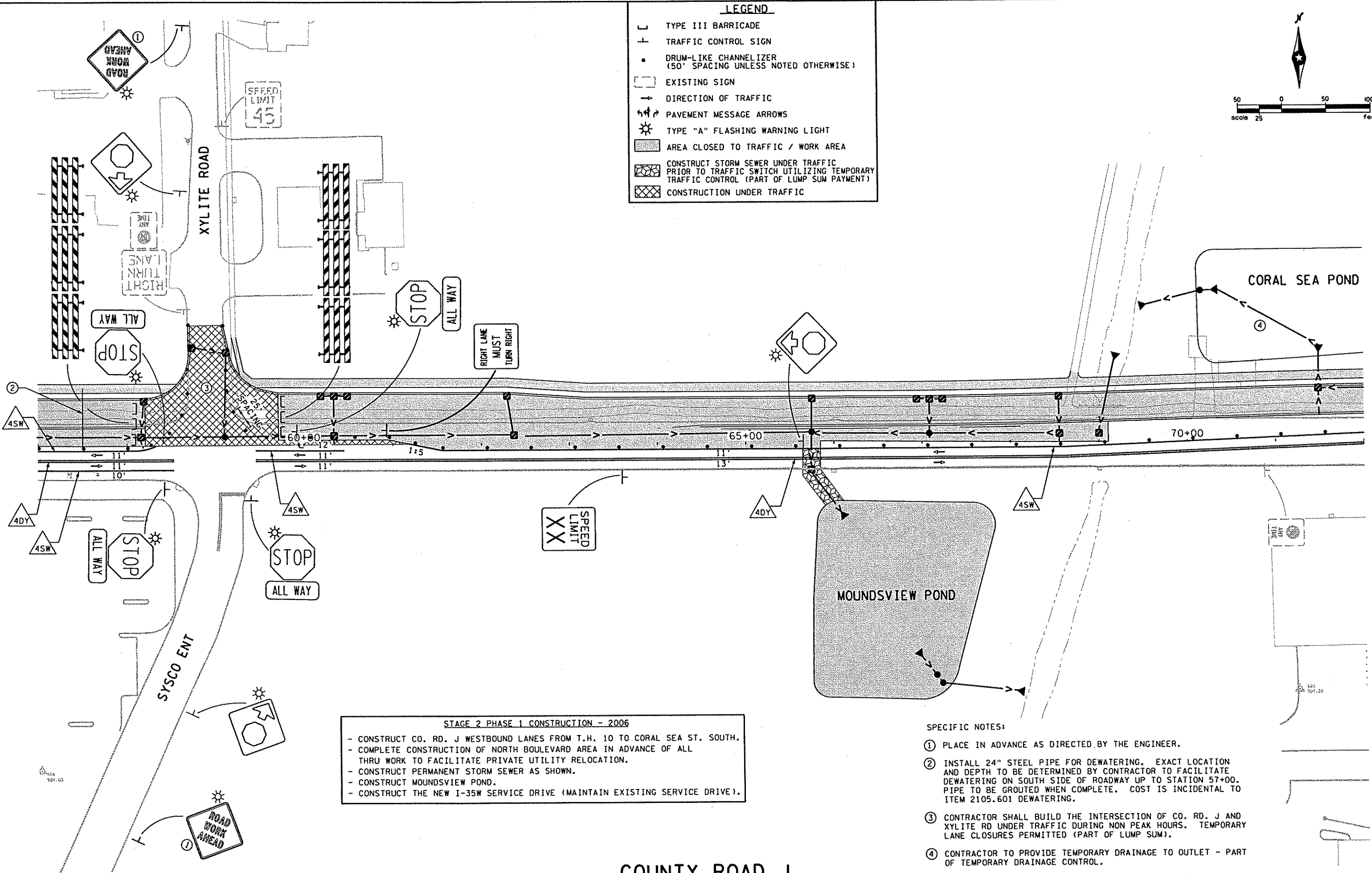
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03/02/2006

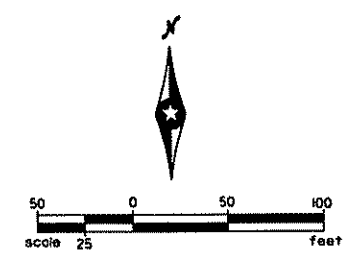
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LEGEND

- [] TYPE III BARRICADE
- + T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCT STORM SEWER UNDER TRAFFIC PRIOR TO TRAFFIC SWITCH UTILIZING TEMPORARY TRAFFIC CONTROL (PART OF LUMP SUM PAYMENT)
- [] CONSTRUCTION UNDER TRAFFIC



STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).

- SPECIFIC NOTES:**
- ① PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.
 - ② INSTALL 24" STEEL PIPE FOR DEWATERING. EXACT LOCATION AND DEPTH TO BE DETERMINED BY CONTRACTOR TO FACILITATE DEWATERING ON SOUTH SIDE OF ROADWAY UP TO STATION 57+00. PIPE TO BE GROUTED WHEN COMPLETE. COST IS INCIDENTAL TO ITEM 2105.601 DEWATERING.
 - ③ CONTRACTOR SHALL BUILD THE INTERSECTION OF CO. RD. J AND XYLITE RD UNDER TRAFFIC DURING NON PEAK HOURS. TEMPORARY LANE CLOSURES PERMITTED (PART OF LUMP SUM).
 - ④ CONTRACTOR TO PROVIDE TEMPORARY DRAINAGE TO OUTLET - PART OF TEMPORARY DRAINAGE CONTROL.

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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 3535 YADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

FILE NO.	87
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TC26	
OF TC53	297

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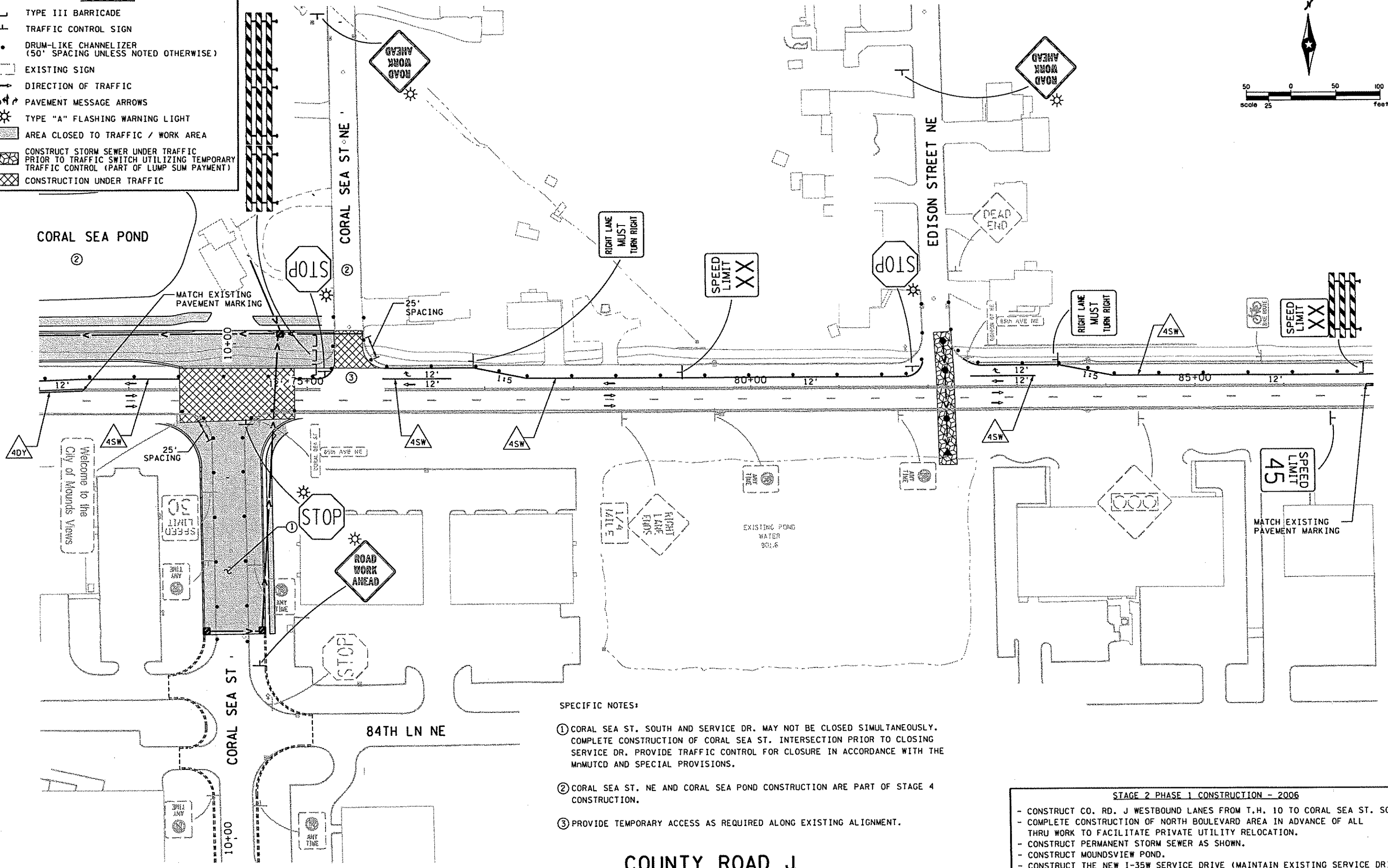
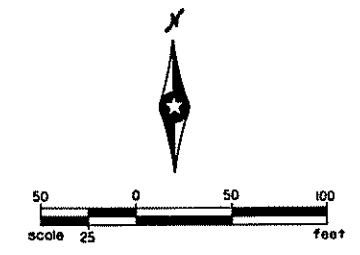
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LEGEND

- [L] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [→] DIRECTION OF TRAFFIC
- [→] PAVEMENT MESSAGE ARROWS
- [*] TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCT STORM SEWER UNDER TRAFFIC PRIOR TO TRAFFIC SWITCH UTILIZING TEMPORARY TRAFFIC CONTROL (PART OF LUMP SUM PAYMENT)
- [] CONSTRUCTION UNDER TRAFFIC



SPECIFIC NOTES:

- ① CORAL SEA ST. SOUTH AND SERVICE DR. MAY NOT BE CLOSED SIMULTANEOUSLY. COMPLETE CONSTRUCTION OF CORAL SEA ST. INTERSECTION PRIOR TO CLOSING SERVICE DR. PROVIDE TRAFFIC CONTROL FOR CLOSURE IN ACCORDANCE WITH THE MnMUTCD AND SPECIAL PROVISIONS.
- ② CORAL SEA ST. NE AND CORAL SEA POND CONSTRUCTION ARE PART OF STAGE 4 CONSTRUCTION.
- ③ PROVIDE TEMPORARY ACCESS AS REQUIRED ALONG EXISTING ALIGNMENT.

- STAGE 2 PHASE 1 CONSTRUCTION - 2006**
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
 - COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
 - CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
 - CONSTRUCT MOUNDVIEW POND.
 - CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).

COUNTY ROAD J

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT	NO.	BY	DATE			
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

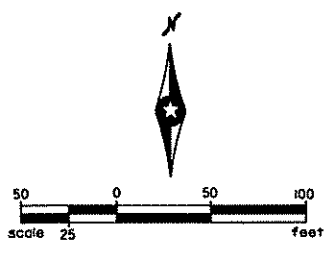
Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensure Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

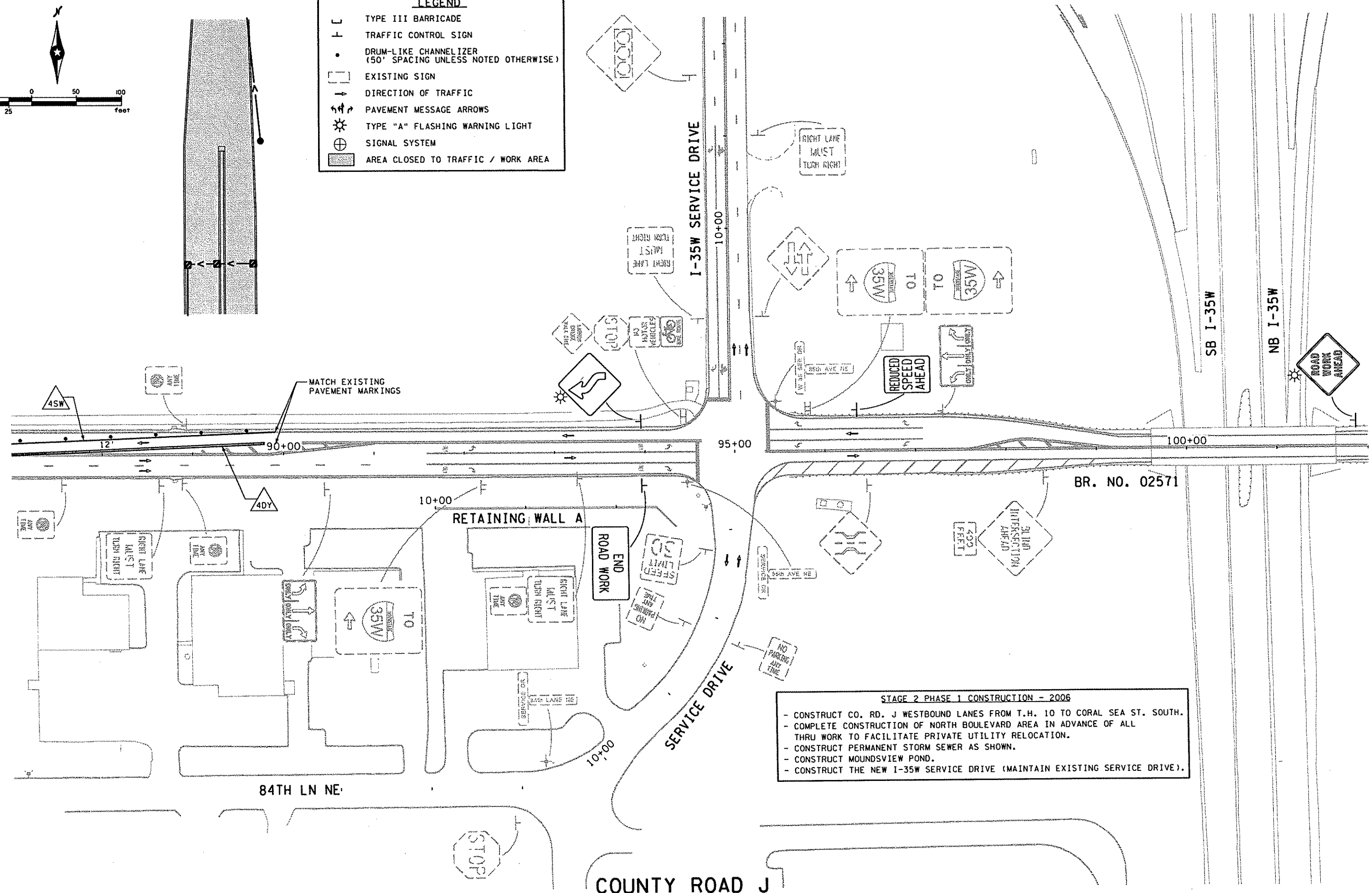
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STAGE 2 PHASE 1	TC27 OF TC53	297

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LEGEND

[]	TYPE III BARRICADE
[T]	TRAFFIC CONTROL SIGN
•	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[]	EXISTING SIGN
↑	DIRECTION OF TRAFFIC
→	PAVEMENT MESSAGE ARROWS
⊙	TYPE "A" FLASHING WARNING LIGHT
⊕	SIGNAL SYSTEM
■	AREA CLOSED TO TRAFFIC / WORK AREA



STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dacon* Lic. No. 40535
 Printed Name: TIFFANY J. DACON Date: 03/02/2006

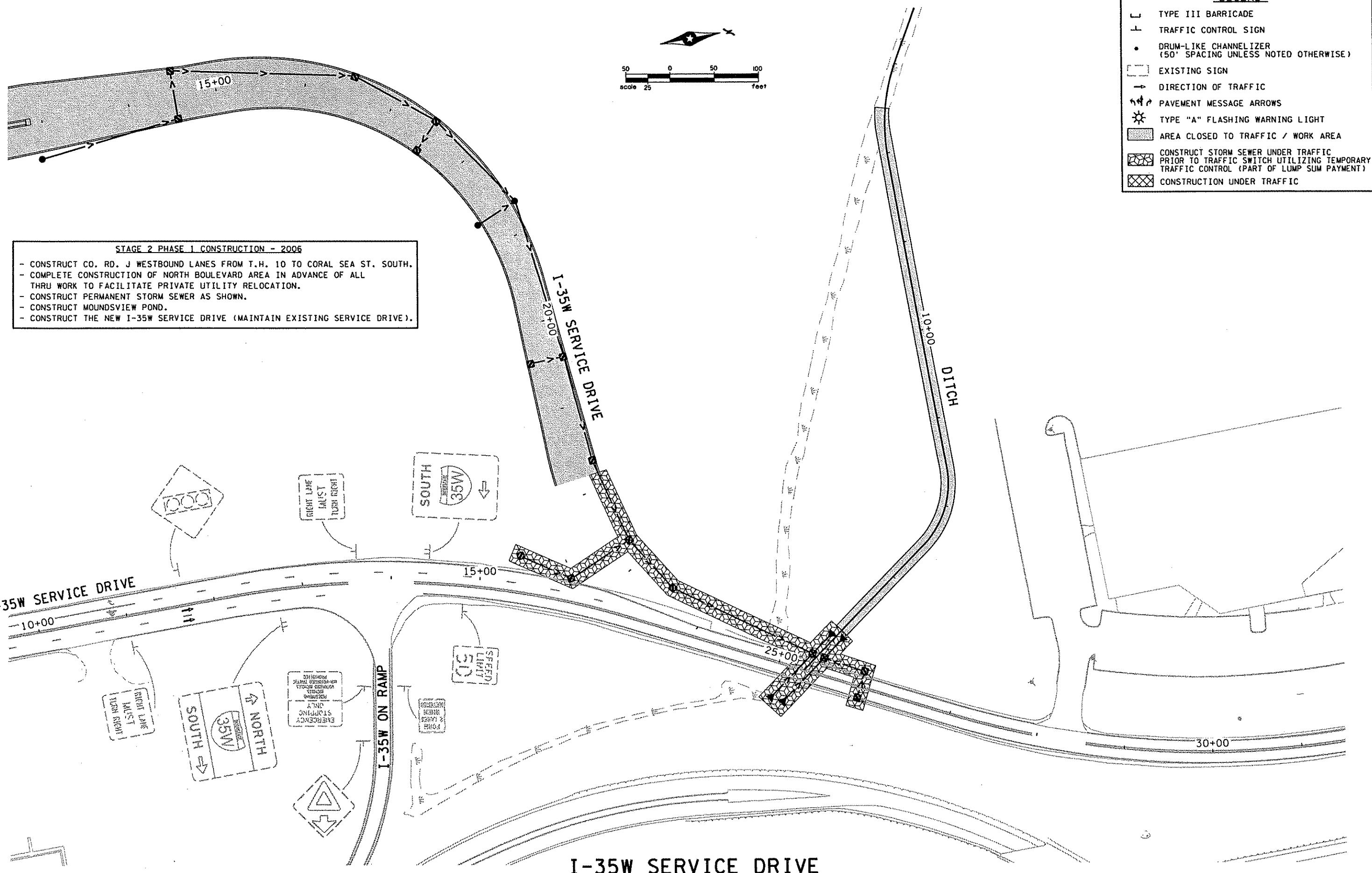


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

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TC28	
OF TC53	297

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STAGE 2 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J WESTBOUND LANES FROM T.H. 10 TO CORAL SEA ST. SOUTH.
- COMPLETE CONSTRUCTION OF NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT MOUNDSVIEW POND.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE (MAINTAIN EXISTING SERVICE DRIVE).

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
	NO.	BY	DATE
			REVISIONS

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Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

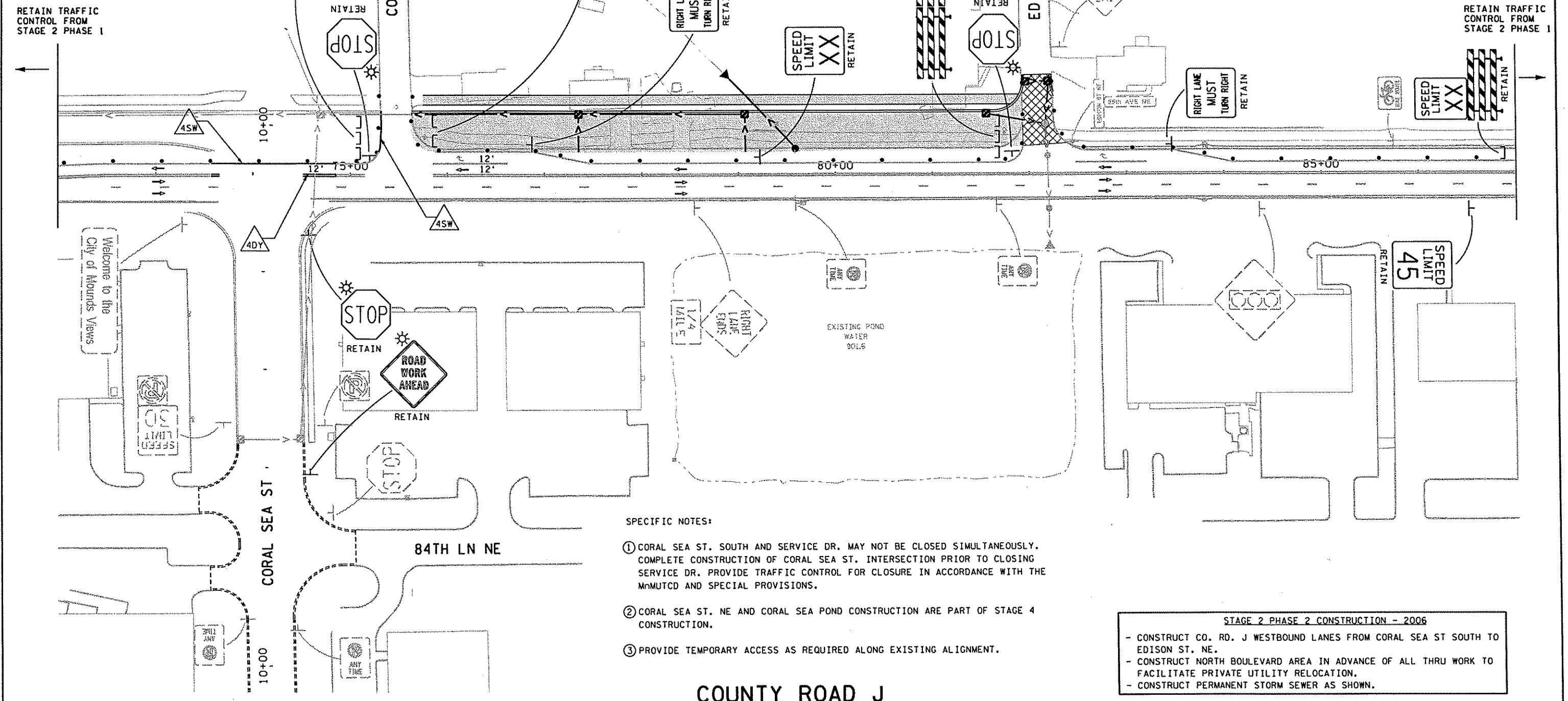
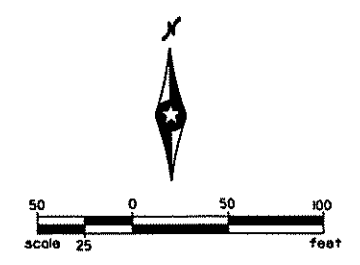
STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

FILE NO. ARAMSE0503	89A
TC29 OF TC53	297

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LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCTION UNDER TRAFFIC



SPECIFIC NOTES:

- ① CORAL SEA ST. SOUTH AND SERVICE DR. MAY NOT BE CLOSED SIMULTANEOUSLY. COMPLETE CONSTRUCTION OF CORAL SEA ST. INTERSECTION PRIOR TO CLOSING SERVICE DR. PROVIDE TRAFFIC CONTROL FOR CLOSURE IN ACCORDANCE WITH THE MnMUTCD AND SPECIAL PROVISIONS.
- ② CORAL SEA ST. NE AND CORAL SEA POND CONSTRUCTION ARE PART OF STAGE 4 CONSTRUCTION.
- ③ PROVIDE TEMPORARY ACCESS AS REQUIRED ALONG EXISTING ALIGNMENT.

STAGE 2 PHASE 2 CONSTRUCTION - 2006

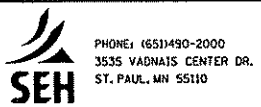
- CONSTRUCT CO. RD. J WESTBOUND LANES FROM CORAL SEA ST SOUTH TO EDISON ST. NE.
- CONSTRUCT NORTH BOULEVARD AREA IN ADVANCE OF ALL THRU WORK TO FACILITATE PRIVATE UTILITY RELOCATION.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

COUNTY ROAD J

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTI			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
Printed Name: TIFFANY J. DAGON Date: 03/02/2006



**RAMSEY COUNTY
COUNTY ROAD J**

S.A.P. 02-632-14. S.A.P. 62-601-11

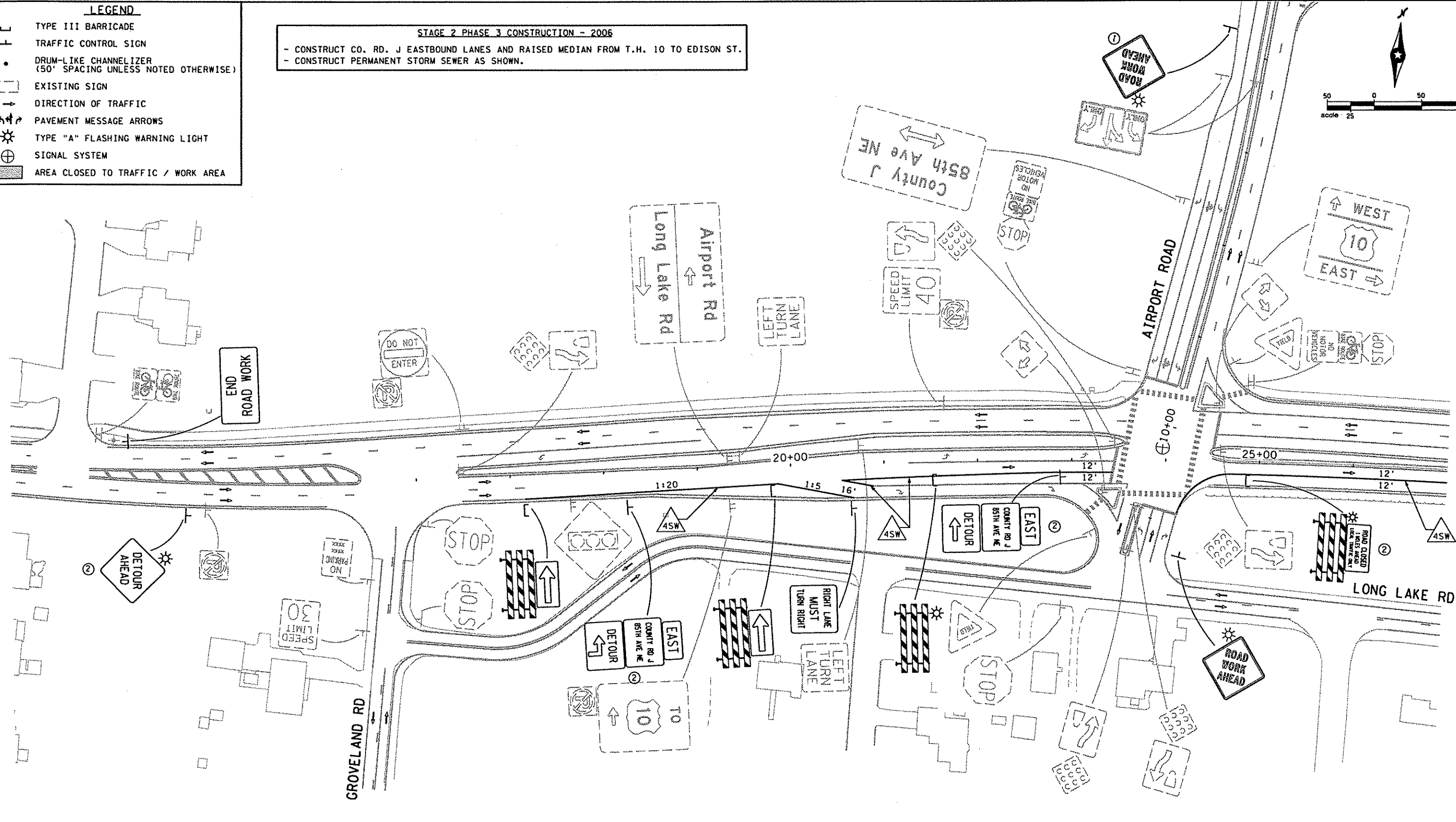
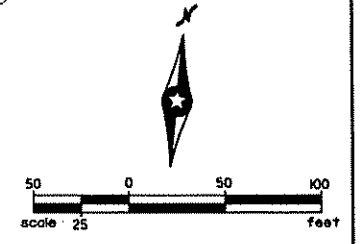
STAGING & TRAFFIC CONTROL

STAGE 2 PHASE 2

FILE NO. ARAMSE0503	90
TC30 OF TC53	297

STAGE 2 PHASE 3 CONSTRUCTION - 2006
 - CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
 - CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

- LEGEND**
- [L] TYPE III BARRICADE
 - [T] TRAFFIC CONTROL SIGN
 - [•] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
 - [] EXISTING SIGN
 - [→] DIRECTION OF TRAFFIC
 - [↗ ↘] PAVEMENT MESSAGE ARROWS
 - [⚡] TYPE "A" FLASHING WARNING LIGHT
 - [⊕] SIGNAL SYSTEM
 - [■] AREA CLOSED TO TRAFFIC / WORK AREA



- SPECIFIC NOTE:**
- ① PLACE IN ADVANCE AS DIRECTED BY THE ENGINEER.
 - ② DOESN'T NEED TO BE INPLACE UNTIL STAGE 3, PHASE 1 BEGINS.

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 3/3/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

FILE NO. 90A
 ARAMSE0503
 TC31
 OF TC53
 297

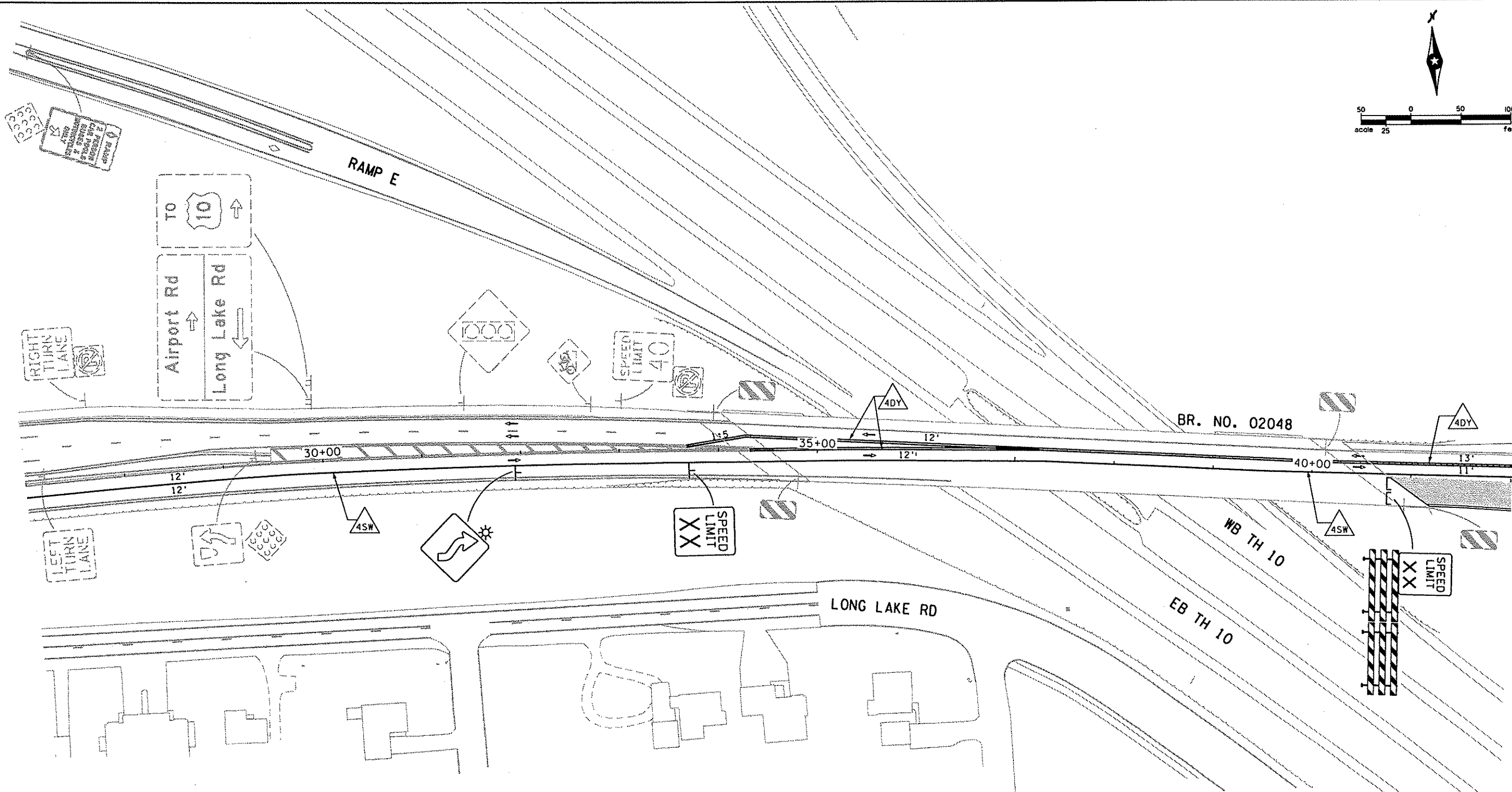
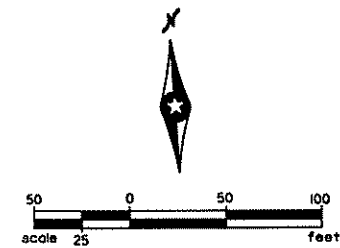
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03/02/2006

tc32

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LEGEND

-  TYPE III BARRICADE
-  TRAFFIC CONTROL SIGN
-  DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
-  EXISTING SIGN
-  DIRECTION OF TRAFFIC
-  PAVEMENT MESSAGE ARROWS
-  TYPE "A" FLASHING WARNING LIGHT
-  SIGNAL SYSTEM
-  AREA CLOSED TO TRAFFIC / WORK AREA

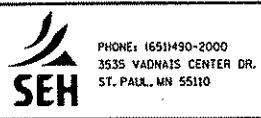
STAGE 2 PHASE 3 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

COUNTY ROAD J

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Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

FILE NO. ARAMSE0503	91
TC32 OF TC53	297

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

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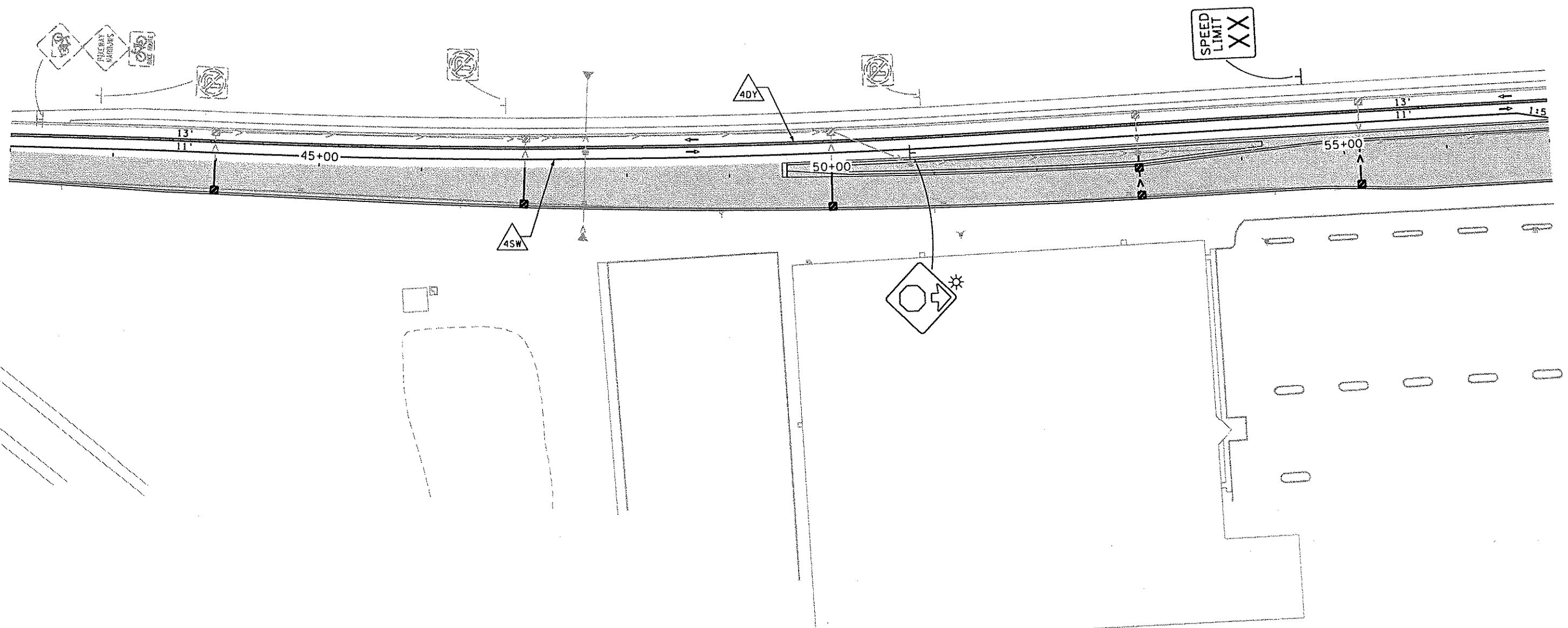
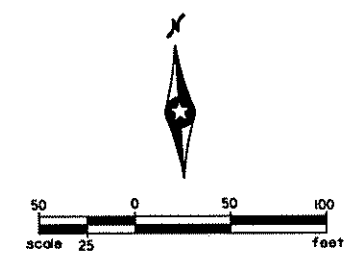
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LEGEND

- [TYPE III BARRICADE
- T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [EXISTING SIGN
- ↑ DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- ▨ AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 2 PHASE 3 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

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3/3/2006

TC34

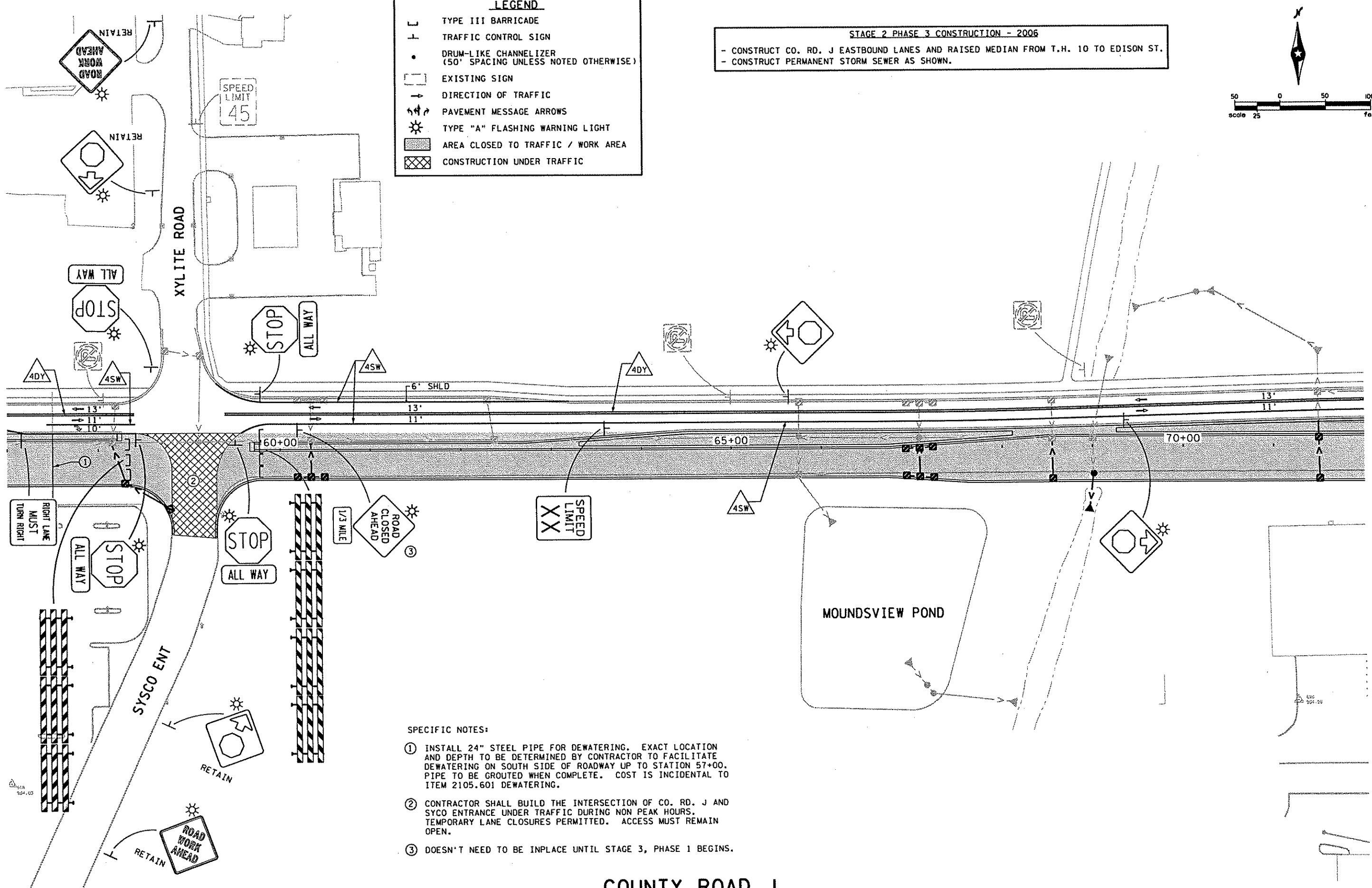
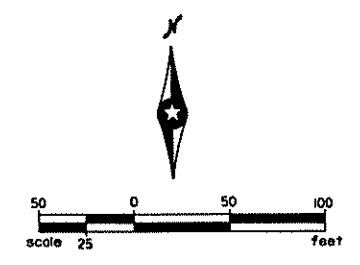
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LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCTION UNDER TRAFFIC

STAGE 2 PHASE 3 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



- SPECIFIC NOTES:**
- ① INSTALL 24" STEEL PIPE FOR DEWATERING. EXACT LOCATION AND DEPTH TO BE DETERMINED BY CONTRACTOR TO FACILITATE DEWATERING ON SOUTH SIDE OF ROADWAY UP TO STATION 57+00. PIPE TO BE GROUTED WHEN COMPLETE. COST IS INCIDENTAL TO ITEM 2105.601 DEWATERING.
 - ② CONTRACTOR SHALL BUILD THE INTERSECTION OF CO. RD. J AND SYCO ENTRANCE UNDER TRAFFIC DURING NON PEAK HOURS. TEMPORARY LANE CLOSURES PERMITTED. ACCESS MUST REMAIN OPEN.
 - ③ DOESN'T NEED TO BE IN PLACE UNTIL STAGE 3, PHASE 1 BEGINS.

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 3/3/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

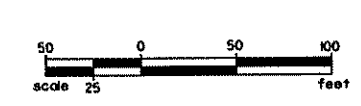
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03/02/2006

tc35

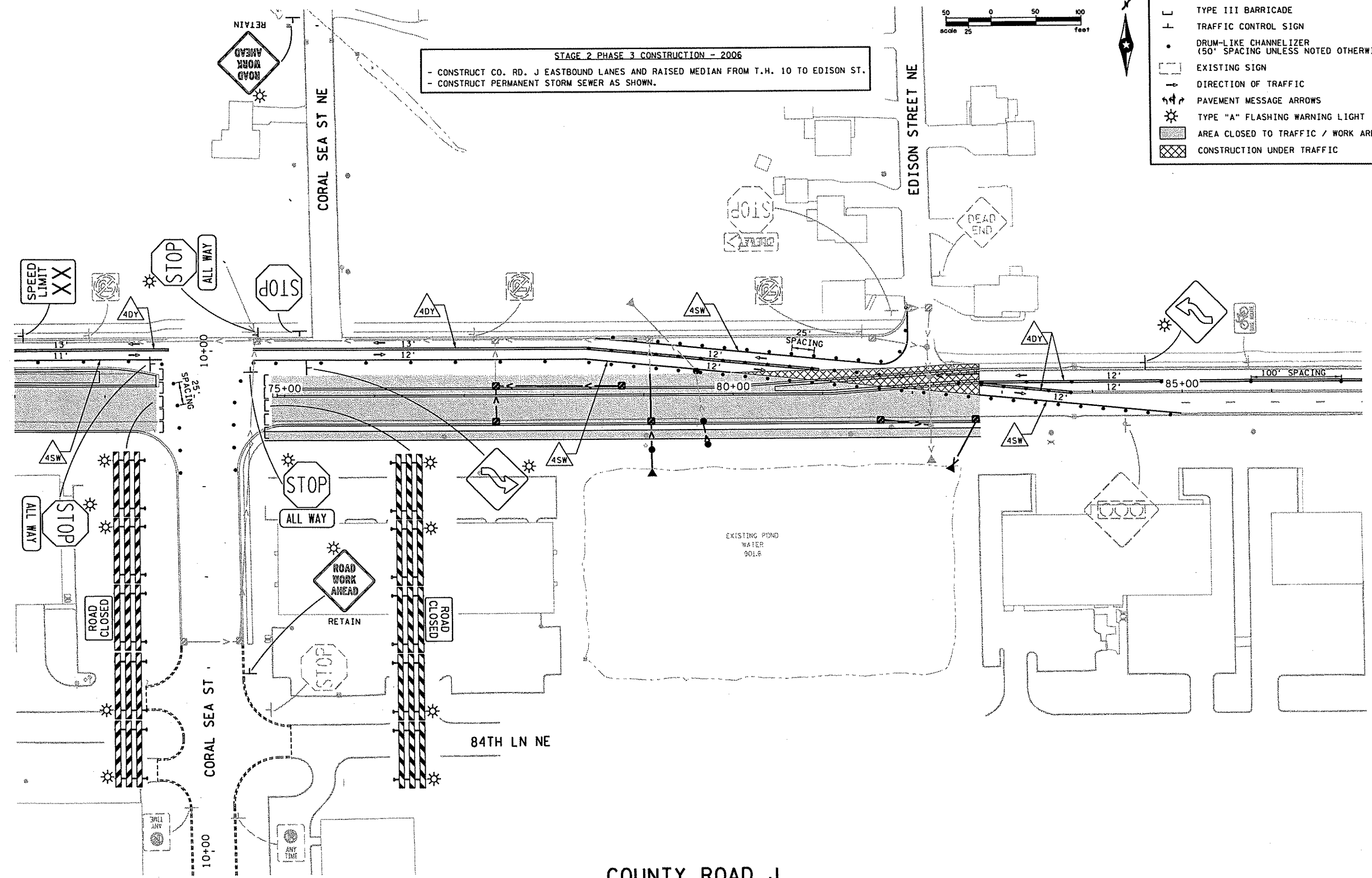
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[Symbol]	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[Symbol]	EXISTING SIGN
[Symbol]	DIRECTION OF TRAFFIC
[Symbol]	PAVEMENT MESSAGE ARROWS
[Symbol]	TYPE "A" FLASHING WARNING LIGHT
[Symbol]	AREA CLOSED TO TRAFFIC / WORK AREA
[Symbol]	CONSTRUCTION UNDER TRAFFIC

STAGE 2 PHASE 3 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40835
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

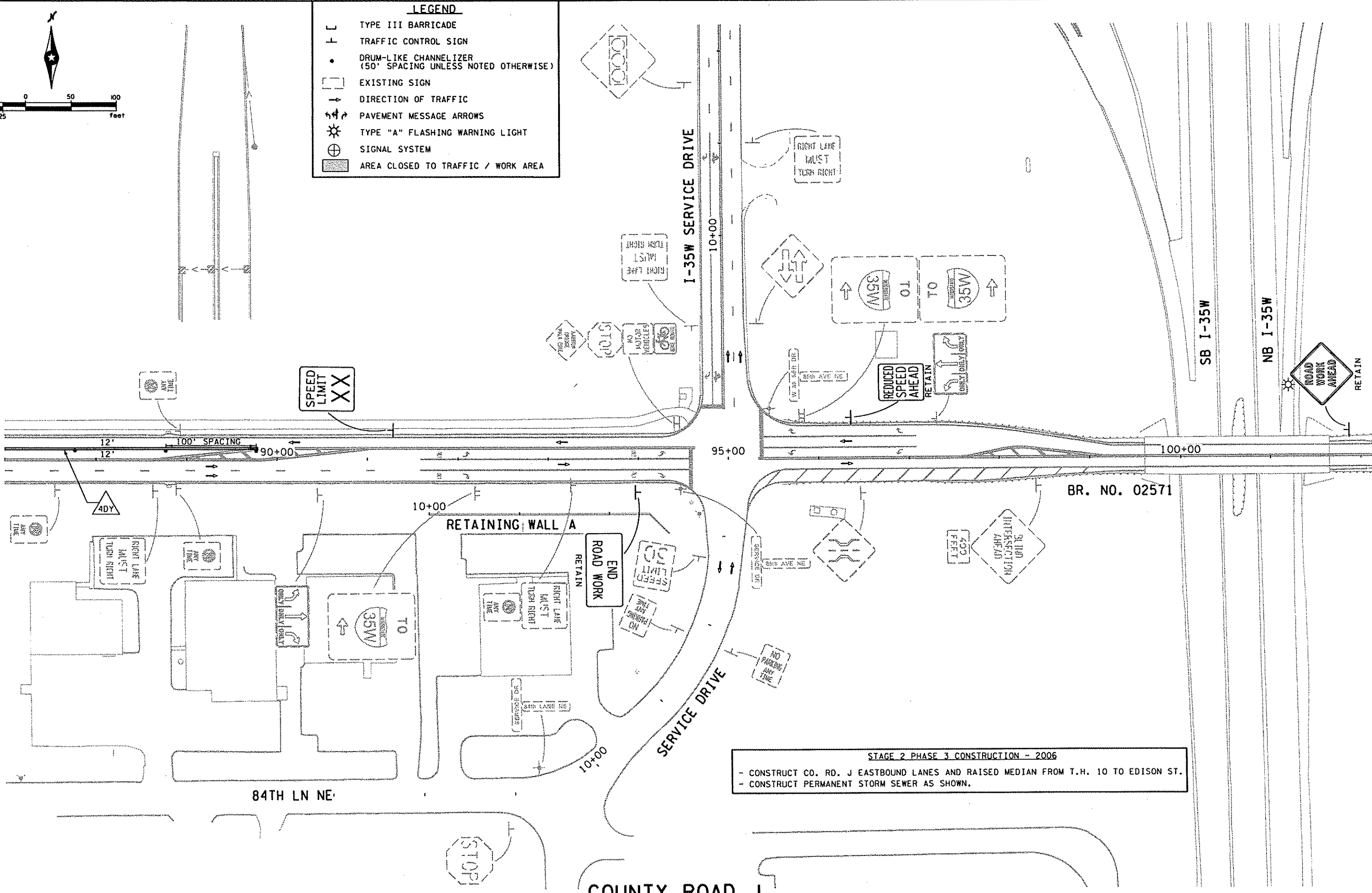
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LEGEND

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T	TRAFFIC CONTROL SIGN
•	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[]	EXISTING SIGN
↑	DIRECTION OF TRAFFIC
→	PAVEMENT MESSAGE ARROWS
⊙	TYPE "A" FLASHING WARNING LIGHT
⊕	SIGNAL SYSTEM
■	AREA CLOSED TO TRAFFIC / WORK AREA



STAGE 2 PHASE 3 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J EASTBOUND LANES AND RAISED MEDIAN FROM T.H. 10 TO EDISON ST.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 3

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 OF TC53
297

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03/02/2006

TC37

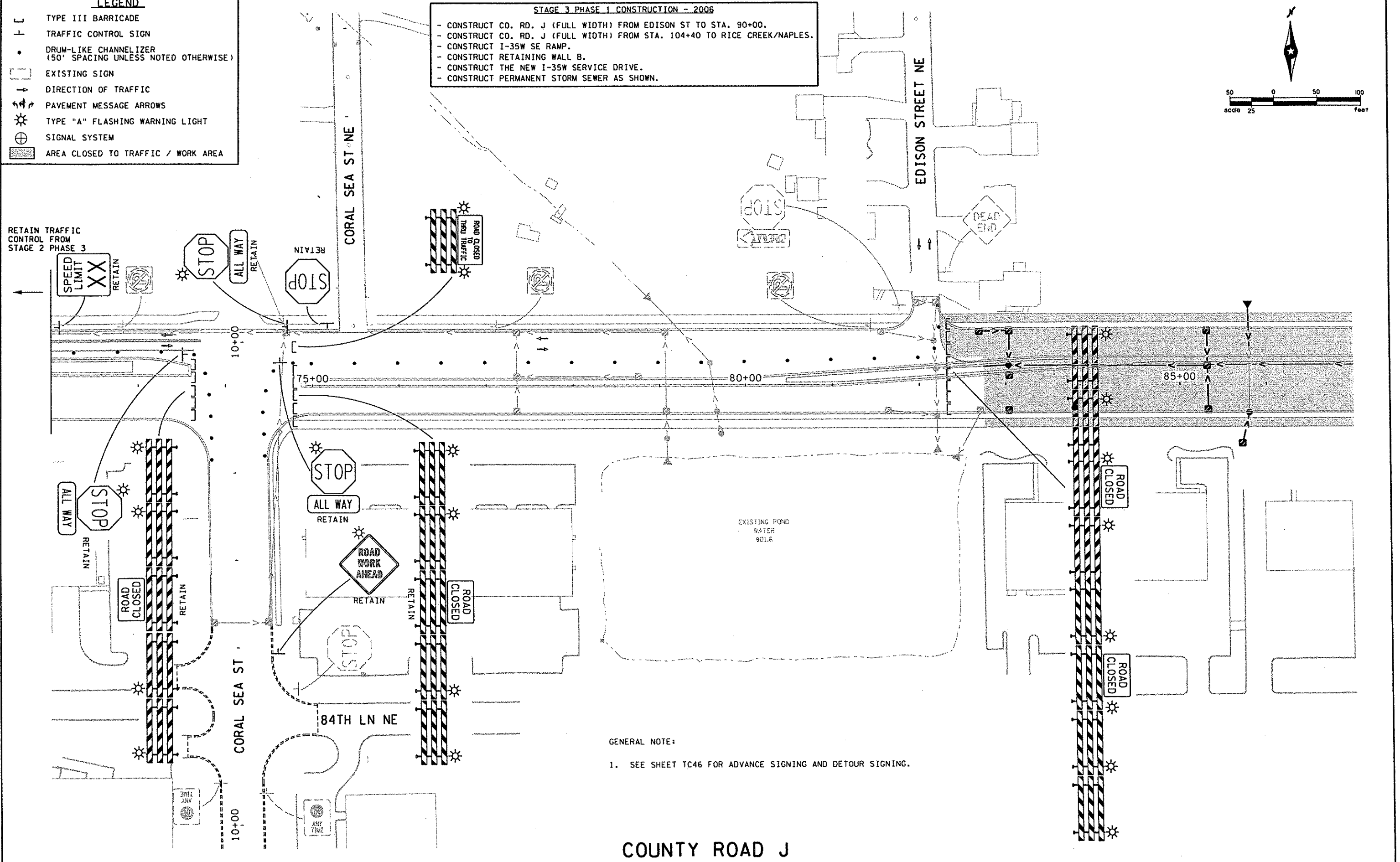
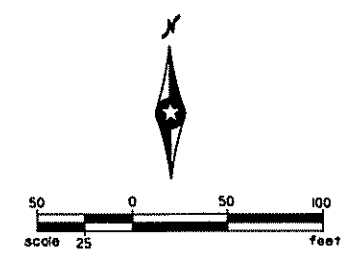
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LEGEND

- [] TYPE III BARRICADE
- T TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- DIRECTION OF TRAFFIC
- ↔ PAVEMENT MESSAGE ARROWS
- ☀ TYPE "A" FLASHING WARNING LIGHT
- ⊕ SIGNAL SYSTEM
- ▨ AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 3 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J (FULL WIDTH) FROM EDISON ST TO STA. 90+00.
- CONSTRUCT CO. RD. J (FULL WIDTH) FROM STA. 104+40 TO RICE CREEK/NAPLES.
- CONSTRUCT I-35W SE RAMP.
- CONSTRUCT RETAINING WALL B.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



GENERAL NOTE:
 1. SEE SHEET TC46 FOR ADVANCE SIGNING AND DETOUR SIGNING.

COUNTY ROAD J

DESIGN TEAM				REVISIONS			
NO.	BY	DATE	DESCRIPTION	NO.	BY	DATE	DESCRIPTION
1	MTT						
2	TJD						
3	TJD						

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

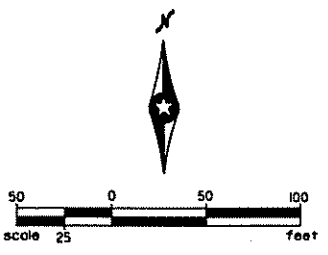
SEH
 PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 1

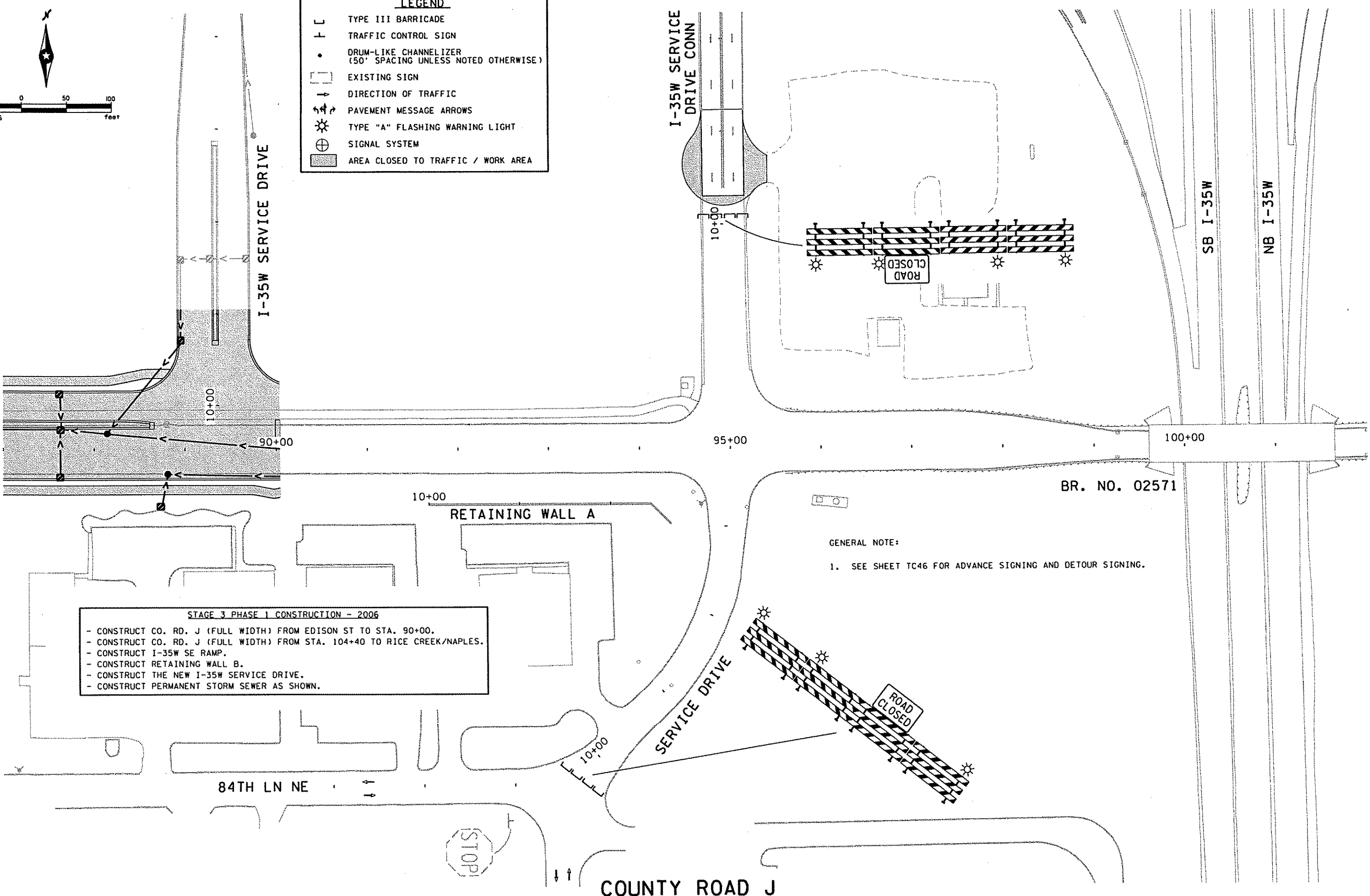
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LEGEND

	TYPE III BARRICADE
	TRAFFIC CONTROL SIGN
	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
	EXISTING SIGN
	DIRECTION OF TRAFFIC
	PAVEMENT MESSAGE ARROWS
	TYPE "A" FLASHING WARNING LIGHT
	SIGNAL SYSTEM
	AREA CLOSED TO TRAFFIC / WORK AREA



STAGE 3 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J (FULL WIDTH) FROM EDISON ST TO STA. 90+00.
- CONSTRUCT CO. RD. J (FULL WIDTH) FROM STA. 104+40 TO RICE CREEK/NAPLES.
- CONSTRUCT I-35W SE RAMP.
- CONSTRUCT RETAINING WALL B.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

GENERAL NOTE:
 1. SEE SHEET TC46 FOR ADVANCE SIGNING AND DETOUR SIGNING.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 3/3/2006

PHONE: 1651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 1

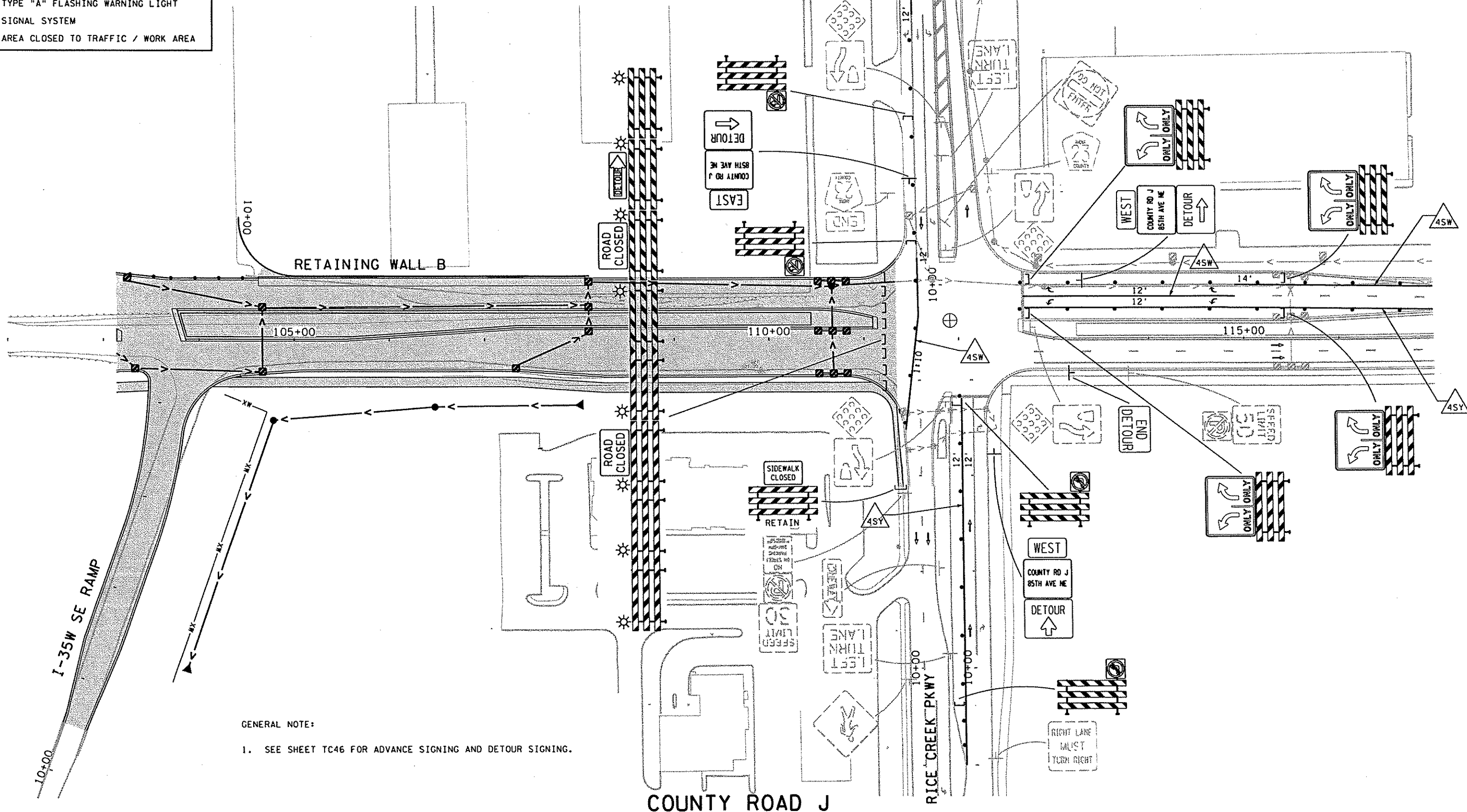
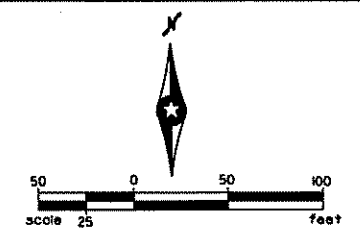
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OF TC53	297

LEGEND

[Symbol]	TYPE III BARRICADE
[Symbol]	TRAFFIC CONTROL SIGN
[Symbol]	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[Symbol]	EXISTING SIGN
[Symbol]	DIRECTION OF TRAFFIC
[Symbol]	PAVEMENT MESSAGE ARROWS
[Symbol]	TYPE "A" FLASHING WARNING LIGHT
[Symbol]	SIGNAL SYSTEM
[Symbol]	AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 3 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J (FULL WIDTH) FROM EDISON ST TO STA. 90+00.
- CONSTRUCT CO. RD. J (FULL WIDTH) FROM STA. 104+40 TO RICE CREEK/NAPLES.
- CONSTRUCT I-35W SE RAMP.
- CONSTRUCT RETAINING WALL B.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



GENERAL NOTE:
 1. SEE SHEET TC46 FOR ADVANCE SIGNING AND DETOUR SIGNING.

0628:32 PM
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 1

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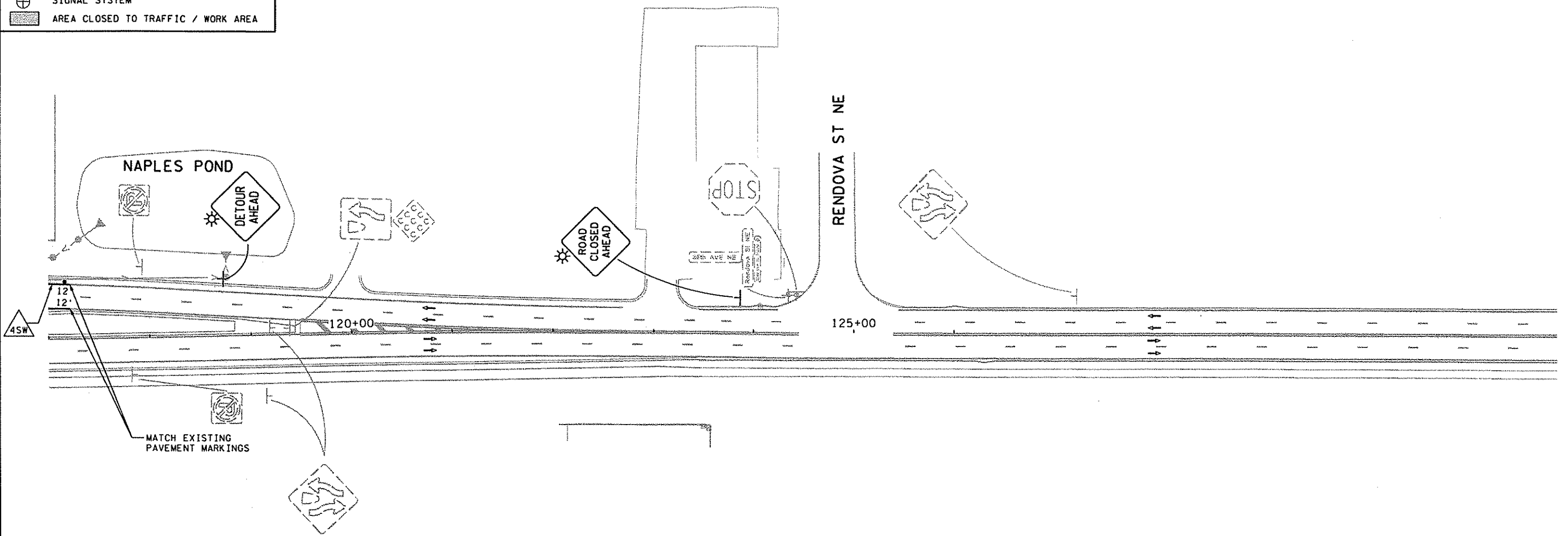
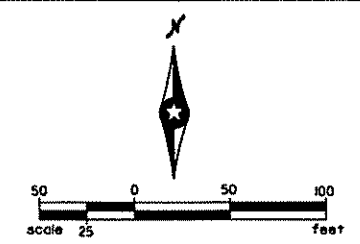
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LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] SIGNAL SYSTEM
- [] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 3 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J (FULL WIDTH) FROM EDISON ST TO STA. 90+00.
- CONSTRUCT CO. RD. J (FULL WIDTH) FROM STA. 104+40 TO RICE CREEK/NAPLES.
- CONSTRUCT I-35W SE RAMP.
- CONSTRUCT RETAINING WALL B.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



GENERAL NOTE:
 1. SEE SHEET TC46 FOR ADVANCE SIGNING AND DETOUR SIGNING.

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Jeffery J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: JEFFERY J. DAGON Date: 3/3/2006

PHONE: 651-490-2000
 3535 VAONAS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 1

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OF TC53	297

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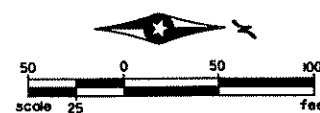
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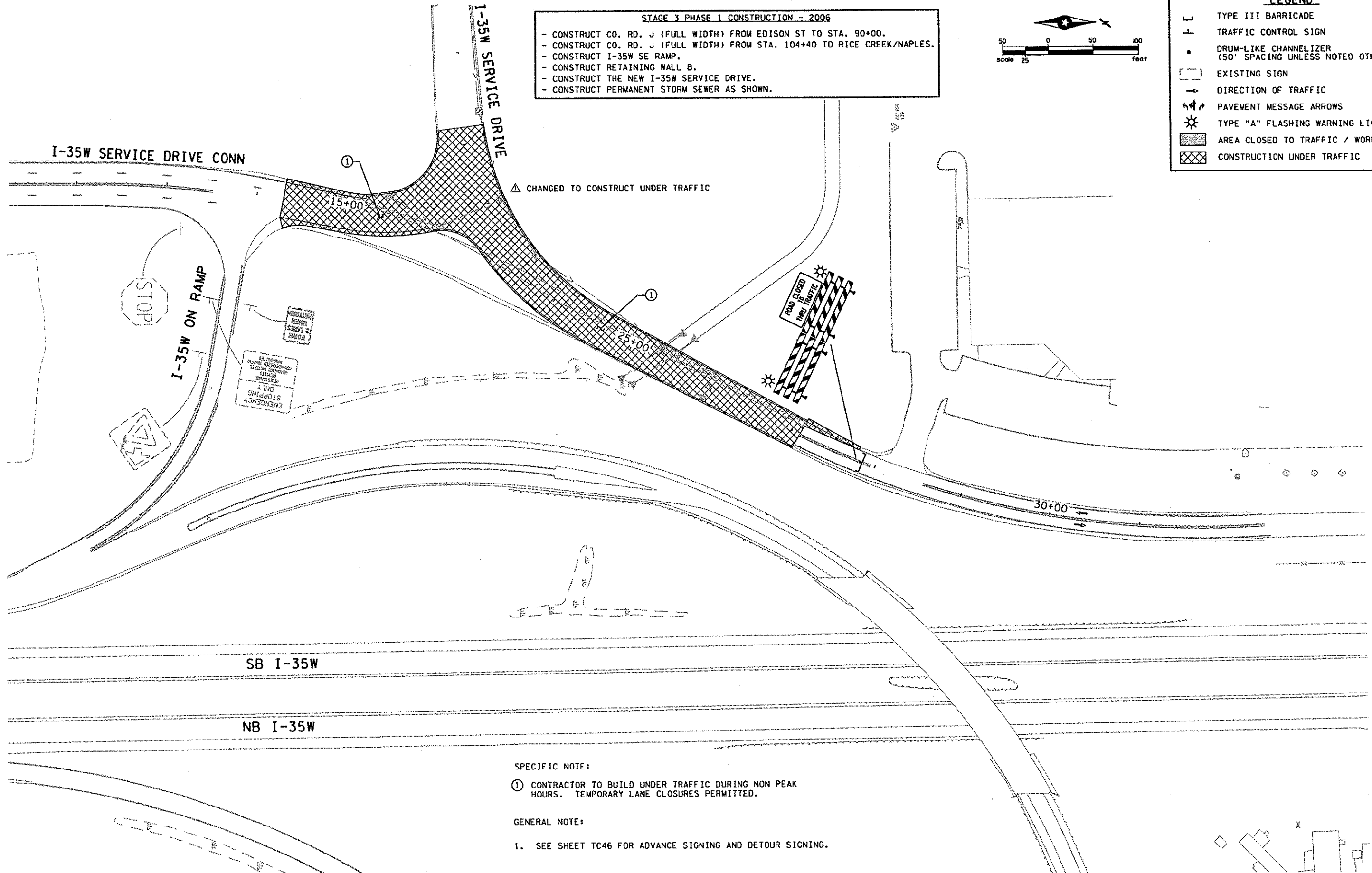
STAGE 3 PHASE 1 CONSTRUCTION - 2006

- CONSTRUCT CO. RD. J (FULL WIDTH) FROM EDISON ST TO STA. 90+00.
- CONSTRUCT CO. RD. J (FULL WIDTH) FROM STA. 104+40 TO RICE CREEK/NAPLES.
- CONSTRUCT I-35W SE RAMP.
- CONSTRUCT RETAINING WALL B.
- CONSTRUCT THE NEW I-35W SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



LEGEND

[Symbol]	TYPE III BARRICADE
[Symbol]	TRAFFIC CONTROL SIGN
[Symbol]	DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
[Symbol]	EXISTING SIGN
[Symbol]	DIRECTION OF TRAFFIC
[Symbol]	PAVEMENT MESSAGE ARROWS
[Symbol]	TYPE "A" FLASHING WARNING LIGHT
[Symbol]	AREA CLOSED TO TRAFFIC / WORK AREA
[Symbol]	CONSTRUCTION UNDER TRAFFIC



△ CHANGED TO CONSTRUCT UNDER TRAFFIC

SB I-35W

NB I-35W

SPECIFIC NOTE:

① CONTRACTOR TO BUILD UNDER TRAFFIC DURING NON PEAK HOURS. TEMPORARY LANE CLOSURES PERMITTED.

GENERAL NOTE:

1. SEE SHEET TC46 FOR ADVANCE SIGNING AND DETOUR SIGNING.

I-35 W SERVICE DRIVE

DESIGN TEAM	GRB	03/06	ADDENDUM NO. 1
DRAWN BY: MTT			
DESIGNER: TJD			
CHECKED BY: TJD			
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 3/23/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 1

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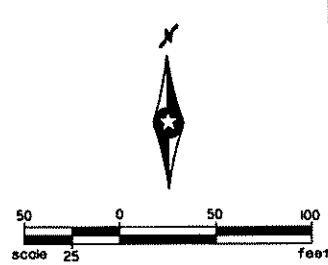
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LEGEND

- [] TYPE III BARRICADE
- [T] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [>] DIRECTION OF TRAFFIC
- [>] PAVEMENT MESSAGE ARROWS
- [*] TYPE "A" FLASHING WARNING LIGHT
- [⊕] SIGNAL SYSTEM
- [] AREA CLOSED TO TRAFFIC / WORK AREA

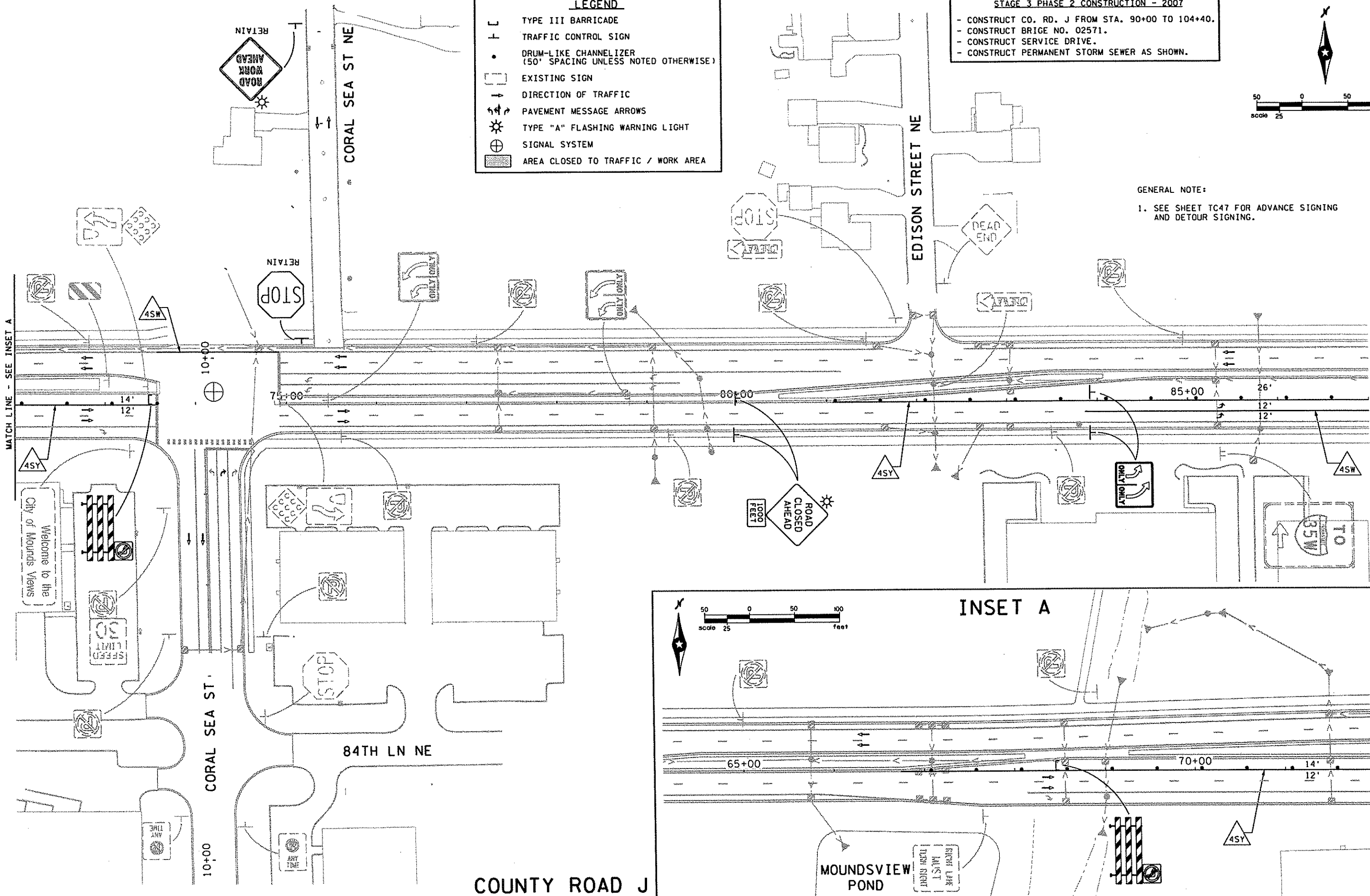
STAGE 3 PHASE 2 CONSTRUCTION - 2007

- CONSTRUCT CO. RD. J FROM STA. 90+00 TO 104+40.
- CONSTRUCT BRIGE NO. 02571.
- CONSTRUCT SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



GENERAL NOTE:

- SEE SHEET TC47 FOR ADVANCE SIGNING AND DETOUR SIGNING.



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

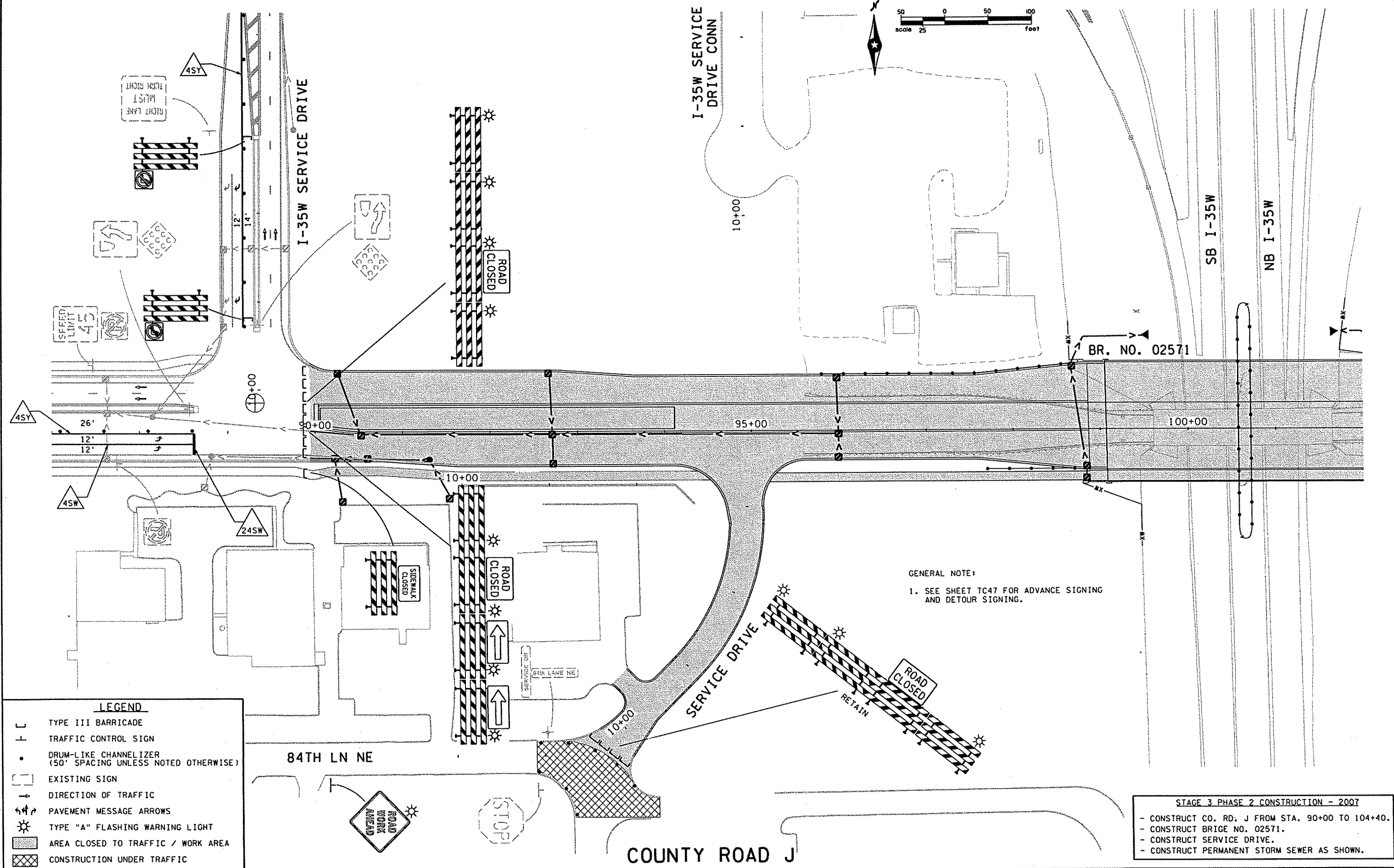
Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 2

FILE NO. ARAMSE0503	99
TC42 OF TC53	
297	



GENERAL NOTE:
 1. SEE SHEET TC47 FOR ADVANCE SIGNING AND DETOUR SIGNING.

STAGE 3 PHASE 2 CONSTRUCTION - 2007
 - CONSTRUCT CO. RD. J FROM STA. 90+00 TO 104+00.
 - CONSTRUCT BRIGE NO. 02571.
 - CONSTRUCT SERVICE DRIVE.
 - CONSTRUCT PERMANENT STORM SEWER AS SHOWN.

LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- [] DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCTION UNDER TRAFFIC

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

SEH
 PHONE: (651) 90-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 3 PHASE 2

FILE NO. 100
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 OF TC53 297

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3/3/2006

tc44

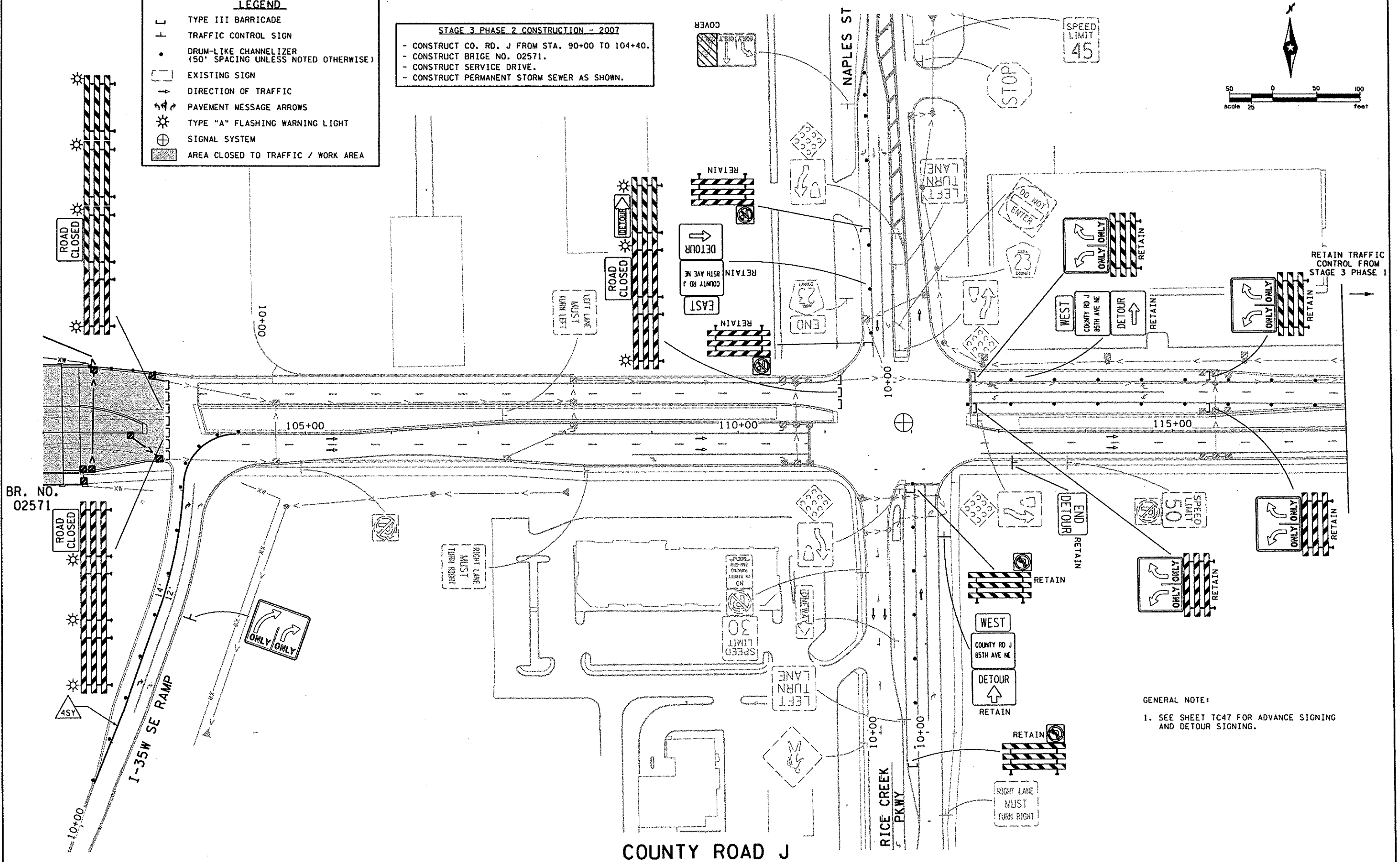
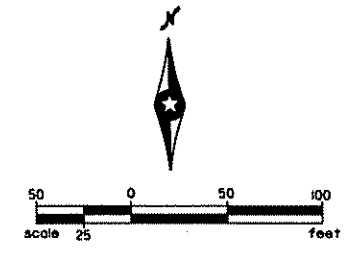
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LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] SIGNAL SYSTEM
- [] AREA CLOSED TO TRAFFIC / WORK AREA

STAGE 3 PHASE 2 CONSTRUCTION - 2007

- CONSTRUCT CO. RD. J FROM STA. 90+00 TO 104+40.
- CONSTRUCT BRIGE NO. 02571.
- CONSTRUCT SERVICE DRIVE.
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.



BR. NO. 02571

I-35W SE RAMP

COUNTY ROAD J

GENERAL NOTE:
1. SEE SHEET TC47 FOR ADVANCE SIGNING AND DETOUR SIGNING.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
Printed Name: TIFFANY J. DAGON Date: 3/3/2006

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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
STAGE 3 PHASE 2

FILE NO. ARAMSE0503	101
TC44 OF TC53	297

06:29:23 PM

03/02/2006

tc45

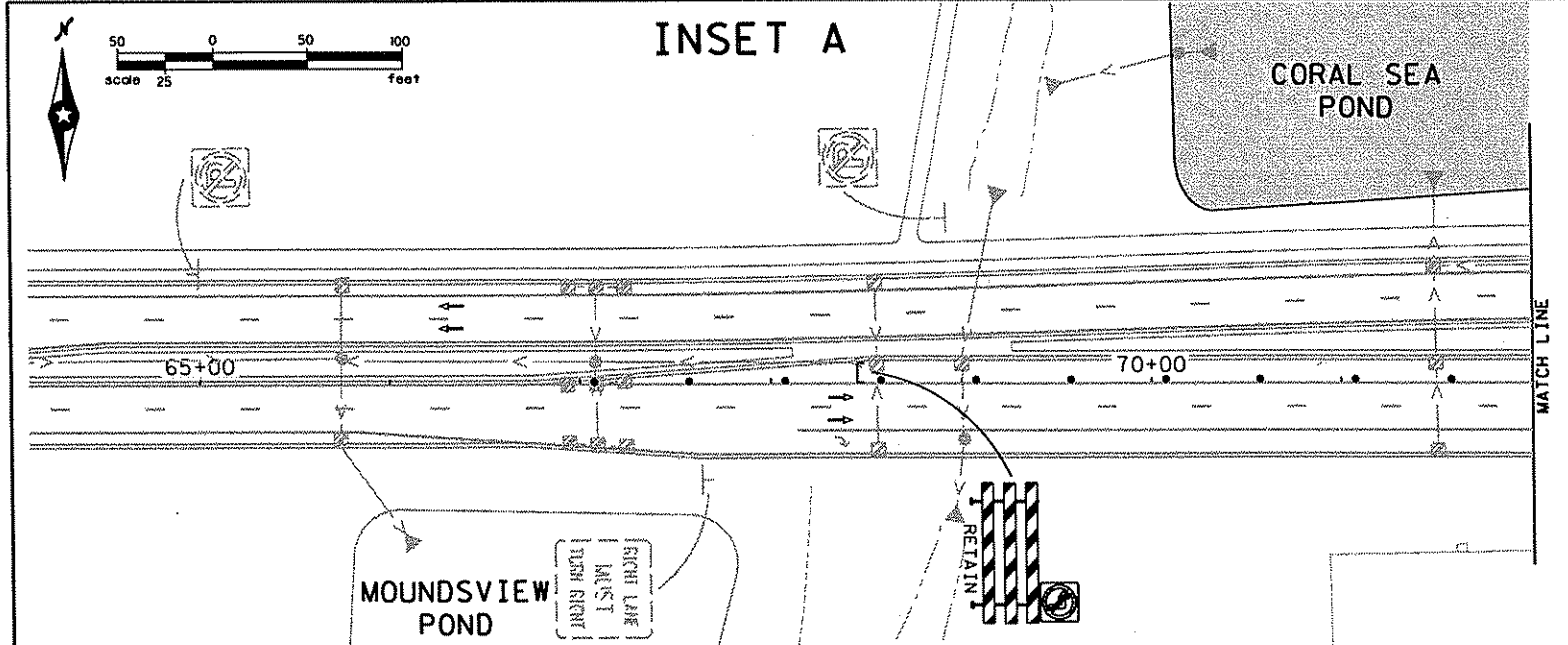
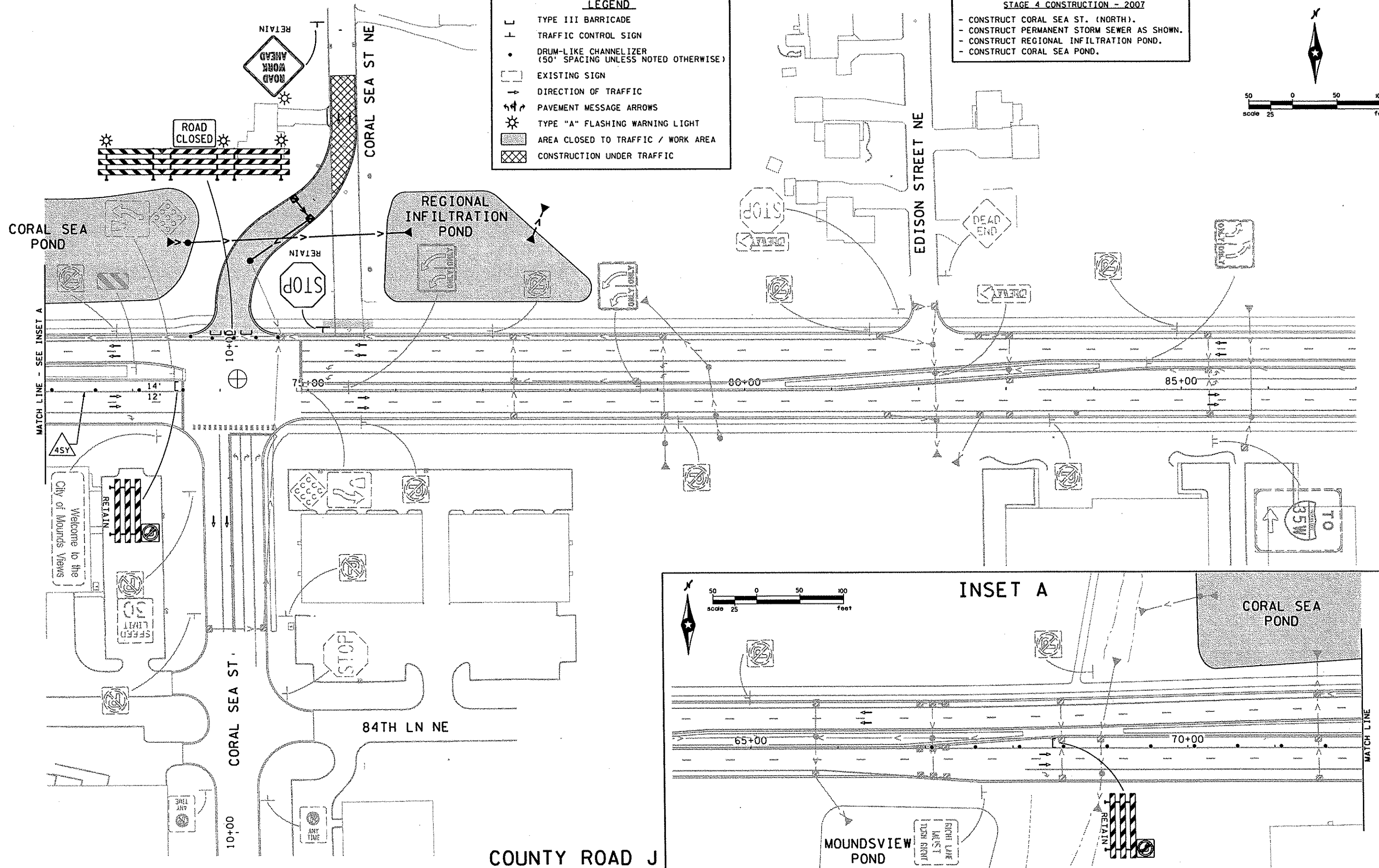
x:\p1\ramseu...50300\planshts\cs-tc\ramse0503.st4_tc.dgn

LEGEND

- [] TYPE III BARRICADE
- [] TRAFFIC CONTROL SIGN
- DRUM-LIKE CHANNELIZER (50' SPACING UNLESS NOTED OTHERWISE)
- [] EXISTING SIGN
- [] DIRECTION OF TRAFFIC
- [] PAVEMENT MESSAGE ARROWS
- [] TYPE "A" FLASHING WARNING LIGHT
- [] AREA CLOSED TO TRAFFIC / WORK AREA
- [] CONSTRUCTION UNDER TRAFFIC

STAGE 4 CONSTRUCTION - 2007

- CONSTRUCT CORAL SEA ST. (NORTH).
- CONSTRUCT PERMANENT STORM SEWER AS SHOWN.
- CONSTRUCT REGIONAL INFILTRATION POND.
- CONSTRUCT CORAL SEA POND.



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

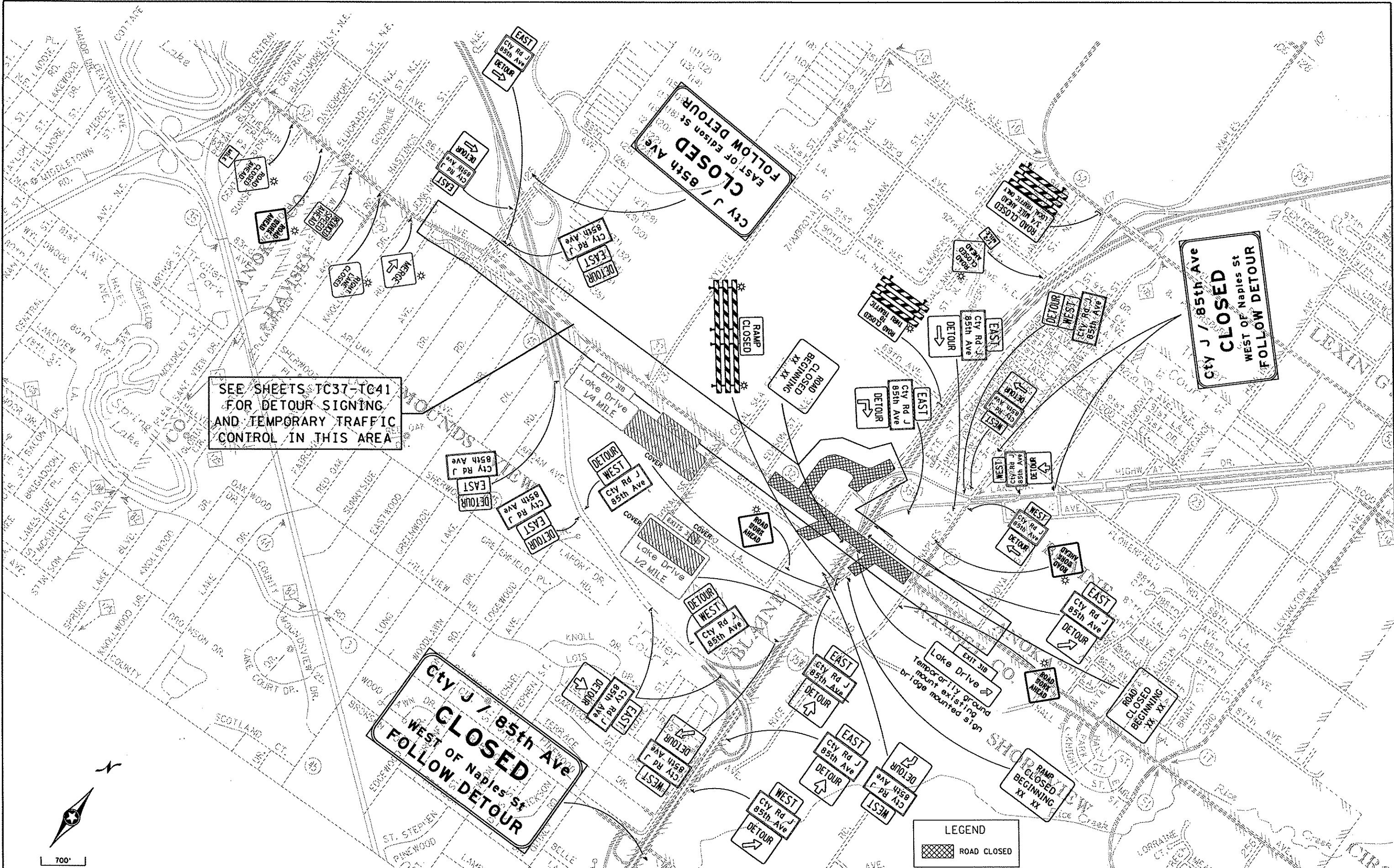
Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

STAGING & TRAFFIC CONTROL
 STAGE 4

FILE NO. ARAMSE0503
 TC45 OF TC53
 102
 297



SEE SHEETS TC37-TC41
FOR DETOUR SIGNING
AND TEMPORARY TRAFFIC
CONTROL IN THIS AREA

CITY J / 85th Ave
CLOSED
WEST OF NAPLES ST
FOLLOW DETOUR

CITY J / 85th Ave
CLOSED
EAST OF EDSON ST
FOLLOW DETOUR

CITY J / 85th Ave
CLOSED
WEST OF NAPLES ST
FOLLOW DETOUR

LEGEND
ROAD CLOSED

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

SEH
 PHONE: (651)90-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**ADVANCE SIGNING AND
 DETOUR PLAN
 STAGE 3 - PHASE 1**

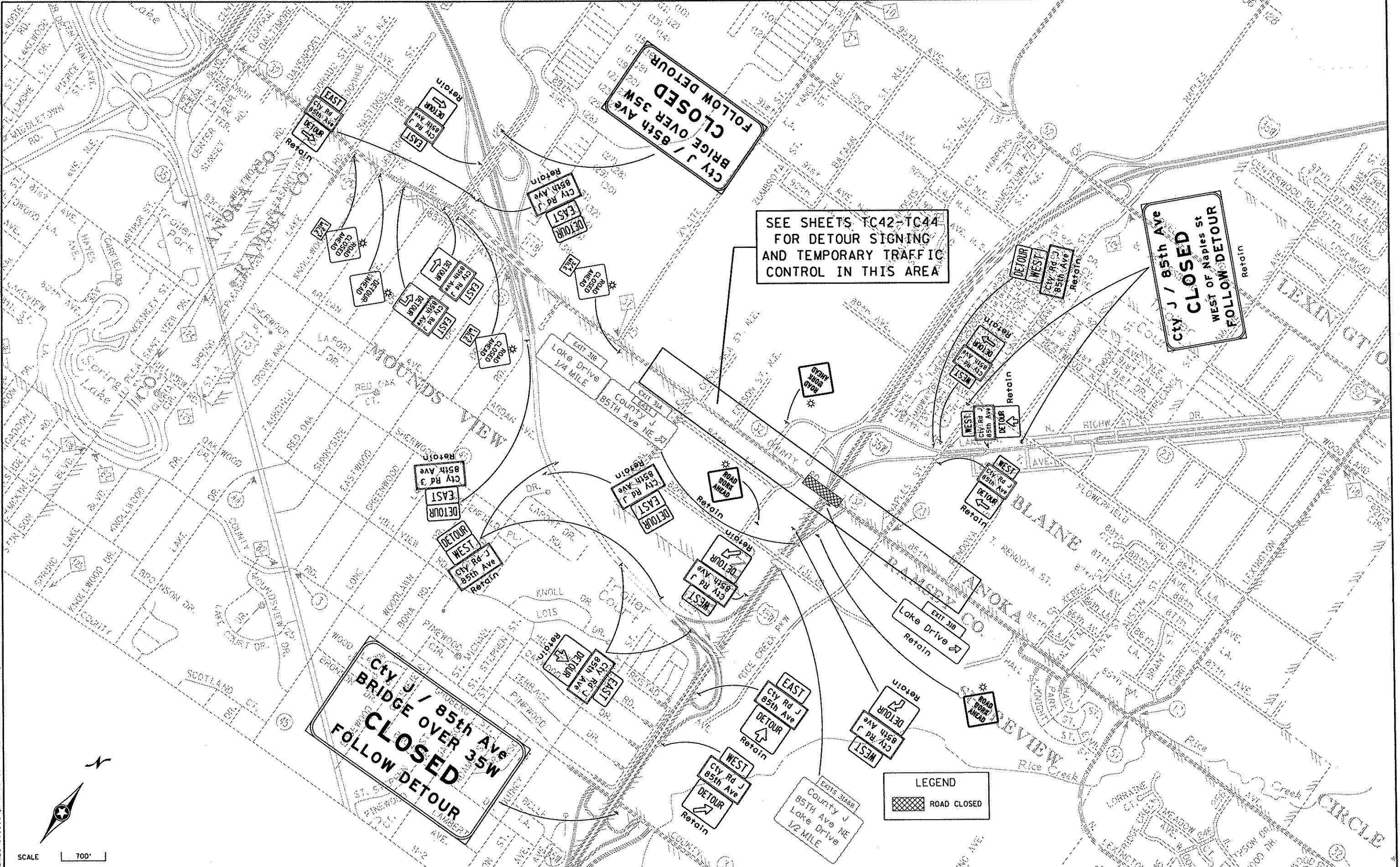
FILE NO. **103**
 ARAMSE0503
 TC46
 OF TC53 **297**

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03/02/2006

tc47

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DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT						
DESIGNER:	TJD						
CHECKED BY:	TJD						
	NO.	BY	DATE				

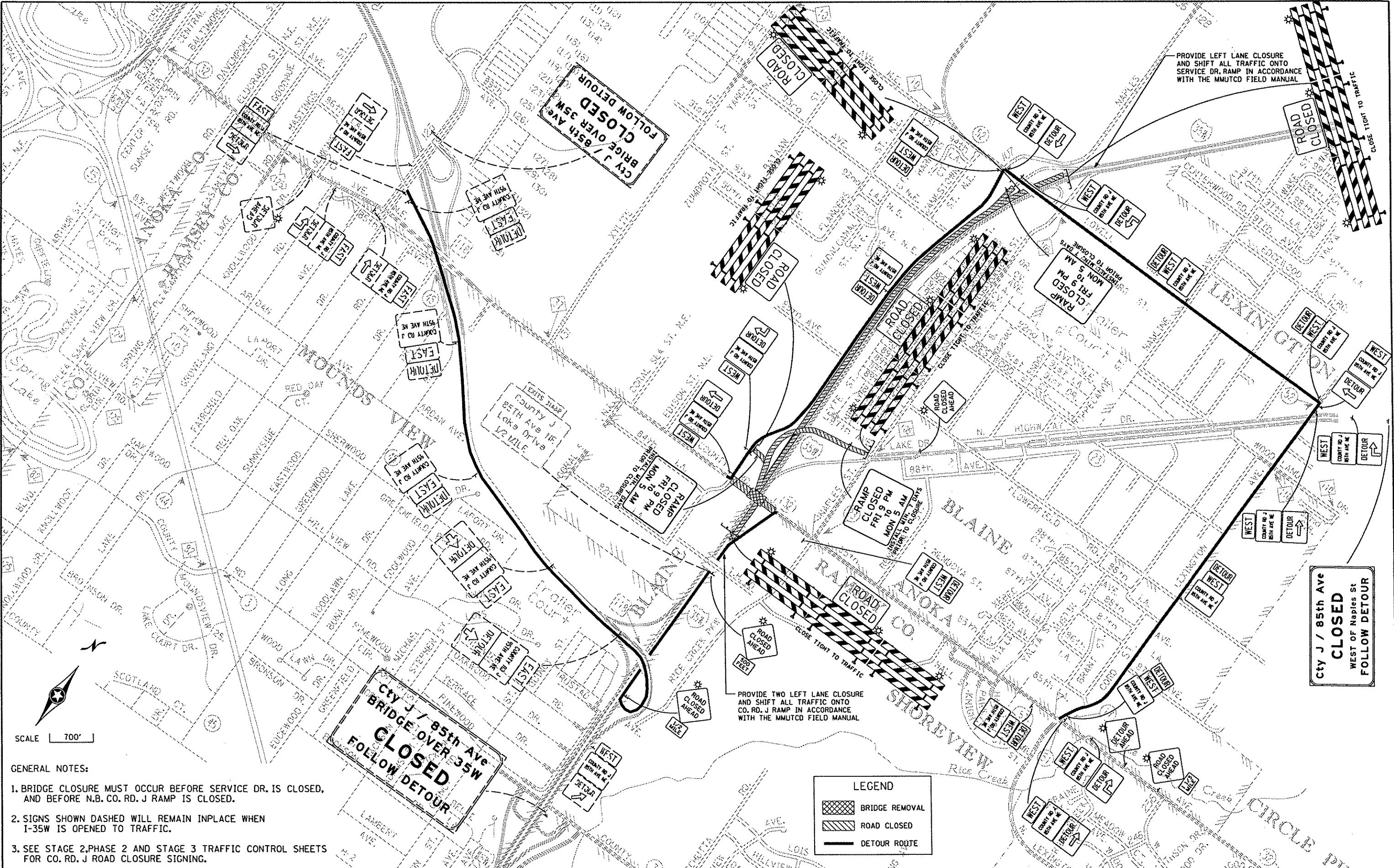
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

**ADVANCE SIGNING AND
 DETOUR PLAN
 STAGE 3 PHASE 2**



FILE NO. 104
 ARAMSE0503
 TC47
 OF TC53
 297



PROVIDE LEFT LANE CLOSURE AND SHIFT ALL TRAFFIC ONTO SERVICE DR, RAMP IN ACCORDANCE WITH THE MMUTCD FIELD MANUAL

PROVIDE TWO LEFT LANE CLOSURE AND SHIFT ALL TRAFFIC ONTO CO. RD. J RAMP IN ACCORDANCE WITH THE MMUTCD FIELD MANUAL

LEGEND

-  BRIDGE REMOVAL
-  ROAD CLOSED
-  DETOUR ROUTE

Cty J / 85th Ave BRIDGE OVER 35W CLOSED FOLLOW DETOUR

Cty J / 85th Ave BRIDGE OVER 35W CLOSED FOLLOW DETOUR

Cty J / 85th Ave CLOSED WEST OF Napies St FOLLOW DETOUR

- GENERAL NOTES:**
- BRIDGE CLOSURE MUST OCCUR BEFORE SERVICE DR. IS CLOSED, AND BEFORE N.B. CO. RD. J RAMP IS CLOSED.
 - SIGNS SHOWN DASHED WILL REMAIN INPLACE WHEN I-35W IS OPENED TO TRAFFIC.
 - SEE STAGE 2, PHASE 2 AND STAGE 3 TRAFFIC CONTROL SHEETS FOR CO. RD. J ROAD CLOSURE SIGNING.

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

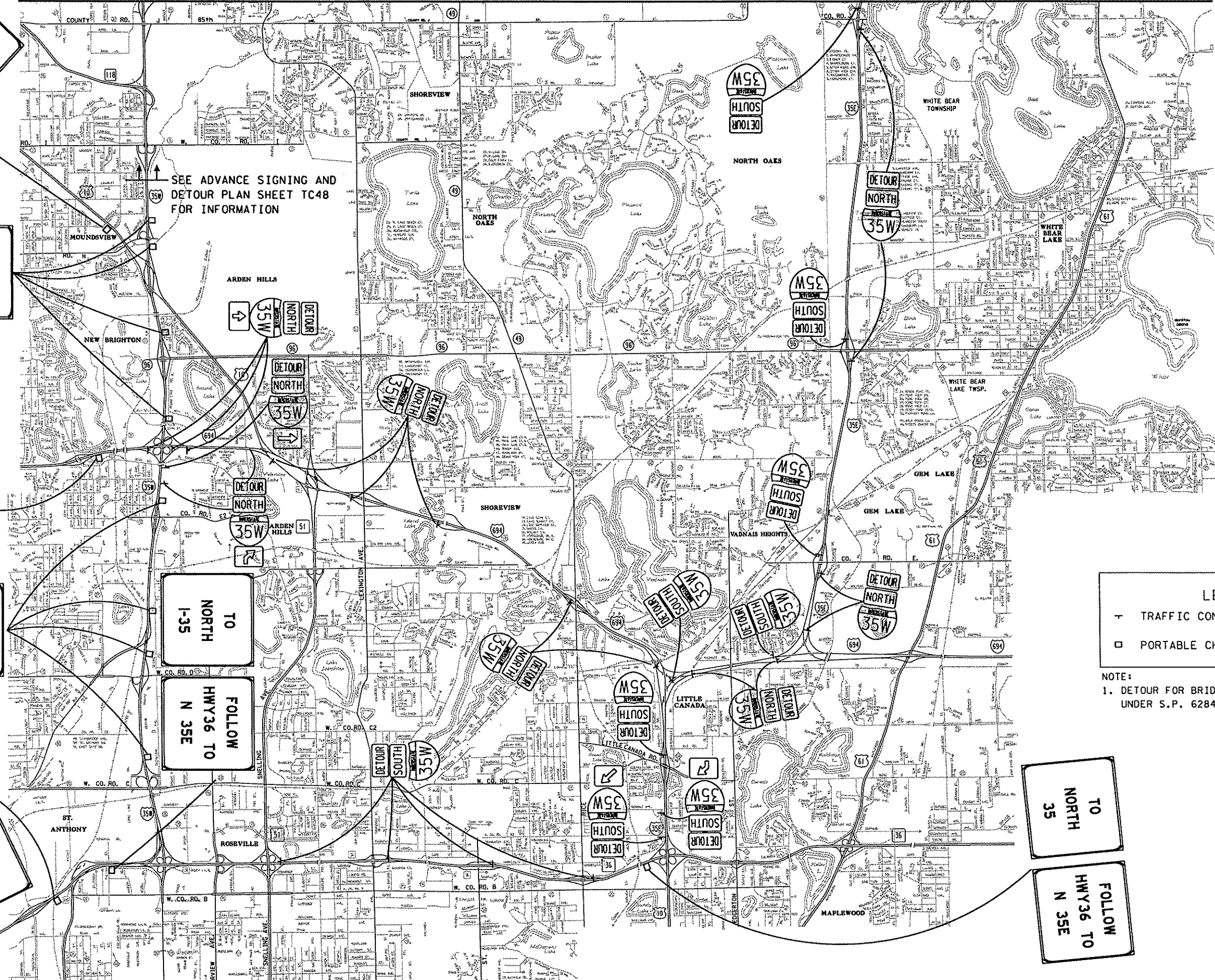
**ADVANCE SIGNING AND
 DETOUR PLAN - WEEKEND CLOSURE
 FOR BRIDGE REMOVAL**

FILE NO.	105
ARAMSE0503	
TC48	
OF TC53	297

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3/8/2006
TC49
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SCALE 2500'



I-35W CLOSED AT CRJ
FOLLOW TH10/694 TO N 35E

I-35W CLOSED AT CRJ
USE ALT ROUTE

I-35W CLOSED N OF TH10
FOLLOW DETOUR

I-35W CLOSED N OF TH10
FOLLOW DETOUR

I-35W CLOSED N OF TH10
FOLLOW DETOUR

I-35W CLOSED N OF TH10
USE ALT ROUTE

TO NORTH I-35

FOLLOW HWY36 TO N 35E

TO NORTH 35

FOLLOW HWY36 TO N 35E

LEGEND
+ TRAFFIC CONTROL SIGN
□ PORTABLE CHANGEABLE MESSAGE SIGN

NOTE:
1. DETOUR FOR BRIDGE REMOVAL PAID FOR UNDER S.P. 6284-137 TRAFFIC CONTROL ITEM.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Lillian J. Dagon* Lic. No. 40535
Printed Name: LILLIAN J. DAGON Date: 3/8/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

ADVANCE SIGNING AND
DETOUR PLAN - WEEKEND CLOSURE
FOR BRIDGE REMOVAL

FILE NO. 106
ARAMSE0503
TC49
OF TC53
297

10:48:41 AM

3/8/2006

tc50

X:\PT\RAMSEY\30300\pinpoint\6-yes-traffic\ramse0503.dwg, tc.dgn



SCALE 2500'

FOLLOW DETOUR
I-35W CLOSED N OF THIO

USE ALT ROUTE
I-35W CLOSED N OF THIO

USE ALT ROUTE
I-35W CLOSED AT 95th AVE

LEGEND

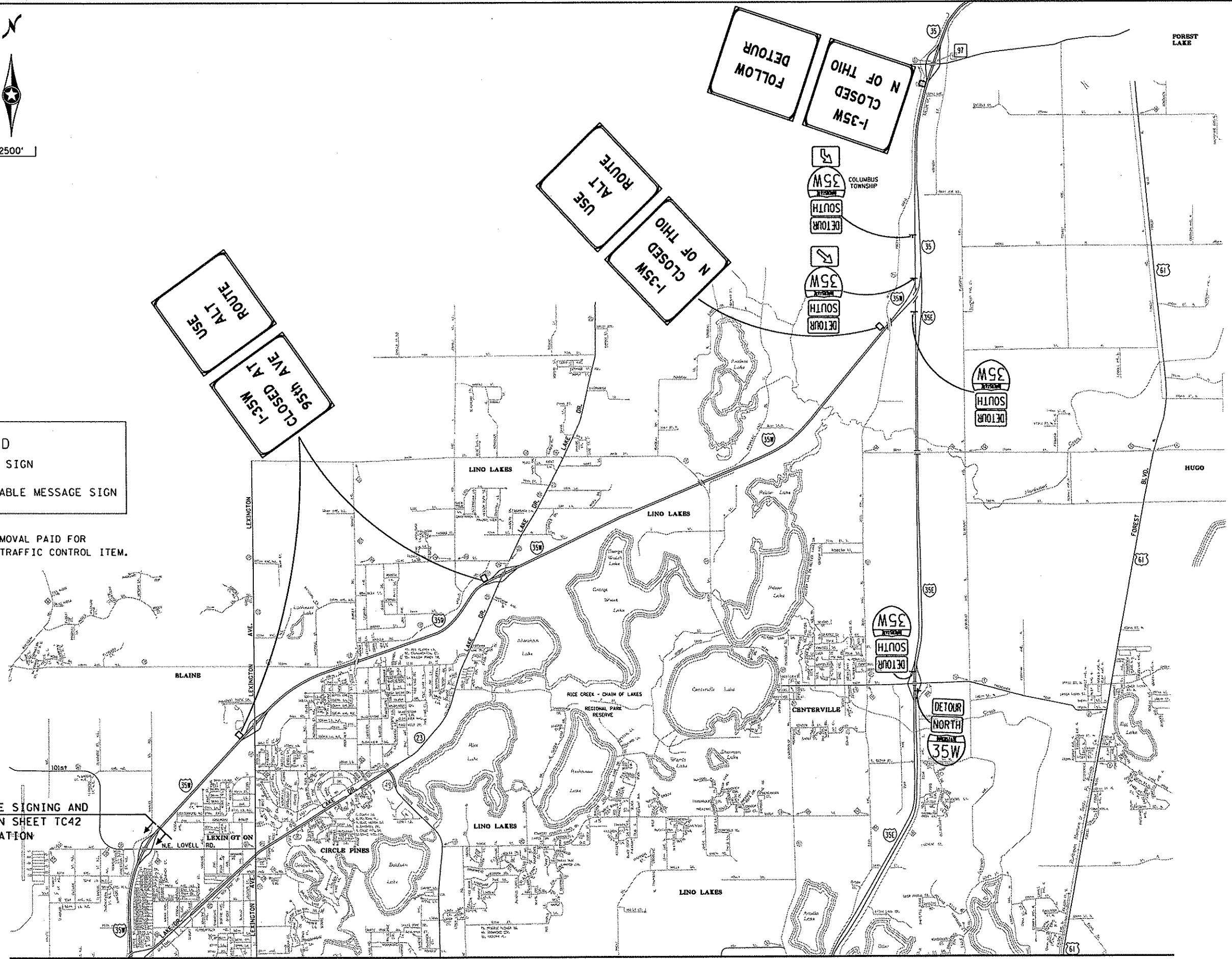
⊕ TRAFFIC CONTROL SIGN

□ PORTABLE CHANGEABLE MESSAGE SIGN

NOTE:

1. DETOUR FOR BRIDGE REMOVAL PAID FOR UNDER S.P. 6284-137 TRAFFIC CONTROL ITEM.

SEE ADVANCE SIGNING AND
DETOUR PLAN SHEET TC42
FOR INFORMATION



MATCH LINE SEE SHEET TC49

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 3/8/2006



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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-681-11

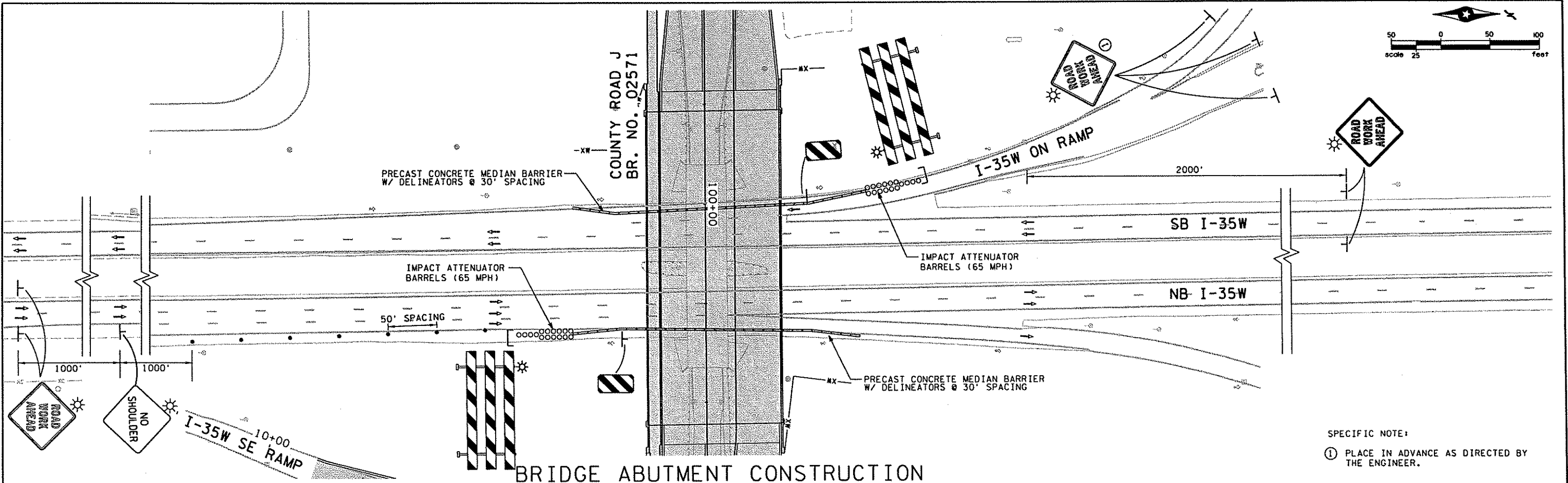
**ADVANCE SIGNING AND
 DETOUR PLAN - WEEKEND CLOSURE
 FOR BRIDGE REMOVAL**

FILE NO. 107
 ARAMSE0503
 TC50
 OF TC53
 297

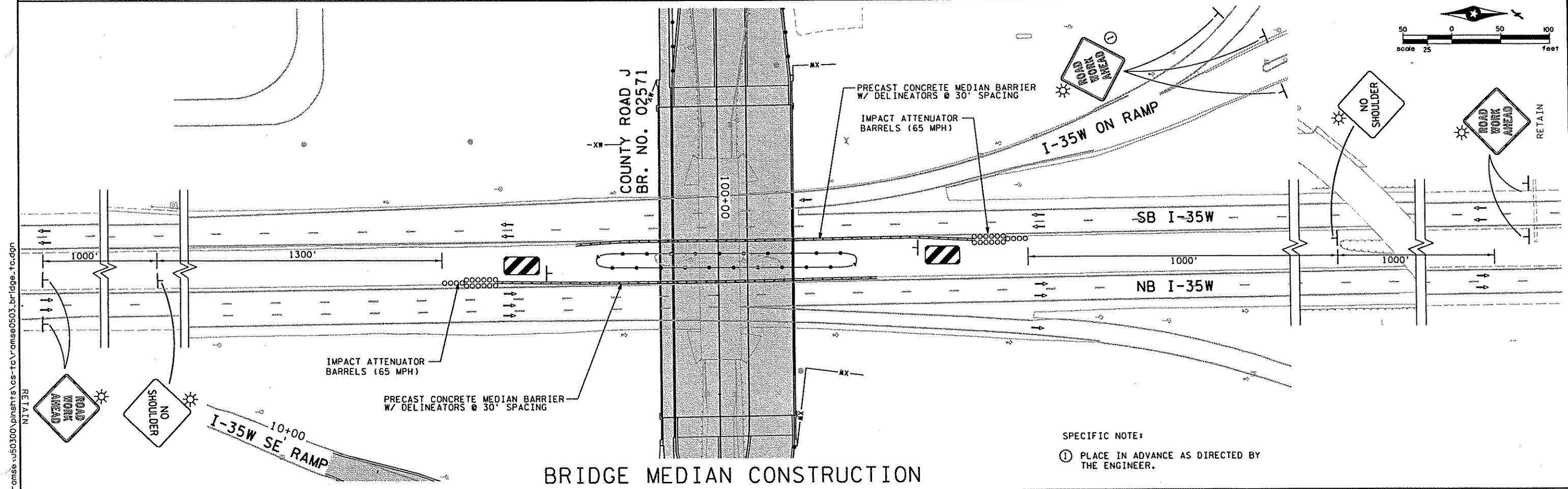
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03/02/2006

tc51



BRIDGE ABUTMENT CONSTRUCTION



BRIDGE MEDIAN CONSTRUCTION

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 03/02/2006

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

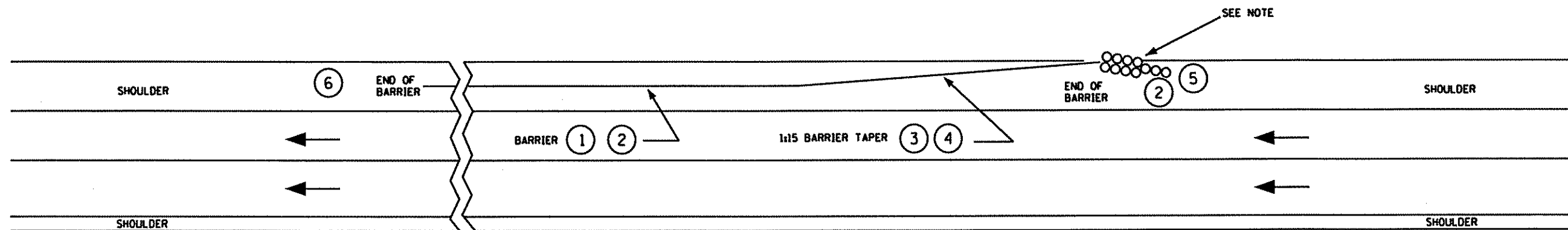
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC CONTROL
 BRIDGE CONSTRUCTION

FILE NO. **108**
 ARAMSE0503
 TC51
 OF TC53 **297**

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PORTABLE CONCRETE BARRIER PLACEMENT



① IT IS DESIRABLE TO MAINTAIN FULL SHOULDER WIDTH WHENEVER POSSIBLE. IF NOT POSSIBLE, MINIMUM DESIRABLE LATERAL OFFSETS ARE BASED ON THE FOLLOWING POSTED SPEEDS:

- 70 MPH - 12.0 FEET
- 60 MPH - 8.0 FEET
- 50 MPH - 6.5 FEET
- 40 MPH - 5.0 FEET

FOR RESTRICTED CONDITIONS, LESSER OFFSETS MAY BE USED. THE OFFSETS SHOULD BE A MINIMUM OF 2 FEET UNLESS THE CONDITIONS ARE EXTREME. LATERAL OFFSETS ARE MEASURED TO THE BOTTOM OF THE BARRIER. BARRIER OFFSET FROM EDGE OF THRU LANE SHOULD NOT EXCEED 15 FEET.

② DESIRABLE TREATMENTS FOR EXPOSED BARRIER ENDS ARE; A CONNECTION TO EXISTING BARRIER; IMPACT ATTENUATOR; TAPER AWAY TO THE EDGE OF THE CLEAR ZONE; AND EXTENDING THROUGH A PLATE BEAM GUARDRAIL BY REMOVING A PANEL.

FOR POSTED SPEEDS 30 MPH OR LESS, THE TAPERING AWAY FROM THE TRAFFIC IS DESIRABLE AND USE OF IMPACT ATTENUATOR ARE OPTIONAL

③ A 1:10 TAPER MAY BE USED WHEN POSTED SPEED LIMIT IS 35 MPH OR LESS.

④ IF THE BARRIER IS TO BE EXTENDED BEYOND THE SHOULDER, ADDITIONAL FILL WILL BE NEEDED IN ORDER TO PROVIDE A FLAT (1:10) APPROACH AREA TO THE BARRIER. FILL WILL BE INCIDENTAL TO BARRIER AND/OR IMPACT ATTENUATOR. (SEE SHOULDER FILL DETAIL BELOW)

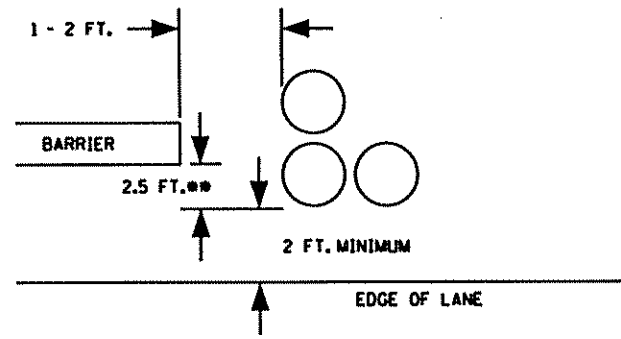
⑤ THE IMPACT ATTENUATOR SHOULD BE OFFSET A MINIMUM OF 2 FT. FROM THE EDGE OF THE THRU LANE (SEE SAND BARREL OFFSET DETAIL). THE IMPACT ATTENUATOR SHOULD BE ORIENTED TO ACCOMMODATE THE PROBABLE IMPACT ANGLE OF AN ENCROACHING VEHICLE. FOR MOST ROADSIDE CONDITIONS, AN ANGLE APPROXIMATELY 10 DEGREES, AS MEASURED BETWEEN THE HIGHWAY AND THE IMPACT ATTENUATOR LONGITUDINAL CENTERLINE, IS CONSIDERED APPROPRIATE (SEE SHOULDER FILL DETAIL). FOR SAND BARREL ARRANGEMENT SEE DETAIL BELOW.

⑥ FOR TWO-LANE TWO-WAY TRAFFIC BOTH ENDS OF THE BARRIER SHOULD BE TREATED IN THE SAME MANNER AS DESCRIBED IN ②

NOTE:

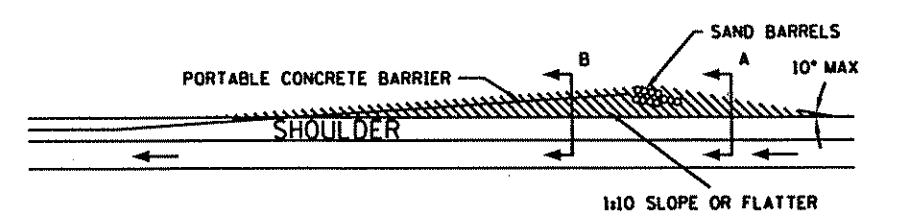
AT THE DIRECTION OF THE ENGINEER, OTHER APPROVED IMPACT ATTENUATORS CAN BE SUBSTITUTED IN LIEU OF THE SAND BARRELS ESPECIALLY WHERE REDIRECTION IS DESIRED OR AT WIDTH RESTRICTED AREAS.

SAND FILLED BARREL OFFSET

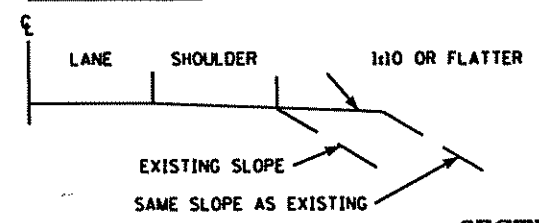


** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

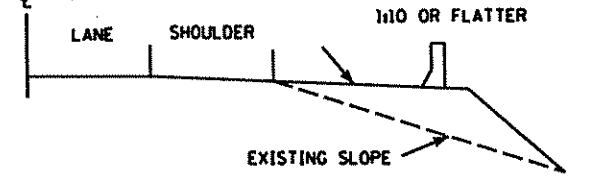
SHOULDER FILL



SECTION A



SECTION B

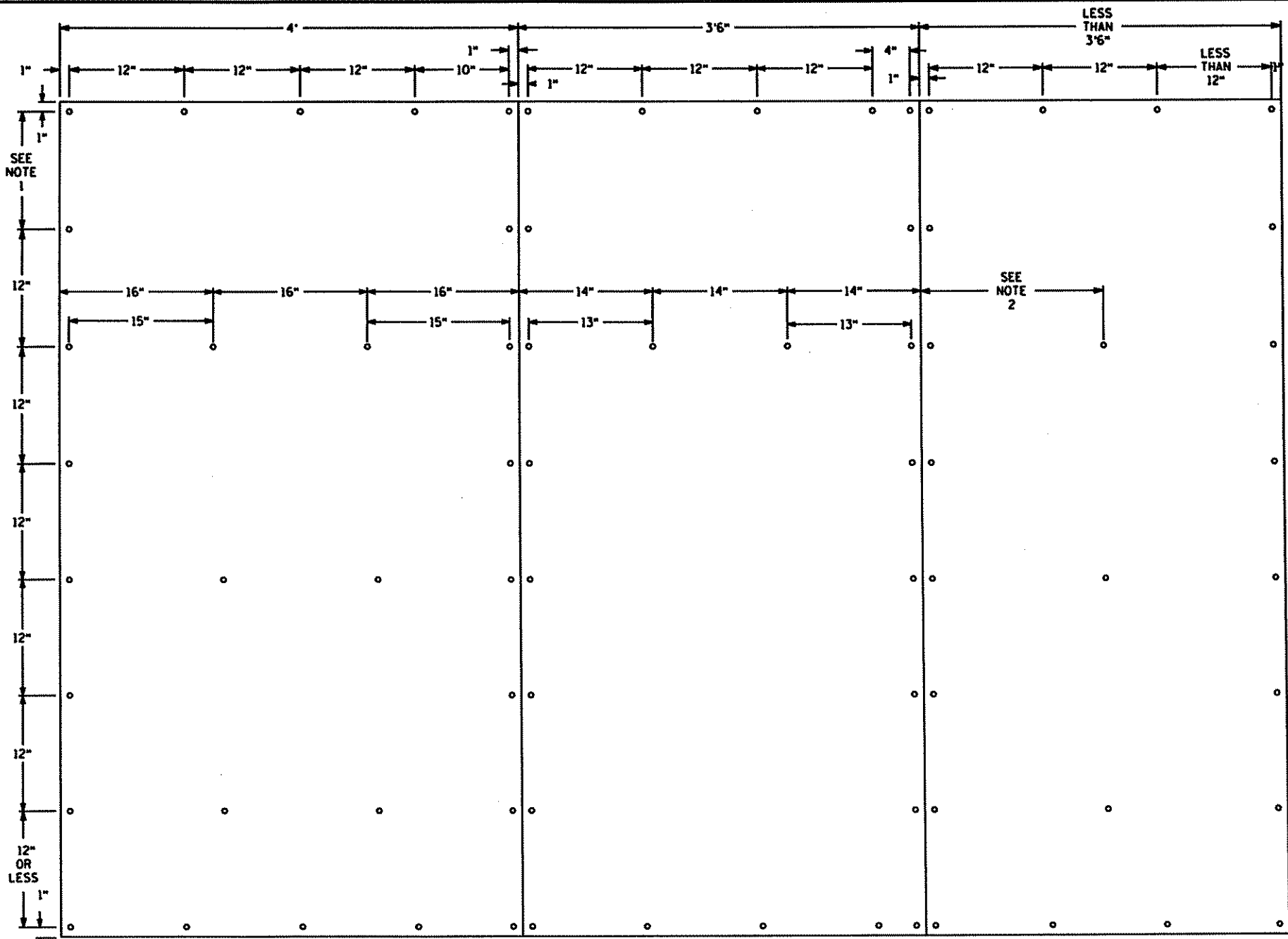


TRAFFIC CONTROL SHEET NO. TC52 OF TC453	TITLE: PORTABLE CONCRETE BARRIER END TREATMENT TYPICAL
S.A.P. 02-632-14, S.A.P. 62-601-11	SHEET NO. 109 OF 297 SHEETS

CERTIFIED BY Tiffany J. Dagon LIC. NO. 40535 03/02/2006
LICENSED PROFESSIONAL ENGINEER

06/26/05 PM 03/02/2006 10:52 TC53 X:\PT\Roads\50300\pinights\cs-tc\amse0503.tc.dgn

06:26:35 PM
 03/02/2006
 tel-2 te52 te53
 X:\PT\Ramsey\050300\pingsht\5ce-TC\ramse0503.tc.dgn



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A COMPLETE SIGN PANEL

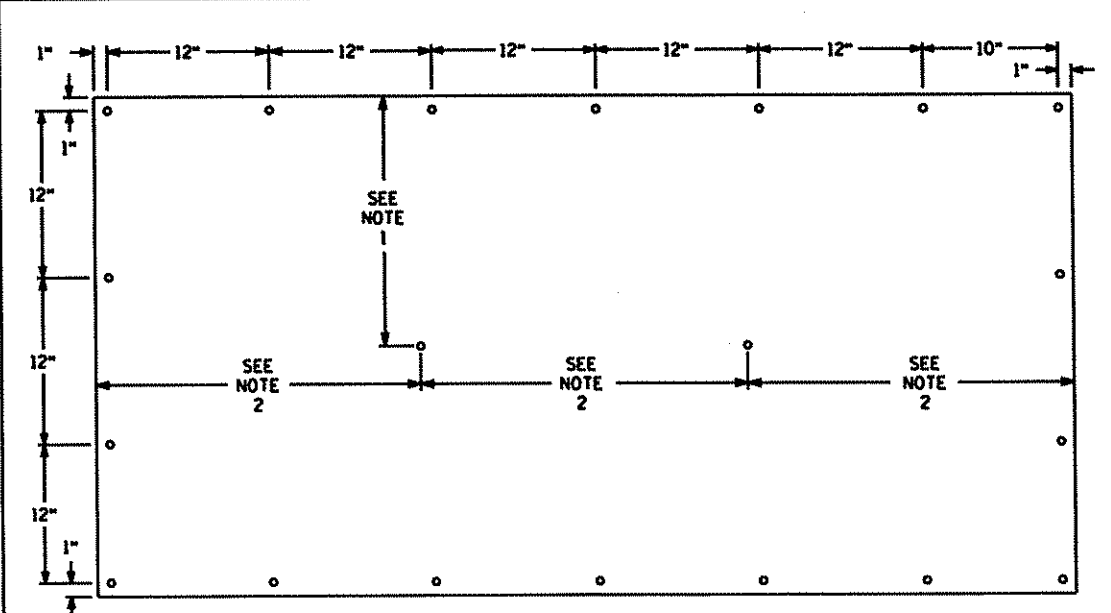
OVERLAY ASSEMBLY STEPS:

1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D. AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE FAR LEFT SHEET ALUMINUM OVERLAY PANEL WITH THE BOTTOM FLUSH WITH THE INPLACE SIGN PANEL AND THE LOWER LEFT EDGE OF THE OVERLAY PANEL LINED UP WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE PANEL SECTION.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH RIVETS AS SPECIFIED IN STEP 4.
6. ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5.
7. INSTALL EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6.

NOTES:

1. IF TOP PANEL IS 6" HIGH, THIS VERTICAL SPACE IS 6"; IF TOP PANEL IS 12" HIGH, THIS VERTICAL SPACE IS 12".
2. SHEET ALUMINUM PANEL RIVET SPACING SHALL BE 1/2 THE PANEL'S WIDTH.

CERTIFIED BY William J. Dagan LIC. NO. 40535 03/02/2006
LICENSED PROFESSIONAL ENGINEER



TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING A PORTION OF A SIGN PANEL

OVERLAY ASSEMBLY STEPS:

1. DRILL 13/64" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH HOLE SPACING ON DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 12" APART.
2. ATTACH ONE PLASTIC WASHER (1/8" THICK, 3/8" I.D., AND 7/8" O.D.), WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
3. POSITION THE OVERLAY PANEL, ON THE INPLACE SIGN PANEL, MAKING SURE THE MOUNTING HOLES ON THE OVERLAY PANEL DO NOT LINE UP WITH ANY HORIZONTAL ALUMINUM PANEL JOINTS.
4. DRILL ALL OUTSIDE HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH OVERLAY PANEL WITH 3/16" POP RIVETS MEETING THE REQUIREMENTS ON Mn/DOT 3352.A7a.
5. DRILL THE INNER HOLES THROUGH THE INPLACE SIGN PANEL AND ATTACH WITH THE SAME RIVETS AS SPECIFIED IN STEP 4.

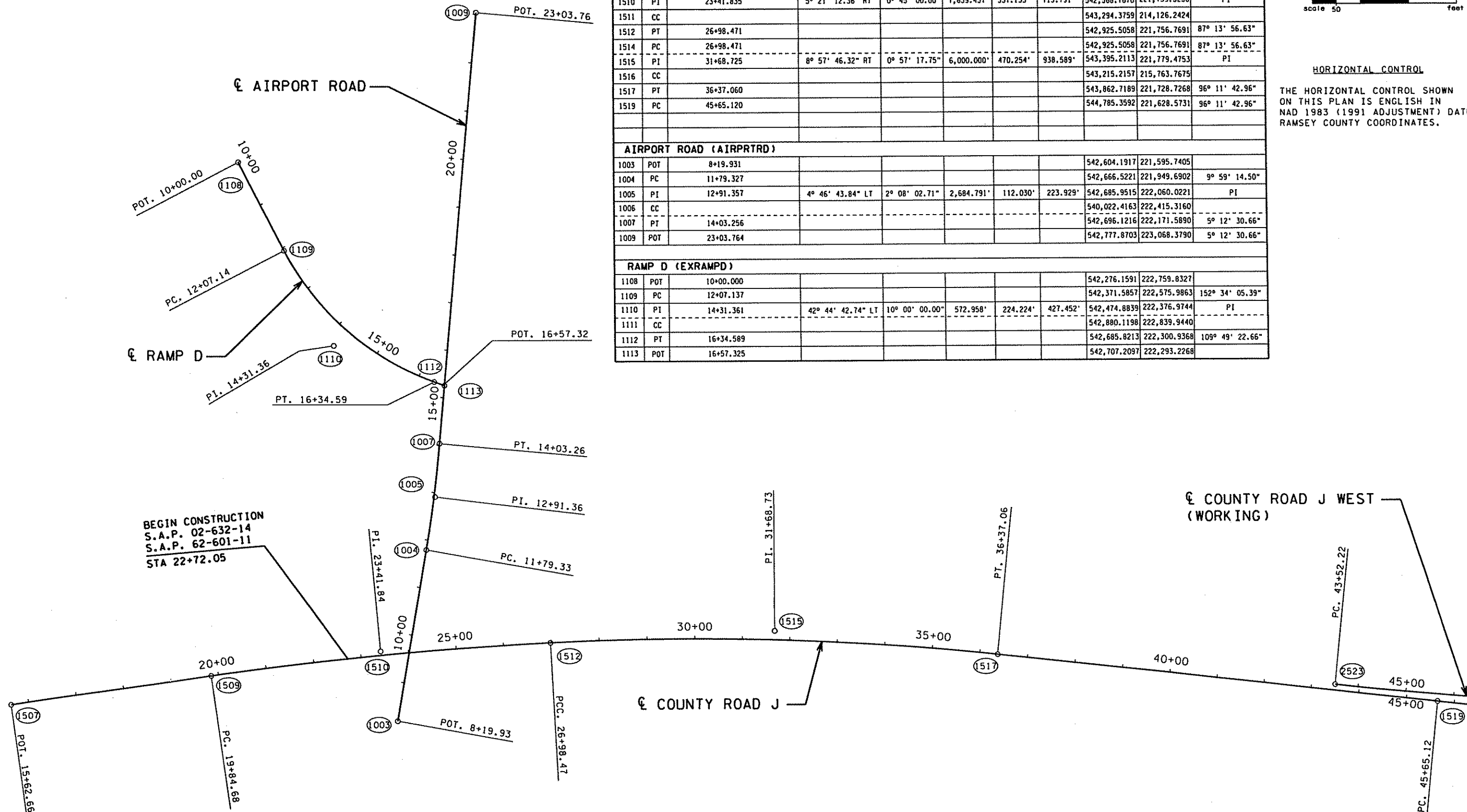
NOTES:

1. VERTICAL SPACING FOR INNER MOUNTING HOLES IS 1/2 THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
2. HORIZONTAL SPACING FOR INNER MOUNTING HOLES SHALL NOT BE LESS THAN 15", NOR MORE THAN 24".

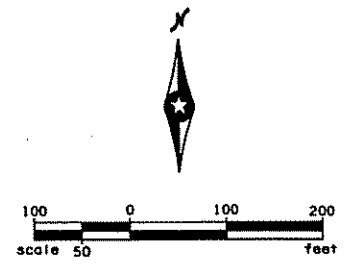
TRAFFIC CONTROL SHEET NO. TC53 OF TC53	TITLE: TEMPORARY CONSTRUCTION SIGN PANEL OVERLAY COVERING OF A SIGN PANEL TYPICAL
---	--

S.A.P. 02-632-14, S.A.P. 62-601-11 SHEET NO. 110 OF 297 SHEETS

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02/17/2006
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ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
COUNTY ROAD J (CORDJ)										
1507	POT	15+62.662						541,797.4078	221,629.4542	
1509	PC	19+84.680						542,215.1932	221,689.0704	81° 52' 44.28"
1510	PI	23+41.835	5° 21' 12.36" RT	0° 45' 00.00"	7,639.437'	357.155'	713.791'	542,568.7670	221,739.5238	PI
1511	CC							543,294.3759	214,126.2424	
1512	PT	26+98.471						542,925.5058	221,756.7691	87° 13' 56.63"
1514	PC	26+98.471						542,925.5058	221,756.7691	87° 13' 56.63"
1515	PI	31+68.725	8° 57' 46.32" RT	0° 57' 17.75"	6,000.000'	470.254'	938.589'	543,395.2113	221,779.4753	PI
1516	CC							543,215.2157	215,763.7675	
1517	PT	36+37.060						543,862.7189	221,728.7268	96° 11' 42.96"
1519	PC	45+65.120						544,785.3592	221,628.5731	96° 11' 42.96"
AIRPORT ROAD (AIRPRTRD)										
1003	POT	8+19.931						542,604.1917	221,595.7405	
1004	PC	11+79.327						542,666.5221	221,949.6902	9° 59' 14.50"
1005	PI	12+91.357	4° 46' 43.84" LT	2° 08' 02.71"	2,684.791'	112.030'	223.929'	542,685.9515	222,060.0221	PI
1006	CC							540,022.4163	222,415.3160	
1007	PT	14+03.256						542,696.1216	222,171.5890	5° 12' 30.66"
1009	POT	23+03.764						542,777.8703	223,068.3790	5° 12' 30.66"
RAMP D (EXRAMPD)										
1108	POT	10+00.000						542,276.1591	222,759.8327	
1109	PC	12+07.137						542,371.5857	222,575.9863	152° 34' 05.39"
1110	PI	14+31.361	42° 44' 42.74" LT	10° 00' 00.00"	572.958'	224.224'	427.452'	542,474.8839	222,376.9744	PI
1111	CC							542,880.1198	222,839.9440	
1112	PT	16+34.589						542,685.8213	222,300.9368	109° 49' 22.66"
1113	POT	16+57.325						542,707.2097	222,293.2268	



HORIZONTAL CONTROL
THE HORIZONTAL CONTROL SHOWN ON THIS PLAN IS ENGLISH IN NAD 1983 (1991 ADJUSTMENT) DATUM, RAMSEY COUNTY COORDINATES.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

ALIGNMENT PLAN
COUNTY ROAD J, AIRPORT ROAD, & RAMP D

FILE NO. 111
ARAME0503
AL 1 OF AL 4
297

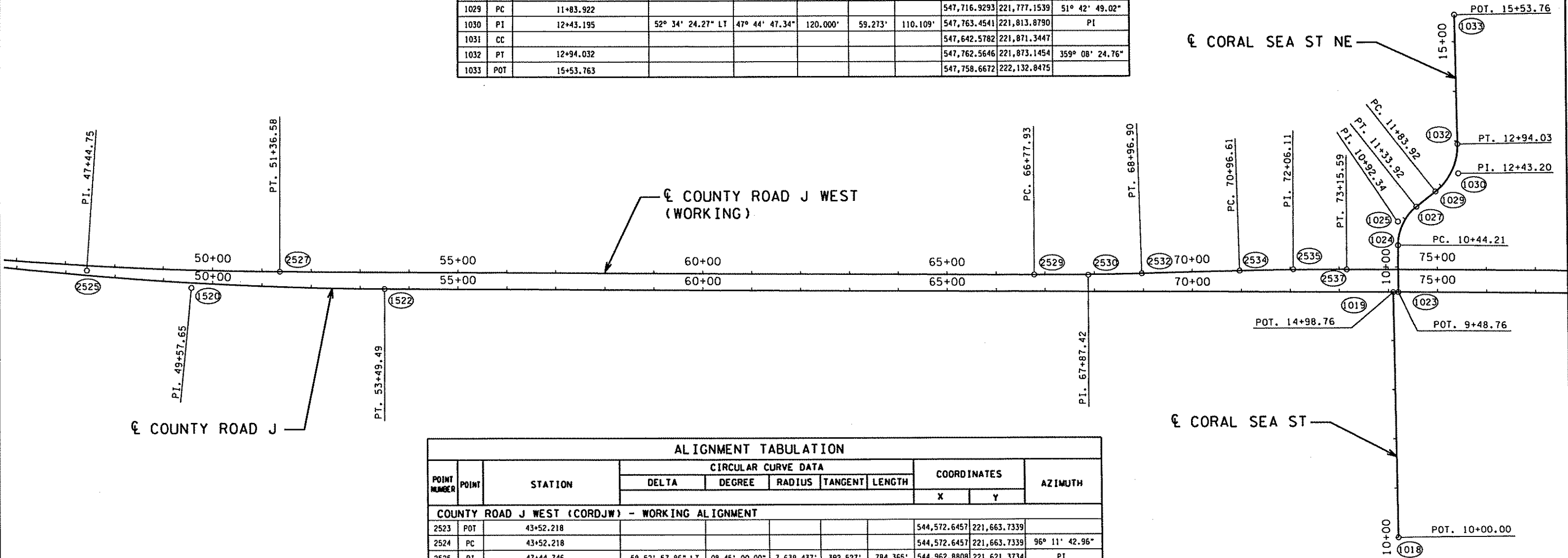
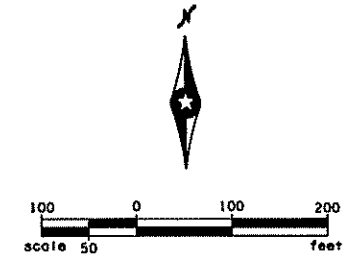
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al2

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ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
CORAL SEA STREET N.E. (CORALSEANE)										
1023	POT	9+48.757						547,639.1232	221,572.7749	
1024	PC	10+44.211						547,639.6438	221,668.2273	0° 18' 45.10"
1025	PI	10+92.338	51° 24' 03.93" RT	57° 17' 44.81"	100.000'	48.128'	89.712'	547,639.9063	221,716.3545	PI
1026	CC							547,739.6423	221,667.6819	
1027	PT	11+33.922						547,677.6831	221,746.1742	51° 42' 49.02"
1029	PC	11+83.922						547,716.9293	221,777.1539	51° 42' 49.02"
1030	PI	12+43.195	52° 34' 24.27" LT	47° 44' 47.34"	120.000'	59.273'	110.109'	547,763.4541	221,813.8790	PI
1031	CC							547,642.5782	221,871.3447	
1032	PT	12+94.032						547,762.5646	221,873.1454	359° 08' 24.76"
1033	POT	15+53.763						547,758.6672	222,132.8475	

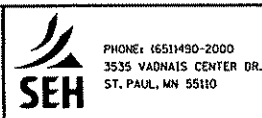


ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
COUNTY ROAD J WEST (CORDJW) - WORKING ALIGNMENT										
2523	POT	43+52.218						544,572.6457	221,663.7339	
2524	PC	43+52.218						544,572.6457	221,663.7339	96° 11' 42.96"
2525	PI	47+44.746	5° 52' 57.86" LT	0° 45' 00.00"	7,639.437'	392.527'	784.365'	544,962.8808	221,621.3734	PI
2526	CC							545,397.0724	229,258.5560	
2527	PT	51+36.583						545,355.4024	221,619.2323	90° 18' 45.10"
2529	PC	66+77.926						546,896.7223	221,610.8249	90° 18' 45.10"
2530	PI	67+87.421	1° 38' 32.34" LT	0° 45' 00.00"	7,639.437'	109.495'	218.975'	547,006.2159	221,610.2277	PI
2531	CC							546,938.3924	229,250.1486	
2532	PT	68+96.901						547,115.6816	221,612.7688	88° 40' 12.76"
2534	PC	70+96.615						547,315.3411	221,617.4035	88° 40' 12.76"
2535	PI	72+06.110	1° 38' 32.34" RT	0° 45' 00.00"	7,639.437'	109.495'	218.975'	547,424.8068	221,619.9446	PI
2536	CC							547,492.6303	213,980.0237	
2537	PT	73+15.590						547,534.3004	221,619.3473	90° 18' 45.10"
CORAL SEA STREET (CORLSEA)										
1018	POT	10+00.000						547,633.8732	221,074.1030	
1019	POT	14+98.757						547,628.6328	221,572.8321	

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



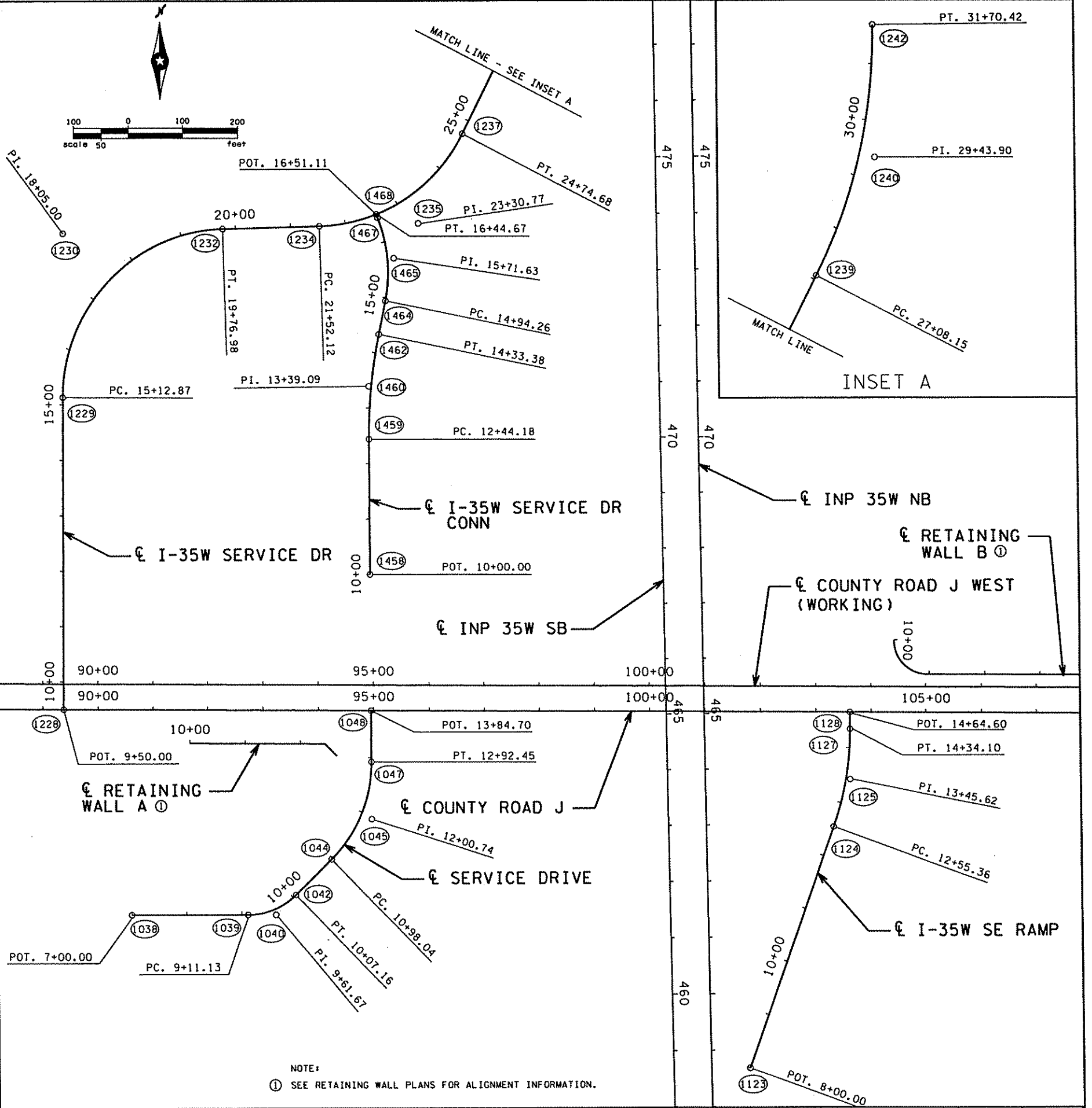
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

ALIGNMENT PLAN
 COUNTY ROAD J, CORAL SEA ST, & CORAL SEA ST NE

FILE NO. 112
 ARAMSE0503
 AL 2 OF AL 4
 297

ALIGNMENT TABULATION											
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
I-35W SERVICE DRIVE (SERVDR35W)											
1228	POT	9+50.000						549,156.1658	221,564.4999		
1229	PC	15+12.873						549,159.2361	222,127.3641	0° 18' 45.10"	
1230	PI	18+05.000	88° 10' 48.48" RT	19° 00' 00.00"	301.557'	292.127'	464.106'	549,160.8295	222,419.4872	PI	
1231	CC							549,460.7883	222,125.7192		
1232	PT	19+76.979						549,452.8559	222,427.1716	88° 29' 33.57"	
1234	PC	21+52.121						549,627.9375	222,431.7787	88° 29' 33.57"	
1235	PI	23+30.768	61° 17' 11.00" LT	19° 00' 00.00"	301.557'	178.647'	322.560'	549,806.5229	222,436.4780	PI	
1236	CC							549,620.0051	222,733.2311		
1237	PT	24+74.681						549,888.1995	222,595.3608	27° 12' 22.57"	
1239	PC	27+08.146						549,994.9385	222,802.9966	27° 12' 22.57"	
1240	PI	29+43.904	27° 44' 10.79" LT	6° 00' 00.00"	954.930'	235.758'	462.272'	550,102.7260	223,012.6720	PI	
1241	CC							549,145.6562	223,239.5859		
1242	PT	31+70.418						550,100.5450	223,248.4201	359° 28' 11.78"	
I-35W SERVICE DRIVE CONN (SRVCONN2)											
1458	POT	10+00.000						549,714.6110	221,807.3542		
1459	PC	12+44.176						549,715.1988	222,051.5293	0° 08' 16.57"	
1460	PI	13+39.088	11° 21' 07.90" RT	6° 00' 00.00"	954.930'	94.912'	189.203'	549,715.4273	222,146.4414	PI	
1461	CC							550,670.1257	222,049.2304		
1462	PT	14+33.379						549,734.3338	222,239.4515	11° 29' 24.47"	
1464	PC	14+94.257						549,746.4607	222,299.1099	11° 29' 24.47"	
1465	PI	15+71.627	33° 05' 27.19" LT	22° 00' 00.00"	260.435'	77.369'	150.413'	549,761.8726	222,374.9285	PI	
1466	CC							549,491.2447	222,350.9884		
1467	PT	16+44.671						549,733.3901	222,446.8642	338° 23' 57.28"	
1468	POT	16+51.111						549,731.0192	222,452.8522		
INP I-35W NB											
3050	POT	432+11.865						550,347.6290	218,266.2030		
3060	POT	501+79.567						550,283.1940	225,233.6070		
INP I-35W SB											
3150	POT	432+11.812						550,279.6313	218,265.5170		
3160	POT	501+79.573						550,215.1980	225,232.9800		

ALIGNMENT TABULATION											
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y		
SERVICE DRIVE (SERVDR)											
1038	POT	7+00.000						549,276.7856	221,196.3742		
1039	PC	9+11.128						549,487.9135	221,196.3742	90° 00' 00.00"	
1040	PI	9+61.674	44° 10' 32.37" LT	46° 00' 00.00"	124.556'	50.546'	96.034'	549,538.4597	221,196.3742	PI	
1041	CC							549,487.9135	221,320.9302		
1042	PT	10+07.162						549,574.7117	221,231.5978	45° 49' 27.63"	
1044	PC	10+98.038						549,639.8886	221,294.9257	45° 49' 27.63"	
1045	PI	12+00.743	45° 41' 11.06" LT	23° 30' 00.00"	243.812'	102.705'	194.410'	549,713.5496	221,366.4971	PI	
1046	CC							549,469.9850	221,469.7892		
1047	PT	12+92.448						549,713.7969	221,469.2022	0° 08' 16.57"	
1048	POT	13+84.703						549,714.0190	221,561.4570		
I-35W SE RAMP (SERAMP)											
1123	POT	8+00.000						550,392.8764	220,923.1676		
1124	PC	12+55.363						550,548.3862	221,351.1535	19° 58' 07.50"	
1125	PI	13+45.618	19° 39' 22.41" LT	10° 59' 50.17"	521.000'	90.256'	178.737'	550,579.2092	221,435.9829	PI	
1126	CC							550,058.7093	221,529.0790		
1127	PT	14+34.100						550,579.7015	221,526.2371	0° 18' 45.10"	
1128	POT	14+64.597						550,579.8679	221,556.7341		



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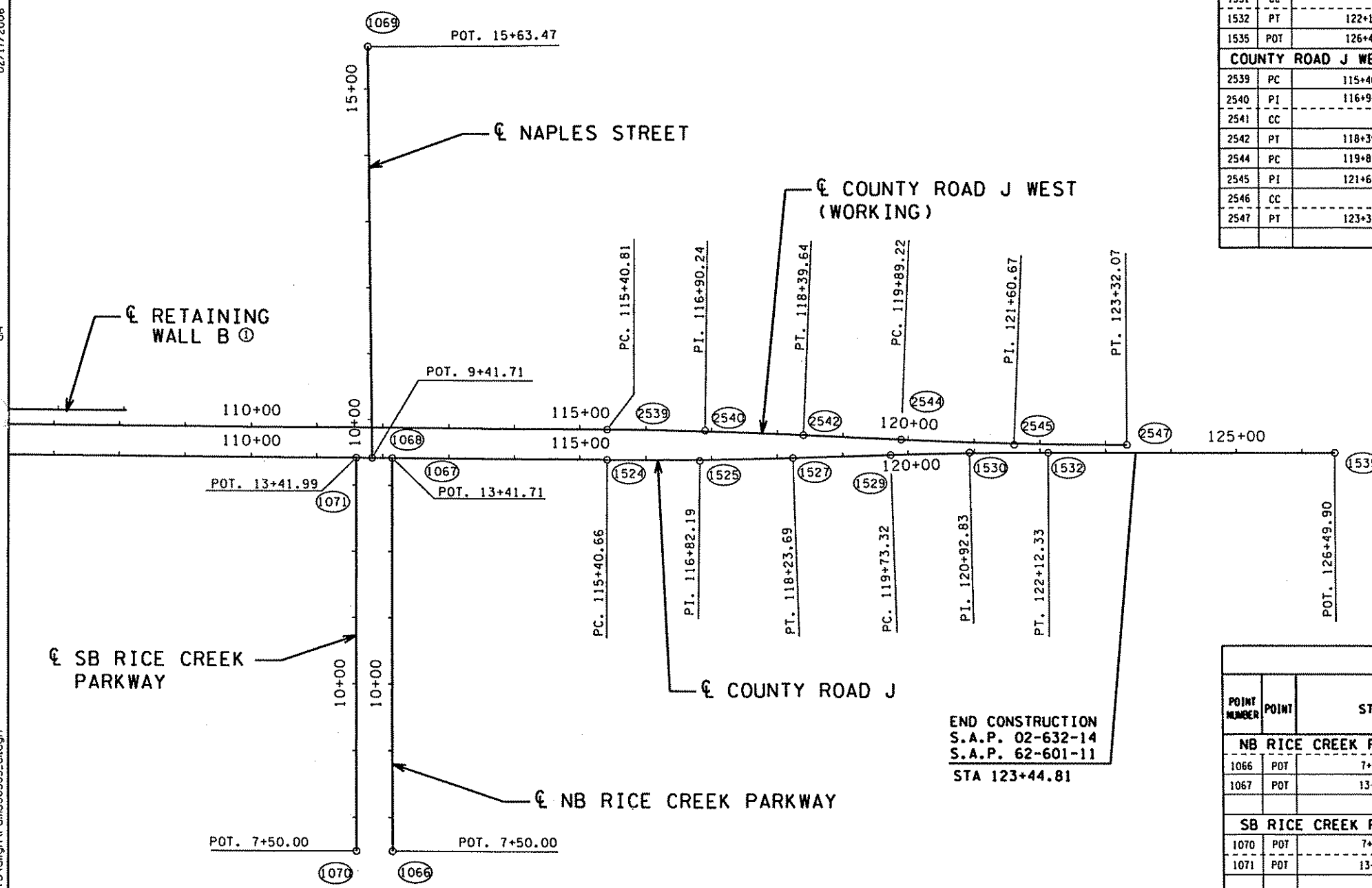
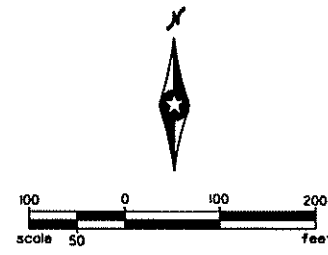
DESIGN TEAM DRAWN BY: MTT DESIGNER: JEV CHECKED BY: APM	REVISIONS NO. BY DATE	I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. <i>Aaron P. Moniza</i> Certified By: Aaron P. Moniza, Lic. No. 41654 Printed Name: AARON P. MONIZA Date: 02/17/2006	PHONE: 651-490-2000 3535 WADSWORTH CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14. S.A.P. 62-601-11	ALIGNMENT PLAN COUNTY ROAD J, SERVICE DRIVE, I-35W SERVICE DRIVE, I-35W SE RAMP, & INP I-35W	FILE NO. ARAMSE0503 113 AL3 OF AL4 297
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END CONSTRUCTION
S.A.P. 02-632-14
S.A.P. 62-601-11
STA 123+44.81

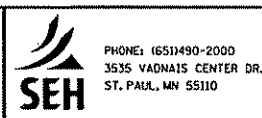
NOTE:
① SEE RETAINING WALL PLANS FOR ALIGNMENT INFORMATION.

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
COUNTY ROAD J (CORDJ)										
1520	PI	49+57.648	5° 52' 57.86" LT	0° 45' 00.00"	7,639.437'	392.527'	784.365'	545,175.5943	221,586.2126	PI
1521	CC							545,609.7859	229,223.3952	
1522	PT	53+49.485						545,568.1159	221,584.0716	90° 18' 45.10"
1524	PC	115+40.661						551,759.2000	221,550.3012	90° 18' 45.10"
1525	PI	116+82.193	2° 07' 21.81" LT	0° 45' 00.00"	7,639.437'	141.531'	283.030'	551,900.7291	221,549.5292	PI
1526	CC							551,800.8700	229,189.6248	
1527	PT	118+23.692						552,042.1897	221,554.0000	88° 11' 23.28"
1529	PC	119+73.315						552,191.7387	221,558.7264	88° 11' 23.28"
1530	PI	120+92.832	1° 47' 33.38" RT	0° 45' 00.00"	7,639.437'	119.517'	239.014'	552,311.1958	221,562.5018	PI
1531	CC							552,433.0584	213,923.1016	
1532	PT	122+12.329						552,430.7125	221,562.5385	89° 58' 56.66"
1535	POT	126+49.900						552,868.2831	221,562.6728	
COUNTY ROAD J WEST (CORDJW) - WORKING ALIGNMENT										
2539	PC	115+40.805						551,759.4525	221,596.3005	90° 18' 45.10"
2540	PI	116+90.241	2° 14' 28.53" RT	0° 45' 00.00"	7,639.437'	149.436'	298.834'	551,908.8865	221,595.4854	PI
2541	CC							551,717.7825	213,956.9769	
2542	PT	118+39.640						552,058.1744	221,588.8269	92° 33' 13.62"
2544	PC	119+89.219						552,207.6057	221,582.1621	92° 33' 13.62"
2545	PI	121+60.673	2° 34' 16.96" LT	0° 45' 00.00"	7,639.437'	171.454'	342.850'	552,378.8895	221,574.5226	PI
2546	CC							552,547.9976	229,214.0121	
2547	PT	123+32.070						552,550.3435	221,574.5752	89° 58' 56.66"

ALIGNMENT TABULATION										
POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
NB RICE CREEK PARKWAY (RICECRKNB)										
1066	POT	7+50.000						551,432.0611	220,960.3181	
1067	POT	13+41.707						551,432.8710	221,552.0248	
SB RICE CREEK PARKWAY (RICECRKSB)										
1070	POT	7+50.000						551,377.4611	220,960.3928	
1071	POT	13+41.987						551,378.2714	221,552.3790	
NAPLES STREET (NAPLES)										
1068	POT	9+41.707						551,402.1919	221,552.2486	
1069	POT	15+63.467						551,396.0955	222,173.9784	

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006

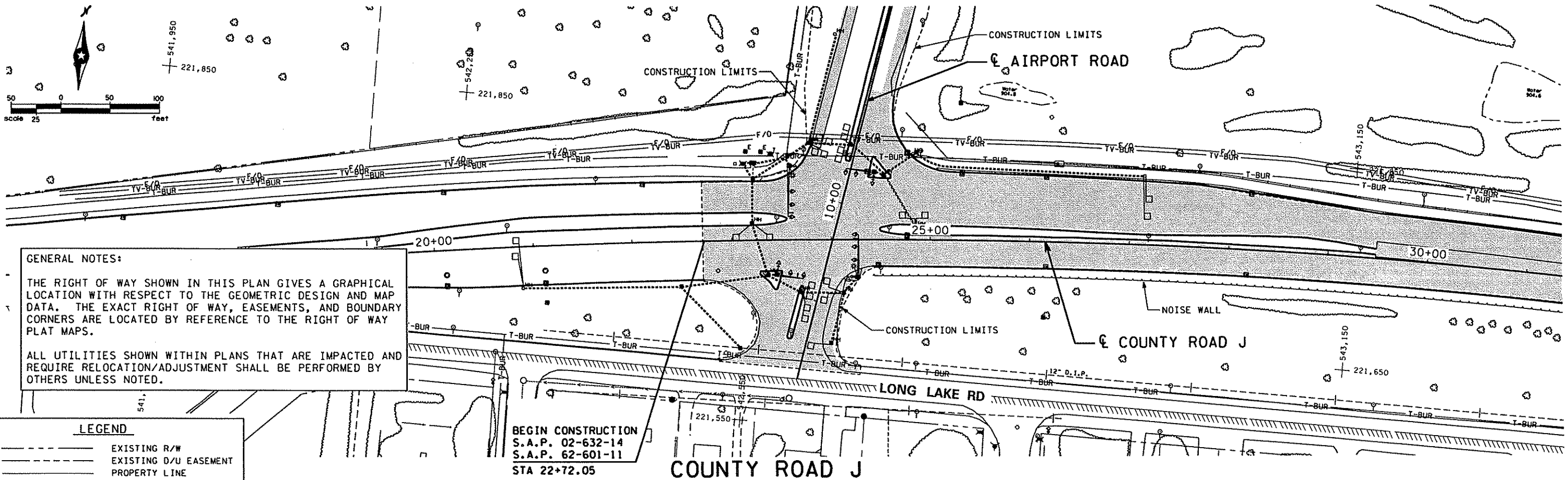


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

ALIGNMENT PLAN
COUNTY ROAD J, NAPLES STREET, &
RICE CREEK PARKWAY

FILE NO. 114
ARAMSE0503
AL4
OF AL4
297

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GENERAL NOTES:

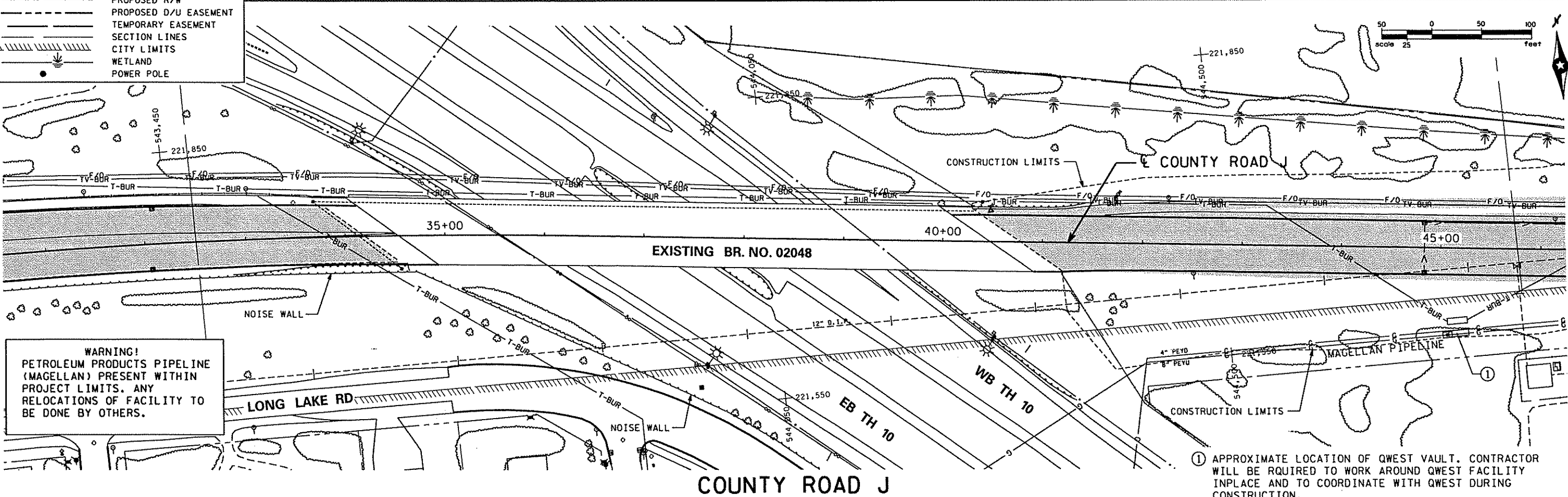
THE RIGHT OF WAY SHOWN IN THIS PLAN GIVES A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY, EASEMENTS, AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLAT MAPS.

ALL UTILITIES SHOWN WITHIN PLANS THAT ARE IMPACTED AND REQUIRE RELOCATION/ADJUSTMENT SHALL BE PERFORMED BY OTHERS UNLESS NOTED.

BEGIN CONSTRUCTION
S.A.P. 02-632-14
S.A.P. 62-601-11
STA 22+72.05

LEGEND

	EXISTING R/W
	EXISTING D/U EASEMENT
	PROPERTY LINE
	PROPOSED R/W
	PROPOSED D/U EASEMENT
	TEMPORARY EASEMENT
	SECTION LINES
	CITY LIMITS
	WETLAND
	POWER POLE



WARNING!
PETROLEUM PRODUCTS PIPELINE (MAGELLAN) PRESENT WITHIN PROJECT LIMITS. ANY RELOCATIONS OF FACILITY TO BE DONE BY OTHERS.

① APPROXIMATE LOCATION OF QWEST VAULT. CONTRACTOR WILL BE REQUIRED TO WORK AROUND QWEST FACILITY INPLACE AND TO COORDINATE WITH QWEST DURING CONSTRUCTION.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
STA 15+50 TO STA 46+00

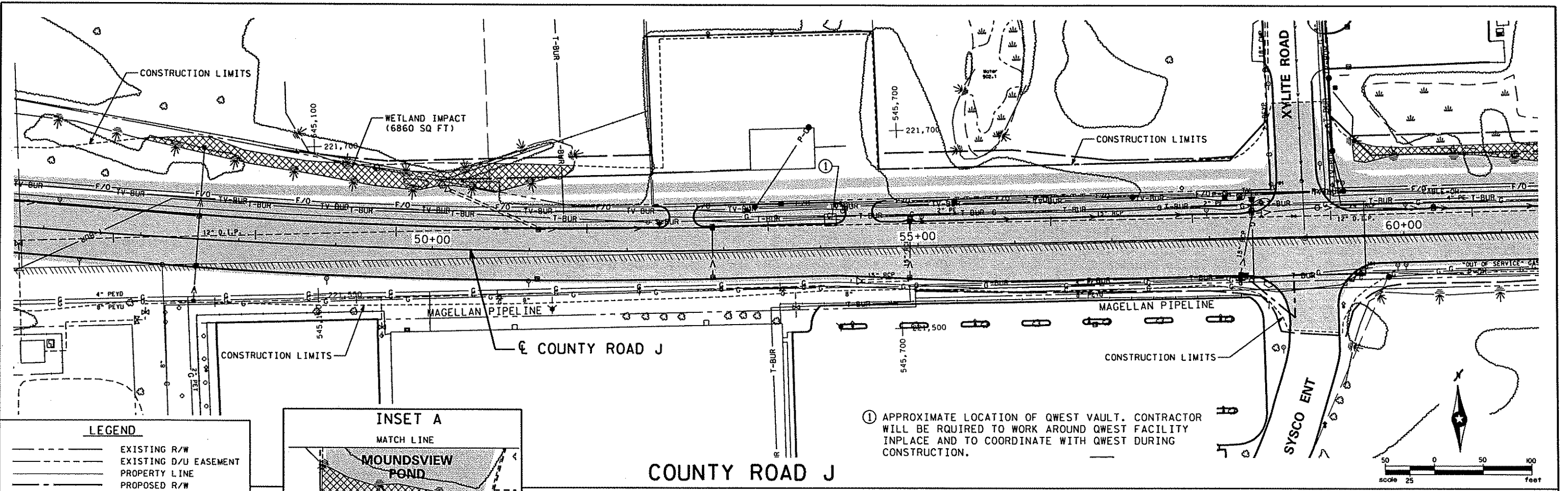
FILE NO. ARAMSE0503	115
TP1 OF TP8	297

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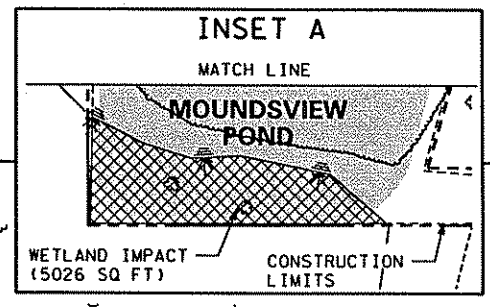
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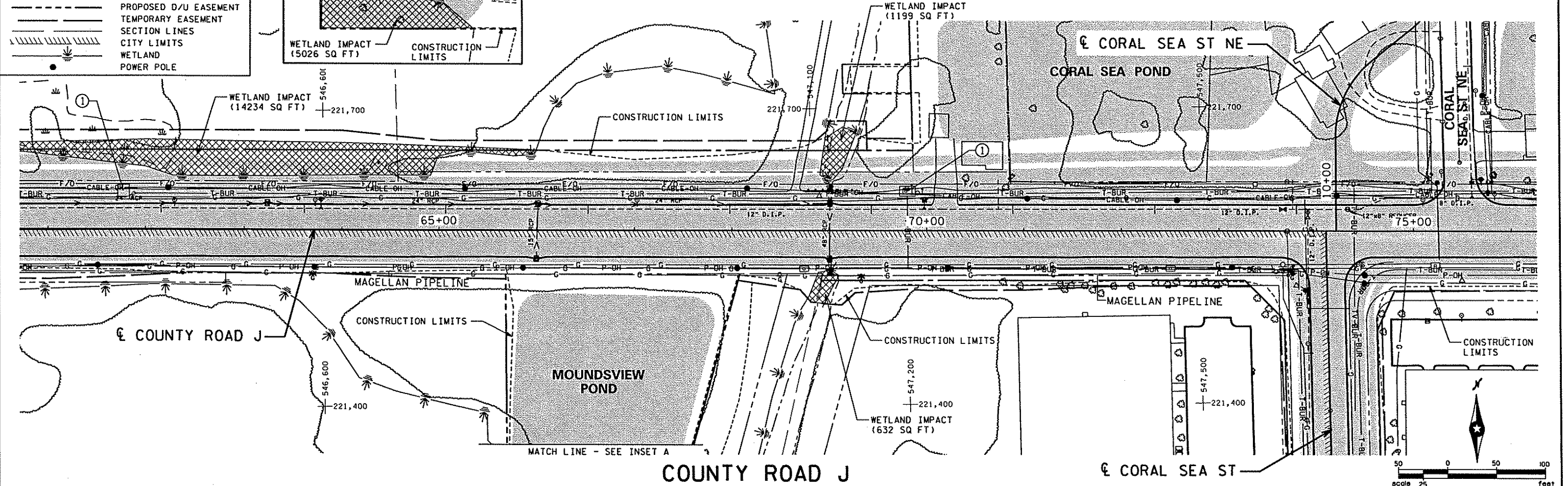


LEGEND

---	EXISTING R/W
- - -	EXISTING D/U EASEMENT
---	PROPERTY LINE
- - -	PROPOSED R/W
- - -	PROPOSED D/U EASEMENT
- - -	TEMPORARY EASEMENT
---	SECTION LINES
---	CITY LIMITS
---	WETLAND
●	POWER POLE

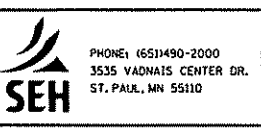


① APPROXIMATE LOCATION OF QWEST VAULT. CONTRACTOR WILL BE REQUIRED TO WORK AROUND QWEST FACILITY INPLACE AND TO COORDINATE WITH QWEST DURING CONSTRUCTION.



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 STA 46+00 TO STA 76+00

FILE NO.	116
ARAMSE0503	
TP2 OF TP8	297

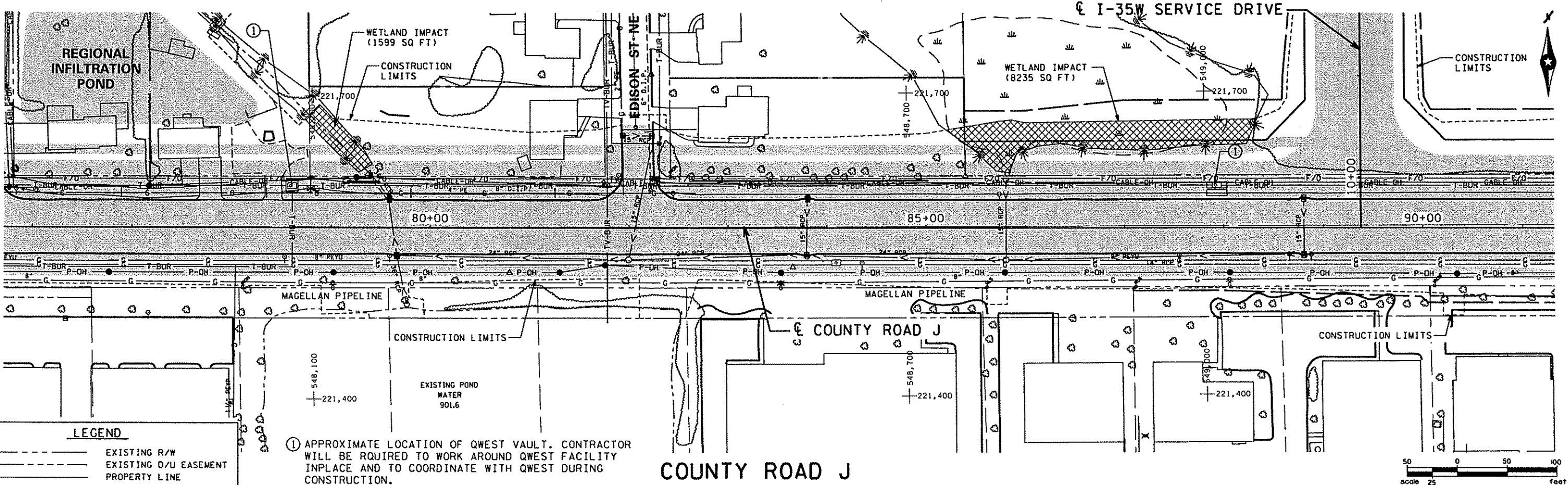
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TP3

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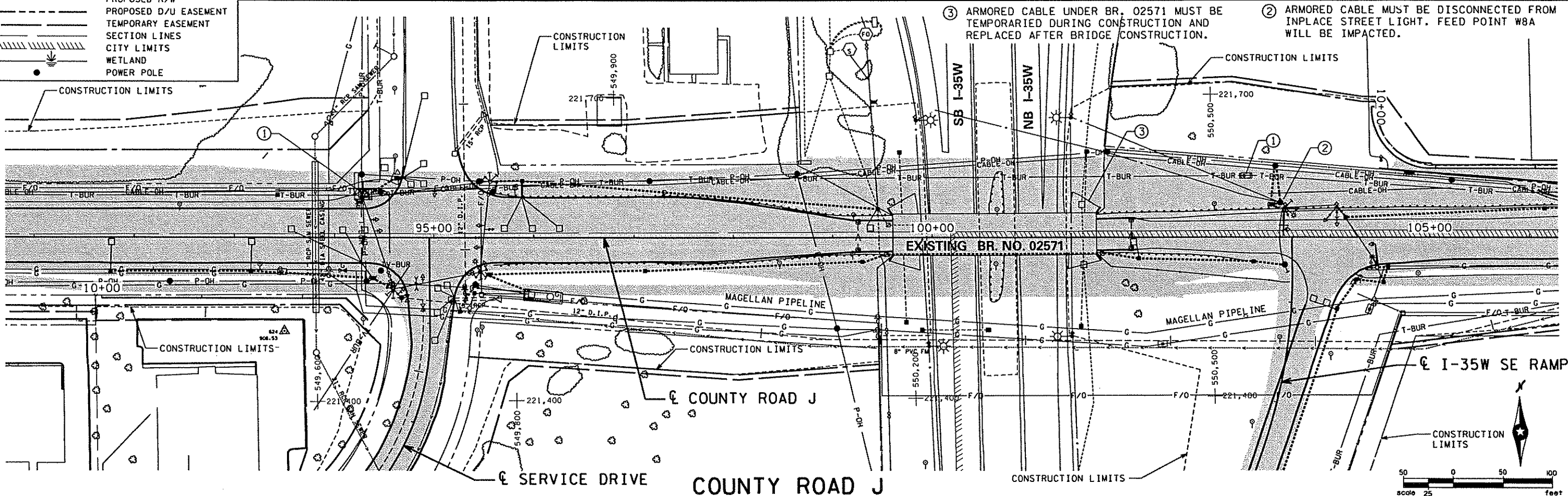
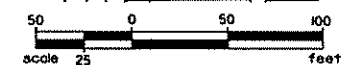


LEGEND

- EXISTING R/W
- EXISTING D/U EASEMENT
- PROPERTY LINE
- PROPOSED R/W
- PROPOSED D/U EASEMENT
- TEMPORARY EASEMENT
- SECTION LINES
- CITY LIMITS
- WETLAND
- POWER POLE

① APPROXIMATE LOCATION OF QWEST VAULT. CONTRACTOR WILL BE REQUIRED TO WORK AROUND QWEST FACILITY INPLACE AND TO COORDINATE WITH QWEST DURING CONSTRUCTION.

COUNTY ROAD J



③ ARMORED CABLE UNDER BR. 02571 MUST BE TEMPORARIED DURING CONSTRUCTION AND REPLACED AFTER BRIDGE CONSTRUCTION.

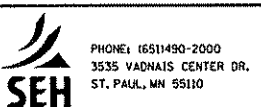
② ARMORED CABLE MUST BE DISCONNECTED FROM INPLACE STREET LIGHT. FEED POINT W8A WILL BE IMPACTED.



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006

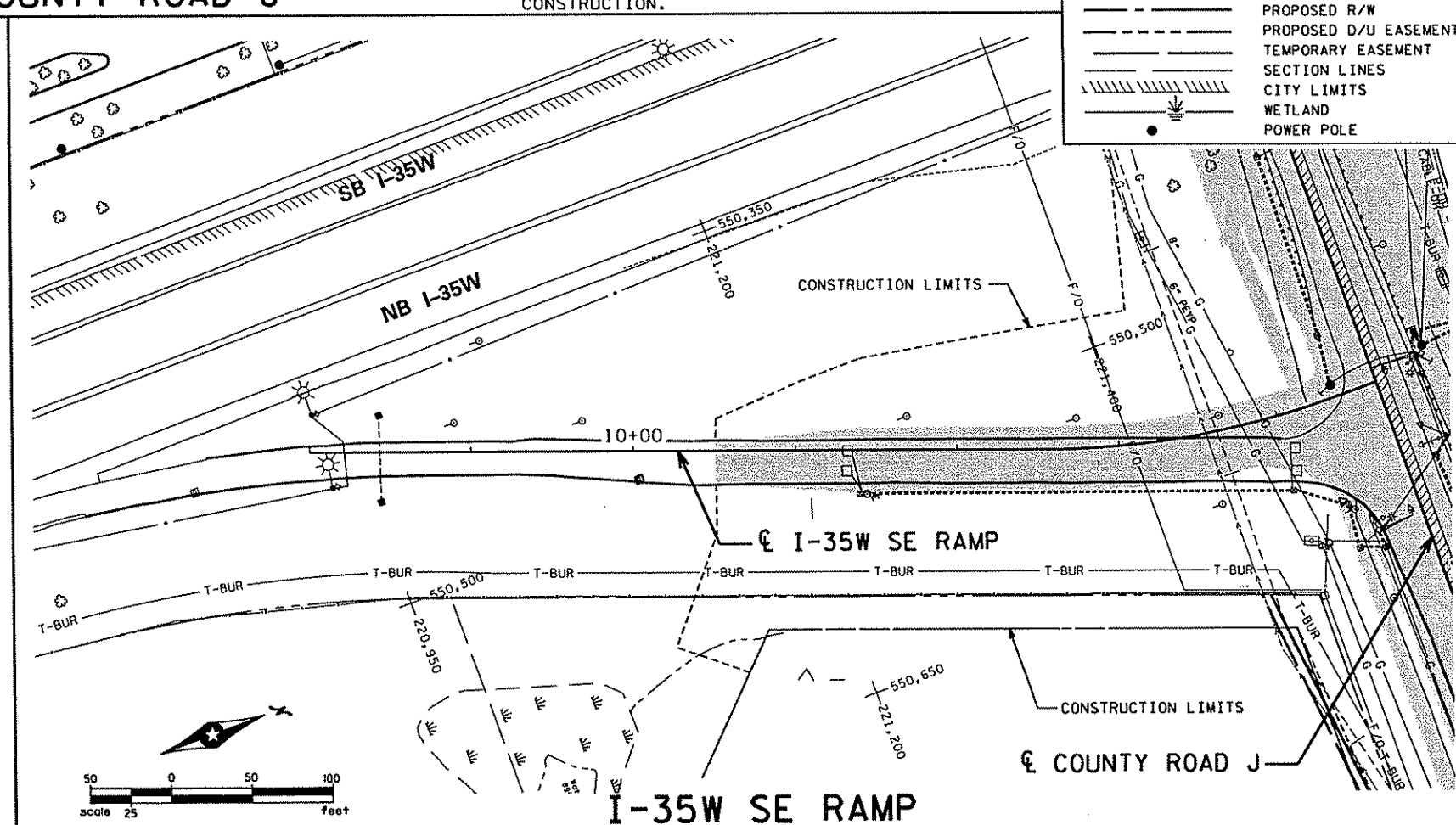
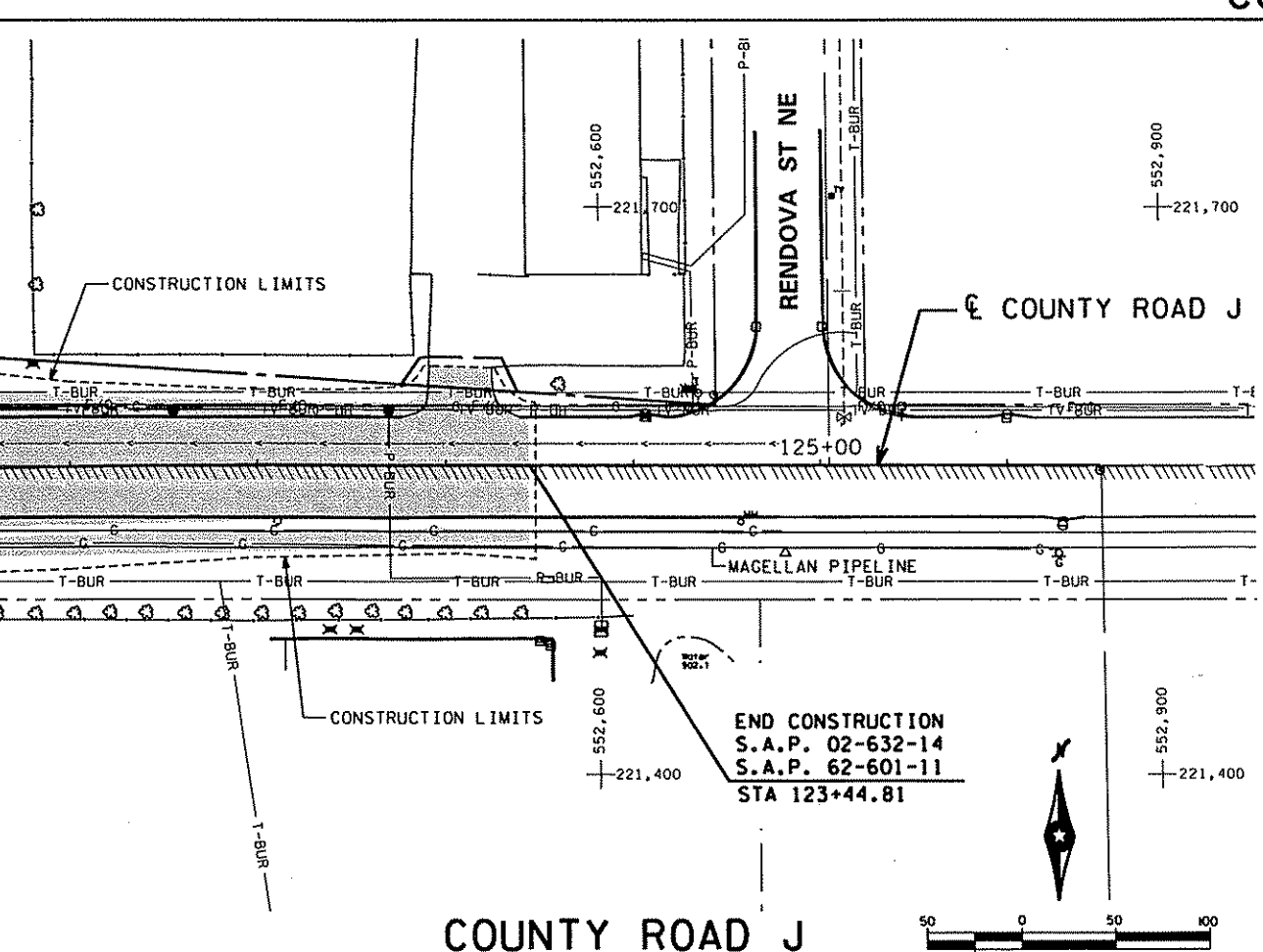
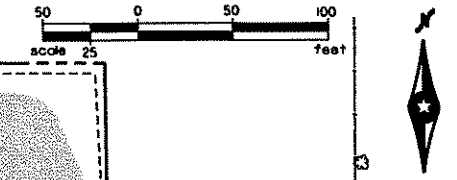
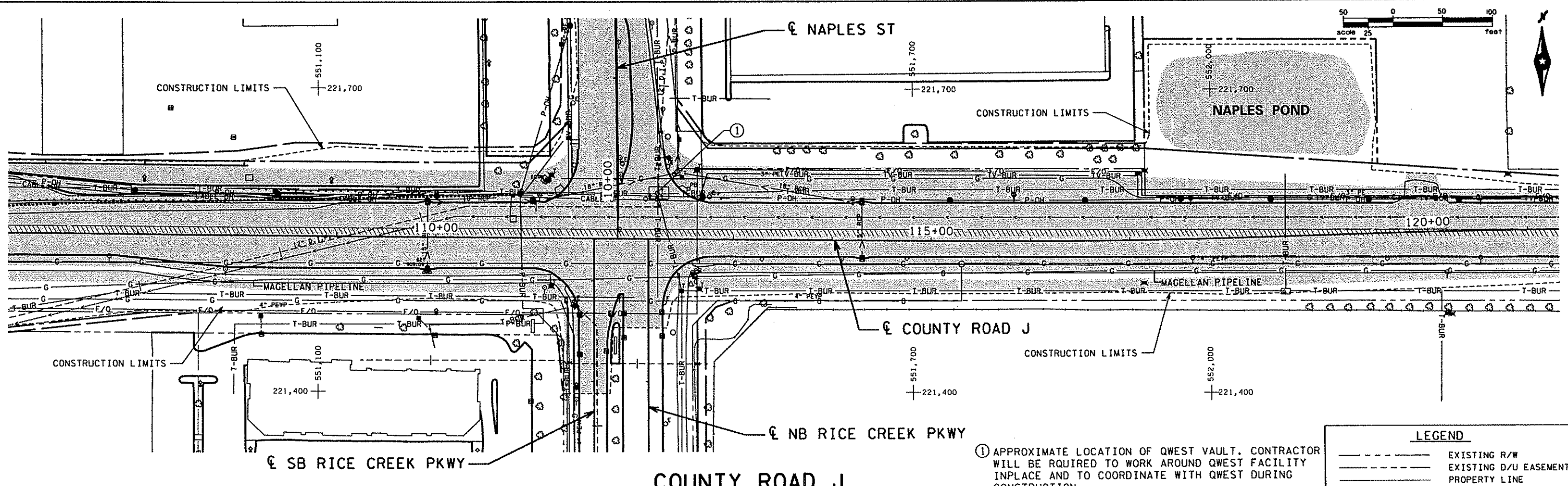


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 STA 76+00 TO STA 106+00

FILE NO. 117
 ARAMSE0503
 TP3 OF TP8
 297

03:24:25 PM
02/17/2006
tp4
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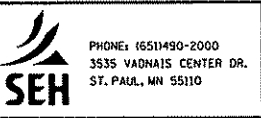


① APPROXIMATE LOCATION OF QWEST VAULT. CONTRACTOR WILL BE REQUIRED TO WORK AROUND QWEST FACILITY INPLACE AND TO COORDINATE WITH QWEST DURING CONSTRUCTION.

LEGEND	
	EXISTING R/W
	EXISTING D/U EASEMENT
	PROPERTY LINE
	PROPOSED R/W
	PROPOSED D/U EASEMENT
	TEMPORARY EASEMENT
	SECTION LINES
	CITY LIMITS
	WETLAND
	POWER POLE

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 STA 106+00 TO STA 126+00

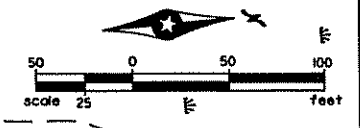
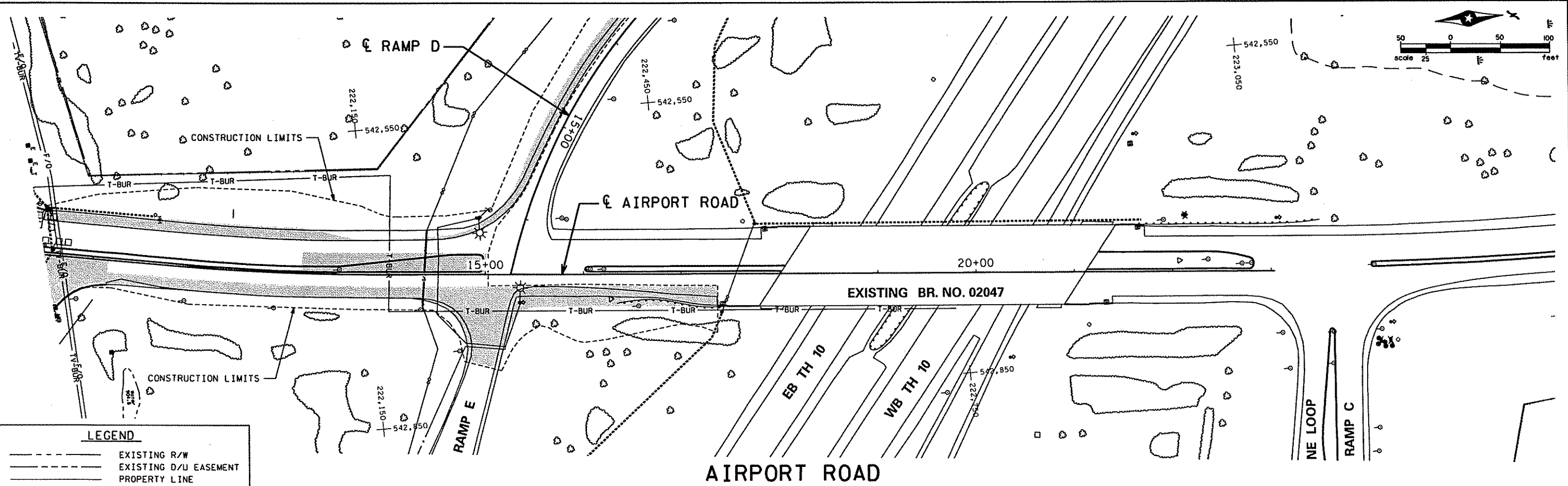
FILE NO. ARAMSE0503
 TP4 OF TP8
118
297

03:24:29 PM

02/17/2006

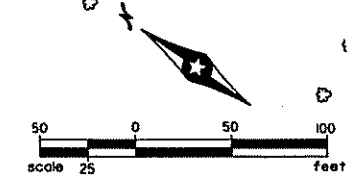
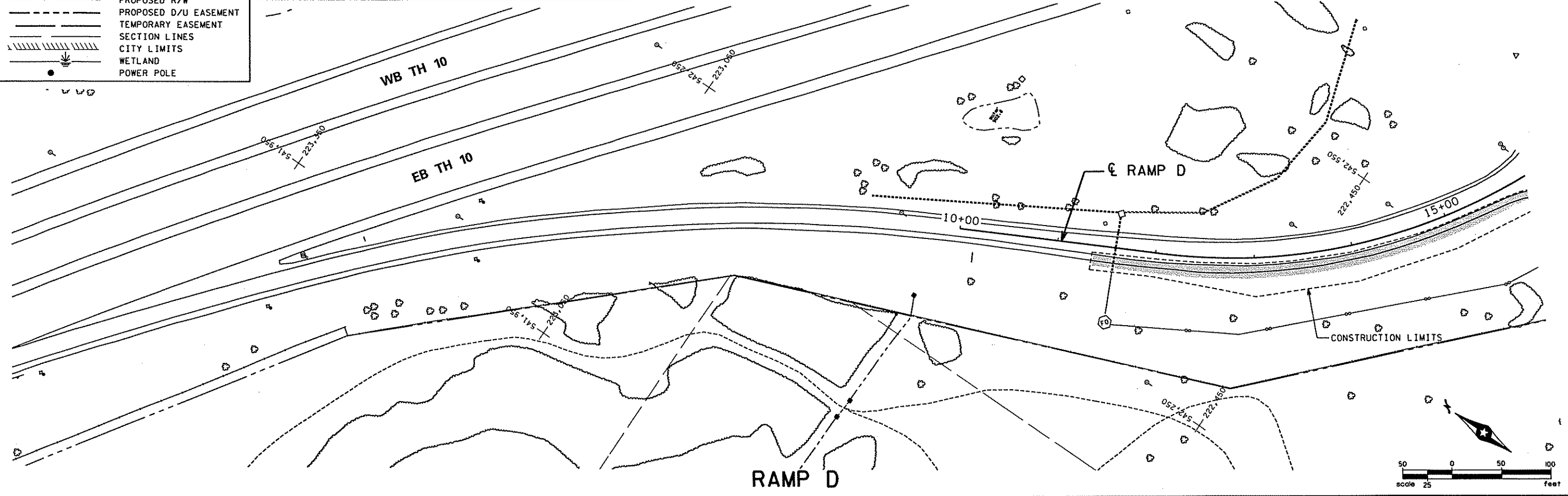
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LEGEND

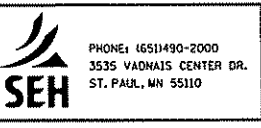
	EXISTING R/W
	EXISTING D/U EASEMENT
	PROPERTY LINE
	PROPOSED R/W
	PROPOSED D/U EASEMENT
	TEMPORARY EASEMENT
	SECTION LINES
	CITY LIMITS
	WETLAND
	POWER POLE



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 AIRPORT ROAD & RAMP D/E

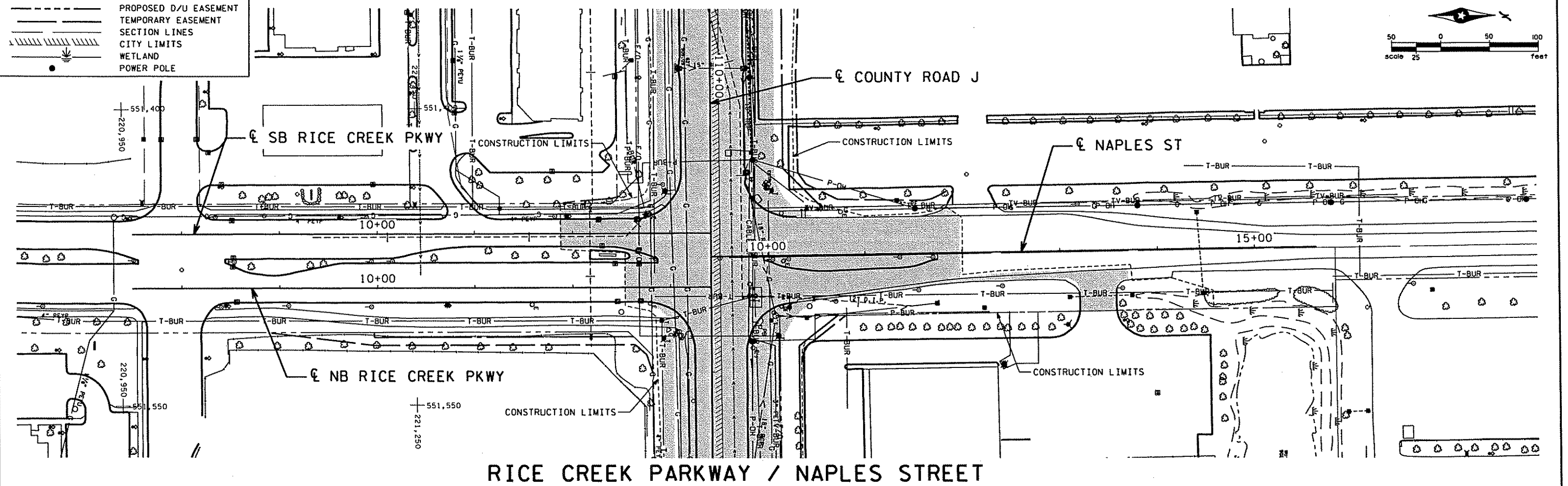
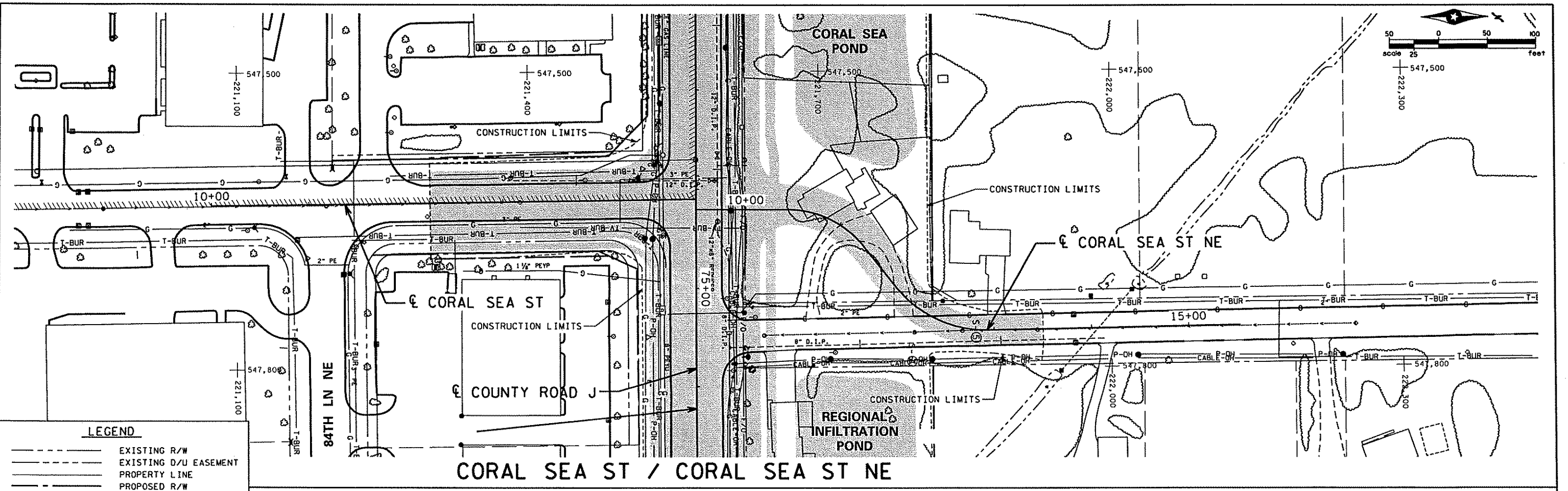
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ARAMSE0503	
TP5	
OF TP8	297

03:24:32 PM

02/17/2006

TP6

\\s0300\pinshfts\topo\ramse0503_tp.dgn



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Printed Name: AARON P. MONIZA Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 CORAL SEA ST / CORAL SEA ST NE & RICE CREEK PARKWAY / NAPLES STREET

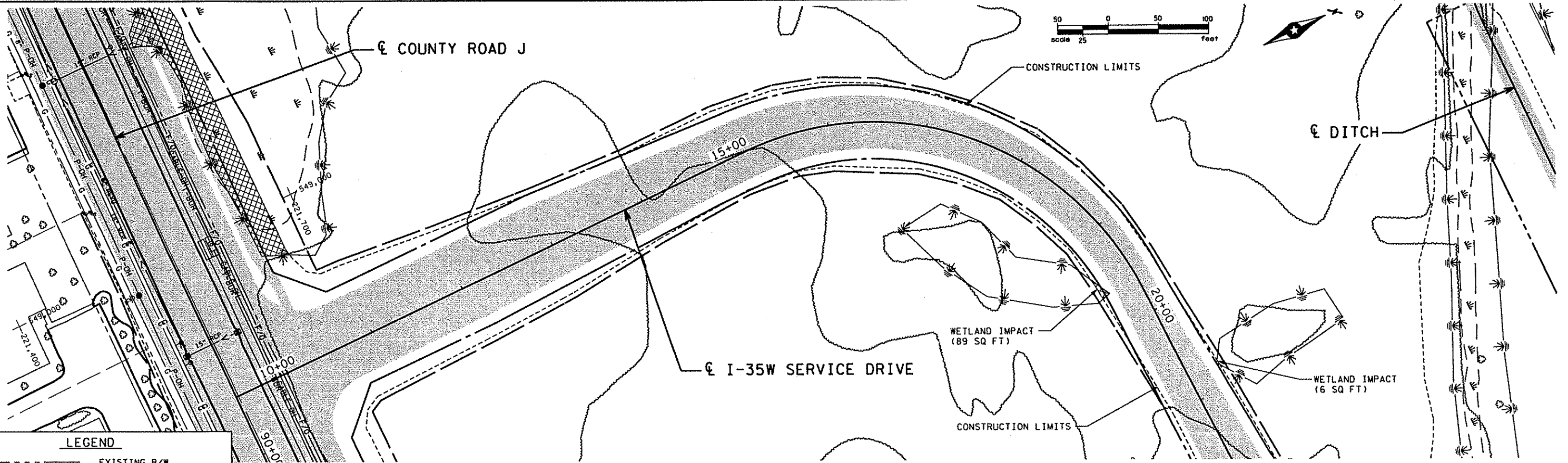
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ARAMSE0503	
TP6	
OF TP8	297

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02/17/2006

TP7

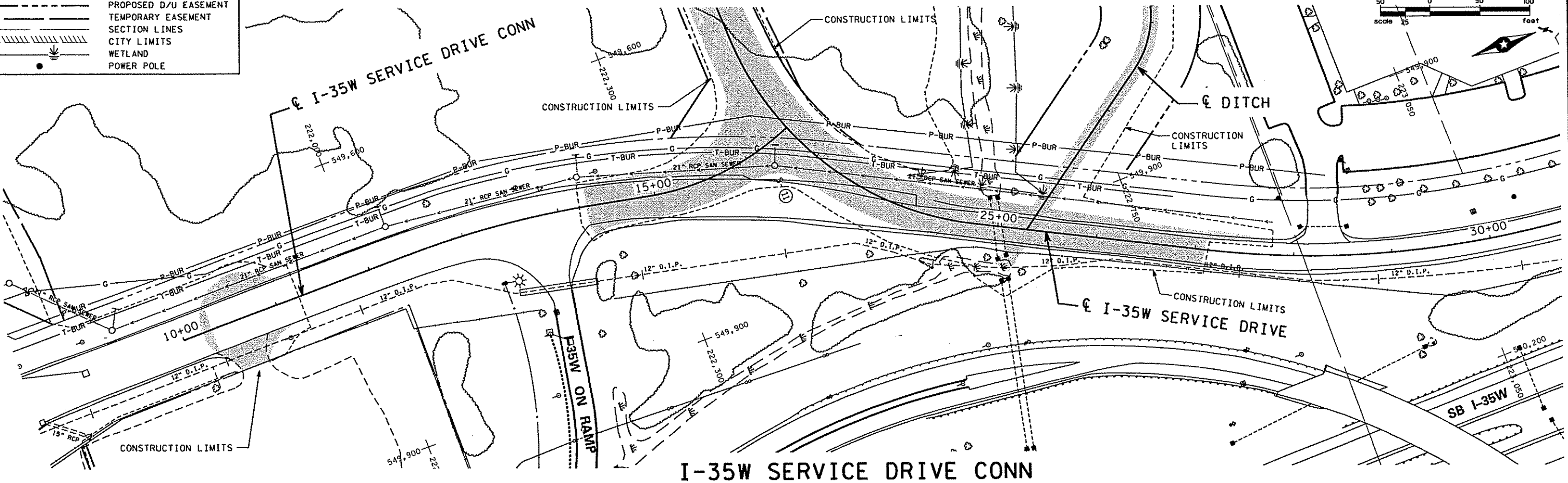
x:\topo\ramsey\topo\ramsey0503_1p.dgn



LEGEND

- EXISTING R/W
- EXISTING D/U EASEMENT
- PROPERTY LINE
- PROPOSED R/W
- PROPOSED D/U EASEMENT
- TEMPORARY EASEMENT
- SECTION LINES
- CITY LIMITS
- WETLAND
- POWER POLE

I-35W SERVICE DRIVE



I-35W SERVICE DRIVE CONN

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: MTT				
CHECKED BY: APM				
	NO.	BY	DATE	REVISIONS

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 I-35W SERVICE DRIVE

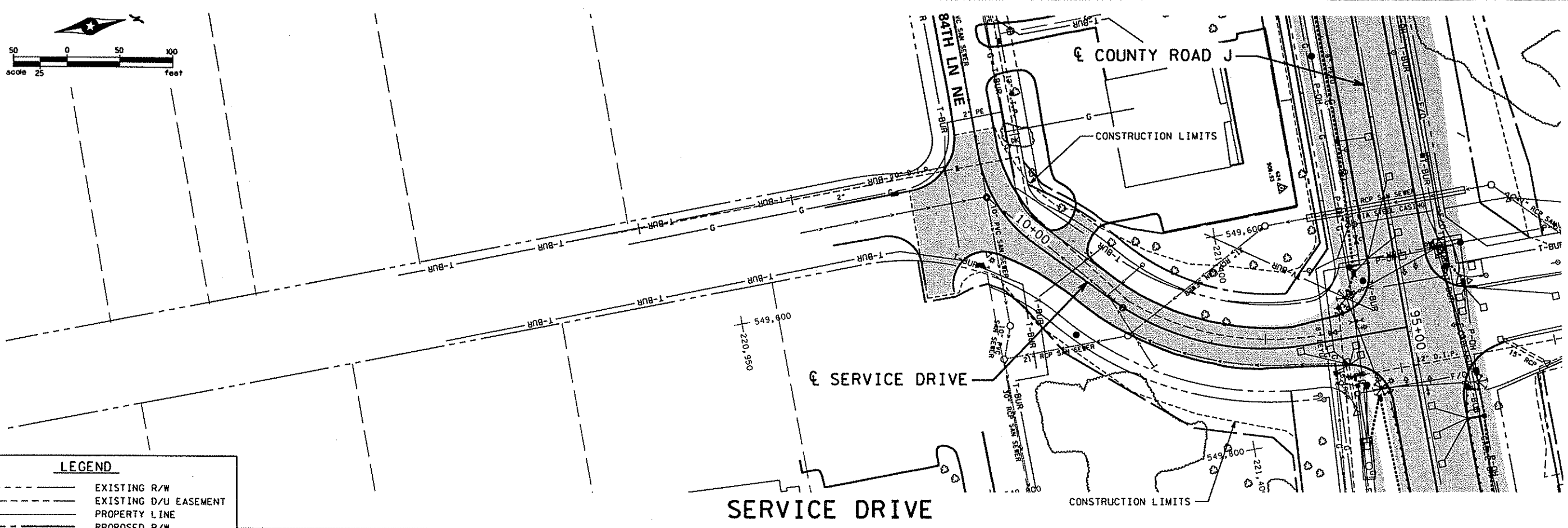
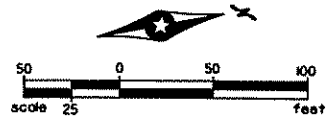
FILE NO. ARAMSE0503	121
TP7 OF TP8	297

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02/17/2006

tp8

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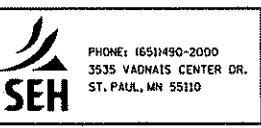
LEGEND

	EXISTING R/W
	EXISTING D/U EASEMENT
	PROPERTY LINE
	PROPOSED R/W
	PROPOSED D/U EASEMENT
	TEMPORARY EASEMENT
	SECTION LINES
	CITY LIMITS
	WETLAND
	POWER POLE

DESIGN TEAM				
DRAWN BY:	MTT			
DESIGNER:	MTT			
CHECKED BY:	APM			
NO.	BY	DATE	REVISIONS	

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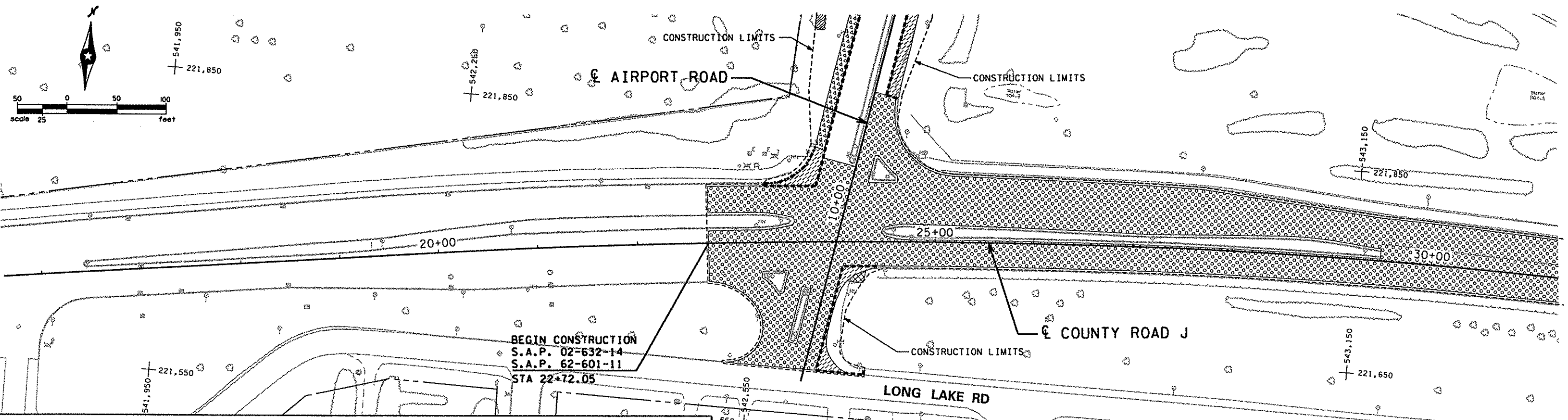


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE TOPOGRAPHY & UTILITY PLAN
 SERVICE DRIVE

FILE NO.	122
ARAMSE0503	
TP8	297
OF TP8	

03:25:17 PM
02/17/2006

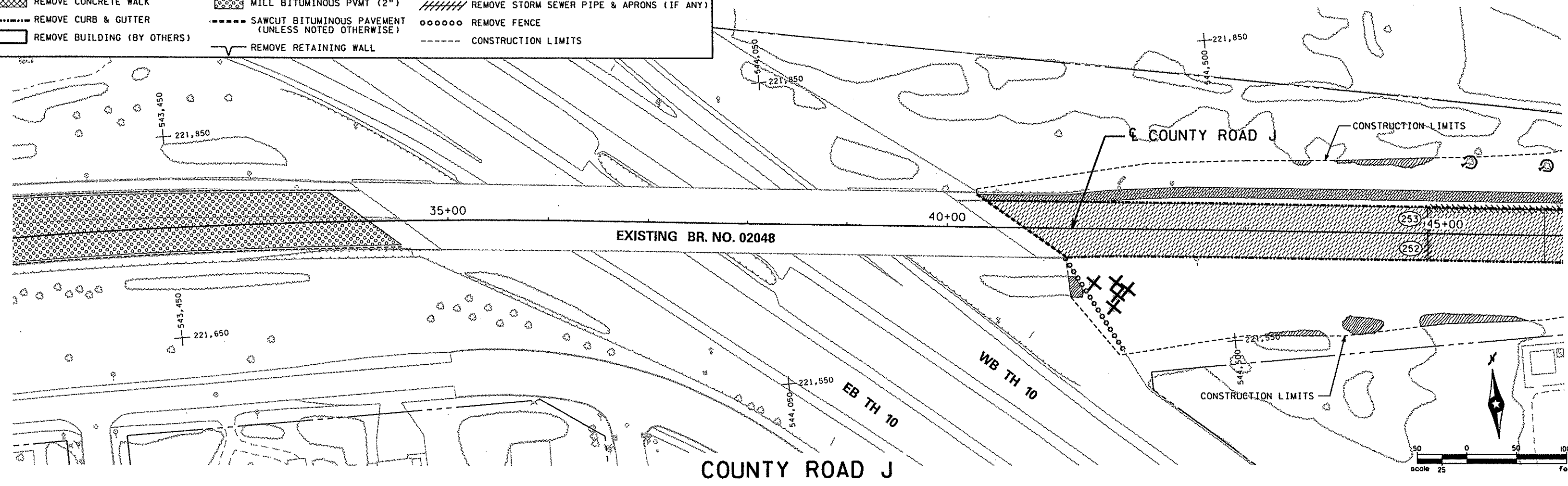


BEGIN CONSTRUCTION
 S.A.P. 02-632-14
 S.A.P. 62-601-11
 STA 22+72.05

LEGEND

- | | | |
|-----------------------------|---|---|
| REMOVE GUARDRAIL | REMOVE BITUMINOUS PVMT | CLEARING & GRUBBING (ACRE) |
| REMOVE CONCRETE PVMT | REMOVE BITUMINOUS WALK | CLEARING & GRUBBING (TREE) |
| REMOVE CONCRETE DRWY PVMT | REMOVE BITUMINOUS SHLD PVMT | PROTECT TREE & INSTALL TEMPORARY FENCE |
| REMOVE CONCRETE WALK | MILL BITUMINOUS PVMT (2") | REMOVE CATCH BASIN OR STORM MANHOLE |
| REMOVE CURB & GUTTER | SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE) | REMOVE STORM SEWER PIPE & APRONS (IF ANY) |
| REMOVE BUILDING (BY OTHERS) | REMOVE RETAINING WALL | REMOVE FENCE |
| | | CONSTRUCTION LIMITS |

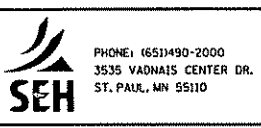
COUNTY ROAD J



COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	KLE		
CHECKED BY:	JEO		
	NO.	BY	DATE
			REVISIONS

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 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
 STA 15+50 TO STA 46+00

FILE NO.	123
ARAMSE0503	
RM1 OF RMB	297

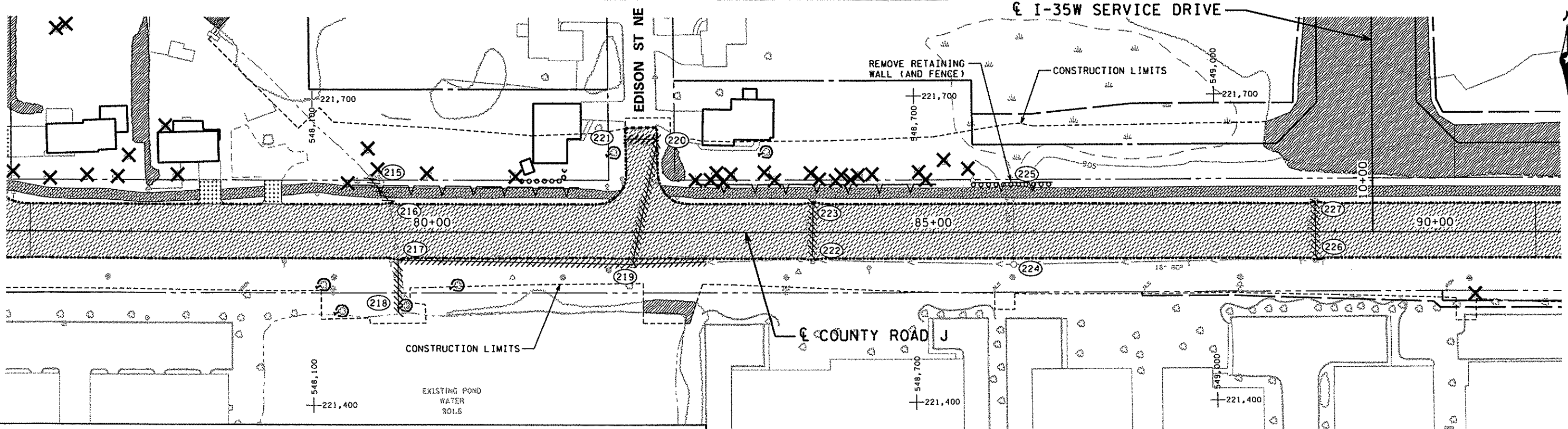
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02/17/2006

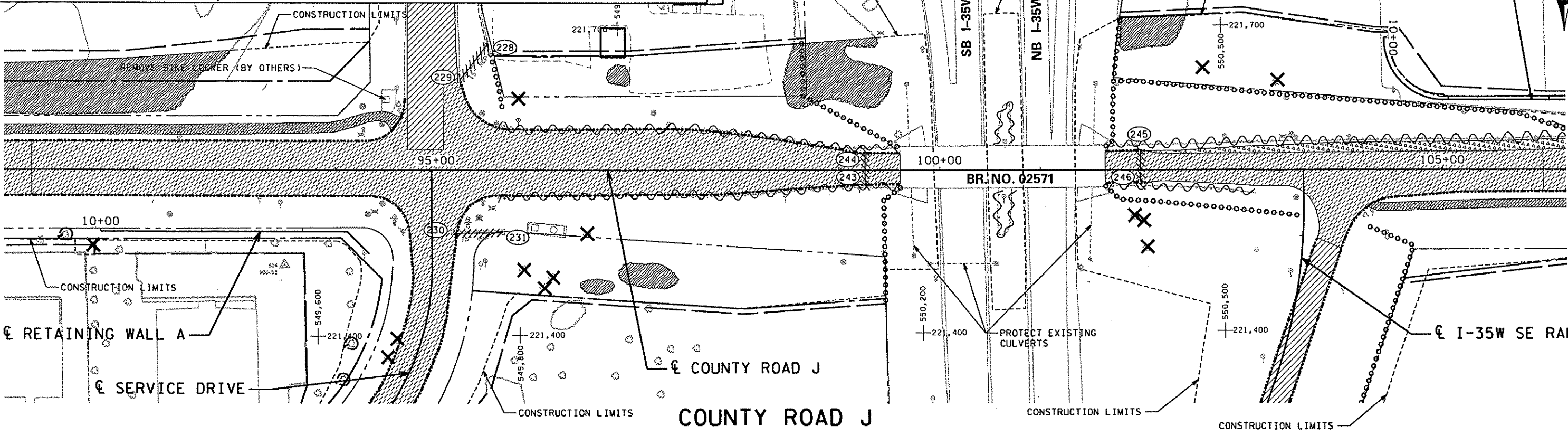
rm3

30300\plnhtts\removal\ramse0503_rm.dgn



LEGEND

REMOVE GUARDRAIL	REMOVE BITUMINOUS PVMT	CLEARING & GRUBBING (ACRE)
REMOVE CONCRETE PVMT	REMOVE BITUMINOUS WALK	CLEARING & GRUBBING (TREE)
REMOVE CONCRETE DRWY PVMT	REMOVE BITUMINOUS SHLD PVMT	PROTECT TREE & INSTALL TEMPORARY FENCE
REMOVE CONCRETE WALK	MILL BITUMINOUS PVMT (2")	REMOVE CATCH BASIN OR STORM MANHOLE
REMOVE CURB & GUTTER	SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE)	REMOVE STORM SEWER PIPE & APRONS (IF ANY)
REMOVE BUILDING (BY OTHERS)	REMOVE RETAINING WALL	REMOVE FENCE
		CONSTRUCTION LIMITS



DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	KLE						
CHECKED BY:	JEO						

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 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
 STA 76+00 TO STA 106+00

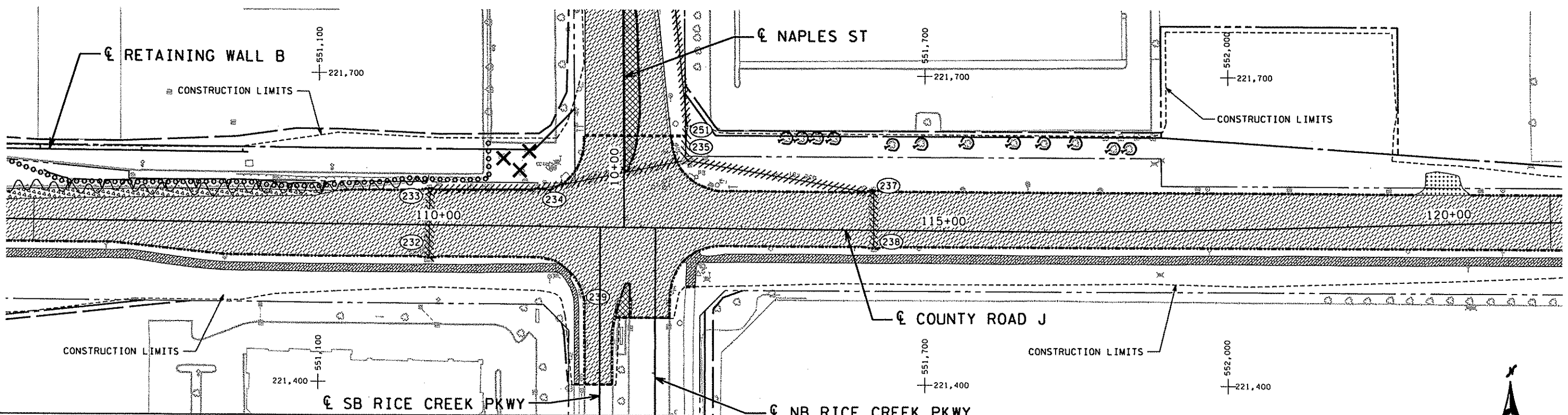
FILE NO.	125
ARAMSE0503	
RM3	297
OF RM7	

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02/20/2006

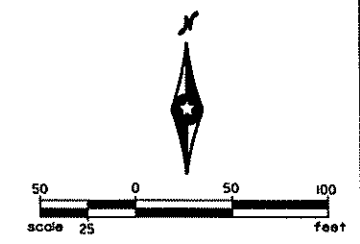
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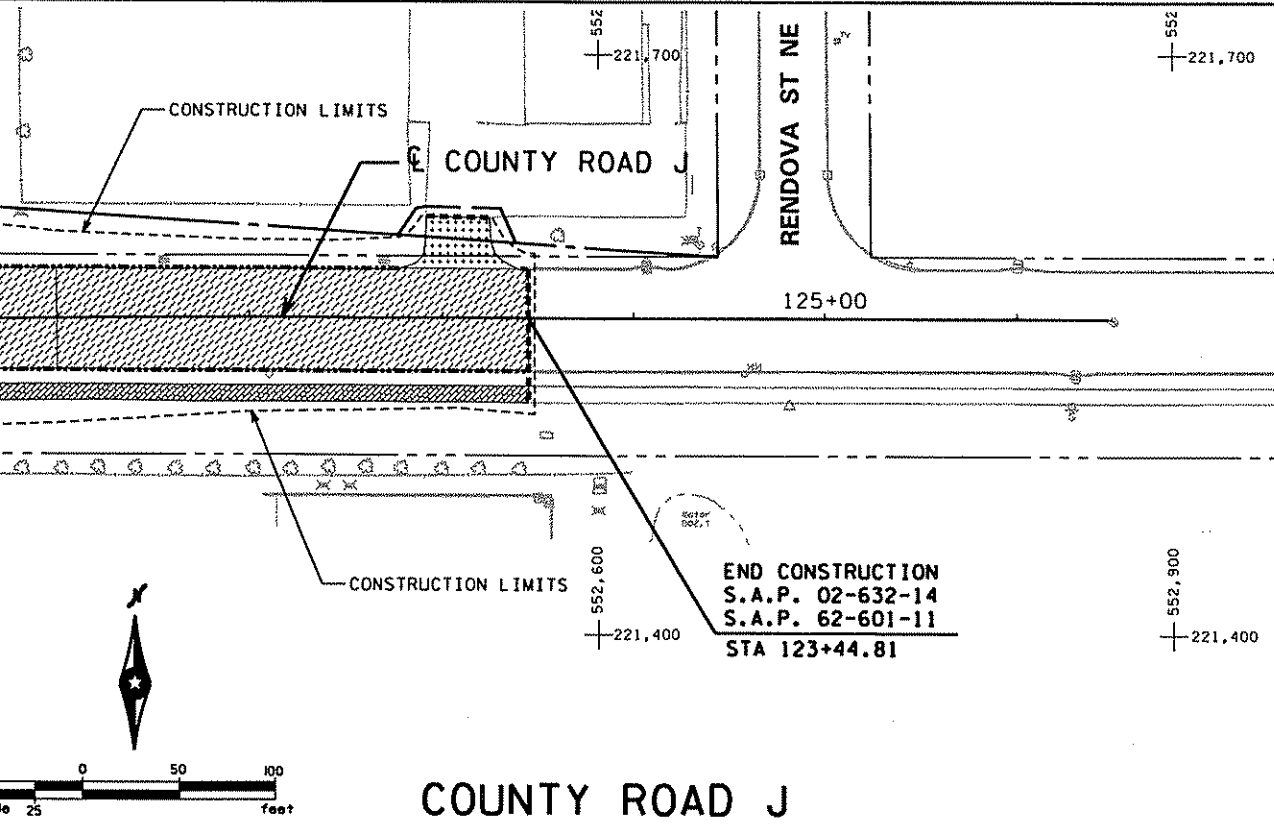


LEGEND

- REMOVE GUARDRAIL
- REMOVE CONCRETE PVMT
- REMOVE CONCRETE DRWY PVMT
- REMOVE CONCRETE WALK
- REMOVE CURB & GUTTER
- REMOVE BUILDING (BY OTHERS)
- REMOVE BITUMINOUS PVMT
- REMOVE BITUMINOUS WALK
- REMOVE BITUMINOUS SHLD PVMT
- MILL BITUMINOUS PVMT (2")
- SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE)
- REMOVE RETAINING WALL
- CLEARING & GRUBBING (ACRE)
- CLEARING & GRUBBING (TREE)
- PROTECT TREE & INSTALL TEMPORARY FENCE
- REMOVE CATCH BASIN OR STORM MANHOLE
- REMOVE STORM SEWER PIPE & APRONS (IF ANY)
- REMOVE FENCE
- CONSTRUCTION LIMITS



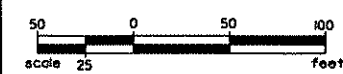
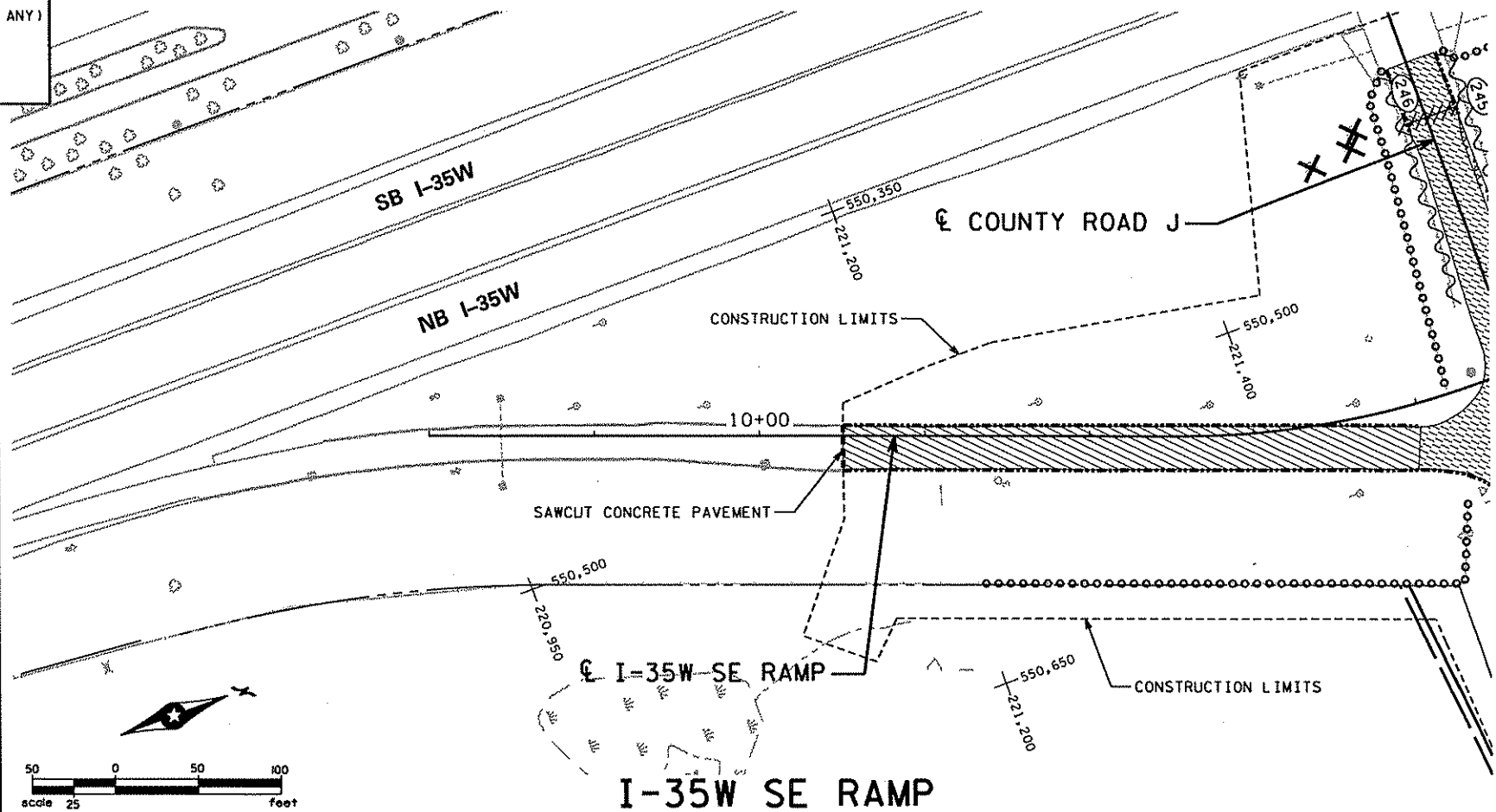
COUNTY ROAD J



END CONSTRUCTION
 S.A.P. 02-632-14
 S.A.P. 62-601-11
 STA 123+44.81



COUNTY ROAD J



I-35W SE RAMP

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	KLE		
CHECKED BY:	JED		
NO.	BY	DATE	REVISIONS

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 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/20/2006

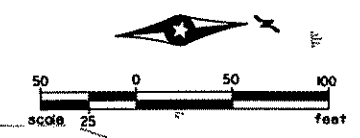
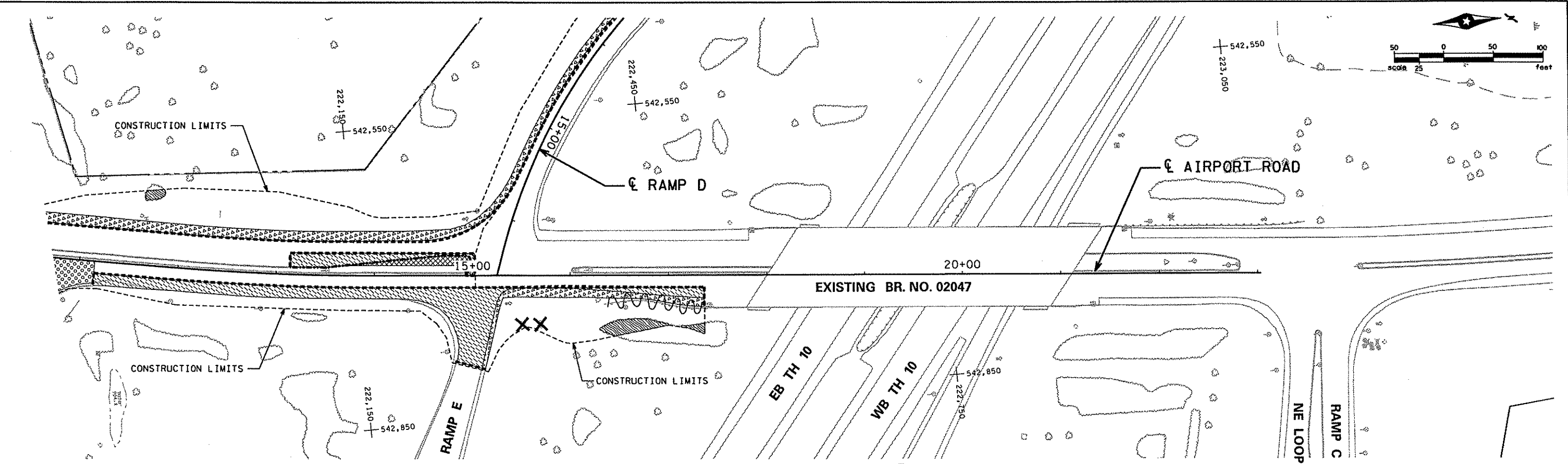


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
 STA 106+00 TO STA 126+00

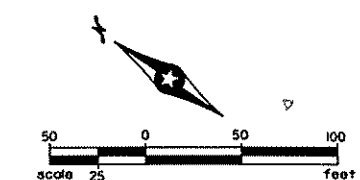
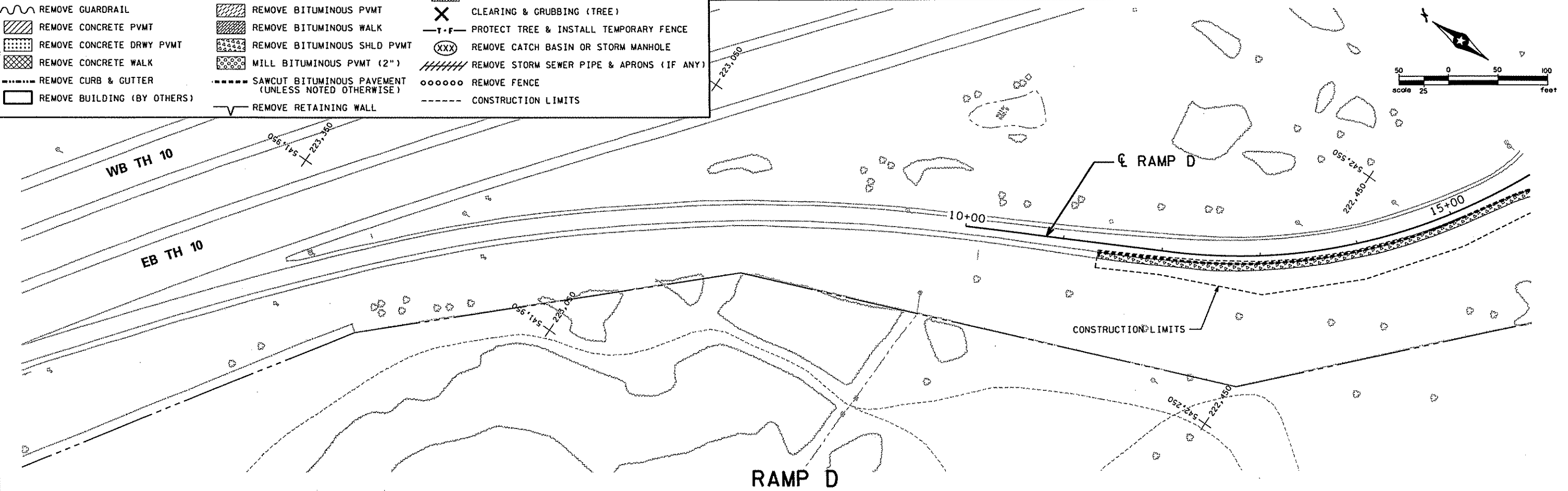
FILE NO. 126
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 RM4 OF RM8
 297

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LEGEND

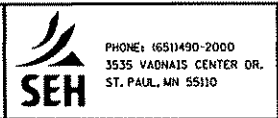
- | | | |
|-----------------------------|---|---|
| REMOVE GUARDRAIL | REMOVE BITUMINOUS PVMT | CLEARING & GRUBBING (ACRE) |
| REMOVE CONCRETE PVMT | REMOVE BITUMINOUS WALK | CLEARING & GRUBBING (TREE) |
| REMOVE CONCRETE DRWY PVMT | REMOVE BITUMINOUS SHLD PVMT | PROTECT TREE & INSTALL TEMPORARY FENCE |
| REMOVE CONCRETE WALK | MILL BITUMINOUS PVMT (2") | REMOVE CATCH BASIN OR STORM MANHOLE |
| REMOVE CURB & GUTTER | SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE) | REMOVE STORM SEWER PIPE & APRONS (IF ANY) |
| REMOVE BUILDING (BY OTHERS) | REMOVE RETAINING WALL | REMOVE FENCE |
| | | CONSTRUCTION LIMITS |



DESIGN TEAM			
DRAWN BY: MTT			
DESIGNER: KLE			
CHECKED BY: JEO			
NO.	BY	DATE	REVISIONS

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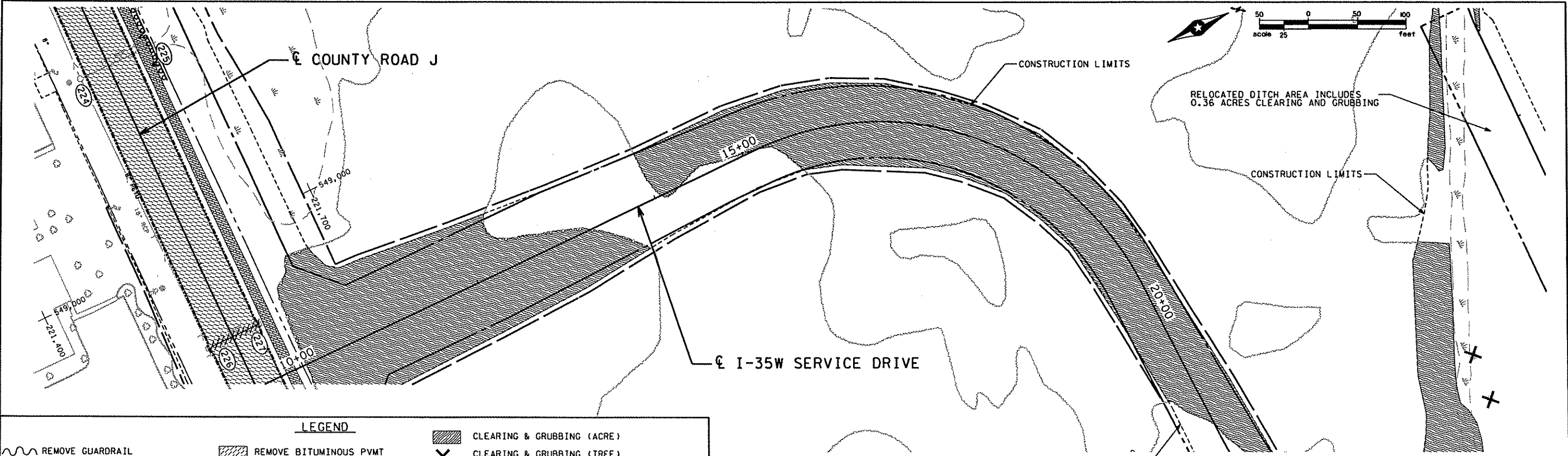


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
 AIRPORT ROAD & RAMP D/E

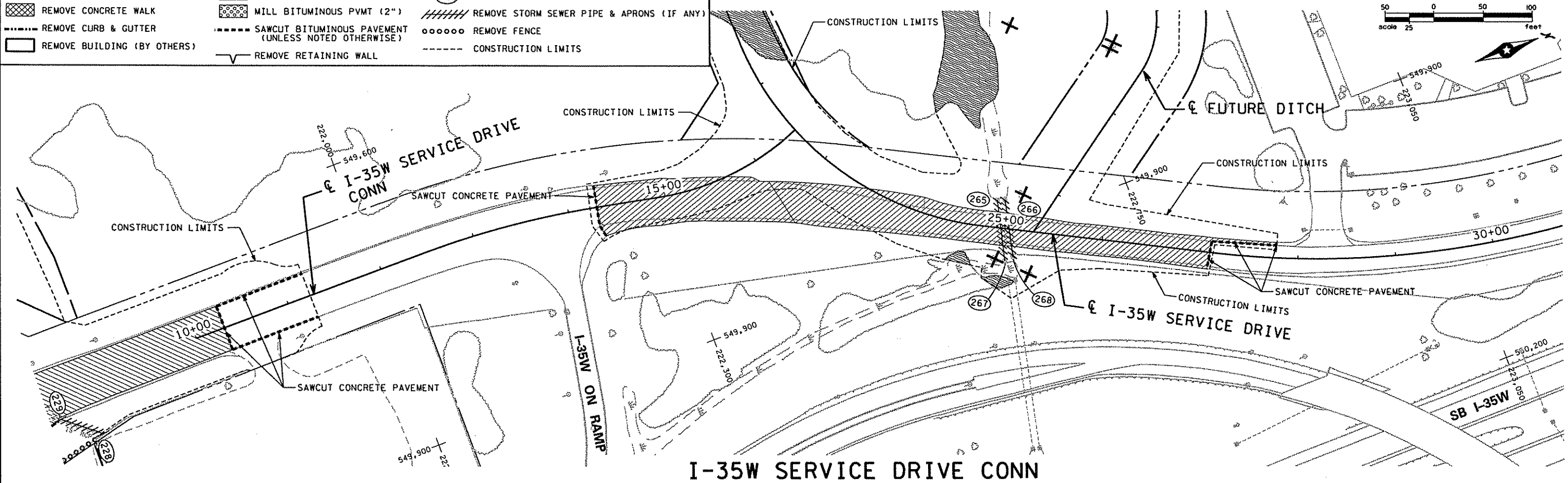
FILE NO. ARAMSE0503
 RM5 OF RM8
 127
 297

03:26:44 PM
02/20/2006
rm7
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LEGEND

REMOVE GUARDRAIL	REMOVE BITUMINOUS PVMT	CLEARING & GRUBBING (TREE)
REMOVE CONCRETE PVMT	REMOVE BITUMINOUS WALK	PROTECT TREE & INSTALL TEMPORARY FENCE
REMOVE CONCRETE DRWY PVMT	REMOVE BITUMINOUS SHLD PVMT	REMOVE CATCH BASIN OR STORM MANHOLE
REMOVE CONCRETE WALK	MILL BITUMINOUS PVMT (2")	REMOVE STORM SEWER PIPE & APRONS (IF ANY)
REMOVE CURB & GUTTER	SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE)	REMOVE FENCE
REMOVE BUILDING (BY OTHERS)	REMOVE RETAINING WALL	CONSTRUCTION LIMITS



DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	KLE		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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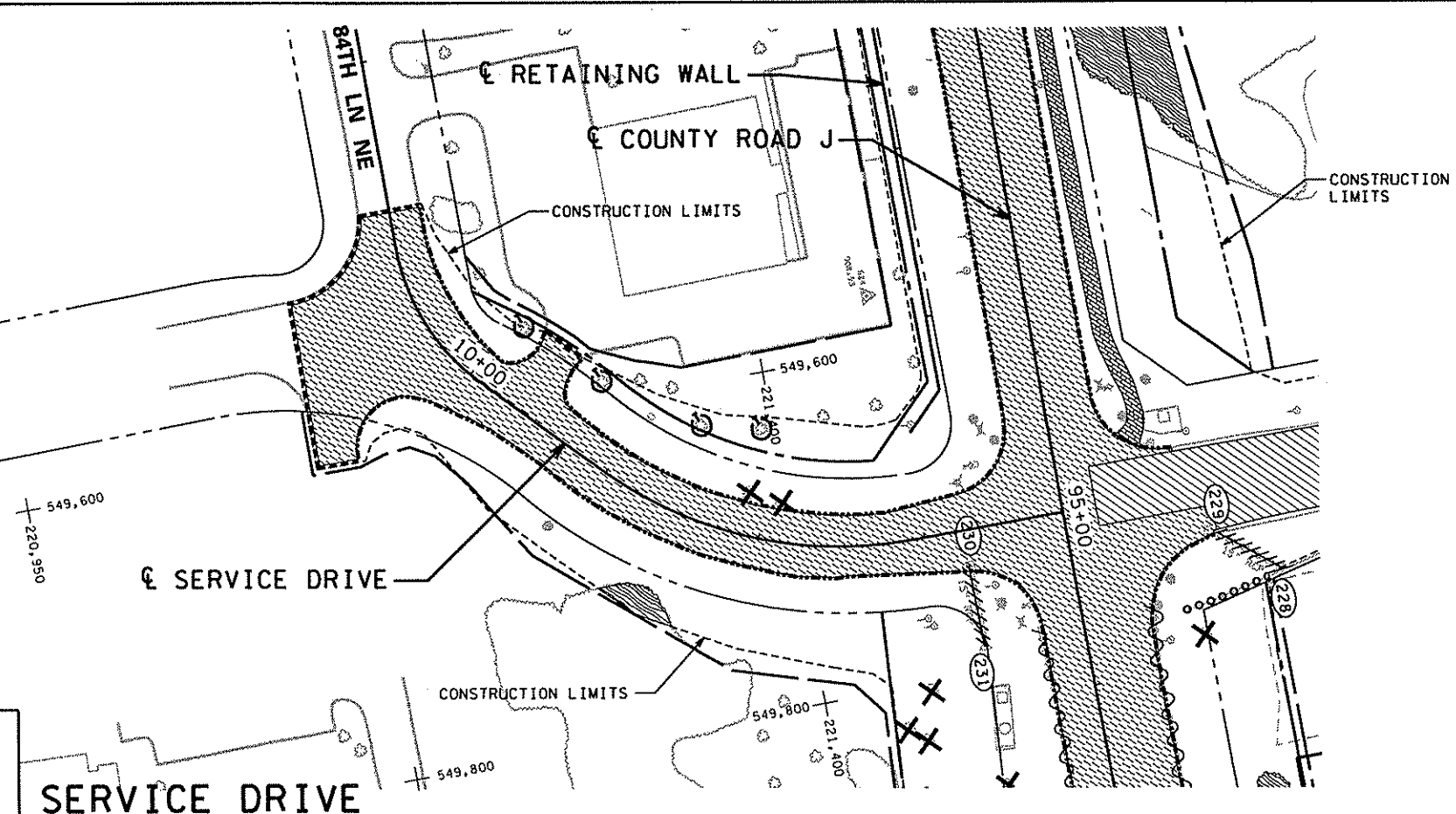
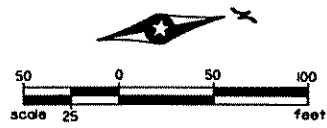


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
 I-35W SERVICE DRIVE

FILE NO. 129
 ARAMSE0503
 RM7
 OF RM8 297

03:33:39 PM
02/17/2006
rm8
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LEGEND	
	REMOVE GUARDRAIL
	REMOVE CONCRETE PVMT
	REMOVE CONCRETE DRWY PVMT
	REMOVE CONCRETE WALK
	REMOVE CURB & GUTTER
	REMOVE BUILDING (BY OTHERS)
	REMOVE BITUMINOUS PVMT
	REMOVE BITUMINOUS WALK
	REMOVE BITUMINOUS SHLD PVMT
	MILL BITUMINOUS PVMT (2")
	SAWCUT BITUMINOUS PAVEMENT (UNLESS NOTED OTHERWISE)
	REMOVE RETAINING WALL
	CLEARING & GRUBBING (ACRE)
	CLEARING & GRUBBING (TREE)
	PROTECT TREE & INSTALL TEMPORARY FENCE
	REMOVE CATCH BASIN OR STORM MANHOLE
	REMOVE STORM SEWER PIPE & APRONS (IF ANY)
	REMOVE FENCE
	CONSTRUCTION LIMITS

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	KLE		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

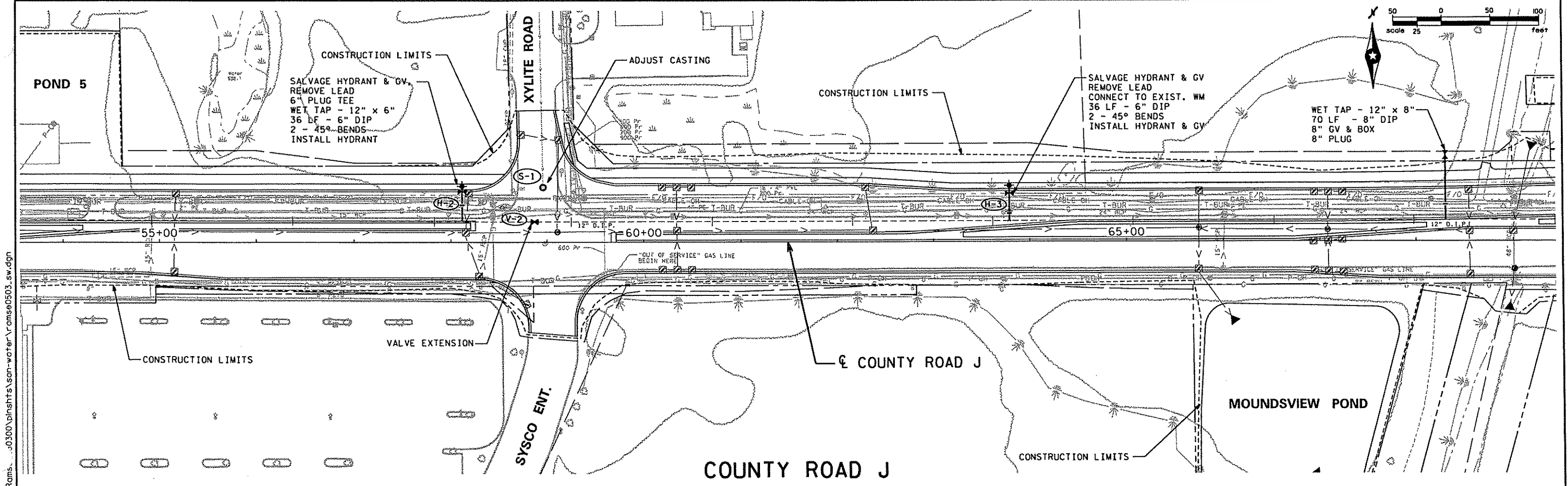
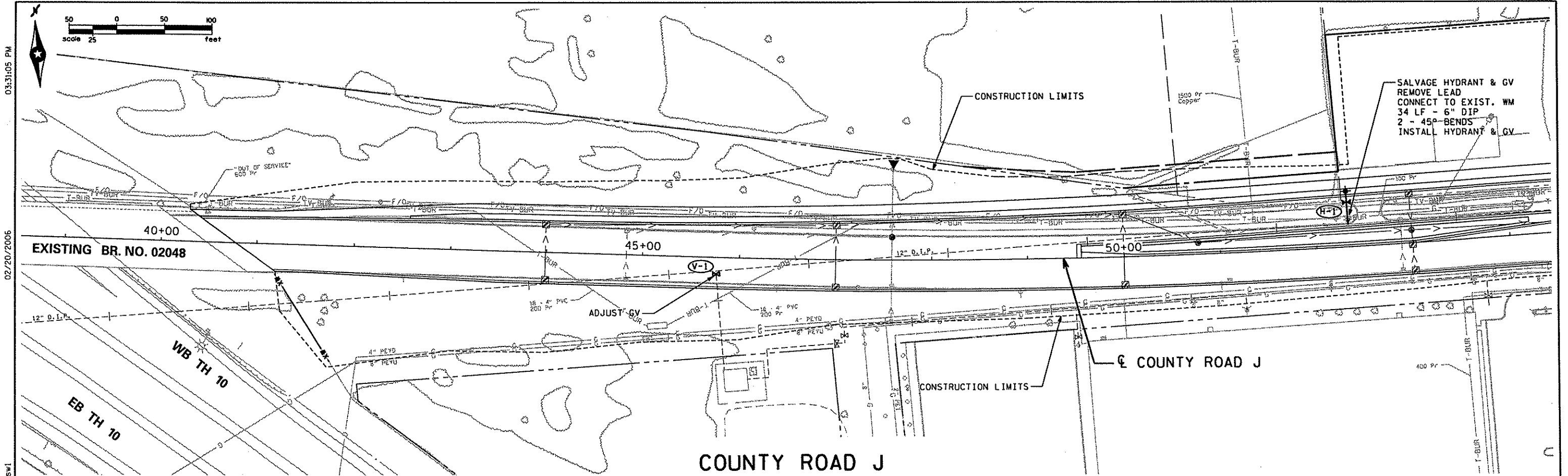
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SEH
 PHONE: 651-490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REMOVALS
SERVICE DRIVE

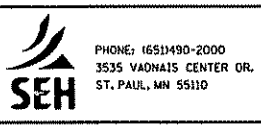
FILE NO.	130
ARAMSE0503	
RM8 OF RM8	297



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

SANITARY SEWER & WATERMAIN PLAN
 STA 39+00 TO STA 54+00

FILE NO.	131
ARAMSE0503	
SW1	297
OF SW6	

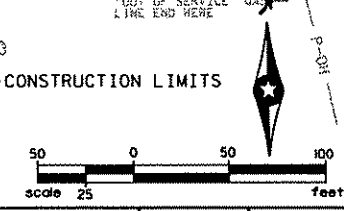
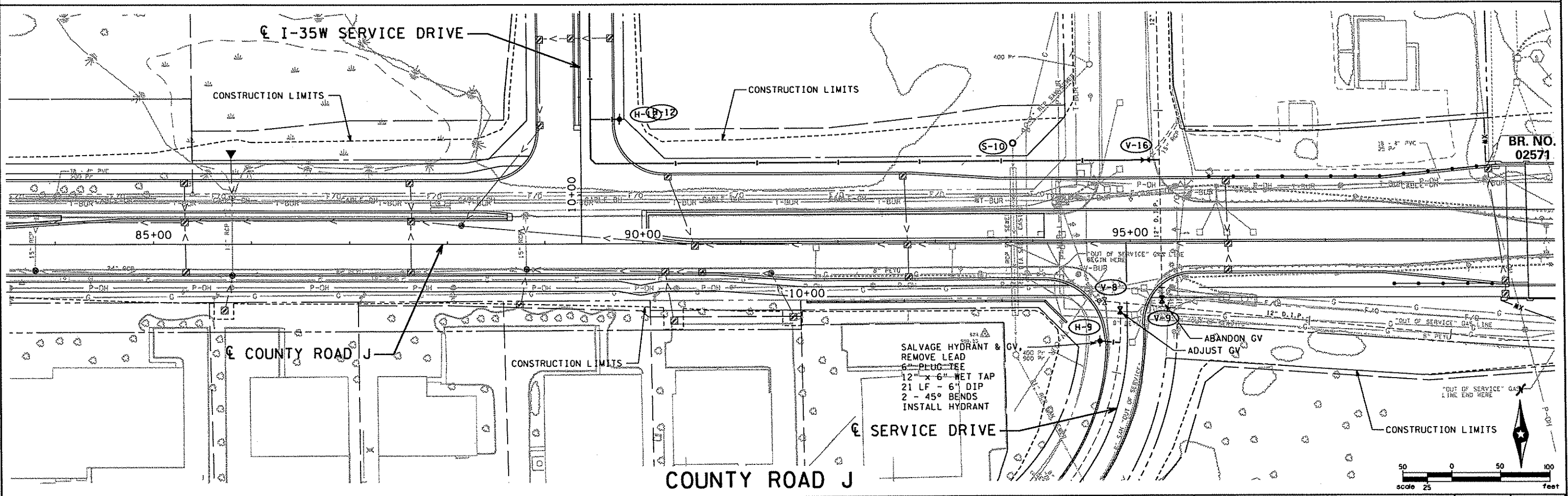
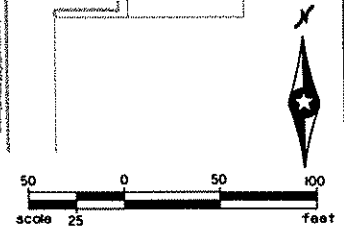
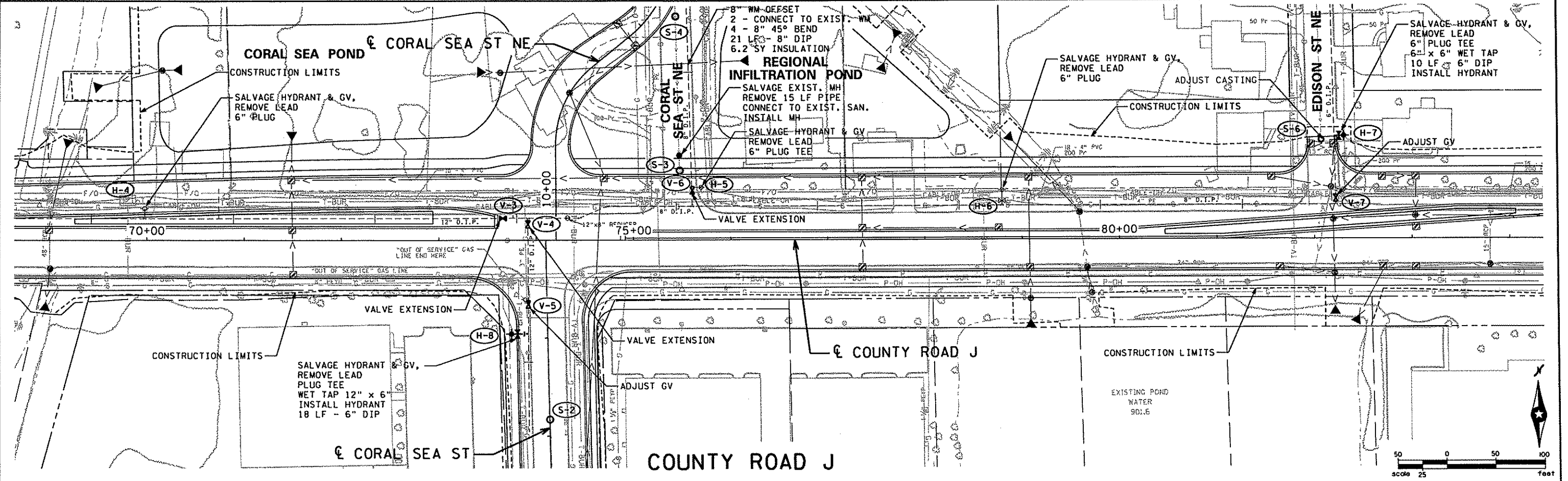
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 02/20/2006
 sw1
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03/31/08 PM

02/20/2006

SW2

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DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

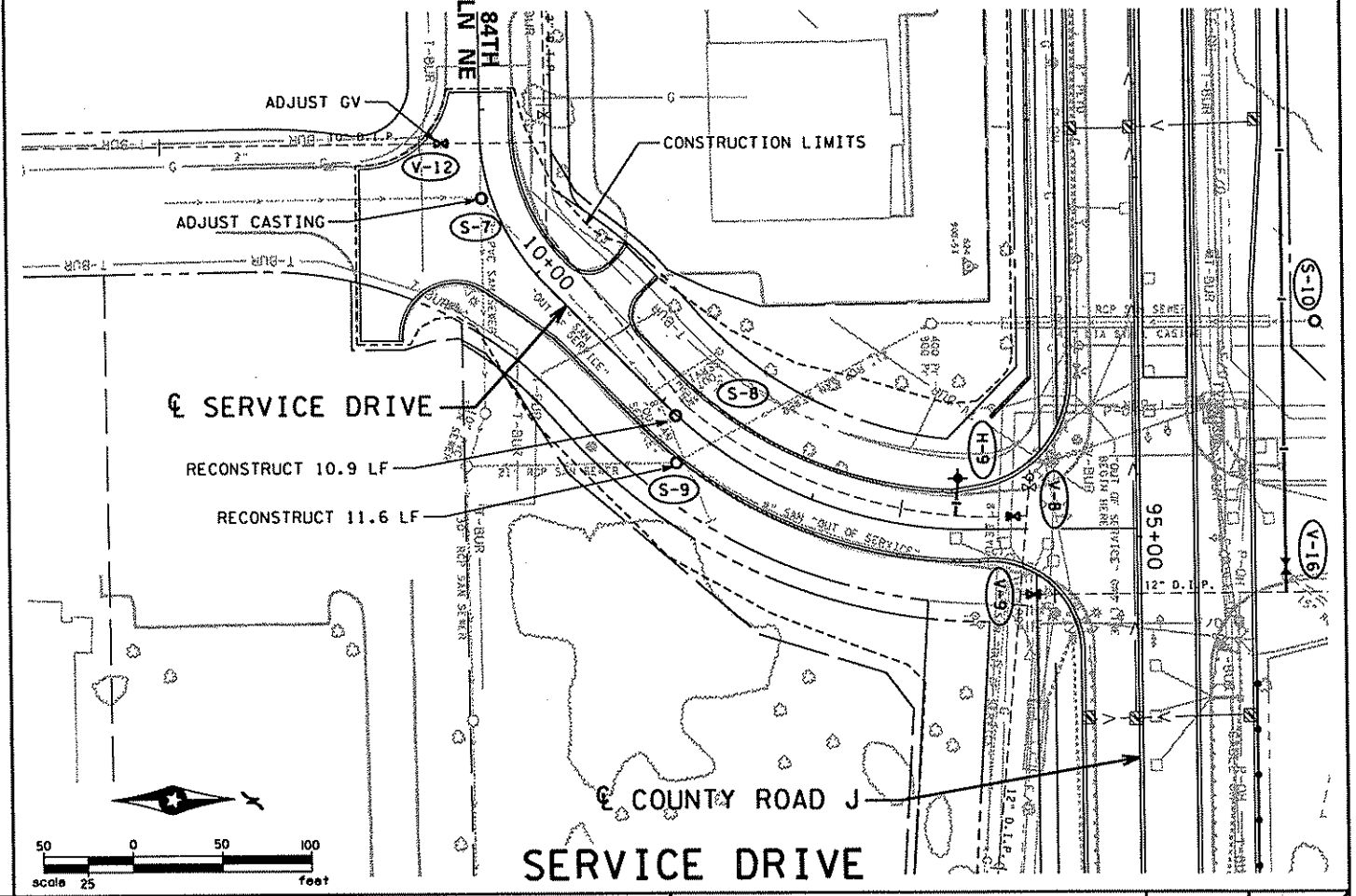
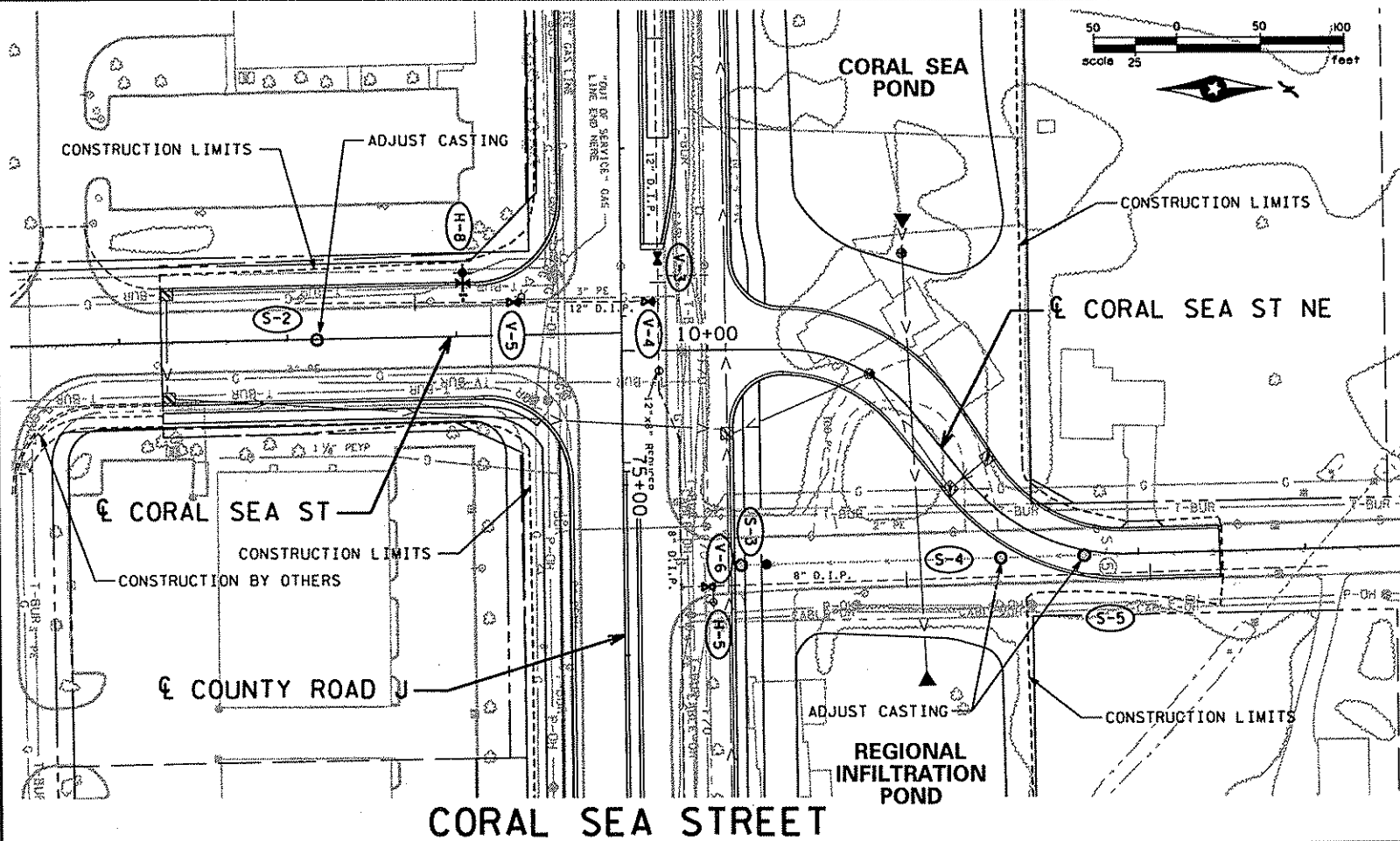
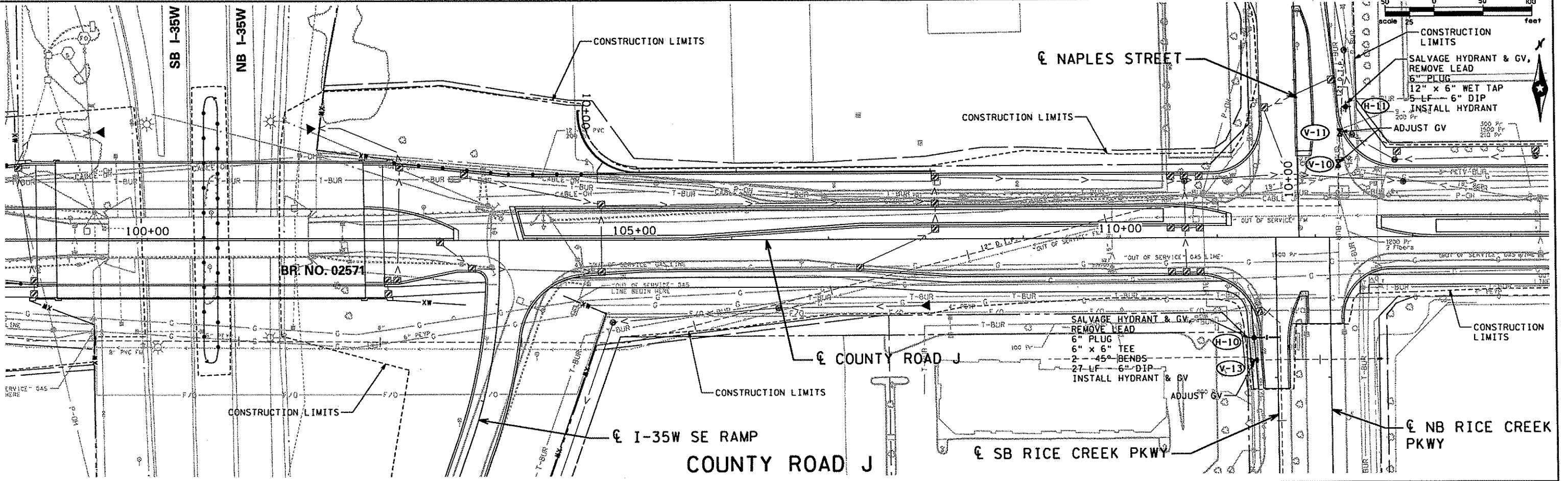
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/20/2006

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

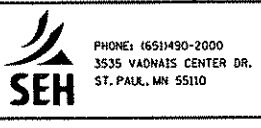
SANITARY SEWER & WATERMAIN PLAN		FILE NO. 132
STA 69+00 TO STA 99+00		ARAMSE0503
SW2 OF SW6		297

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02/20/2006
sw3
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

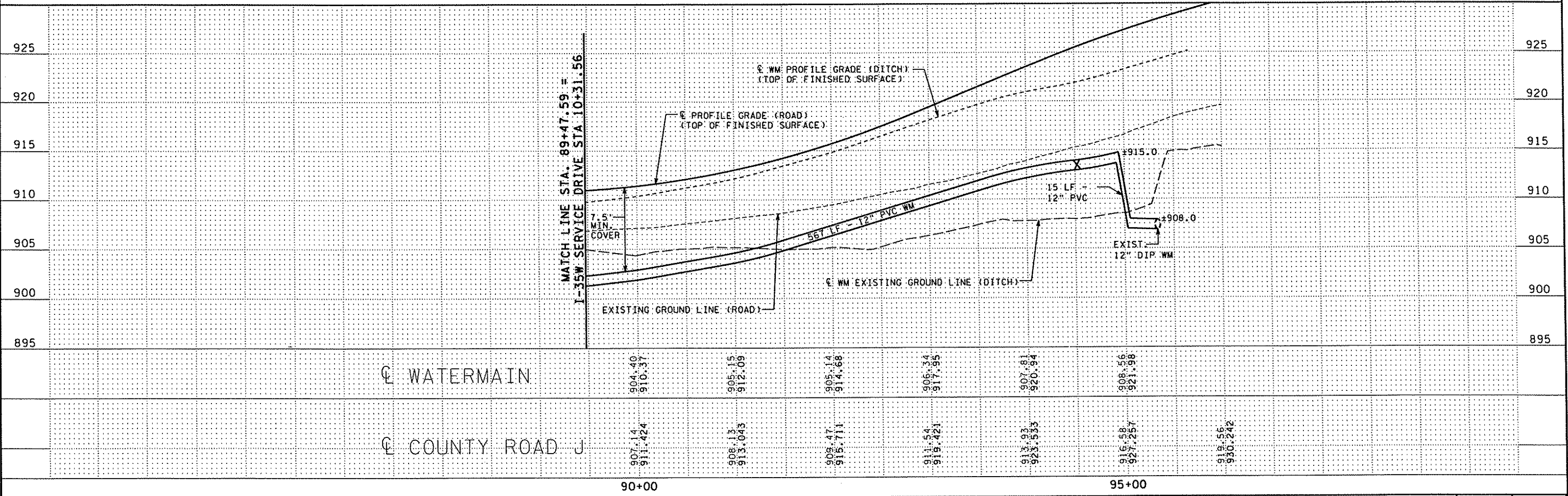
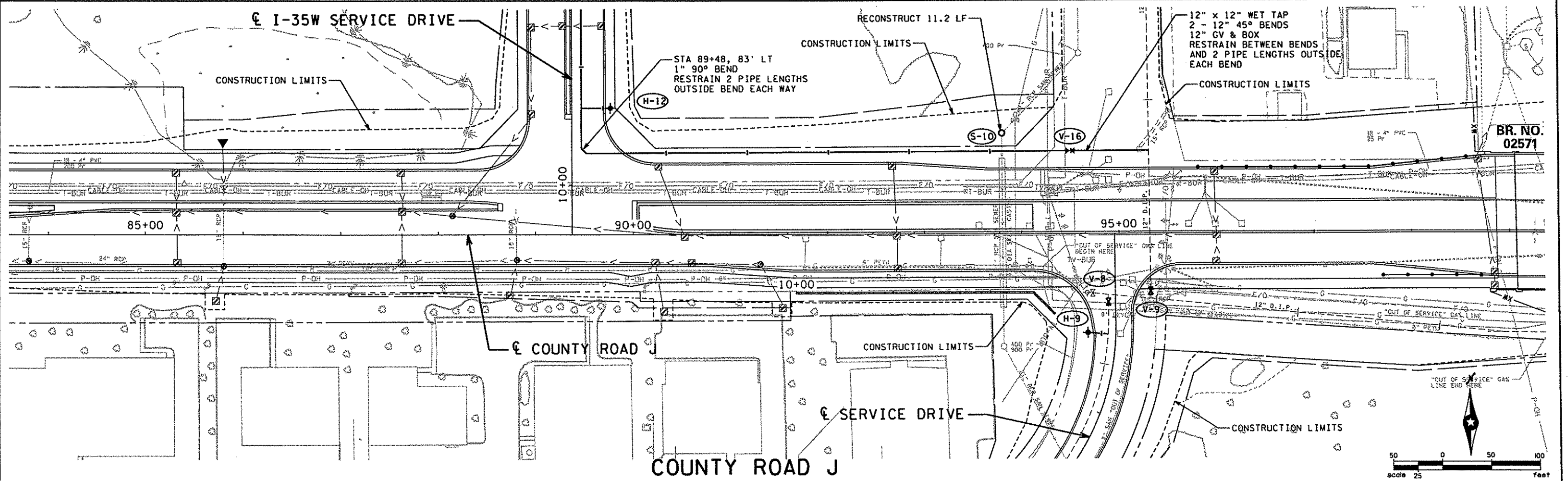
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STA 99+00 TO STA 114+00		ARAMSE0503	
		SW3	297
		OF SW6	

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02/21/2006

SW4

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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/21/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

SANITARY SEWER & WATERMAIN PLAN & PROFILE		FILE NO.
STA 84+00 TO STA 99+00		134
SW4 OF SW6		297

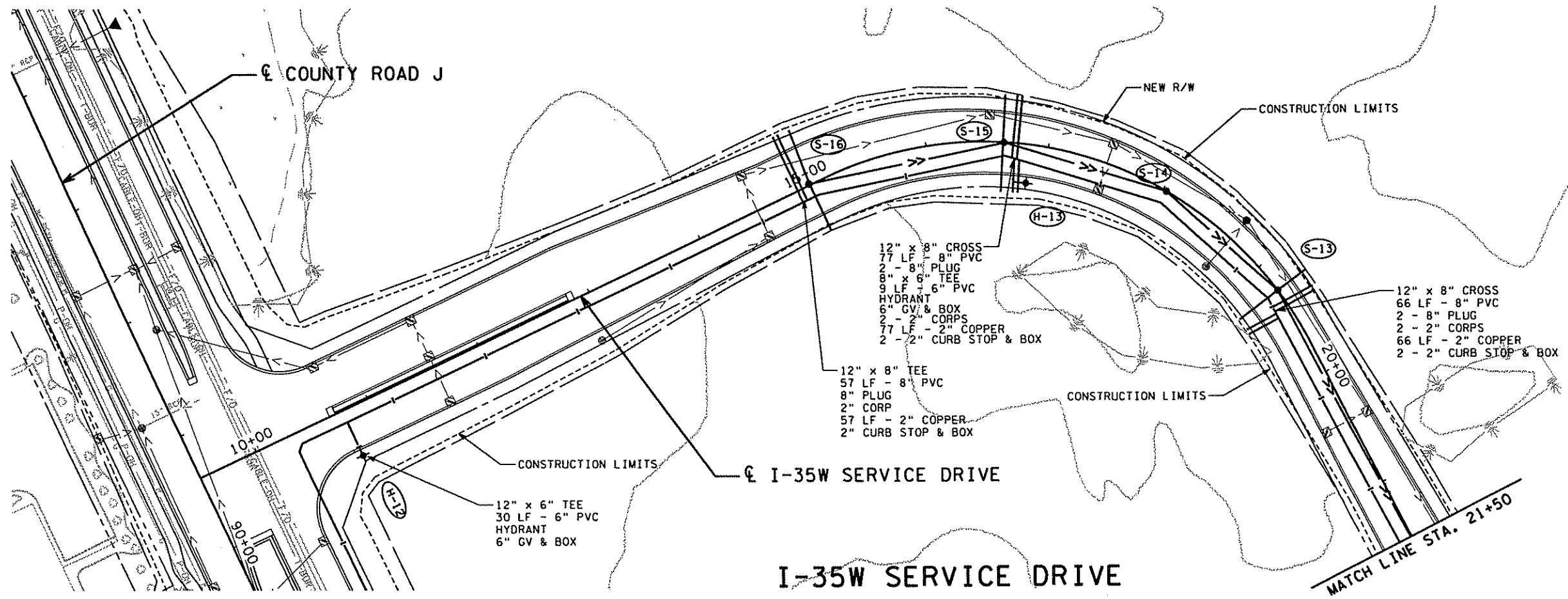


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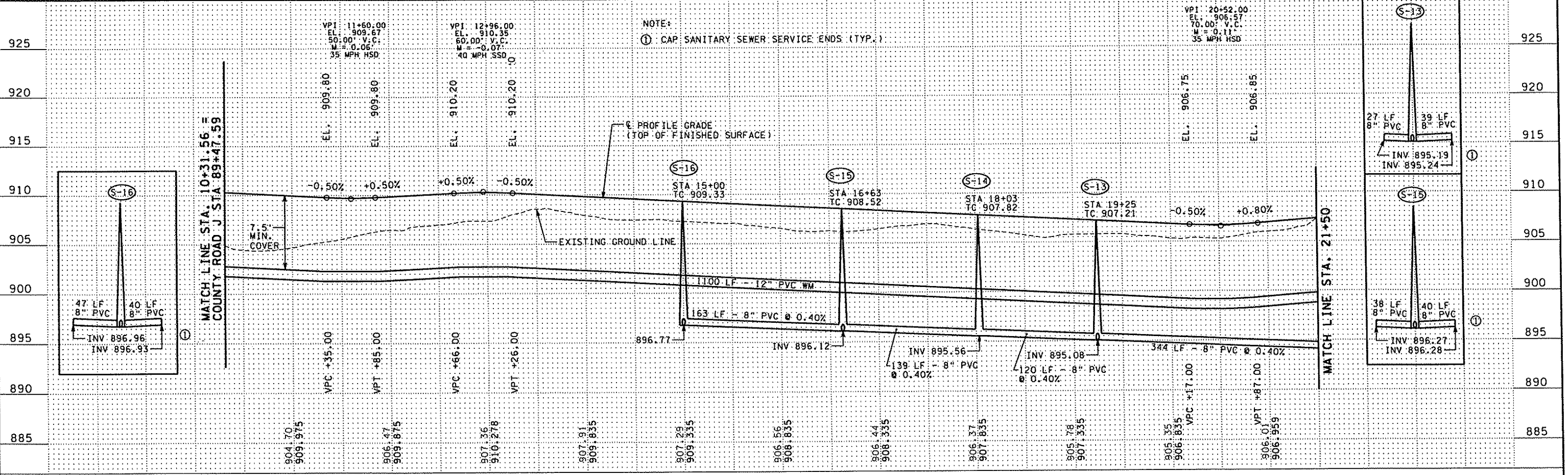
2/17/2006

sw5

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I-35W SERVICE DRIVE



DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Mogniza* Lic. No. 41654
 Printed Name: AARON P. MOGNIZA Date: 2/17/2006



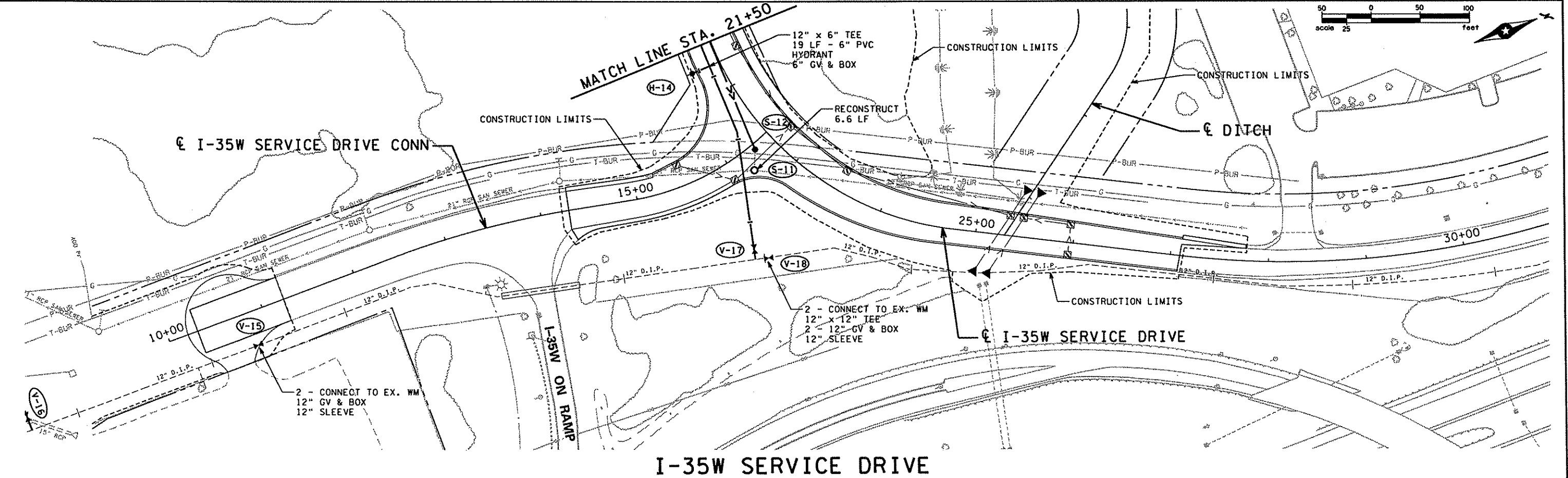
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**SANITARY SEWER & WATERMAIN
 PLAN & PROFILE**
 I-35W SERVICE DRIVE

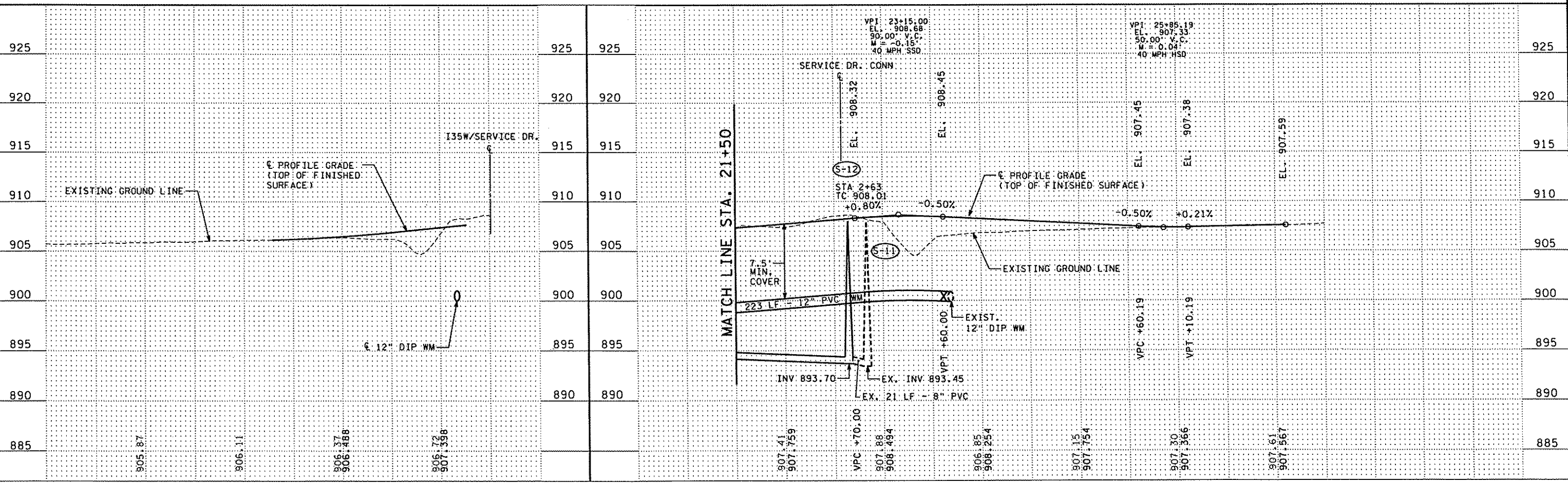
FILE NO.
 ARAMSE0503
 SW5
 OF SW6

135
297

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02/20/2006
sw6
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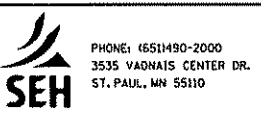


I-35W SERVICE DRIVE



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJM		
CHECKED BY:	SMM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/20/2006

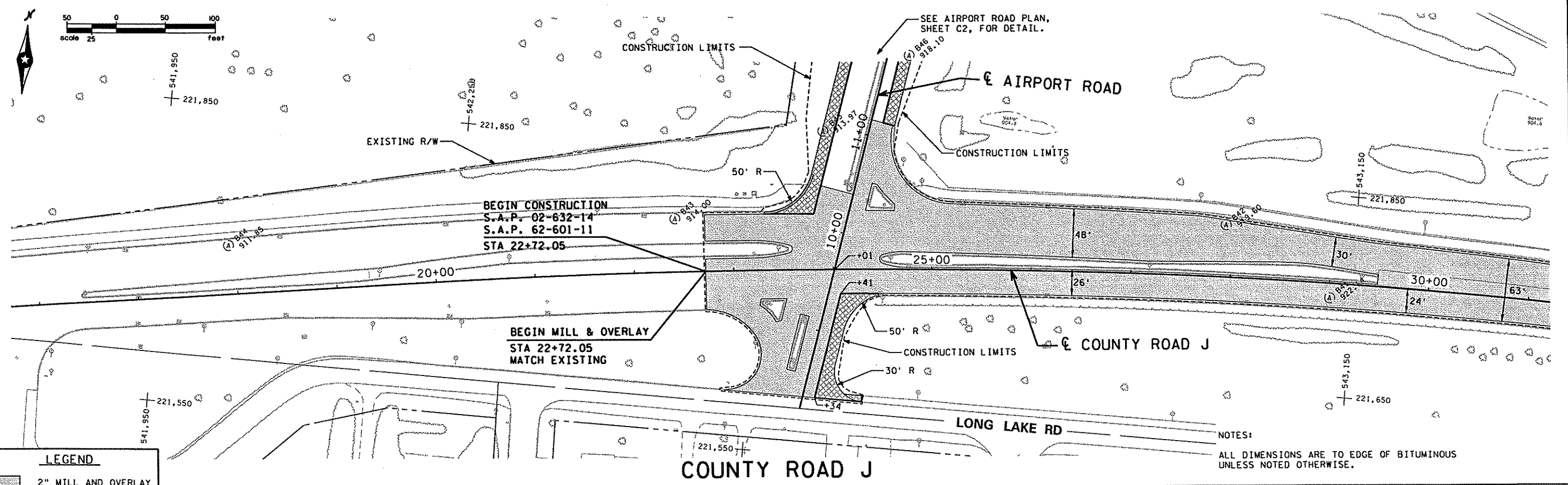


PHONE: 651-490-2000
 3535 WADNAIS CENTER DR.
 ST. PAUL, MN 55110
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

SANITARY SEWER & WATERMAIN
PLAN & PROFILE
 I-35W SERVICE DRIVE & SERVICE DRIVE CONN

FILE NO. ARAMSE0503	136
SW6 OF SW6	297

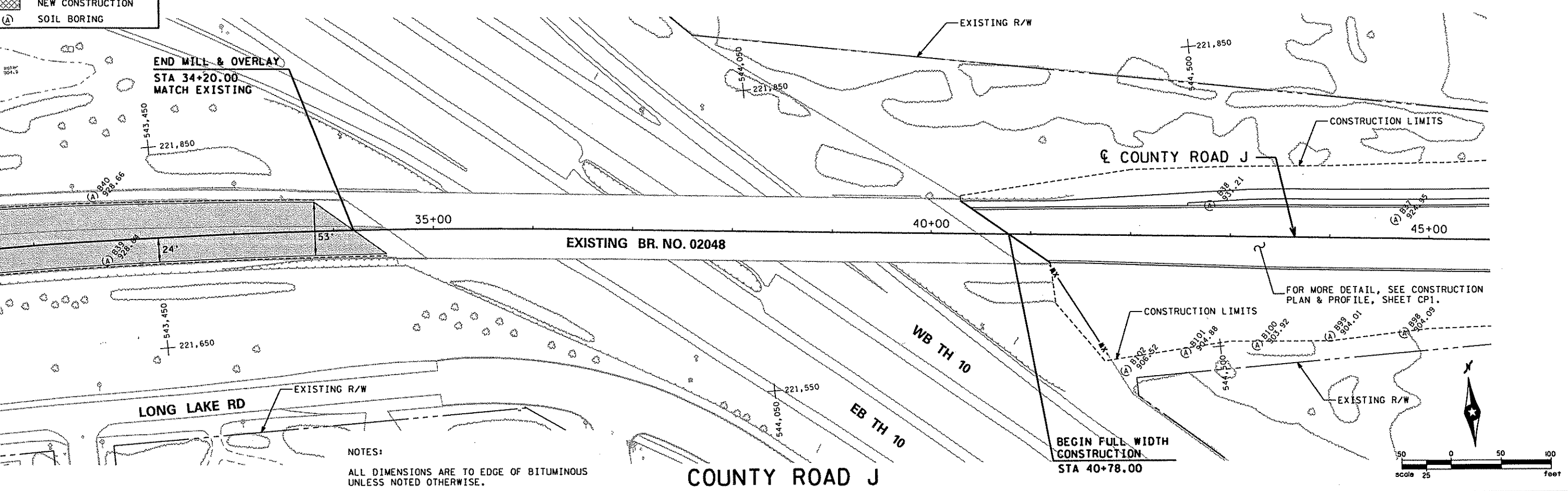
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 xl\of\cor



LEGEND

	2" MILL AND OVERLAY
	NEW CONSTRUCTION
(A)	SOIL BORING

NOTES:
 ALL DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS NOTED OTHERWISE.



NOTES:
 ALL DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS NOTED OTHERWISE.

FOR MORE DETAIL, SEE CONSTRUCTION PLAN & PROFILE, SHEET CP1.

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	JEV						
CHECKED BY:	APM						

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONSTRUCTION PLAN
 STA 16+00 TO STA 45+50

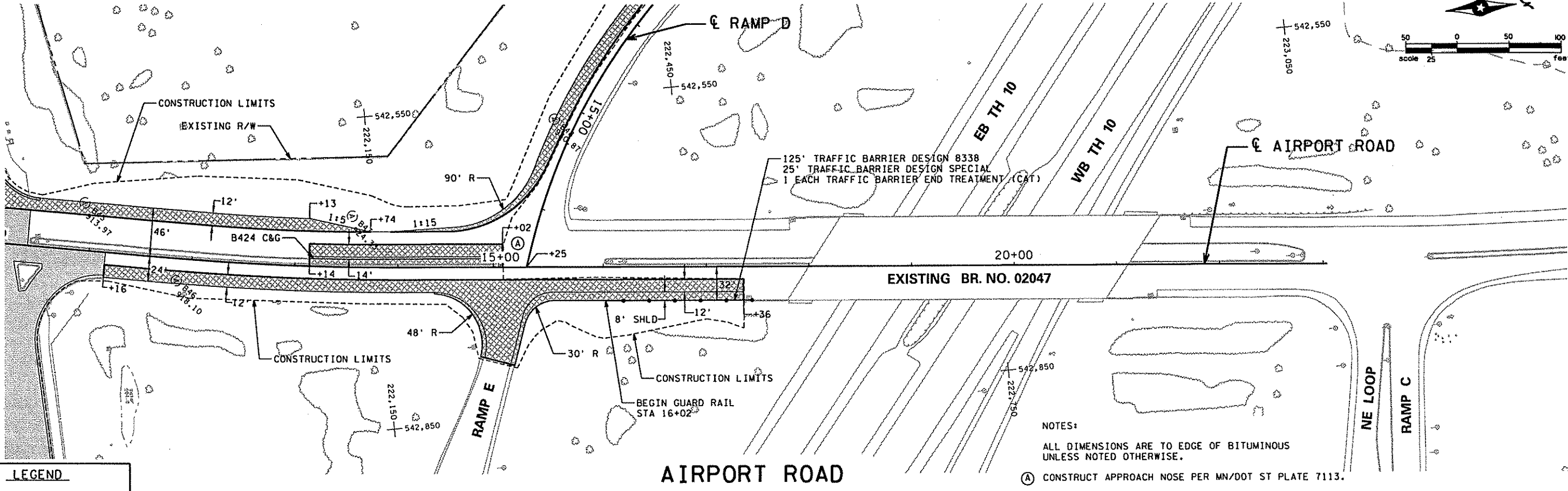
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C1	
OF C2	297

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02/20/2006

c2

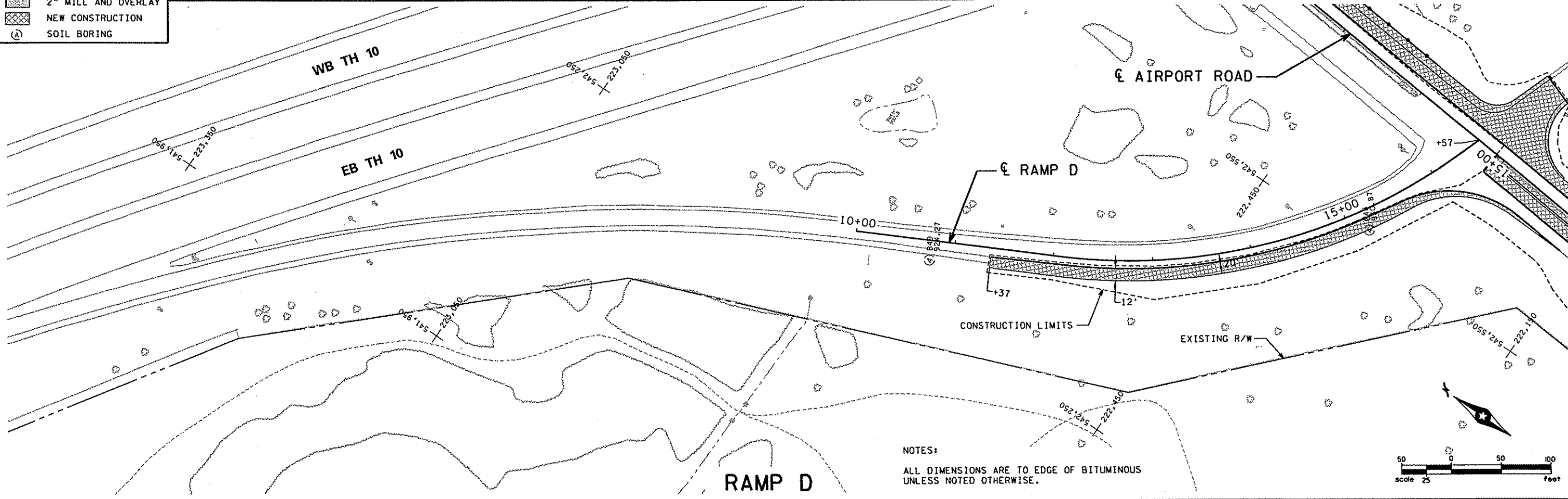
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LEGEND

- 2" MILL AND OVERLAY
- NEW CONSTRUCTION
- SOIL BORING

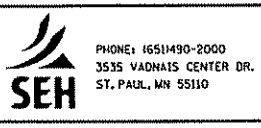
NOTES:
 ALL DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS NOTED OTHERWISE.
 (A) CONSTRUCT APPROACH NOSE PER MN/DOT ST PLATE 7113.



NOTES:
 ALL DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS NOTED OTHERWISE.

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT						
DESIGNER:	JEV						
CHECKED BY:	APM						

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

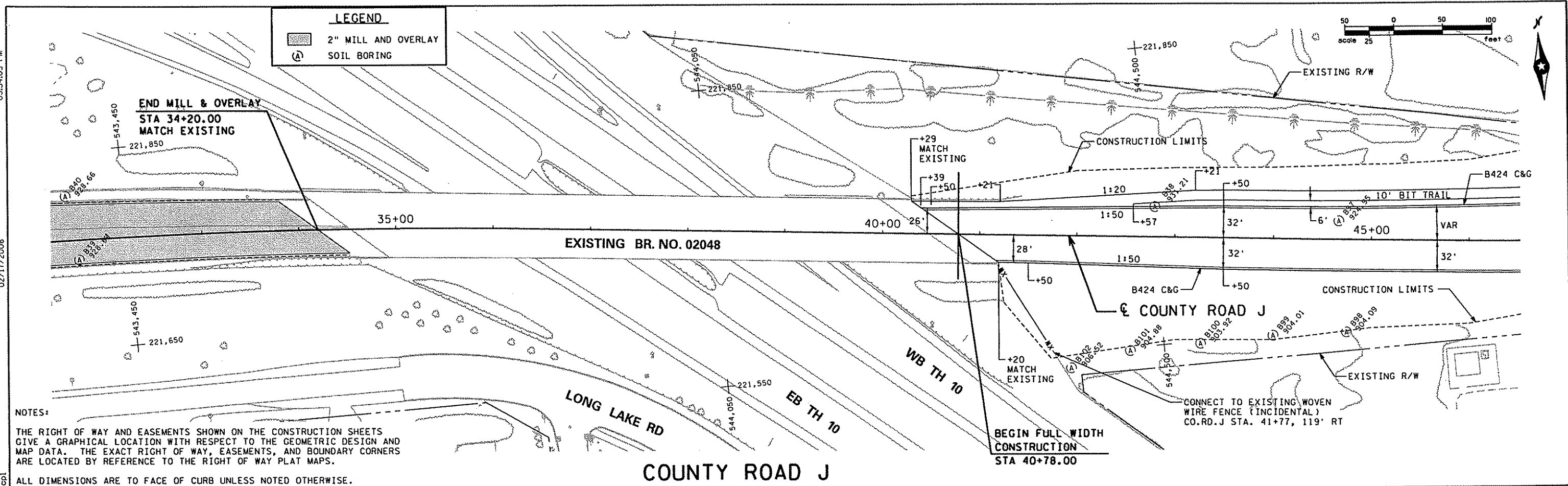
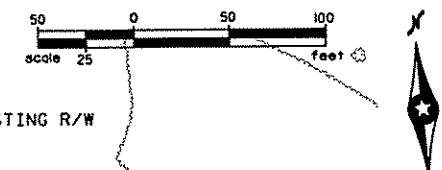
CONSTRUCTION PLAN
 AIRPORT ROAD & RAMP D

FILE NO. ARAMSE0503	138
C2 OF C2	297

LEGEND

2" MILL AND OVERLAY

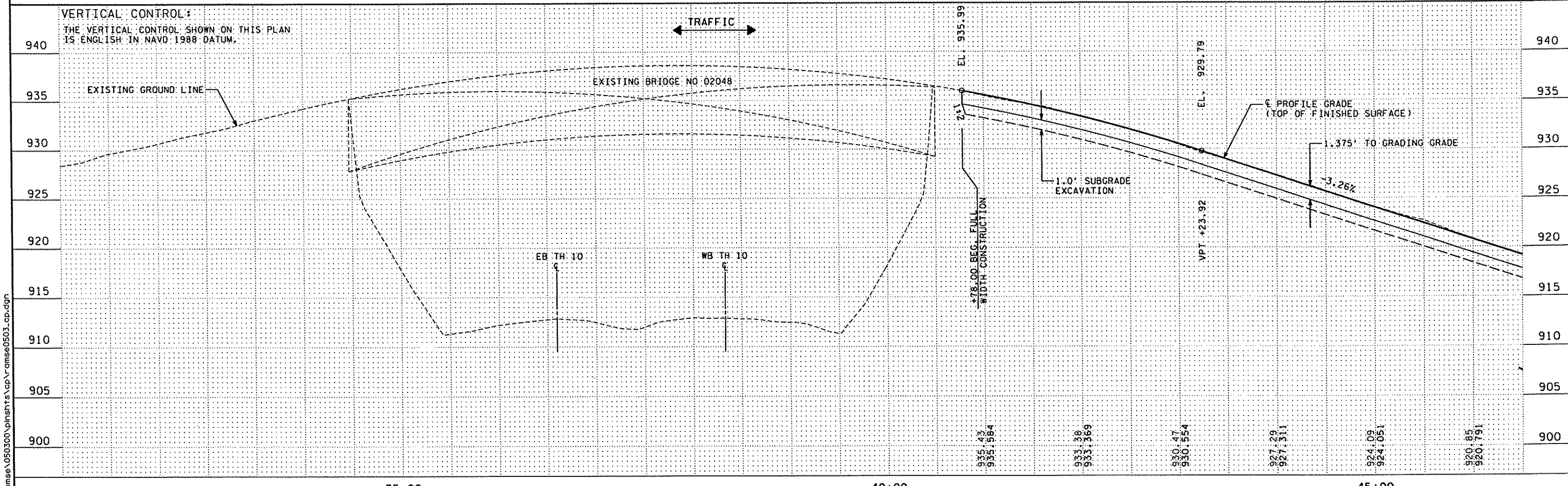
(A) SOIL BORING



NOTES:

THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE CONSTRUCTION SHEETS GIVE A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY, EASEMENTS, AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY PLAT MAPS.

ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.



DESIGN TEAM			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. Certified By: <i>Aaron P. Moniza</i> Lic. No. 41654 Printed Name: AARON P. MONIZA Date: 02/17/2006	PHONE: (651)490-2000 3535 WADSWORTH CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11		CONSTRUCTION PLAN & PROFILE STA 31+50 TO STA 46+50		FILE NO. ARAMSE0503 139		
DRAWN BY: MTT DESIGNER: JEV CHECKED BY: APM	NO.	BY			DATE	REVISIONS			CP1 OF CP12		297

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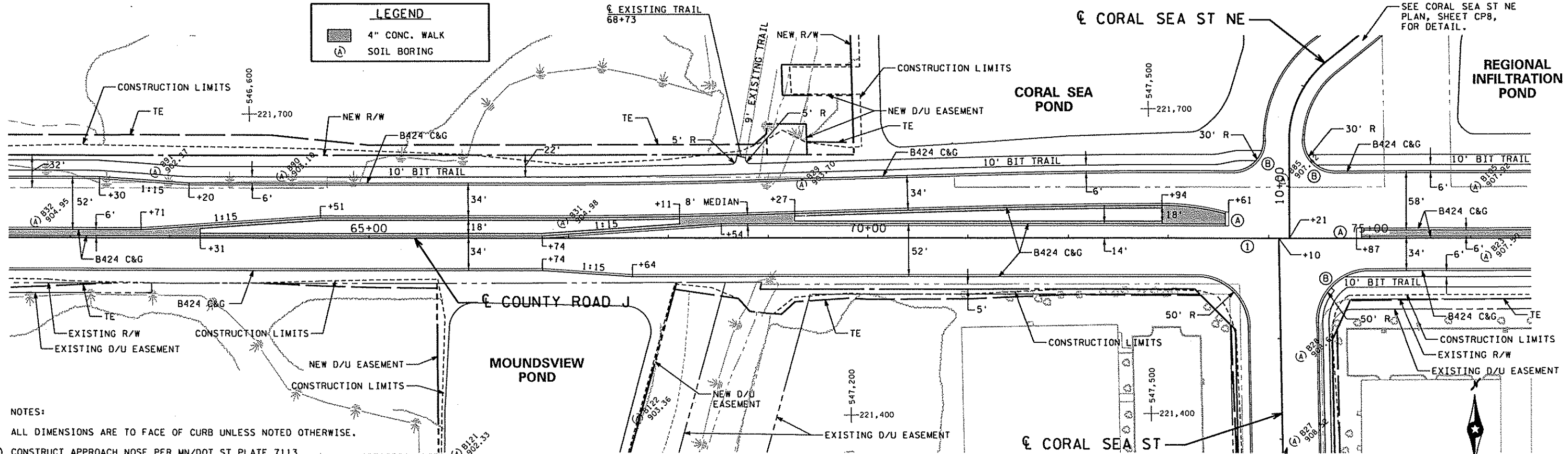
02/17/2006

cp3

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LEGEND

- 4" CONC. WALK
- SOIL BORING (A)



- NOTES:
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
 - (A) CONSTRUCT APPROACH NOSE PER MN/DOT ST PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD PLATE 7036.

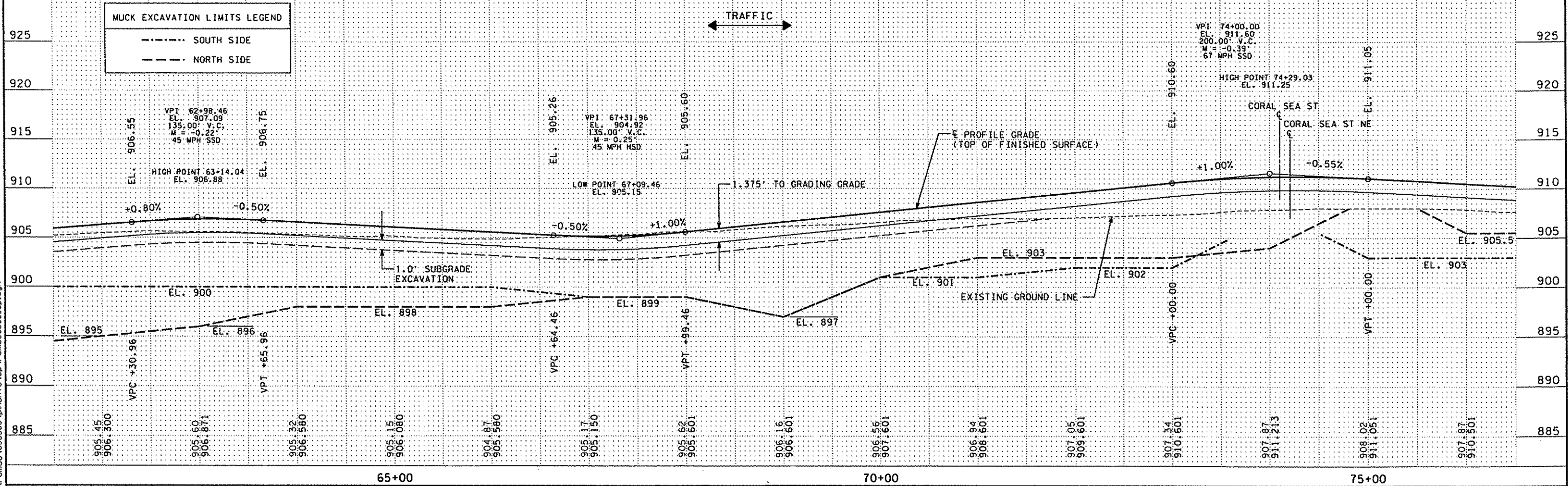
SPECIFIC NOTES: (1) COORDINATE WITH RAMSEY COUNTY TO RECONSTRUCT COUNTY MONUMENT.

COUNTY ROAD J

SEE CORAL SEA ST PLAN, SHEET CP8, FOR DETAIL.

MUCK EXCAVATION LIMITS LEGEND

- SOUTH SIDE
- NORTH SIDE



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		

NO.	BY	DATE	REVISIONS

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.
 Certified By: *[Signature]* Lic. No. 148224
 Printed Name: ROBERT F. ARMSTRONG Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONSTRUCTION PLAN & PROFILE
 STA 61+50 TO STA 76+50

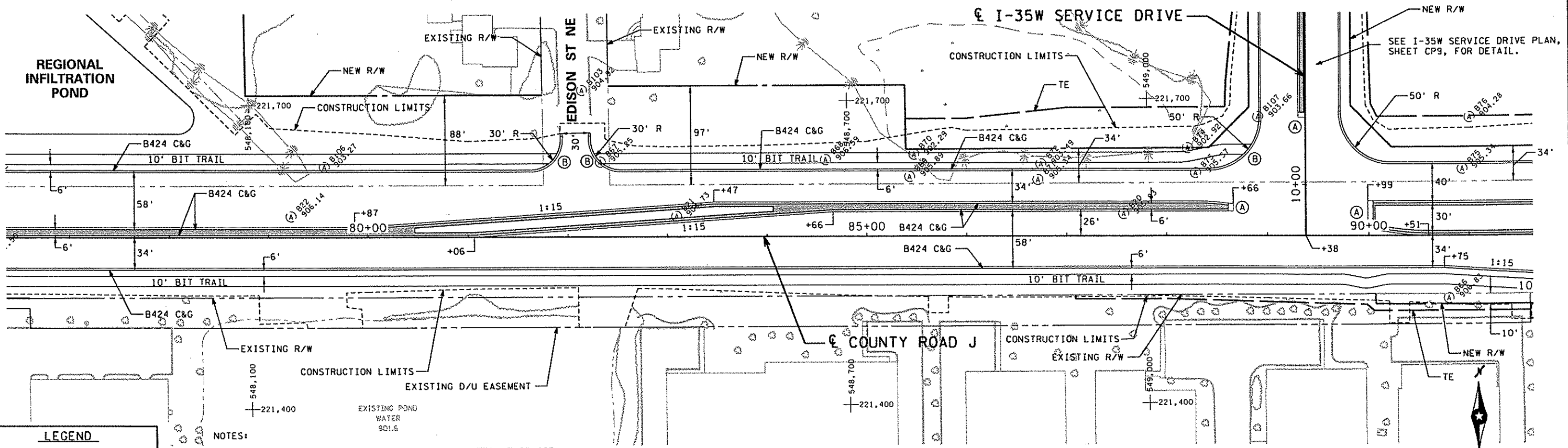
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CP3	
OF CP12	297

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02/17/2006

CP4

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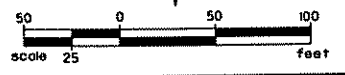
LEGEND

- 4" CONC. WALK
- SOIL BORING

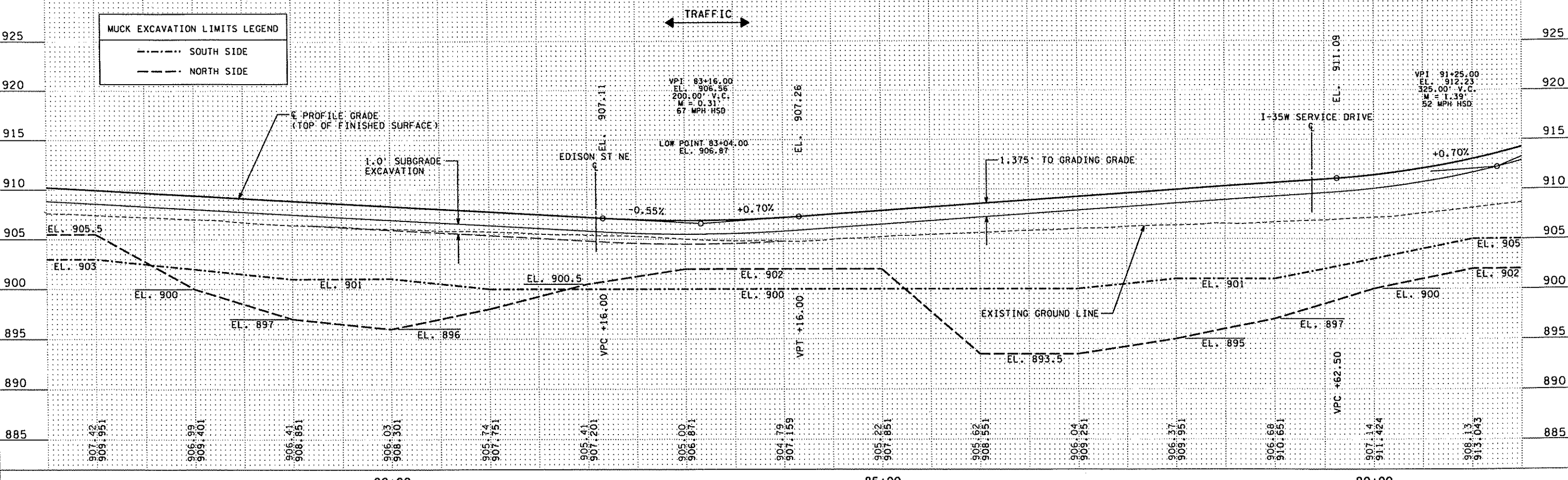
NOTES:

ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

(B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD PLATE 7036.



COUNTY ROAD J

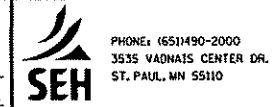


DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: MTT				
DESIGNER: JEV				
CHECKED BY: APM				

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654

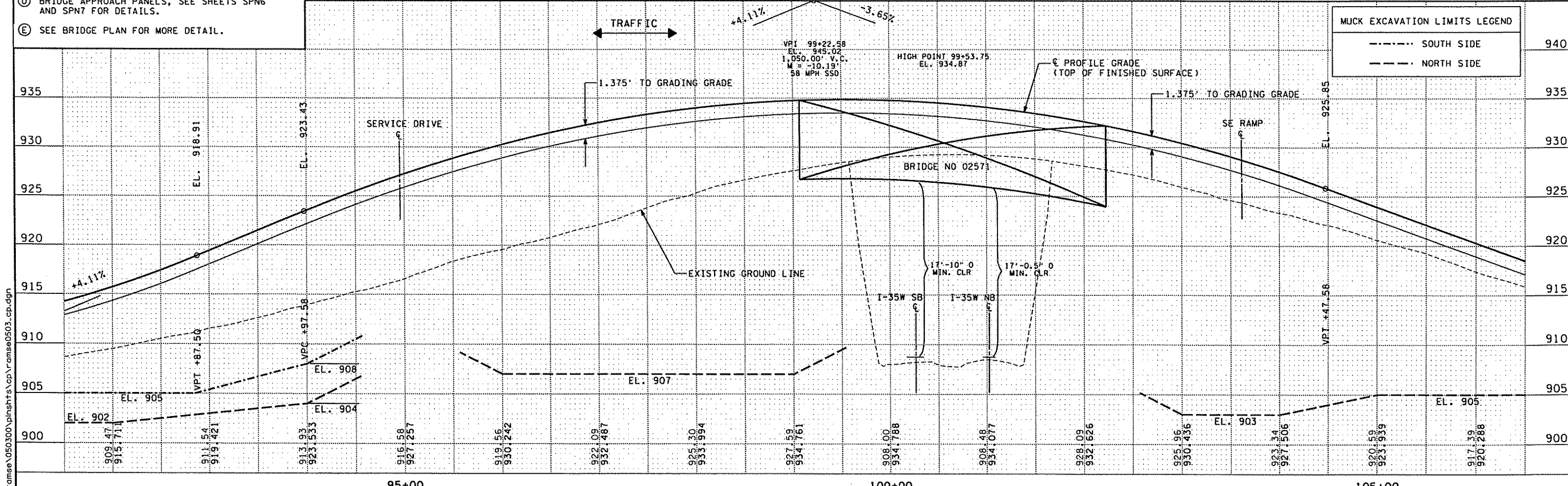
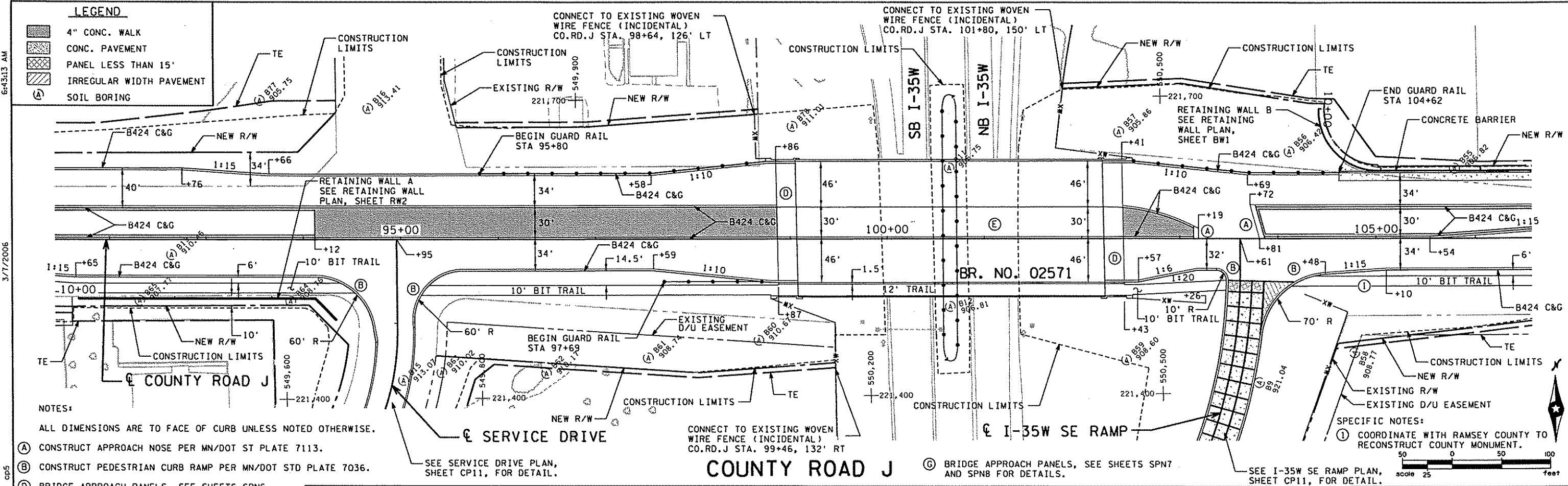
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONSTRUCTION PLAN & PROFILE

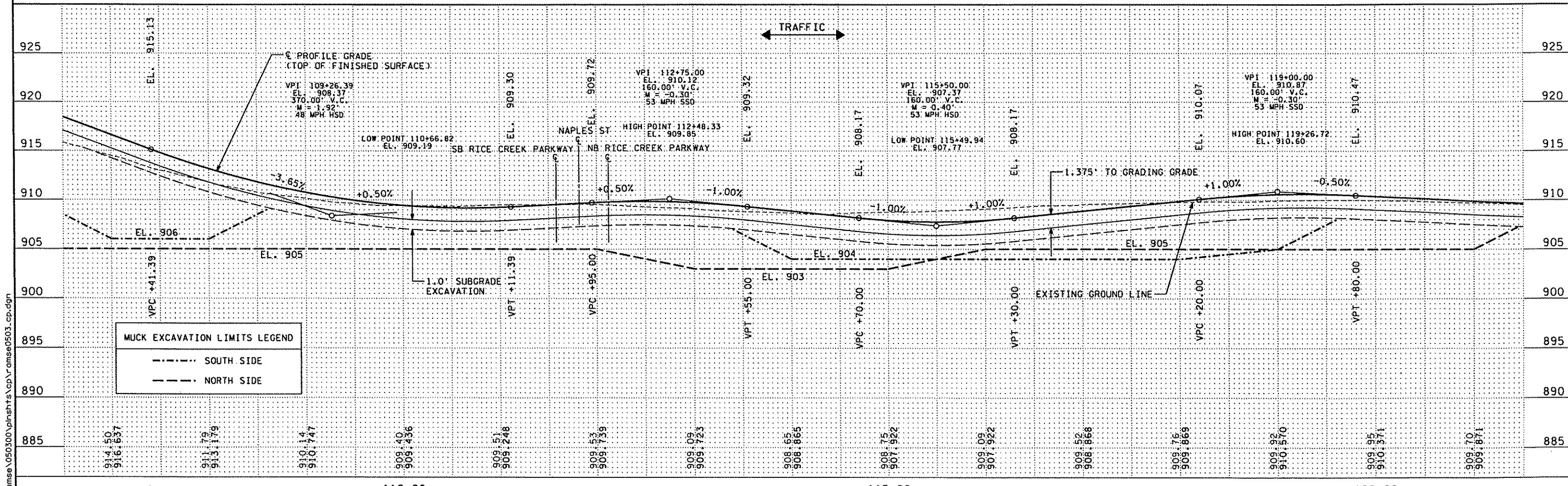
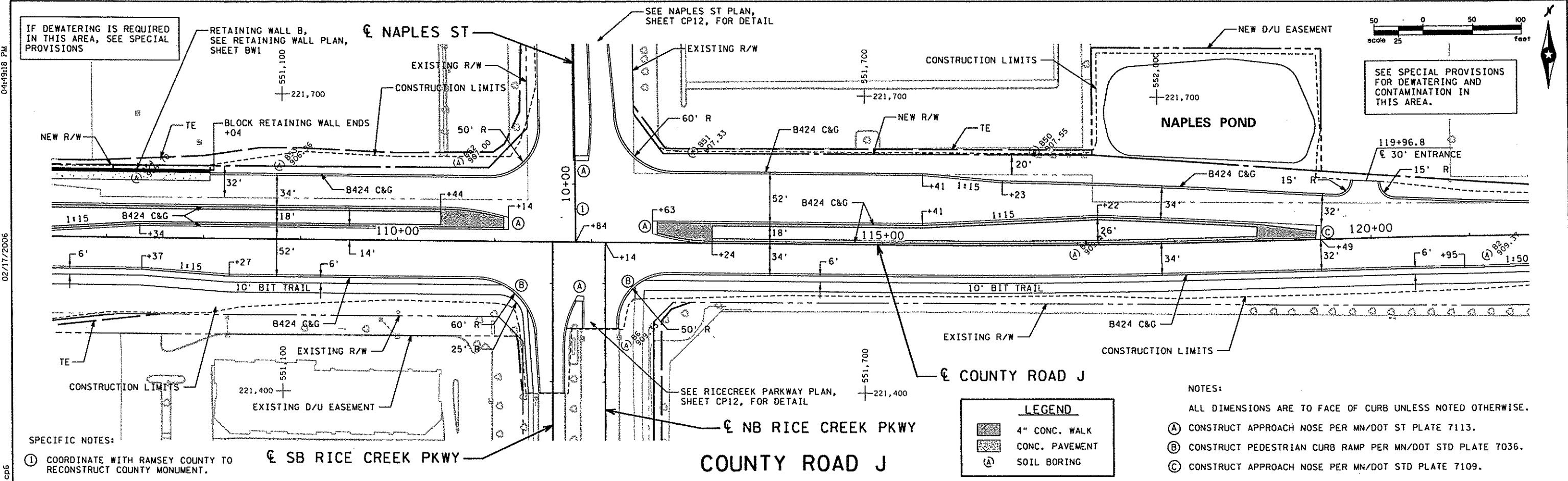
FILE NO. 142
 ARAMSE0503
 CP4 OF CP12
 STA 76+50 TO STA 91+50



MUCK EXCAVATION LIMITS LEGEND

-----	SOUTH SIDE	940
-----	NORTH SIDE	940

DESIGN TEAM			DESIGNER: JEV			CHECKED BY: APM			NO. BY DATE			REVISIONS			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. Certified By: <i>Aaron P. Moniza</i> Lic. No. 41654 Printed Name: AARON P. MONIZA Date: 3/7/2005			PHONE: (651) 490-2000 3535 VAONAS CENTER DR. ST. PAUL, MN 55110		RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11		CONSTRUCTION PLAN & PROFILE STA 91+50 TO STA 106+50		FILE NO. 143 ARAMSE0503 CP5 OF CP12		297	



DESIGN TEAM					
DRAWN BY: MTT					
DESIGNER: JEV					
CHECKED BY: APM					
NO.	BY	DATE	REVISIONS		

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654

Printed Name: **AARON P. MONIZA** Date: **02/17/2006**

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

RAMSEY COUNTY

COUNTY ROAD J

S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO. 144

ARAMSE0503

CP6

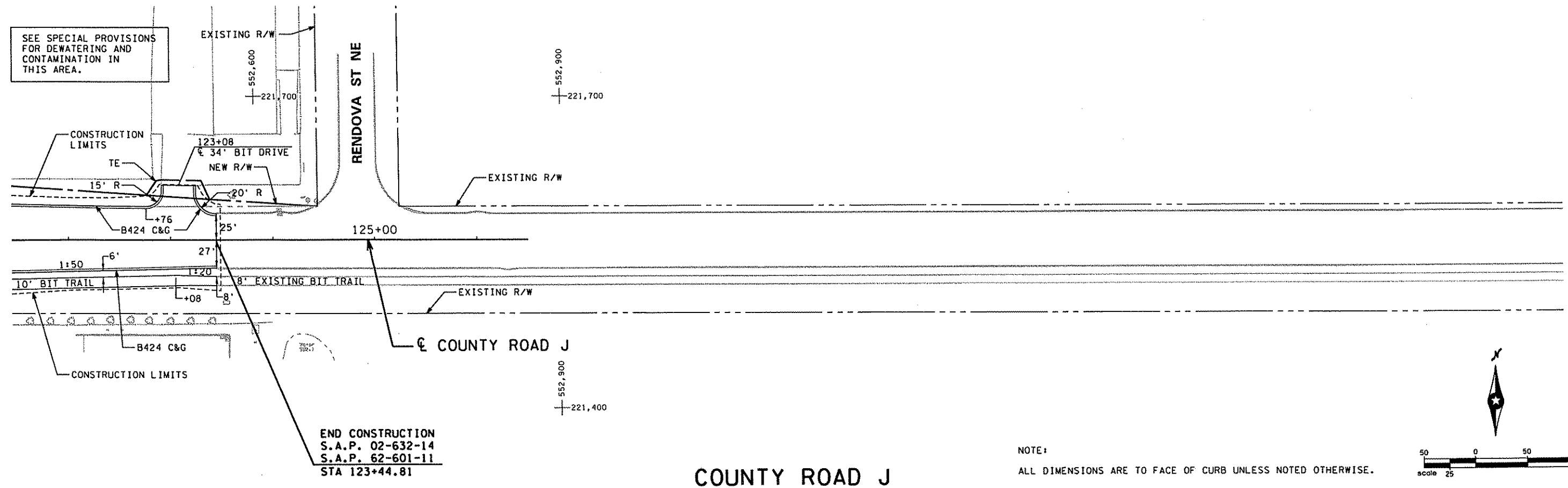
OF CP12

297

CONSTRUCTION PLAN & PROFILE
STA 106+50 TO STA 121+50

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02/17/2006
cp7

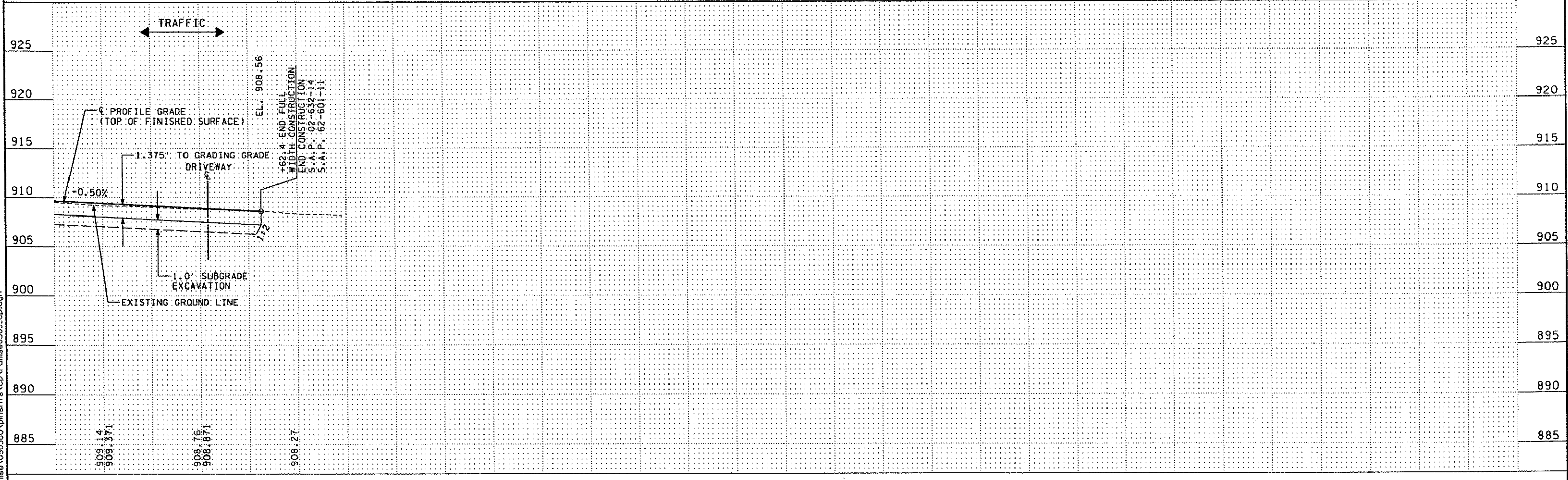
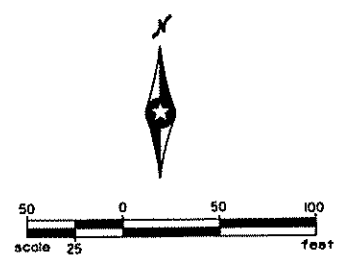
SEE SPECIAL PROVISIONS FOR DEWATERING AND CONTAMINATION IN THIS AREA.



END CONSTRUCTION
S.A.P. 02-632-14
S.A.P. 62-601-11
STA 123+44.81

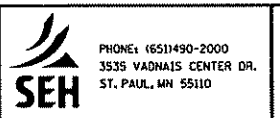
COUNTY ROAD J

NOTE:
ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.



DESIGN TEAM				REVISIONS			
NO.	BY	DATE		NO.	BY	DATE	
1	MTT						
2	JEV						
3	APM						

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.
Certified By: *Aaron P. Monliza* Lic. No. 41554
Printed Name: AARON P. MONLIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CONSTRUCTION PLAN & PROFILE
STA 121+50 TO STA 126+50

FILE NO. ARAMSE0503
CP7 OF CP12
145
297

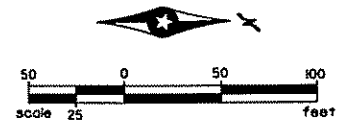
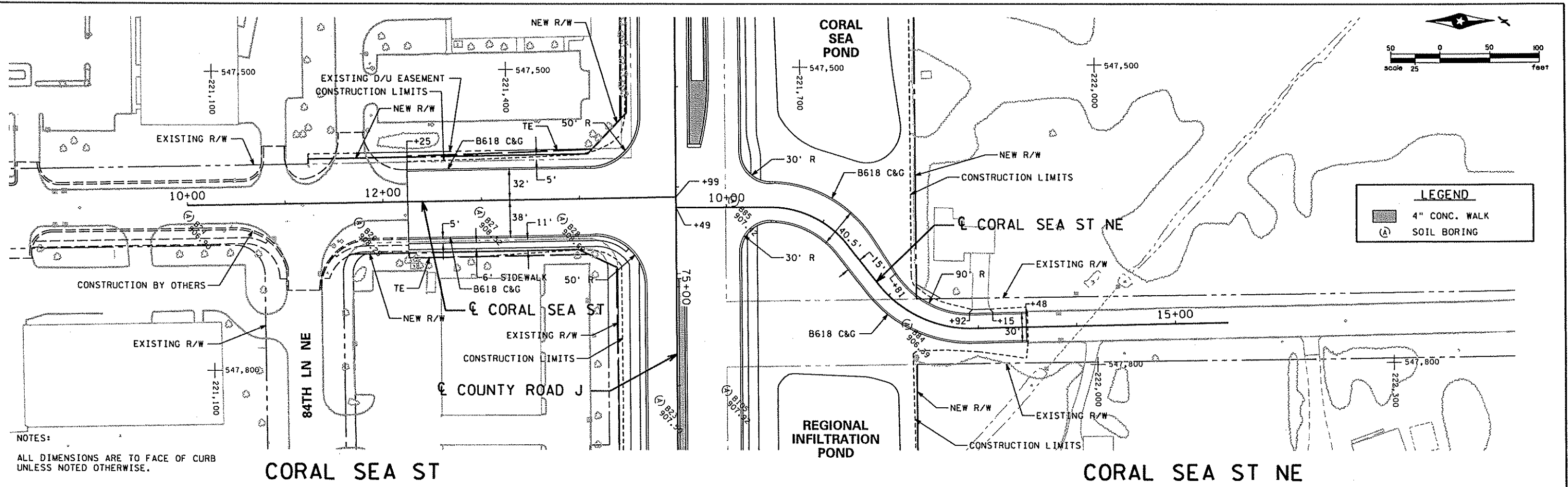
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02/17/2006

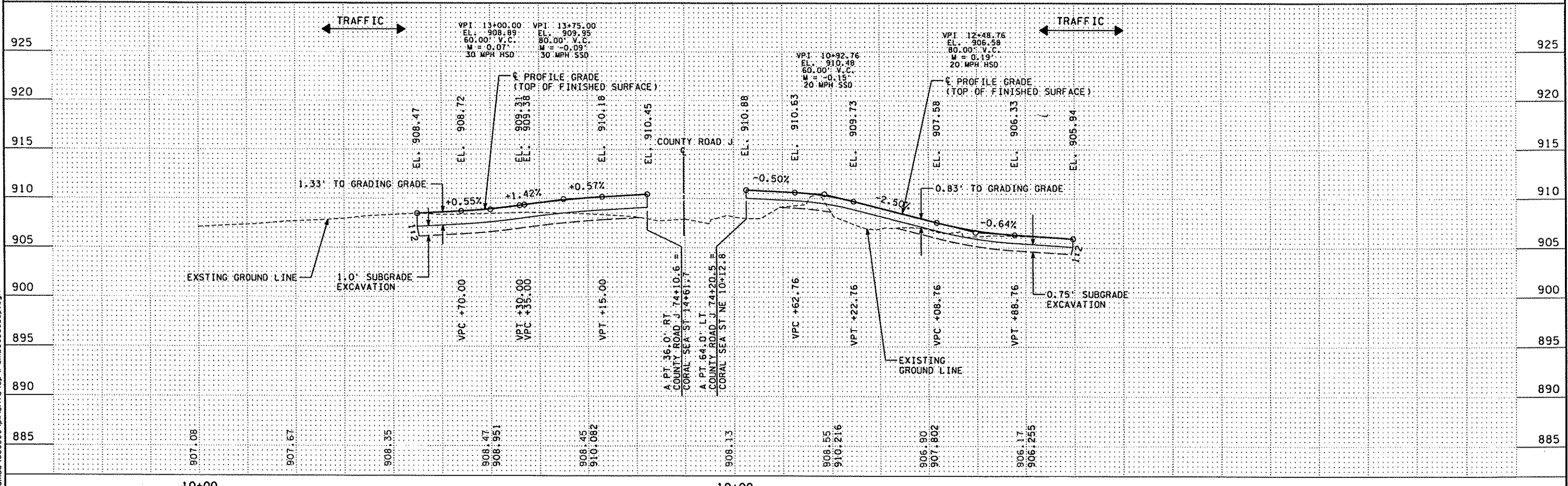
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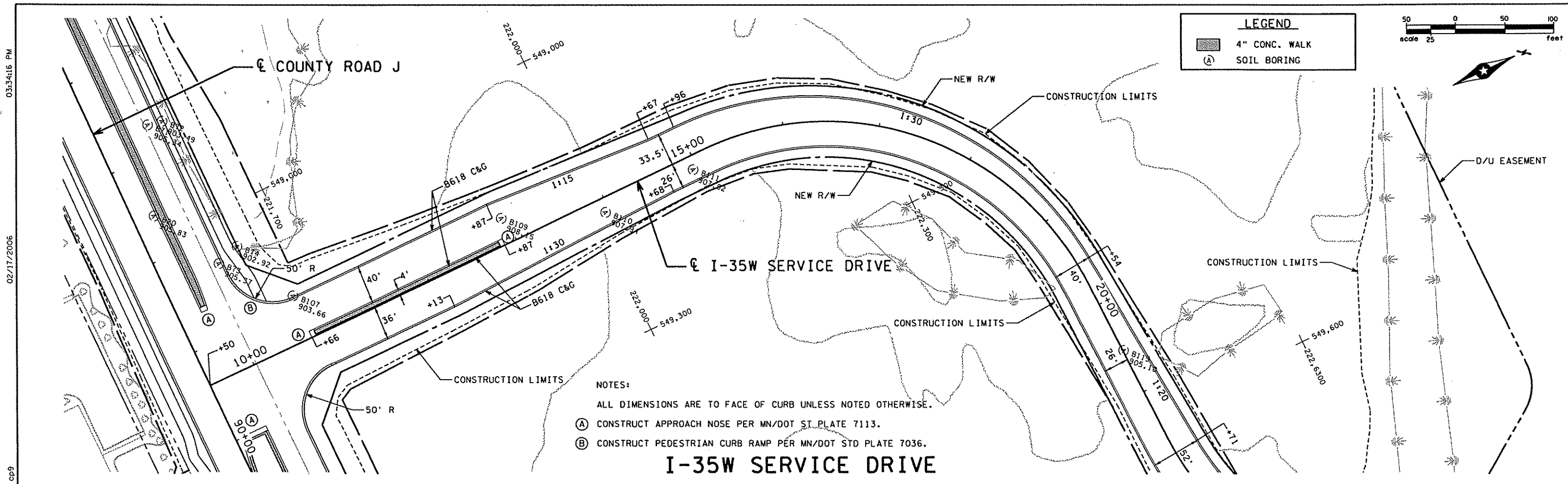


LEGEND	
	4" CONC. WALK
	SOIL BORING

NOTES:
ALL DIMENSIONS ARE TO FACE OF CURB
UNLESS NOTED OTHERWISE.

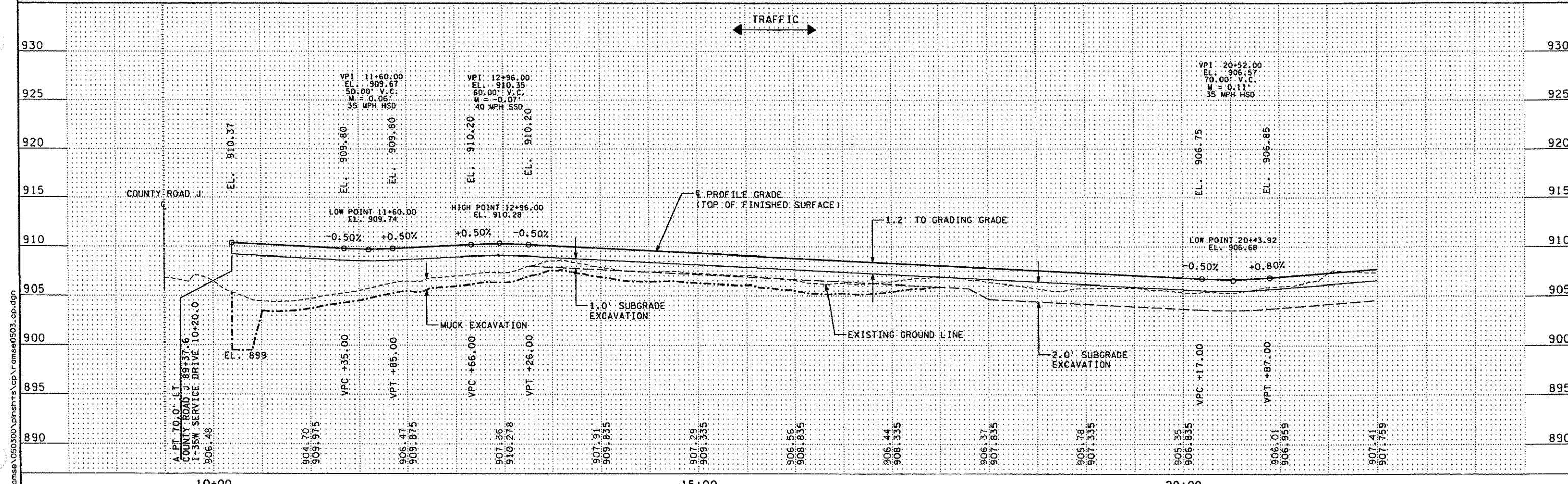


DESIGN TEAM		I hereby certify that this plan was prepared by me or under my direct supervision and that I am duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>Aaron P. Moniza</i> Lic. No. 41654 Printed Name: AARON P. MONIZA Date: 02/17/2006	PHONE: 651490-2000 3535 MADRAIS CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11		FILE NO. 146 ARAMSE0503 CONSTRUCTION PLAN & PROFILE CORAL SEA ST & CORAL SEA ST NE CP8 OF CP12		297		
DRAWN BY: MTT	CHECKED BY: APM			COUNTY ROAD J CORAL SEA ST & CORAL SEA ST NE		COUNTY ROAD J CORAL SEA ST & CORAL SEA ST NE		COUNTY ROAD J CORAL SEA ST & CORAL SEA ST NE		
NO.	BY			DATE	REVISIONS					



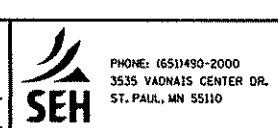
NOTES:
 ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
 (A) CONSTRUCT APPROACH NOSE PER MN/DOT ST. PLATE 7113.
 (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD PLATE 7036.

I-35W SERVICE DRIVE



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

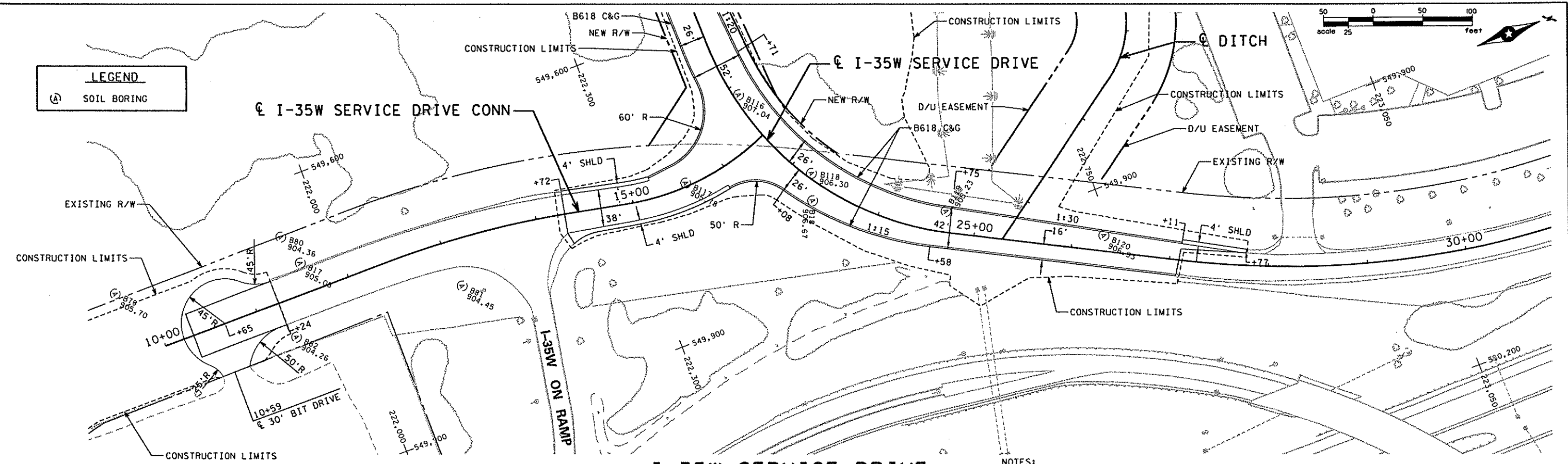
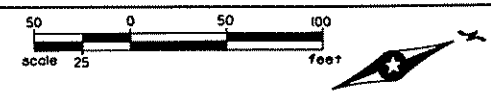
CONSTRUCTION PLAN & PROFILE
 I-35W SERVICE DRIVE

FILE NO. ARAMSE0503
 CP9 OF CP12
 147
 297

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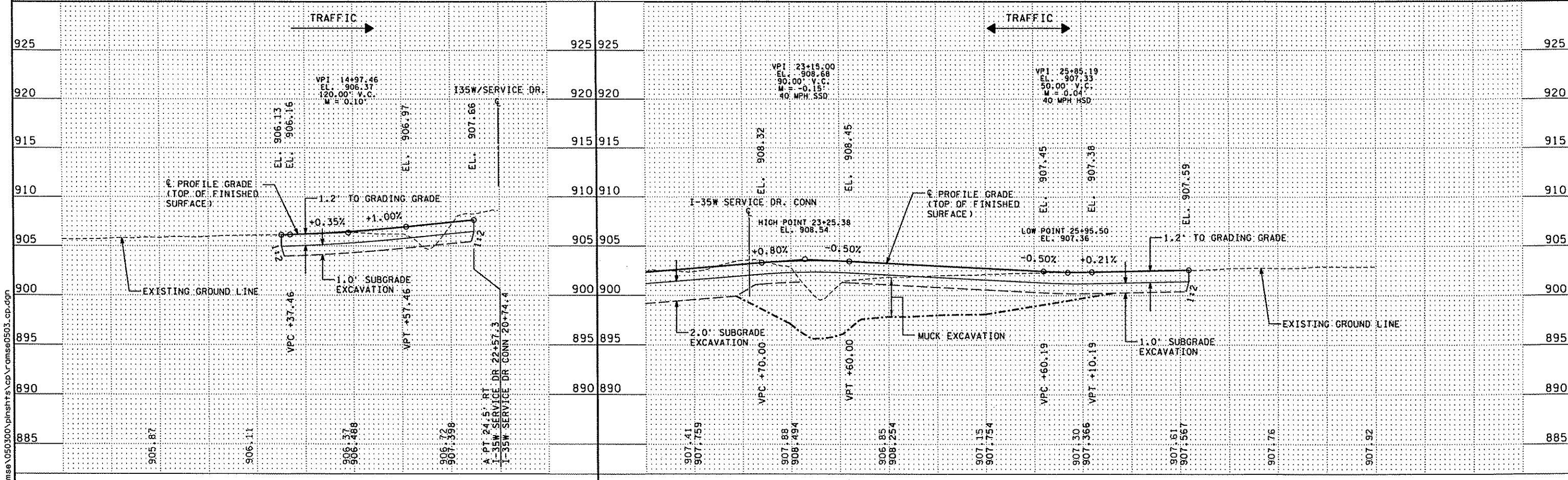
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02/17/2006
cp10

LEGEND
 (A) SOIL BORING



I-35W SERVICE DRIVE

NOTES:
ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	

REVISIONS			

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.
 Certified By: *Aaron P. Mogniza* Lic. No. 41654
 Printed Name: AARON P. MOGNIZA Date: 02/17/2006

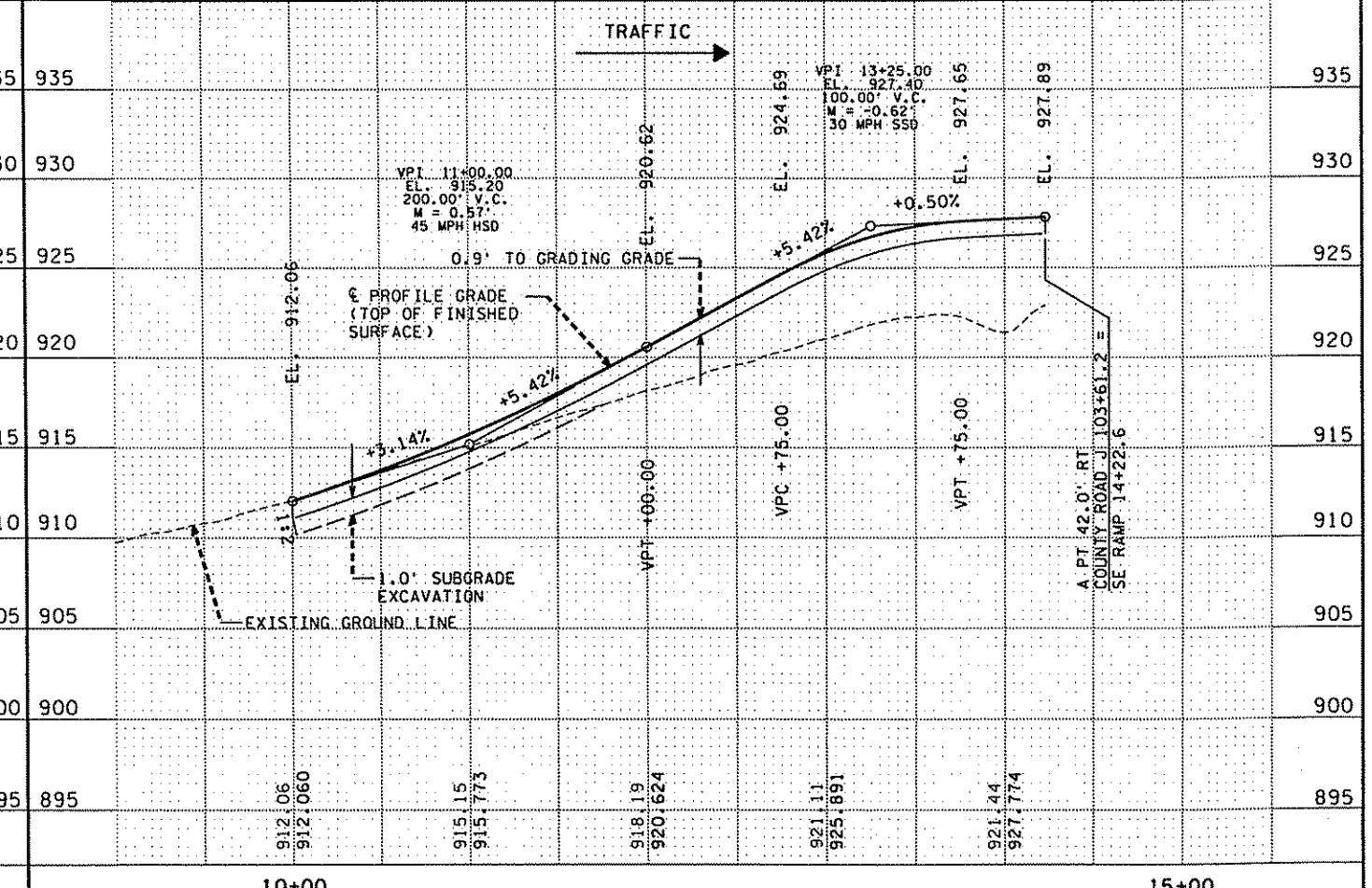
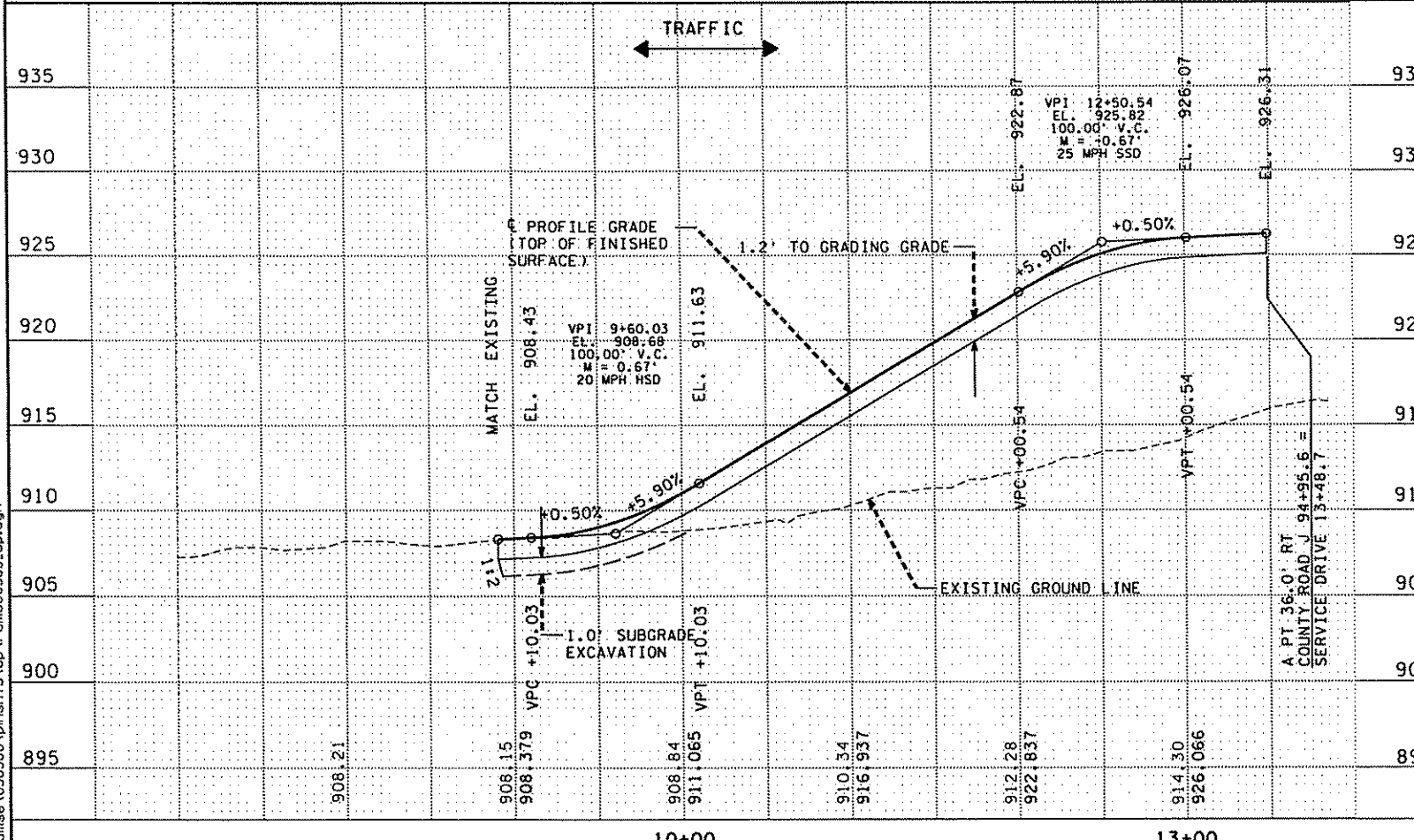
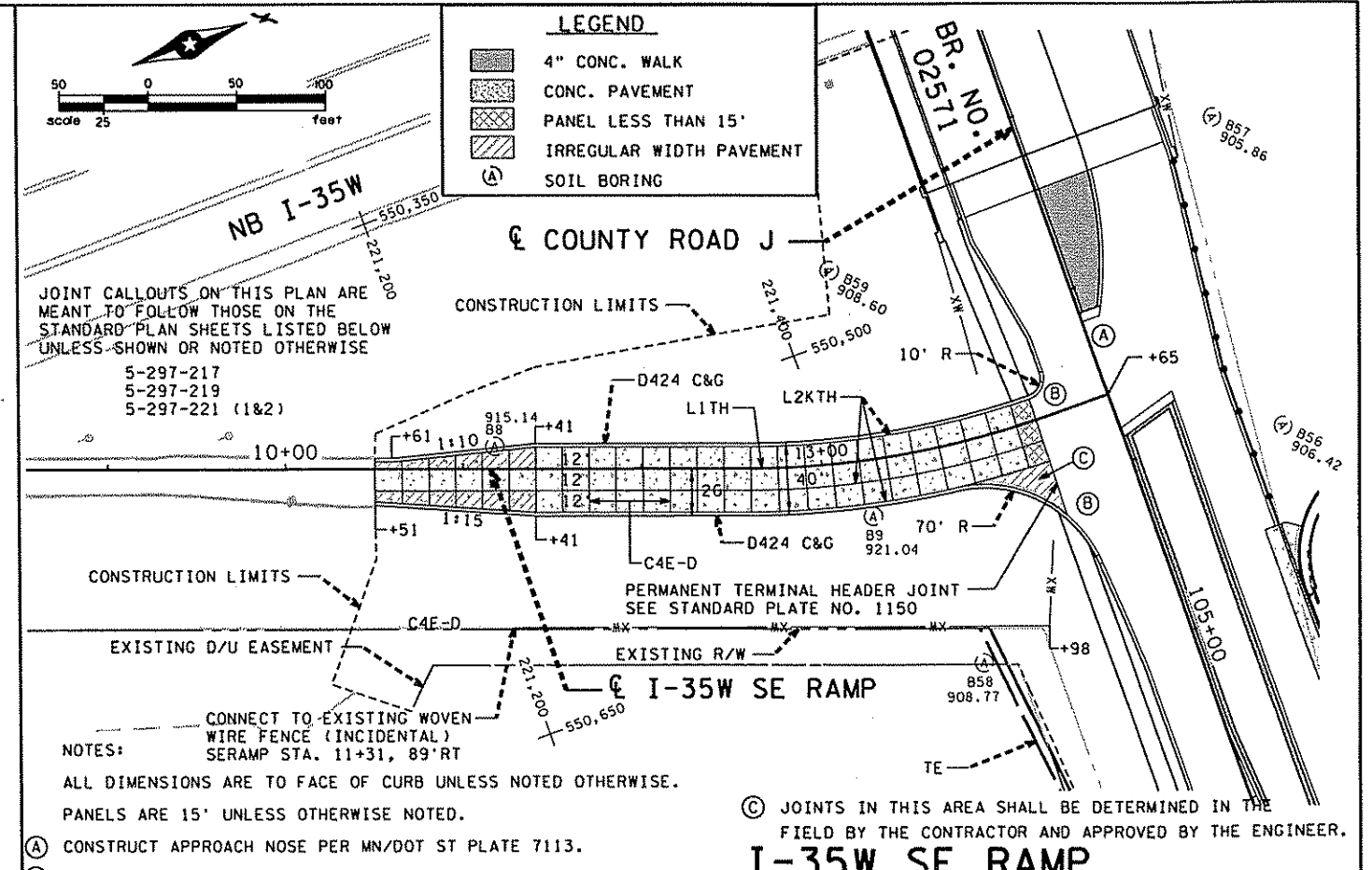
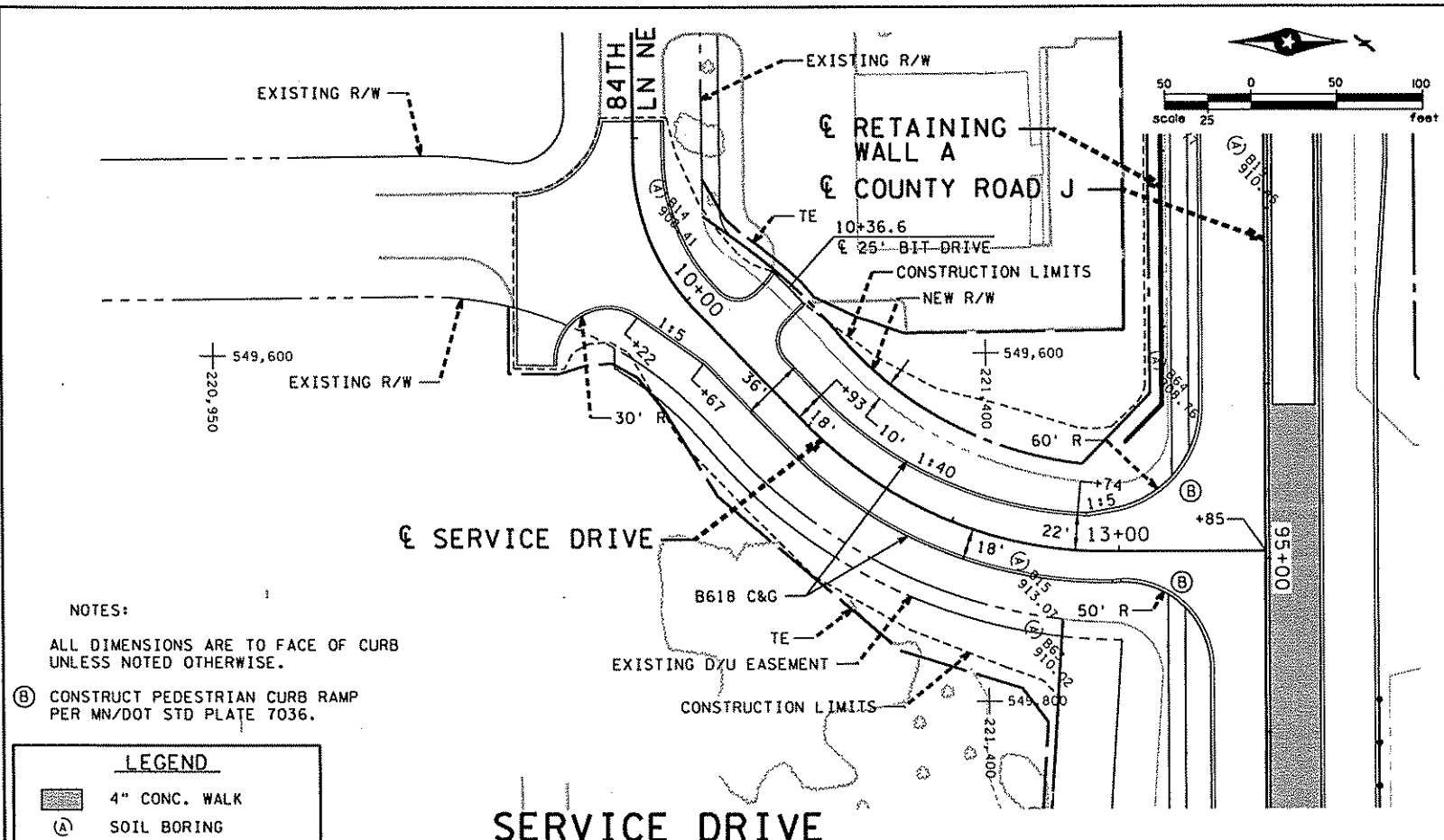
SEH
 PHONE: 651-490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONSTRUCTION PLAN & PROFILE
 I-35W SERVICE DRIVE & SERVICE DRIVE CONN

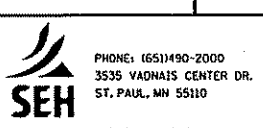
FILE NO.	148
ARAMSE0503	
CP10	
OF CP12	297

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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

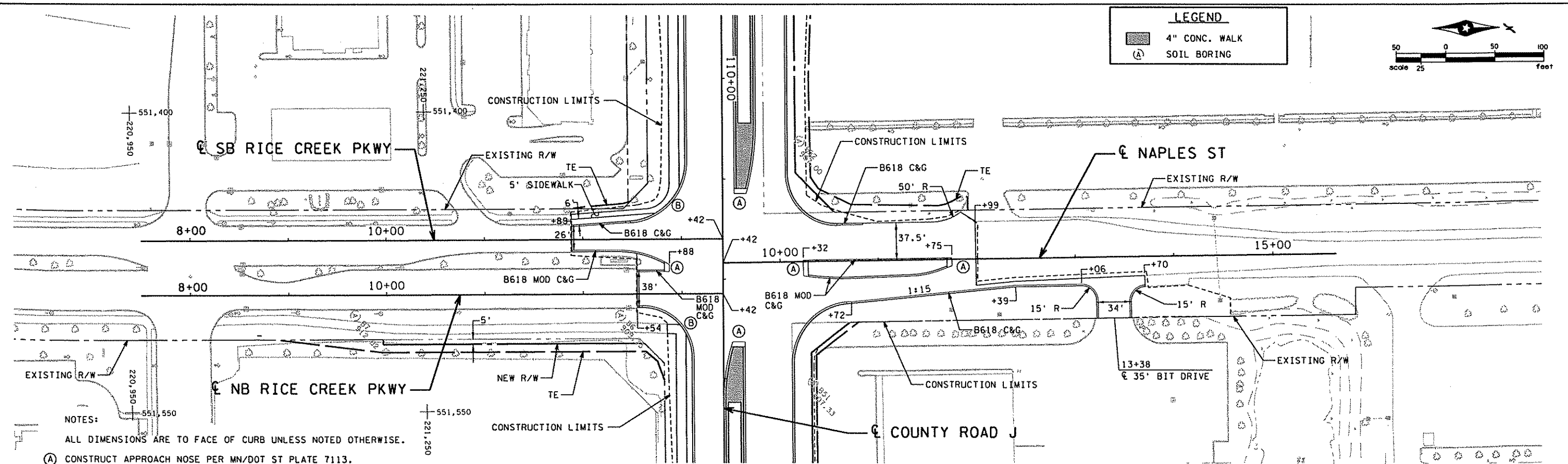
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 3/2/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

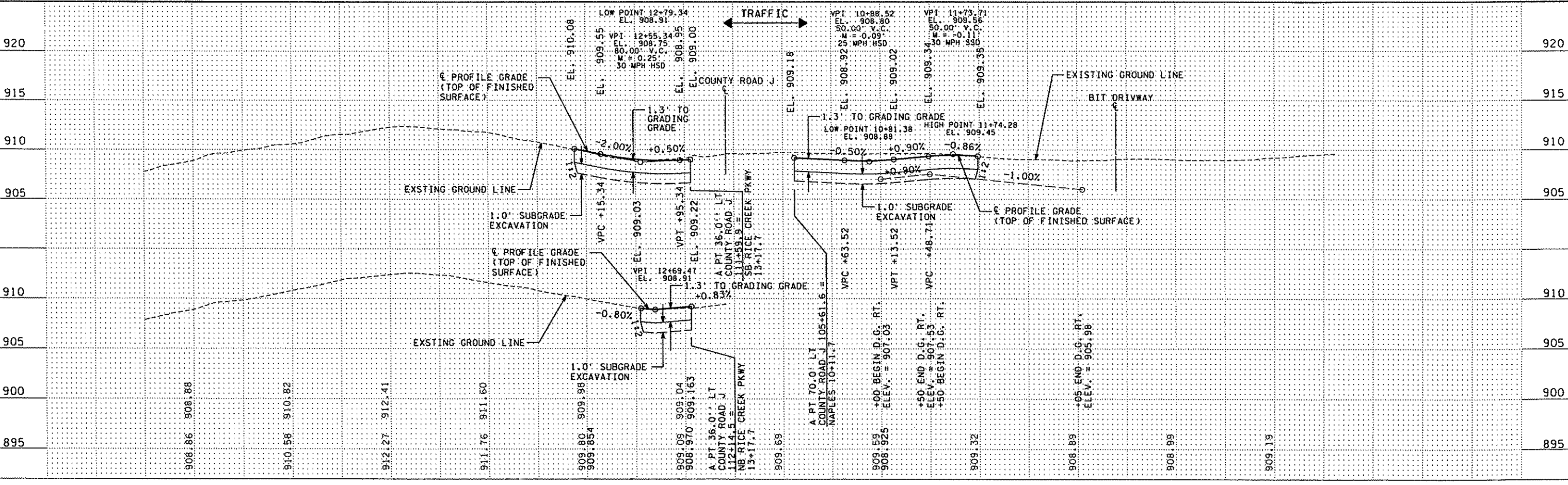
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SERVICE DRIVE & I-35W SE RAMP		ARAMSE0503	
		CP11	297
		OF CP12	

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02/17/2006
cp12



- NOTES:
ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
- (A) CONSTRUCT APPROACH NOSE PER MN/DOT ST PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD PLATE 7036.

RICE CREEK PKWY / NAPLES ST



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	

REVISIONS	

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

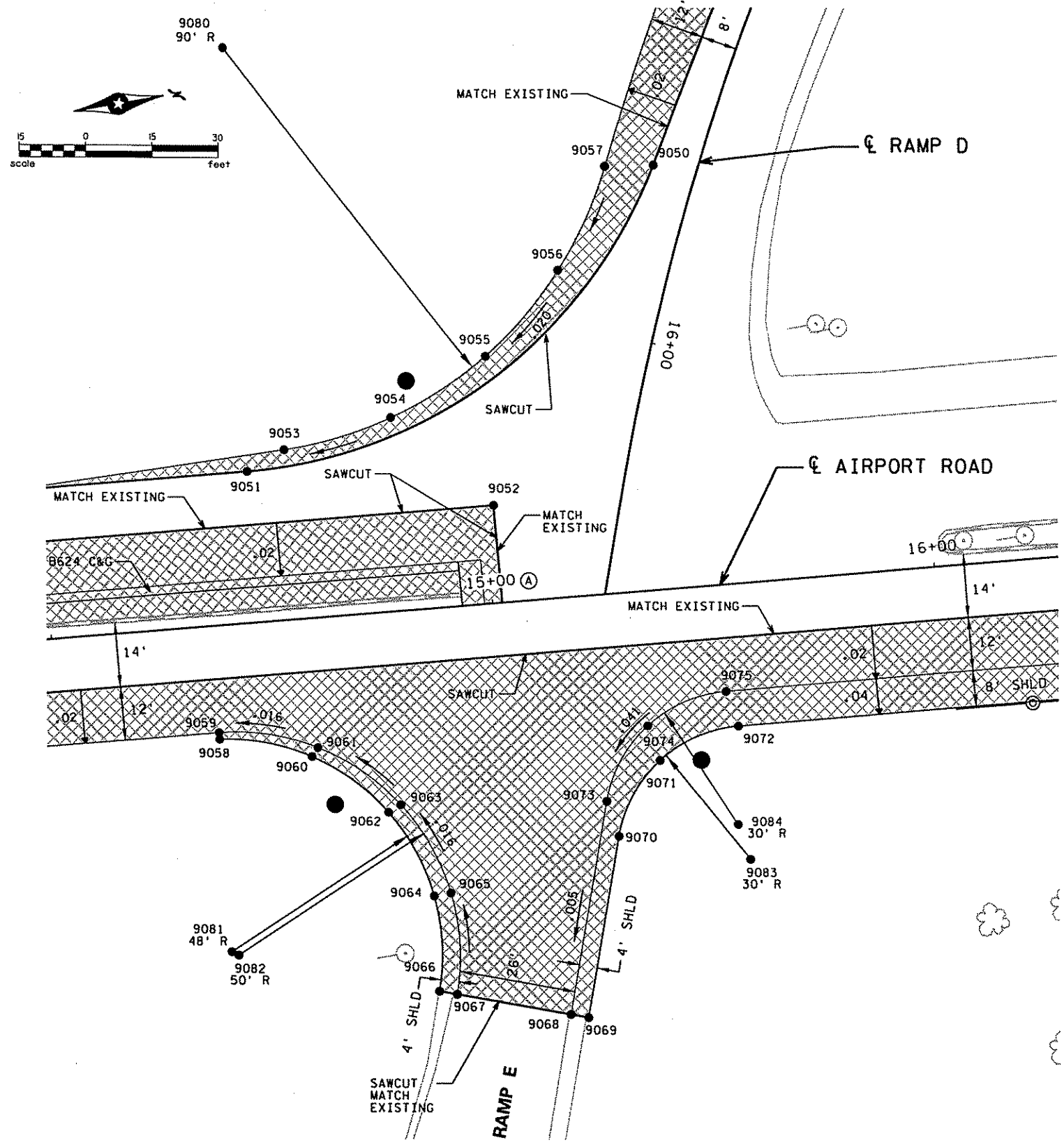
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RICE CREEK PARKWAY / NAPLES ST		CP12 OF CP12
		297

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02/20/2006

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LEGEND

NEW CONSTRUCTION
 SIGNAL POLE

EDGE OF PAVEMENT PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9050	542,615.00	222,321.06	931.59
9051	542,638.17	222,301.91	929.11
9052	542,683.19	222,272.08	931.24
9053	542,662.89	222,227.79	929.38
9054	542,659.94	222,252.93	929.89
9055	542,650.12	222,276.25	930.39
9056	542,634.18	222,295.91	909.88
9057	542,613.40	222,310.36	931.39
9058	542,724.47	222,201.71	928.79
9059	542,722.98	222,201.85	928.85
9060	542,731.75	222,221.65	929.13
9061	542,730.08	222,223.33	929.21
9062	542,747.12	222,236.44	929.47
9063	542,745.92	222,239.49	929.57
9064	542,767.27	222,243.19	929.81
9065	542,767.26	222,247.00	929.93
9066	542,788.37	222,240.57	930.10
9067	542,789.73	222,244.35	930.29
9068	542,798.55	222,268.81	930.74
9069	542,799.90	222,272.57	930.76
9070	542,761.25	222,286.50	930.90
9071	542,746.12	222,298.61	931.62
9072	542,741.55	222,317.45	932.30
9073	542,753.10	222,285.19	930.98
9074	542,737.97	222,297.30	931.79
9075	542,733.40	222,316.13	932.59

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9080	542572.91	222229.98
9081	542771.76	222195.92
9082	542772.77	222197.31
9083	542772.49	222315.40
9084	542763.27	222313.41

NOTES:

(A) CONSTRUCT APPROACH NOSE PER MN/DOT STD PLATE 7113.

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: JEV				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/20/2006

PHONE: 651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

INTERSECTION DETAIL
 AIRPORT ROAD & RAMP D/E

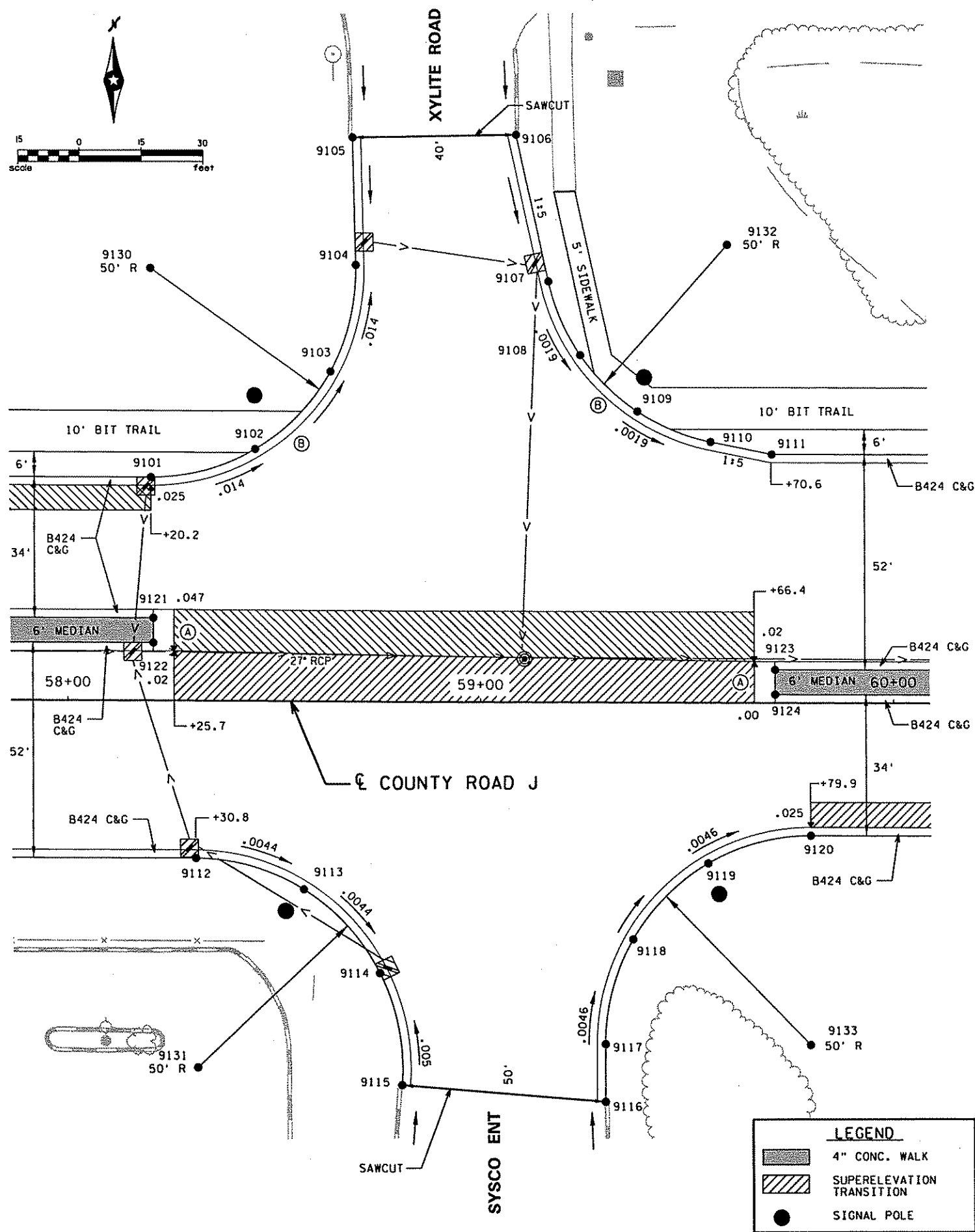
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ID2	297
OF 101	

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02/17/2006

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GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9101	546039.15	221635.50	905.74
9102	546064.46	221642.23	905.37
9103	546082.91	221660.83	905.00
9104	546089.42	221686.20	904.63
9105	546088.97	221716.42	904.67
9106	546128.59	221716.97	905.03
9107	546136.05	221682.22	904.99
9108	546143.58	221664.61	904.95
9109	546157.18	221651.12	904.92
9110	546174.86	221643.73	904.88
9111	546189.70	221640.68	904.84
9112	546049.21	221543.45	905.30
9113	546075.28	221535.95	905.17
9114	546093.59	221515.94	905.05
9115	546098.76	221489.31	905.17
9116	546148.05	221485.22	905.12
9117	546148.12	221498.91	905.01
9118	546154.95	221523.87	904.89
9119	546173.36	221542.07	904.77
9120	546198.39	221548.63	904.65
9121	546039.43	221601.50	906.53
9122	546039.40	221595.50	905.89
9123	546190.03	221588.68	905.37
9124	546190.00	221582.68	905.61

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9130	546,039.42	221,685.50
9131	546,048.93	221,493.45
9132	546,184.93	221,692.71
9133	546,198.12	221,498.63

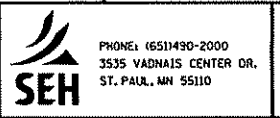
NOTES:

- (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD PLATE 7113.
- (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD PLATE 7056.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J & XYLITE ROAD

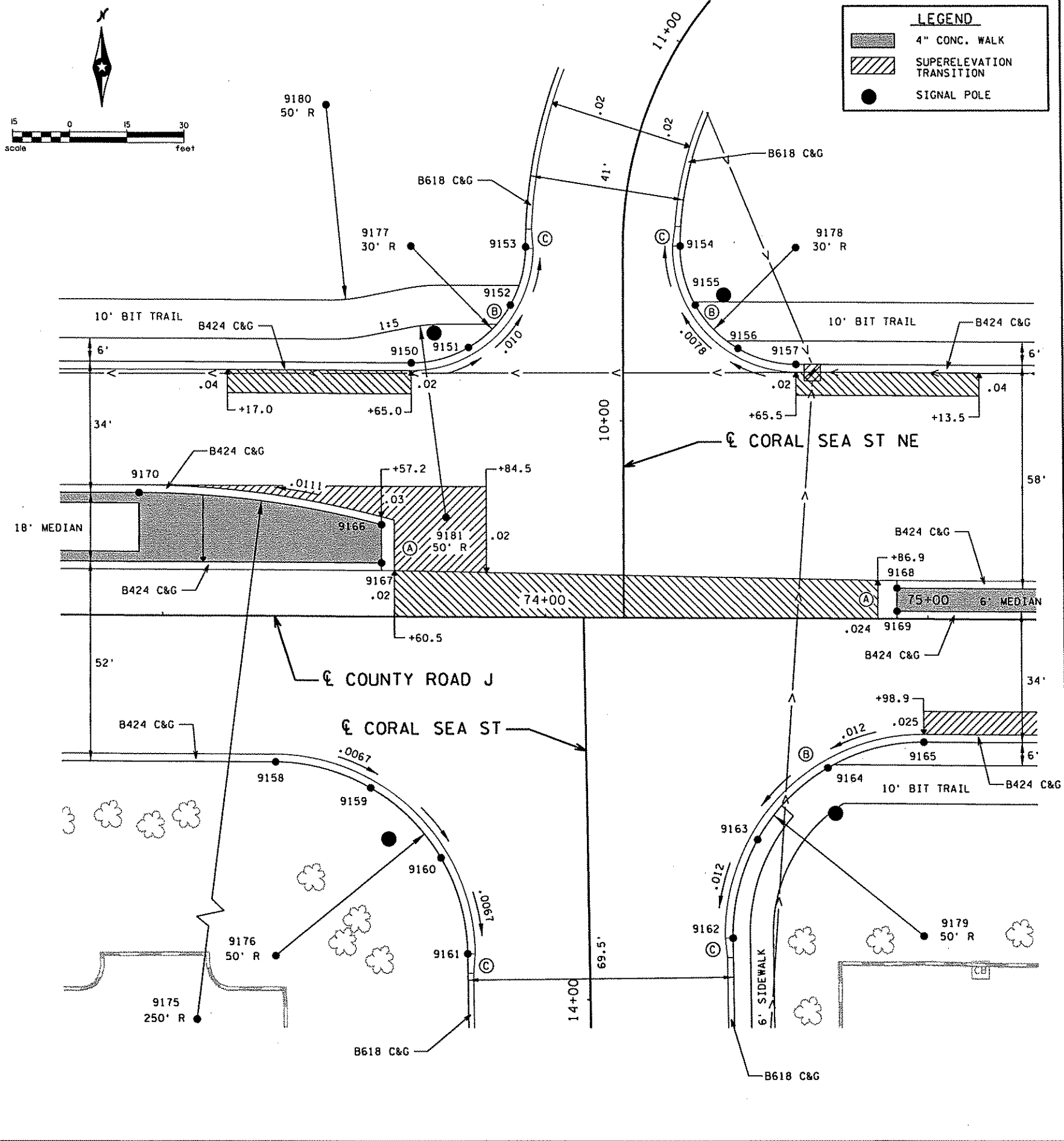
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 297

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Id4

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LEGEND

- 4" CONC. WALK
- SUPERELEVATION TRANSITION
- SIGNAL POLE

GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9150	547,583.98	221,639.08	910.61
9151	547,598.98	221,643.00	910.45
9152	547,610.01	221,653.87	910.30
9153	547,614.15	221,668.81	910.14
9154	547,654.65	221,668.99	910.34
9155	547,658.49	221,653.84	910.46
9156	547,669.42	221,642.68	910.59
9157	547,684.49	221,638.53	910.71
9158	547,547.82	221,535.27	909.96
9159	547,572.55	221,528.57	909.78
9160	547,590.72	221,510.50	909.61
9161	547,597.55	221,485.80	909.44
9162	547,667.01	221,489.82	909.35
9163	547,673.57	221,515.12	909.67
9164	547,692.01	221,533.65	909.99
9165	547,717.28	221,540.35	910.31
9166	547,575.92	221,597.08	910.93
9167	547,575.87	221,587.12	910.69
9168	547,710.54	221,580.39	910.73
9169	547,710.51	221,574.39	911.21
9170	547,512.74	221,605.44	910.82

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9175	547,511.98	221,355.44
9176	547,547.55	221,485.27
9177	547,584.15	221,669.08
9178	547,684.65	221,668.53
9179	547,717.00	221,490.35
9180	547562.400	221705.200
9181	547592.720	221599.030

- NOTES:
- (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD. PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.
 - (C) 5' CURB TRANSITION BETWEEN B424 AND B618. PAID FOR AS B424.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41554
 Printed Name: AARON P. MONIZA Date: 02/17/2006

SEH
 PHONE: 651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J & CORAL SEA ST / CORAL SEA ST NE

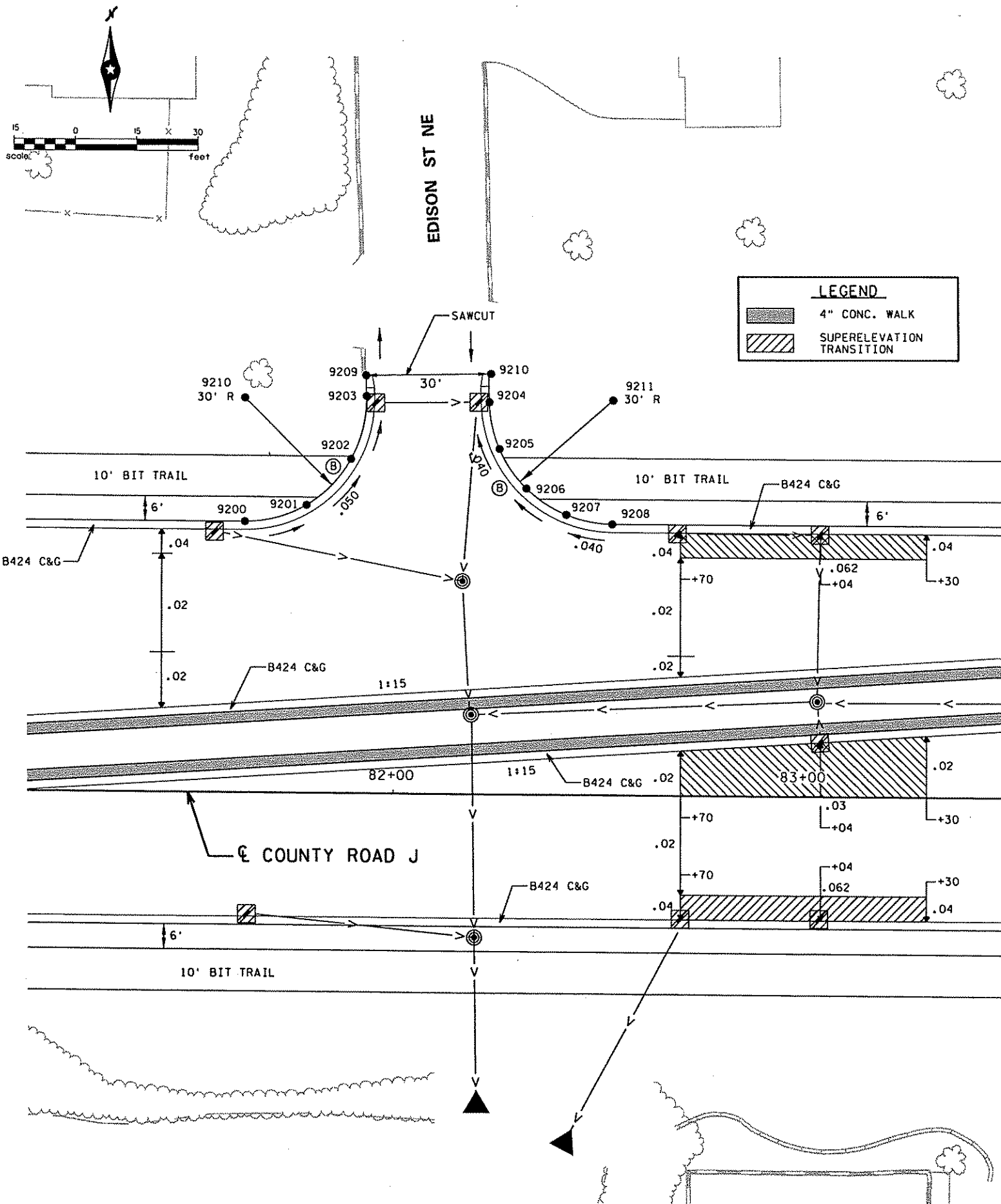
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OF IDI	297

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02/17/2006

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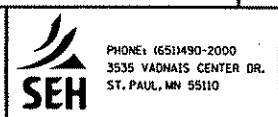
GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9200	548,382.37	221,634.72	906.80
9201	548,397.57	221,638.76	906.00
9202	548,408.64	221,649.93	905.19
9203	548,412.53	221,665.17	904.39
9204	548,442.53	221,665.62	904.49
9205	548,444.93	221,652.48	904.96
9206	548,446.70	221,649.02	905.42
9207	548,457.59	221,638.23	905.89
9208	548,472.39	221,634.23	906.35
9209	548,412.48	221,670.17	904.37
9210	548,442.46	221,670.62	904.51

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9210	548,382.54	221,664.72
9211	548,472.55	221,664.23

NOTES:
 (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006

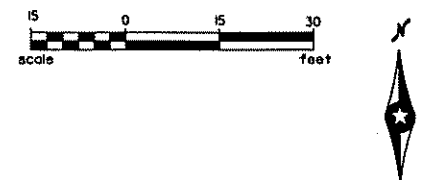


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J & EDISON ST NE

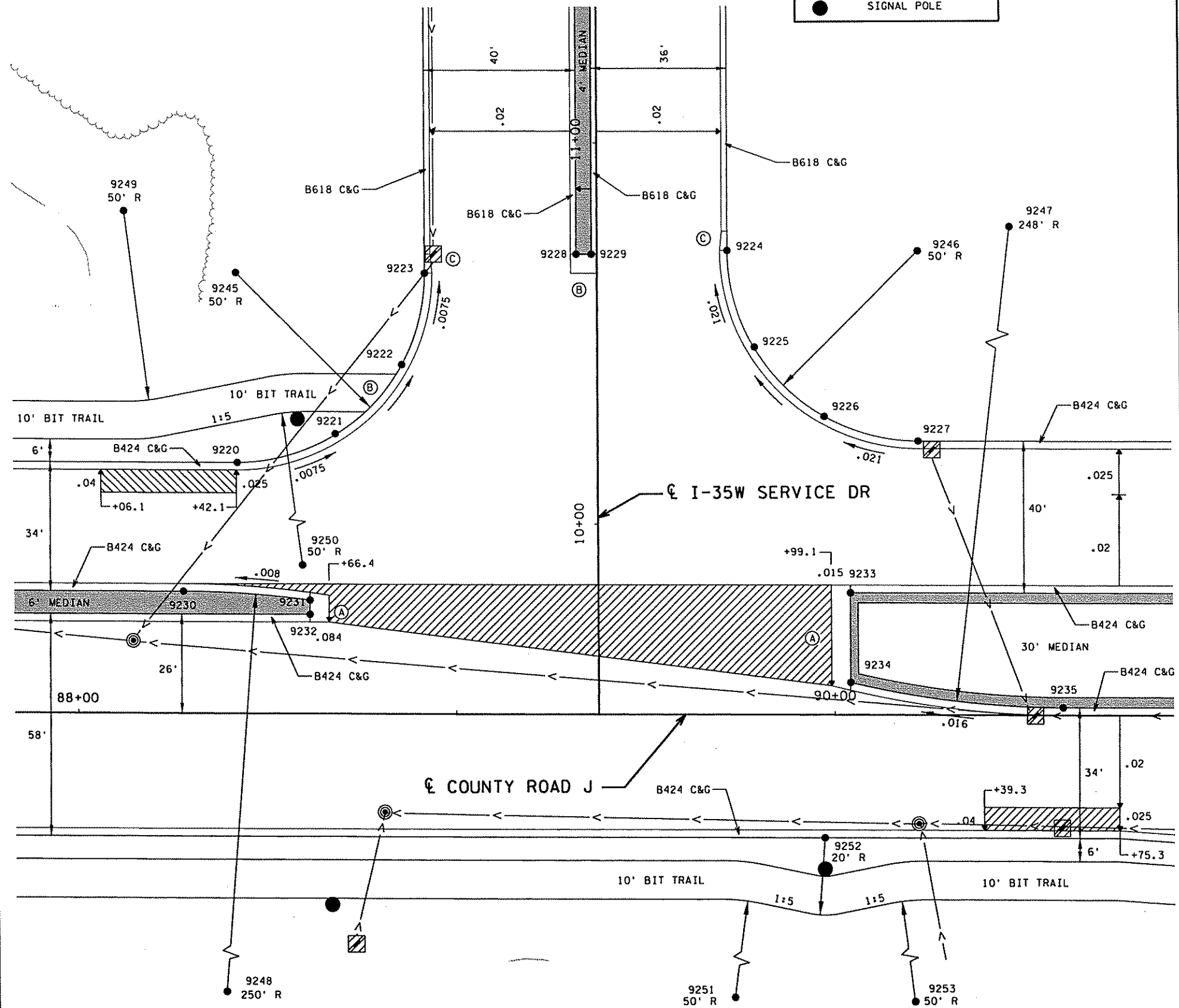
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ID5 OF 1011	297

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LEGEND

- 4" CONC. WALK
- SUPERELEVATION TRANSITION
- SIGNAL POLE



GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9220	549,061.25	221,631.01	909.74
9221	549,087.22	221,638.54	909.54
9222	549,104.99	221,656.75	909.35
9223	549,111.29	221,680.74	909.15
9224	549,191.33	221,686.30	909.34
9225	549,198.23	221,660.99	909.90
9226	549,216.40	221,642.65	910.47
9227	549,241.05	221,636.03	911.03
9228	549,151.32	221,685.52	909.86
9229	549,155.32	221,685.50	910.16
9230	549,046.67	221,597.09	910.43
9231	549,080.15	221,594.66	910.31
9232	549,080.13	221,590.91	909.78
9233	549,222.88	221,596.13	911.75
9234	549,222.75	221,572.57	911.22
9235	549,278.86	221,565.83	912.15

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9245	549061.30	221681.02
9246	549241.33	221686.04
9247	548280.22	221813.83
9248	549045.31	221347.10
9249	549031.70	221697.18
9250	549079.53	221594.42
9251	549188.31	221466.32
9252	549215.61	221532.17
9253	549242.19	221466.03

- NOTES:
- (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD. PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.
 - (C) 5' CURB TRANSITION BETWEEN B424 AND B618. PAID FOR AS B424.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006

PHONE: (651)990-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J & I-35W SERVICE DRIVE

FILE NO. ARAME0503	156
ID6 OF ID11	297

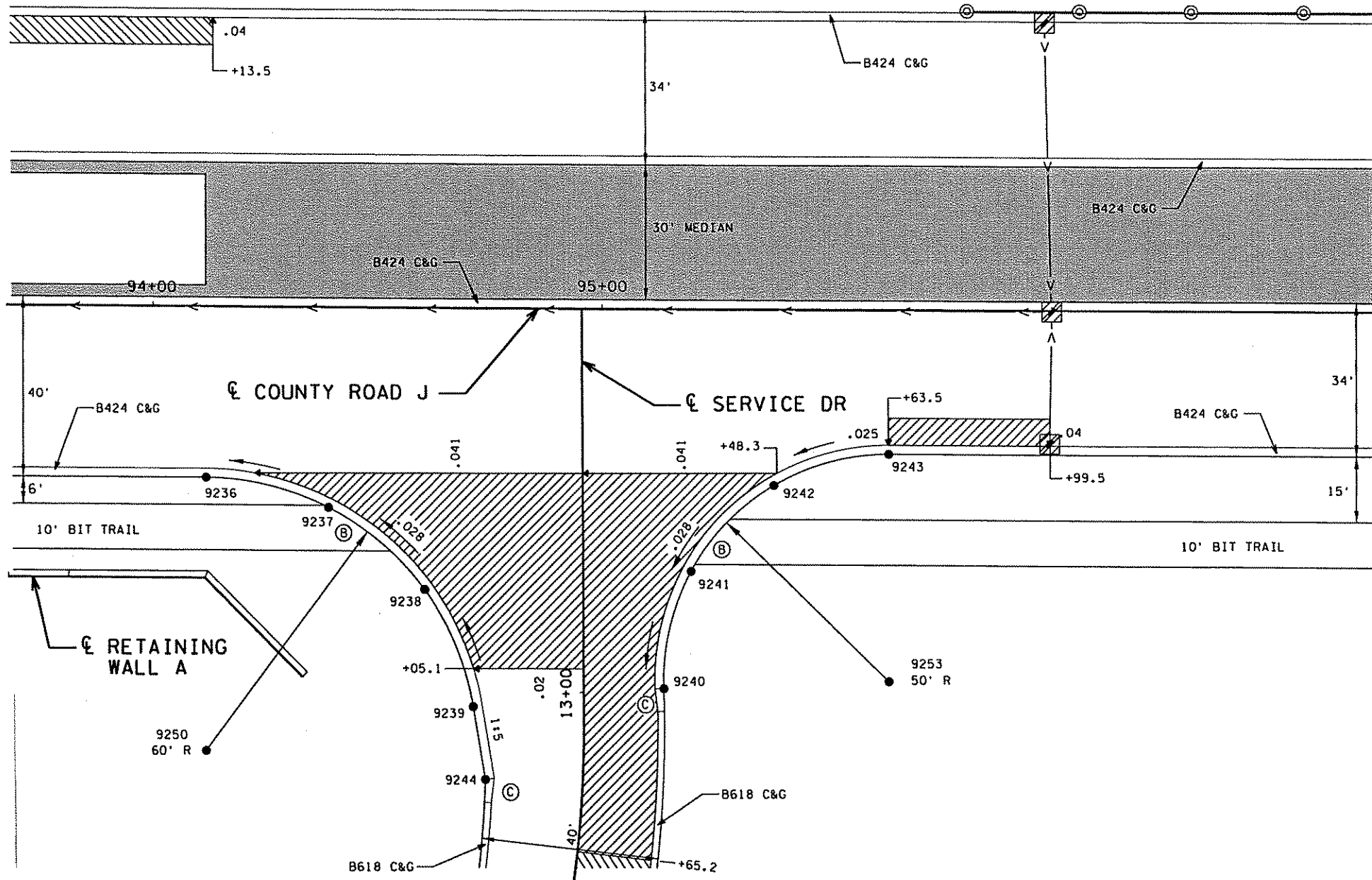
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ID7

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LEGEND	
	4" CONC. WALK
	SUPERELEVATION TRANSITION



GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9236	549,630.16	221,523.91	923.11
9237	549,657.17	221,517.33	923.90
9238	549,678.31	221,499.27	924.69
9239	549,689.04	221,473.62	925.47
9240	549,729.68	221,477.54	926.23
9241	549,737.91	221,503.30	926.98
9242	549,756.39	221,522.23	927.73
9243	549,799.62	221,528.99	928.49
9244	549,691.65	221,457.69	925.35

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9250	549,629.83	221,463.91
9253	549,781.66	221,479.09

- NOTES:
- (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.
 - (C) 5' CURB TRANSITION BETWEEN B424 AND B618. PAID FOR AS B424.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer

Printed Name: AARON P. MONIZA Date: 02/17/2006

SEH

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J & SERVICE DRIVE

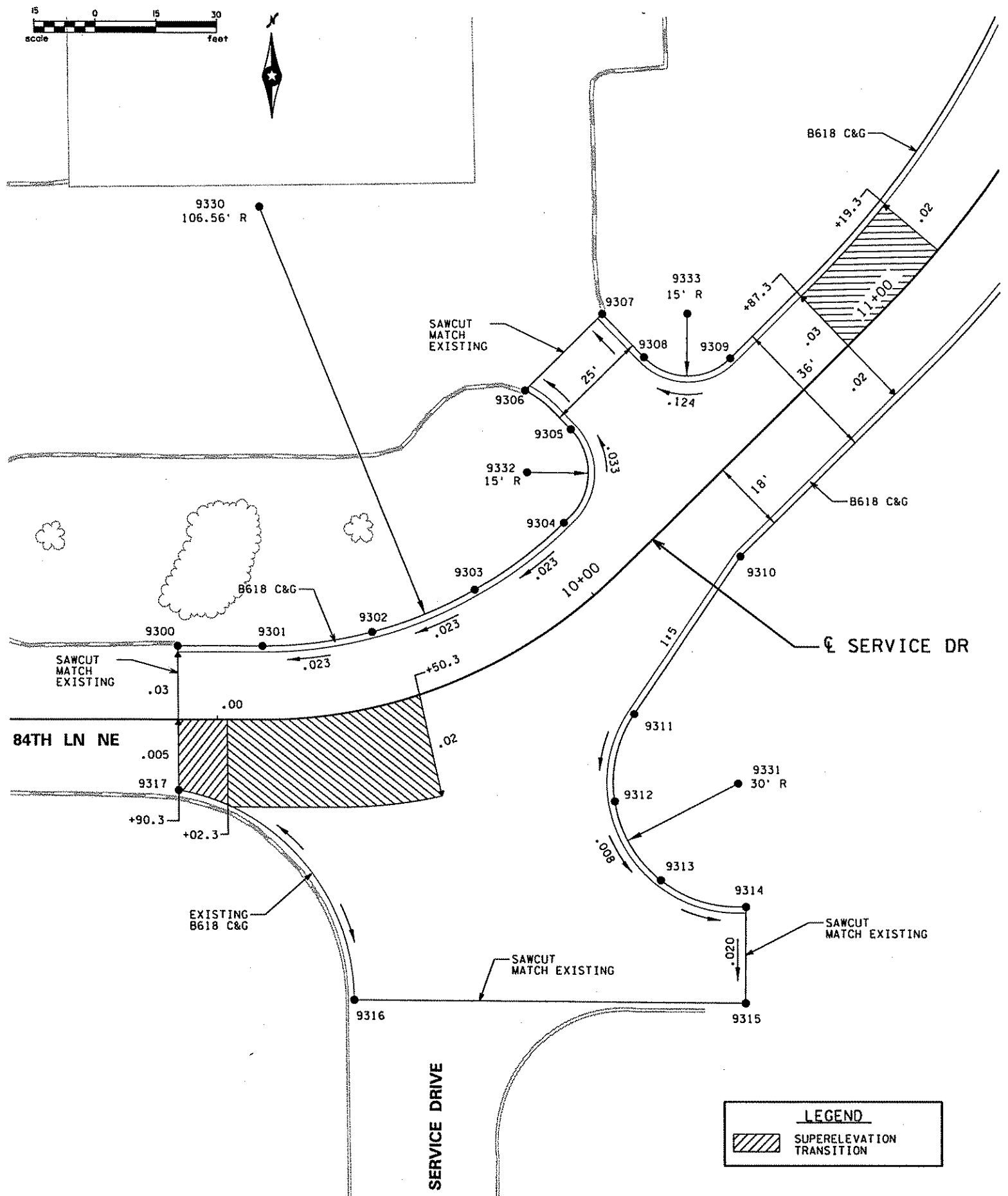
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ID7 OF IDU	297

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02/17/2006

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LEGEND

SUPERELEVATION TRANSITION

GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9300	549,467.12	221,214.37	908.02
9301	549,487.91	221,214.37	908.51
9302	549,563.73	221,246.03	909.14
9303	549,540.30	221,228.14	909.77
9304	549,563.73	221,246.03	910.98
9305	549,564.04	221,267.24	910.20
9306	549,552.96	221,276.70	909.74
9307	549,571.92	221,295.11	910.22
9308	549,582.02	221,284.71	911.47
9309	549,603.23	221,284.41	914.4
9310	549,605.35	221,236.27	912.53
9311	549,579.01	221,197.75	909.95
9312	549,574.11	221,176.43	909.76
9313	549,585.17	221,157.26	909.58
9314	549,606.06	221,150.79	909.40
9315	549,605.87	221,127.57	909.15
9316	549,509.83	221,128.37	907.91
9317	549,467.12	221,179.13	908.59

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9330	549,487.91	221,320.93
9331	549,604.37	221,180.75
9332	549,553.28	221,256.79
9333	549,592.78	221,295.17

NOTES:
 (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD. PLATE 7113.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006

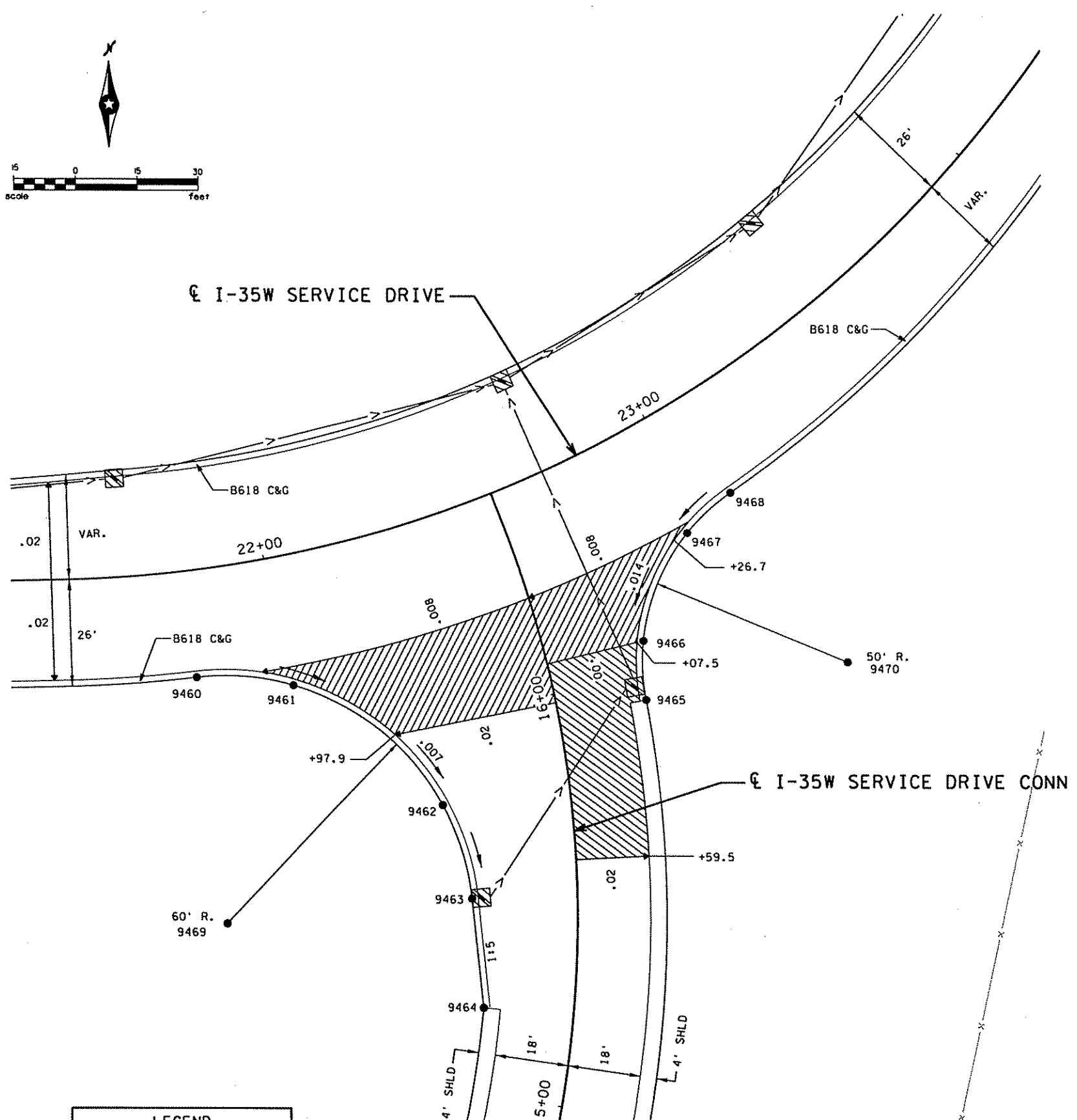
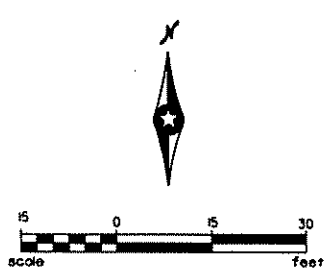
PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 SERVICE DRIVE & 84TH LANE NE

FILE NO. 158
 ARAMSE0503
 ID8
 OF 101 297

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02/17/2006
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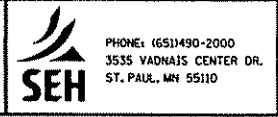
LEGEND
 SUPERELEVATION TRANSITION

GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9460	549,659.07	222,408.01	907.02
9461	549,682.66	222,406.15	906.85
9462	549,718.90	222,377.17	906.50
9463	549,725.91	222,354.57	906.33
9464	549,728.61	222,328.38	906.15
9465	549,768.90	222,402.71	907.13
9466	549,768.33	222,417.03	907.33
9467	549,779.15	222,443.27	907.76
9468	549,789.67	222,453.02	907.94

RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9469	549,666.23	222,348.44
9470	549,818.06	222,411.86

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: JEV				
CHECKED BY: APM				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 02/17/2006

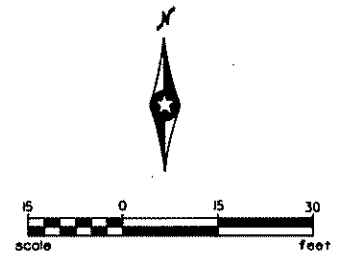


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

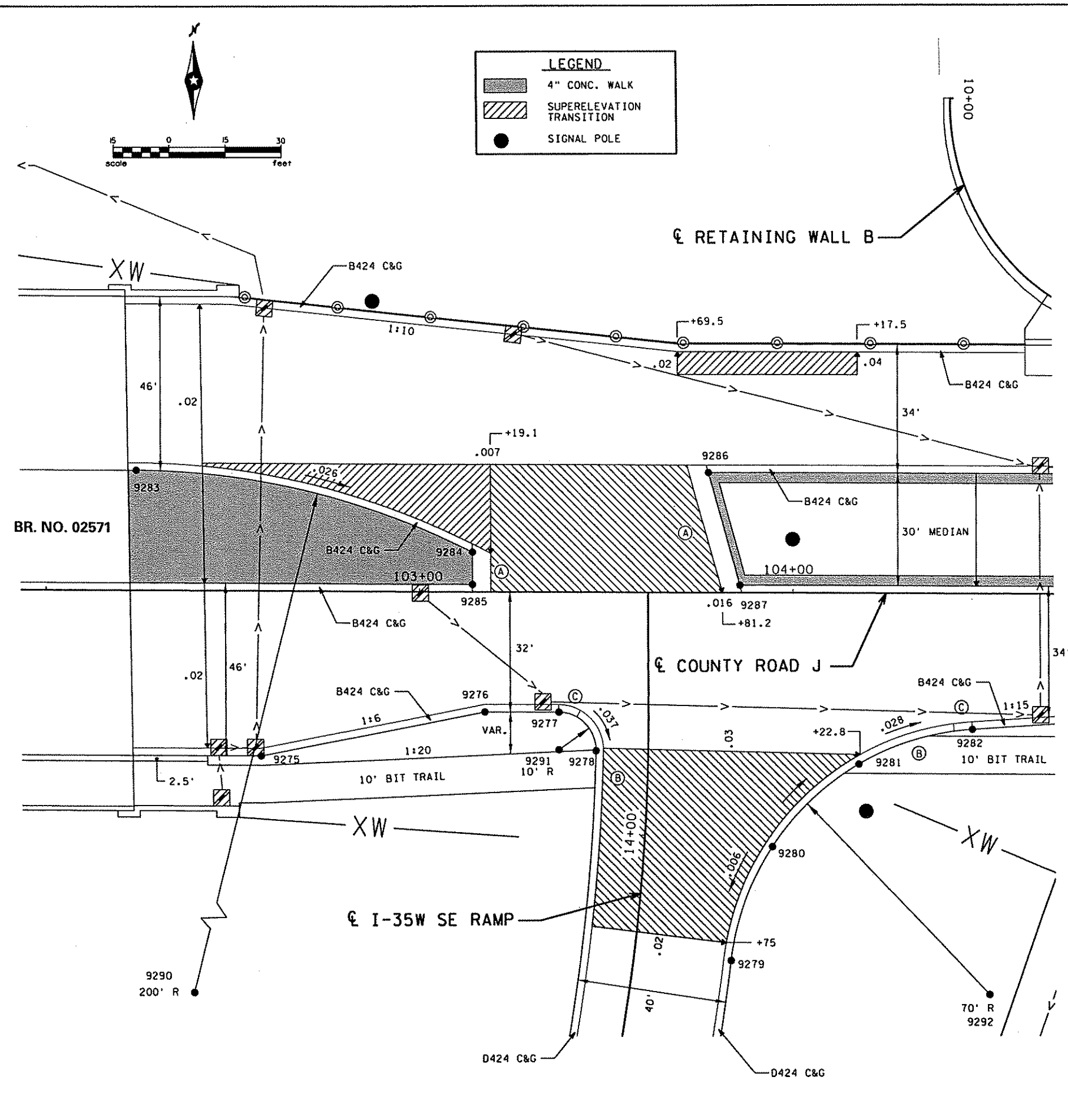
INTERSECTION DETAIL
 I-35W SERVICE DRIVE & I-35W SERVICE DR CONN

FILE NO. ARAMSE0503	159
OF ID# ID9	297

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02/17/2006
Id10
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LEGEND	
	4" CONC. WALK
	SUPERELEVATION TRANSITION
	SIGNAL POLE



GUTTER PROFILE POINTS			
POINT	POINT COORDINATES		ELEVATION
	X	Y	
9275	550,475.69	221,513.30	930.50
9276	550,535.76	221,524.97	929.26
9277	550,555.56	221,524.87	928.71
9278	550,565.50	221,514.58	928.12
9279	550,601.23	221,459.18	927.02
9280	550,612.43	221,489.10	926.84
9281	550,635.77	221,510.93	925.94
9282	550,666.38	221,520.11	925.04
9283	550,442.89	221,589.48	932.44
9284	550,532.76	221,567.60	930.04
9285	550,532.72	221,558.99	929.94
9286	550,596.24	221,588.65	928.52
9287	550,604.78	221,558.60	927.85

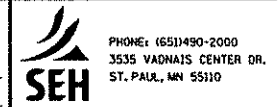
RADIUS POINTS		
POINT	POINT COORDINATES	
	X	Y
9290	550,441.79	221,389.48
9291	550,555.51	221,514.87
9292	550,670.65	221,450.24

- NOTES:
- (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD. PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.
 - (C) 5" CURB TRANSITION BETWEEN B424 AND D424. PAID FOR AS B424.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Aaron P. Moniza* Lic. No. 41654
 Licensed Professional Engineer
 Printed Name: AARON P. MONIZA Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

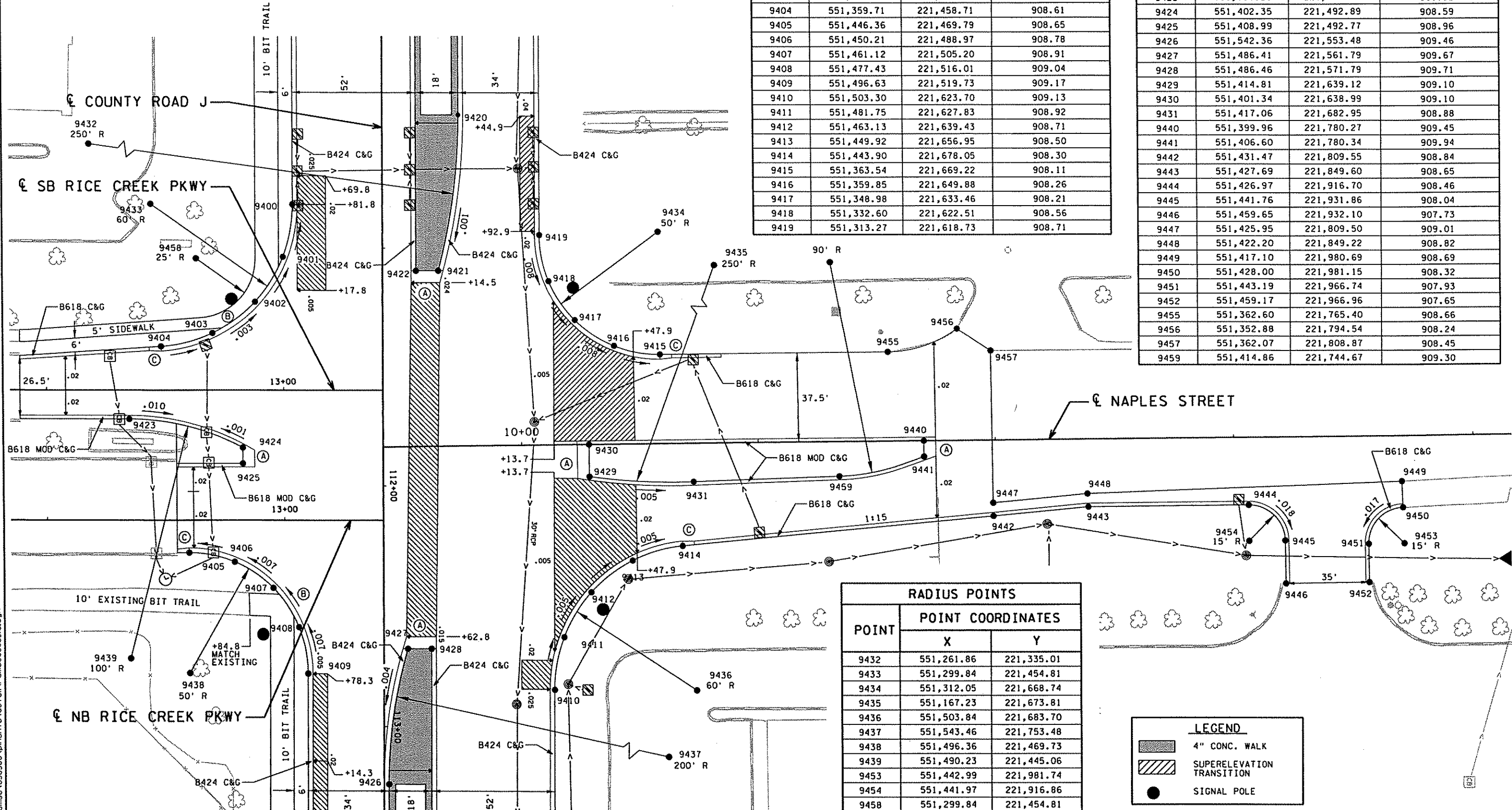
INTERSECTION DETAIL
 COUNTY ROAD J & I-35W SE RAMP

FILE NO. 160
 ARAMSE0503
 ID10 OF 101
 297

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- NOTES:
- (A) CONSTRUCT APPROACH NOSE PER MN/DOT STD. PLATE 7113.
 - (B) CONSTRUCT PEDESTRIAN CURB RAMP PER MN/DOT STD. PLATE 7036.
 - (C) 5' CURB TRANSITION BETWEEN B424 AND B618. PAID FOR AS B424.



POINT	POINT COORDINATES		ELEVATION
	X	Y	
9400	551,300.17	221,514.80	908.36
9401	551,322.12	221,510.51	908.43
9402	551,340.98	221,498.48	908.49
9403	551,354.12	221,480.37	908.55
9404	551,359.71	221,458.71	908.61
9405	551,446.36	221,469.79	908.65
9406	551,450.21	221,488.97	908.78
9407	551,461.12	221,505.20	908.91
9408	551,477.43	221,516.01	909.04
9409	551,496.63	221,519.73	909.17
9410	551,503.30	221,623.70	909.13
9411	551,481.75	221,627.83	908.92
9412	551,463.13	221,639.43	908.71
9413	551,449.92	221,656.95	908.50
9414	551,443.90	221,678.05	908.30
9415	551,363.54	221,669.22	908.11
9416	551,359.85	221,649.88	908.26
9417	551,348.98	221,633.46	908.21
9418	551,332.60	221,622.51	908.56
9419	551,313.27	221,618.73	908.71

POINT	POINT COORDINATES		ELEVATION
	X	Y	
9420	551,263.22	221,585.01	909.49
9421	551,328.12	221,576.07	909.74
9422	551,328.11	221,566.65	909.17
9423	551,390.23	221,445.20	908.92
9424	551,402.35	221,492.89	908.59
9425	551,408.99	221,492.77	908.96
9426	551,542.36	221,553.48	909.46
9427	551,486.41	221,561.79	909.67
9428	551,486.46	221,571.79	909.71
9429	551,414.81	221,639.12	909.10
9430	551,401.34	221,638.99	909.10
9431	551,417.06	221,682.95	908.88
9440	551,399.96	221,780.27	909.45
9441	551,406.60	221,780.34	909.94
9442	551,431.47	221,809.55	908.84
9443	551,427.69	221,849.60	908.65
9444	551,426.97	221,916.70	908.46
9445	551,441.76	221,931.86	908.04
9446	551,459.65	221,932.10	907.73
9447	551,425.95	221,809.50	909.01
9448	551,422.20	221,849.22	908.82
9449	551,417.10	221,980.69	908.69
9450	551,428.00	221,981.15	908.32
9451	551,443.19	221,966.74	907.93
9452	551,459.17	221,966.96	907.65
9455	551,362.60	221,765.40	908.66
9456	551,352.88	221,794.54	908.24
9457	551,362.07	221,808.87	908.45
9459	551,414.86	221,744.67	909.30

POINT	POINT COORDINATES	
	X	Y
9432	551,261.86	221,335.01
9433	551,299.84	221,454.81
9434	551,312.05	221,668.74
9435	551,167.23	221,673.81
9436	551,503.84	221,683.70
9437	551,543.46	221,753.48
9438	551,496.36	221,469.73
9439	551,490.23	221,445.06
9453	551,442.99	221,981.74
9454	551,441.97	221,916.86
9458	551,299.84	221,454.81

LEGEND

- 4" CONC. WALK
- SUPERELEVATION TRANSITION
- SIGNAL POLE

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	JEV						
CHECKED BY:	APM						

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.

Certified By: *Aaron P. Moniza* Lic. No. 41854
 Printed Name: AARON P. MONIZA Date: 02/17/2006

SEH

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INTERSECTION DETAIL
 COUNTY ROAD J &
 RICE CREEK PKWY / NAPLES ST NE

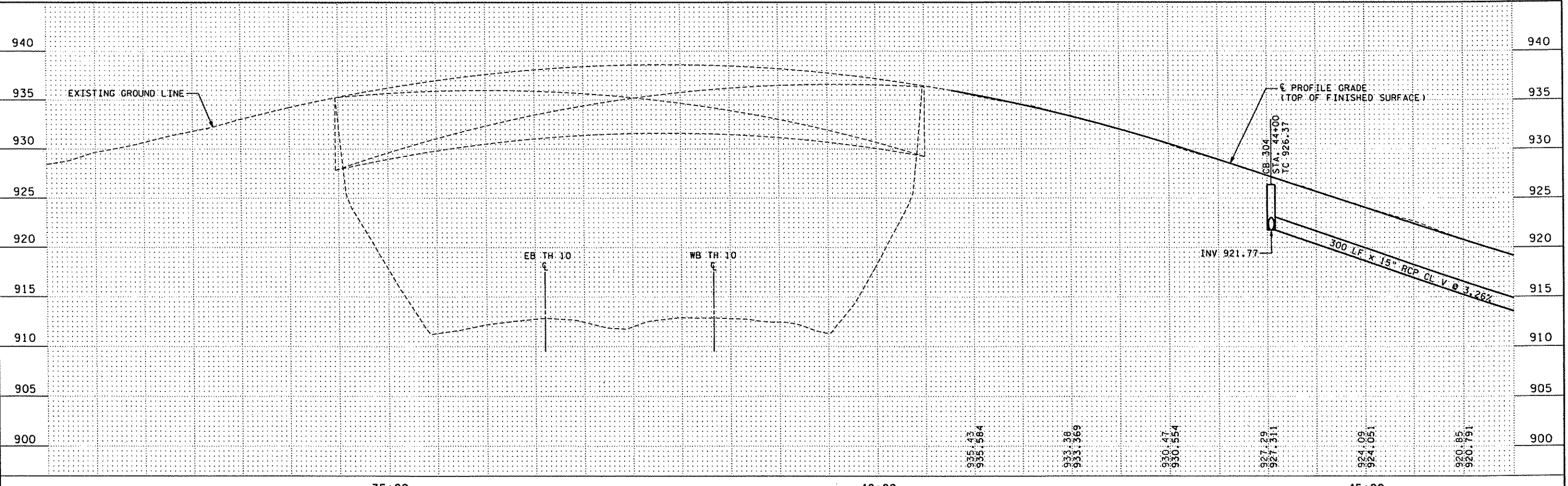
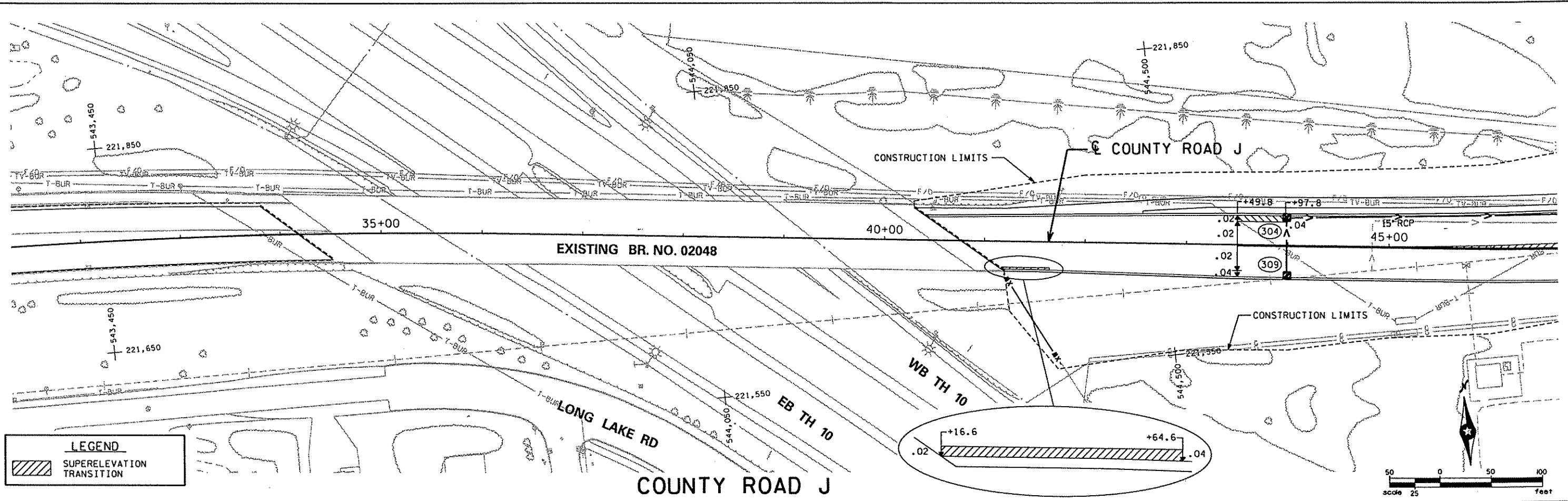
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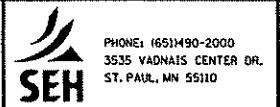
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

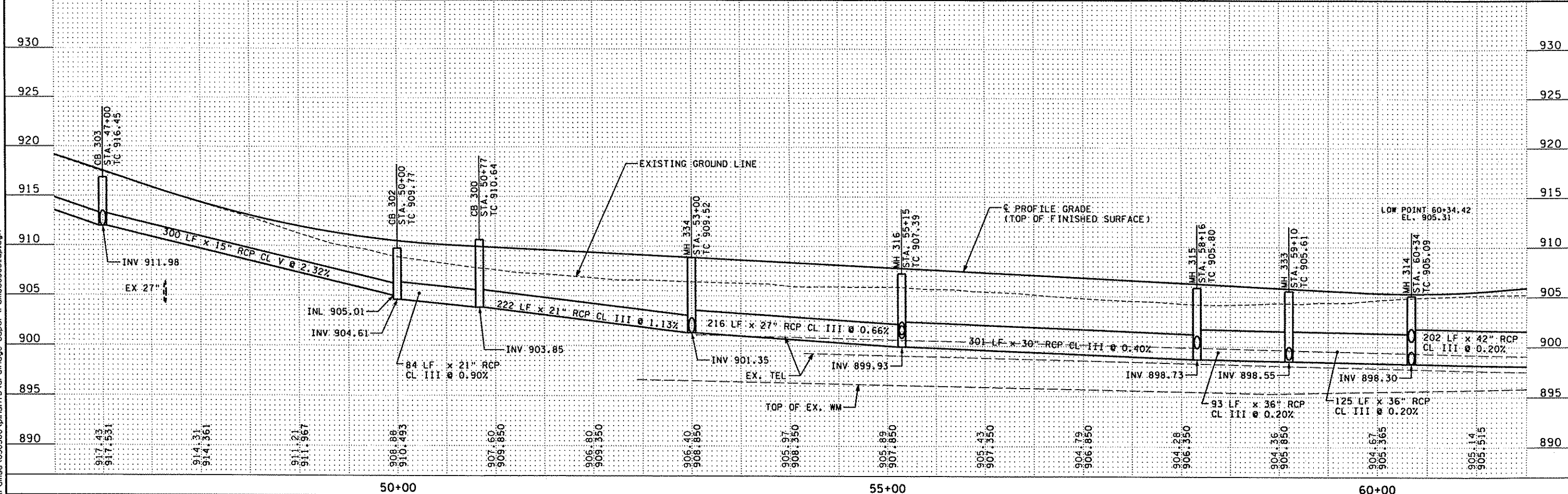
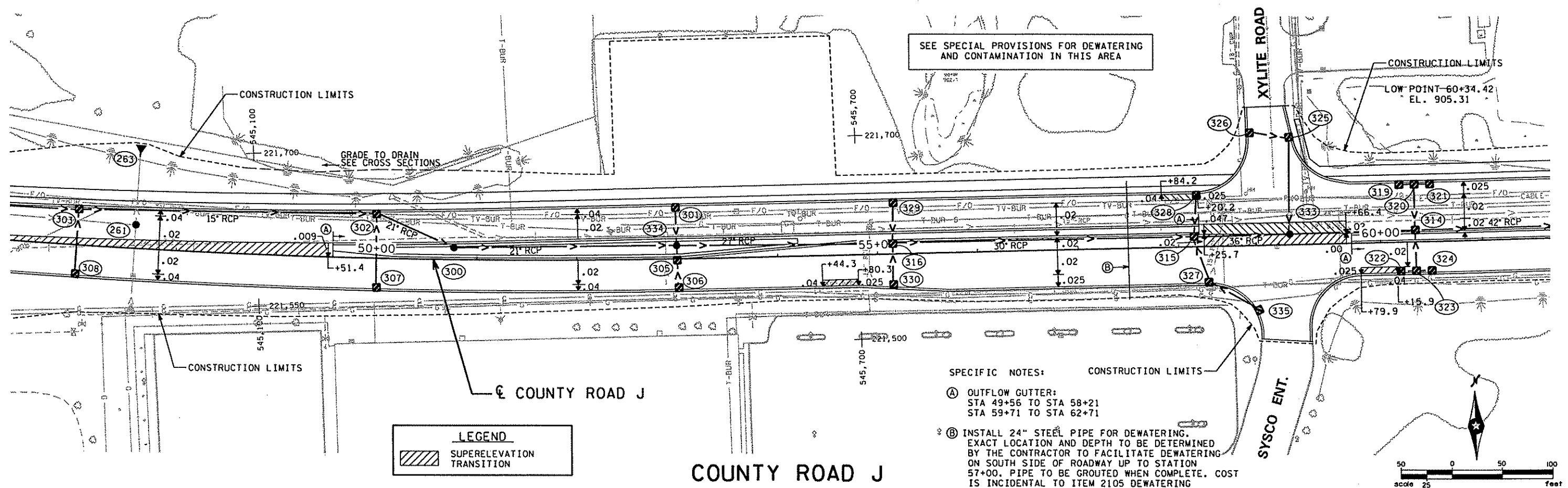
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Brad T. Wozniak* Lic. No. 41674
 Licensed Professional Engineer
 Printed Name: BRAD T. WOZNAK Date: 02/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 31+50 TO STA 46+50

FILE NO. 162
 ARAMSE0503
 DP1 OF DP21
 297



DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	DAO						
CHECKED BY:	BTW						

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.

Certified By: *Brad T. Woznak* Lic. No. 41874

Printed Name: BRAD T. WOZNAK Date: 02/20/2006



RAMSEY COUNTY

COUNTY ROAD J

S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN

STA 46+50 TO STA 61+50

FILE NO. 163

ARAMSE0503

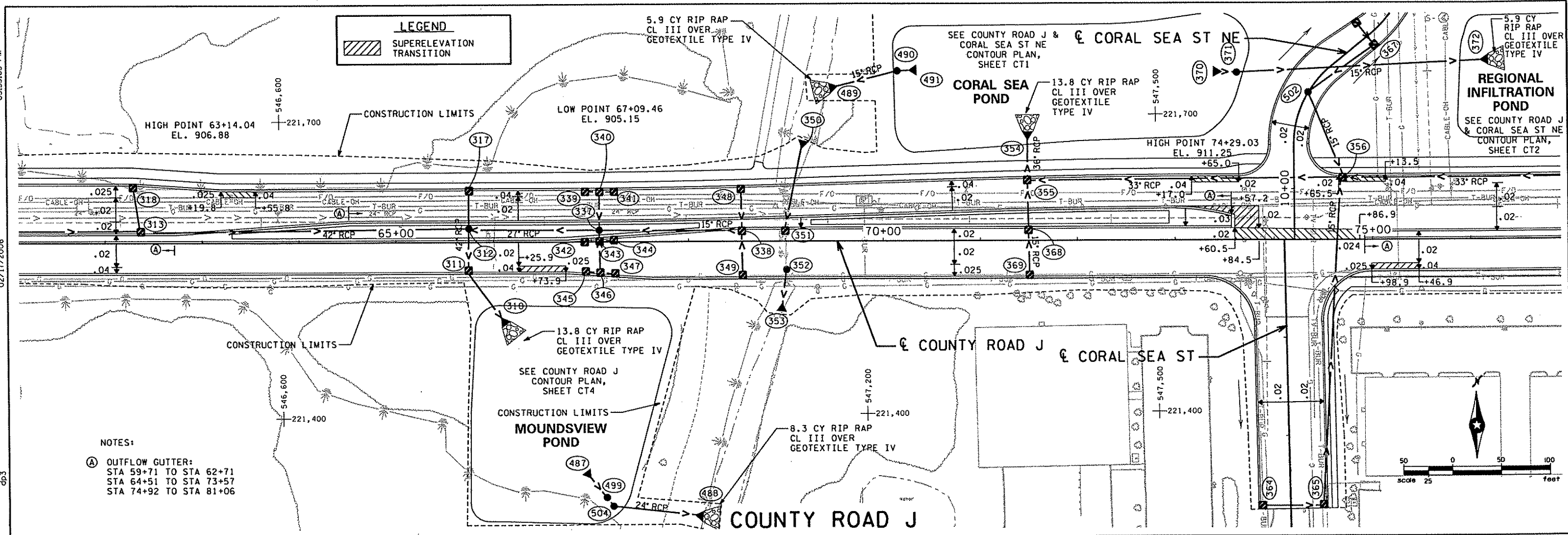
DP2 OF DP21

297

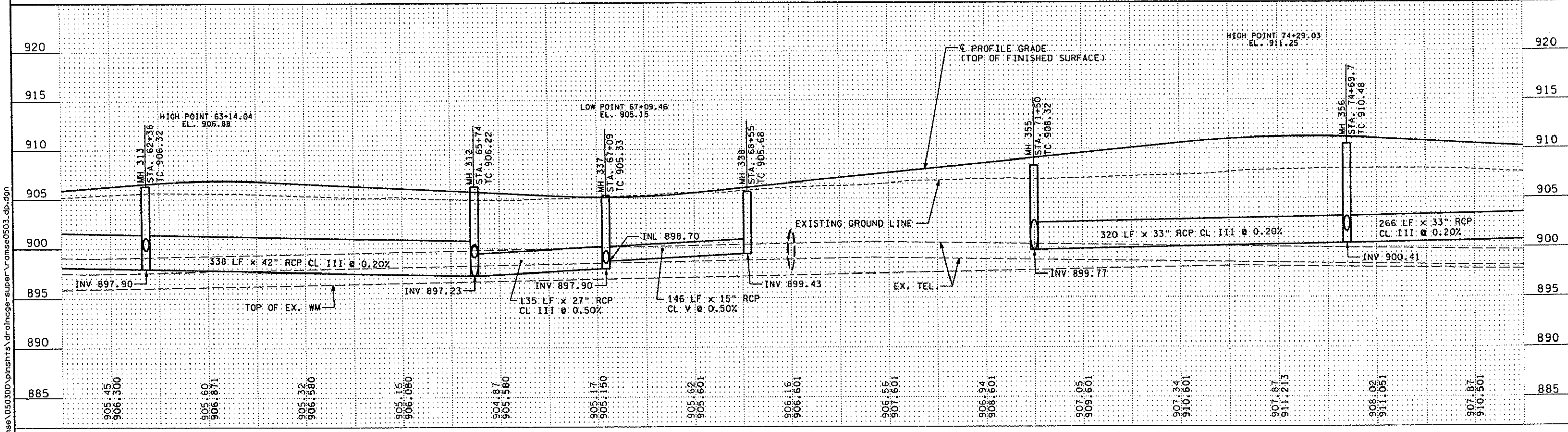
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02/17/2006

dp3



NOTES:
 (A) OUTFLOW GUTTER:
 STA 59+71 TO STA 62+71
 STA 64+51 TO STA 73+57
 STA 74+92 TO STA 81+06



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Brad T. Moznak* Lic. No. 41674
 Printed Name: BRAD T. MOZNAK Date: 02/17/2006

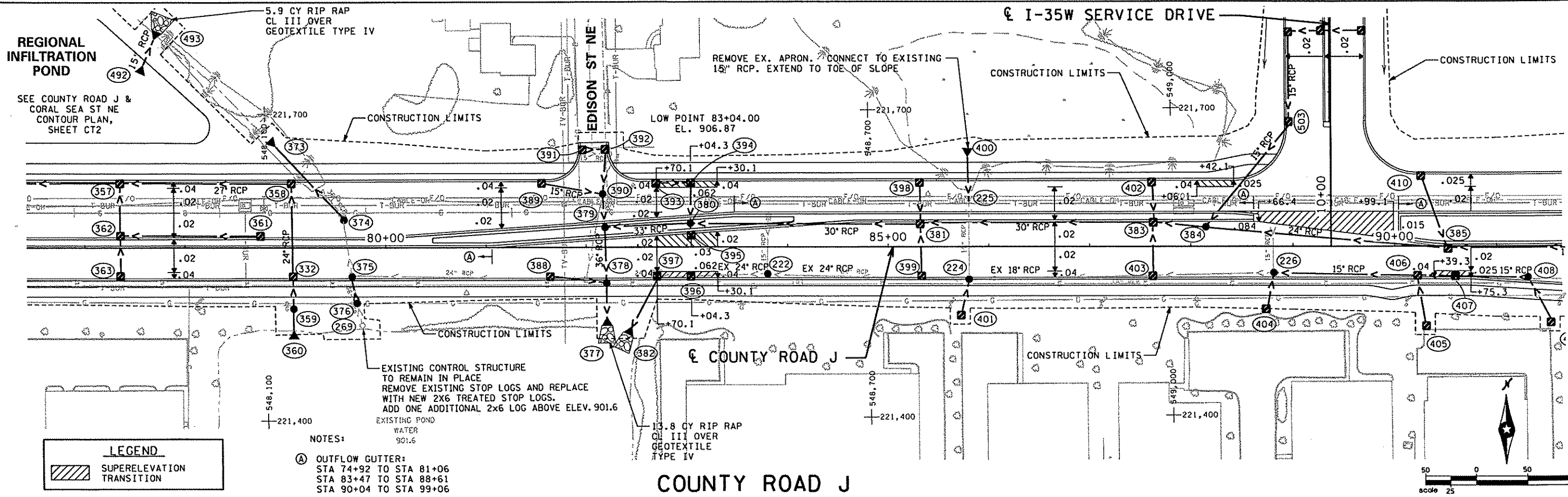


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 61+50 TO STA 76+50

FILE NO. ARAMSE0503
 DP3 OF DP2
 164
 297

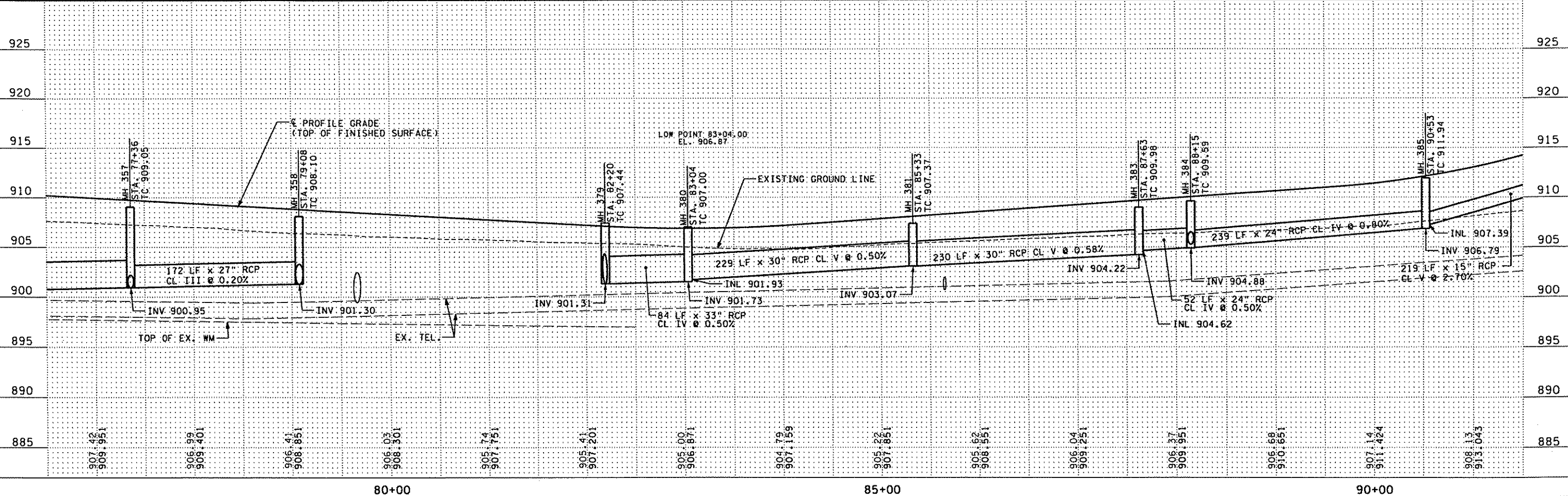
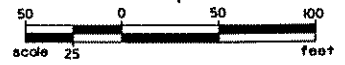
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dp-4



LEGEND
 SUPERELEVATION
 TRANSITION

NOTES:
 (A) OUTFLOW GUTTER:
 STA 74+92 TO STA 81+06
 STA 83+47 TO STA 88+61
 STA 90+04 TO STA 99+06

COUNTY ROAD J



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Brad T. Wozniak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 76+50 TO STA 91+50

FILE NO. **165**
 ARAMSE0503
 DP4
 OF DP21
297

02/21/2006

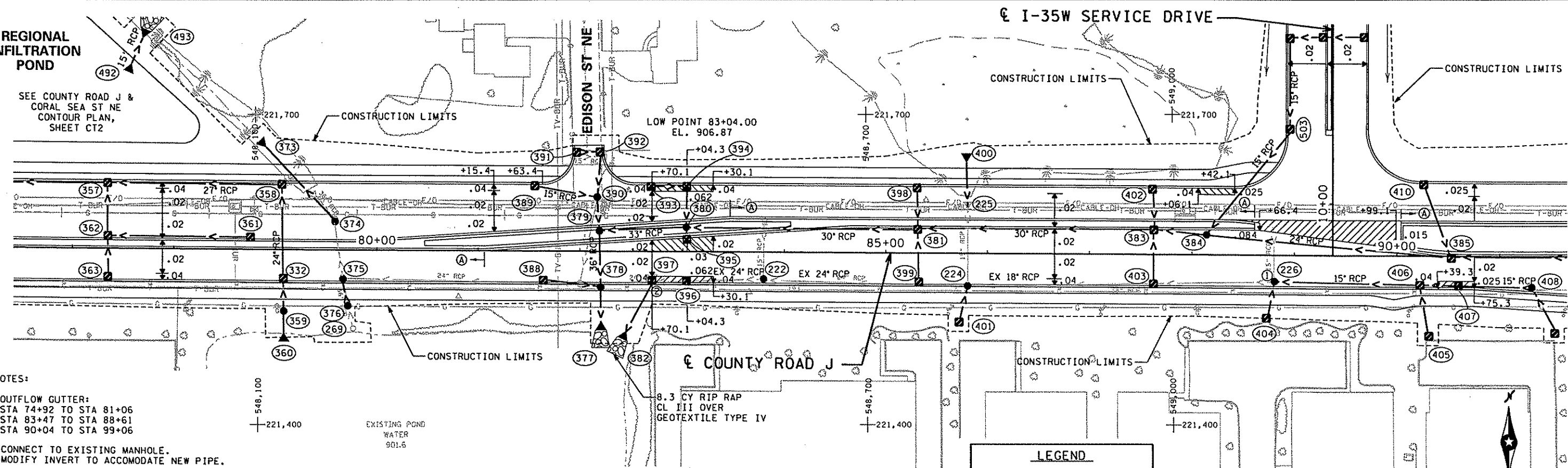
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REGIONAL INFILTRATION POND

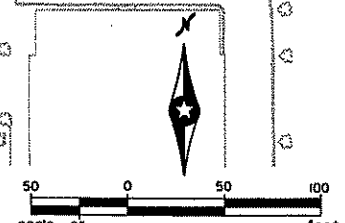
SEE COUNTY ROAD J & CORAL SEA ST NE CONTOUR PLAN, SHEET CT2



- NOTES:**
- ① **OUTFLOW GUTTER:**
STA 74+92 TO STA 81+06
STA 83+47 TO STA 88+61
STA 90+04 TO STA 99+06
 - ② **CONNECT TO EXISTING MANHOLE.**
MODIFY INVERT TO ACCOMMODATE NEW PIPE.
 - ③ **CONSTRUCT NEW DRAINAGE STRUCTURE OVER EXISTING 24" RCP.** VERIFY PIPE SIZE AND LOCATION.

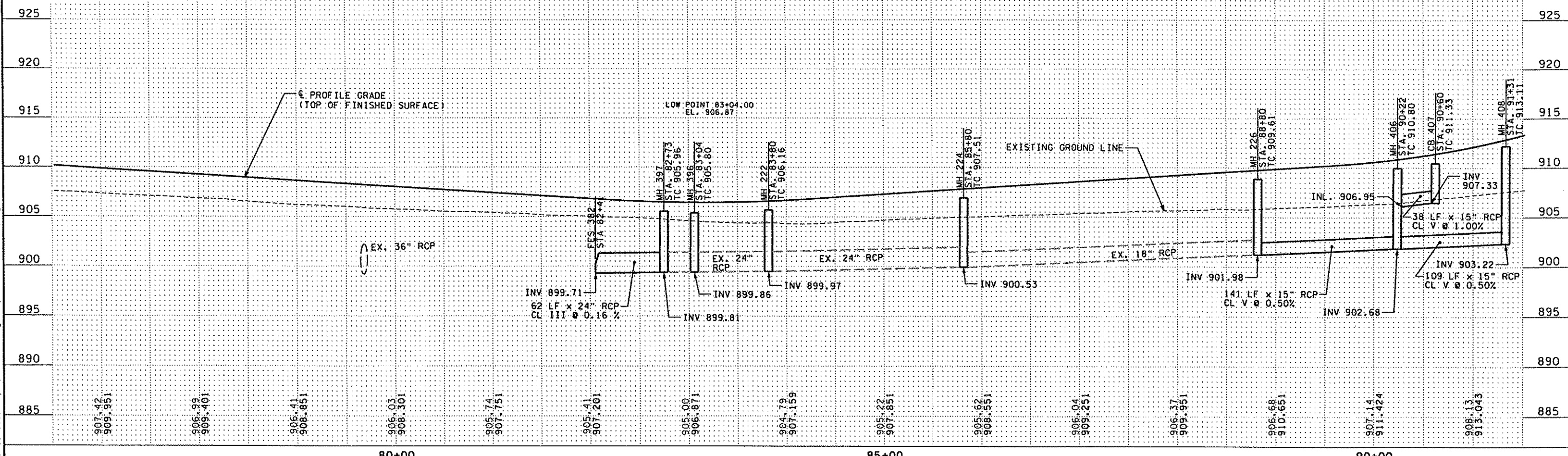
LEGEND

SUPERELEVATION TRANSITION



COUNTY ROAD J

COUNTY ROAD J - SOUTH SIDE OF ROAD



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674
 Licensed Professional Engineer
 Printed Name: BRAD T. WOZNAK Date: 02/21/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 76+50 TO STA 91+50

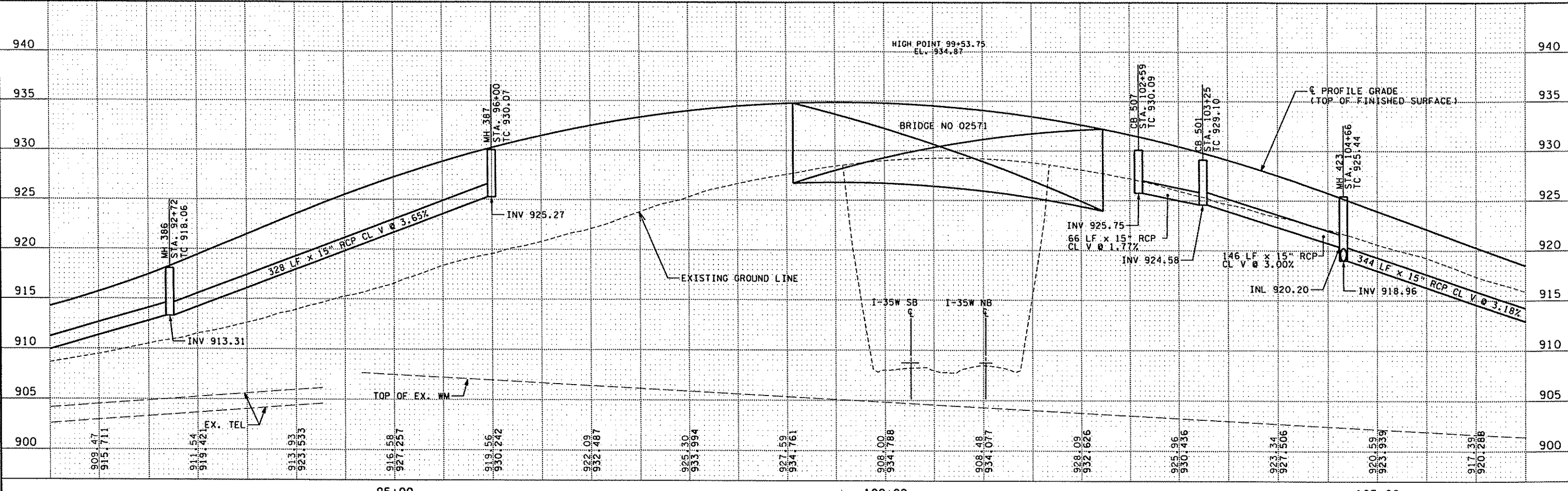
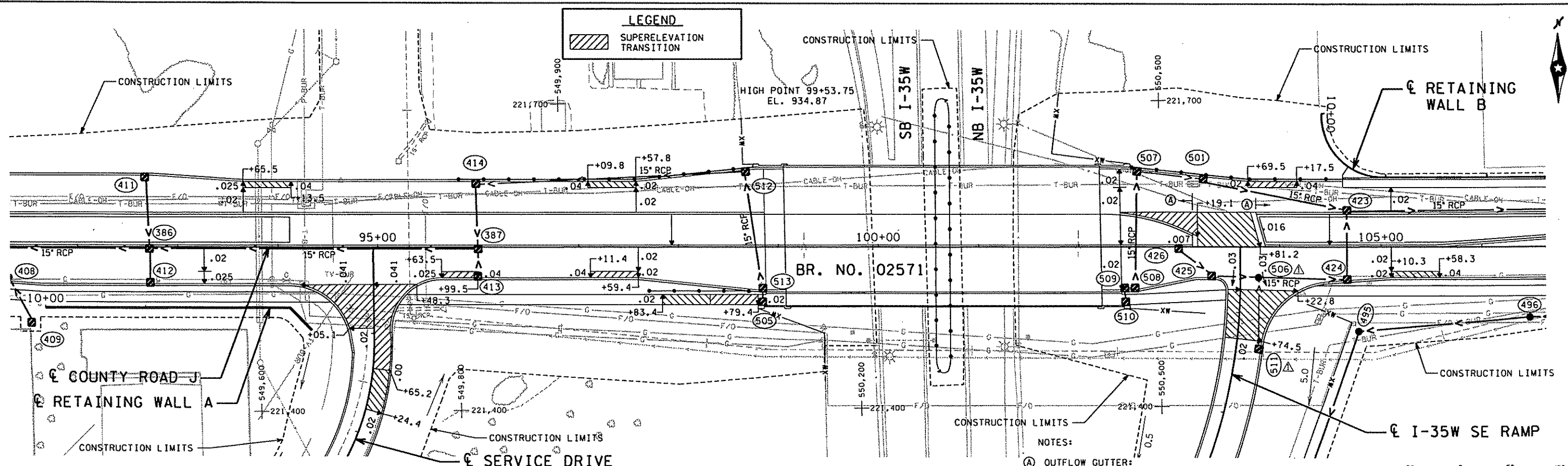
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DP5
 OF DP21
297

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03/20/2006

dp6

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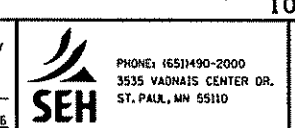


DESIGN TEAM	GRB	03/06	ADDENDUM NO. 1
DRAWN BY: MTT			
DESIGNER: DAO			
CHECKED BY: BTW			
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674

Printed Name: BRAD T. WOZNAK Date: 03/20/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 91+50 TO STA 106+50

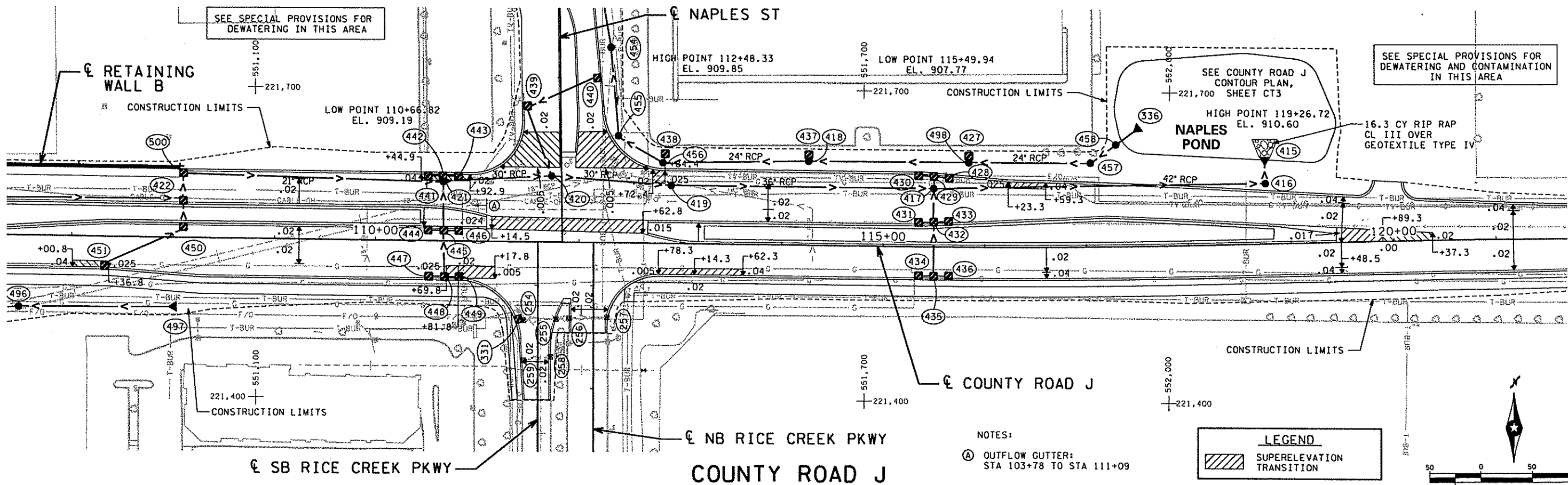
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 DP6 OF DP21
 297

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02/17/2006

dp7

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SEE SPECIAL PROVISIONS FOR DEWATERING IN THIS AREA

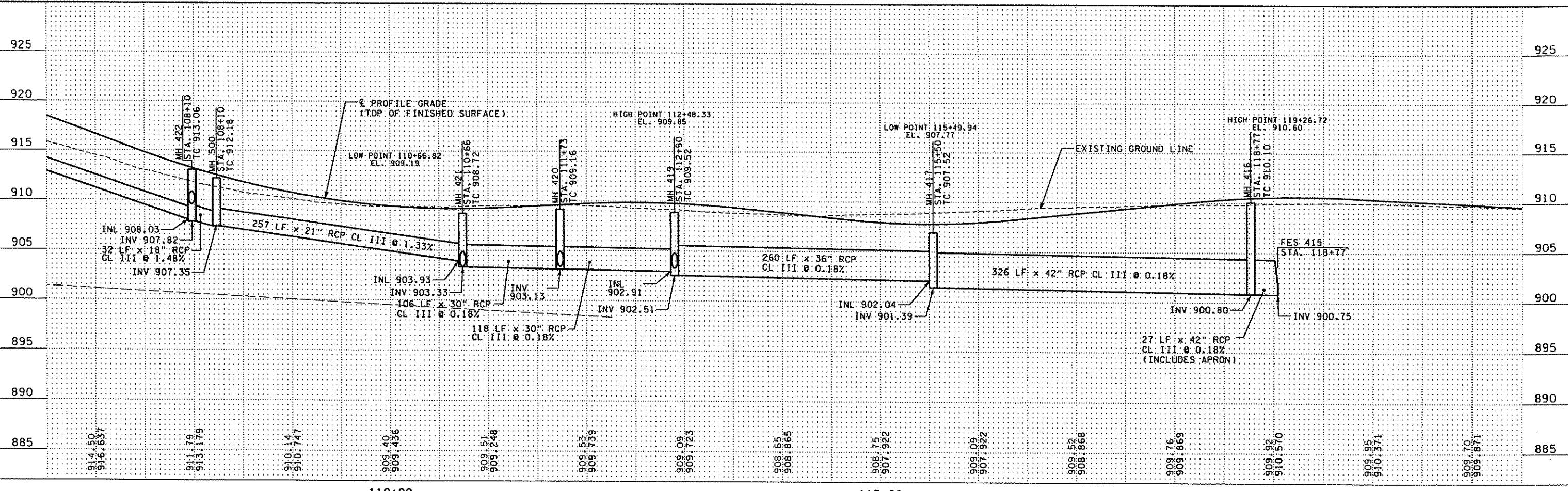
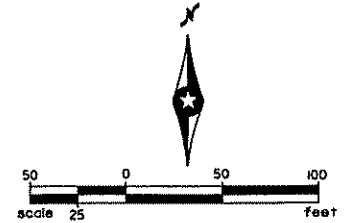
SEE SPECIAL PROVISIONS FOR DEWATERING AND CONTAMINATION IN THIS AREA

SEE COUNTY ROAD J CONTOUR PLAN, SHEET CT3

NOTES:
A OUTFLOW GUTTER: STA 103+78 TO STA 111+09

LEGEND

SUPERELEVATION TRANSITION



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 02/17/2006

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

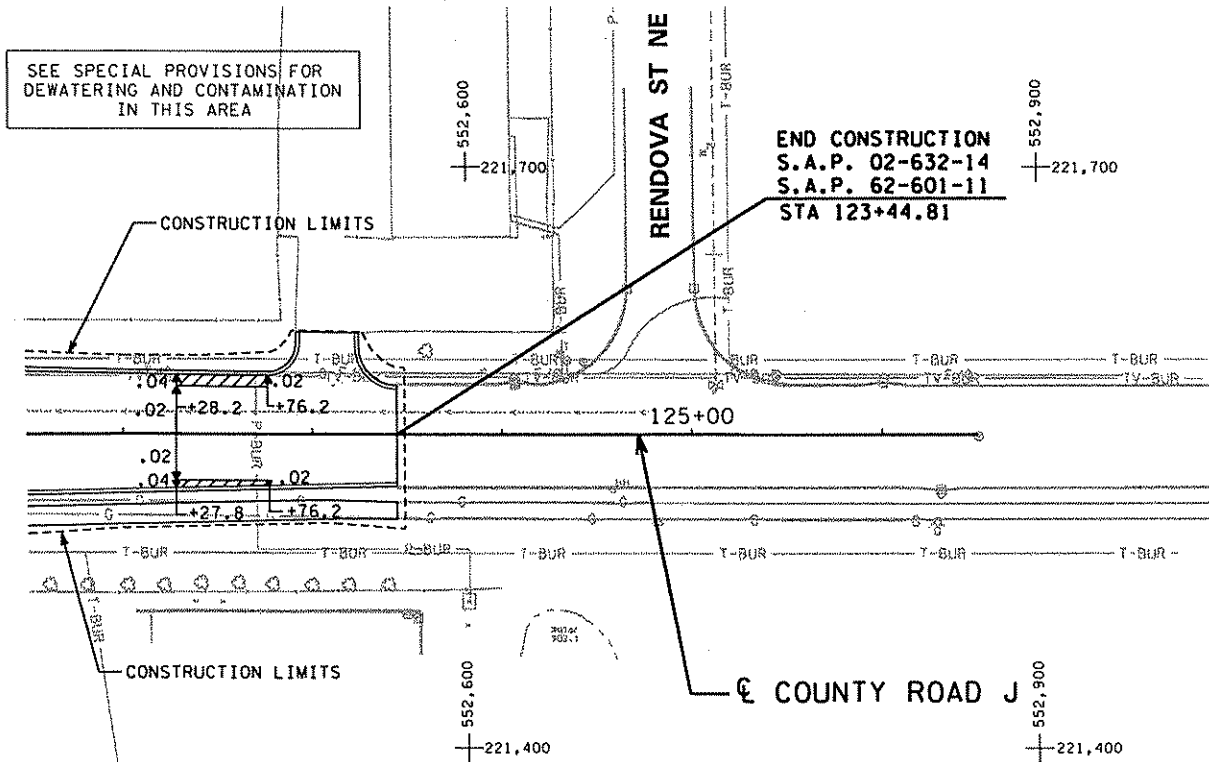
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 STA 106+50 TO STA 121+50

FILE NO. **168**
 ARAMSE0503
 DP7
 OF DP21 **297**

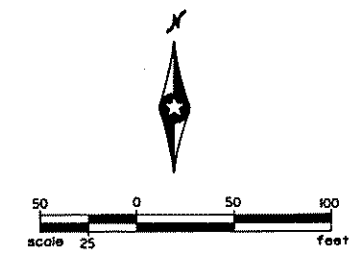
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02/17/2006
dp8
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SEE SPECIAL PROVISIONS FOR DEWATERING AND CONTAMINATION IN THIS AREA

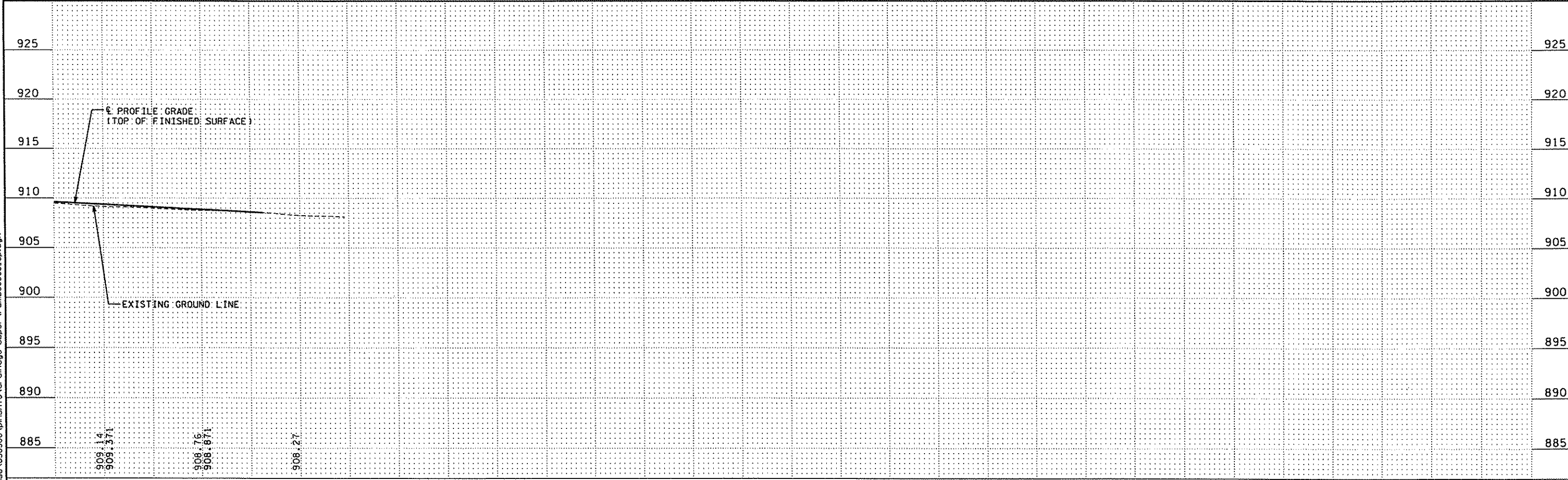


LEGEND

SUPERELEVATION TRANSITION



COUNTY ROAD J



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *[Signature]* Lic. No. 41674

Printed Name: BRAD I. KOZNAK Date: 02/17/2006

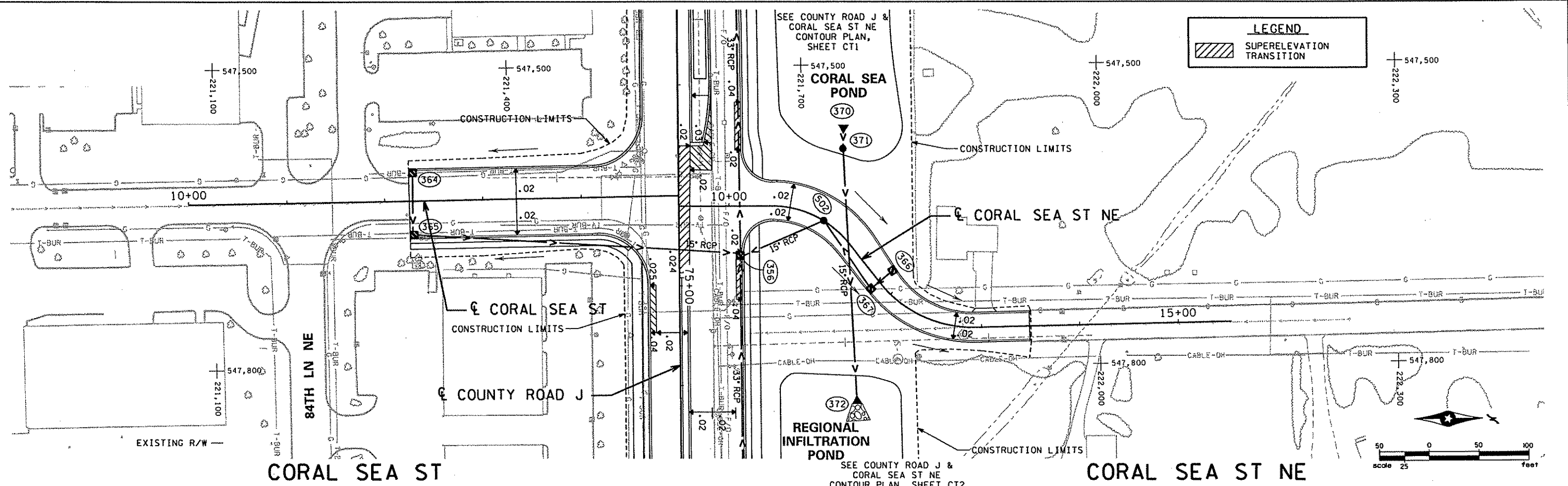
PHONE: 651-490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

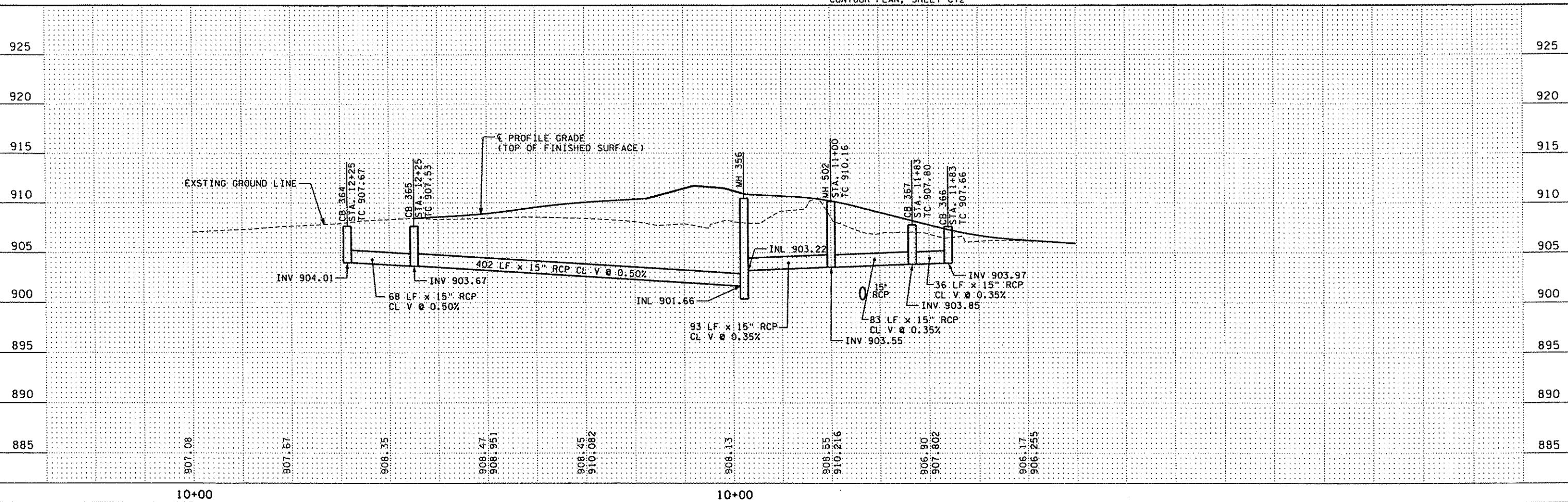
DRAINAGE & SUPERELEVATION PLAN
STA 121+50 TO STA 126+50

FILE NO. ARAMSE0503 **169**
DP8 OF DP21 **297**

03:35:18 PM
02/17/2006
dp9



LEGEND
 SUPERELEVATION TRANSITION



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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 Wisconsin.
 Certified By: *Brad J. Moznak* Lic. No. 41674
 Printed Name: BRAD J. MOZNAK Date: 02/17/2006

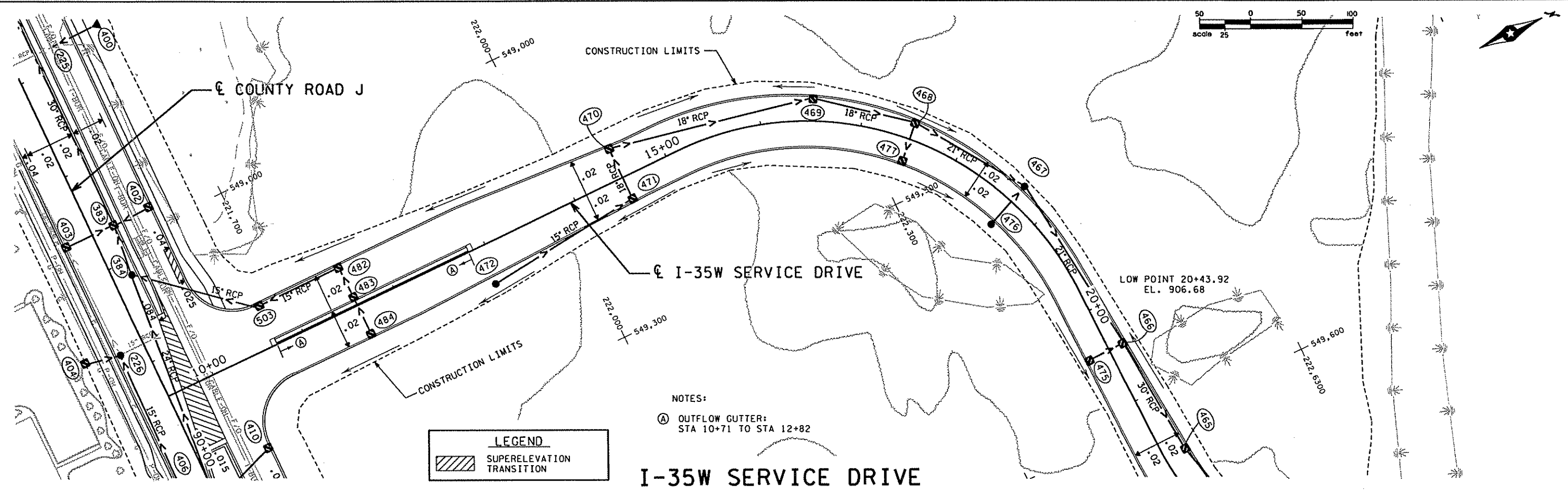
SEH
 PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

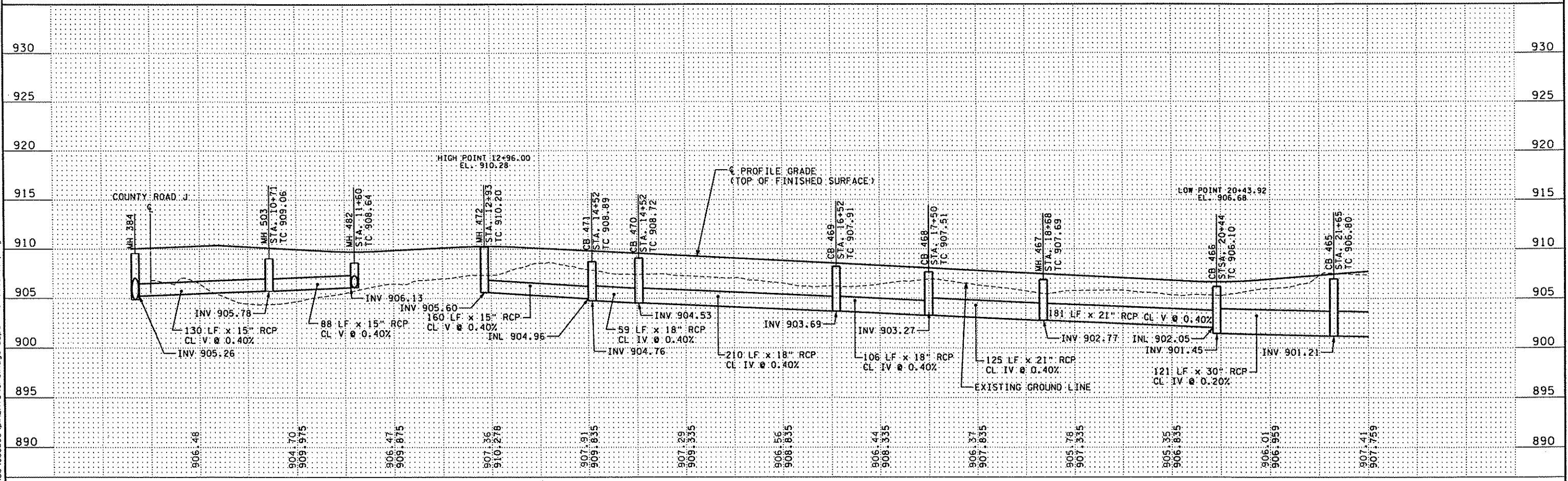
DRAINAGE & SUPERELEVATION PLAN
 CORAL SEA ST & CORAL SEA ST NE

FILE NO. ARAMSE0503
 DP9 OF DP21
 170
 297

03:35:21 PM
02/17/2006
dp10



xi:\p1\ramse\050300\plans\drainage-super\ramse0503_dp.dgn



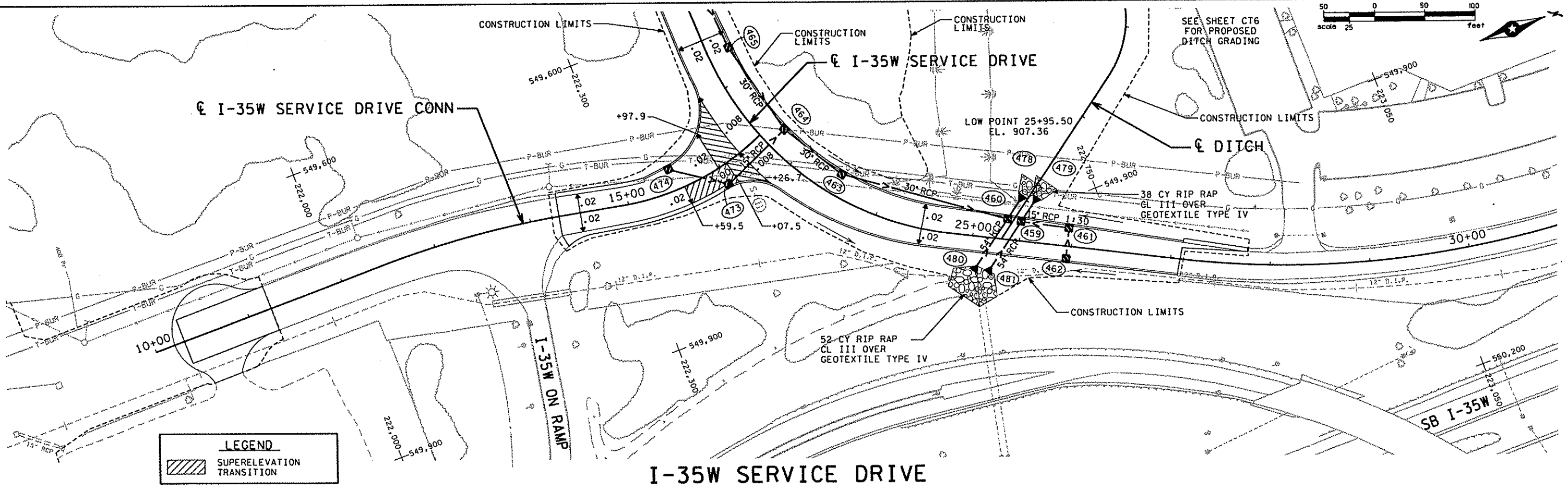
DESIGN TEAM				I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>Brad T. Moznak</i> Lic. No. 41674 Printed Name: BRAD T. MOZNAK Date: 02/17/2006	PHONE: (651)490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11	DRAINAGE & SUPERELEVATION PLAN I-35W SERVICE DRIVE	FILE NO. 171	
DRAWN BY: MTT DESIGNER: DAO CHECKED BY: BTW	NO.	BY	DATE					ARAMSE0503 DP10 OF DP21	297
REVISIONS									

12:25:28 PM

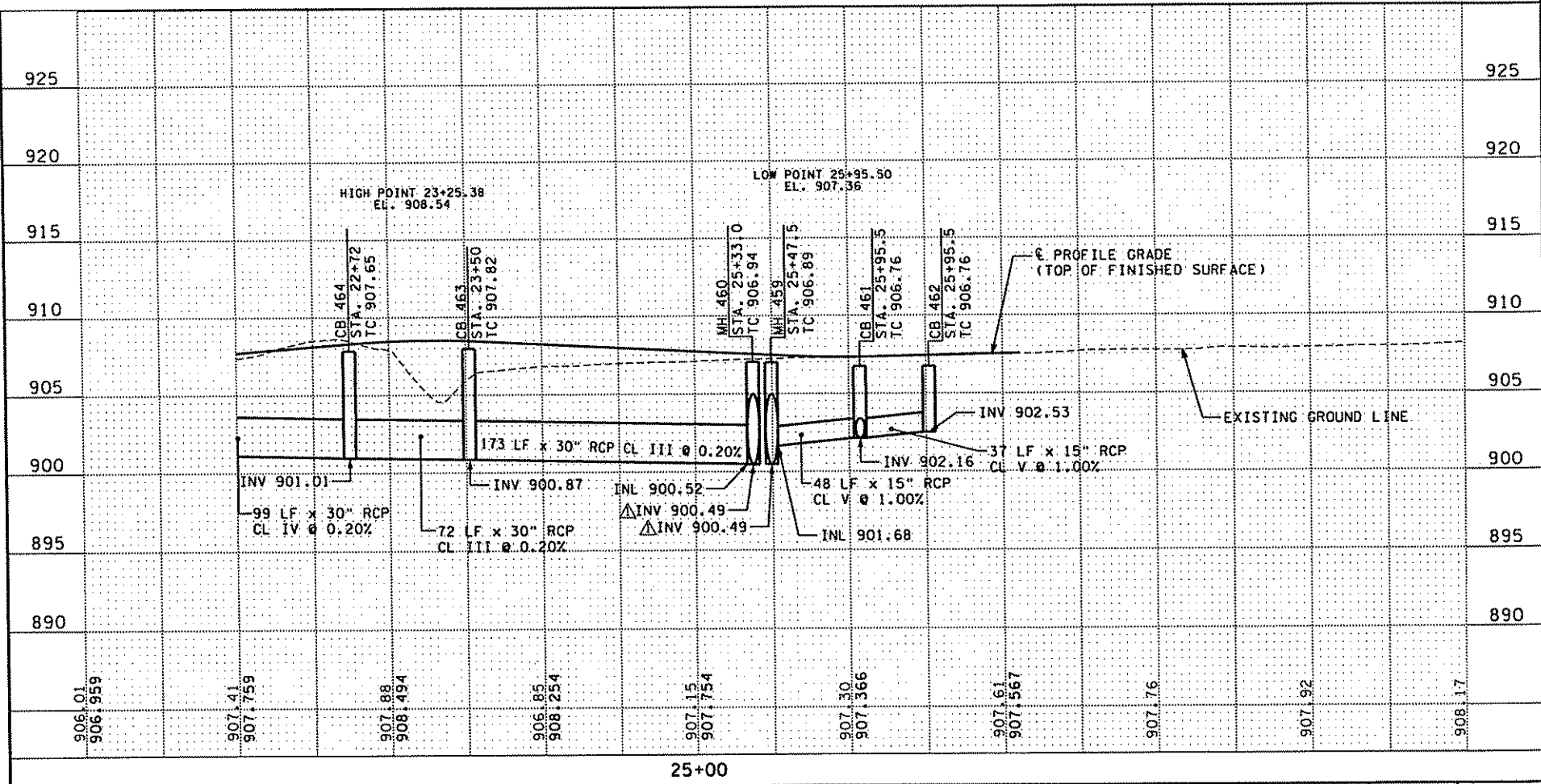
03/22/2006

dp11

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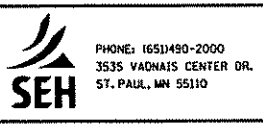
I-35W SERVICE DRIVE



DESIGN TEAM	GRB	03/06	ADDENDUM NO. 1
DRAWN BY: MTT			
DESIGNER: DAO			
CHECKED BY: BTW			
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Noznak* Lic. No. 41674
 Printed Name: BRAD T. NOZNAK Date: 03/22/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
 I-35W SERVICE DRIVE & I-35W SERVICE DRIVE CONN

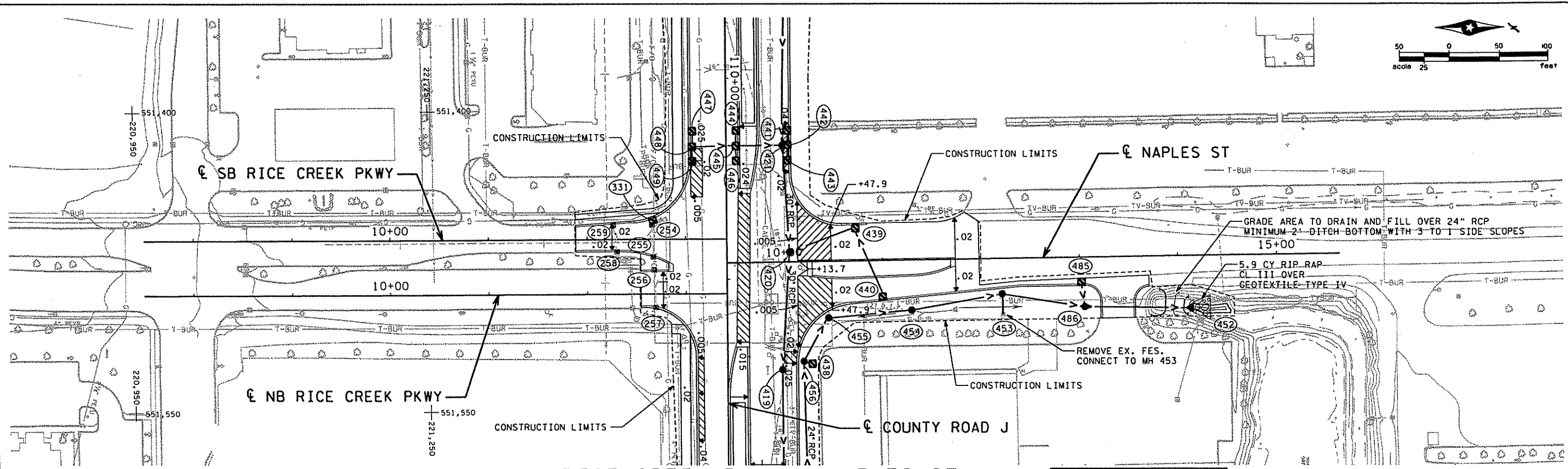
FILE NO. **172**
 ARAMSE0503
DP11
 OF DP21
297

05:41:36 PM

03/20/2006

dp12

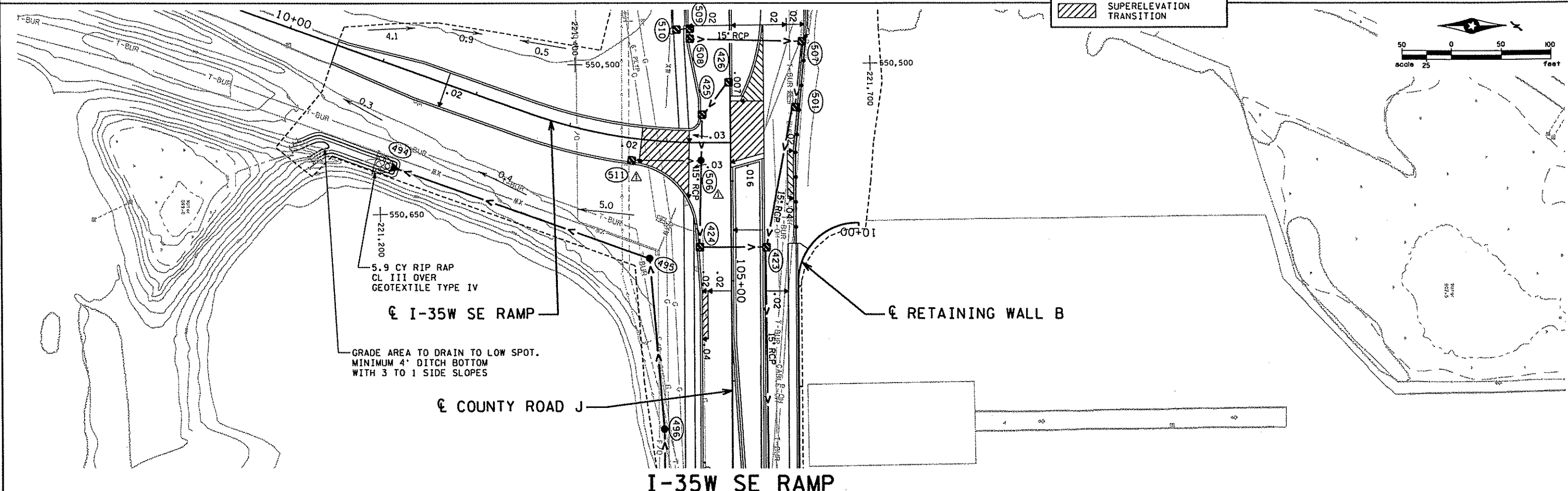
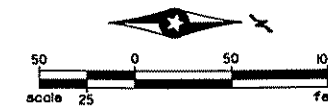
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RICE CREEK PKWY / NAPLES ST

LEGEND

SUPERELEVATION TRANSITION



I-35W SE RAMP

DESIGN TEAM	▲	GRB	03/06	ADDENDUM NO. 1
DRAWN BY:	MTI			
DESIGNER:	DAO			
CHECKED BY:	BTW			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674

Printed Name: BRAD T. WOZNIAK Date: 03/20/2006

SEH

PHONE: 651-990-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

DRAINAGE & SUPERELEVATION PLAN
RICE CREEK PARKWAY / NAPLES ST

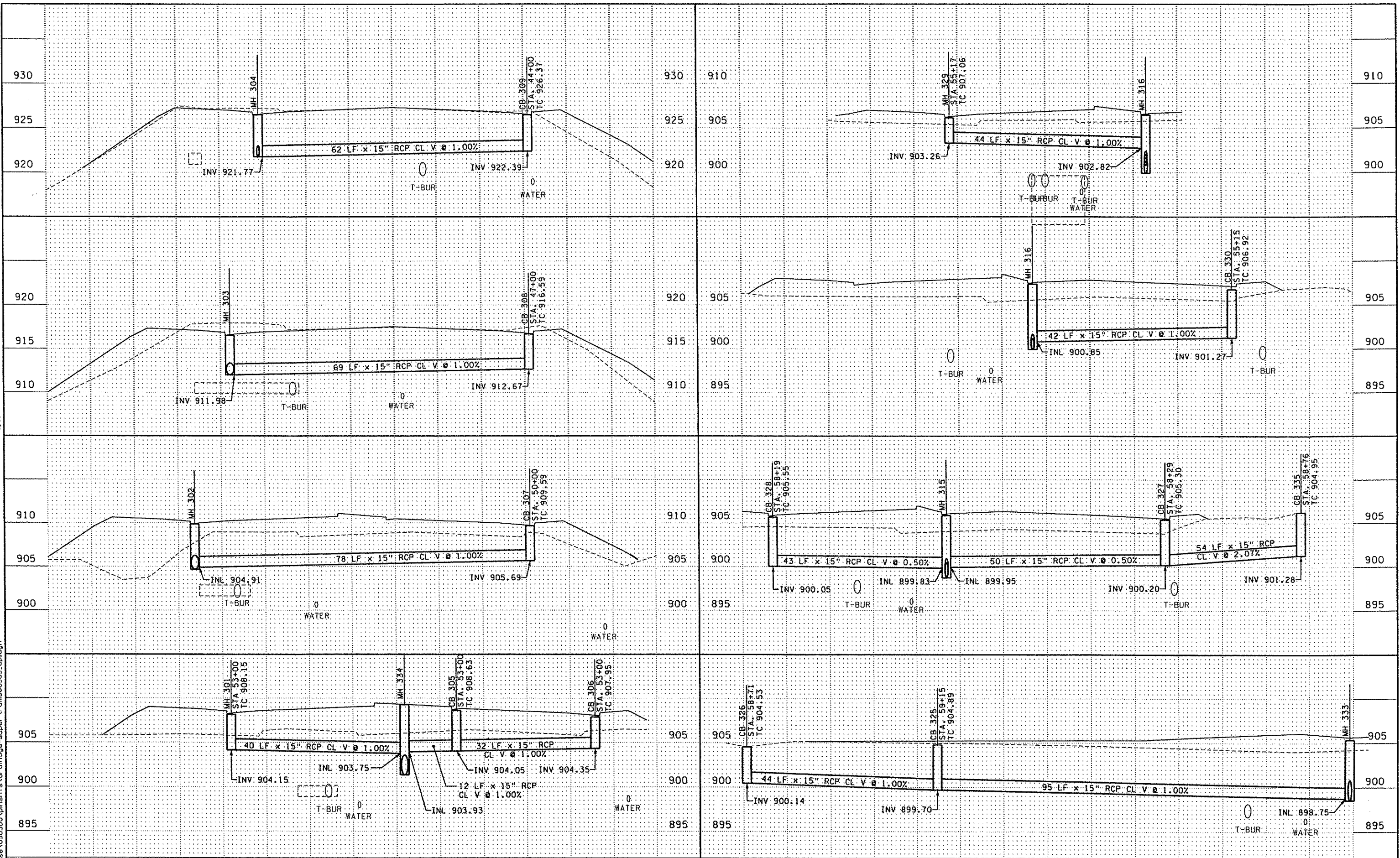
FILE NO. **173**
ARAMSE0503
DP12
OF DP21
297

03:35:29 PM

02/17/2006

dp13

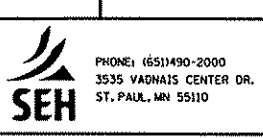
x:\p1\ramse\050300\plans\drainage-super\ramse0503_dp.dgn



DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	DAO						
CHECKED BY:	BTW						

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Certified By: *Brad T. Roznak* Lic. No. 41674
 Printed Name: BRAD T. ROZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 44+00 TO 59+00

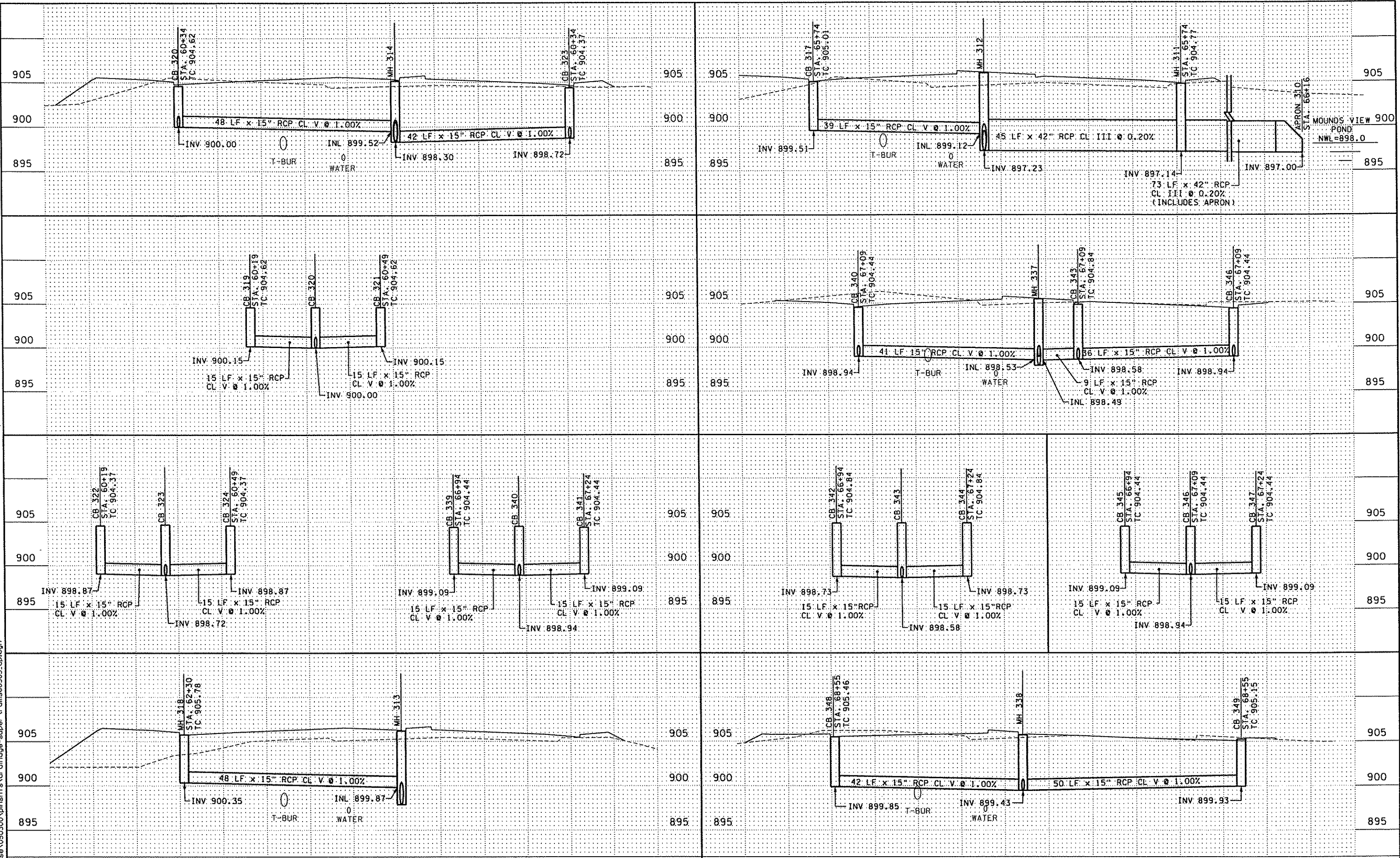
FILE NO. 174
 ARAMSE0503
 DP13 OF DP21
 297

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02/17/2006

dp14

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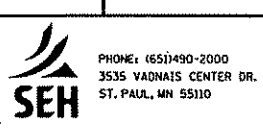


DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad I. Woźniak* Lic. No. 41674

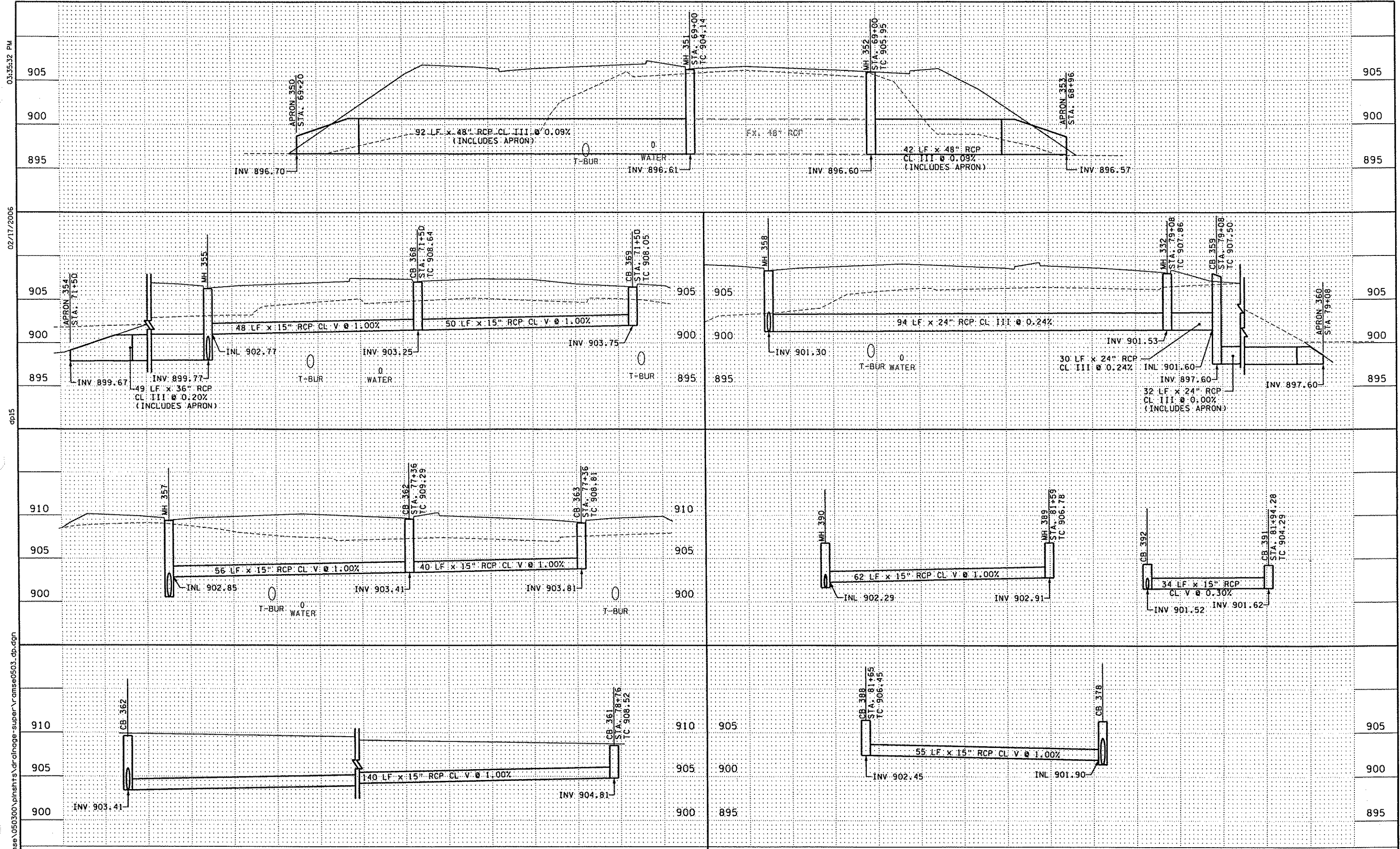
Printed Name: BRAD I. WOŹNIAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 60+00 TO 67+00

FILE NO. **175**
 ARAMSE0503
DP14
 OF DP21 **297**

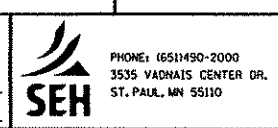


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 02/17/2006
 dp15
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Moznak* Lic. No. 41674
 Licensed Professional Engineer
 Printed Name: BRAD T. MOZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 69+00 TO 82+00

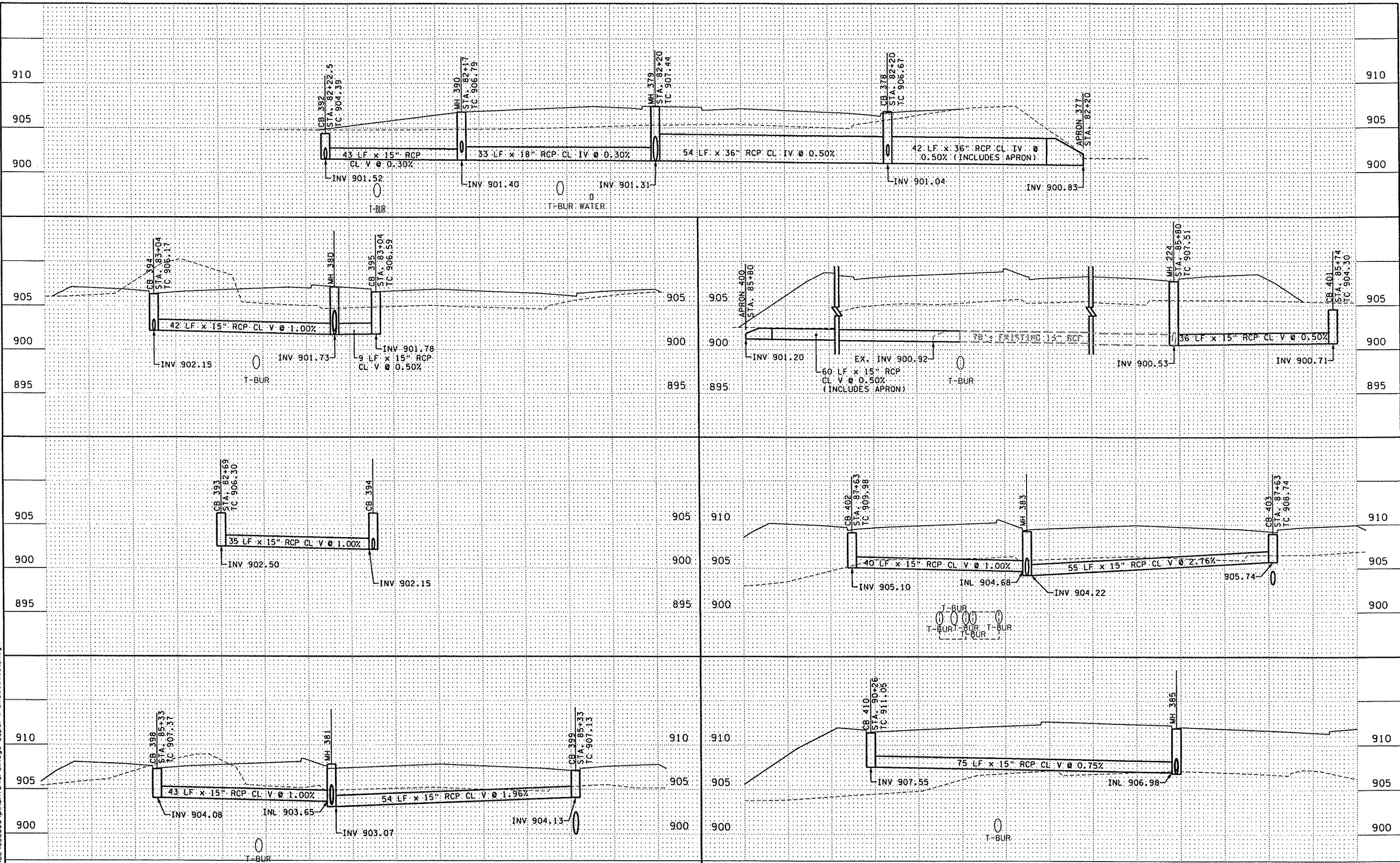
FILE NO. 176
 ARAMSE0503
 DP15
 OF DP21
 297

03:55:34 PM

02/17/2006

dp16

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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Brad J. Noznak* Lic. No. 41674
 Printed Name: BRAD J. NOZNAK Date: 02/17/2006

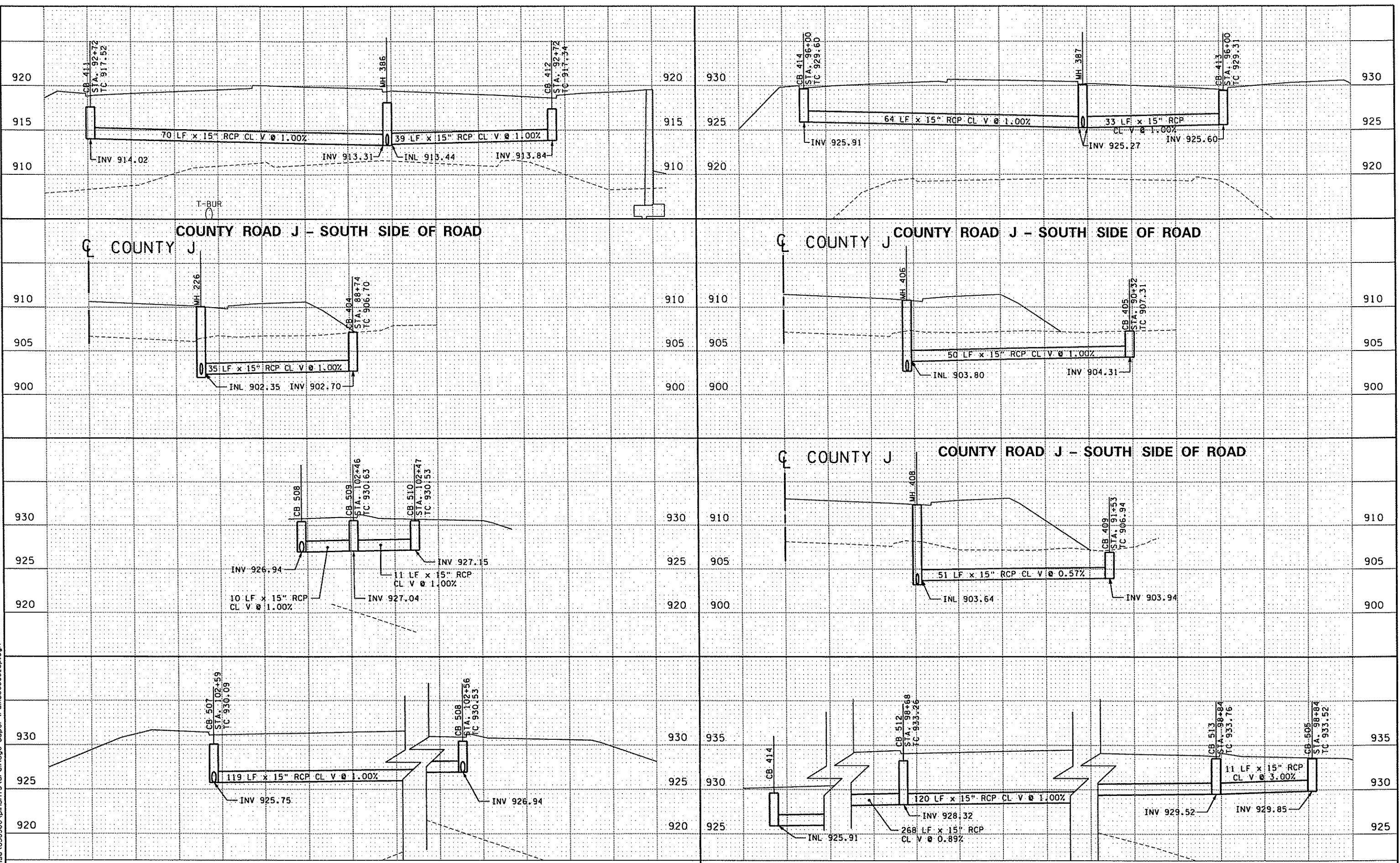


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 82+00 TO 91+00

FILE NO. 177
 ARAMSE0503
 DP16
 OF DP21
 297

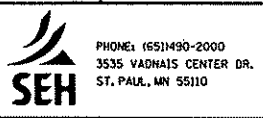
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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Certified By: *Brad T. Woznak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 3/8/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 93+00 TO 96+00,
 STA 82+00 TO 92+00 - SOUTH SIDE OF ROAD

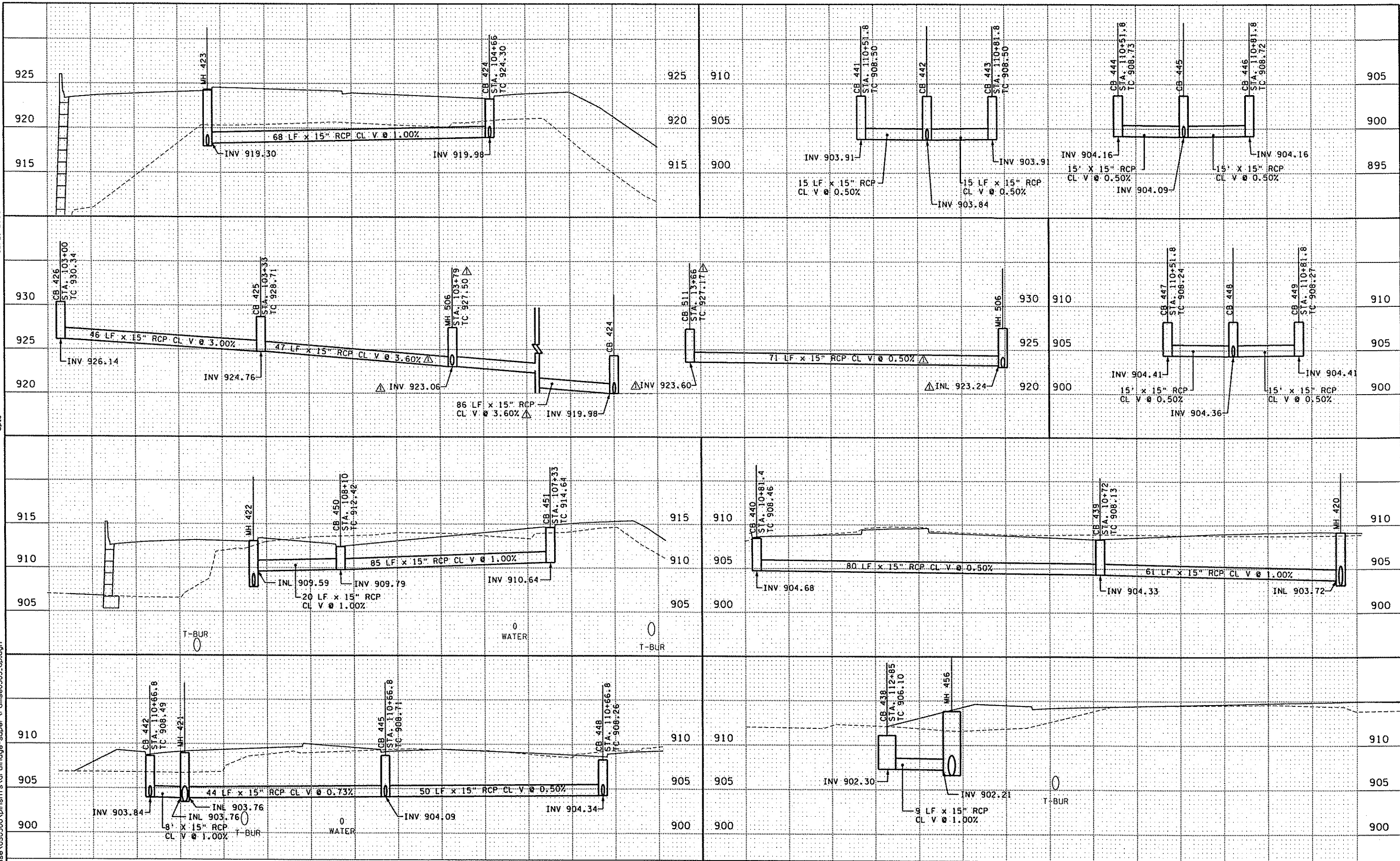
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 DP17
 OF DP21
297

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03/21/2006

dp18

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DESIGN TEAM	GRB	03/06	ADDENDUM NO. 1
DRAWN BY: MTT			
DESIGNER: DAO			
CHECKED BY: BTW			
NO.	BY	DATE	REVISIONS

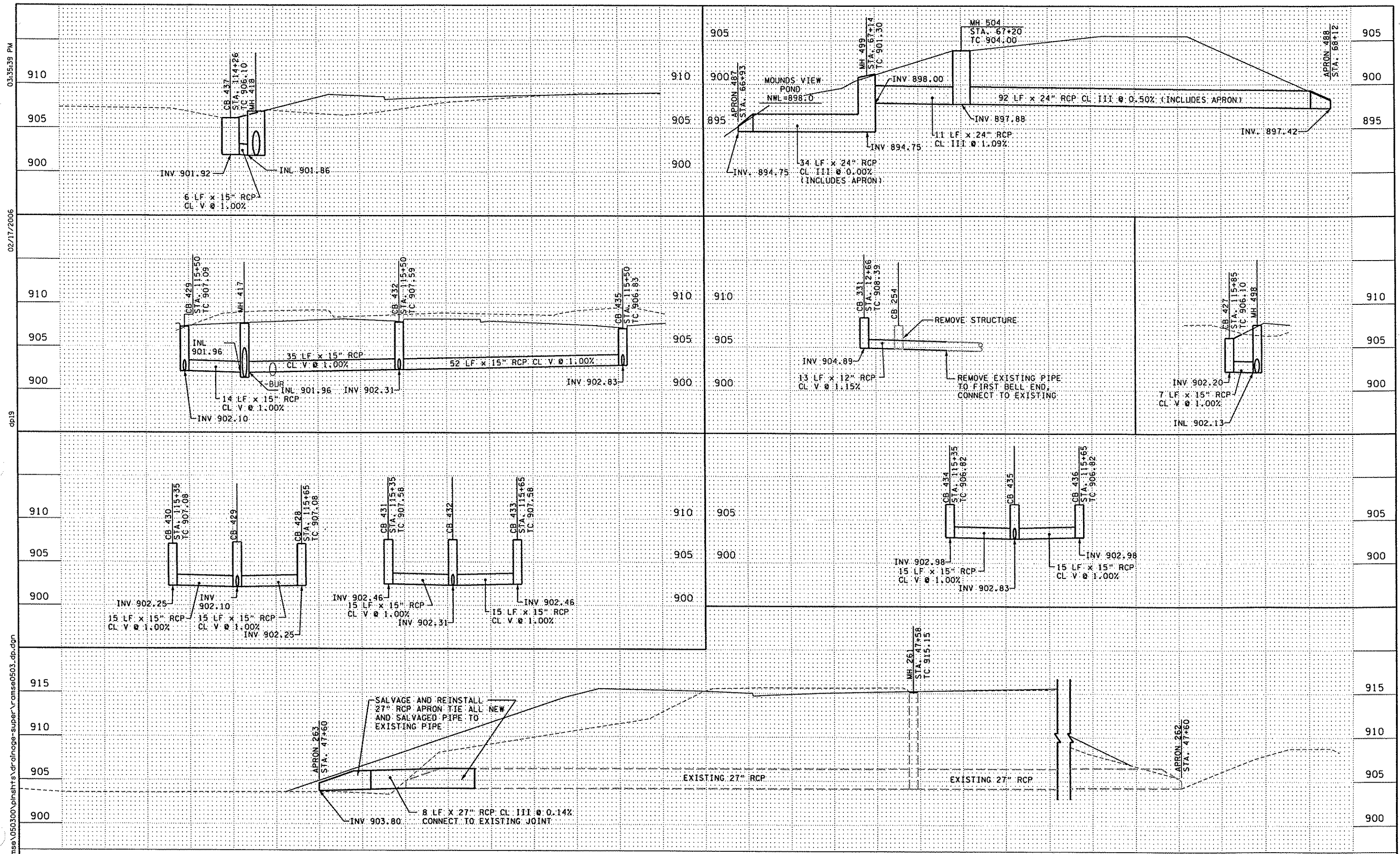
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.
 Certified By: *Brad T. Moznak* Lic. No. 41674
 Printed Name: BRAD T. MOZNAK Date: 03/21/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J STA 105+00 TO 113+00

FILE NO. 179
 ARAMSE0503
DP18
 OF DP21
297



DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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Certified By: *Brad T. Wozniak* Lic. No. 41674
 Licensed Professional Engineer
 Printed Name: BRAD T. WOZNIAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO. 180
 ARAMSE0503
DP19
 OF DP2
297

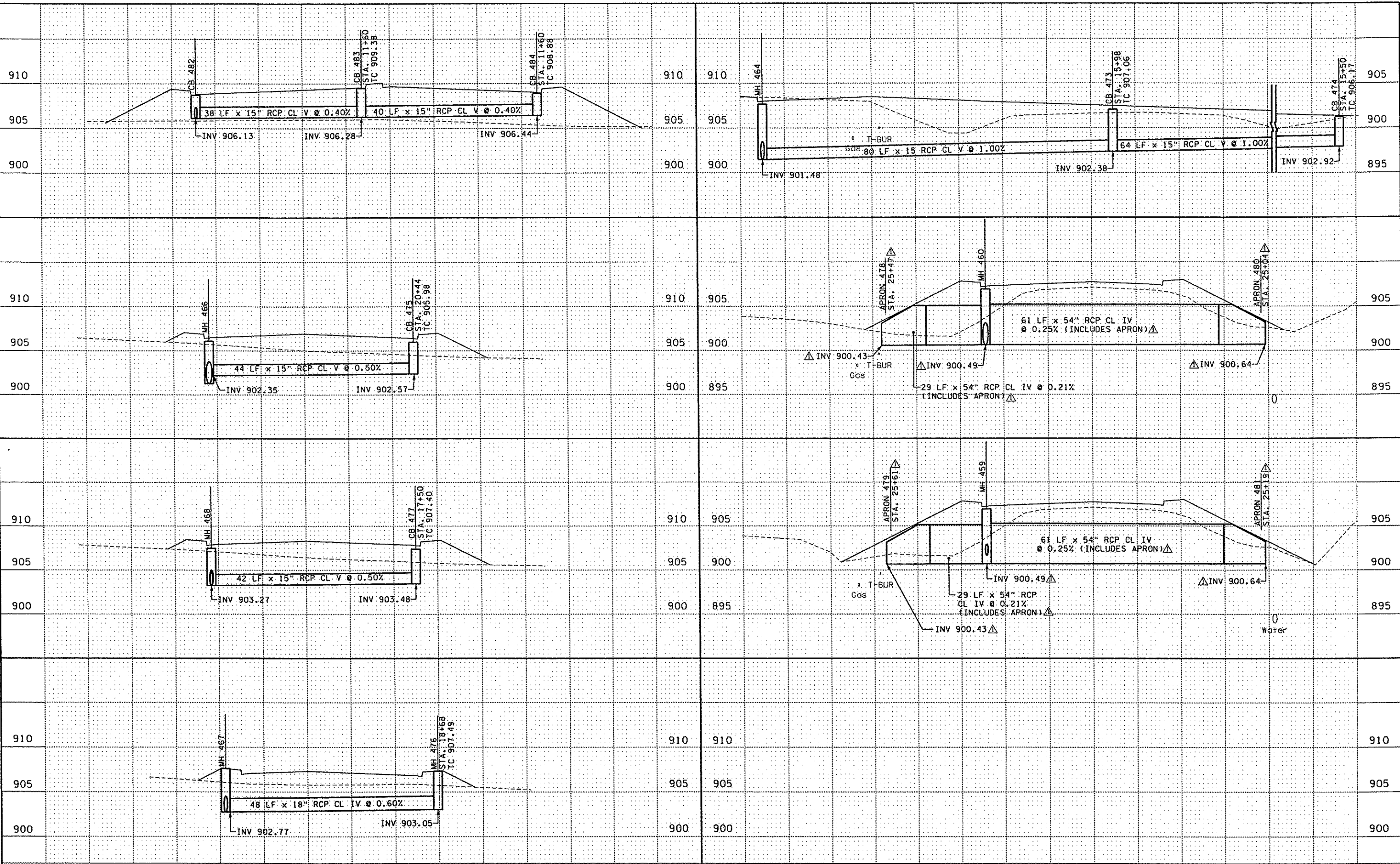
DRAINAGE PROFILES
 COUNTY ROAD J STA 114+00 TO 119+00
 AND MISC PROFILES

02:51:13 PM

03/21/2006

dp20

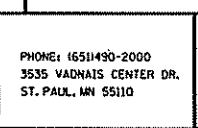
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DESIGN TEAM	CRB	03/06	ADDENDUM NO. 1
DRAWN BY: MTT			
DESIGNER: DAO			
CHECKED BY: BTW			
NO.	BY	DATE	REVISIONS

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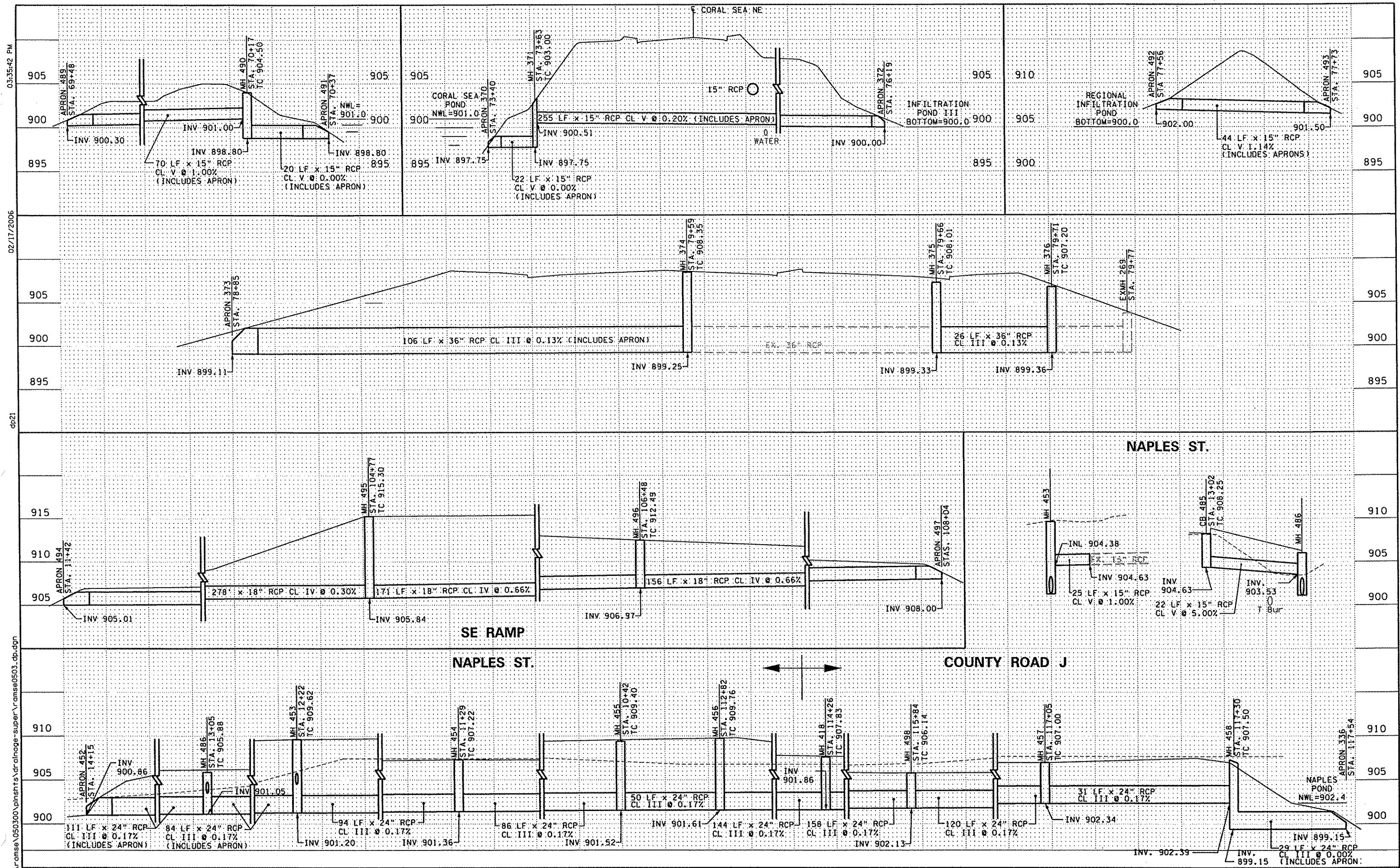
Certified By: *Brad I. Wozniak* Lic. No. 41674
 Printed Name: BRAD I. WOZNAK Date: 03/21/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 1-35W SERVICE DRIVE STA 11+00 TO 27+00

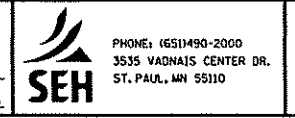
FILE NO. 181
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 DP20 OF DP21
 297



03:35:42 PM
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DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	DAO		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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 Certified By: *Brad T. Wozniak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

DRAINAGE PROFILES
 COUNTY ROAD J MISCELLANEOUS PROFILES
 CORAL SEA ST NE, & NAPLES ST.

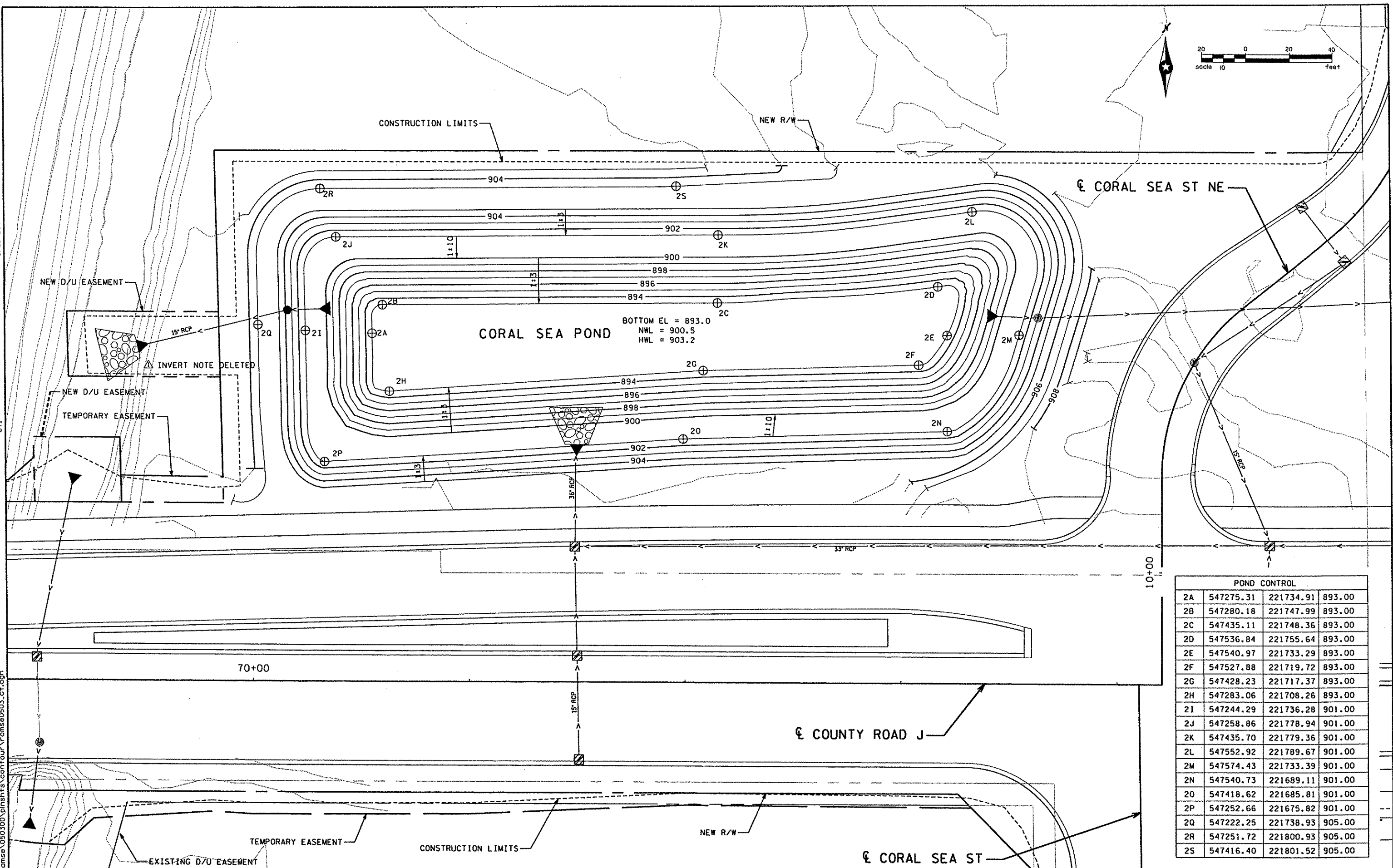
FILE NO. **182**
 ARAMSE0503
 DP21
 OF DP21
297

1:24:15 PM

3/23/2006

ct1

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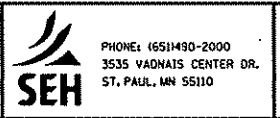


BOTTOM EL = 893.0
 NWL = 900.5
 HWL = 903.2

POND CONTROL			
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2B	547280.18	221747.99	893.00
2C	547435.11	221748.36	893.00
2D	547536.84	221755.64	893.00
2E	547540.97	221733.29	893.00
2F	547527.88	221719.72	893.00
2G	547428.23	221717.37	893.00
2H	547283.06	221708.26	893.00
2I	547244.29	221736.28	901.00
2J	547258.86	221778.94	901.00
2K	547435.70	221779.36	901.00
2L	547552.92	221789.67	901.00
2M	547574.43	221733.39	901.00
2N	547540.73	221689.11	901.00
2O	547418.62	221685.81	901.00
2P	547252.66	221675.82	901.00
2Q	547222.25	221738.93	905.00
2R	547251.72	221800.93	905.00
2S	547416.40	221801.52	905.00

DESIGN TEAM	GRB	03/06	ADDENUM NO.1
DRAWN BY: JEV			
DESIGNER: SLS			
CHECKED BY: BTW			
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Brad J. Wozniak* Lic. No. 41674
 Printed Name: BRAD J. WOZNIAK Date: 3/23/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONTOUR PLAN
CORAL SEA POND
 COUNTY ROAD J & CORAL SEA ST NE

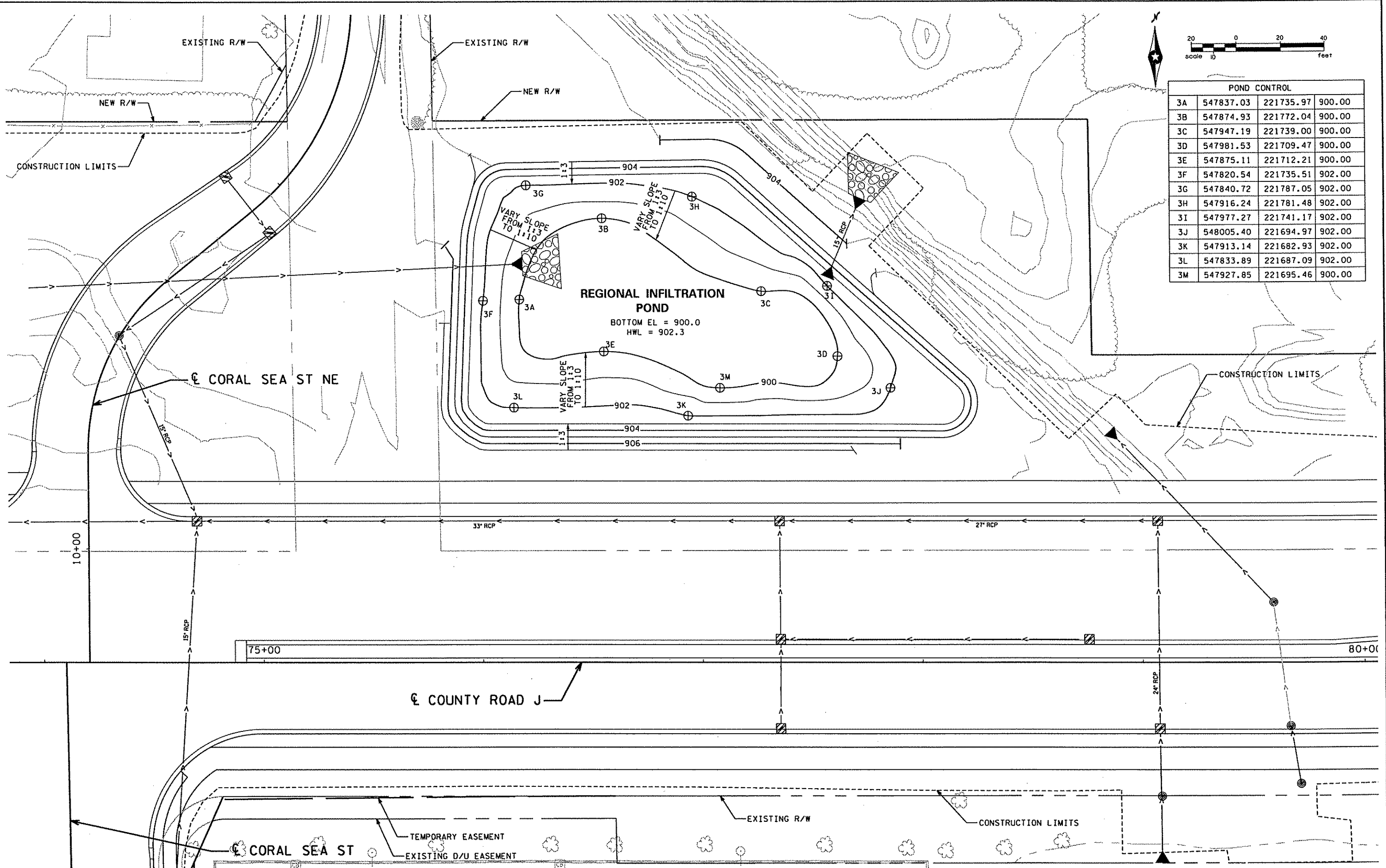
FILE NO. **183**
 ARAMSE0503
 CT1
 OF CT5
297

03:35:53 PM

02/17/2006

ct2

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POND CONTROL			
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3B	547874.93	221772.04	900.00
3C	547947.19	221739.00	900.00
3D	547981.53	221709.47	900.00
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3F	547820.54	221735.51	902.00
3G	547840.72	221787.05	902.00
3H	547916.24	221781.48	902.00
3I	547977.27	221741.17	902.00
3J	548005.40	221694.97	902.00
3K	547913.14	221682.93	902.00
3L	547833.89	221687.09	902.00
3M	547927.85	221695.46	900.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	SLS		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Brad T. Wozniak* Lic. No. 41674
 Printed Name: BRAD T. WOZNIAK Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONTOUR PLAN
REGIONAL INFILTRATION
 COUNTY ROAD J & CORAL SEA ST NE

FILE NO.	184
ARAMSE0503	
CT2	297
OF CT5	

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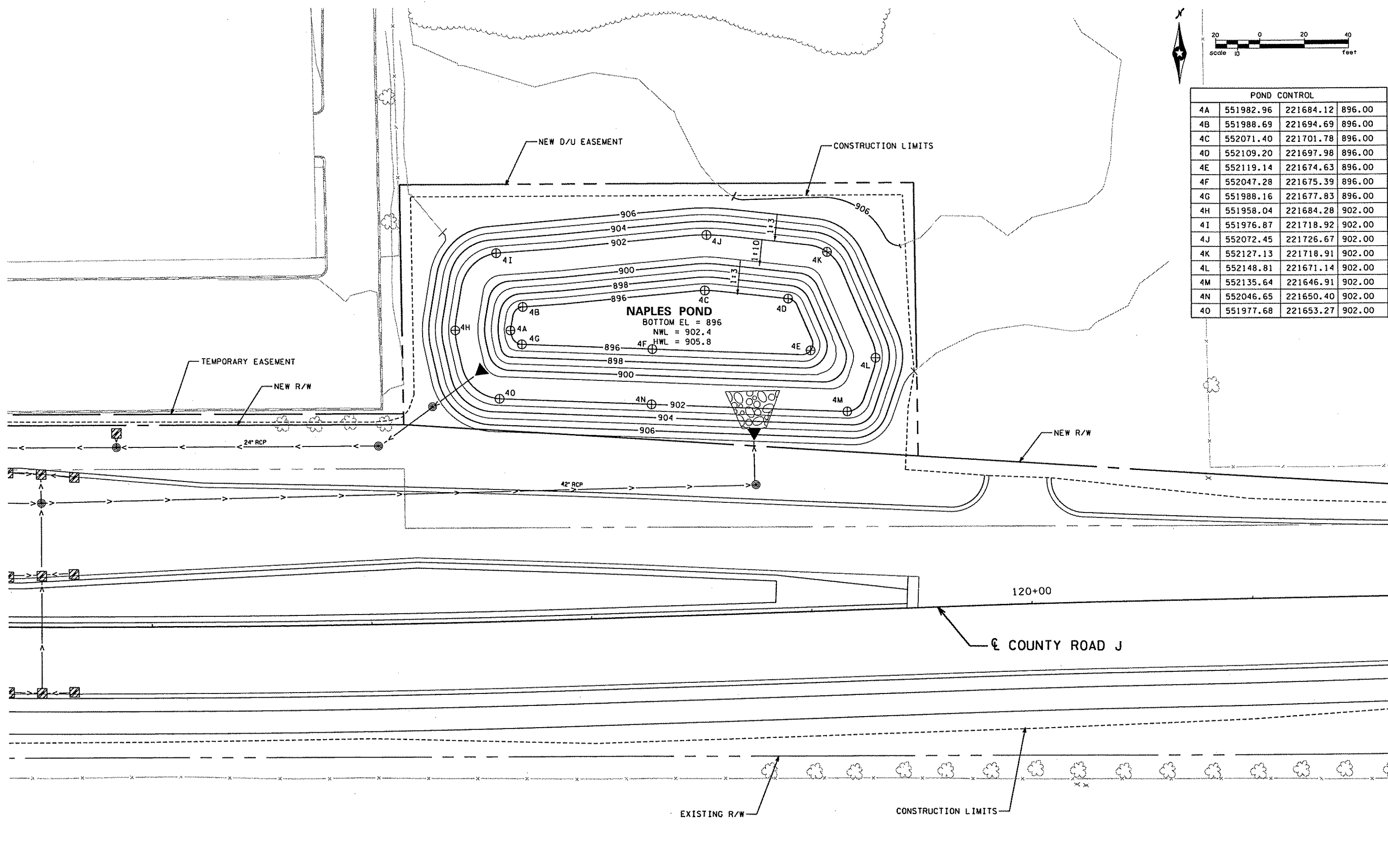
02/17/2006

ct3

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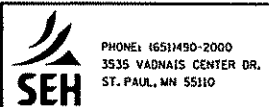


POND CONTROL			
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4B	551988.69	221694.69	896.00
4C	552071.40	221701.78	896.00
4D	552109.20	221697.98	896.00
4E	552119.14	221674.63	896.00
4F	552047.28	221675.39	896.00
4G	551988.16	221677.83	896.00
4H	551958.04	221684.28	902.00
4I	551976.87	221718.92	902.00
4J	552072.45	221726.67	902.00
4K	552127.13	221718.91	902.00
4L	552148.81	221671.14	902.00
4M	552135.64	221646.91	902.00
4N	552046.65	221650.40	902.00
4O	551977.68	221653.27	902.00



DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	SLS		
CHECKED BY:	BTW		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Brad T. Moznak* Lic. No. 41674
 Licensed Professional Engineer
 Printed Name: BRAD T. MOZNAK Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONTOUR PLAN
NAPLES POND
 COUNTY ROAD J

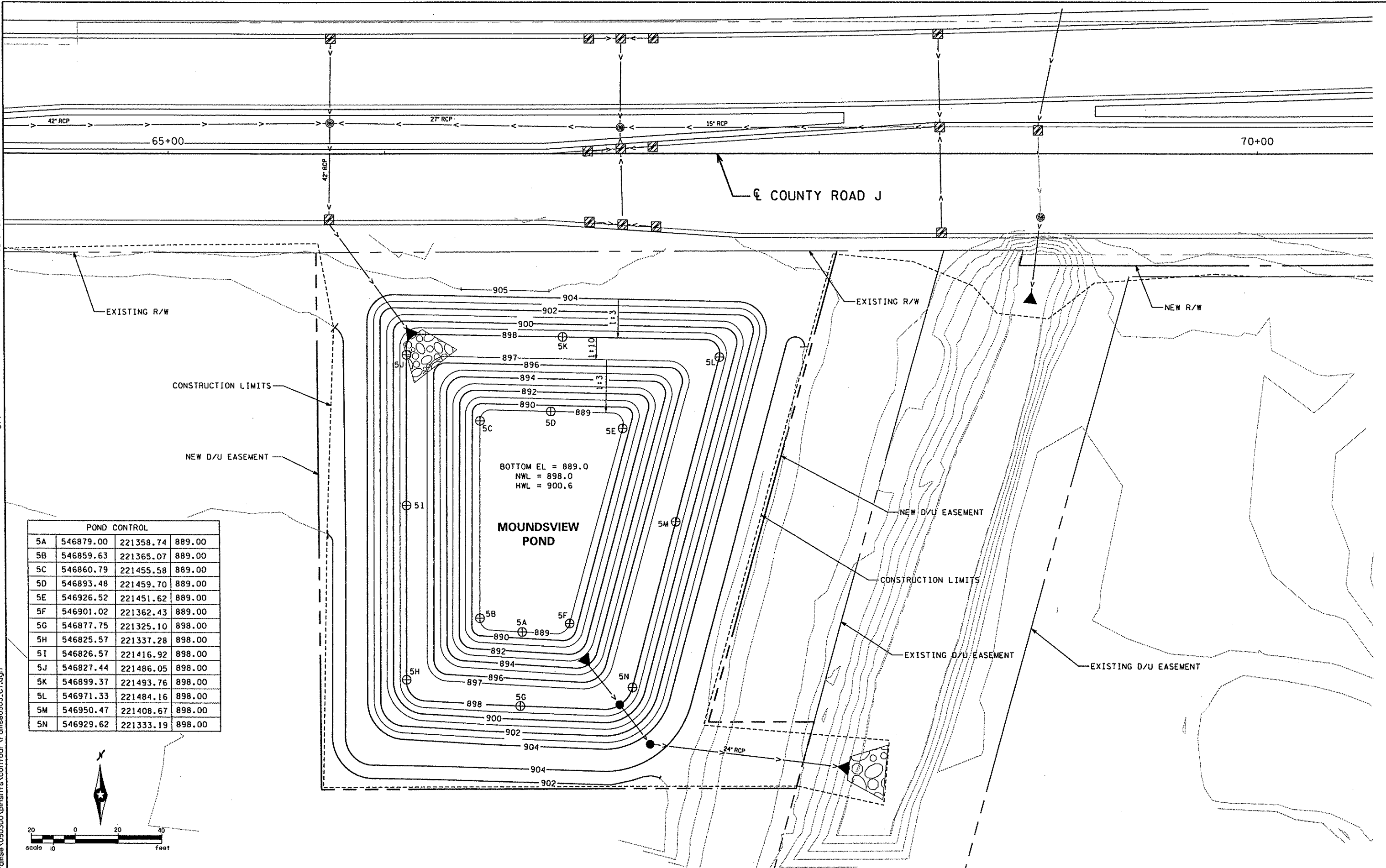
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ARAMSE0503	
CT3	297
OF CT5	

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02/17/2006

ct4

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EXISTING R/W

CONSTRUCTION LIMITS

NEW D/U EASEMENT

EXISTING R/W

NEW D/U EASEMENT

CONSTRUCTION LIMITS

EXISTING D/U EASEMENT

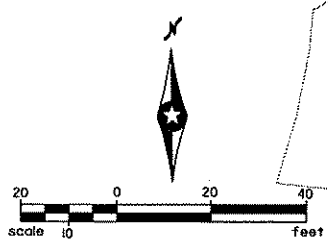
EXISTING D/U EASEMENT

☒ COUNTY ROAD J

BOTTOM EL = 889.0
 NWL = 898.0
 HWL = 900.6

MOUNDSVIEW POND

POND CONTROL			
5A	546879.00	221358.74	889.00
5B	546859.63	221365.07	889.00
5C	546860.79	221455.58	889.00
5D	546893.48	221459.70	889.00
5E	546926.52	221451.62	889.00
5F	546901.02	221362.43	889.00
5G	546877.75	221325.10	898.00
5H	546825.57	221337.28	898.00
5I	546826.57	221416.92	898.00
5J	546827.44	221486.05	898.00
5K	546899.37	221493.76	898.00
5L	546971.33	221484.16	898.00
5M	546950.47	221408.67	898.00
5N	546929.62	221333.19	898.00



DESIGN TEAM				REVISIONS			
DRAWN BY:	JEV			NO.	BY	DATE	
DESIGNER:	SLS						
CHECKED BY:	BTW						

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.
 Certified By: *Brad T. Woznak* Lic. No. 41674
 Printed Name: BRAD T. WOZNAK Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CONTOUR PLAN
MOUNDSVIEW POND
 COUNTY ROAD J

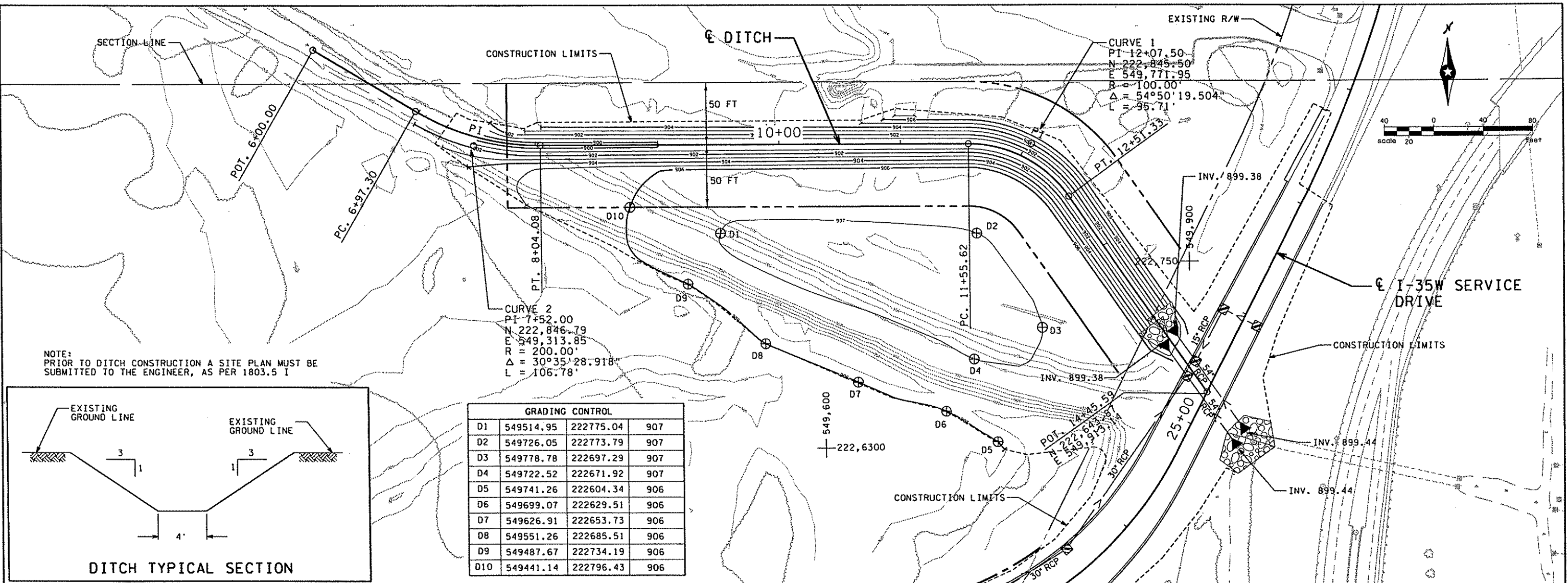
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CT4	297
OF CT5	

3/22/03 PM

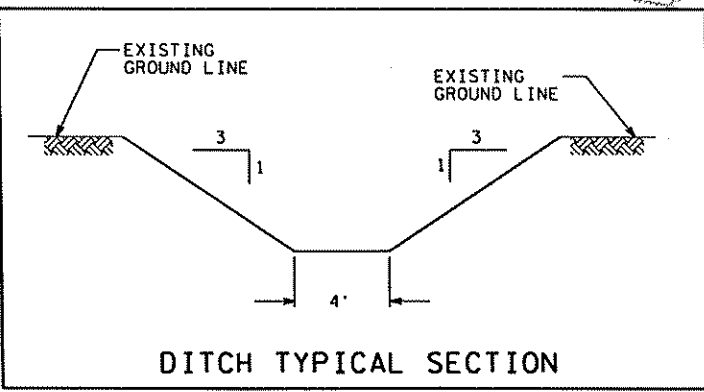
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ct5

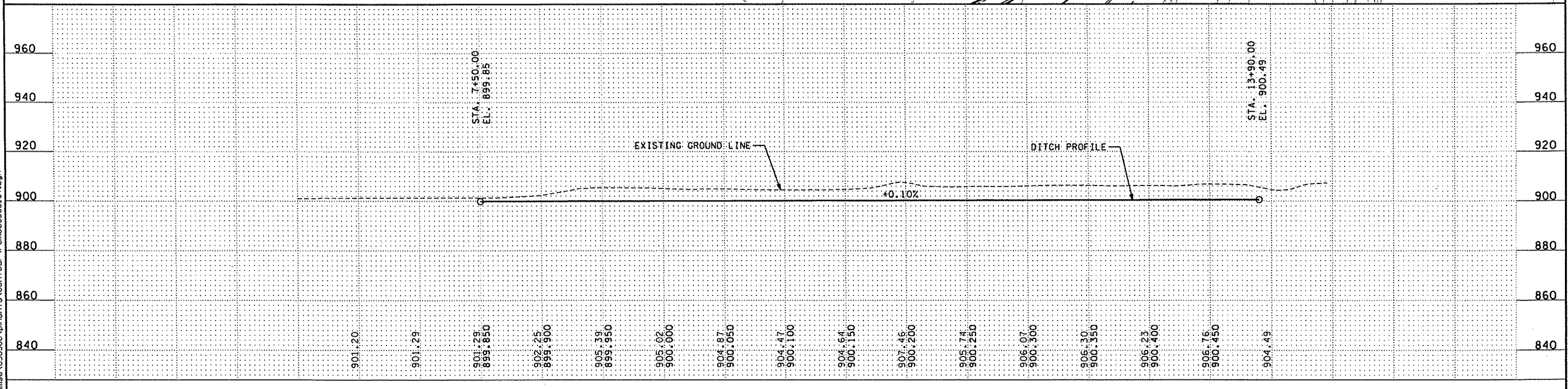
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NOTE:
PRIOR TO DITCH CONSTRUCTION A SITE PLAN MUST BE
SUBMITTED TO THE ENGINEER, AS PER 1803.5 I



GRADING CONTROL			
D1	549514.95	222775.04	907
D2	549726.05	222773.79	907
D3	549778.78	222697.29	907
D4	549722.52	222671.92	907
D5	549741.26	222604.34	906
D6	549699.07	222629.51	906
D7	549626.91	222653.73	906
D8	549551.26	222685.51	906
D9	549487.67	222734.19	906
D10	549441.14	222796.43	906



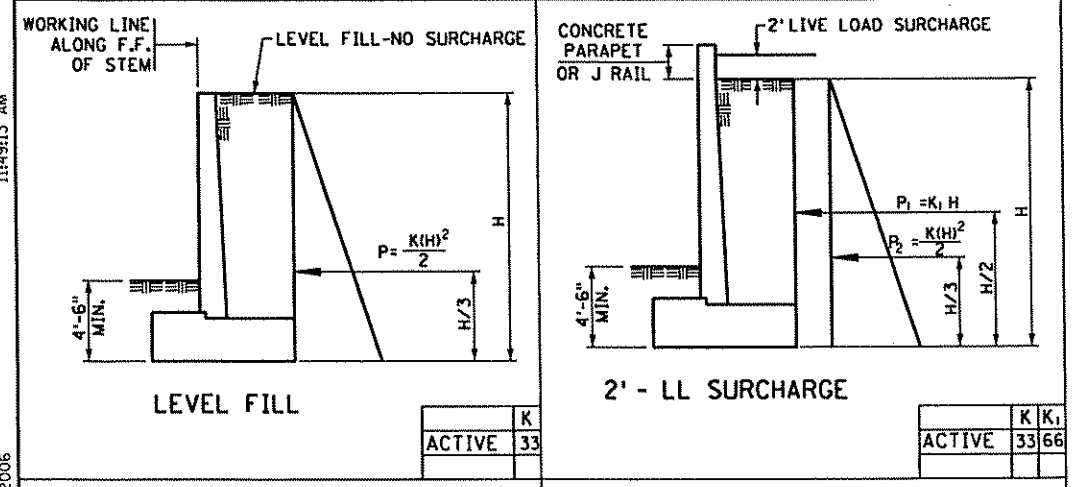
DESIGN TEAM		I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota. Certified By: <i>Brad T. Noznak</i> Lic. No. 41674 Printed Name: BRAD T. NOZNAK Date: 3/1/2006	PHONE: 651-490-2000 3535 VADNATS CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11		CONTOUR PLAN DITCH AND I-35W SERVICE DRIVE		FILE NO. ARAMSE0503 187 CT5 OF CT5
DRAWN BY: JEV								
DESIGNER: SLS								
CHECKED BY: BTW								
	NO.	BY	DATE	REVISIONS				

11-4913 AM

02/27/2006

RW1

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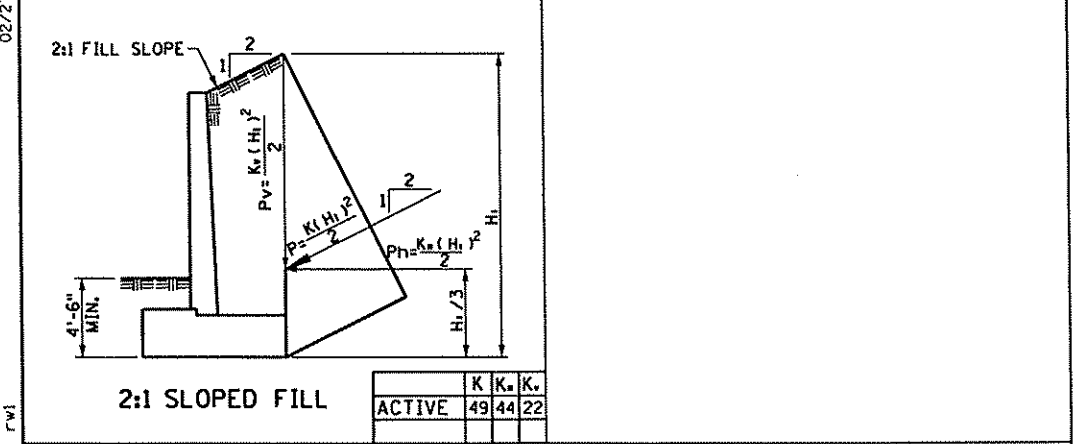
ACTIVE	K	K ₁
	33	66

DESIGN CRITERIA

1992 AASHTO DESIGN SPECIFICATIONS
 WORKING STRESS-STABILITY, FOUNDATIONS
 LOAD FACTOR DESIGN-REINFORCED CONCRETE
 $f'_c = 4000 \text{ PSI}$ $n = 8$
 $f_y = 60000 \text{ PSI}$

SEE FOUNDATION REPORT FOR RECOMMENDED FOUNDATION TYPE.
 ALLOWABLE BENDING (LATERAL LOAD) PER PILE:
 60 TON CIP PILE: 13 KIPS
 55 TON HP PILE: 12 KIPS
 50 TON CIP PILE: 11 KIPS
 30 TON TIMBER PILE: 7.5 KIPS

BACKFILL CHARACTERISTICS:
 INTERNAL ANGLE OF FRICTION: 35°
 EQUIVALENT FLUID PRESSURE (k), IN PCF, IS SHOWN IN LOADING CASE TABLES.
 UNIT WEIGHT: 125 PCF
 COEFFICIENT OF FRICTION: 0.55
 $\beta_e = 1.0$



ACTIVE	K	K ₂	K ₃	K ₄	K ₅
	49	44	22		

BAR LAP (CLASS C)

BAR SIZE	PLAIN	EPOXY
5	2'-5"	2'-6"
6	2'-11"	3'-10"
7	3'-8"	4'-11"
8	4'-10"	6'-5"
9	6'-1"	8'-1"

BAR LAP (CLASS A)

BAR SIZE	EPOXY
5	1'-11"
6	2'-3"
7	2'-11"
8	3'-9"
9	4'-9"

W SUMMARY OF QUANTITIES FOR RETAINING WALL A

PANEL	STRUCTURE CONCRETE		REINFORCEMENT BARS		STRUCTURE EXCAVATION		GRANULAR BACKFILL (CV) ①	AGGREGATE BACKFILL (CV) ②	PARAPET RAIL, CONC (3Y46)	CHAIN LINK FABRIC FENCE ⑦		
	1A43 (FOOTING)	3Y43 (STEM)	PLAIN	EPOXY ⑥	CLASS...	CLASS...						
	CU YD	CU YD	POUND	POUND	CU YD	CU YD	CU YD	CU YD	LIN FT	LIN FT		
A1	8.8	19.3	768.0	2209.0					30.5	30.5		
A2	9.5	21.4	954.0	2342.0					30.5	30.5		
A3	11.0	23.7	1079.0	2506.0					30.5	30.5		
A4	11.4	26.0	1229.0	2646.0					30.5	30.5		
A5	14.5	28.3	1235.0	2796.0					30.5	30.5		
A6	15.4	30.7	1223.0	3340.0					30.5	30.5		
A7	15.4	30.7	1223.0	3340.0					30.5	30.5		
A8	19.8	35.6	1495.0	3716.0					30.5	30.5		
A9	9.5	21.4	954.0	2342.0					30.5	30.5		
TOTALS	115.4	237.0	10160.0	25237.0					274.5	274.5		

- NOTES:**
- MODIFIED TO LESS THAN 10% PASSING A NO. 200 SIEVE. MN/DOT SPEC. 3149.2B.
 - COMPACT TO 100% DENSITY IN ACCORDANCE WITH MN/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.
 - LIMITING CRITERIA
 - LAPS ARE GIVEN FOR THE TOP BAR CONDITION.
 - CURVED FORMS MAY BE USED FOR ANY WALL WITH A RADIUS, BUT MUST BE USED ON WALLS WITH RADIUS LESS THAN 23'.
- QUANTITIES ARE BASED ON ASSUMED TOP OF ROCK ELEVATION. ACTUAL TOP OF ROCK TO BE DETERMINED BY ENGINEER.
- INCLUDES RAILING REINFORCEMENT WHEN RAILING IS USED ON TOP OF WALL.
 - QUANTITY INCLUDED IN FENCE TABULATION.

CURVED RETAINING WALLS ALLOWABLE CHORD LENGTH ⑤

MAXIMUM DEGREE OF CURVE	RADIUS	ALLOWABLE CHORD LENGTH	DEVIATION FROM TRUE RADIUS	MAXIMUM DEFLECTION ANGLE Δ
4°-00'	1432'	30'-6"	± 1/2" ③	1°-15'
8°-00'	716'	21'-10"	± 1/2" ③	1°-45'
16°-30'	347'	15'-3"	± 1/2" ③	2°-30'
23°-00'	249'	12'-11"	± 1/2" ③	2°-57'
65°-30'	87'	7'-7 1/2"	± 1/2"	5°-00' ③
114°-30'	50'	4'-4 3/8"	± 1/4"	5°-00' ③
250°-00'	23'	2'-0"	± 1/8"	5°-00' ③

GENERAL NOTES:

UTILITIES:
 EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:
 ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO MN/DOT 2451.

CONCRETE:
 ALL CONCRETE SHALL CONFORM TO MN/DOT 2461.

TRANSVERSE CONSTRUCTION JOINTS IN FOOTING ARE PERMISSIBLE. KEYWAYS AND CONTINUOUS REINFORCEMENT ARE REQUIRED THROUGH THESE JOINTS.

POURING SEQUENCE:
 THE POURING SEQUENCE SHALL BE AT THE CONTRACTOR'S OPTION BUT MUST BE SUBMITTED (WITH ADEQUATE APPROVAL TIME) TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING THE FIRST POUR.

CONSTRUCTION:
 CONSTRUCTION SHALL BE IN ACCORDANCE WITH MN/DOT 2411, EXCEPT AS NOTED.

REINFORCING STEEL:
 REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO MN/DOT 3301, GRADE 60 AND EPOXY COATED EXCEPT AS NOTED.

ALL BENT BAR DIMENSIONS ARE GIVEN OUT-TO-OUT.

THE CLEAR DISTANCE BETWEEN REINFORCEMENT BARS AND FACE OF CONCRETE SHALL BE 3" IN FOOTINGS, 5" IN BOTTOM OF SPREAD FOOTINGS, AND 2" ELSEWHERE, UNLESS OTHERWISE NOTED. FRONT FACE MAY HAVE 1" COVER WHEN RUSTICATION IS USED.

THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATES THE BAR SIZE.

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED. ALL BARS WHICH COME OUT OF THE FOOTING AND ALL BARS WHICH ARE ABOVE THE FOOTING SHALL BE EPOXY COATED.

THE CONTRACTOR HAS THE OPTION OF SUBSTITUTING 60'-0" LONG BARS FOR THE LONGITUDINAL FOOTING STEEL SHOWN. CHANGES IN THE BILL OF REINFORCEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PAYMENT WILL BE BASED ON QUANTITIES SHOWN.

THE CONSTRUCTION JOINT FOR CONCRETE RAIL MAY BE LOCATED AT TOP OR BOTTOM OF COPE, AT THE CONTRACTOR'S OPTION. PAYMENT WILL BE BASED ON QUANTITIES SHOWN, WHICH IS BASED ON CONSTRUCTION JOINT ABOVE COPE.

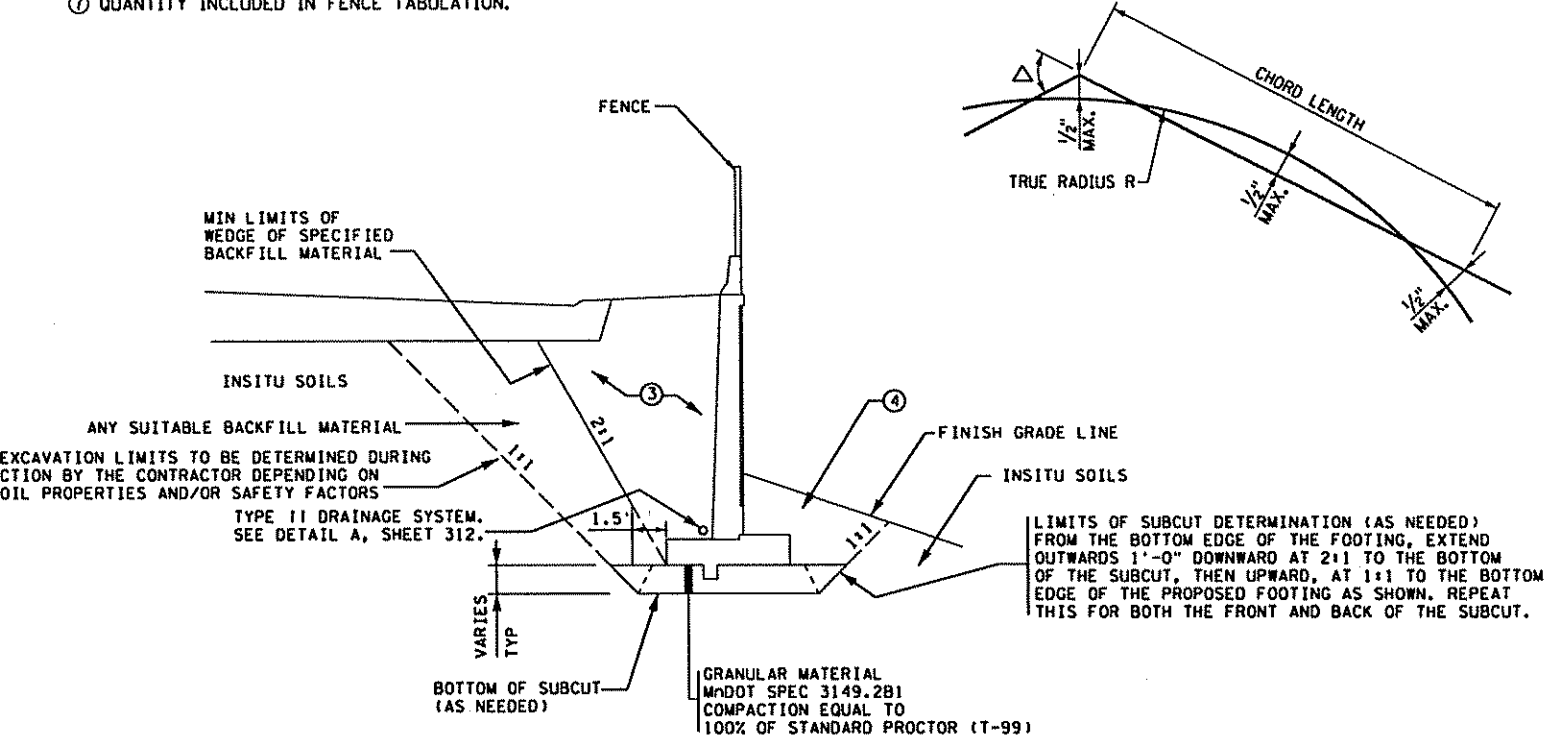
FOR VARIABLE STEM HEIGHTS, VARY THE LAP LENGTH OF THE VERTICAL REINFORCEMENT. MINIMUM LAP LENGTHS ARE GIVEN IN THE TABLE ON THIS SHEET. SMALLER BAR GOVERNS LAP LENGTH.

DOWEL BAR ASSEMBLIES:
 DOWELED JOINT DETAILS ARE INCLUDED IN THE PLANS. NO SEPARATE PAYMENT WILL BE MADE.

CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR SOME OF THE CORK & DOWEL JOINTS AT THE CONTRACTOR'S OPTION. CORK & DOWEL JOINTS MUST BE SPACED AT 91'-6" MAXIMUM.

GEOMETRICS AND GRADES:
 DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

ON UP TO 10% SLOPES, THE CONTRACTOR HAS THE OPTION OF POURING FOOTINGS SLOPED OR STEPPED. ADDITIONAL CONCRETE VOLUMES AND CHANGES TO THE BILL OF REINFORCEMENT WHICH MAY RESULT FROM CONTRACTOR REQUESTED OPTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.



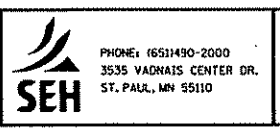
- BACKFILL WITH SELECT GRANULAR BORROW MnDOT SPEC 3149.2B2 MODIFIED TO LESS THAN 10% PASSING THE NO 200 SIEVE COMPACTION EQUAL TO SPEC 2105.3F1.
- SUITABLE GRADING MATERIAL

SECTION THRU TYPICAL RETAINING WALL

DESIGN TEAM				REVISIONS			
NO.	BY	DATE		NO.	BY	DATE	
1	MTT						
2	MTT						
3	JEO						

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.

Certified By: *[Signature]* Lic. No. 19423
 Licensed Professional Engineer
 Printed Name: ROB B. FARMER Date: 02/27/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

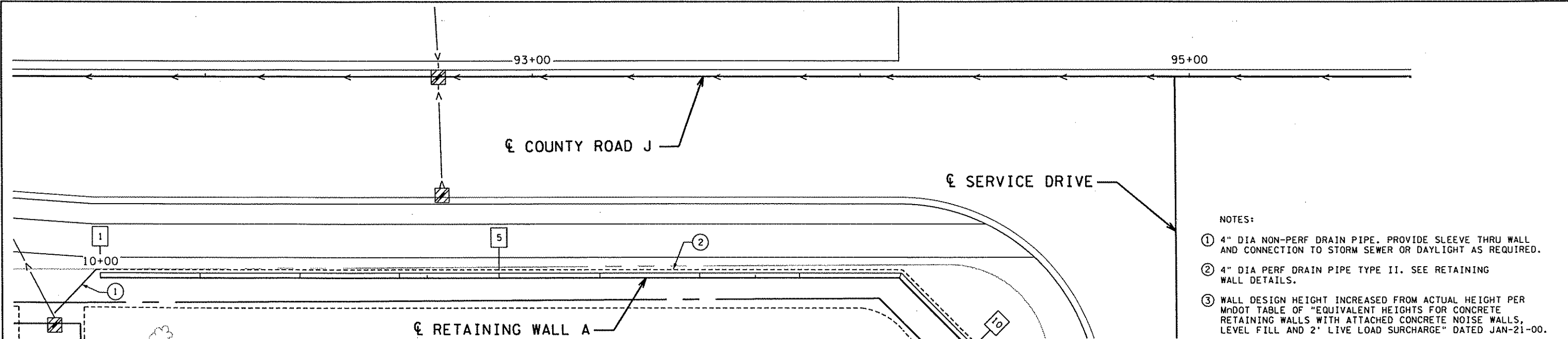
GENERAL NOTES AND SUMMARY OF QUANTITIES

FILE NO.	188
ARAMSE0503	
RW1	
OF RW2	297

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RW2



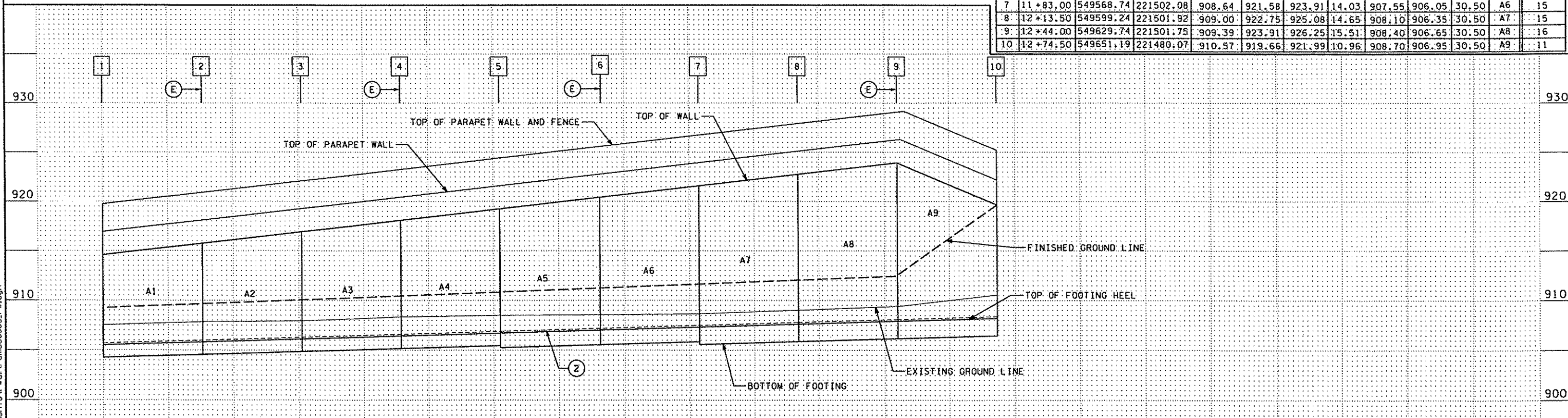
- NOTES:
- ① 4" DIA NON-PERF DRAIN PIPE. PROVIDE SLEEVE THRU WALL AND CONNECTION TO STORM SEWER OR DAYLIGHT AS REQUIRED.
 - ② 4" DIA PERF DRAIN PIPE TYPE II. SEE RETAINING WALL DETAILS.
 - ③ WALL DESIGN HEIGHT INCREASED FROM ACTUAL HEIGHT PER MNDOT TABLE OF "EQUIVALENT HEIGHTS FOR CONCRETE RETAINING WALLS WITH ATTACHED CONCRETE NOISE WALLS, LEVEL FILL AND 2' LIVE LOAD SURCHARGE" DATED JAN-21-00.

WALL IS STANDARD CANTILEVERED 2 FT - LIVE LOAD SURCHARGE, SPREAD FOOTING, TYPE II DRAINAGE.



CONCRETE RETAINING WALL A PLAN

CONCRETE RETAINING WALL DATA												
JT NO	STATION	X	Y	GROUND ELEVATION	TOP OF WALL	TOP OF PARAPET WALL	WALL HEIGHT (ft)	TOP OF FOOTING HEEL	BOTTOM OF FOOTING	PANEL LENGTH	PANEL NAME	WALL ③ DESIGN HT (ft)
1	10+00.00	549385.75	221503.08	907.50	914.57	916.91	9.08	905.50	904.25			
2	10+30.50	549416.25	221502.91	907.81	915.74	918.07	9.94	905.80	904.55	30.50	A1	10
3	10+61.00	549446.74	221502.75	907.91	916.91	919.24	10.81	906.10	904.85	30.50	A2	11
4	10+91.50	549477.24	221502.58	908.31	918.08	920.41	11.68	906.40	905.15	30.50	A3	12
5	11+22.00	549507.74	221502.41	908.49	919.24	921.58	12.54	906.70	905.45	30.50	A4	13
6	11+52.50	549538.24	221502.25	908.54	920.41	922.74	13.16	907.25	905.75	30.50	A5	14
7	11+83.00	549568.74	221502.08	908.64	921.58	923.91	14.03	907.55	906.05	30.50	A6	15
8	12+13.50	549599.24	221501.92	909.00	922.75	925.08	14.65	908.10	906.35	30.50	A7	15
9	12+44.00	549629.74	221501.75	909.39	923.91	926.25	15.51	908.40	906.65	30.50	A8	16
10	12+74.50	549651.19	221480.07	910.57	919.66	921.99	10.96	908.70	906.95	30.50	A9	11

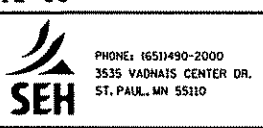


CONCRETE RETAINING WALL DEVELOPED ELEVATION

ⓔ DENOTES WALL EXPANSION JOINT LOCATION (CORK AND DOWEL JOINTS).

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *[Signature]* Lic. No. 19423
 Printed Name: RON B. FARMER Date: 02/17/2006

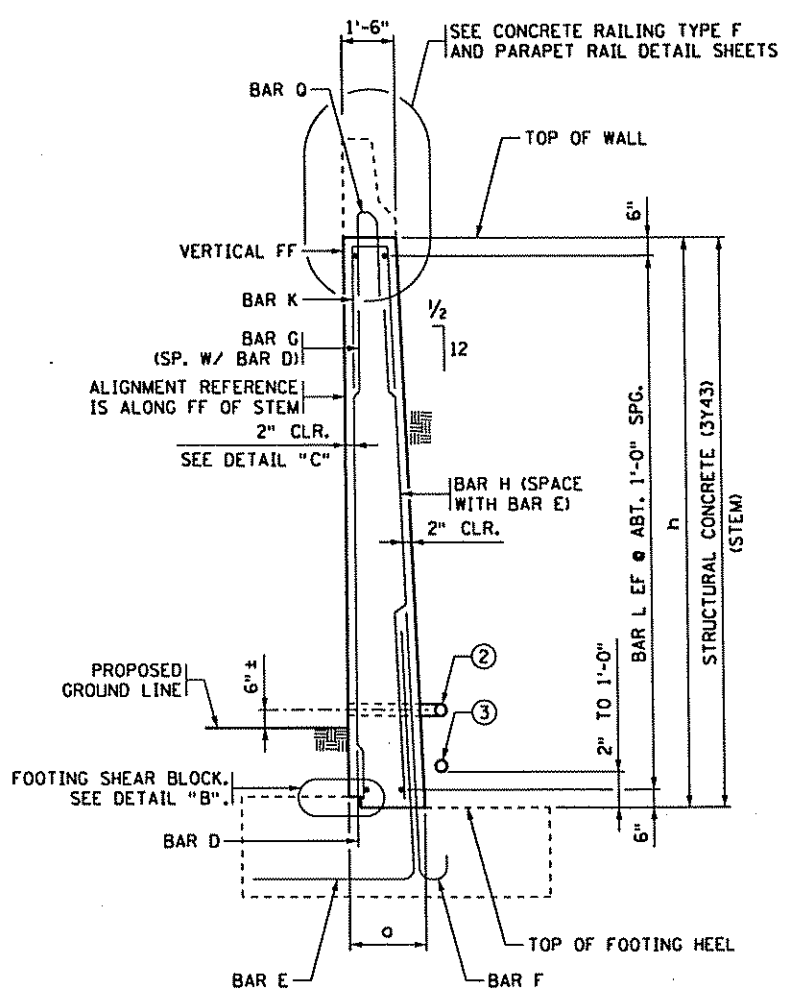


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

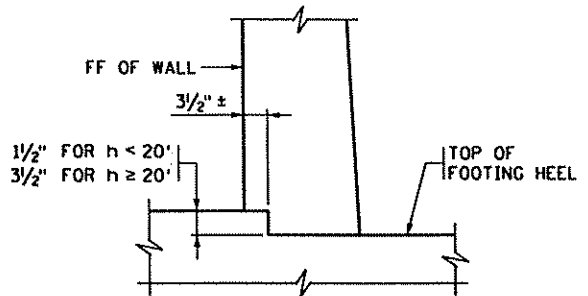
**RETAINING WALL A
 PLAN & PROFILE**

FILE NO. ARAMSE0503 **189**
 OF RW2 **297**

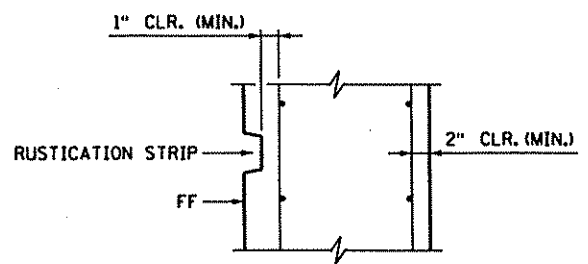
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 RW3
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WALL SECTION
BARRIER OPTION SHOWN

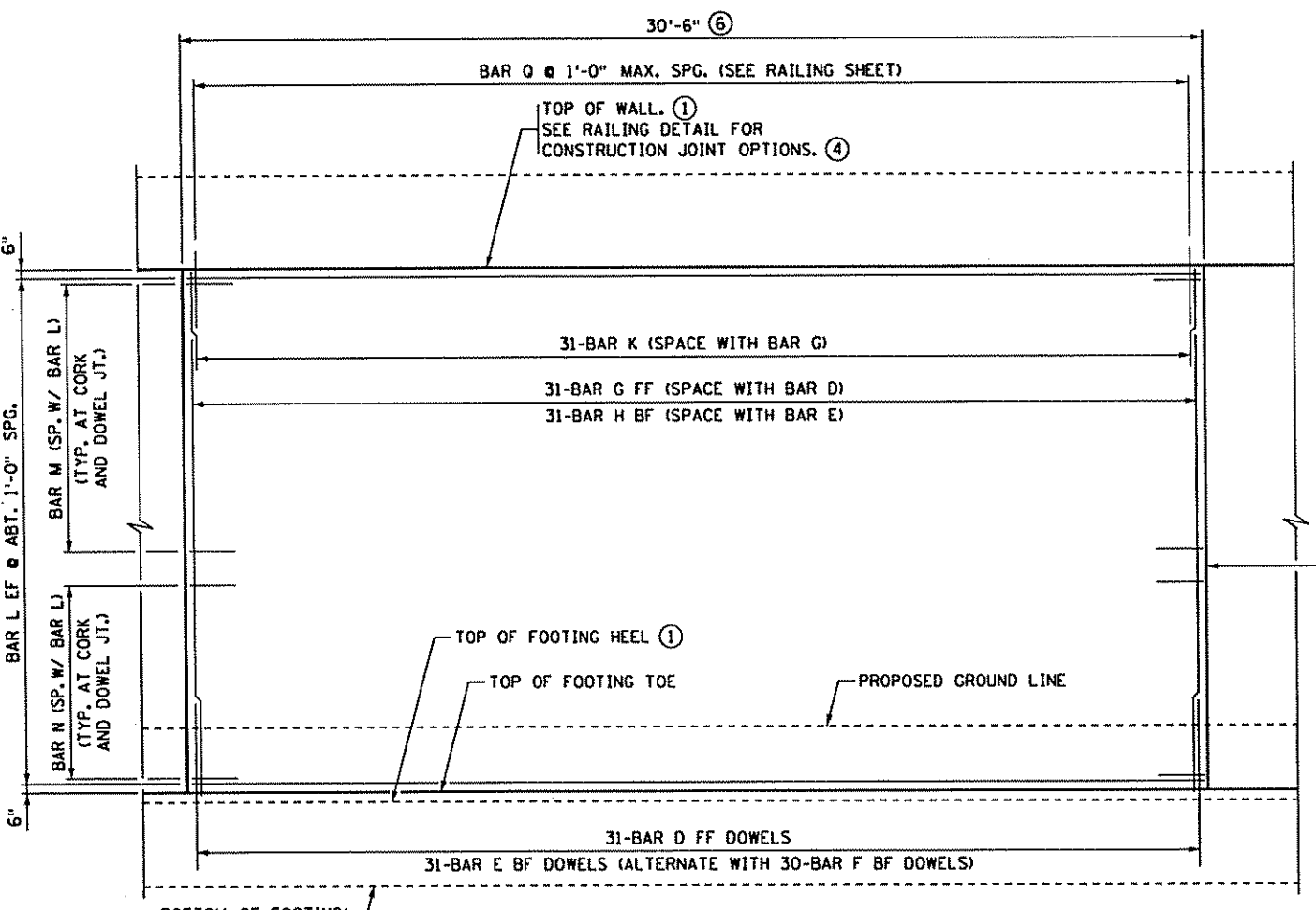


DETAIL "B"

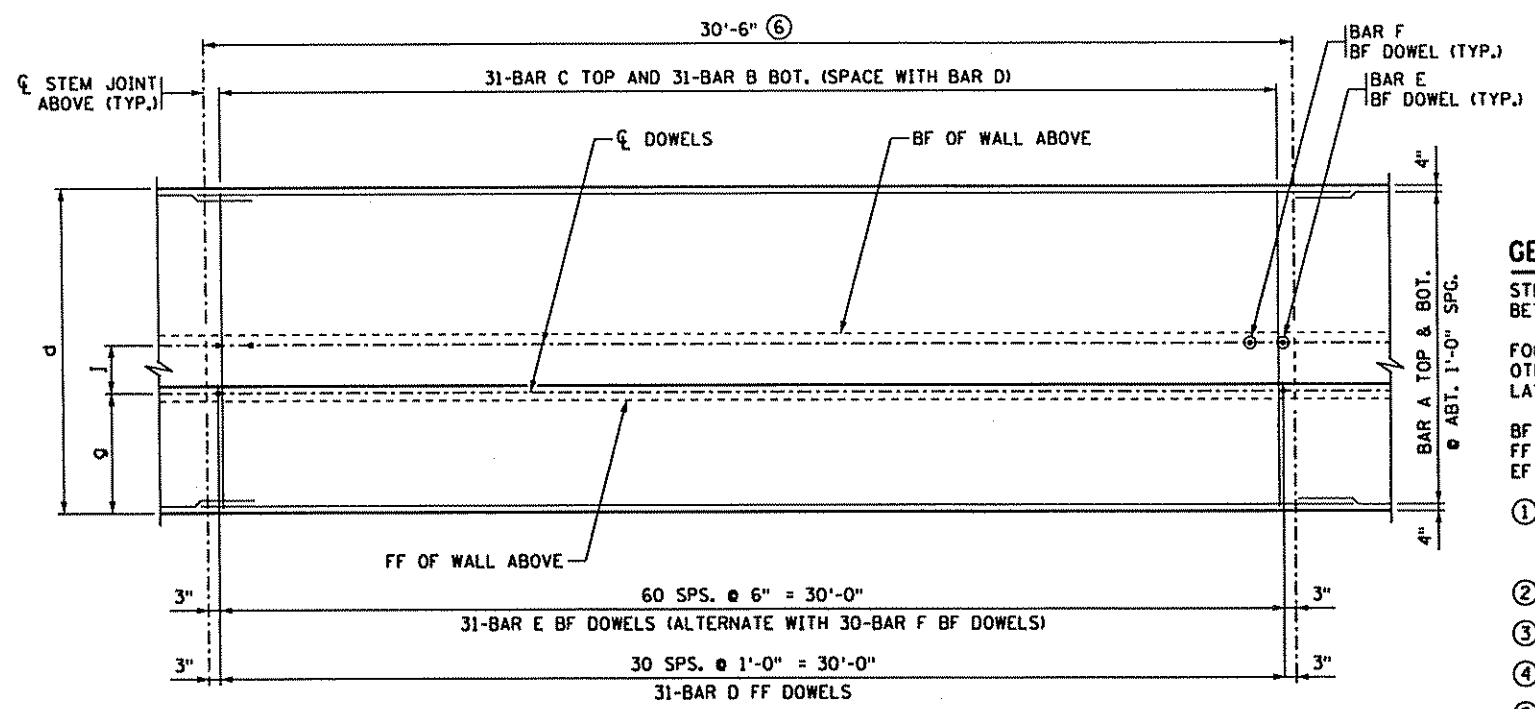


DETAIL "C"

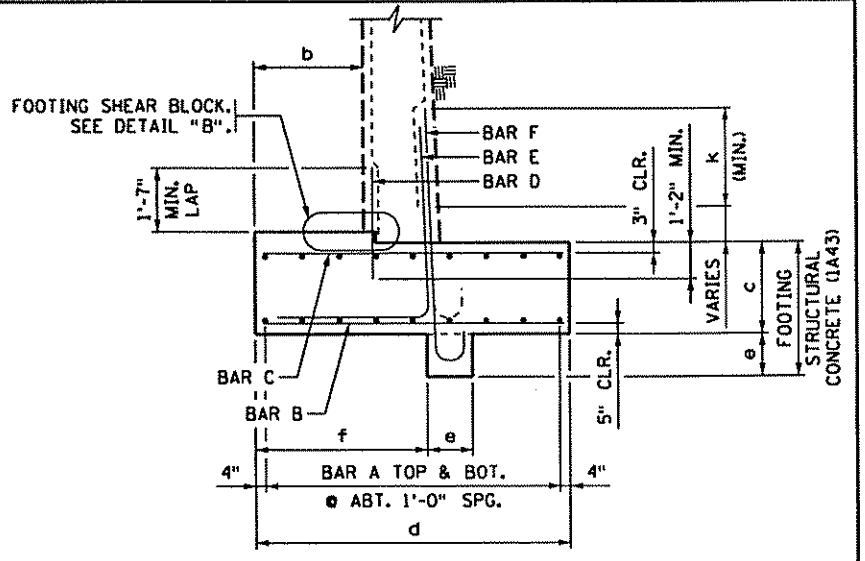
FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



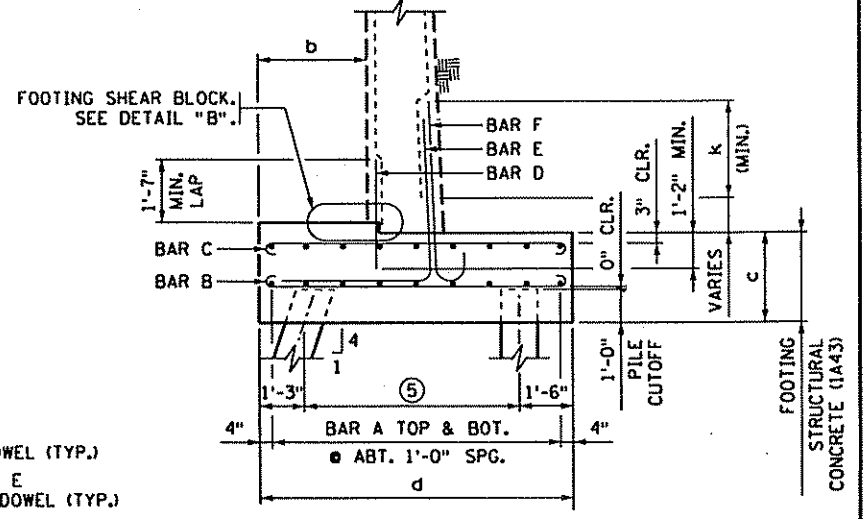
ELEVATION



FOOTING PLAN ~ REINFORCEMENT



TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

GENERAL NOTES

- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE. FF DENOTES FRONT FACE. EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.
- ③ TYPE II DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.
- ④ SEE SHEET MISCELLANEOUS DETAILS I.
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTHS MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	MTT						
CHECKED BY:	JEO						

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.
 Certified By: *[Signature]* Lic. No. 19423
 Printed Name: RON B. FARMER Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

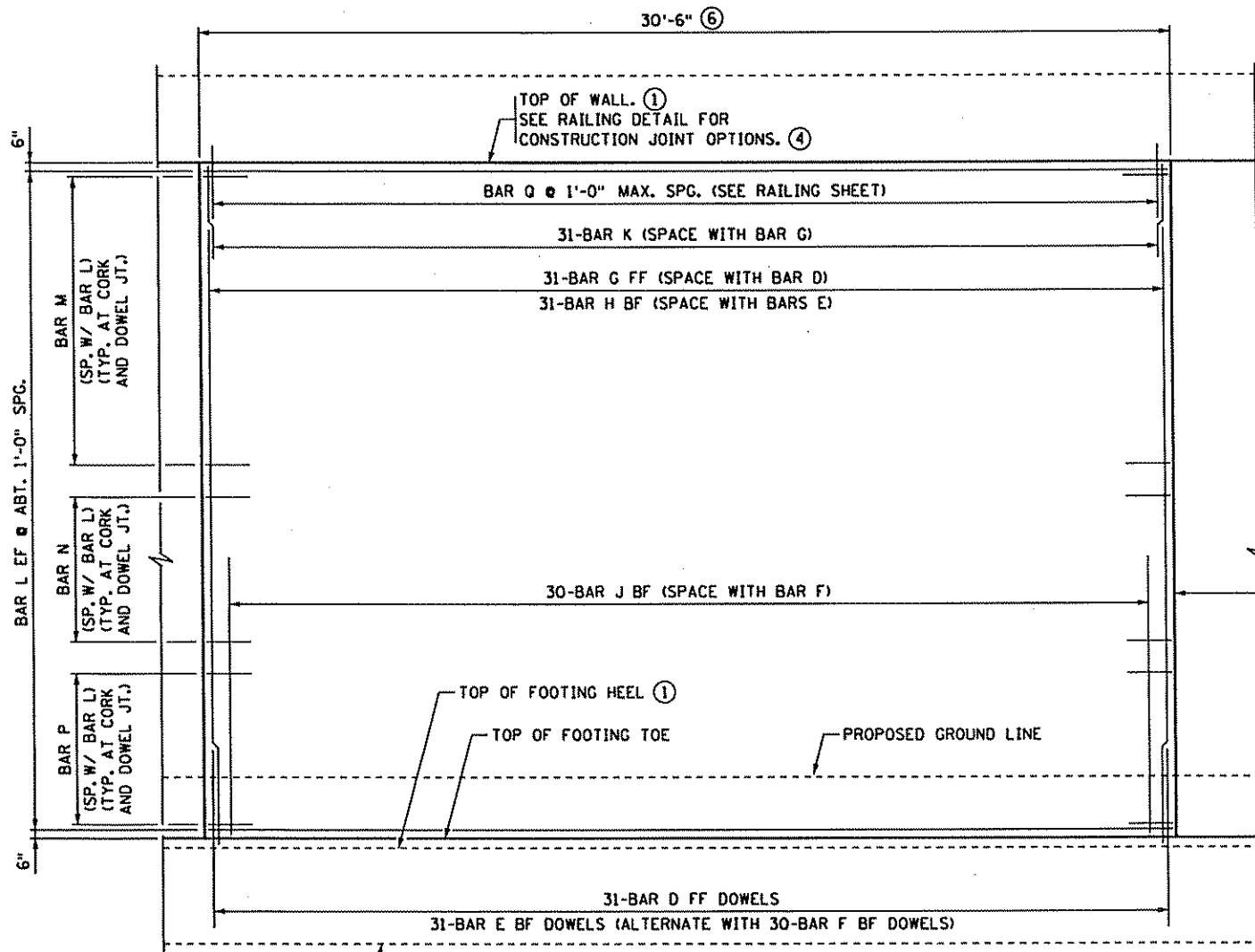
FILE NO.	190
ARAMSE0503	
RW3	297
OF RW12	

03:36:20 PM

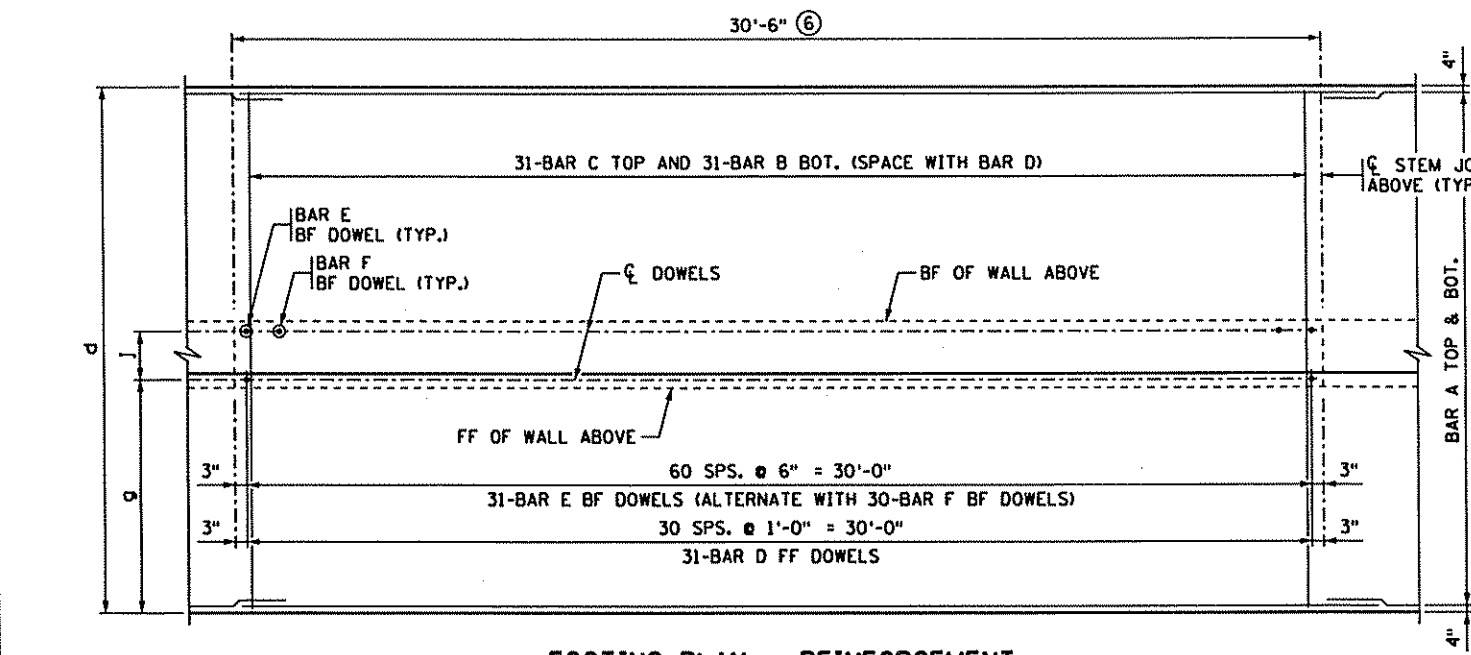
02/17/2006

r.w.4

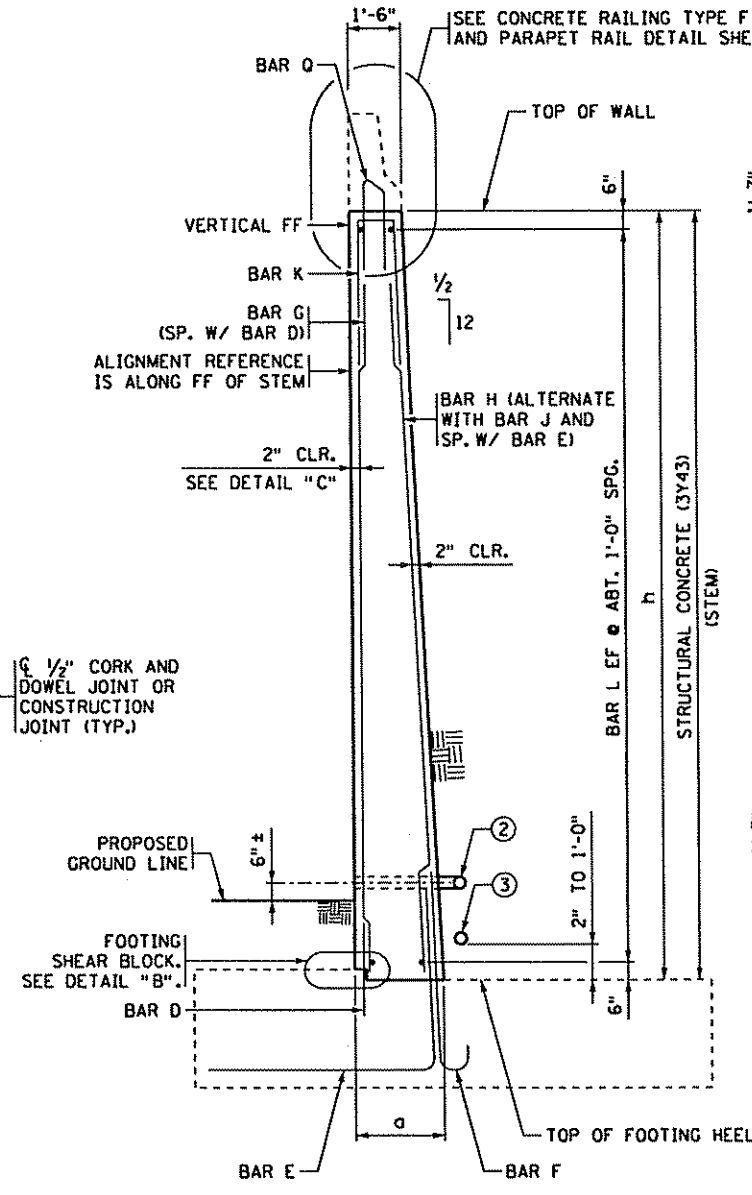
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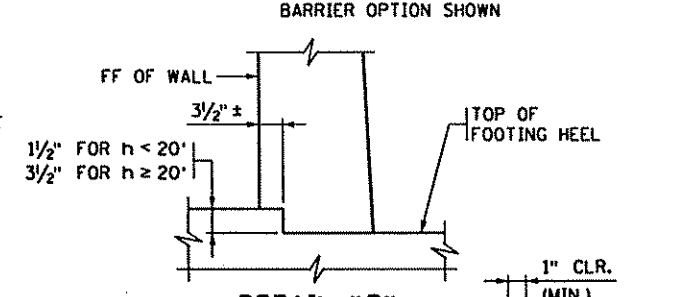
ELEVATION



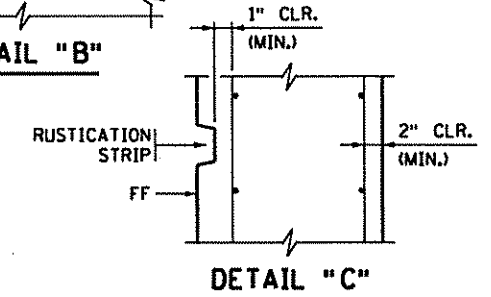
FOOTING PLAN - REINFORCEMENT



WALL SECTION

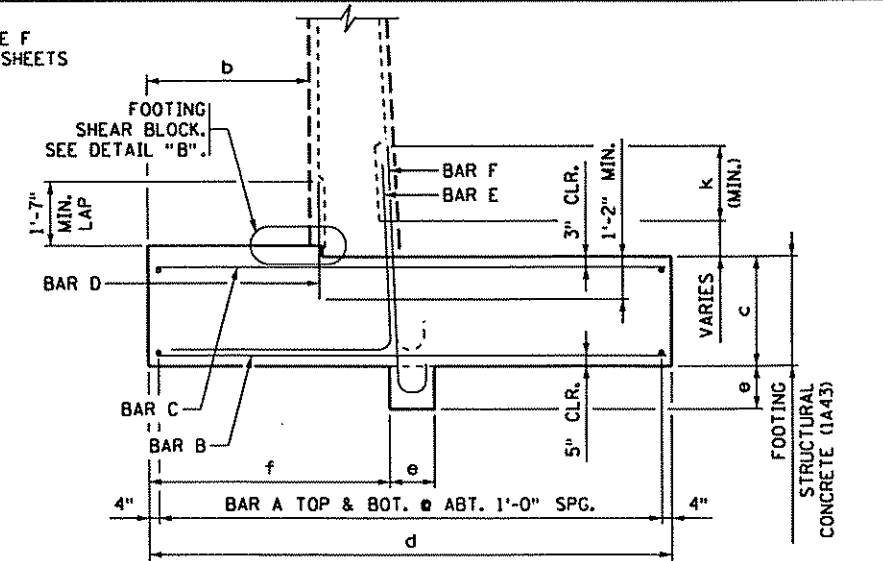


DETAIL "B"

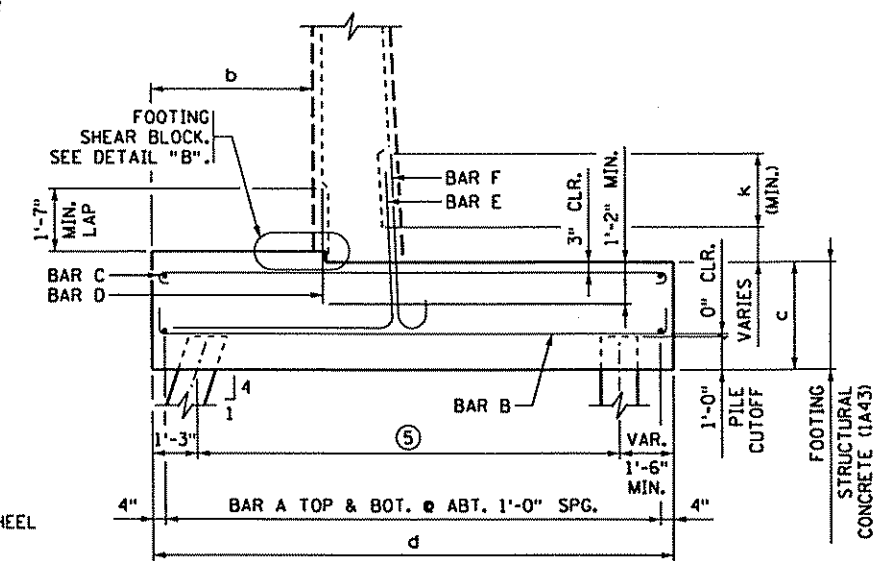


DETAIL "C"

FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY



TYPICAL SECTION THROUGH SPREAD FOOTING



TYPICAL SECTION THROUGH PILE FOOTING

GENERAL NOTES

- STEM REINFORCEMENT IS TO BE SYMMETRICALLY/EQUALLY SPACED BETWEEN STEM JOINTS.
- FOOTING REINFORCEMENT SYMMETRICAL ABOUT STEM JOINT ABOVE UNLESS OTHERWISE NOTED. SEE RETAINING WALL TABLES FOR PILE SPACING AND LAYOUT.
- BF DENOTES BACK FACE. FF DENOTES FRONT FACE. EF DENOTES EACH FACE.
- ① STRAIGHT LINE BETWEEN ELEVATIONS SHOWN ON WALL ELEVATION (EXCEPT FOR STEPPED CONDITIONS). IF A BARRIER IS NOT USED, TOPS OF RETAINING WALL COULD BE USED.
- ② TYPE I DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.
- ③ TYPE II DRAIN. SEE DETAIL "A" ON SHEET MISCELLANEOUS DETAILS I.
- ④ SEE SHEET MISCELLANEOUS DETAILS I.
- ⑤ SEE GENERAL PLAN FOR PILE SPACING.
- ⑥ AT THE CONTRACTOR'S OPTION, PANEL LENGTH MAY VARY UP TO ±1'-0". BAR CUTTING LISTS SHALL BE REVISED ACCORDINGLY BY THE CONTRACTOR.

DESIGN TEAM				
DRAWN BY:	MTT			
DESIGNER:	MTT			
CHECKED BY:	JEO			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *[Signature]* Lic. No. 19423
 Printed Name: RON B. FARMER Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

WALL REINFORCEMENT
 (PANELS A6 - A8)
 TALL WALLS

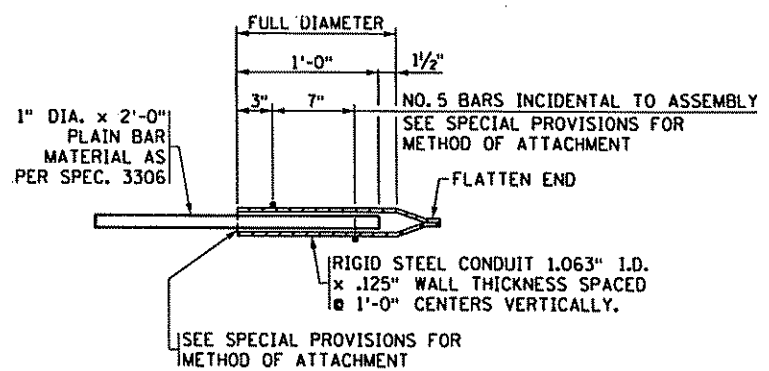
FILE NO.	191
ARAMSE0503	
RW4	297
OF RW12	

03/16/22 PM

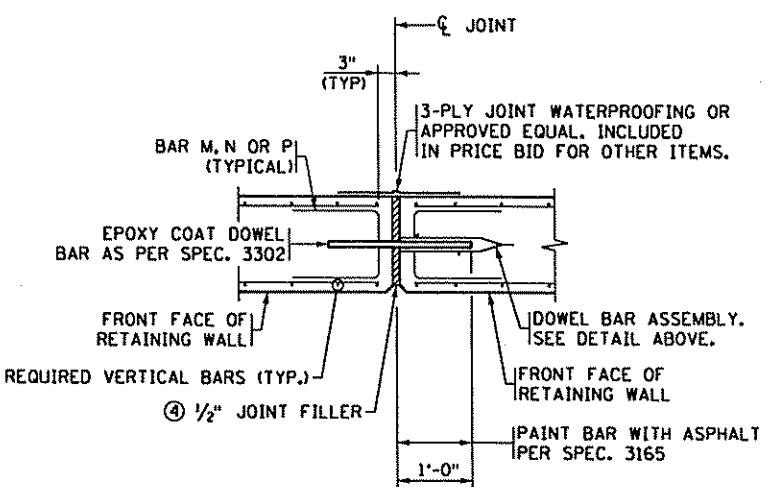
02/17/2006

FW5

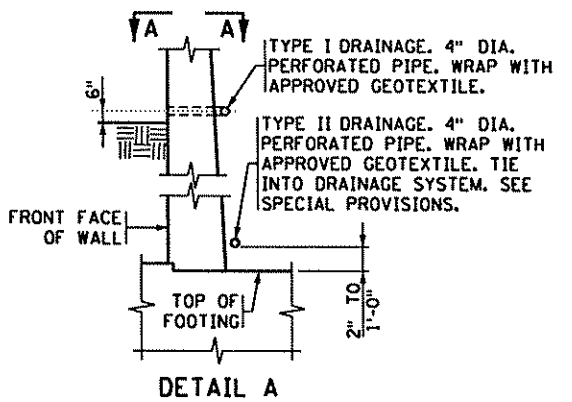
x:\p\romise\050300\plans\shs\1\wall\fig204.dgn



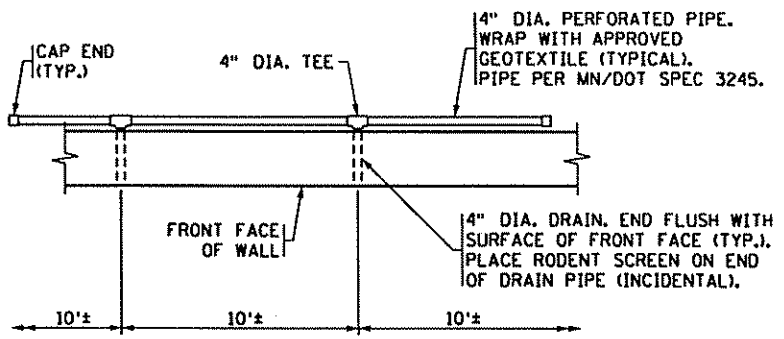
DOWEL BAR ASSEMBLY
MATERIAL AND PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. ALL MATERIAL TO BE EPOXY COATED.



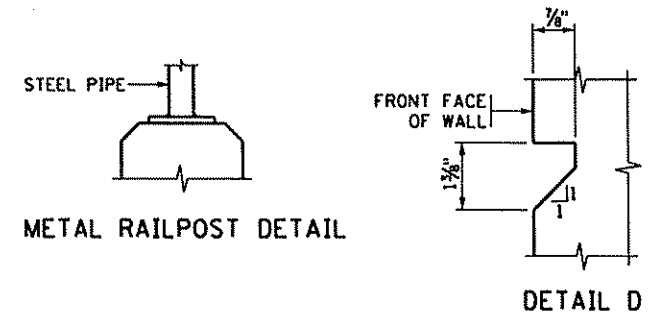
TYPICAL SECTION THRU CORK AND DOWEL JOINT
SPACE @ ABOUT 90 FEET.



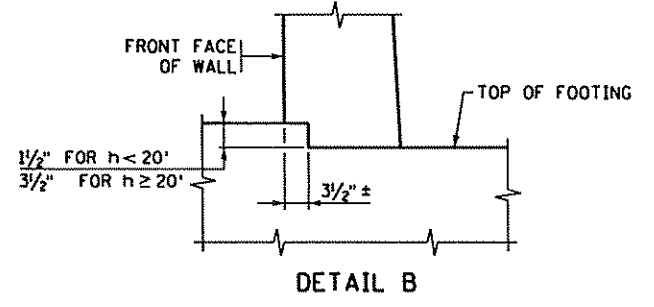
DETAIL A



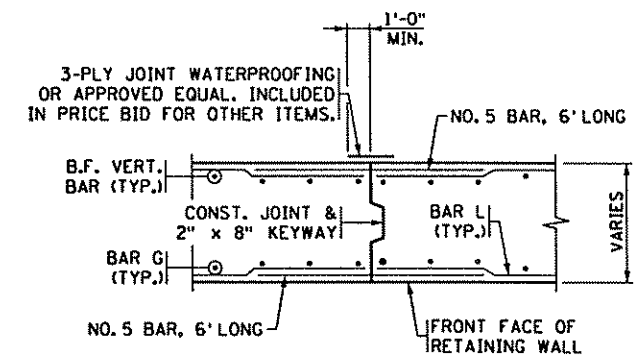
SECTION A-A (TYPE I DRAINAGE DETAIL)



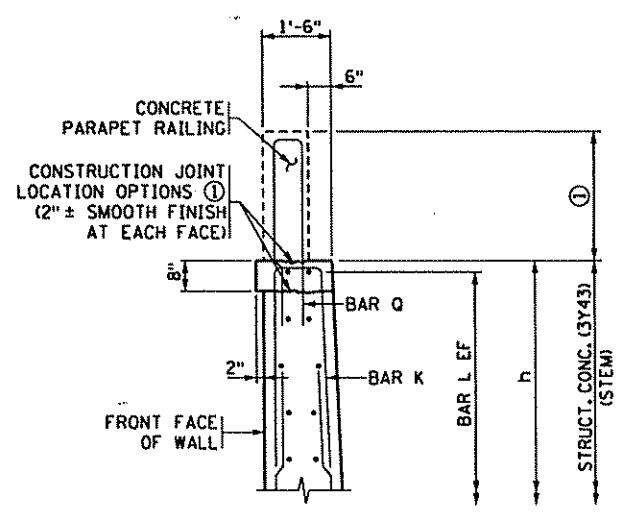
METAL RAILPOST DETAIL



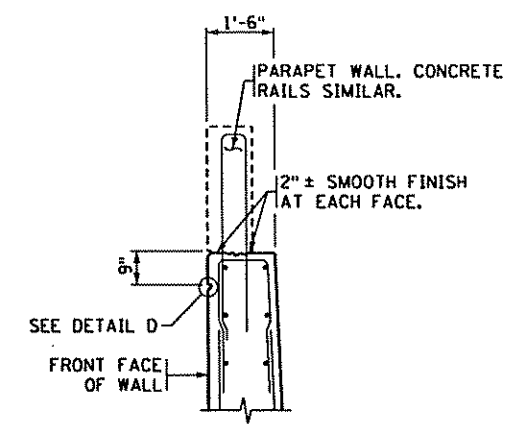
DETAIL B



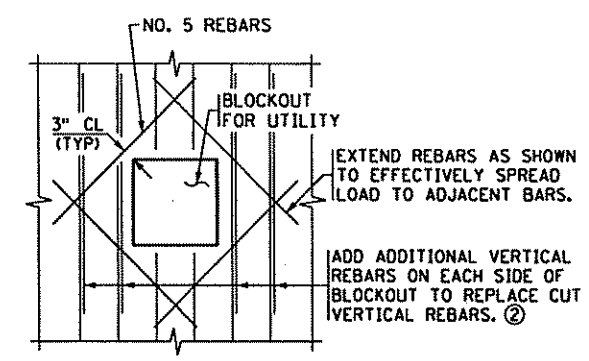
CONSTRUCTION JOINT DETAIL (STEM SHOWN)
USE AS OPTION FOR CORK AND DOWEL JOINTS
USE BETWEEN EXPANSION JOINTS.



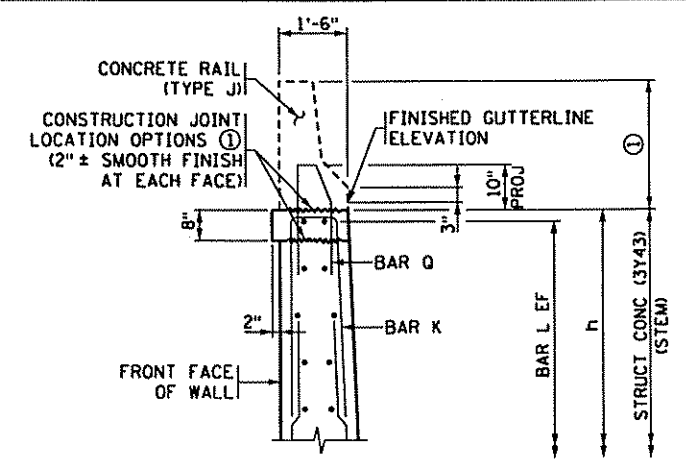
CONCRETE PARAPET RAILING DETAIL
(2" COPING OPTION SHOWN)



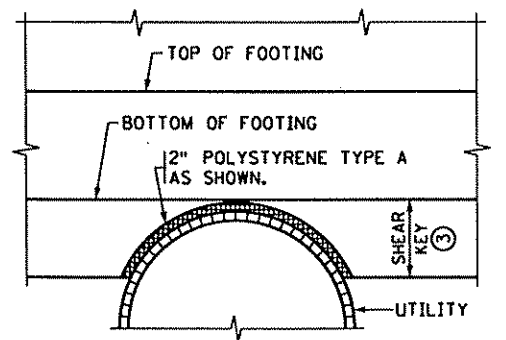
RAIL BASE DETAIL
(HORIZONTAL REVEAL OPTION SHOWN)



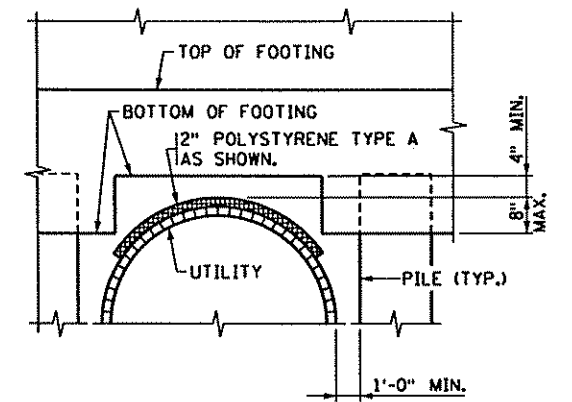
UTILITY BLOCKOUT DETAIL



TYPE J RAILING DETAIL
(2" COPING OPTION SHOWN)



PIPE UNDER SPREAD FOOTING (THRU SHEAR KEY)
CHECK PIPE TO DETERMINE IF IT CAN TAKE THE LOAD.



PIPE THRU PILE FOOTING

NOTES:

- ① ALL CONCRETE ABOVE JOINT LOCATION SHALL BE STRUCTURE CONCRETE (3Y46).
- ② FIELD CUT/ADJUST VERTICAL AND HORIZONTAL REINFORCEMENT AS NECESSARY TO CLEAR BLOCKOUT. PLACE REINFORCEMENT AS SHOWN.
- ③ MODIFY FOR INTERRUPTION.
- ④ JOINT FILLER SHALL BE CORK (SPEC. 2401.3E3) OR OTHER APPROVED EQUAL. CORK AND NAILS INCLUDED IN PRICE BID FOR OTHER ITEMS.

ARCHITECTURAL TREATMENT OPTION ON FRONT FACE OF RETAINING WALL TO BE DETERMINED BY MN/DOT.

SUMMARY OF DRAINAGE QUANTITIES								
ITEM	UNIT	WALL 1	WALL 2	WALL 3	WALL 4	WALL 5	WALL 6	TOTAL
4" DIA. PERFORATED PIPE	LIN. FT.	278						
4" DIA. DRAIN PIPE	LIN. FT.	19						
END CAP	EACH	1						
LONG RADIUS 45° ELBOW	EACH	1						

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

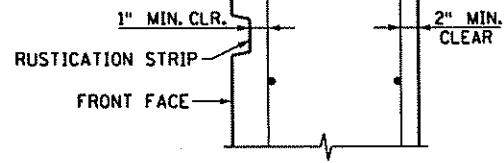
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Certified By: *Robert B. Farmer* Lic. No. 19423
Printed Name: **ROBERT B. FARMER** Date: 02/17/2006

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

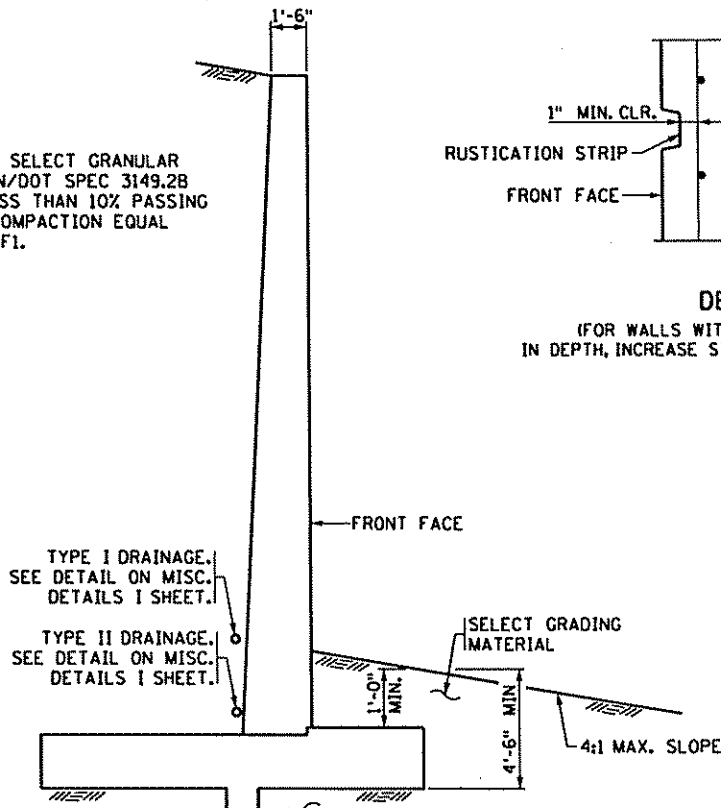
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

FILE NO.	192
ARAMSE0503	
RW5	297
OF RW12	

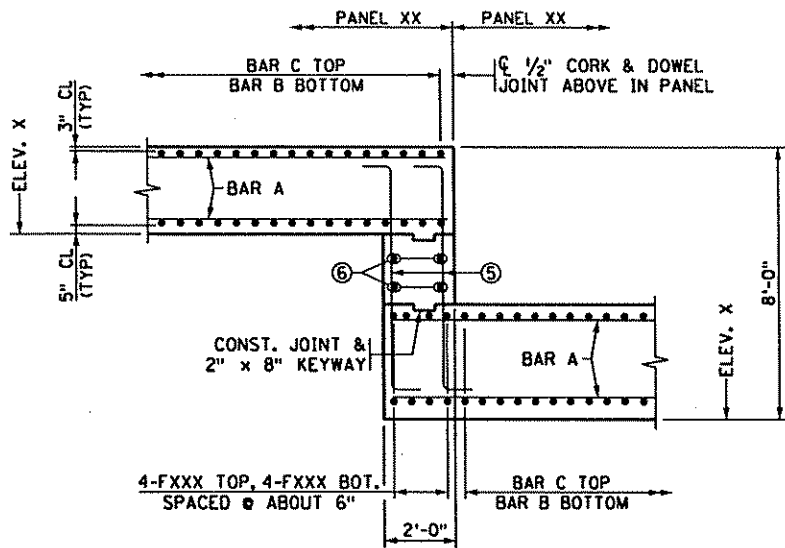
PAY LIMITS FOR SELECT GRANULAR BORROW (MOD) MN/DOT SPEC 3149.2B MODIFIED TO LESS THAN 10% PASSING A #200 SIEVE COMPACTION EQUAL TO SPEC. 2105.3F1.



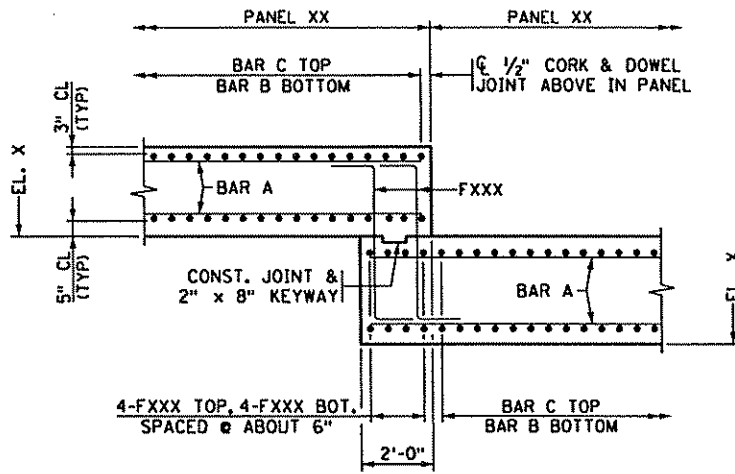
DETAIL C (FOR WALLS WITH RUSTICATION OVER 1" IN DEPTH, INCREASE STEM THICKNESS ACCORDINGLY.)



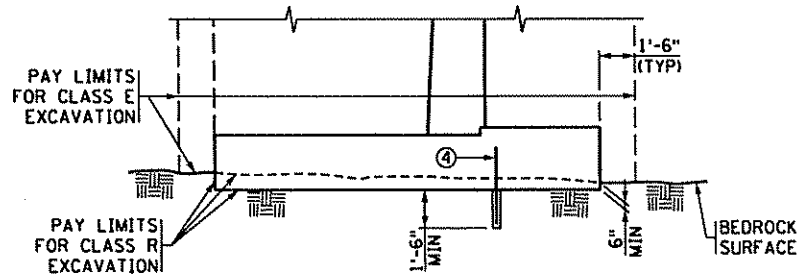
TYPICAL SECTION (INPLACE SOIL OPTION SHOWN)



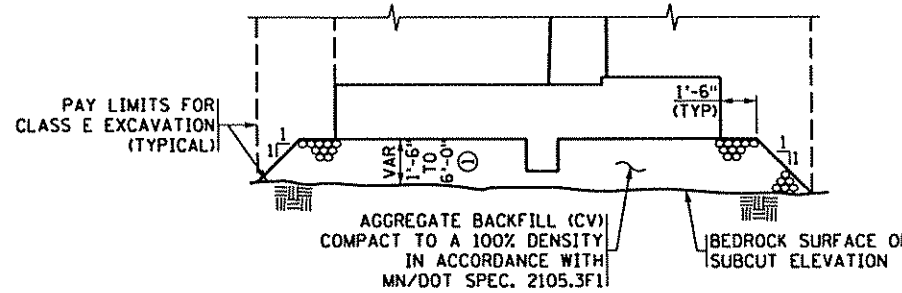
STEPPED FOOTING DETAIL - LONGIT. SECTION (TYPE 1) (SPREAD FOOTING SHOWN)



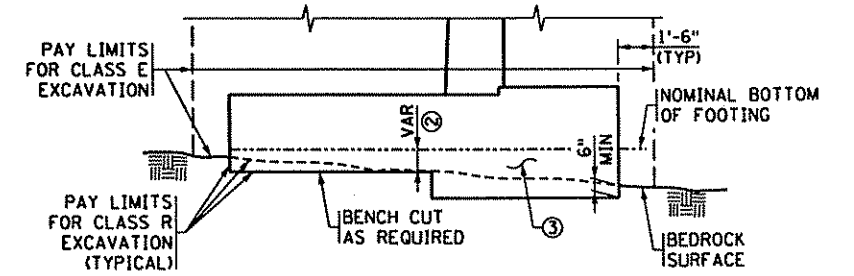
STEPPED FOOTING DETAIL - LONGIT. SECTION (TYPE 2) (SPREAD FOOTING SHOWN)



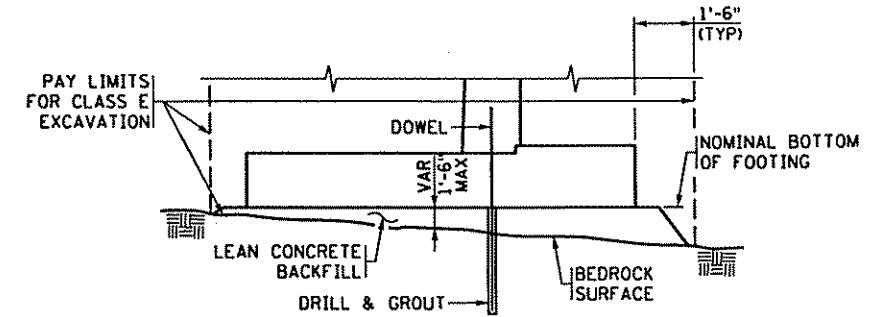
ROCK EXCAVATION OPTION



AGGREGATE BACKFILL OPTION

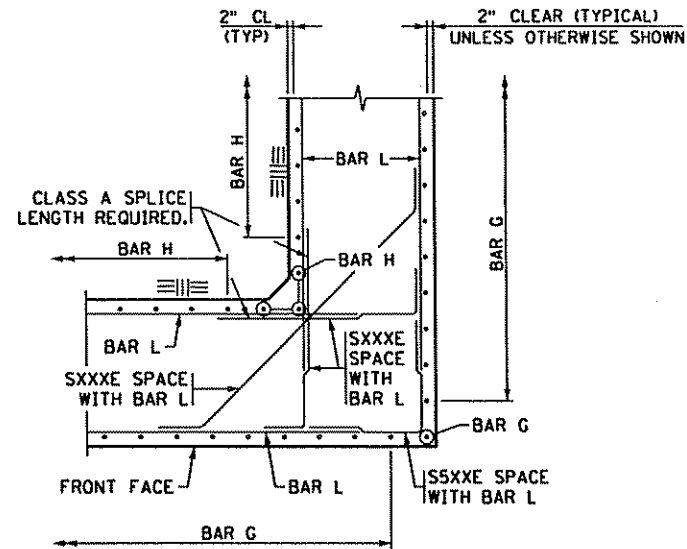


ROCK SUBCUT WITH CONCRETE BACKFILL OPTION

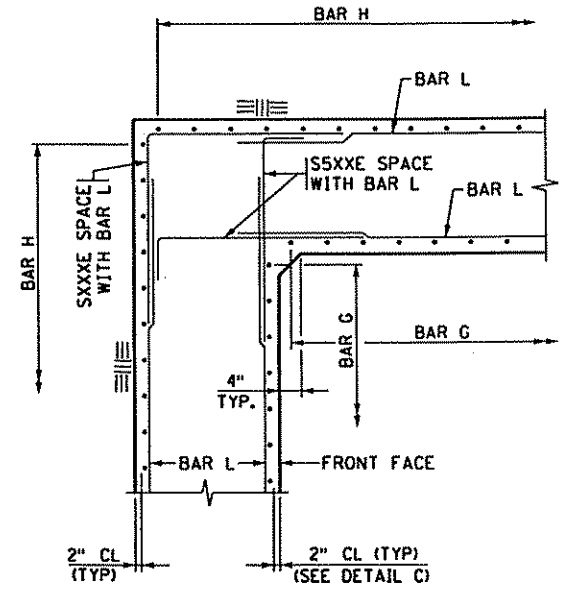


DOWEL & LEAN CONCRETE BACKFILL OPTION

FOUNDATION OPTIONS



OUTSIDE CORNER DETAIL - PLAN VIEW



INSIDE CORNER DETAIL - PLAN VIEW

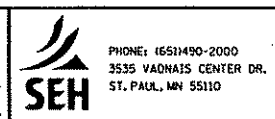
NOTES:

- ① MINIMUM DEPTH 1'-6" OR SHEAR KEY DEPTH. DESIGNER TO DETERMINE MAXIMUM DEPTH.
 - ② SEE SPECIAL PROVISIONS FOR PAYMENT OF ADDITIONAL CONCRETE.
 - ③ STRUCTURE CONCRETE (1A43) OR LEAN CONCRETE BACKFILL, AS APPROVED BY ENGINEER.
 - ④ CERTAIN ROCKS (SHALE, ETC.) BREAK OFF IN LAYERS. IN SUCH CASES, DRILL HOLES FOR ANCHORS TO KEY FOOTING TO ROCK.
 - ⑤ BARS TO BE DETAILED AND INCLUDED IN PRICE BID FOR OTHER ITEMS.
 - ⑥ REBARS TO BE SAME AS FOOTING TOP AND BOTTOM BARS.
- NOTE: SPECIAL DESIGN REQUIRED, IF STEP HEIGHT IS GREATER THAN 8'

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Robert B. Farmer* Lic. No. 19423
 Licensed Professional Engineer
 Printed Name: ROBERT B. FARMER Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

MISCELLANEOUS DETAILS II

FILE NO.	193
ARAMSE0503	
RW6	
OF RW12	297

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES			
h = 10' PANELS: A1 L = 30'-6"										
AT LOW END: 10'-0" AT HIGH END: 10'-0"										
SPREAD FOOTING REINFORCEMENT DIMENSIONS										
A	F 501	12	32'-11"	STR.	LONG T & B	412	SPREAD FOOTING			
B	F 502	31	5'-6"	STR.	TRANS BOT	178	b	1'-9"	e	--
C	F 503	31	5'-6"	STR.	TRANS TOP	178	c	1'-3"	f	--
						d	6'-0"	g	1'-11 5/16"	
STEM										
						a	1'-11"	k	2'-6"	
						j	1'-6 3/8"			
TOW THICKNESS 1'-6"										
RUSTICATION THICK FF										
FOOTING DOWELS & STEM REINFORCEMENT QUANTITIES										
D	F 504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)			
E	F 505E	31	4'-10"	0'-10"	DOWEL BF	156	(FOOTING)			
F	F 506E	30	5'-0"	4'-0"	DOWEL BF	156	SPREAD	8.8		CY
G	S 401E	31	7'-1"	STR.	VERT FF	147	STRUCTURE CONCRETE (3Y43)			
H	S 502E	31	7'-1"	STR.	VERT BF	229	(STEM)			
J	S 503E	-	0'-0"	STR.	VERT BF	-	(STEM)			
K	S 504E	31	10'-7"	4'-9"	TIE	342	19.3 CY			
L	S 405E	20	30'-0"	STR.	HORIZ EF	401	REINFORCEMENT (PLAIN)			
M	S 506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	768		LB
N	S 507E	2	7'-9"	1'-9"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
P	S 508E	-	8'-2"	2'-2"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
Q	S 509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2021 LB			

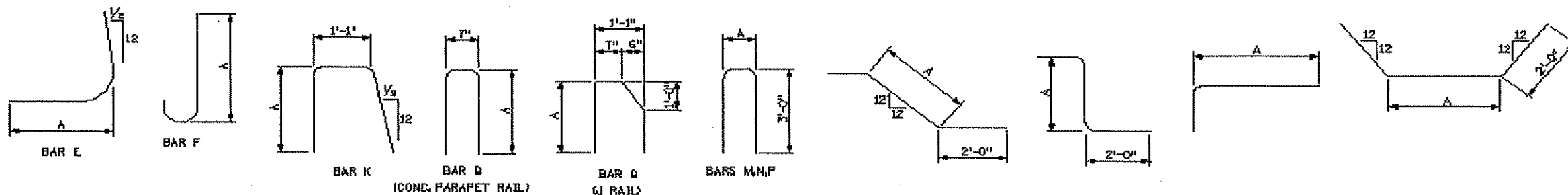
BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES			
h = 14' PANELS: A5 L = 30'-6"										
AT LOW END: 14'-0" AT HIGH END: 14'-0"										
SPREAD FOOTING REINFORCEMENT DIMENSIONS										
A	F 501	16	32'-11"	STR.	LONG T & B	549	SPREAD FOOTING			
B	F 702	31	7'-2"	STR.	TRANS BOT	454	b	2'-9"	e	1'-0"
C	F 503	31	7'-2"	STR.	TRANS TOP	232	c	1'-6"	f	4'-5 3/4"
						d	7'-8"	g	2'-11 5/16"	
STEM										
						a	2'-1"	k	2'-6"	
						j	1'-8 3/8"			
TOW THICKNESS 1'-6"										
RUSTICATION THICK FF										
FOOTING DOWELS & STEM REINFORCEMENT QUANTITIES										
D	F 504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)			
E	F 505E	31	8'-10"	0'-10"	DOWEL BF	286	(FOOTING)			
F	F 506E	30	9'-6"	8'-6"	DOWEL BF	297	SPREAD	14.5		CY
G	S 401E	31	11'-1"	STR.	VERT FF	230	STRUCTURE CONCRETE (3Y43)			
H	S 502E	31	7'-4"	STR.	VERT BF	237	(STEM)			
J	S 503E	-	0'-0"	STR.	VERT BF	-	(STEM)			
K	S 504E	31	10'-7"	4'-9"	TIE	342	28.3 CY			
L	S 405E	28	30'-0"	STR.	HORIZ EF	581	REINFORCEMENT (PLAIN)			
M	S 506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1235		LB
N	S 507E	8	7'-9"	1'-9"	EXP JT TIE	65	REINFORCEMENT (EPOXY)			
P	S 508E	-	8'-2"	2'-2"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
Q	S 509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2608 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES			
h = 15' PANELS: A6-A7 L = 30'-6"										
AT LOW END: 15'-0" AT HIGH END: 15'-0"										
SPREAD FOOTING REINFORCEMENT DIMENSIONS										
A	F 501	18	32'-11"	STR.	LONG T & B	618	SPREAD FOOTING			
B	F 602	31	7'-8"	STR.	TRANS BOT	357	b	3'-0"	e	1'-0"
C	F 503	31	7'-8"	STR.	TRANS TOP	248	c	1'-6"	f	4'-9 1/4"
						d	8'-2"	g	3'-2 5/16"	
STEM										
						a	2'-1 1/2"	k	2'-6"	
						i	1'-8 7/8"			
TOW THICKNESS 1'-6"										
RUSTICATION THICK FF										
FOOTING DOWELS & STEM REINFORCEMENT QUANTITIES										
D	F 504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)			
E	F 605E	31	8'-10"	4'-7"	DOWEL BF	411	(FOOTING)			
F	F 606E	30	5'-9"	4'-9"	DOWEL BF	259	SPREAD	15.4		CY
G	S 401E	31	12'-1"	STR.	VERT FF	250	STRUCTURE CONCRETE (3Y43)			
H	S 502E	31	12'-1"	STR.	VERT BF	391	(STEM)			
J	S 503E	30	7'-3"	STR.	VERT BF	227	(STEM)			
K	S 504E	31	10'-7"	4'-9"	TIE	342	30.7 CY			
L	S 405E	30	30'-0"	STR.	HORIZ EF	601	REINFORCEMENT (PLAIN)			
M	S 506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1223		LB
N	S 507E	10	7'-9"	1'-9"	EXP JT TIE	81	REINFORCEMENT (EPOXY)			
P	S 508E	-	8'-2"	2'-2"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
Q	S 509E	38	8'-7"	4'-0"	RAIL DOWEL	340	3152 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES			
h = 17' PANELS: A8 L = 30'-6"										
AT LOW END: 17'-0" AT HIGH END: 17'-0"										
SPREAD FOOTING REINFORCEMENT DIMENSIONS										
A	F 501	20	32'-11"	STR.	LONG T & B	697	SPREAD FOOTING			
B	F 602	31	8'-8"	STR.	TRANS BOT	404	b	3'-6"	e	1'-0"
C	F 603	31	8'-8"	STR.	TRANS TOP	404	c	1'-9"	f	5'-4 3/8"
						d	9'-2"	g	3'-8 5/16"	
STEM										
						a	2'-2 1/2"	k	2'-6"	
						j	1'-9 7/8"			
TOW THICKNESS 1'-6"										
RUSTICATION THICK FF										
FOOTING DOWELS & STEM REINFORCEMENT QUANTITIES										
D	F 504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)			
E	F 605E	31	11'-5"	5'-2"	DOWEL BF	532	(FOOTING)			
F	F 606E	30	8'-0"	7'-0"	DOWEL BF	360	SPREAD	19.8		CY
G	S 401E	31	14'-1"	STR.	VERT FF	292	STRUCTURE CONCRETE (3Y43)			
H	S 502E	31	12'-1"	STR.	VERT BF	391	(STEM)			
J	S 503E	30	7'-3"	STR.	VERT BF	227	(STEM)			
K	S 504E	31	10'-7"	4'-9"	TIE	342	35.6 CY			
L	S 405E	34	30'-0"	STR.	HORIZ EF	681	REINFORCEMENT (PLAIN)			
M	S 506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1495		LB
N	S 507E	14	7'-9"	1'-9"	EXP JT TIE	113	REINFORCEMENT (EPOXY)			
P	S 508E	-	8'-2"	2'-2"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
Q	S 509E	38	8'-7"	4'-0"	RAIL DOWEL	340	3528 LB			

BAR	MARK	NO.	LENGTH	A	LOCATION	WT.	DIMENSIONS & QUANTITIES			
h = 13' PANELS: A4 L = 30'-6"										
AT LOW END: 13'-0" AT HIGH END: 13'-0"										
SPREAD FOOTING REINFORCEMENT DIMENSIONS										
A	F 501	14	32'-11"	STR.	LONG T & B	481	SPREAD FOOTING			
B	F 602	31	6'-6"	STR.	TRANS BOT	538	b	2'-6"	e	1'-0"
C	F 503	31	6'-6"	STR.	TRANS TOP	210	c	1'-3"	f	4'-2 1/8"
						d	7'-0"	g	2'-8 5/16"	
STEM										
						a	2'-1/2"	k	2'-6"	
						j	1'-7 7/8"			
TOW THICKNESS 1'-6"										
RUSTICATION THICK FF										
FOOTING DOWELS & STEM REINFORCEMENT QUANTITIES										
D	F 504E	31	3'-0"	STR.	DOWEL FF	97	STRUCTURE CONCRETE (1A43)			
E	F 505E	31	7'-10"	0'-10"	DOWEL BF	253	(FOOTING)			
F	F 506E	30	8'-3"	7'-3"	DOWEL BF	258	SPREAD	11.4		CY
G	S 401E	31	10'-1"	STR.	VERT FF	209	STRUCTURE CONCRETE (3Y43)			
H	S 502E	31	7'-4"	STR.	VERT BF	237	(STEM)			
J	S 503E	-	0'-0"	STR.	VERT BF	-	(STEM)			
K	S 504E	31	10'-7"	4'-9"	TIE	342	26.0 CY			
L	S 405E	26	30'-0"	STR.	HORIZ EF	521	REINFORCEMENT (PLAIN)			
M	S 506E	20	7'-4"	1'-4"	EXP JT TIE	153	SPREAD	1229		LB
N	S 507E	6	7'-9"	1'-9"	EXP JT TIE	48	REINFORCEMENT (EPOXY)			
P	S 508E	-	8'-2"	2'-2"	EXP JT TIE	-	REINFORCEMENT (EPOXY)			
Q	S 509E	38	8'-7"	4'-0"	RAIL DOWEL	340	2458 LB			

X:\P\TR\amsel\05000\0\inst\st\val\1\LEVEL_LOAD.xls\RW12.dgn



NOTES:
 L = PANEL LENGTH
 F.F. = FRONT FACE
 B.F. = BACK FACE
 E.F. = EACH FACE
 BARS MARKED WITH THE SUFFIX "E" ARE EPOXY COATED.
 DESIGNERS SHALL CROSS OFF ENTRIES WHICH DO NOT APPLY.

APPROVED: MARCH 14, 1996
Donald J. Fleming
 STATE BRIDGE ENGINEER

STANDARD SHEET NO. FIG. 5-395.208 (MOD.)
 STANDARD APPROVED: TITLE: PANEL TABULATIONS -- RETAINING WALL (2' - LIVE LOAD SURCHARGE)
 S.A.P. 02-632-14, S.A.P. 62-601-11
 RW7 OF RW12
 Sheet No. 194 Of 297 Sheets

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02/17/2006

rwb

WALL LOADING CASE: LEVEL FILL

SHORT WALL (5'-12')
MEDIUM WALL (13'-16')
TALL WALL (17'-30')

WALL HEIGHT h	WALL REINFORCEMENT - SPREAD FOOTING			
	STEM DOWEL SIZE AND SPACING	FOOTING		
		TOE (BOTTOM TRANSVERSE) ① BAR SIZE & SPA.	HEEL (TOP TRANSVERSE) ② BAR SIZE & SPA.	LONGITUDINAL (TOP AND BOT.) BAR SIZE & SPA.
5	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
6	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
7	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
8	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
9	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
10	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
11	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
12	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
13	#5 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"
14	#5 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
15	#5 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
16	#5 @ 6"	#7 @ 12"	#6 @ 12"	#5 @ 12"
17	#6 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
18	#6 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
19	#6 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
20	#6 @ 6"	#6 @ 12"	#8 @ 12"	#5 @ 12"
21	#7 @ 6"	#6 @ 12"	#8 @ 12"	#5 @ 12"
22	#7 @ 6"	#7 @ 12"	#7 @ 12"	#5 @ 12"
23	#7 @ 6"	#7 @ 12"	#7 @ 12"	#5 @ 12"
24	#8 @ 6"	#7 @ 12"	#7 @ 12"	#5 @ 12"
25	#8 @ 6"	#7 @ 12"	#8 @ 12"	#5 @ 12"
26	#9 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
27	#9 @ 6"	#7 @ 12"	#8 @ 12"	#6 @ 12"
28	#9 @ 6"	#8 @ 12"	#8 @ 12"	#6 @ 12"
29	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
30	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"

NOTES:

FOOTING BAR SIZE, #5 BAR MINIMUM, PER MN/DOT

- ① AREA OF STEEL PROVIDED INCLUDES BACK FACE STEM DOWELS, EXCLUDING #5 DOWELS, SEE STEM REINFORCEMENT.
- ② BASED ON GROSS SOIL LOAD ON HEEL.

WALL LOADING CASE: 2' - LIVE LOAD SURCHARGE

SHORT WALL (5'-9')
MEDIUM WALL (10'-14')
TALL WALL (15'-29')

WALL HEIGHT h	WALL REINFORCEMENT - SPREAD FOOTING			
	STEM DOWEL SIZE AND SPACING	FOOTING		
		TOE (BOTTOM TRANSVERSE) ① BAR SIZE & SPA.	HEEL (TOP TRANSVERSE) ② BAR SIZE & SPA.	LONGITUDINAL (TOP AND BOT.) BAR SIZE & SPA.
5	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
6	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
7	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
8	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
9	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
10	#5 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"
11	#5 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
12	#5 @ 6"	#7 @ 12"	#5 @ 12"	#5 @ 12"
13	#5 @ 6"	#8 @ 12"	#5 @ 12"	#5 @ 12"
14	#5 @ 6"	#7 @ 12"	#5 @ 12"	#5 @ 12"
15	#6 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
16	#6 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
17	#6 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
18	#7 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
19	#7 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
20	#8 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
21	#8 @ 6"	#7 @ 12"	#7 @ 12"	#5 @ 12"
22	#8 @ 6"	#7 @ 12"	#7 @ 12"	#6 @ 12"
23	#9 @ 6"	#6 @ 12"	#7 @ 12"	#6 @ 12"
24	#9 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
25	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
26	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
27	#10 @ 6"	#6 @ 12"	#8 @ 12"	#7 @ 12"
28	#11 @ 6"	#6 @ 12"	#9 @ 12"	#7 @ 12"
29	#11 @ 6"	#6 @ 12"	#9 @ 12"	#7 @ 12"
30	---	---	---	---

NOTES:

FOOTING BAR SIZE, #5 BAR MINIMUM, PER MN/DOT

- ① AREA OF STEEL PROVIDED INCLUDES BACK FACE STEM DOWELS, EXCLUDING #5 DOWELS, SEE STEM REINFORCEMENT.
- ② BASED ON GROSS SOIL LOAD ON HEEL.

WALL LOADING CASE: 2:1 SLOPED FILL

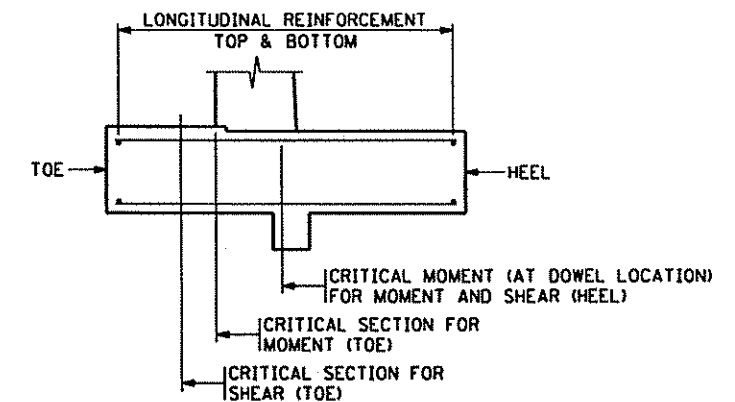
SHORT WALL (5'-11')
MEDIUM WALL (12'-16')
TALL WALL (17'-29')

WALL HEIGHT h	WALL REINFORCEMENT - SPREAD FOOTING			
	STEM DOWEL SIZE AND SPACING	FOOTING		
		TOE (BOTTOM TRANSVERSE) ① BAR SIZE & SPA.	HEEL (TOP TRANSVERSE) ② BAR SIZE & SPA.	LONGITUDINAL (TOP AND BOT.) BAR SIZE & SPA.
5	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
6	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
7	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
8	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
9	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
10	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
11	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
12	#5 @ 6"	#6 @ 12"	#5 @ 12"	#5 @ 12"
13	#5 @ 6"	#6 @ 12"	#6 @ 12"	#5 @ 12"
14	#5 @ 6"	#7 @ 12"	#6 @ 12"	#5 @ 12"
15	#5 @ 6"	#7 @ 12"	#6 @ 12"	#5 @ 12"
16	#5 @ 6"	#8 @ 12"	#6 @ 12"	#5 @ 12"
17	#6 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
18	#6 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
19	#7 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
20	#7 @ 6"	#7 @ 12"	#8 @ 12"	#5 @ 12"
21	#8 @ 6"	#6 @ 12"	#7 @ 12"	#5 @ 12"
22	#8 @ 6"	#7 @ 12"	#8 @ 12"	#5 @ 12"
23	#9 @ 6"	#6 @ 12"	#8 @ 12"	#5 @ 12"
24	#9 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
25	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
26	#10 @ 6"	#6 @ 12"	#8 @ 12"	#6 @ 12"
27	#10 @ 6"	#7 @ 12"	#8 @ 12"	#6 @ 12"
28	#11 @ 6"	#6 @ 12"	#9 @ 12"	#6 @ 12"
29	#11 @ 6"	#6 @ 12"	#9 @ 12"	#6 @ 12"
30	---	---	---	---

NOTES:

FOOTING BAR SIZE, #5 BAR MINIMUM, PER MN/DOT

- ① AREA OF STEEL PROVIDED INCLUDES BACK FACE STEM DOWELS, EXCLUDING #5 DOWELS, SEE STEM REINFORCEMENT.
- ② BASED ON GROSS SOIL LOAD ON HEEL.



TYPICAL SECTION

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.

Certified By: *[Signature]* Lic. No. 19423
Printed Name: ROY B. FARMER Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

RETAINING WALL

FILE NO. 195
ARAMSE0503
RW8
OF RW12
297

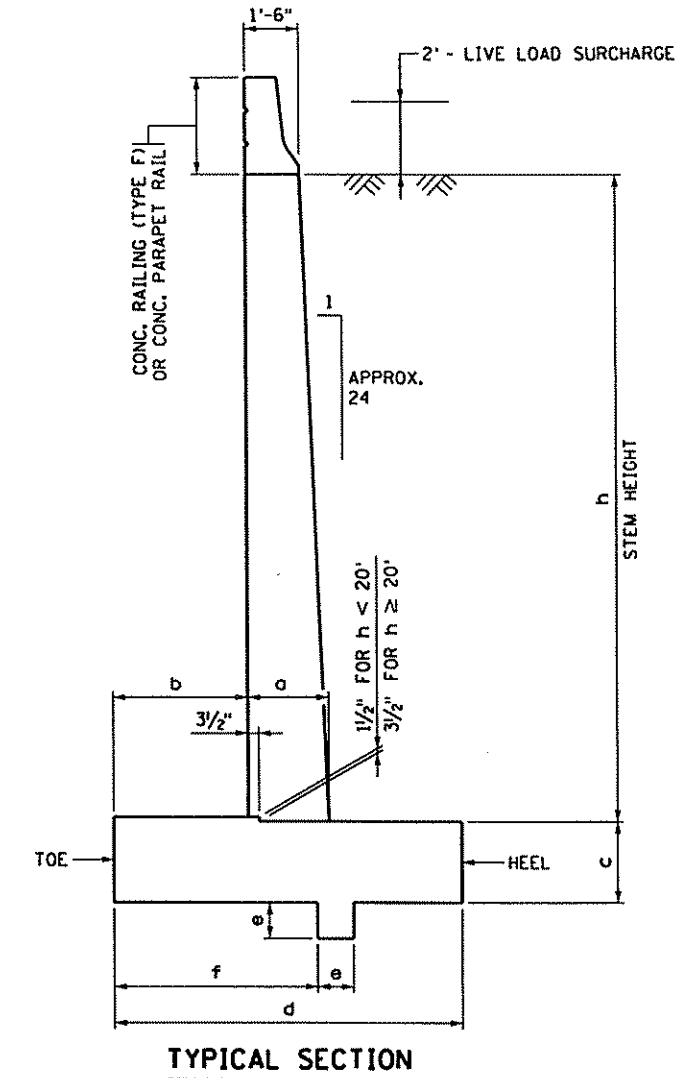
WALL LOADING CASE:
2' - LIVE LOAD SURCHARGE

WALL GEOMETRICS AND DATA - SPREAD FOOTING							QUANTITIES PER FOOT - SPREAD FOOTING				WALL DETAILING SCHEME	BASE PRESSURE KIPS/SQ. FT.	
STEM HEIGHT h	STEM WIDTH a	TOE WIDTH b	FOOTING THICKNESS c	FOOTING WIDTH d	SHEAR KEY SIZE e	SHEAR KEY LOCATION f	STRUCTURAL CONCRETE 1A43 (CU.YD.) FOOTING	REINFORCEMENT 3Y43 (CU.YD.) STEM	PLAIN (POUND)	EPOXY (POUND)		TOE	HEEL
5	1'-8 1/2"	1'-0"	1'-3"	3'-6"	N/A	N/A	0.168	0.296	15.38	38.16	SHORT	1.670	0.070
6	1'-9"	1'-2"	1'-3"	4'-0"	N/A	N/A	0.192	0.360	16.43	41.74	SHORT	1.820	0.090
7	1'-9 1/2"	1'-4"	1'-3"	4'-6"	N/A	N/A	0.216	0.425	19.70	45.34	SHORT	1.970	0.120
8	1'-10"	1'-6"	1'-3"	5'-0"	N/A	N/A	0.240	0.492	20.75	48.89	SHORT	2.110	0.150
9	1'-10 1/2"	1'-8"	1'-3"	5'-6"	N/A	N/A	0.264	0.561	24.13	52.69	SHORT	2.250	0.180
10	1'-11"	1'-9"	1'-3"	6'-0"	N/A	N/A	0.287	0.631	25.18	62.49	MEDIUM	2.446	0.199
11	1'-11 1/2"	2'-0"	1'-3"	6'-6"	N/A	N/A	0.312	0.703	31.28	66.85	MEDIUM	2.536	0.239
12	2'-0"	2'-3"	1'-3"	6'-9"	1'-0"	3'-10 5/8"	0.361	0.776	35.38	72.23	MEDIUM	2.758	0.156
13	2'-0 1/2"	2'-6"	1'-3"	7'-0"	1'-0"	4'-2 1/8"	0.374	0.851	40.30	76.82	MEDIUM	2.986	0.013
14	2'-1"	2'-9"	1'-6"	7'-8"	1'-0"	4'-5 3/4"	0.477	0.928	40.49	81.74	MEDIUM	3.147	0.078
15	2'-1 1/2"	3'-0"	1'-6"	8'-2"	1'-0"	4'-9 1/4"	0.506	1.006	40.10	99.57	TALL	3.239	0.111
16	2'-2"	3'-3"	1'-9"	8'-8"	1'-0"	5'-0 1/8"	0.615	1.085	41.38	105.97	TALL	3.494	0.056
17	2'-2 1/2"	3'-6"	1'-9"	9'-2"	1'-0"	5'-4 3/8"	0.649	1.166	49.02	111.90	TALL	3.586	0.089
18	2'-3"	3'-9"	1'-9"	9'-8"	1'-0"	5'-7 7/8"	0.682	1.249	50.52	129.74	TALL	3.679	0.121
19	2'-3 1/2"	4'-0"	2'-0"	10'-2"	1'-0"	5'-11 1/2"	0.810	1.333	54.26	137.41	TALL	3.935	0.066
20	2'-4"	4'-3"	2'-0"	10'-8"	1'-0"	6'-3"	0.875	1.417	61.38	165.51	TALL	4.056	0.090
21	2'-4 1/2"	4'-6"	2'-0"	11'-2"	1'-0"	6'-6 1/2"	0.916	1.504	71.34	174.30	TALL	4.151	0.122
22	2'-5"	4'-9"	2'-3"	11'-8"	1'-0"	6'-10 1/8"	1.064	1.593	85.93	183.51	TALL	4.407	0.067
23	2'-5 1/2"	5'-0"	2'-6"	12'-2"	1'-0"	7'-1 1/4"	1.221	1.683	84.82	224.49	TALL	4.663	0.012
24	2'-6"	5'-3"	2'-9"	12'-9"	1'-0"	7'-5 3/8"	1.396	1.775	94.03	234.03	TALL	4.872	0.020
25	2'-6 1/2"	5'-6"	2'-9"	13'-3"	1'-0"	7'-8 7/8"	1.449	1.868	100.13	288.16	TALL	4.967	0.052
26	2'-7"	5'-10"	3'-0"	13'-9"	1'-0"	8'-1 1/2"	1.631	1.963	102.26	299.67	TALL	5.189	0.000
27	2'-7 1/2"	6'-2"	3'-3"	14'-4"	1'-0"	8'-6 1/8"	1.832	2.059	127.34	315.84	TALL	5.364	0.000
28	2'-8"	6'-6"	3'-3"	15'-0"	1'-0"	8'-10 3/8"	1.916	2.157	140.92	394.98	TALL	5.334	0.140
29	2'-8 1/2"	6'-10"	3'-6"	15'-6"	1'-0"	9'-3 1/4"	2.123	2.257	148.00	407.90	TALL	5.558	0.077
30	---	---	---	---	---	---	---	---	---	---	---	---	---

NOTE:
EPOXY REINFORCEMENT QUANTITY ASSUMES AN EXPANSION JOINT IS USED ON BOTH PANEL ENDS. THE QUANTITY MUST BE ADJUSTED WHEN CONSTRUCTION JOINTS ARE USED. QUANTITIES ON THIS SHEET DO NOT INCLUDE RAILING. SEE RAILING SHEETS FOR RAIL REINFORCEMENT (EPOXY) AND RAIL CONCRETE (3Y46).

DESIGN CRITERIA

1992 A.A.S.H.T.O. DESIGN SPECIFICATIONS
 DESIGN METHOD:
 WORKING STRESS - STABILITY, FOUNDATIONS
 LOAD FACTOR DESIGN - REINFORCED CONCRETE
 $f'_c = 4,000$ PSI
 $f_y = 60,000$ PSI
 FACTOR OF SAFETY OVERTURNING: 2.0 MINIMUM
 FACTOR OF SAFETY SLIDING: 1.5 MINIMUM
 LOCATION OF RESULTANT: MIDDLE 1/3 OF FOOTING
 NEGLECTING SOIL IN FRONT OF WALL.
 SEE FOUNDATION REPORT FOR ALLOWABLE BEARING PRESSURE AND COEFFICIENT OF FRICTION.
 BACKFILL CHARACTERISTICS:
 INTERNAL ANGLE OF FRICTION: 35°
 = 33 PCF EQUIVALENT FLUID PRESSURE ACTIVE STATE
 = 53 PCF EQUIVALENT FLUID PRESSURE AT REST STATE
 $\beta_e = 1.0$
 COEFFICIENT OF FRICTION: 0.55
 UNIT WEIGHT: 125 PCF



DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: MTT				
DESIGNER: MTT				
CHECKED BY: JEO				

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.
 Certified By: *[Signature]* Lic. No. 19423
 Printed Name: RON B. FARMER Date: 02/17/2006



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

RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

RETAINING WALL
 (2' - LIVE LOAD SURCHARGE)

FILE NO. ARAMSE0503
 196
 RW9 OF RW12
 297

03/36/30 PM

02/17/2006

RW9

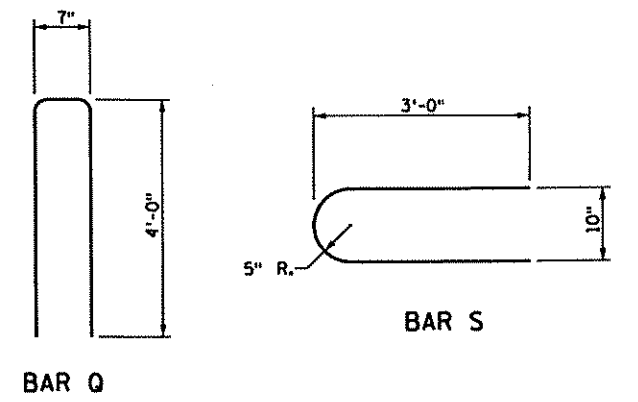
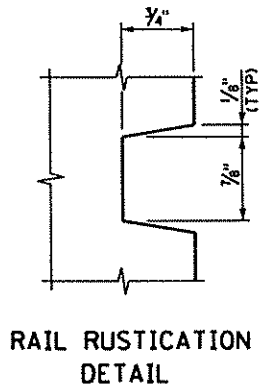
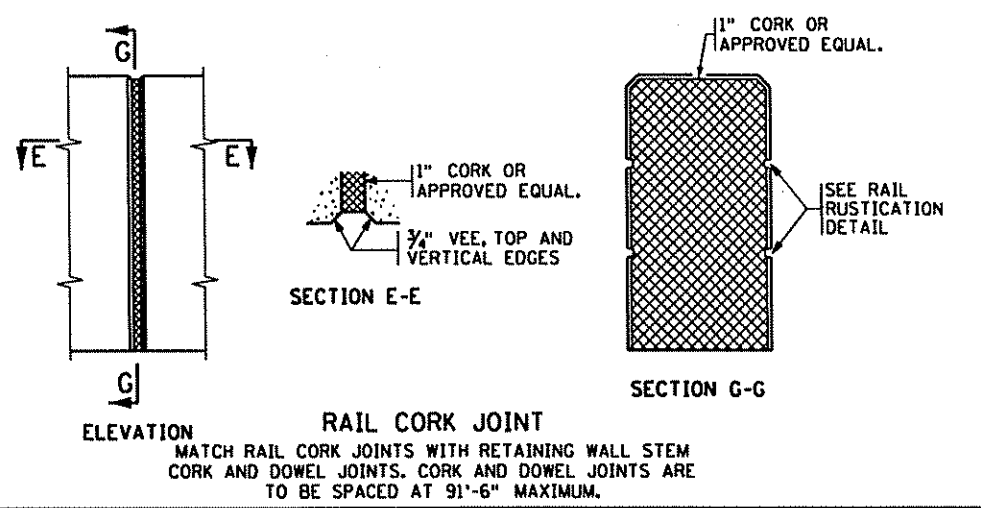
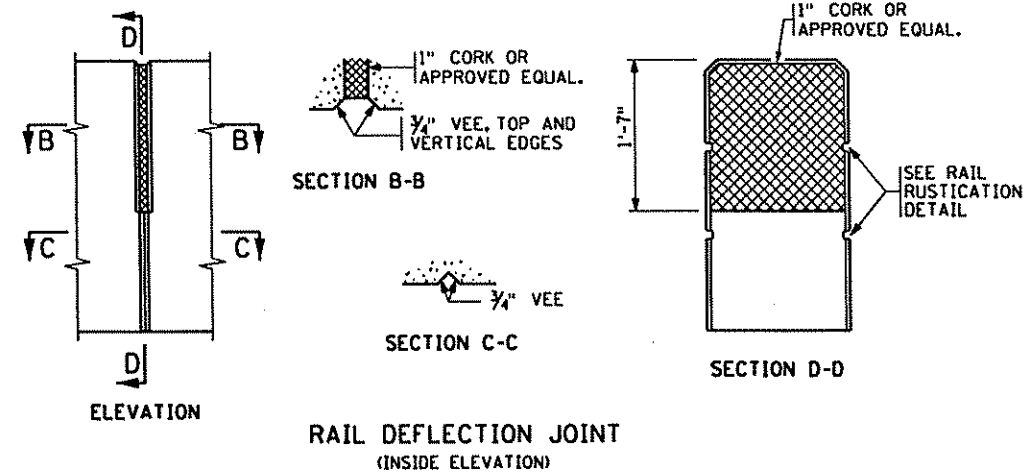
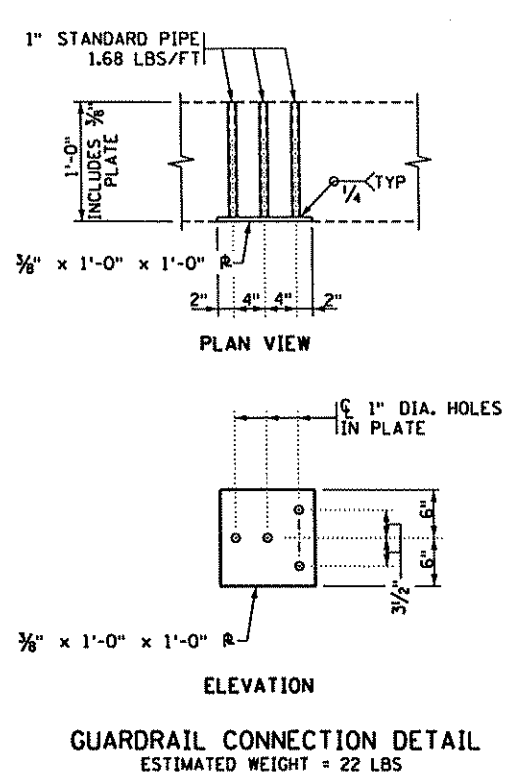
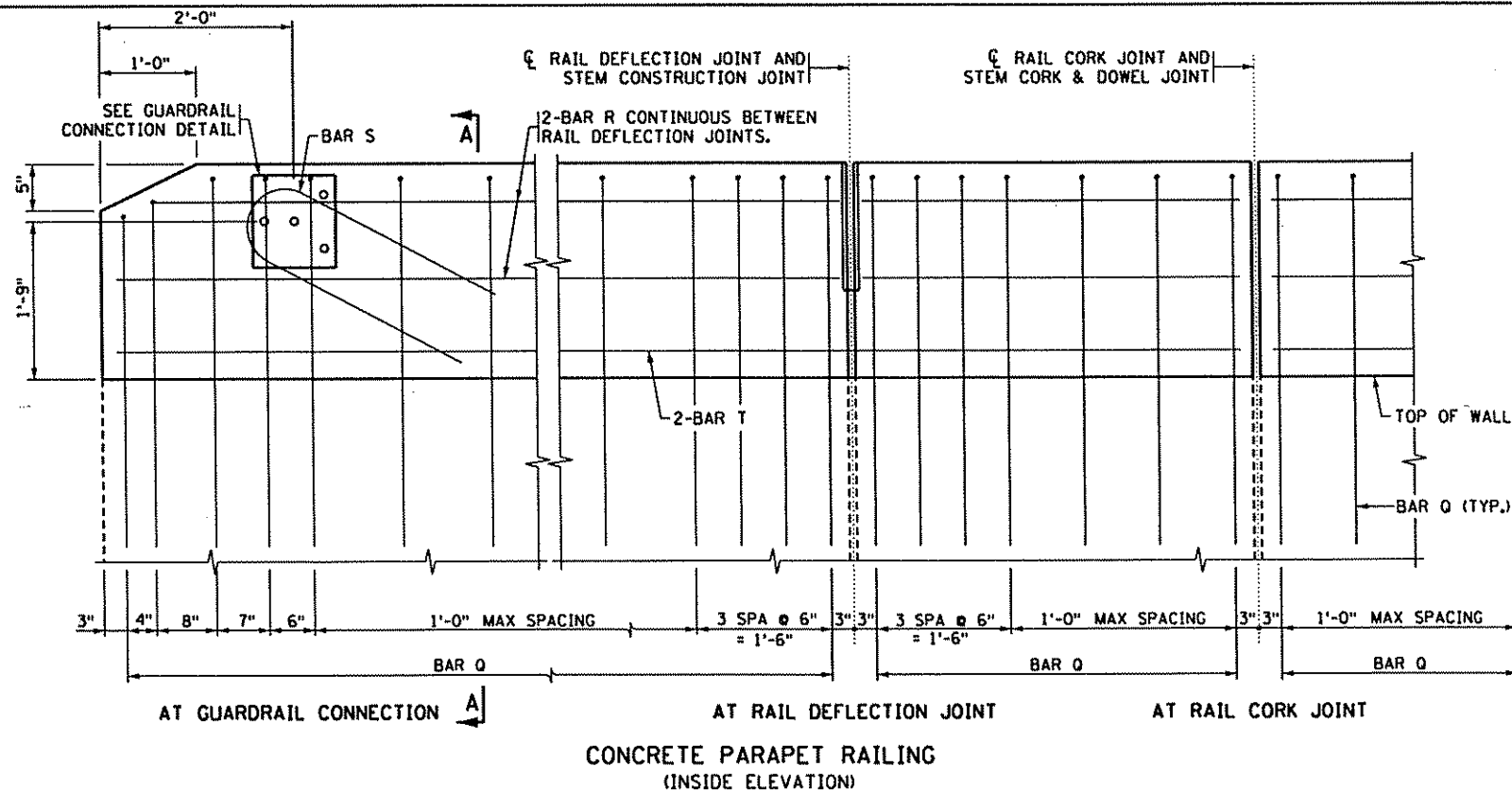
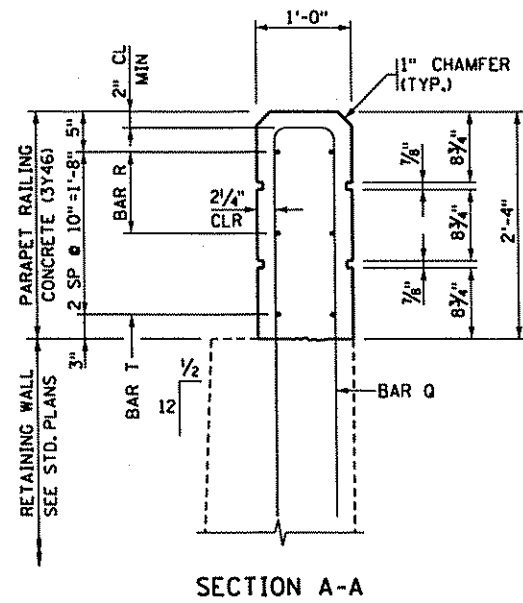
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rw10

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BILL OF REINFORCEMENT

TYPICAL RAILING ON RETAINING WALL ② 30'-6" PANEL LENGTH, PANELS: A1-A9					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
R	R501E	8	14'-11"	STR.	RAILING - HORIZONTAL
T	R502E	2	30'-2"	STR.	RAILING - HORIZONTAL
TYPE F RAIL. CONC. (3Y46)			REINFORCEMENT BARS (EPOXY)		
2.6 CU. YD. ①			188 POUND		
30'-6" PANEL LENGTH ② WITH GUARDRAIL CONNECTION					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
Q	S509E	1	8'-7"	BENT	RAILING - VERTICAL
R	R501E	8	14'-11"	STR.	RAILING - HORIZONTAL
S	R702E	1	6'-6"	BENT	RAILING - VERTICAL
T	R503E	2	30'-2"	STR.	RAILING - HORIZONTAL
TYPE F RAIL. CONC. (3Y46)			REINFORCEMENT BARS (EPOXY)		
2.6 CU. YD. ①			210 POUND		
TYPICAL RAILING ON RETAINING WALL ----- PANEL LENGTH, PANEL: -----					
BAR	MARK	NO.	LENGTH	SHAPE	LOCATION
R	R5 E			STR.	RAILING - HORIZONTAL
T	R5 E			STR.	RAILING - HORIZONTAL
TYPE F RAIL. CONC. (3Y46)			REINFORCEMENT BARS (EPOXY)		
CU. YD. ①			POUND		

NOTES:

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

THE GUARDRAIL CONNECTION IS INCLUDED IN THE PRICE BID FOR OTHER ITEMS.

MAXIMUM SPACING OF RAIL DEFLECTION JOINTS SHALL BE 20'-0".

GUARDRAIL CONNECTION SHALL BE STRUCTURAL STEEL, SPEC. 3306 AND GALVANIZED AFTER FABRICATION PER SPEC. 3394.

FOR TYPICAL RETAINING WALL REINFORCEMENT AND DETAILS, SEE STANDARD RETAINING WALL SHEETS.

CONCRETE RAILING: 350 LBS./FT.
0.086 CU. YD./FT.

CONCRETE PARAPET RAILING SHALL BE PAID FOR ON A LINEAL FOOT BASIS.

① FOR INFORMATIONAL PURPOSES ONLY.

② REINFORCEMENT SHOWN ASSUMES RAIL DEFLECTION JOINT LOCATED IN CENTER OF PANEL.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.

Certified By: *[Signature]* Lic. No. 19423

Printed Name: *RON B. FARMER* Date: 02/17/2006

SEH

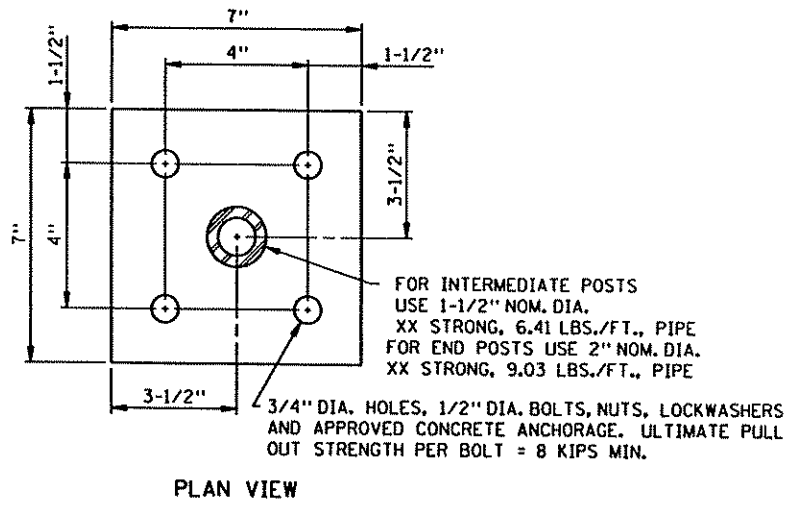
PHONE: (651)490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

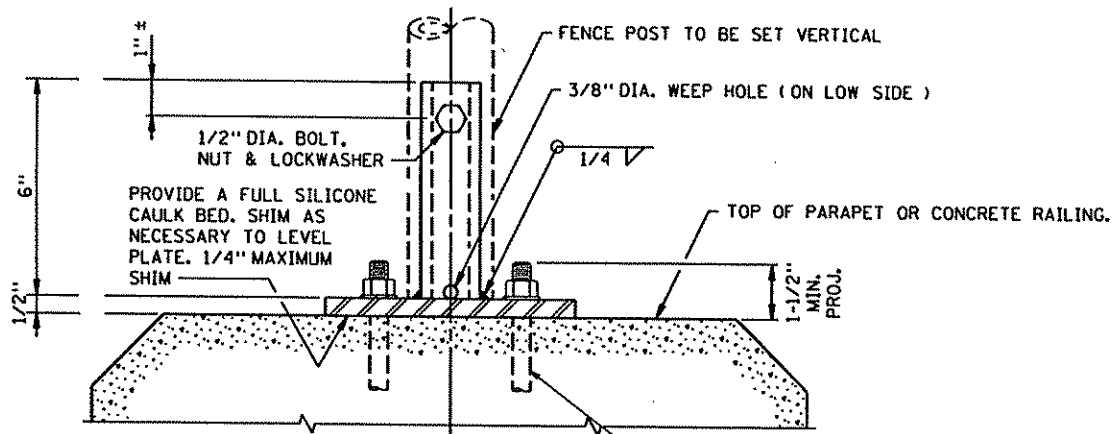
CONCRETE PARAPET RAILING FOR RETAINING WALLS

FILE NO. ARAMSE0503
RW10 OF RW12

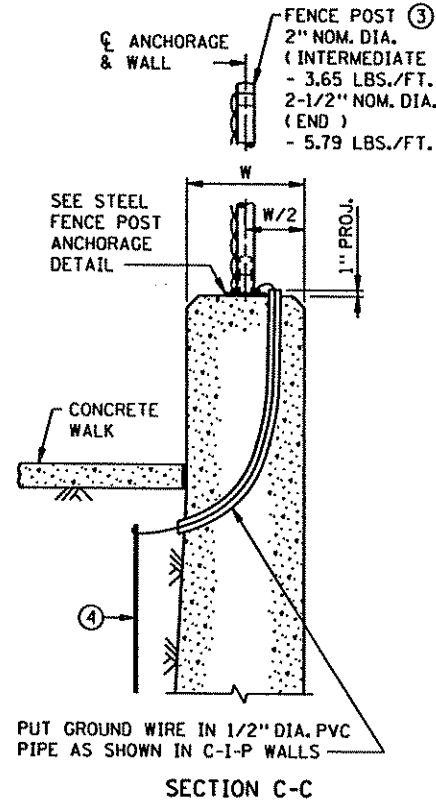
197
297



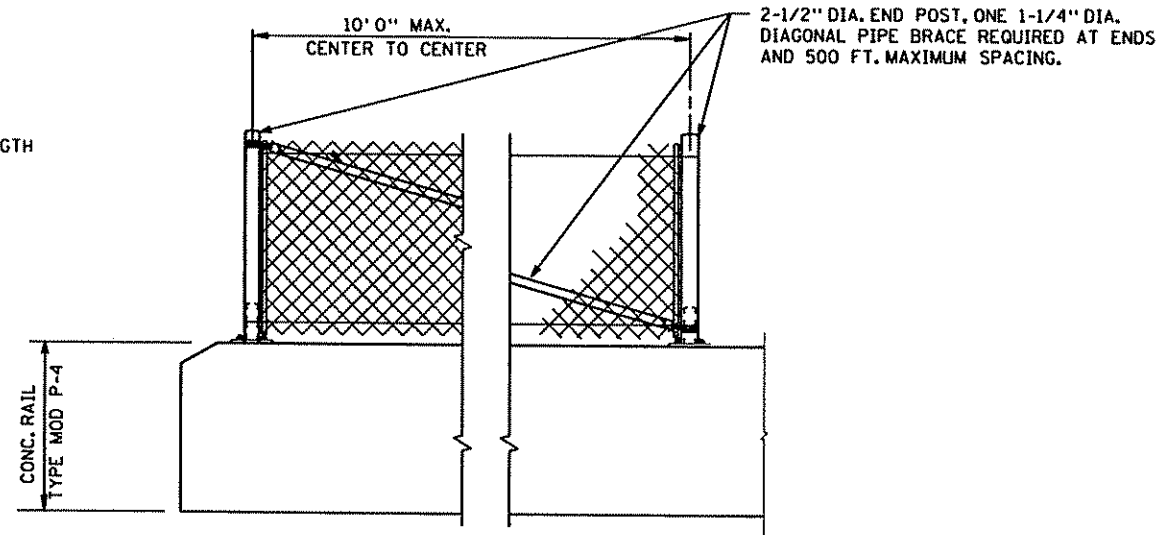
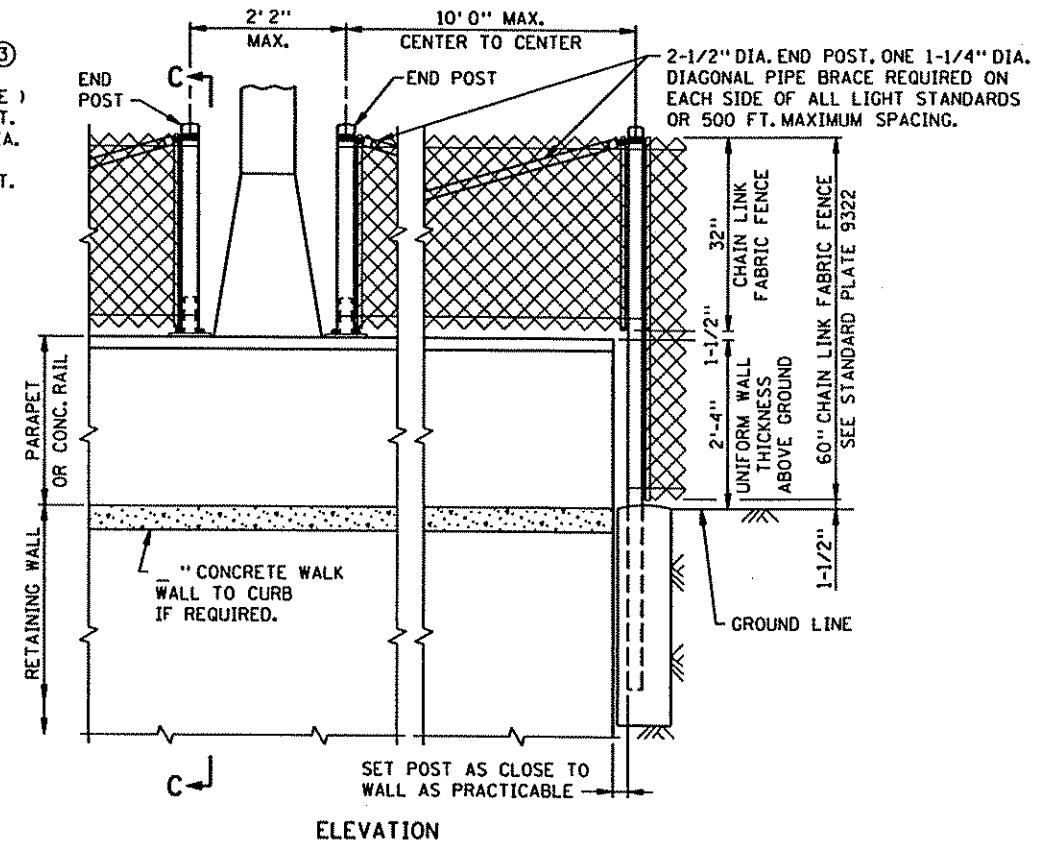
PLAN VIEW



TYPICAL SECTION
STEEL FENCE POST ANCHORAGE DETAIL ① ②



SECTION C-C
CHAIN LINK FENCE ON RETAINING WALL WITH PARAPET



NOTES:

- ① ϕ OF ANCHORAGE SHALL BE 8" MIN. FROM DEFLECTION JOINTS.
- ② ESTIMATED WEIGHT = 10 OR 12 LBS. STRUCT. STEEL PER SPEC. 3306 - STRUCT. PIPE PER SPEC. 3362. GALVANIZE THE FENCE POST ANCHORAGE AFTER FABRICATION PER SPEC. 3394. GALVANIZE THE FASTENERS PER SPEC. 3392.
- ③ INSTALL FENCE PER SPEC. 2557.
- ④ PROVIDE ELECTRICAL GROUNDS FOR FENCING PER SPEC. 2557 AND AS MODIFIED BELOW:
 - a. WALLS WITHOUT SIDEWALKS ADJACENT TO WALL; INSTALL PER SPEC. 2557.
 - b. WALLS WITH SIDEWALKS ADJACENT TO WALL; PLACE GROUNDING RODS BELOW SIDEWALK ELEVATION. LOCATE CONNECTING WIRE (FROM FENCE TO GROUND ROD) DOWN THRU WALL TO BELOW SIDEWALK ELEVATION AND THEN OUT TO ROD.
 - c. GROUNDING SHALL NOT BE CONNECTED TO THE LIGHTING SYSTEM WHEN LIGHTING IS REQUIRED ON THE WALL. USE EITHER "a" OR "b" ABOVE.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	MTT		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.
Certified By: *Robert B. Farmer* Lic. No. 19423
Printed Name: ROBERT B. FARMER Date: 02/21/2006

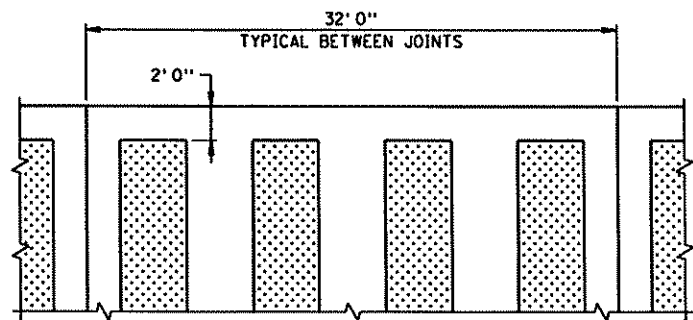


PHONE: (651)490-2000
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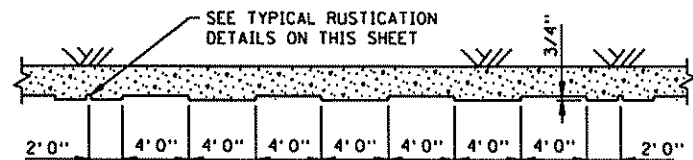
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

ANCHORAGE & CHAIN LINK FENCE FOR RETAINING WALLS

FILE NO. 198
ARAME0503
RW11
OF RW12
297



ELEVATION

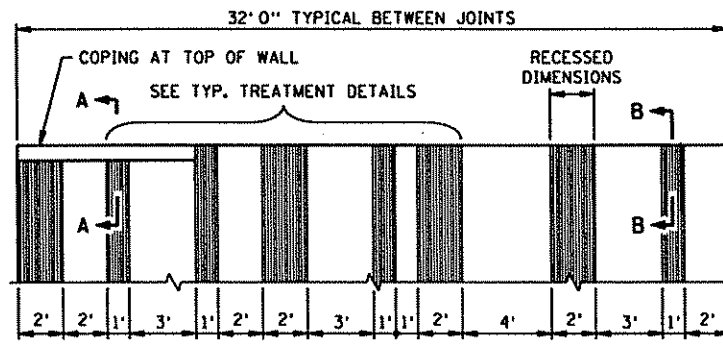


SECTION THRU WALL

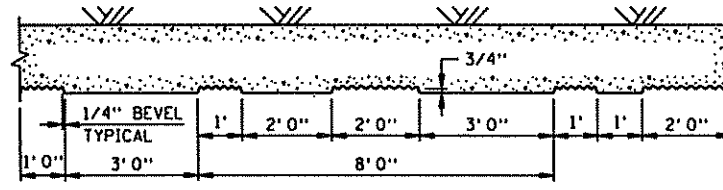
WALL PANELS
WALLS SHALL BE ARCHITECTURALLY TREATED BY FORMING VERTICAL PANELS OF 4'0" IN WIDTH AND ALTERNATE RECESSED PANELS OF 4'0" IN WIDTH.

WALL JOINTS
THE PATTERN OF PANELS SHALL BE ADJUSTED SO THAT ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS WILL BE RUSTICATIONS. ALL CONSTRUCTION JOINTS SHALL BE REPAIRED AND POINTED TO PRESENT A SATISFACTORY APPEARANCE.

VERTICAL PANEL DESIGN



ELEVATION



SECTION THRU WALL

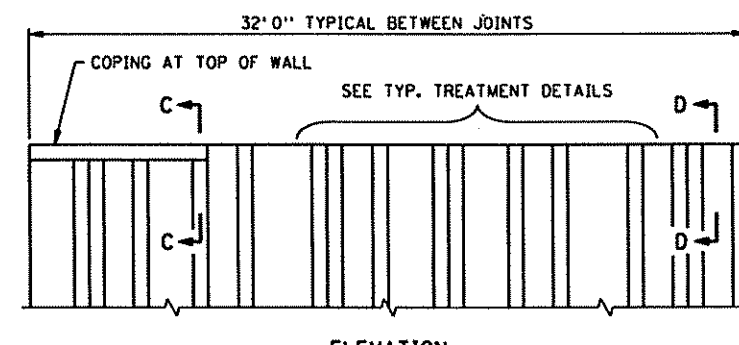
SECTION A-A (COPING ALT.)

SECTION B-B

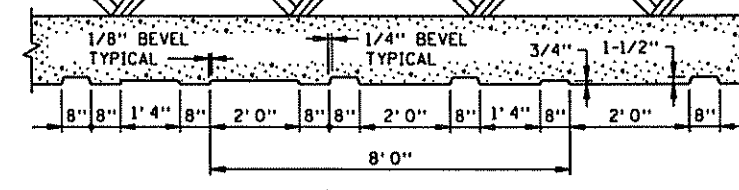
WALL TREATMENT
WALLS SHALL BE ARCHITECTURALLY TREATED BY FORMING VERTICAL PANELS OF VARIABLE WIDTH AND ALTERNATE RECESSED TEXTURED FINISH. REPEAT THE PATTERN EVERY 32'0" TO ALLOW REPETITIVE USE OF FORMS. COPING MAY BE USED OR OMITTED, DEPENDING UPON OTHER ARCHITECTURAL ELEMENTS INVOLVED.

WALL JOINTS
THE PATTERN OF PANELS SHALL BE ADJUSTED SO THAT ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS WILL OCCUR AT PANEL JOINTS. ALL CONSTRUCTION JOINTS SHALL BE REPAIRED AND POINTED TO PRESENT A SATISFACTORY APPEARANCE. ALSO ARRANGE PANELS SO THAT FORM JOINTS WILL OCCUR AT PANEL JOINTS.

VERTICAL RANDOM STRIATED PANEL DESIGN



ELEVATION



SECTION THRU WALL

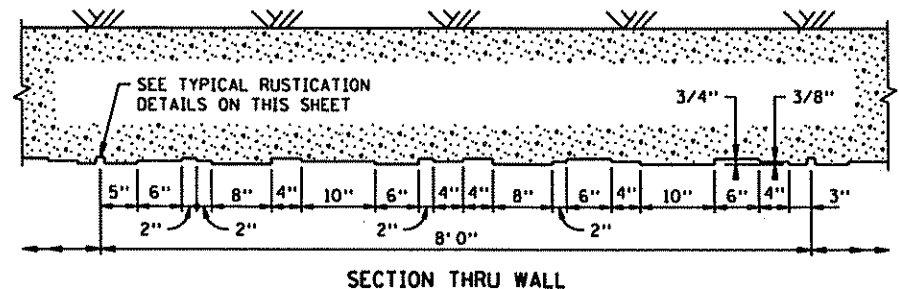
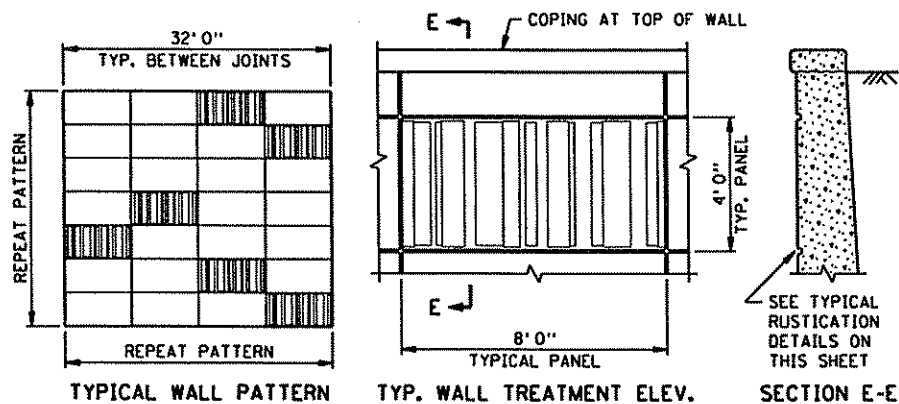
SECTION C-C (COPING ALT.)

SECTION D-D

WALL TREATMENT
WALLS SHALL BE ARCHITECTURALLY TREATED BY FORMING VERTICAL PANELS OF VARIABLE WIDTH AND THICKNESS. REPEAT THE PATTERN EVERY 32'0" TO ALLOW REPETITIVE USE OF FORMS. COPING MAY BE USED OR OMITTED, DEPENDING UPON OTHER ARCHITECTURAL ELEMENTS INVOLVED.

WALL JOINTS
THE PATTERN OF PANELS SHALL BE ADJUSTED SO THAT ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS WILL OCCUR AT PANEL 1-1/2" RECESSED PANELS. ALL CONSTRUCTION JOINTS SHALL BE REPAIRED AND POINTED TO PRESENT A SATISFACTORY APPEARANCE.

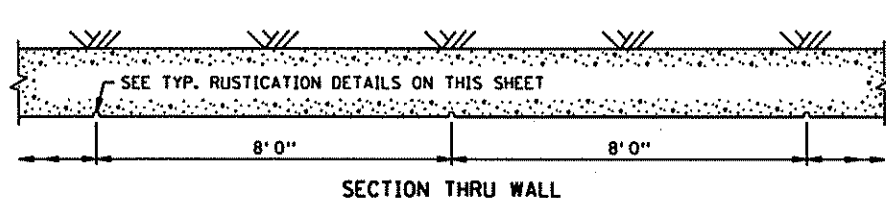
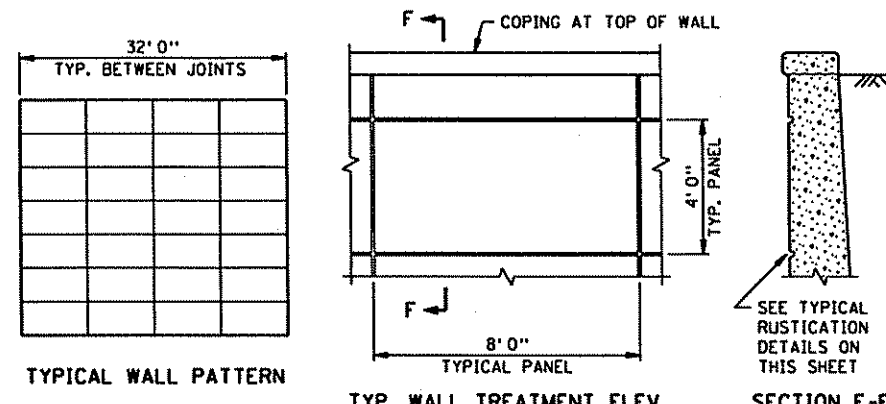
VERTICAL RANDOM WIDTH DOUBLE INSET PANEL DESIGN



WALL PANELS
PANELS SHALL BE FORMED BY RUSTICATIONS & WILL NORMALLY BE 4'0" IN HEIGHT BY 8'0" IN WIDTH, BUT MAY BE MODIFIED IN WIDTH TO FIT DETAIL DIMENSIONS. THE FACE OF WALLS SHALL RECEIVE A SMOOTH RUBBED FINISH. ALL RUSTICATIONS ARE EITHER HORIZ. OR VERT. SEE RUSTICATION DETAILS.

WALL JOINTS
THE PATTERN OF PANELS SHALL BE ADJUSTED SO THAT ALL EXPANSION, CONTRACTION AND CONST. JOINTS WILL BE RUSTICATIONS. ALL CONST. JTS. SHALL BE REPAIRED & POINTED TO PRESENT A SATISFACTORY APPEARANCE.

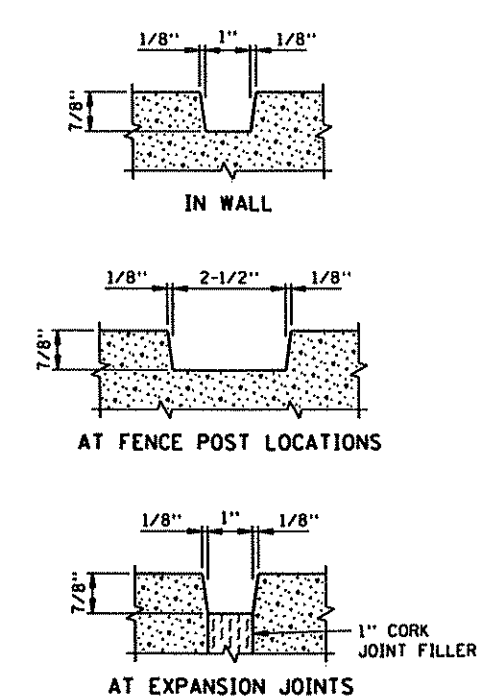
HORIZONTAL RECTANGULAR RUSTICATION RANDOM PANEL DESIGN



WALL PANELS
PANELS SHALL BE FORMED BY RUSTICATIONS AND WILL NORMALLY BE 4'0" IN HEIGHT BY 8'0" IN WIDTH, BUT MAY BE MODIFIED IN WIDTH TO FIT DETAIL DIMENSIONS. THE FACE OF WALLS SHALL RECEIVE A SMOOTH RUBBED FINISH. ALL RUSTICATIONS ARE EITHER HORIZ. OR VERTICAL. SEE RUSTICATION DETAILS.

WALL JOINTS
THE PATTERN OF PANELS SHALL BE ADJUSTED SO THAT ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS WILL BE RUSTICATIONS. ALL CONSTRUCTION JOINTS SHALL BE REPAIRED AND POINTED TO PRESENT A SATISFACTORY APPEARANCE.

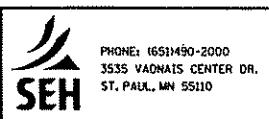
HORIZONTAL RECTANGULAR RUSTICATION DESIGN



TYPICAL RUSTICATION DETAILS

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: MTT				
CHECKED BY: JEO				
NO.	BY	DATE	REVISIONS	

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.
Certified By: *[Signature]* Lic. No. 19423
Printed Name: RON B. FARMER Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CONCRETE RETAINING WALL
RUSTICATION

FILE NO.	199
ARAMSE0503	
RW12	297
OF RW12	

03:29:14 PM

02/21/2006

BW1

x:\p1\ramse\050300\plansh\rs\wall\ramse0503_bw.dgn

€ I-35W SE RAMP

105+00

€ COUNTY ROAD J

CONCRETE BARRIER (TYPE MOD P-4)

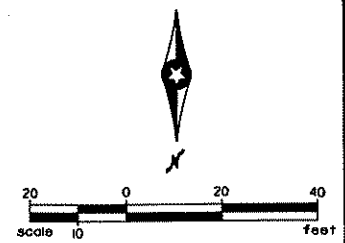
MOMENT SLAB

4" CONC. WALK

CHANLINK FENCE

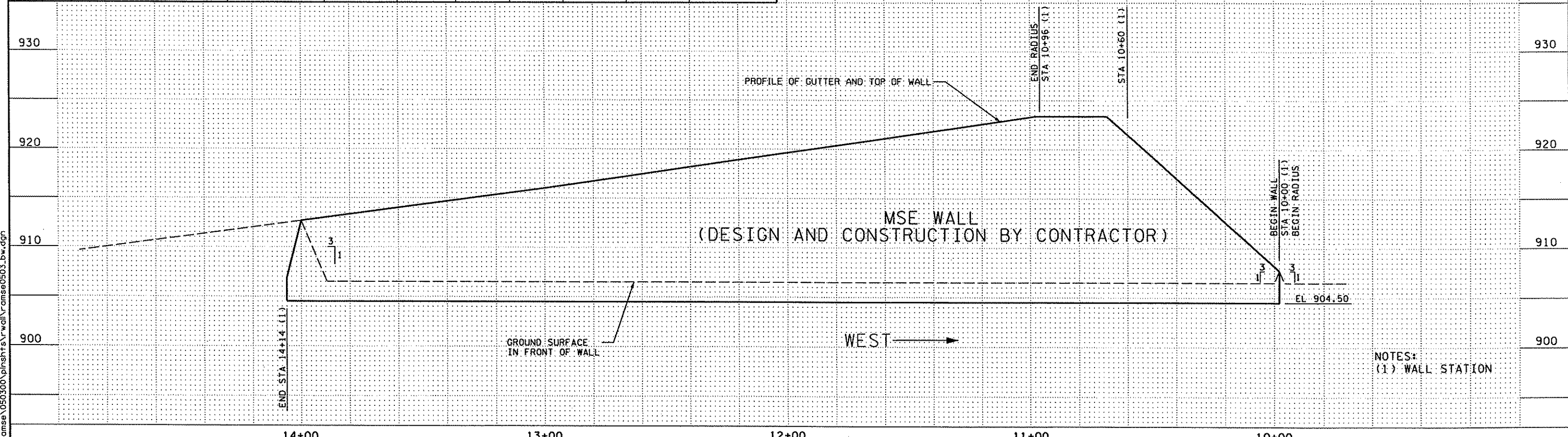
€ RETAINING WALL B

EXISTING BUILDING TO REMAIN IN PLACE



ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
RETAINING WALL B (RWALLB)										
1400	POT	10+00.000						550,661.0192	221,686.5065	
1404	PC	10+00.000						550,661.0192	221,686.5065	S 2° 25' 52.95" W
1405	PI	10+63.091	92° 52' 37.11" LT	95° 29' 34.68"	60.000'	63.091'	97.261'	550,658.3427	221,623.4722	PI
1406	CC							550,720.9652	221,683.9611	
1408	PT	10+97.261						550,721.4318	221,623.9629	N 89° 33' 15.84" E
1410	POT	14+05.261						551,029.4272	221,622.2829	



DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JEO				
DESIGNER: JEO				
CHECKED BY: APM				

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.

Certified By: *Robert Farmer* Lic. No. 19423
 Licensed Professional Engineer
 Printed Name: ROBERT FARMER Date: 02/21/2006



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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**RETAINING WALL B
 PLAN & PROFILE**

FILE NO. **200**
 ARAMSE0503
 BW1
 OF BW4 **297**

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03/07/2006

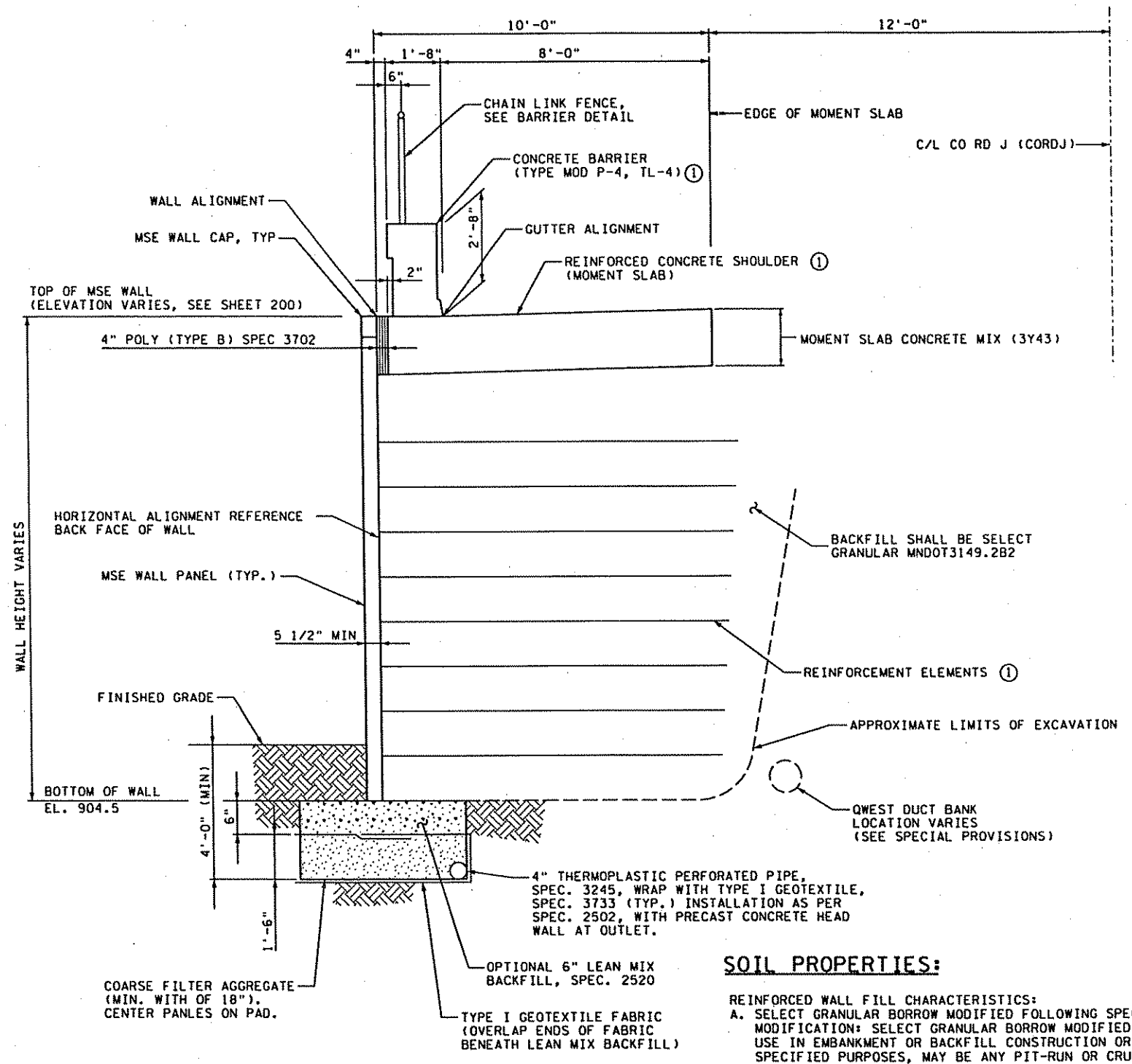
BW2

X:\PT\Rom...050300\p1msh\ts\wall\ramse0503.bw.dtl.dgn

X SUMMARY OF QUANTITIES FOR RETAINING WALL B				
RETAINING WALL B	FACE OF WALL AREA	STRUCTURAL CONCRETE (3Y43)	REINFORCEMENT BARS (EPOXY)	TYPE MOD P-4 BARRIER CONCRETE (3Y46)
	SQ YD	CU YD	POUNDS	LIN FT
	601	205 ▲	23440 ●	342 ■

NOTE: TABULATION INCLUDES QUANTITIES FOR MOMENT BLOCK

- INCLUDES REINFORCEMENT IN THE TYPE MOD P-4 BARRIER.
- ▲ INCLUDES 54 EACH FIXED 1 3/4" DIA STEEL DOWEL BARS (EPOXY COATED) STD PLATE 1103.
- INCLUDES 18 EACH EXPANSION 1 3/4" DIA STEEL DOWEL BARS (EPOXY COATED) STD PLATE 1103.
- INCLUDES 2 EACH 3/8" x 1'-0" x 2'-2" STEEL EXPANSION PLATES.



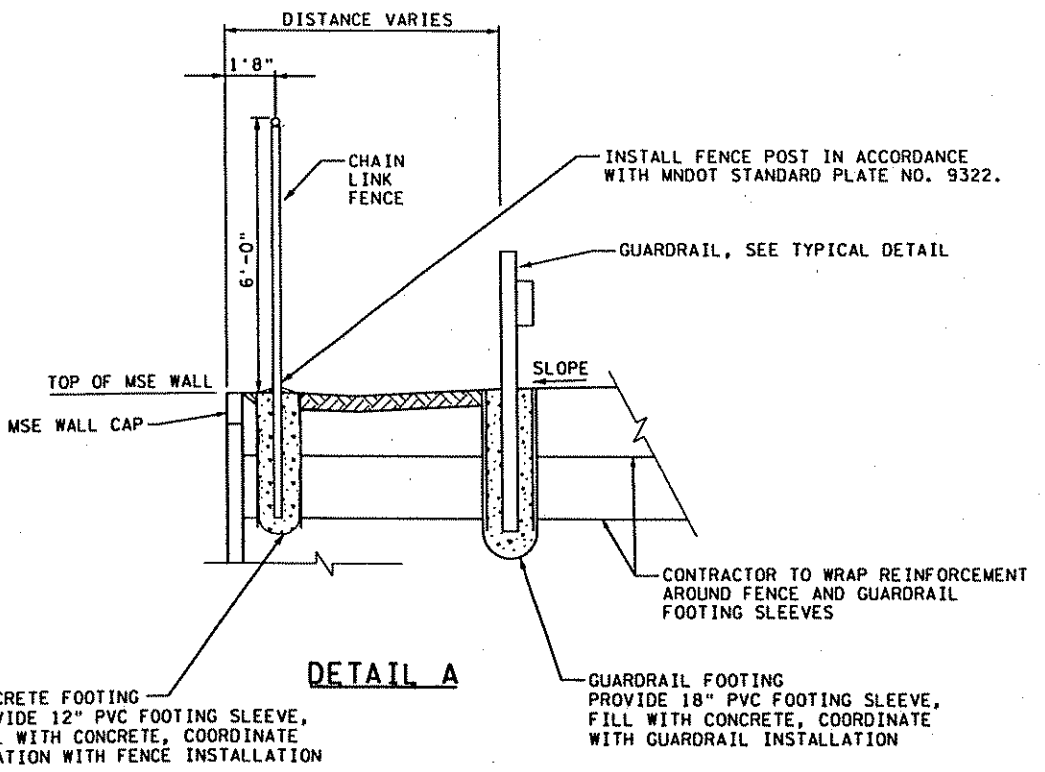
SOIL PROPERTIES:

- REINFORCED WALL FILL CHARACTERISTICS:**
- A. SELECT GRANULAR BORROW MODIFIED FOLLOWING SPEC. 3149.2B2. MODIFICATION: SELECT GRANULAR BORROW MODIFIED, FOR SPECIAL USE IN EMBANKMENT OR BACKFILL CONSTRUCTION OR OTHER SPECIFIED PURPOSES, MAY BE ANY PIT-RUN OR CRUSHER-RUN OF THE MATERIAL MUST PASS THE 2" SIEVE, AND THAT THE RATIO OF THE PORTION PASSING THE #200 SIEVE DIVIDED BY THE PORTION PASSING THE 1" SIEVE MAY NOT EXCEED 10% BY MASS (THAT IS: #200/1" RATIO)
 - B. INTERNAL ANGLE OF FRICTION (ϕ_p) = 35°
 - C. COHESION (C) = 0
 - D. MOIST UNIT WEIGHT (γ_p) = 125 PSF
- COARSE FILTER AGGREGATE CHARACTERISTICS:**
- A. COARSE FILTER AGGREGATE TO MEET SPEC. 3149.2H. INCIDENTAL. NO DIRECT PAYMENT WILL BE MADE.
- RETAINED BACKFILL CHARACTERISTICS:**
- A. INTERNAL ANGLE OF FRICTION (ϕ_b) = 30°
 - B. COHESION (C) = 0
 - C. MOIST UNIT WEIGHT (γ_b) = 125 PSF
- FOUNDATION SOILS CHARACTERISTICS:**
- A. INTERNAL ANGLE OF FRICTION (ϕ_f) = 30°
 - B. COHESION (C) = 0
 - C. UNIT WEIGHT (γ_f) = 120 PSF

TYPICAL SECTION MSE WALL ①

NOTES:

① DESIGN BY MSE WALL SPECIALTY CONTRACTOR IN ACCORDANCE WITH Mn/DOT TECHNICAL MEMORANDUM NO. 03-16-MARCH-06.



DESIGN TEAM				NO.	BY	DATE	REVISIONS
DRAWN BY:	JEO						
DESIGNER:	JEO						
CHECKED BY:	APM						

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.

Certified By: *[Signature]* Lic. No. 19423

Printed Name: RON B. FARMER Date: 03/07/2006

SEH

PHONE: 651-490-2000
3535 WADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

**MSE WALL / MOMENT SLAB
DETAILS**

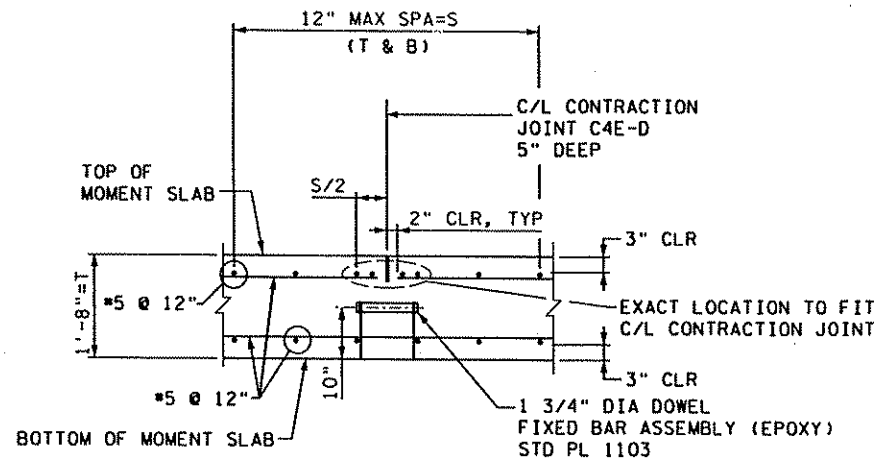
FILE NO. ARAME0503	201
BW2 OF BW4	297

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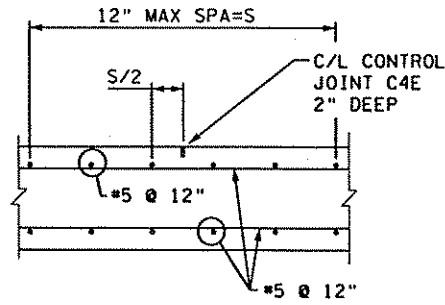
02/27/2006

MODEL \$

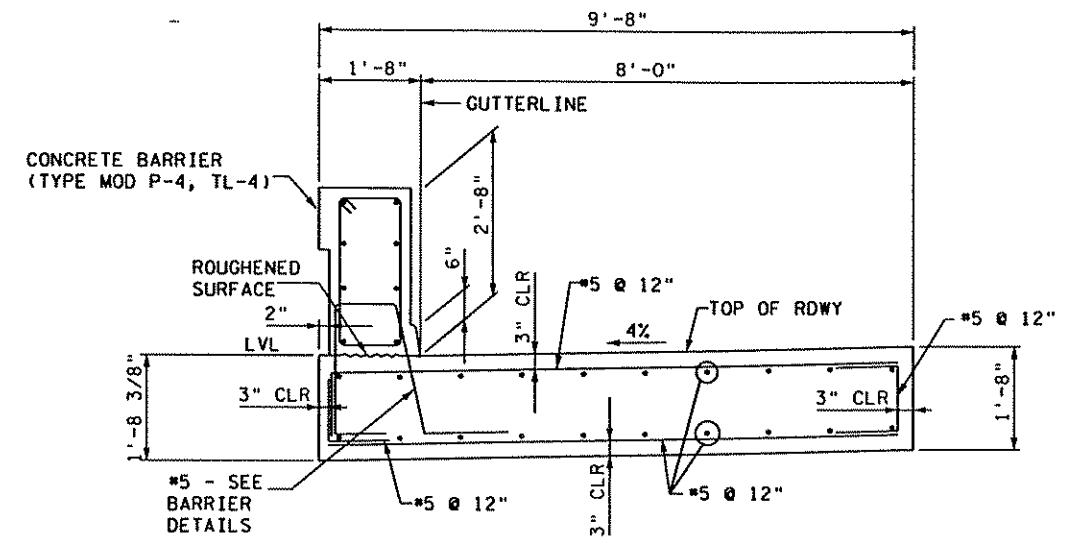
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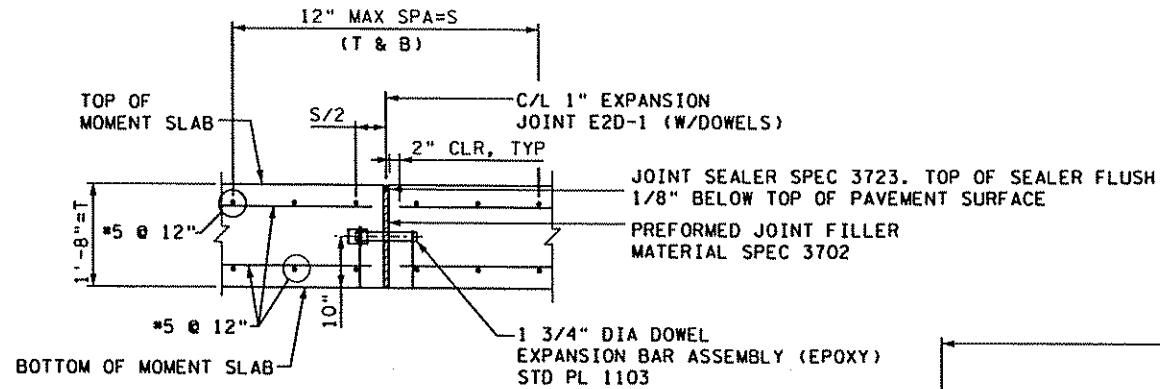
CONTRACTION JOINT
MOMENT SLAB
38' SPACING STAGGER W/ CONTROL JOINT



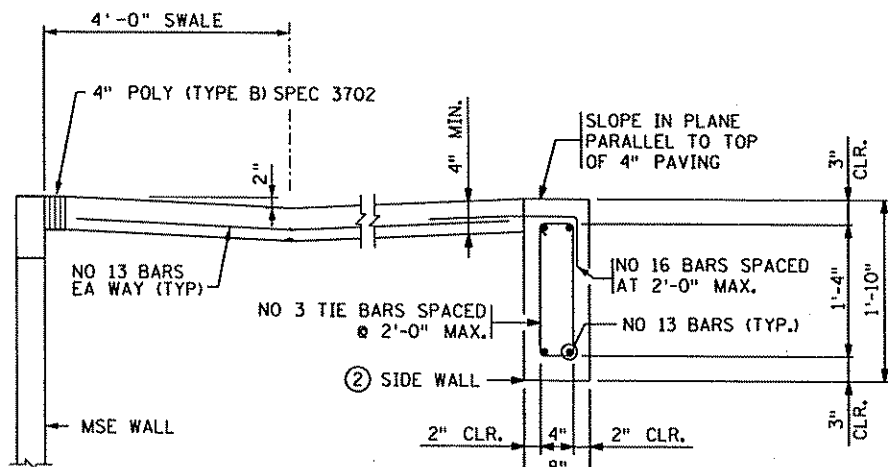
CONTROL JOINT
MOMENT SLAB
38' SPACING STAGGER W/ CONTRACTION JOINT



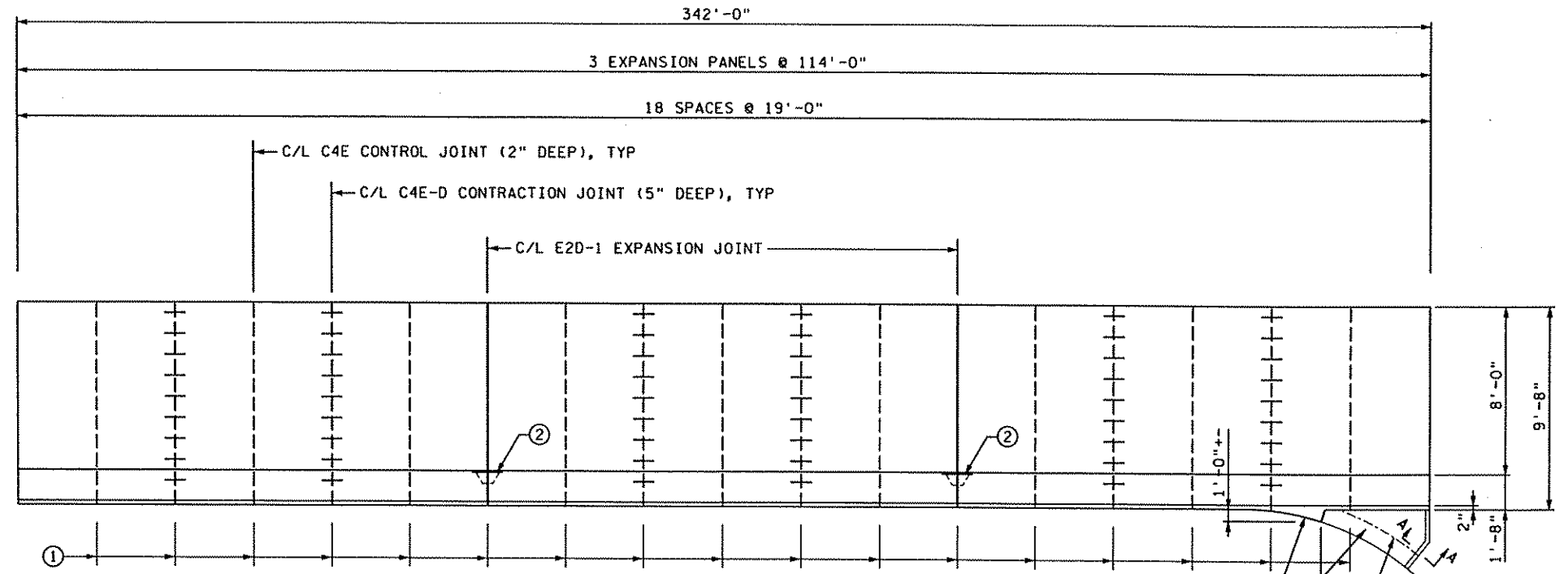
TYPICAL SECTION
MOMENT SLAB



EXPANSION JOINT
MOMENT SLAB
114' SPACING



SECTION A-A
CONCRETE SLOPE PAVING EDGE

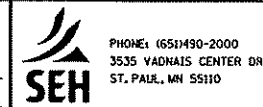


PLAN
MOMENT SLAB
38' SPACING STAGGER W/ CONTRACTION JOINT

- NOTES**
- ① C/L CORK DEFLECTION JT DETAIL IN CONCRETE BARRIER (TYPE MOD P-4, TL-4)
 - ② STEEL PLATE AND BLOCKOUT FOR E2D-1 EXPANSION JOINT.

DESIGN TEAM			
DRAWN BY:	MAW		
DESIGNER:	CAW		
CHECKED BY:	JDS		
NO.	BY	DATE	REVISIONS

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.
Certified By: *John D. Steenberg* License No. 13865
Printed Name: JOHN D. STEENBERG Date: 02/27/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

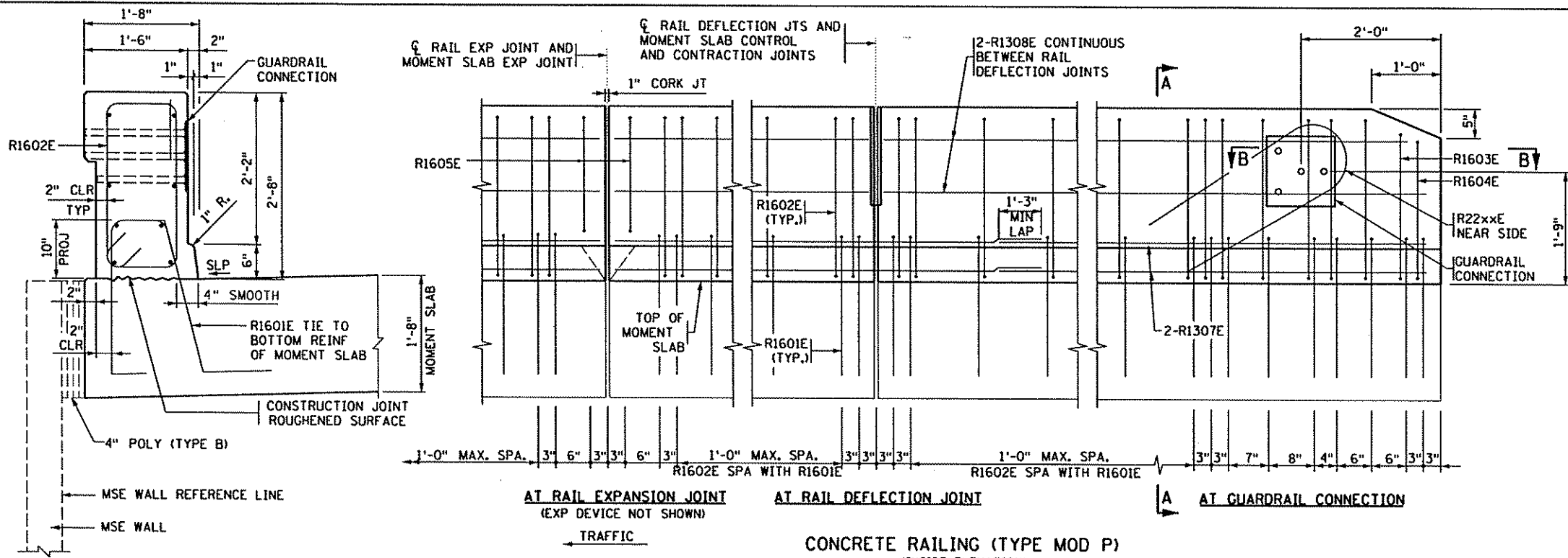
MSE MOMENT SLAB DETAILS		FILE NO. ARAMSE0503 202
		BW3 OF BW4 297

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02/27/2006

MODELS

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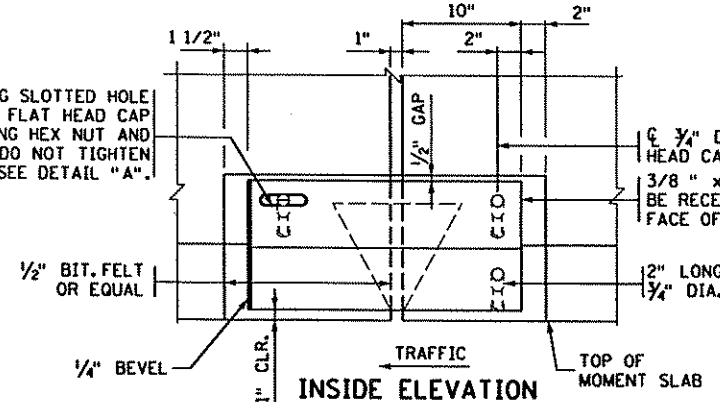
BILL OF REINFORCEMENT					
TYPICAL RAILING ON MOMENT SLAB					
BAR	NO.	LENGTH	SHAPE	LOCATION	WT.
R1601E	390	7'-2"	BENT	BARRIER VERTICAL	2915
R1602E	386	7'-5"	BENT	BARRIER VERTICAL	2986
R1603E	2	6'-11"	BENT	BARRIER VERTICAL	15
R1604E	2	6'-9"	BENT	BARRIER VERTICAL	14
R1605E	6	6'-1"	BENT	BARRIER VERTICAL	38
R2206E	2	6'-7"	BENT	BARRIER END	27
R1307E	36	38'-9"	STR	BARRIER LONGITUDINAL	932
R1308E	72	18'-7"	STR	BARRIER LONGITUDINAL	894
TYPE MOD P-4 RAIL CONC. (3Y46)				REINF BARS (EPOXY)	
49 CU YD (1)				7820 POUND (1)	

SECTION A-A

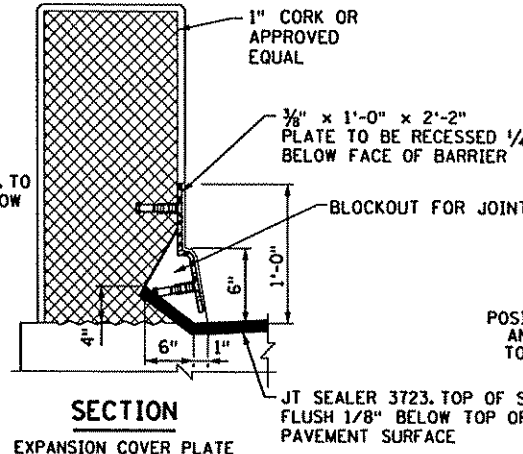
AT RAIL EXPANSION JOINT (EXP DEVICE NOT SHOWN) AT RAIL DEFLECTION JOINT AT GUARDRAIL CONNECTION

CONCRETE RAILING (TYPE MOD P) (INSIDE ELEVATION)

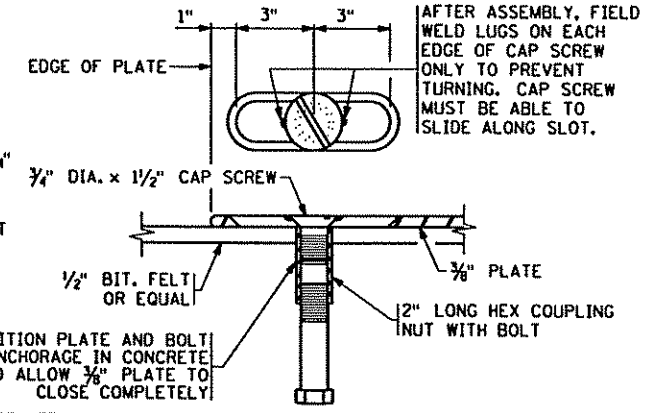
1" DIA. x 6" LONG SLOTTED HOLE FOR 3/4" DIA. x 1" FLAT HEAD CAP SCREW WITH 2" LONG HEX NUT AND 3/4" DIA. x 4" BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



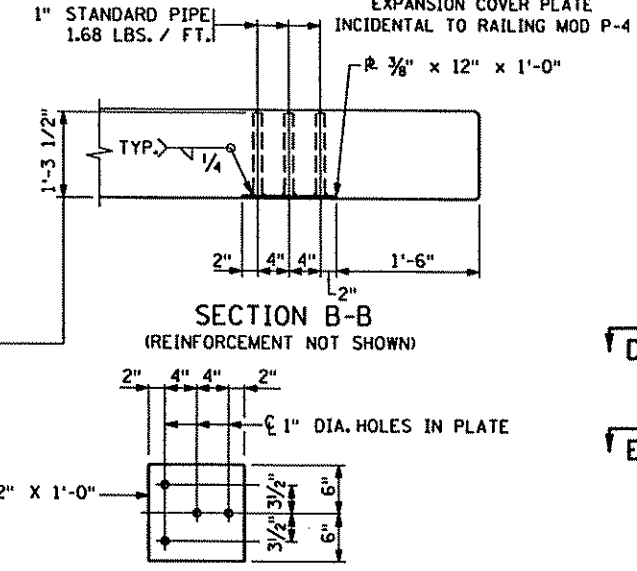
INSIDE ELEVATION



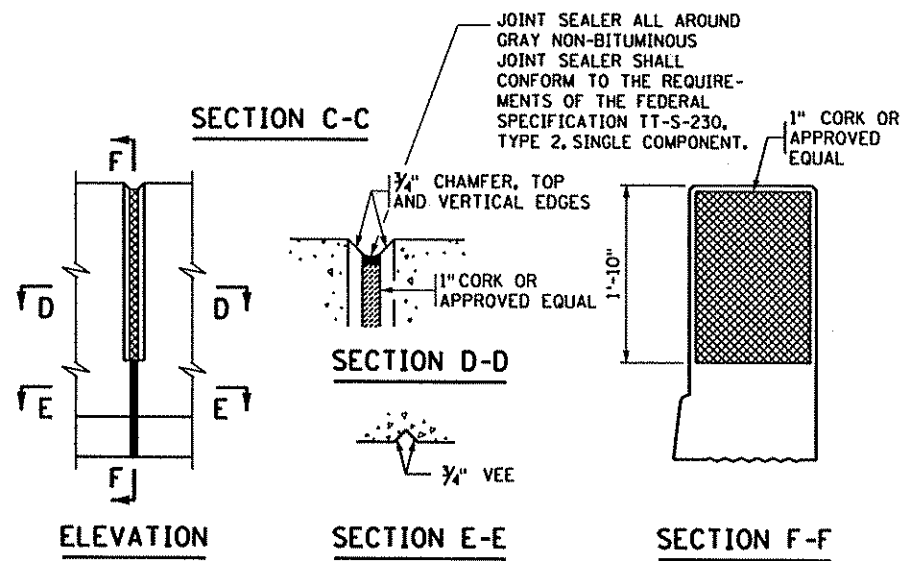
SECTION EXPANSION COVER PLATE



DETAIL "A"

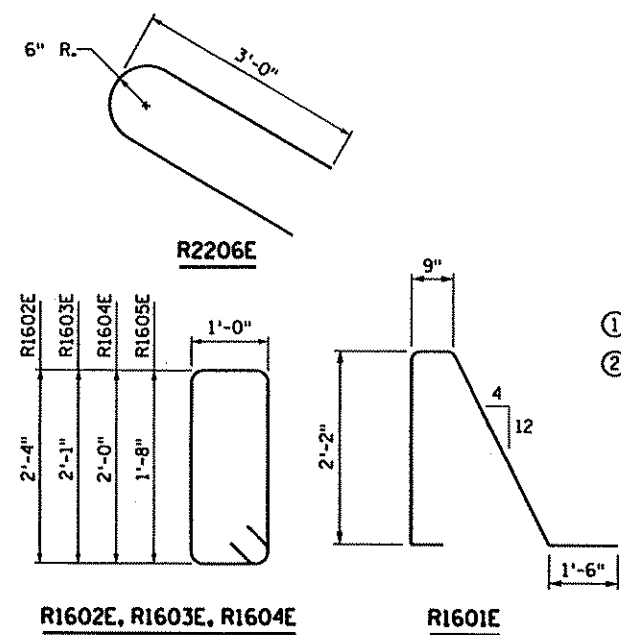


SECTION B-B (REINFORCEMENT NOT SHOWN)



DEFLECTION JOINT DETAILS

ESTIMATED QUANTITY OF CORK PER JOINT = 2.15 SQ.FT.



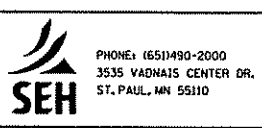
R2206E R1602E, R1603E, R1604E R1605E R1601E

NOTES

- CONCRETE RAILING: 579 LBS./FT. (143 CU. YD./FT.)
- RAIL DEFLECTION JOINTS SHALL BE AT EACH MOMENT SLAB CONTROL JOINT AND CONTRACTION JOINT.
- THE GUARDRAIL CONNECTION IS INCLUDED IN THE PRICE BID FOR OTHER ITEMS.
- BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.
- CONCRETE RAIL (TYPE MOD P-4) SHALL BE PAID FOR ON A LINEAL FOOT BASIS.
- GUARDRAIL CONNECTION SHALL BE STRUCTURAL STEEL, SPEC. 3306 AND GALVANIZED AFTER FABRICATION PER SPEC. 3394.
- EXPANSION COVER PLATE TO BE CONSIDERED INCIDENTAL TO CONCRETE BARRIER (TYPE MOD P-4)
- ① QUANTITY GIVEN FOR FOR INFORMATIONAL PURPOSES ONLY.
- ② REINFORCEMENT FOR RAILING INCLUDED IN BID TAB X SEE SHEET BW2.

DESIGN TEAM			
DRAWN BY:	MAW		
DESIGNER:	JDS		
CHECKED BY:	JDS		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *John D. Steenberg* 13865
 Licensed Professional Engineer
 Printed Name: JOHN D. STEENBERG Date: 02/27/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

MODIFIED STANDARD SHEET NO. FIG. 5-395.214	
FILE NO. ARAMSE0503	202A
BW4 OF BW4	297

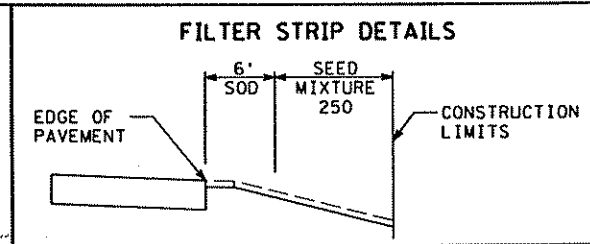
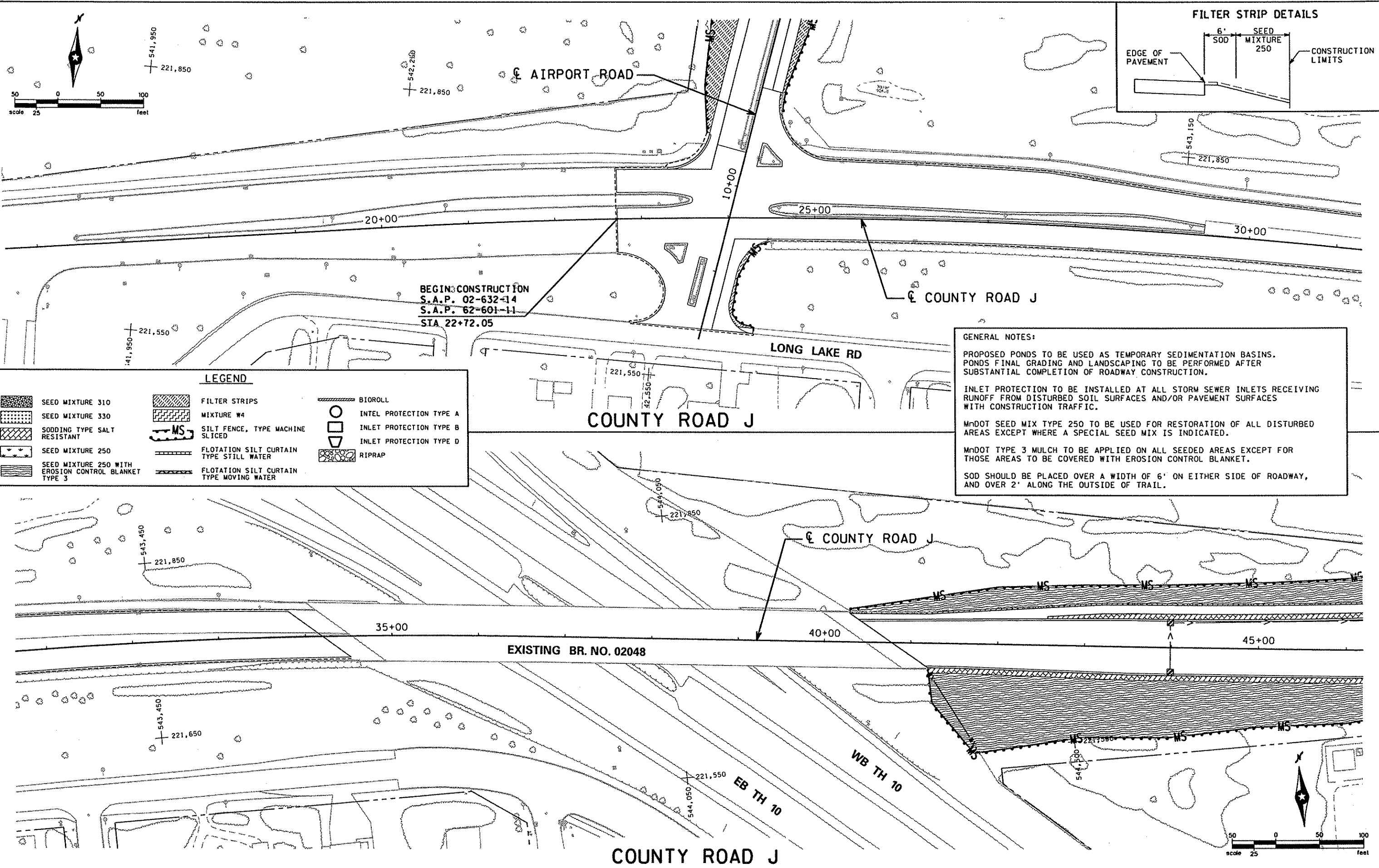
CONCRETE RAILING (TYPE MOD P-4, TL-4) FOR RETAINING WALLS

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2/17/2006

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BEGIN CONSTRUCTION
 S.A.P. 02-632-14
 S.A.P. 62-601-11
 STA 22+72.05

GENERAL NOTES:

PROPOSED PONDS TO BE USED AS TEMPORARY SEDIMENTATION BASINS. PONDS FINAL GRADING AND LANDSCAPING TO BE PERFORMED AFTER SUBSTANTIAL COMPLETION OF ROADWAY CONSTRUCTION.

INLET PROTECTION TO BE INSTALLED AT ALL STORM SEWER INLETS RECEIVING RUNOFF FROM DISTURBED SOIL SURFACES AND/OR PAVEMENT SURFACES WITH CONSTRUCTION TRAFFIC.

MNDOT SEED MIX TYPE 250 TO BE USED FOR RESTORATION OF ALL DISTURBED AREAS EXCEPT WHERE A SPECIAL SEED MIX IS INDICATED.

MNDOT TYPE 3 MULCH TO BE APPLIED ON ALL SEEDED AREAS EXCEPT FOR THOSE AREAS TO BE COVERED WITH EROSION CONTROL BLANKET.

SOD SHOULD BE PLACED OVER A WIDTH OF 6' ON EITHER SIDE OF ROADWAY, AND OVER 2' ALONG THE OUTSIDE OF TRAIL.

LEGEND

- | | | | | | |
|--|--|--|--|--|-------------------------|
| | SEED MIXTURE 310 | | FILTER STRIPS | | BIOROLL |
| | SEED MIXTURE 330 | | MIXTURE W4 | | INLET PROTECTION TYPE A |
| | SODDING TYPE SALT RESISTANT | | SILT FENCE, TYPE MACHINE SLICED | | INLET PROTECTION TYPE B |
| | SEED MIXTURE 250 | | FLOTATION SILT CURTAIN TYPE STILL WATER | | INLET PROTECTION TYPE D |
| | SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3 | | FLOTATION SILT CURTAIN TYPE MOVING WATER | | RIPRAP |

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	DC		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Aaron P. Moniza* Lic. No. 41654
 Printed Name: AARON P. MONIZA Date: 2/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 STA 15+50 TO STA 46+00

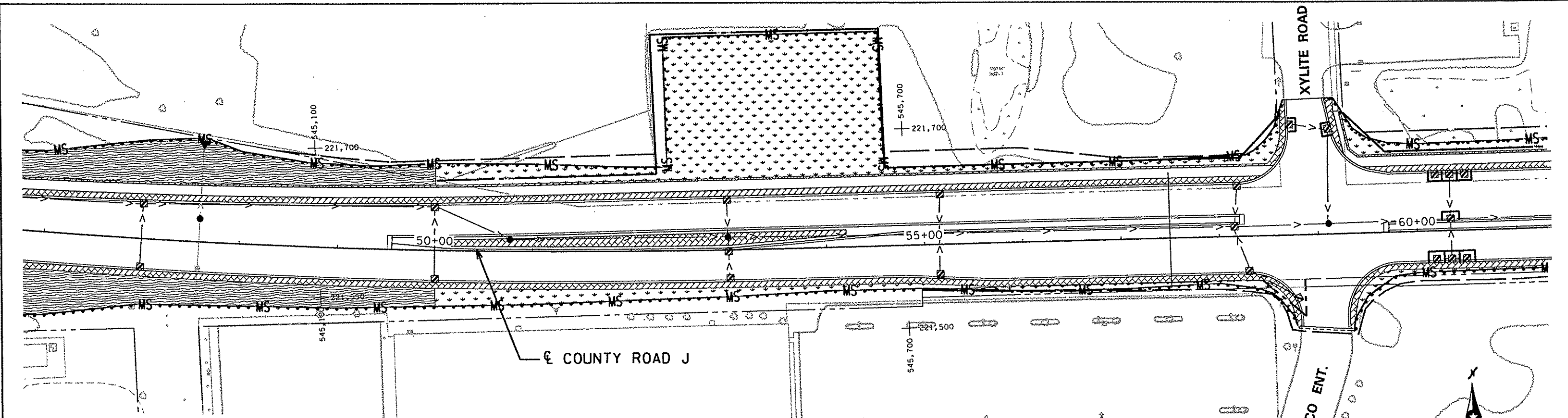
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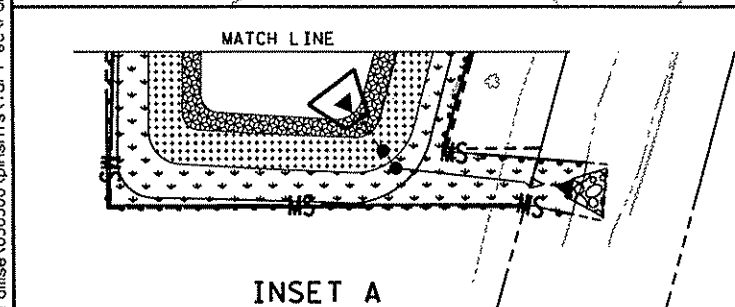
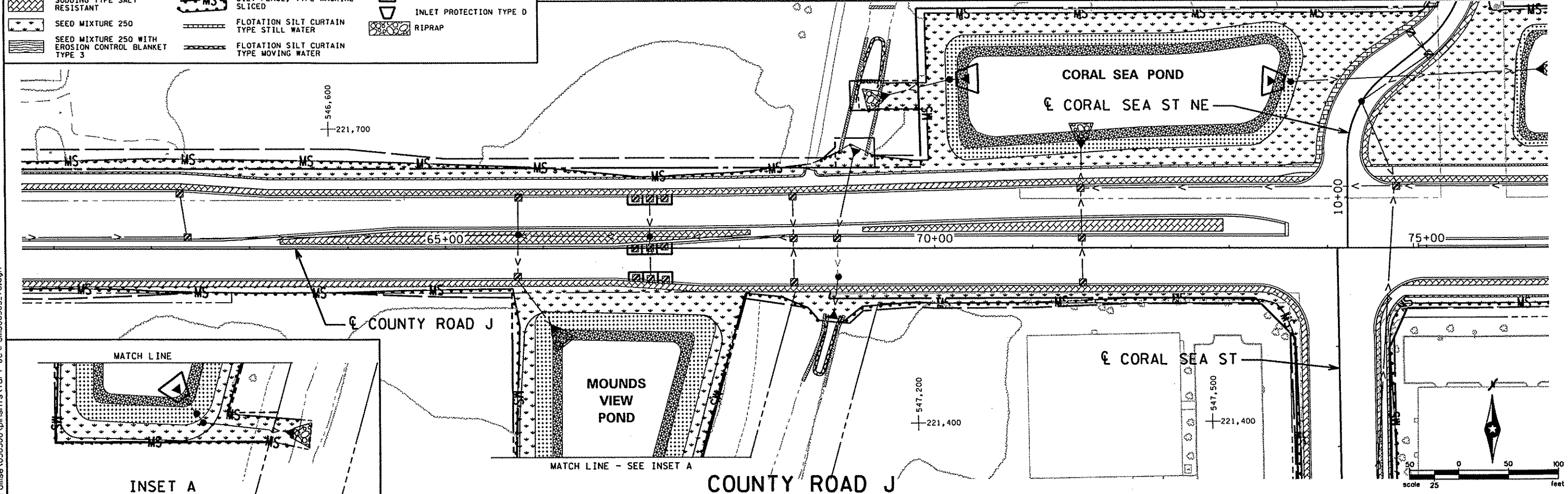
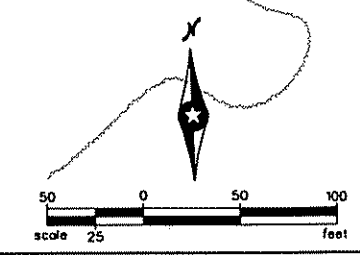
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LEGEND

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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INLET PROTECTION TYPE B
	SEED MIXTURE 250		FLOTATION SILT CURTAIN TYPE STILL WATER		INLET PROTECTION TYPE D
	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP

COUNTY ROAD J



INSET A

COUNTY ROAD J



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DESIGNER:	DC						
CHECKED BY:	JEO						

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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 STA 46+00 TO STA 76+00

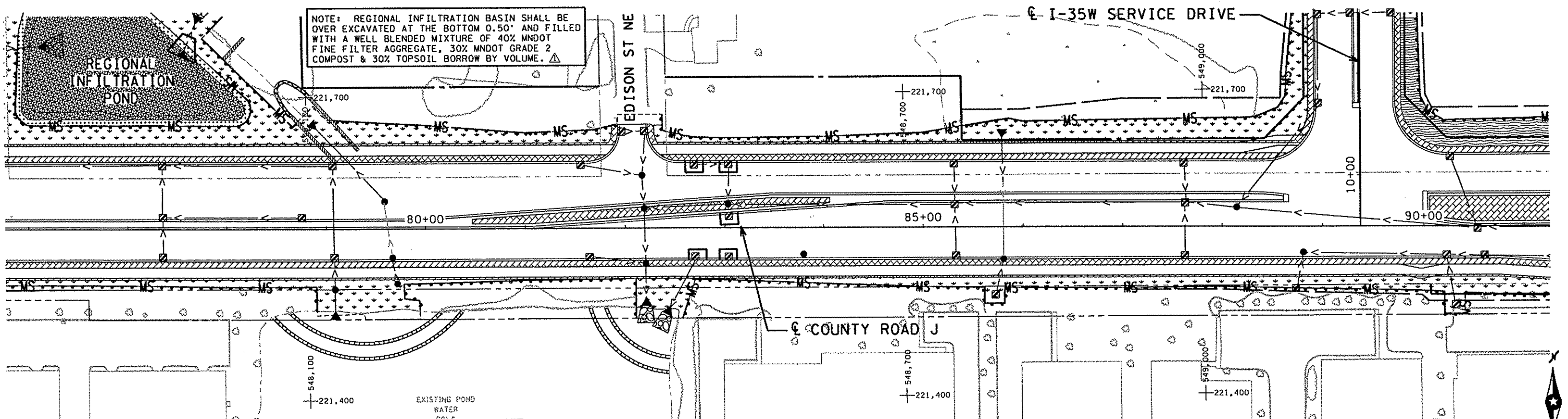
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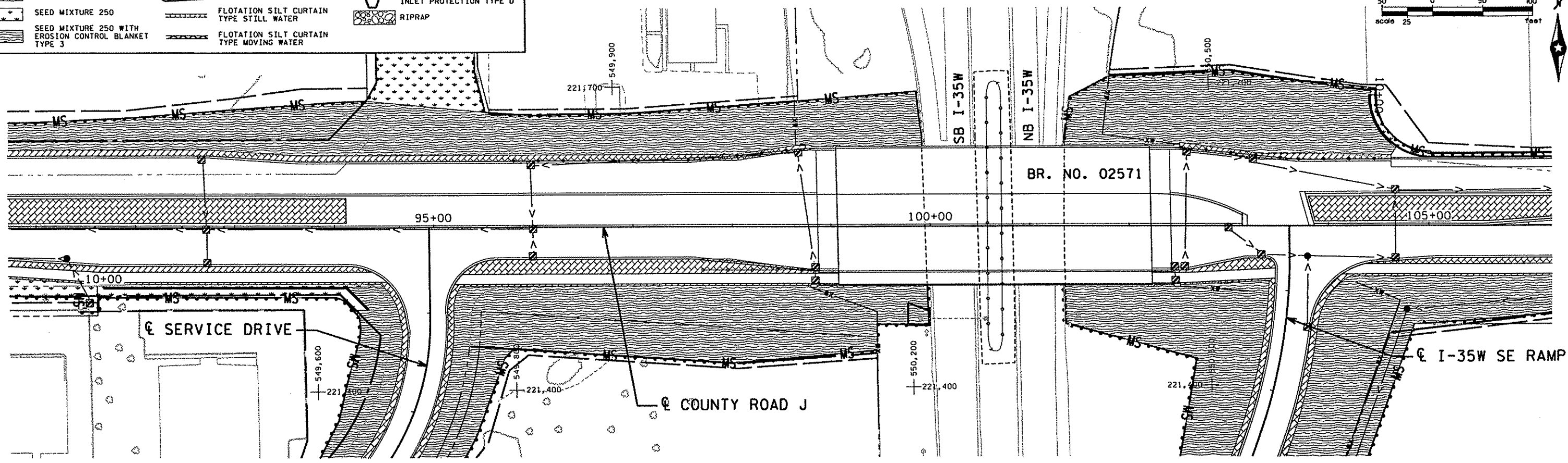
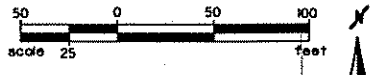
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LEGEND

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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INTEL PROTECTION TYPE B
	SEED MIXTURE 250		FLOTATION SILT CURTAIN TYPE STILL WATER		INTEL PROTECTION TYPE D
	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP



DESIGN TEAM	GRB	03/06	ADDENDUM NO.1
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DESIGNER: DC			
CHECKED BY: JEO			
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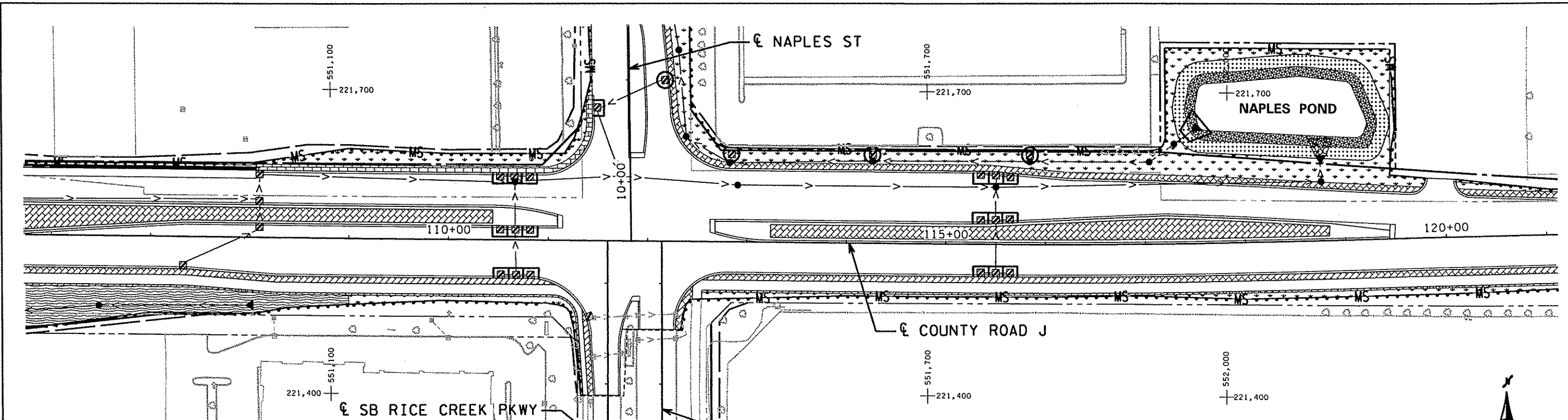


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 STA 76+00 TO STA 106+00

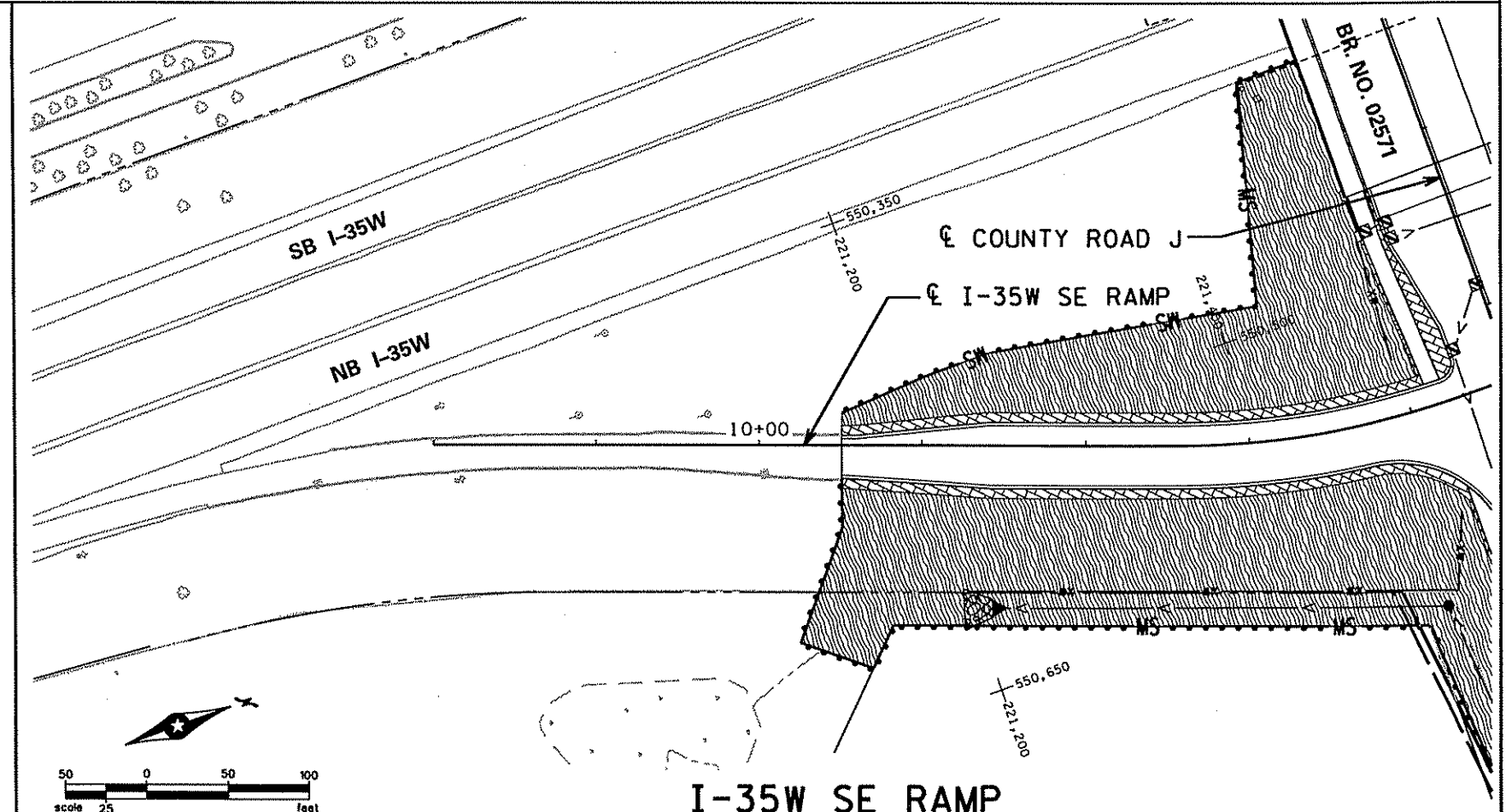
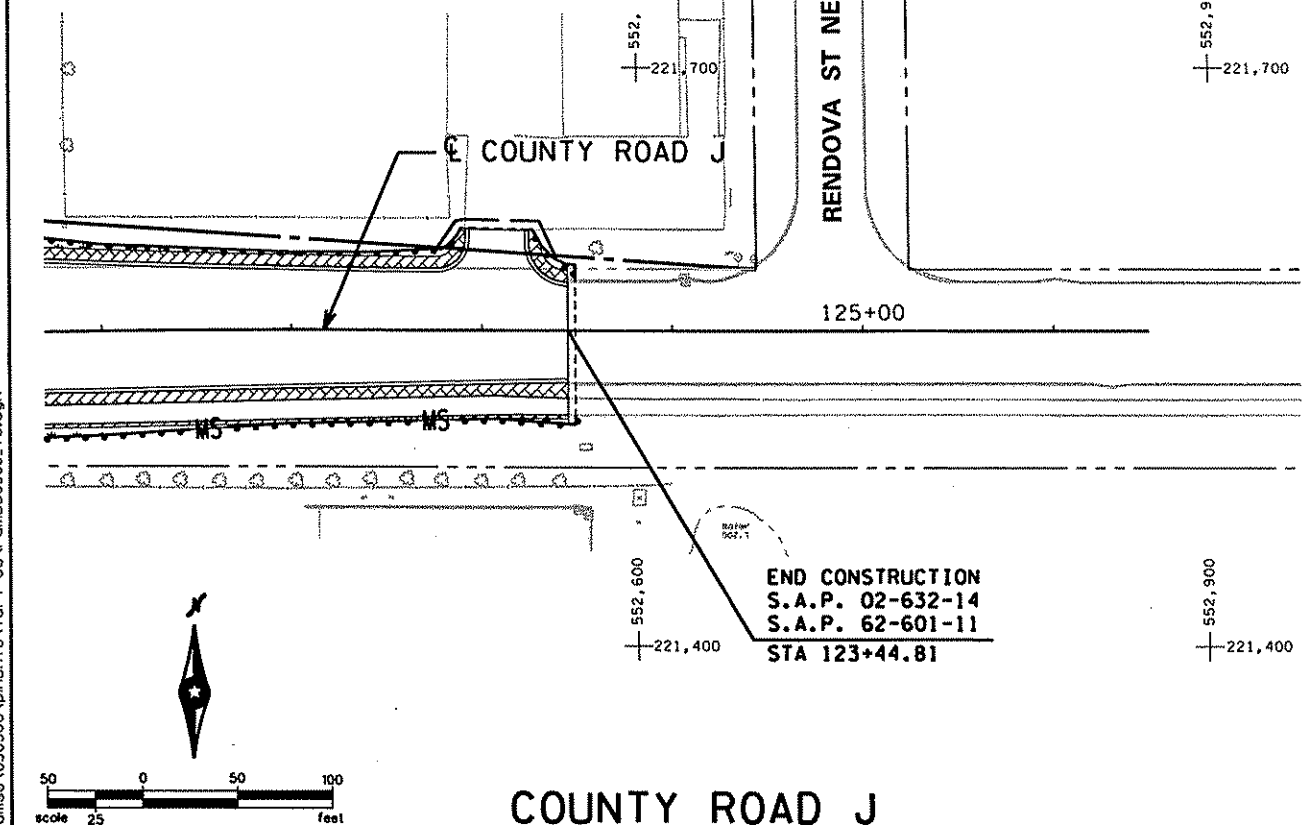
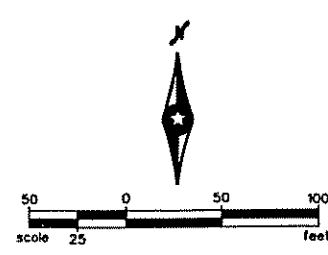
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LEGEND

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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INTEL PROTECTION TYPE B
	SEED MIXTURE 250		FLOTATION SILT CURTAIN TYPE STILL WATER		INTEL PROTECTION TYPE D
	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP



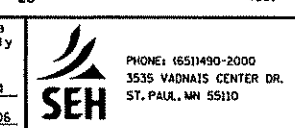
COUNTY ROAD J

END CONSTRUCTION
S.A.P. 02-632-14
S.A.P. 62-601-11
STA 123+44.81

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RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
STA 106+00 TO STA 126+00

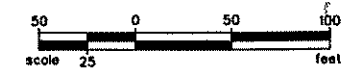
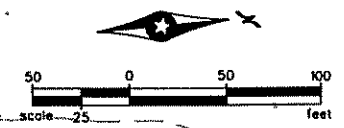
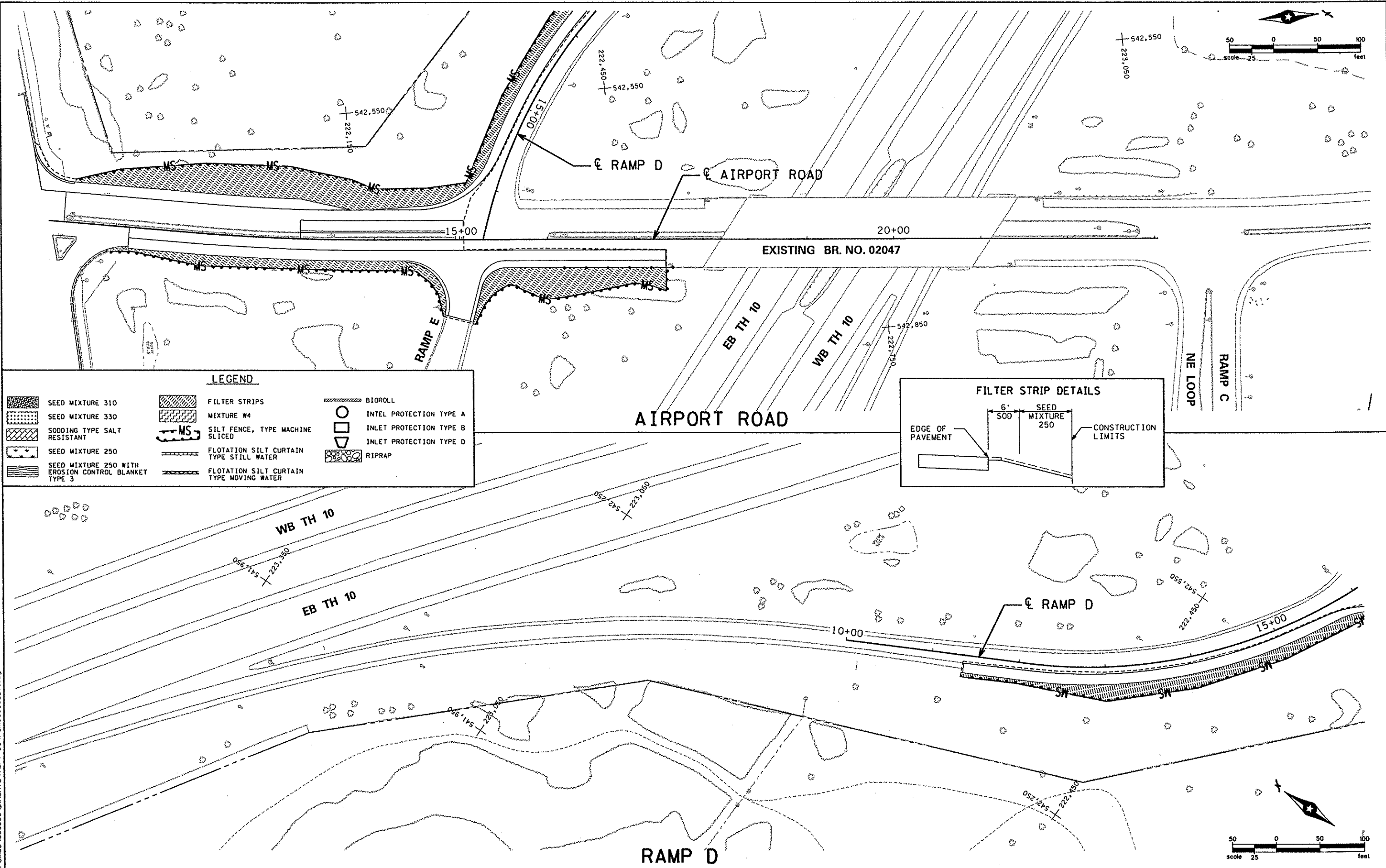
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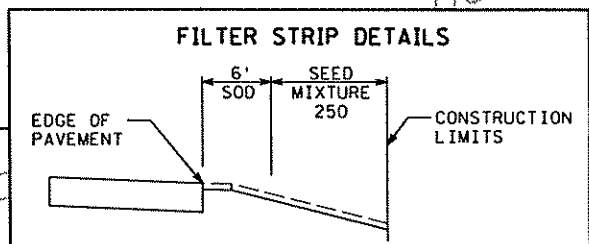
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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INLET PROTECTION TYPE B
	SEED MIXTURE 250		FLOTATION SILT CURTAIN TYPE STILL WATER		INLET PROTECTION TYPE D
	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP



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DESIGNER:	DC		
CHECKED BY:	JEO		
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 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 AIRPORT ROAD & RAMP D/E

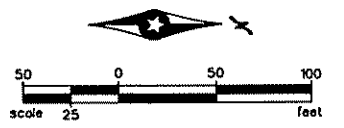
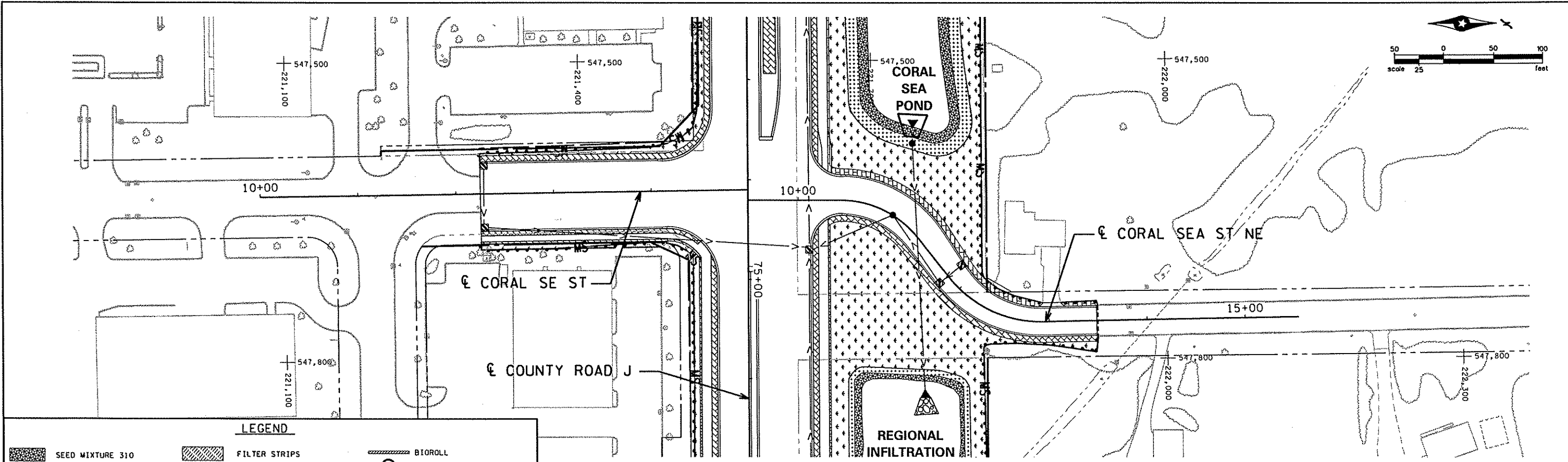
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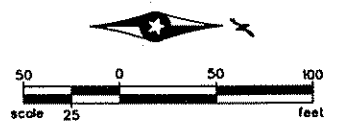
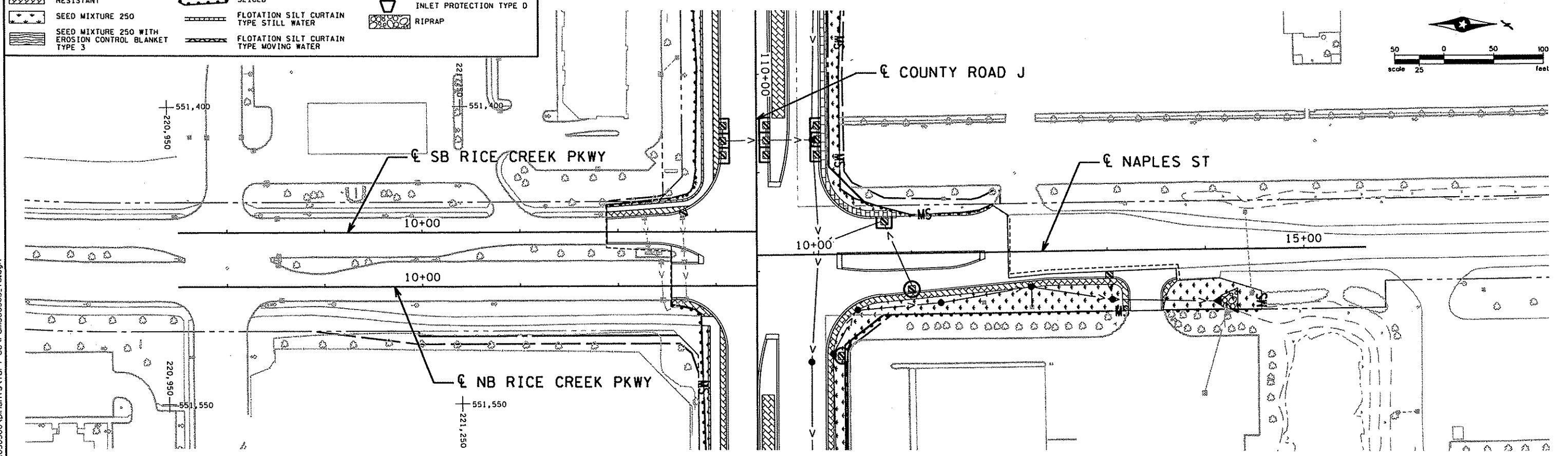
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LEGEND

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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INTEL PROTECTION TYPE B
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CORAL SEA ST / CORAL SEA ST NE



RICE CREEK PARKWAY / NAPLES STREET

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DESIGNER:	DC		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 CORAL SEA ST / CORAL SEA ST NE & RICE CREEK PARKWAY / NAPLES STREET

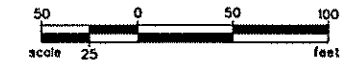
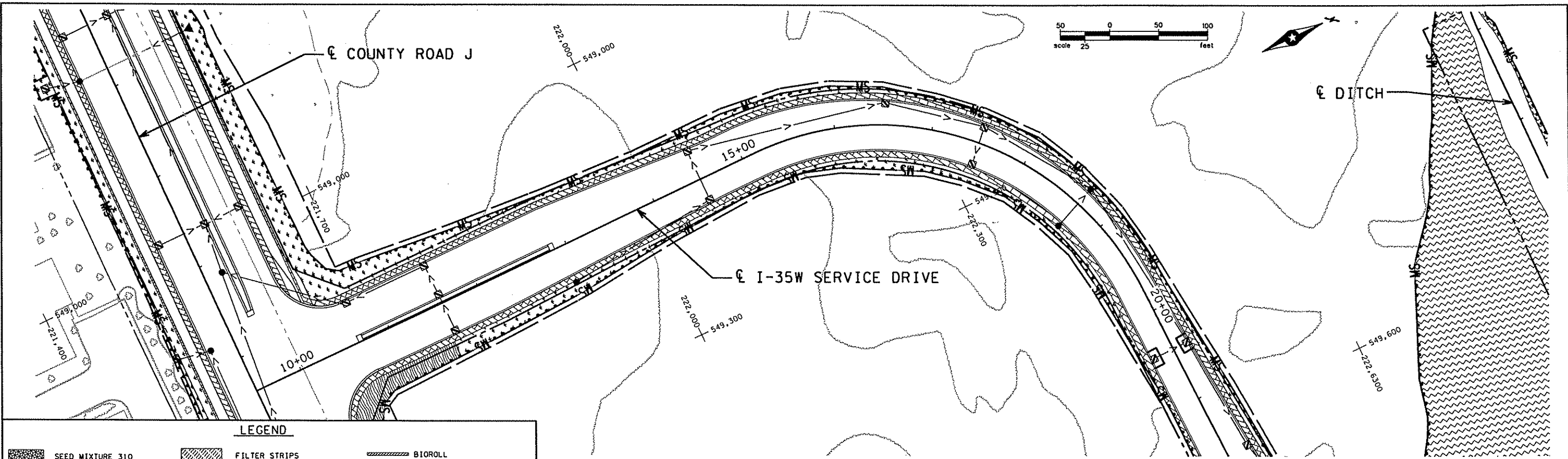
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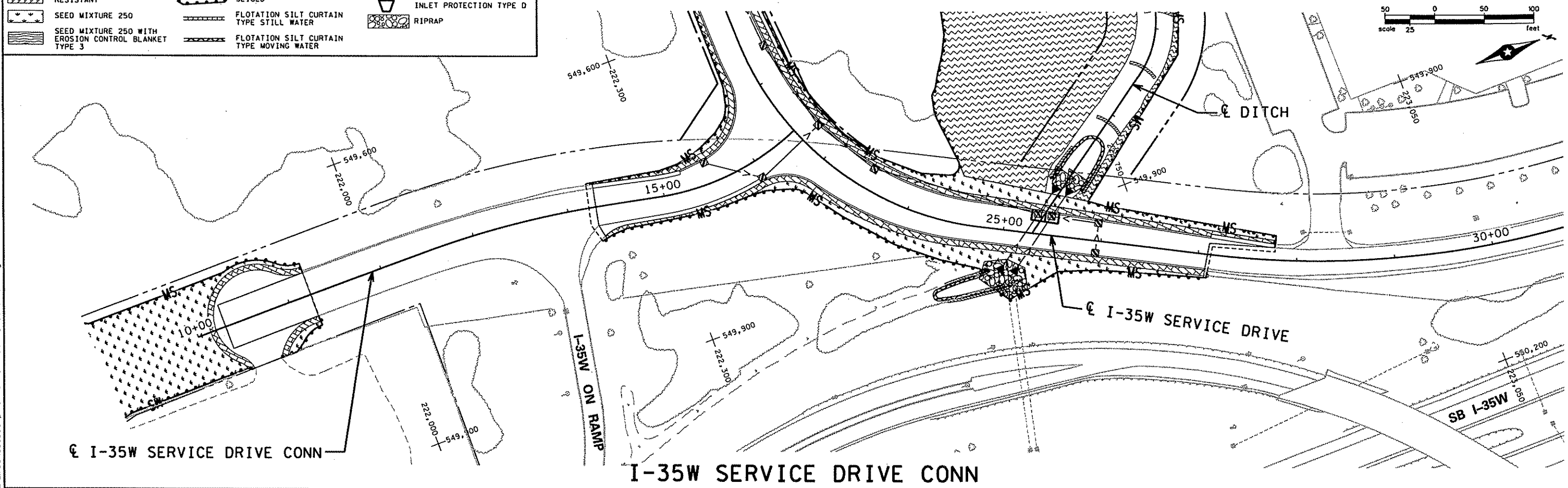
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LEGEND

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	SEED MIXTURE 330		MIXTURE W4		INTEL PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INTEL PROTECTION TYPE B
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	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP

I-35W SERVICE DRIVE



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DESIGNER:	DC		
CHECKED BY:	JEO		
NO.	BY	DATE	REVISIONS

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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TURF ESTABLISHMENT & EROSION CONTROL PLAN
 I-35W SERVICE DRIVE

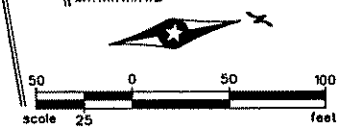
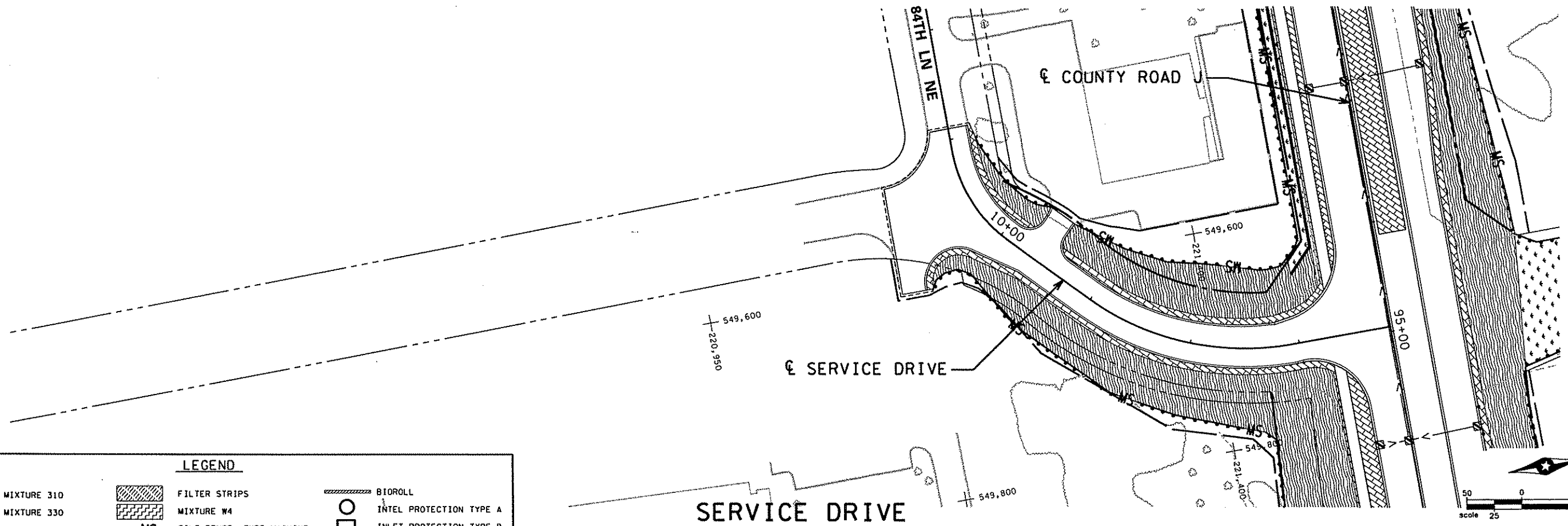
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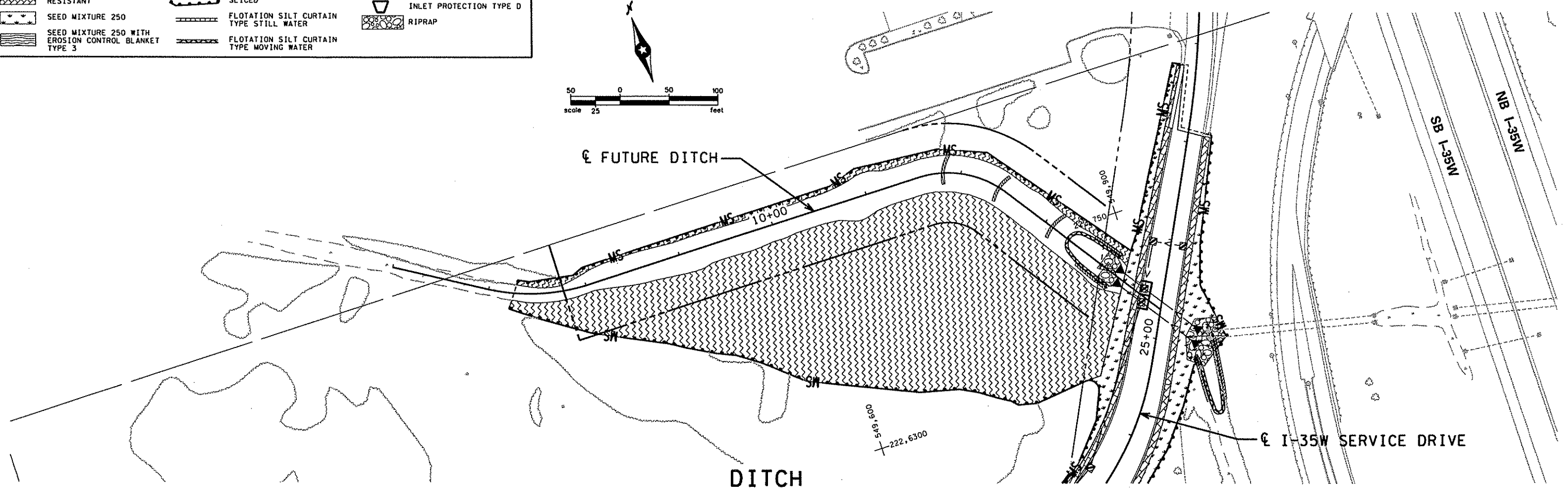
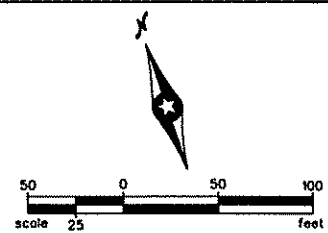
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LEGEND					
	SEED MIXTURE 310		FILTER STRIPS		BIOROLL
	SEED MIXTURE 330		MIXTURE W4		INLET PROTECTION TYPE A
	SODDING TYPE SALT RESISTANT		SILT FENCE, TYPE MACHINE SLICED		INLET PROTECTION TYPE B
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	SEED MIXTURE 250 WITH EROSION CONTROL BLANKET TYPE 3		FLOTATION SILT CURTAIN TYPE MOVING WATER		RIPRAP



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RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TURF ESTABLISHMENT &
 EROSION CONTROL PLAN
 SERVICE DRIVE & DITCH

FILE NO. 210
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 TE8 OF TE8
 297

PERMANENT PAVEMENT MARKING PLAN NOTES

GOVERNING SPECIFICATIONS
THE 2005 MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
(MUTCD) SHALL GOVERN.

SIGNING AND STRIPING PLAN INDEX

- SS1 PERM PAVEMENT MARKING TABULATION AND NOTES
- SS2-SS3 SIGNING TABULATIONS
- SS4 TYPE "D" PANELS
- SS5-SS14 EXISTING SIGNING & STRIPING PLANS
- SS15-SS24 PROPOSED SIGNING & STRIPING PLANS
- SS25-SS26 PAVEMENT MARKING DETAILS
- SS27-SS36 SIGNING STANDARD DETAILS

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F° OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAIS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

POLY PREFORM GROOVED APPLICATION:

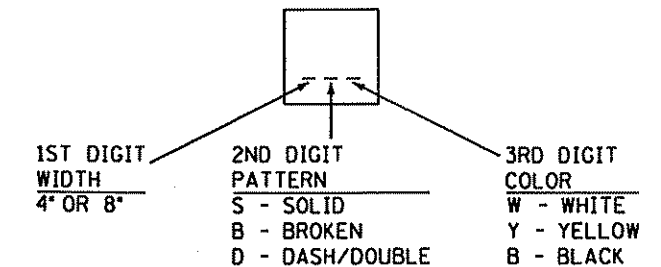
CONCRETE PAVEMENT SURFACES AND BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE SPECIAL PROVISIONS.

SYMBOLS & MATERIALS LEGEND

- ZEBRA CROSSWALK WHITE - POLY PREFORM
- PAVEMENT MESSAGE - POLY PREFORM

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: = 4" SOLID LINE WHITE - EPOXY

SPECIFIC NOTES:

- (1) PAVEMENT MARKING QUANTITY TO BE USED FOR SURVEY MONUMENT MARKER AT CR J/CORAL SEA ST INTERSECTION, AS DIRECTED BY ENGINEER.

PERMANENT PAVEMENT MARKING TABULATION

ITEM	UNIT	S.A.P. 02-632-14, S.A.P. 62-601-11 TOTAL QUANTITY
PAVEMENT MARKING REMOVAL	LF	1053
PAVEMENT MESSAGE (LT ARROW) POLY PREFORM	EACH	35
PAVEMENT MESSAGE (RT ARROW) POLY PREFORM	EACH	9
PAVEMENT MESSAGE (STRAIGHT ARROW) POLY PREFORM	EACH	1
PAVEMENT MESSAGE (LEFT-THRU ARROW) POLY PREFORM	EACH	3
PAVEMENT MESSAGE (RT-THRU ARROW) POLY PREFORM	EACH	1
4" SOLID LINE WHITE-POLY PREFORMED	LF	1160
24" SOLID LINE WHITE-POLY PREFORMED	LF	658
4" SOLID LINE WHITE-EPOXY	LF	22650
4" BROKEN LINE WHITE-EPOXY	LF	3927
12" SOLID LINE WHITE-EPOXY	LF	20
24" SOLID LINE WHITE-EPOXY	LF	665
4" SOLID LINE YELLOW-EPOXY	LF	15650
4" DOUBLE SOLID LINE YELLOW-EPOXY	LF	8120
24" SOLID LINE YELLOW-EPOXY	LF	915
ZEBRA CROSSWALK WHITE-POLY PREFORM	SF	5860

(1)

SS1 OF SS36

S.A.P. 02-632-14, S.A.P. 62-601-11

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

PRINT NAME: TIFFANY J. DAGON LICENSE # 40535

DATE: 02/20/2006 SIGNATURE:

DESIGNER

PERMANENT PAVEMENT MARKING SHEET NO
1

TITLE:
PERMANENT PAVEMENT MARKING TITLE & TABULATION SHEET

SHEET NO 211 OF 297 SHEETS

05:24:31 PM

02/20/2006

ss1 ss25

X:\PT\Ramse\050300\plans\signs\sign-striping_detail\sheet\ramse0503_striping.dgn

04:29:15 PM

02/17/2006

ss2-ss3

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SIGN PANELS TYPE C																
SIGN NO.	RAMP D QUANT.	SERVICE DR. QUANT.	CO. RD. J QUANT.	TOTAL QUANT.	POSTS			MTG. HT. (FT) (1)	PANEL					CODE NO.	PANEL LEGEND	
					NO. & TYPE	KNEE BRACES QUANT.	LENGTH (FT)		SIZE (IN.)	AREA (SQ FT)	RAMP D AREA (SQ FT)	SERVICE DR. AREA (SQ FT)	CO. RD. J AREA (SQ FT)			TOTAL AREA (SQ FT)
C-1		2		2	2-U	-	13	7	30 x 30	6.25		12.50		12.50	R1-1	STOP
C-2			3	3	1-U	-	13	7	24 x 30	5.00			15.00	15.00	R2-1	SPEED LIMIT 45
C-3		1		1	1-U	-	13	7	24 x 30	5.00		5.00		5.00	R2-1	SPEED LIMIT 50
C-4			2	2	1-U	-	15	7	24 x 30	5.00			15.00	15.00	R2-1	SPEED LIMIT 30
									18 x 18	2.25		4.50	4.50	R8-3a	NO PARKING (SYMBOL)	
C-5			3	3	1-U	-	15	7	24 x 30	5.00			0.00	0.00	R2-1	SPEED LIMIT 45
									18 x 18	2.25		6.75	6.75	R8-3a	NO PARKING (SYMBOL)	
C-6			2	2	1-U	-	15	7	24 x 30	5.00			10.00	10.00	R2-1	SPEED LIMIT 50
									18 x 18	2.25		4.50	4.50	R8-3a	NO PARKING (SYMBOL)	
C-7			1	1	1-U	-	13	7	24 x 24	4.00			4.00	4.00	R3-2	NO LEFT TURN (SYMBOL)
C-8			8	8	1-U	-	13	7	30 x 30	6.25			50.00	50.00	R3-7	LEFT LANE MUST TURN LEFT
C-9		1		1	2-U	-	13	7	30 x 30	6.25		6.25		6.25	R3-7	LEFT LANE MUST TURN LEFT
															X4-2	HAZARD MARKER
C-10		3	9	12	1-U	-	13	7	30 x 30	6.25		18.75	56.25	75.00	R3-7	RIGHT LANE MUST TURN RIGHT
C-11			1	1	1-U	1	15	7	30 x 30	6.25			6.25	6.25	R3-7	RIGHT LANE MUST TURN LEFT
									18 x 18	2.25		2.25	2.25	R3-3a	NO PARKING (SYMBOL)	
C-12			4	4	2-U	-	13	7	36 x 30	7.50			30.00	30.00	R3-30AB	LANE USE (LEFT, LEFT)
C-13			2	2	2-U	1	13	7	54 x 30	11.25			22.50	22.50	R3-30ABLA	LANE USE (LEFT, LEFT, RIGHT)
C-14		1		1	2-U	-	13	7	36 x 30	7.50		7.50		7.50	R3-30AC	LANE USE (LEFT, THRU)
C-15			1	1	2-U	-	13	7	36 x 30	7.50			7.50	7.50	R3-30AD	LANE USE (LEFT, THRU/RIGHT)
C-16	2			2	2-U	-	13	7	48 x 30	10.00	20.00		20.00	20.00	R3-30AERA	LANE USE (LEFT, THRU/RIGHT, RIGHT)
C-17		1	15	16	1-U	-	13	7	24 x 30	5.00		5.00	75.00	80.00	R4-7	KEEP RIGHT
															X4-2	HAZARD MARKER
C-18	2		2	4	2-U	-	15	7	48 x 48	16.00	32.00		32.00	64.00	R5-1	DO NOT ENTER
C-19	2		2	4	2-U	-	13	7	42 x 30	8.75	17.50		17.50	35.00	R5-1a	WRONG WAY
C-20	1		2	3	1-U	-	13	7	18 x 24	3.00	3.00		6.00	9.00	R5-10d	NON-MOTORIZED TRAFFIC PROHIBITED
C-21			2	2	1-U	-	9	4	36 x 12	3.00			6.00	6.00	R6-1 R	ONE WAY RIGHT
C-22			1	1	1-U	-	12	7	36 x 12	3.00			3.00	3.00	R6-1 R	ONE WAY RIGHT
									36 x 12	3.00			3.00	3.00	R6-1 L	ONE WAY LEFT
C-23			1	1	1-U	-	14	7	36 x 12	3.00			3.00	3.00	R6-1 R	ONE WAY RIGHT
									30 x 30	6.25		6.25	6.25	R1-1	STOP	
C-24			25	25	1-U	-	12	7	18 x 18	2.25			56.25	56.25	R8-3a	NO PARKING (SYMBOL)
C-26			1	1	2-U	-	13	7	48 x 30	10.00			10.00	10.00	R3-30AELA	LANE USE (LEFT, THRU/LEFT, RIGHT)
C-27			1	1	2-U	-	13	7	48 x 30	10.00			10.00	10.00	R3-30AELA	LANE USE (LEFT, THRU/LEFT, RIGHT)
C-28			2	2	1-U	-	13	7	30 x 30	6.25			12.50	12.50	R5-1	DO NOT ENTER
C-29			1	1	2-U	-	15	7	36 x 36	9.00			9.00	9.00	W6-2	DIVIDED HIGHWAY ENDS (SYMBOL)
									18 x 18	2.25		2.25	2.25	R3-3a	NO PARKING (SYMBOL)	
C-30			1	1	1-U	-	14	7	24 x 12	2.00			2.00	2.00	M3-1mo	NORTH
									24 x 24	4.00			4.00	4.00	M1-6	ANOKA COUNTY ROAD 23
C-31			3	3	1-U	-	16	7	24 x 12	2.00			2.00	2.00	M3-1mo	EAST
									24 x 24	4.00			12.00	12.00	M1-6	RAMSEY COUNTY ROAD 1
									24 x 24	4.00			12.00	12.00	M1-6	ANOKA COUNTY ROAD 32
C-32			3	3	1-U	-	16	7	24 x 12	2.00			6.00	6.00	M3-4mo	WEST
									24 x 24	4.00			12.00	12.00	M1-6	RAMSEY COUNTY ROAD 1
									24 x 24	4.00			12.00	12.00	M1-6	ANOKA COUNTY ROAD 32
C-33			1	1	1-U	-	17	7	24 x 12	2.00			2.00	2.00	M3-1mo	EAST
									24 x 24	4.00			4.00	4.00	M1-6	RAMSEY COUNTY ROAD 1
									24 x 24	4.00			4.00	4.00	M1-6	ANOKA COUNTY ROAD 32
									18 x 18	2.25		2.25	2.25	R8-3a	NO PARKING (SYMBOL)	
C-34			1	1	1-U	-	17	7	24 x 12	2.00			2.00	2.00	M3-4mo	WEST
									24 x 24	4.00			4.00	4.00	M1-6	RAMSEY COUNTY ROAD 1
									24 x 24	4.00			4.00	4.00	M1-6	ANOKA COUNTY ROAD 32
									18 x 18	2.25		2.25	2.25	R8-3a	NO PARKING (SYMBOL)	
C-40		2		2	2-U	1	15	7	30 x 30	6.25		12.50		12.50	W1-4 R	REVERSE CURVE RIGHT (SYMBOL)
									24 x 24	4.00		8.00		8.00	W13-1	ADVISORY SPEED 30 MPH
C-41			1	1	2-U	-	14	7	36 x 36	9.00			9.00	9.00	W6-1	DIVIDED HIGHWAY (SYMBOL)
C-42		1		2	1-U	-	13	7	30 x 30	6.25		6.25		6.25	W14-2	NO OUTLET
TOTAL											72.50	81.75	588.00	742.25		

SALVAGE AND INSTALL SIGN TYPE C							
SIGN NO.	CO. RD. J QUANT.	POSTS			MTG. HT. (FT) (1)	PANEL SIZE (IN.)	PANEL LEGEND
		NO. & TYPE	KNEE BRACES QUANT.	LENGTH (FT)			
C-100	1	1-U	-	14	7	18 x 18	STOP
						24 x 18	BIKE ROUTE
						24 x 24	NO MOTOR VEHICLES
C-101	1	1-U	-	14	7	24 x 24	HILL (BIKE)
						24 x 24	BIKEWAY NARROWS
						24 x 18	BIKE ROUTE
C-102	1	2-U	-	13	7	72 x 27	WELCOME TO THE CITY OF MOUNDS VIEW
TOTAL	3						

SALVAGE SIGN TYPE C (10)				
TYPE C	RAMP D QUANTITY	SERVICE DR QUANTITY	CO. RD. J QUANTITY	TOTAL QUANTITY
TOTAL	6	3	79	88

SALVAGE & INSTALL SIGN TYPE SPECIAL			
SIGN NO.	CO. RD. J QUANTITY (9)	POST NO. & TYPE	PANEL LEGEND
S-100	1	1-0	EDISON ST NE
			85th AVE NE
S-101	1	1-0	SERVICE DRIVE
			84TH LANE NE
S-102	1	1-0	SERVICE DRIVE
			85th AVE NE
TOTAL	3		

SALVAGE SIGN TYPE SPECIAL (11)	
TYPE C	CO. RD. J QUANTITY
TOTAL	7

- GENERAL NOTES:
- Post lengths are approximate and include embedment, but do not include additional length required for splice.
 - See Mn/DOT Standard Signs Manual for punching code and detailed drawings of Type C Signs.
 - See Sheets SS35 to SS37 for structural details.
 - See Standard Signs Manual for Type "D" stringer and panel joint details.
 - See Standard Signs Manual for overlay details.
 - See Sheet SS32 for marker placement.
 - See roadway layouts for marker locations.
- SPECIFIC NOTES:
- Mounting height is minimum. See Sheet SS32 for typical mounting.
 - Mount back to back.
 - Mount in concrete. See Sheet SS34.
 - See Standard Signs Manual for Hazard Marker (X4-2)
 - See Standard Signs Manual for Clearance Marker (X4-4L)
 - Yellow on Non-reflectORIZED Black
 - 12" x 36"
 - Install on 3 lb/ft post (Mn/DOT 3401)
 - Quantity includes 4 panels, with panels of same legend mounted back to back
 - Signs will not be reused under this contract and shall be salvaged to Ramsey County.
 - Signs will not be reused under this contract and shall be salvaged to the City of Blaine.

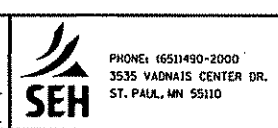
MARKERS				
TYPE	SERVICE DR. QUANTITY	CO. RD. J QUANTITY	TOTAL QUANTITY	LOCATION
X4-2	1		1	BELOW SIGN C-9
X4-2	1	15	16	BELOW SIGN C-17
X4-4L		6	6	MEDIAN
TOTAL			23	

(4)(6)
(4)(6)
(5)(7)(8)

DESIGN TEAM			
NO.	BY	DATE	REVISIONS
	MTT		
	TJD		
	TJD		

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.

Certified By: *Jeffery J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: JEFFERY J. DAGON Date: 02/17/2006



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO. ARAMSE0503	212
SS2 OF SS36	297

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02/17/2006

ss2-ss3

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SIGN PANELS TYPE D														
SIGN NO.	SERVICE DR QUANT.	CO. RD. J QUANT.	TOTAL QUANT.	POSTS			MTG. HT. (FT) (1)	PANEL			PANEL LEGEND			
				NO. & TYPE	KNEE BRACES QUANT.	LENGTH (FT)		SPACING (IN.)	SIZE (IN.)	AREA (SQ FT)		SERVICE OR AREA (SQ FT)	CO. RD. J AREA (SQ FT)	TOTAL AREA (SQ FT)
D-1		1	1	2-U	1	16	30	7	48 x 66	22.00		22.00	22.00	
D-2	1		1	2-U	2	17	54	7	78 x 78	42.25	42.25		42.25	
D-3		1	1	2-U	1	16	30	7	48 x 66	22.00		22.00	22.00	
D-4		1	1	2-U	1	16	30	7	48 x 66	22.00		22.00	22.00	
TOTAL										42.25	66.00	108.25		

SIGN PANELS TYPE OVERLAY									
CODE NO.	SERVICE DR QUANTITY	CO. RD. J QUANTITY	TOTAL QUANTITY	SIZE (IN.)	AREA (SQ FT)	SERVICE DR AREA (SQ FT)	CO. RD. J AREA (SQ FT)	TOTAL AREA (SQ FT)	PANEL LEGEND
M1-1	1	3	4	30 x 24	5.00	5.00	15.00	20.00	INTERSTATE 35W
TOTAL						5.00	15.00	20.00	

SALVAGE SIGN PANEL TYPE OH					
CODE NO.	LOCATION	PANEL SIZE (IN)	PANEL SIZE (IN)	PANEL SIZE (IN)	TOTAL PANELS
OH 152-35W	CR J BRIDGE	204 x 60			1
EXIT 31B	CR J BRIDGE	108 x 24			1
TOTAL					2

INSTALL SIGN PANEL TYPE OH					
CODE NO.	LOCATION	PANEL SIZE (IN)	PANEL SIZE (IN)	PANEL SIZE (IN)	TOTAL AREA (SQ FT)
OH 363-35W	CR J BRIDGE	204 x 84			119.00
TOTAL					119.00

INSTALL SIGN PANEL TYPE EO					
CODE NO.	LOCATION	PANEL SIZE (IN)	PANEL SIZE (IN)	PANEL SIZE (IN)	TOTAL AREA (SQ FT)
EO-1	CR J BRIDGE ABOVE OH 363-35W	108 x 30			22.50
TOTAL					22.50

REMOVE SIGN LIGHTING SYSTEM					
CODE NO.	OH DESIGN	FIXTURES		SOURCE OF POWER VOLTAGE	FEED POINT ID PLATE NO.
		175W	250W		
OH 152-35W	BR. MTD	3			W8A/H
TOTAL					

SALVAGE & INSTALL SIGN TYPE D									
SIGN NO.	CO. RD. J QUANT.	POSTS			MTG. HT. (FT) (1)	PANEL		PANEL LEGEND	
		NO. & TYPE	KNEE BRACES QUANT.	LENGTH (FT)		SPACING (IN.)	SIZE (IN.)		CO. RD. J AREA (SQ FT)
D-200	1	2-U	2	15	48	7	96 x 48	32.00	
D-201	1	2-U	2	17	54	7	78 x 78	42.25	
D-202	1	2-U	2	16	30	7	54 x 66	24.75	
TOTAL		3							

REMOVE SIGN TYPE D							
SIGN NO.	SERVICE DR QUANT.	CO. RD. J QUANT.	TOTAL QUANT.	POSTS		SIZE (IN.)	PANEL LEGEND
				NO. & TYPE	KNEE BRACES QUANT.		
D-100	1	1	1	2-U	1	48 x 66	
D-101	1	1	1	2-U	1	48 x 66	
D-102		1	1	2-U	1	48 x 66	
D-103		1	1	4-U	4	162 x 80	
D-104			1	2-U	2	68 x 68	
TOTAL		4	5				

GENERAL NOTES:

1. Post lengths are approximate and include embedment, but do not include additional length required for splice.
2. See Mn/DOT Standard Signs Manual for punching code and detailed drawings of Type C Signs.
3. See Sheets SS35 to SS37 for structural details.
4. See Standard Signs Manual for Type "D" stringer and panel joint details.
5. See Standard Signs Manual for overlay details.
6. See Sheet SS32 for marker placement.
7. See roadway layouts for marker locations.

SPECIFIC NOTES:

- (1) Mounting height is minimum. See Sheet SS32 for typical mounting.
- (2) Existing signs mounted back to back.

DESIGN TEAM			
DRAWN BY: MTT			
DESIGNER: TJD			
CHECKED BY: TJD			
NO.	BY	DATE	REVISIONS

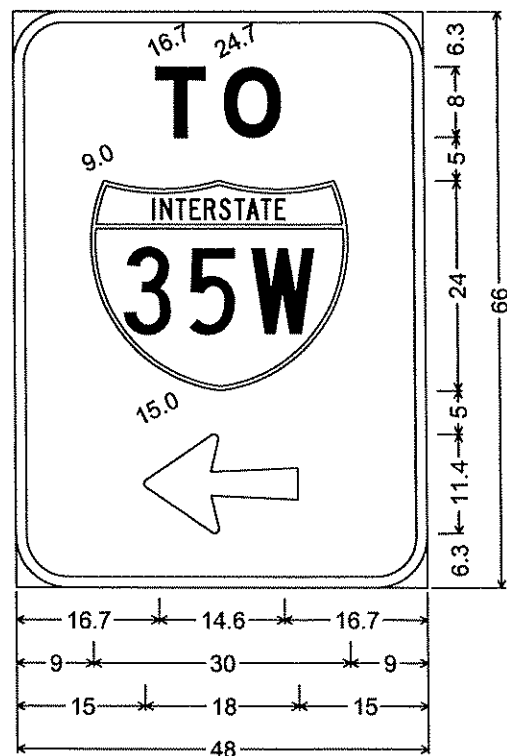
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Jeffery J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: JEFFERY J. DAGON Date: 02/17/2006



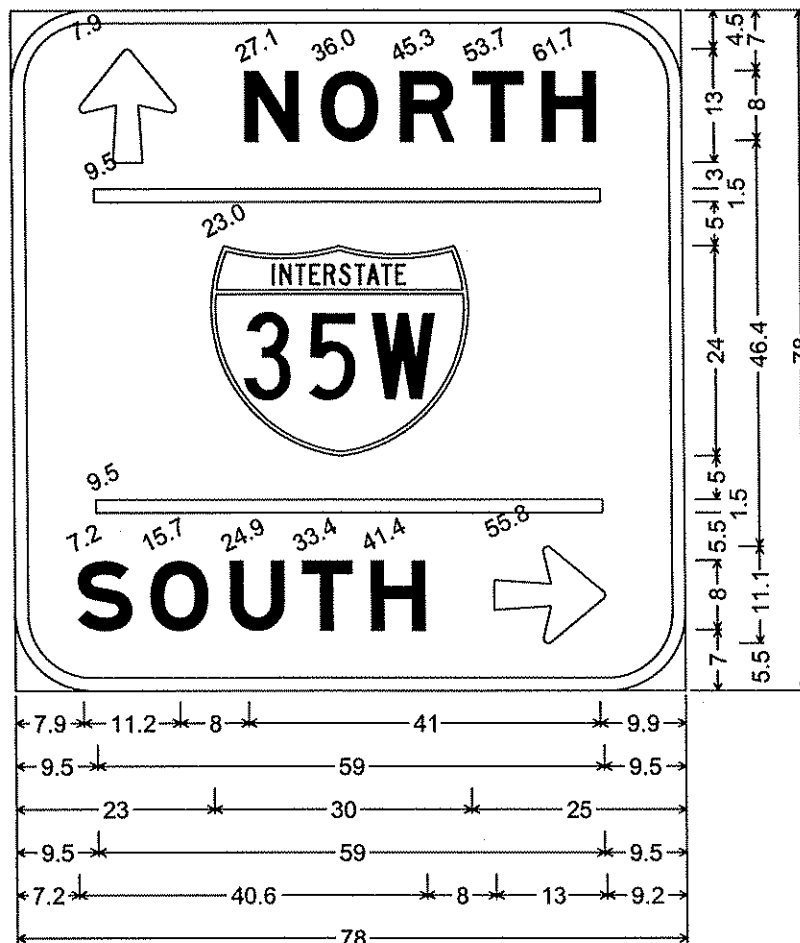
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

SIGNING TABULATIONS

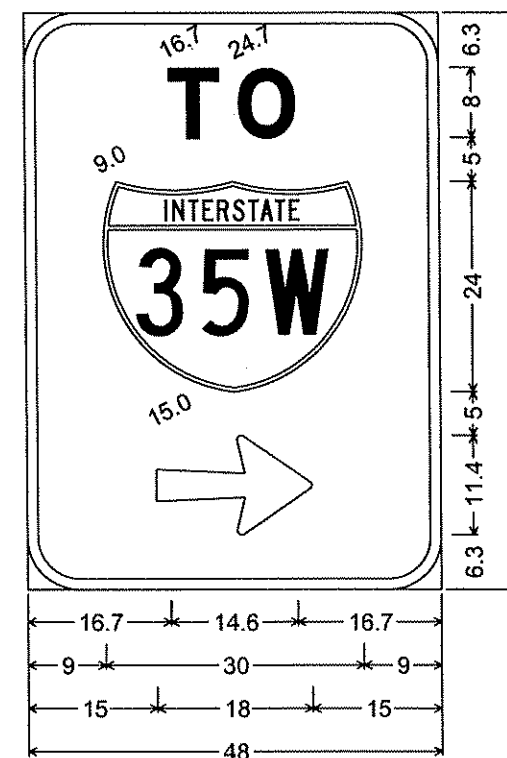
FILE NO. ARAMSE0503
 SS3 OF SS36
 213
 297



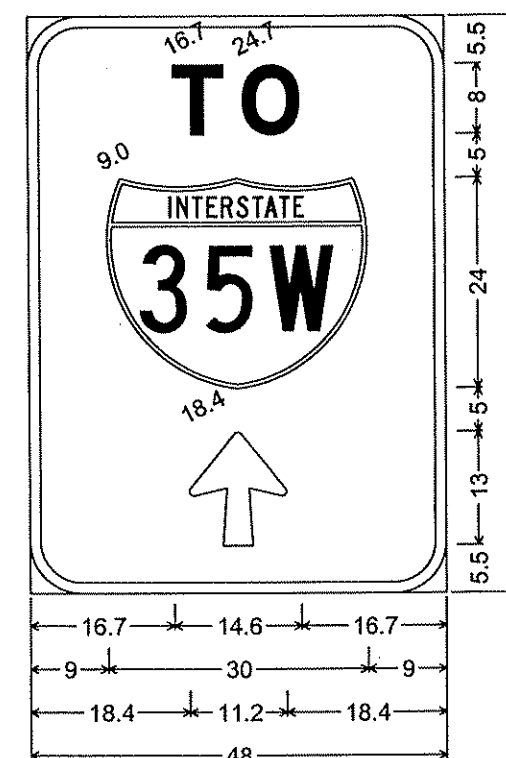
D-1;
6.0" Radius, 1.3" Border, White on Green;
[TO] E Mod;
Arrow 14 - 18.0" 180°;



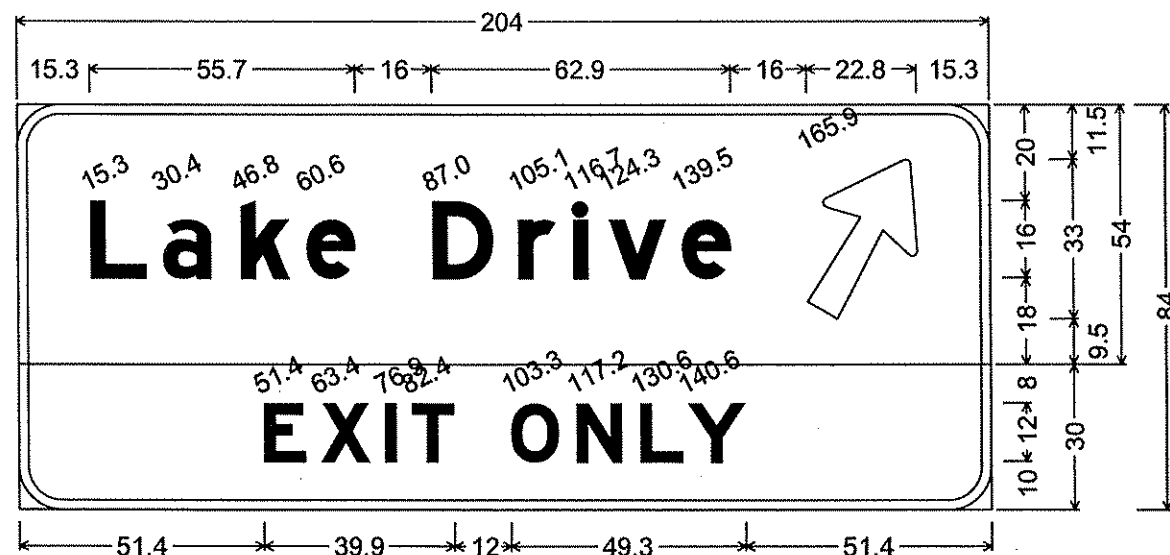
D-2; 9.0" Radius, 1.5" Border, White on Green;
Arrow 5 - 13.0" 90°; [NORTH] E Mod; [SOUTH] E Mod;
Arrow 5 - 13.0" 0°;



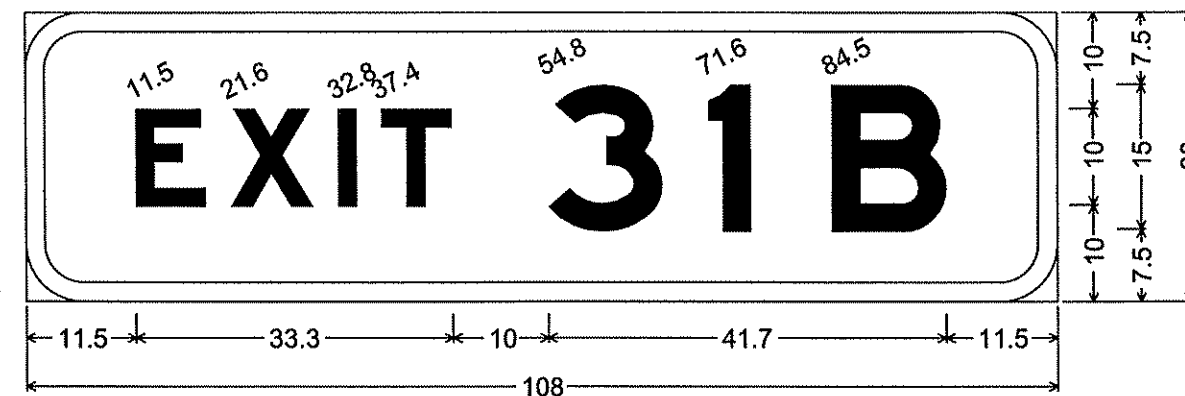
D-3;
6.0" Radius, 1.3" Border, White on Green;
[TO] E Mod; Arrow 14 - 18.0" 0°;



D-4;
6.0" Radius, 1.3" Border, White on Green;
[TO] E Mod; Arrow 5 - 13.0" 90°;



OH 363-35W;
9.0" Radius, 2.0" Border, White on Green;
[Lake Drive] E Mod; Arrow 17 - 36.0" 60°;
9.0" Radius, 2.0" Border, White on Yellow;
[EXIT ONLY] Black E Mod;



EO-1;
6.0" Radius, 2.0" Border, White on Green;
[EXIT 31B] E Mod;

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

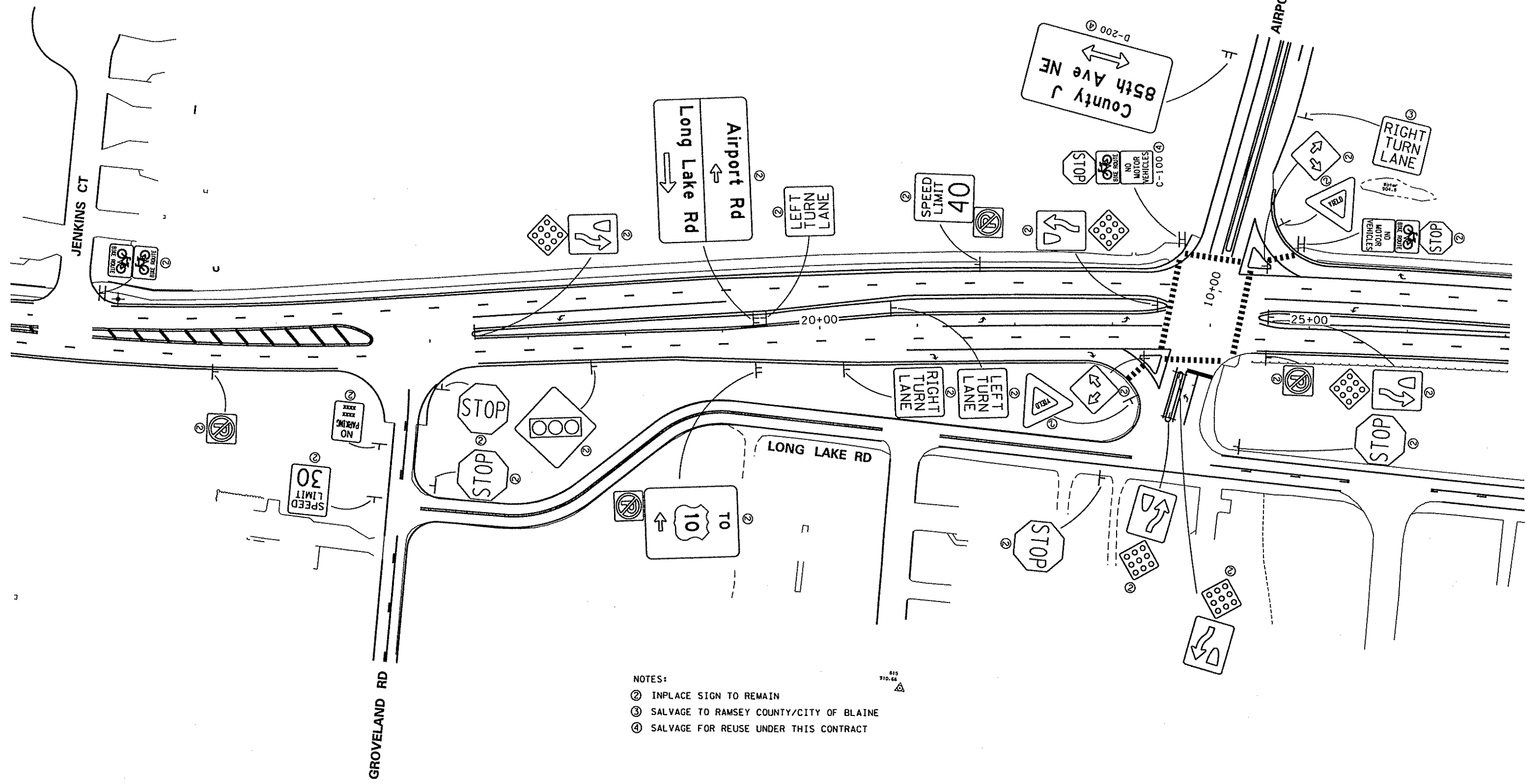
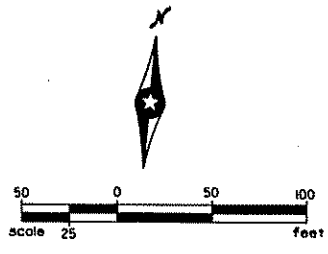
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Certified By: *[Signature]* Lic. No. 40535
Printed Name: JEFFANY J. DAGON Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TYPE "D" PANELS

FILE NO. ARAMSE0503 214
SS4 OF SS36 297



- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ④ SALVAGE FOR REUSE UNDER THIS CONTRACT

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

PHONE: 651/490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 12+00 TO STA 27+00

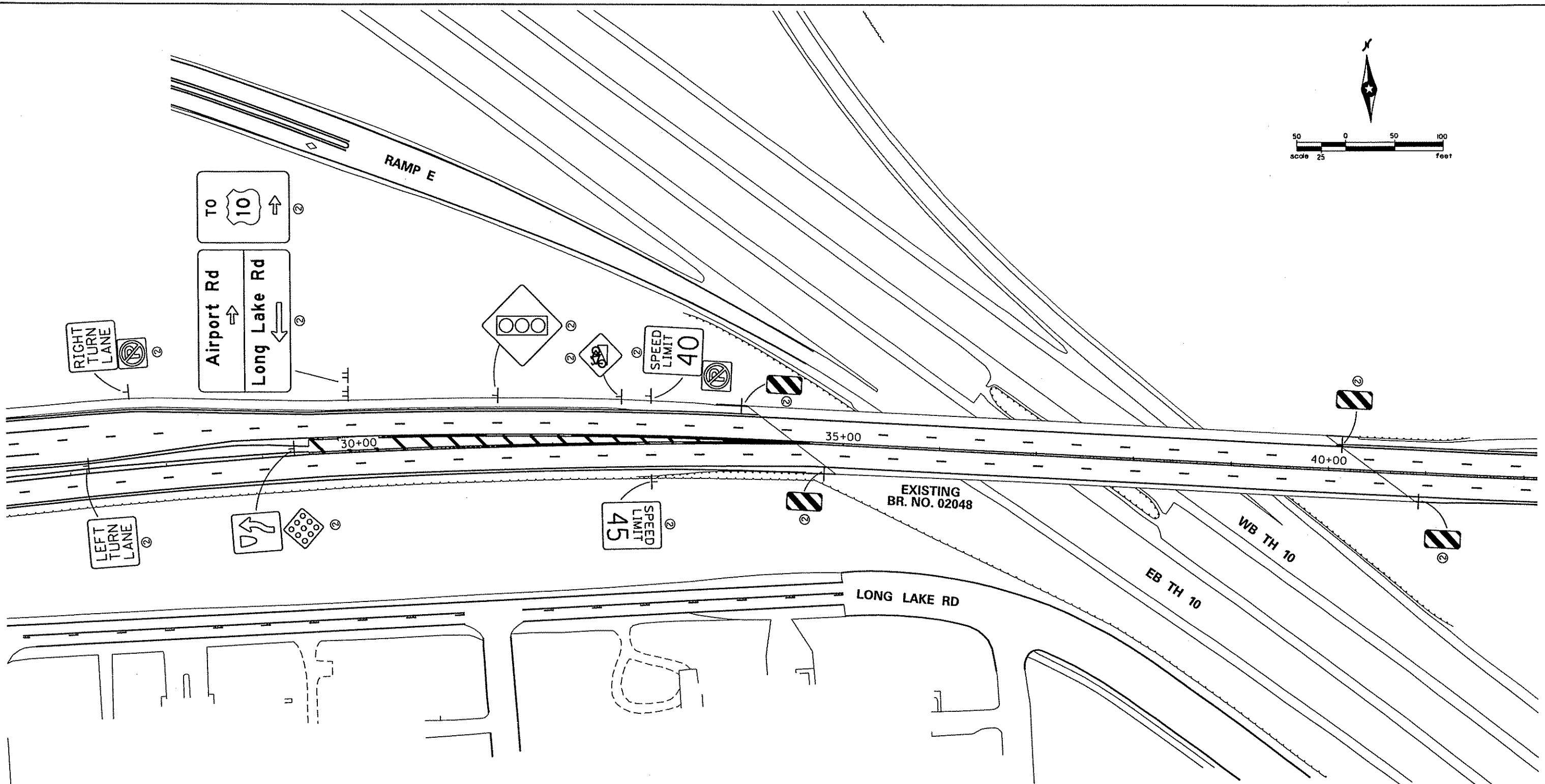
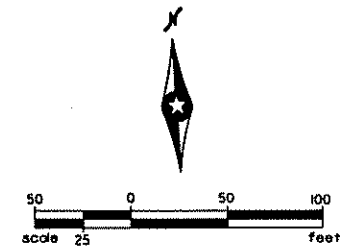
FILE NO. ARAMSE0503	215
SS5 OF SS36	297

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02/17/2006

ss06

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NOTE:
 ② INPLACE SIGN TO REMAIN

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

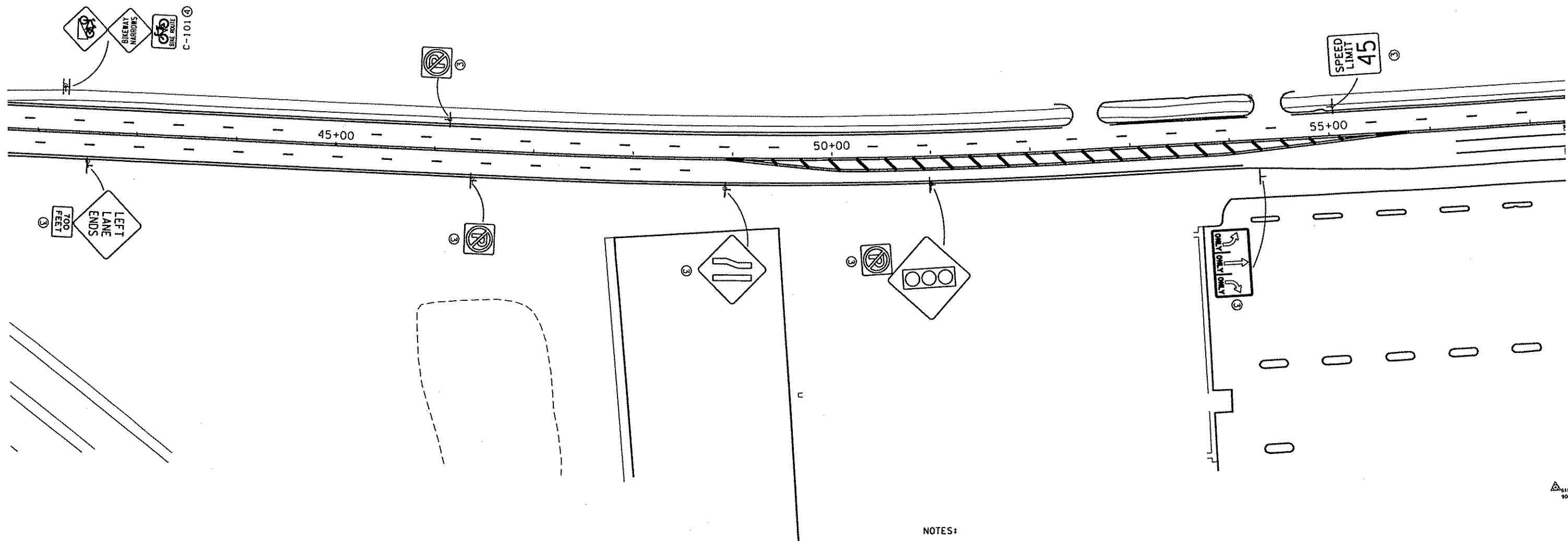
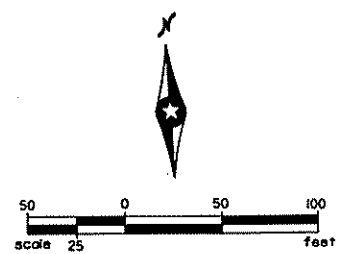
PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 27+00 TO STA 42+00

FILE NO.
 ARAMSE0503
216
 SS6
 OF 5536
297

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02/17/2006
ss07
xp:\ramse\050300\plans\signs\existing_signs\ramse0503.es.dgn



- NOTES:
- ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ④ SALVAGE FOR REUSE UNDER THIS CONTRACT

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 42+00 TO STA 52+00

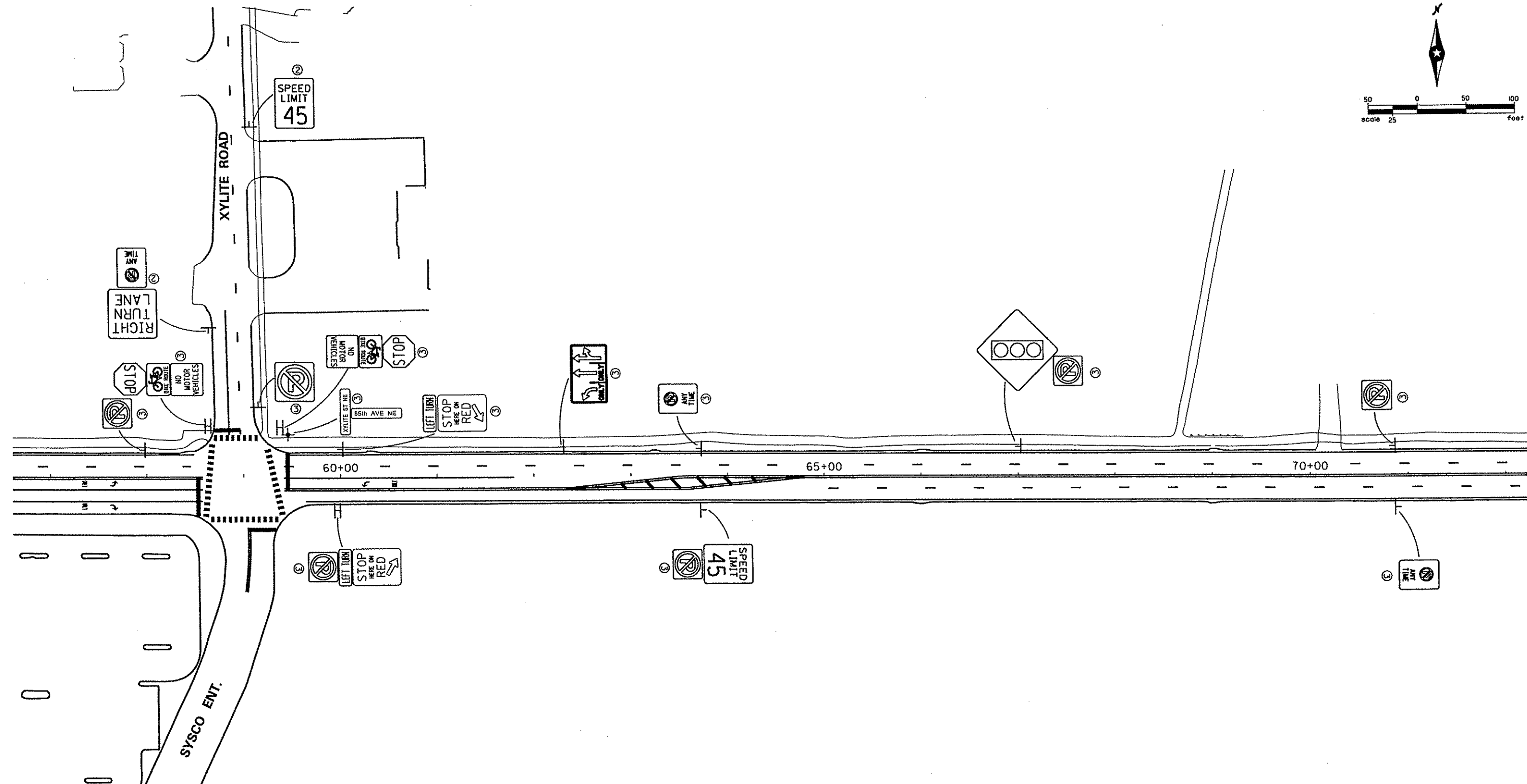
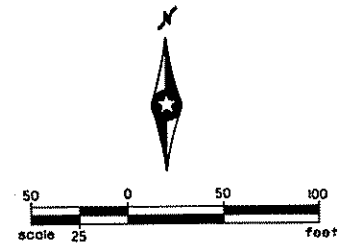
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SS7	297
OF SS36	

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02/17/2006

SS08

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- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

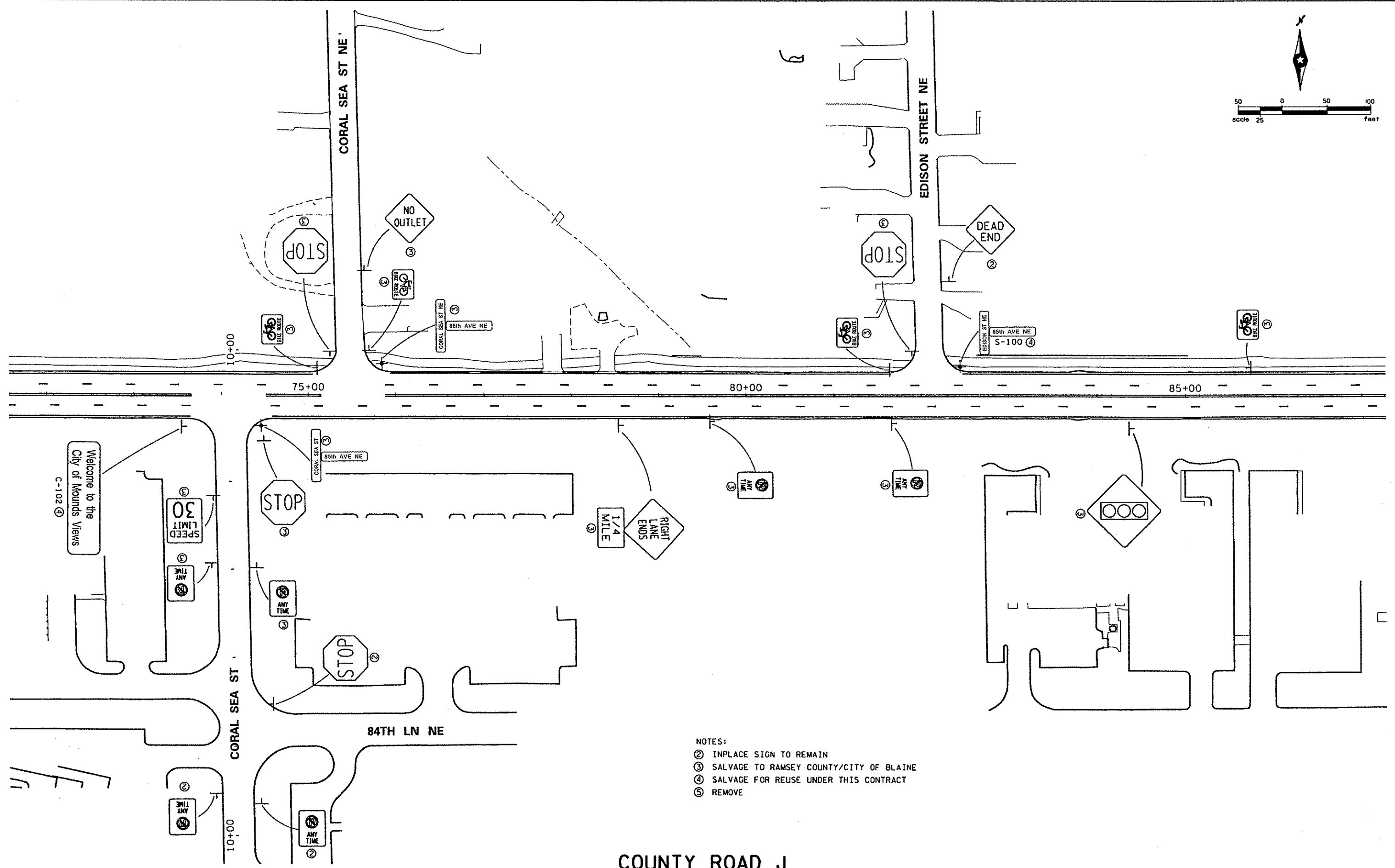
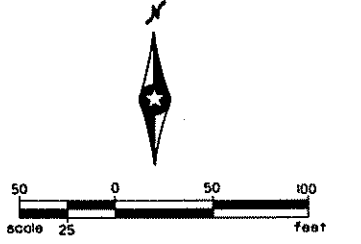
Certified By: *Tiffany J. Dason* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DASON Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 42+00 TO STA 52+00

FILE NO. ARAMSE0503	218
SS8 OF 5536	297



- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ④ SALVAGE FOR REUSE UNDER THIS CONTRACT
 - ⑤ REMOVE

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

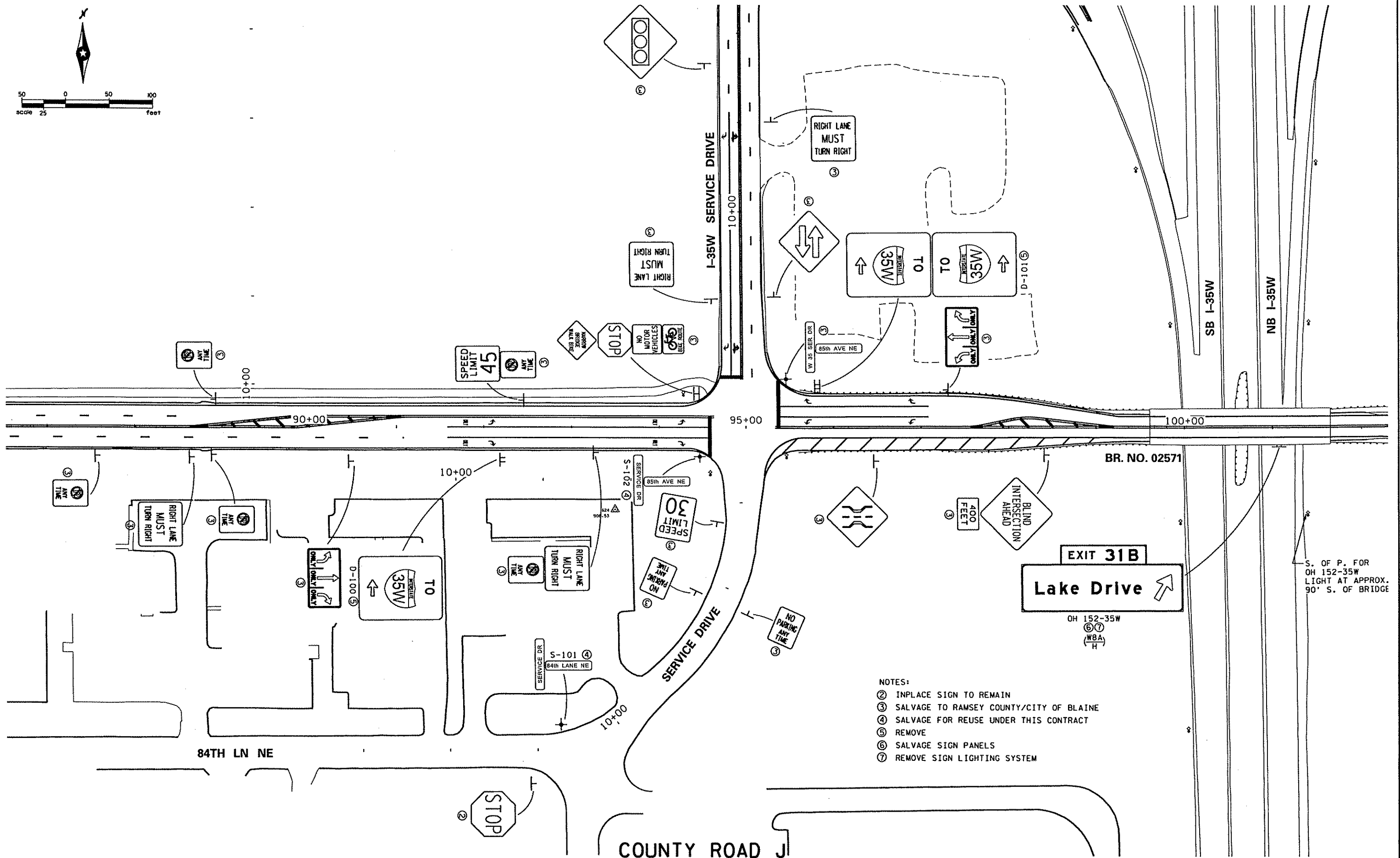
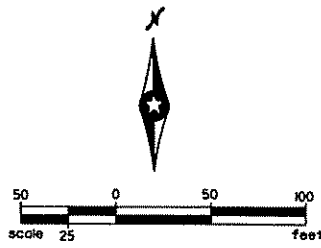
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 52+00 TO STA 87+00

FILE NO. ARAMSE0503	219
SS9 OF SS36	297



- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ④ SALVAGE FOR REUSE UNDER THIS CONTRACT
 - ⑤ REMOVE
 - ⑥ SALVAGE SIGN PANELS
 - ⑦ REMOVE SIGN LIGHTING SYSTEM

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

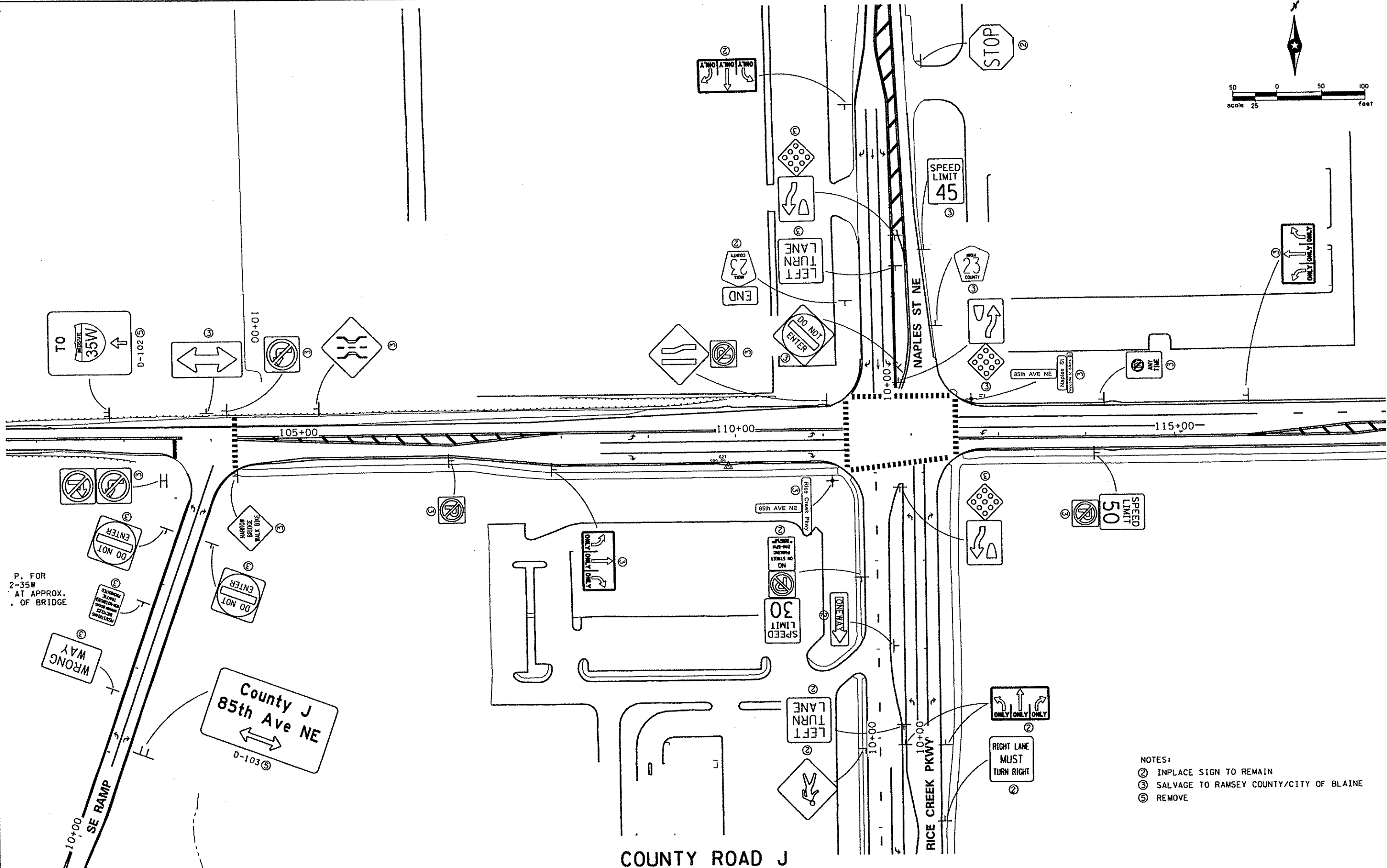
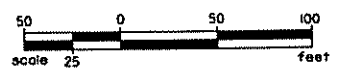
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 87+00 TO STA 102+00

FILE NO.	220
ARAMSE0503	
SS10	297
OF SS36	



- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ⑤ REMOVE

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 87+00 TO STA 102+00

FILE NO.
 ARAMSE0503
 SS11
 OF 5536

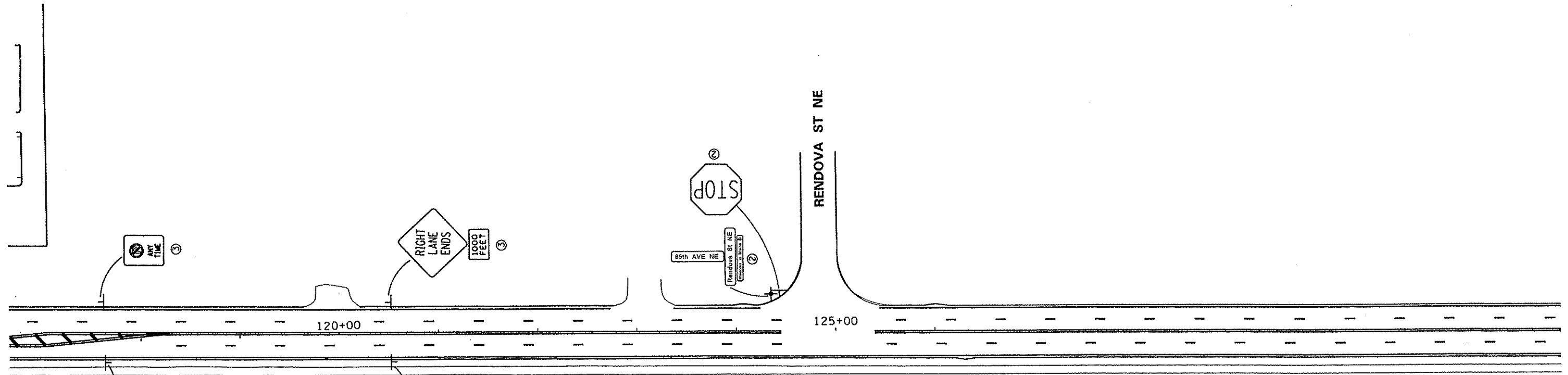
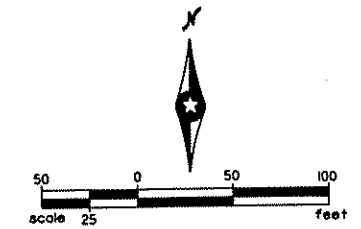
221
 297

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02/17/2006

ss12

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NOTES:

- ② INPLACE SIGN TO REMAIN
- ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

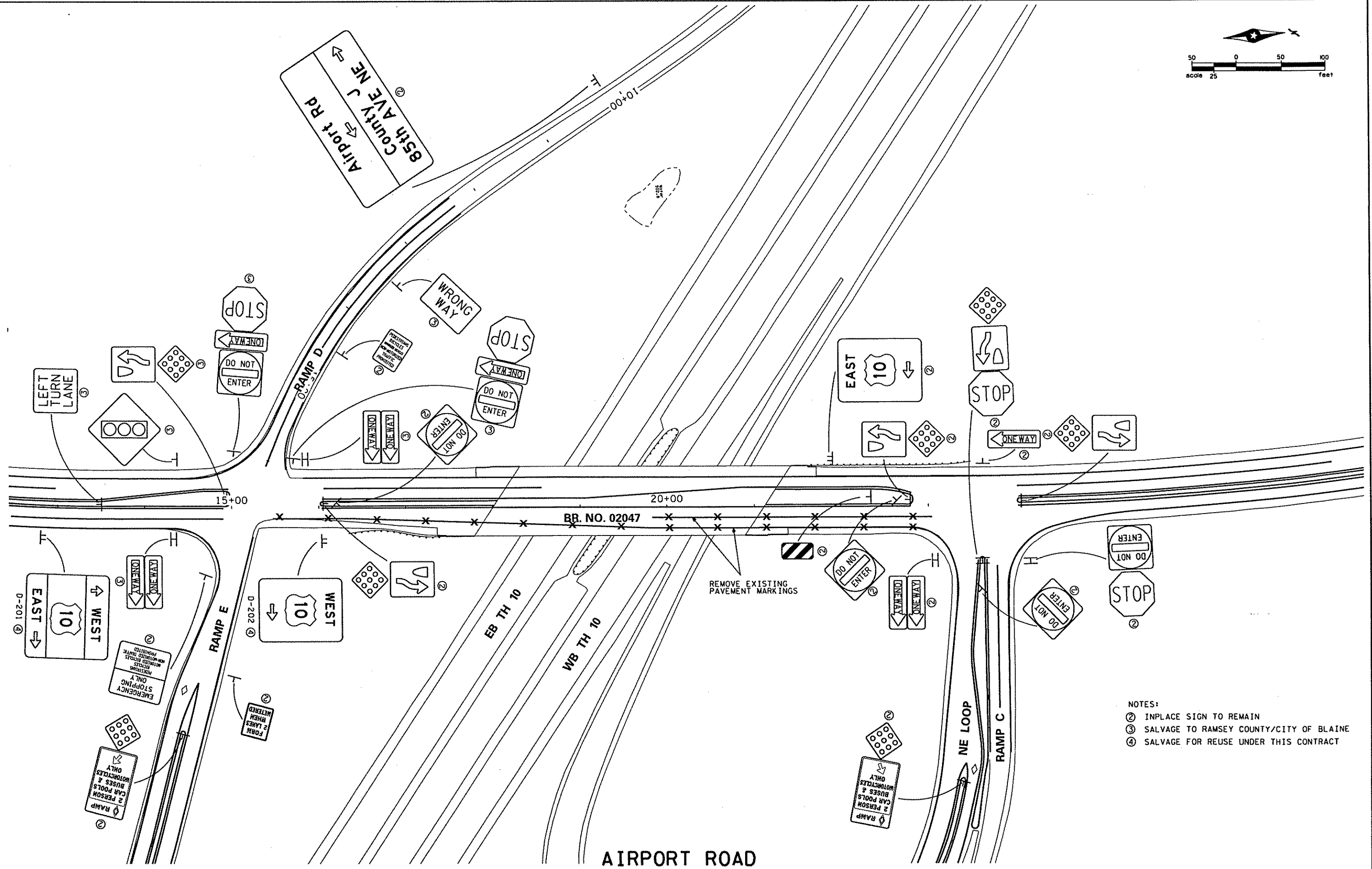
Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 STA 87+00 TO STA 102+00

FILE NO. ARAME0503	222
SS12 OF SS36	297



- NOTES:
- ② INPLACE SIGN TO REMAIN
 - ③ SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ④ SALVAGE FOR REUSE UNDER THIS CONTRACT

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

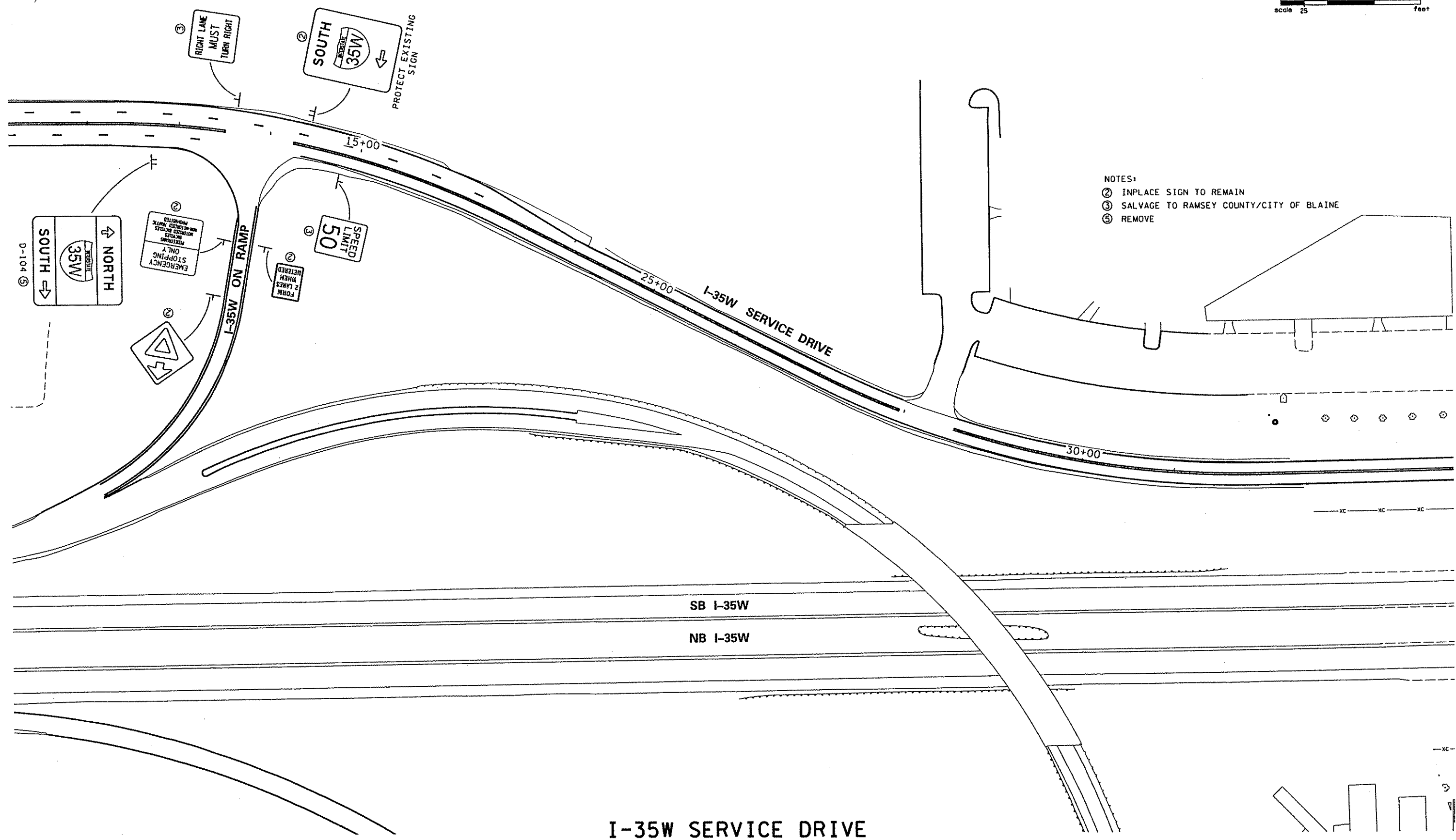
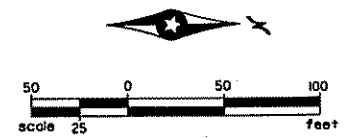
SEH
 PHONE: 651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 AIRPORT ROAD

FILE NO.	223
ARAMSE0503	
SS13	297
OF 5536	

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02/17/2006
ss14
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- NOTES:
- ① INPLACE SIGN TO REMAIN
 - ② SALVAGE TO RAMSEY COUNTY/CITY OF BLAINE
 - ③ REMOVE

I-35W SERVICE DRIVE

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
	NO.	BY	DATE
			REVISIONS

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.
 Certified By: *Jeffery J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: JEFFERY J. DAGON Date: 02/17/2006

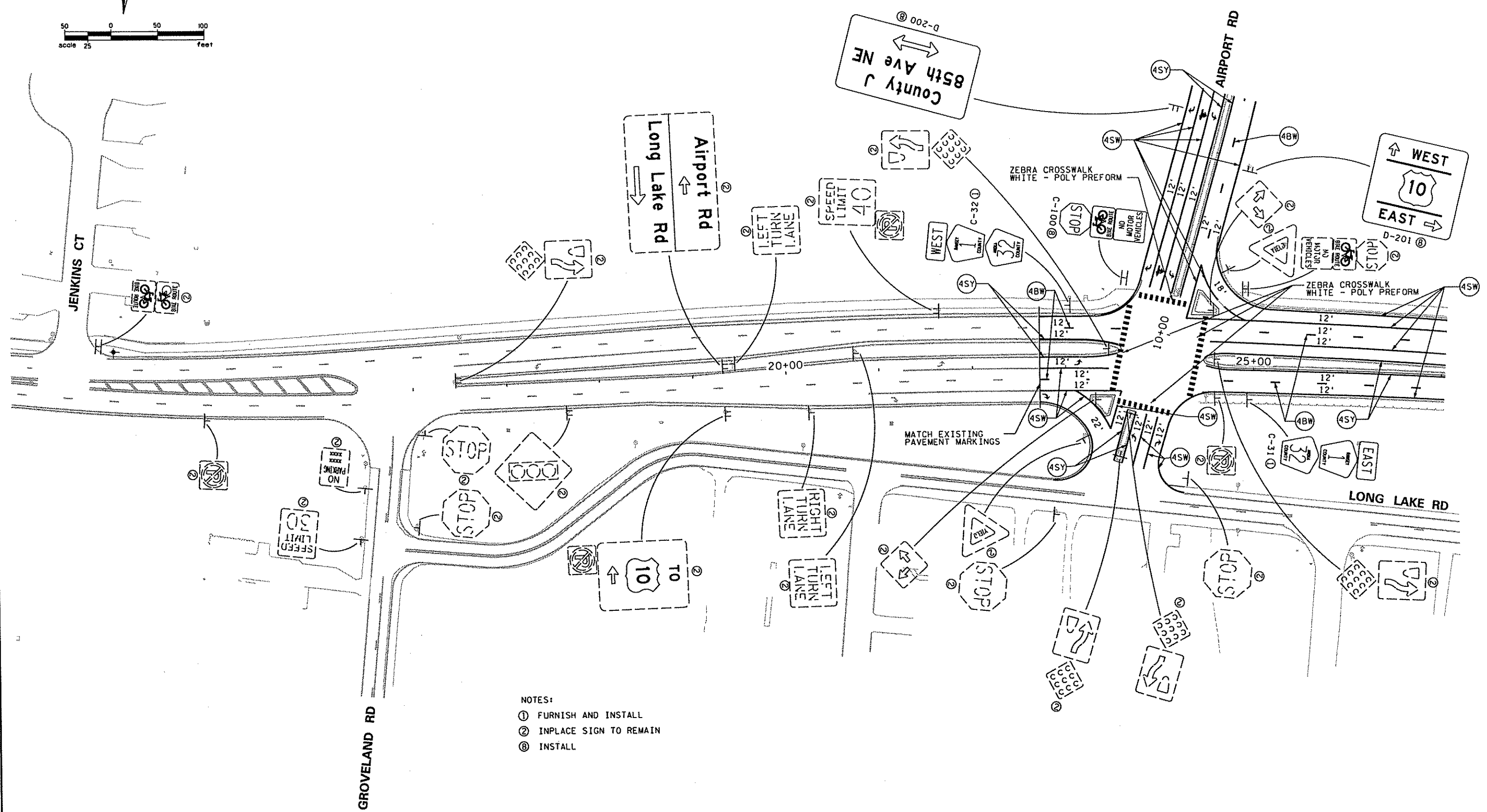
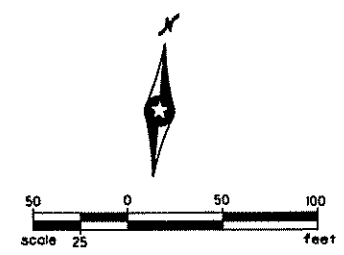
PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

EXISTING SIGNING & STRIPING
 I-35W SERVICE DRIVE

FILE NO. ARAMSE0503	224
SS14 OF 5536	297

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02/17/2006
6615
x:\p\ramse\050300\pinsh\signs\proposed signs\stripling\ramse0503.ss.dgn



- NOTES:
 ① FURNISH AND INSTALL
 ② INPLACE SIGN TO REMAIN
 ③ INSTALL

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 12+00 TO STA 27+00

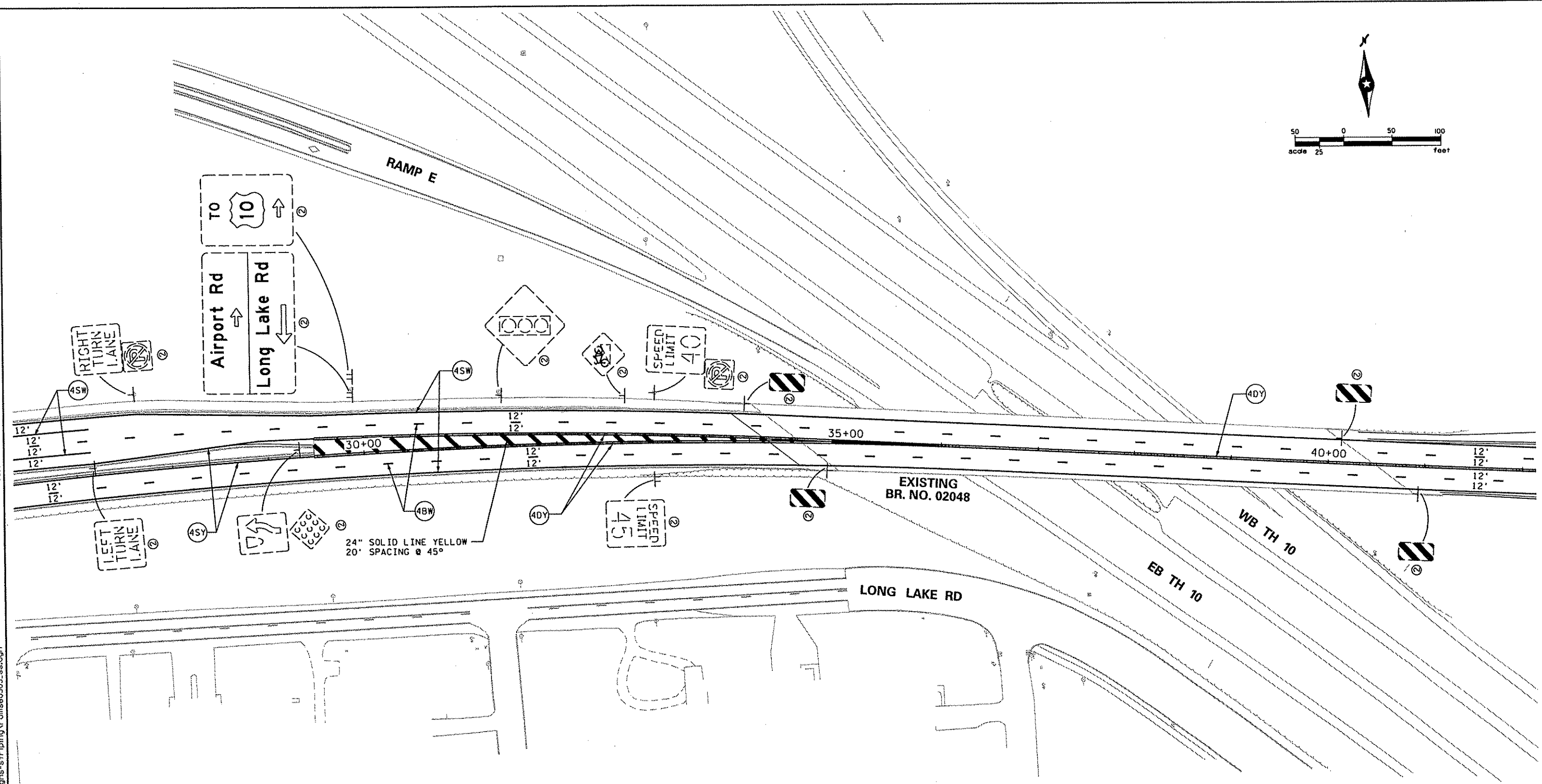
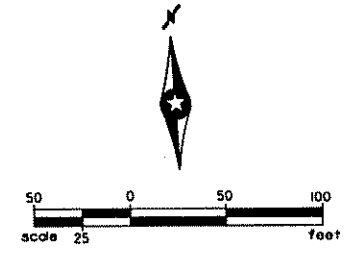
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SS15 OF SS36	297

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02/17/2006

ss16

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NOTES:
 ② INPLACE SIGN TO REMAIN

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

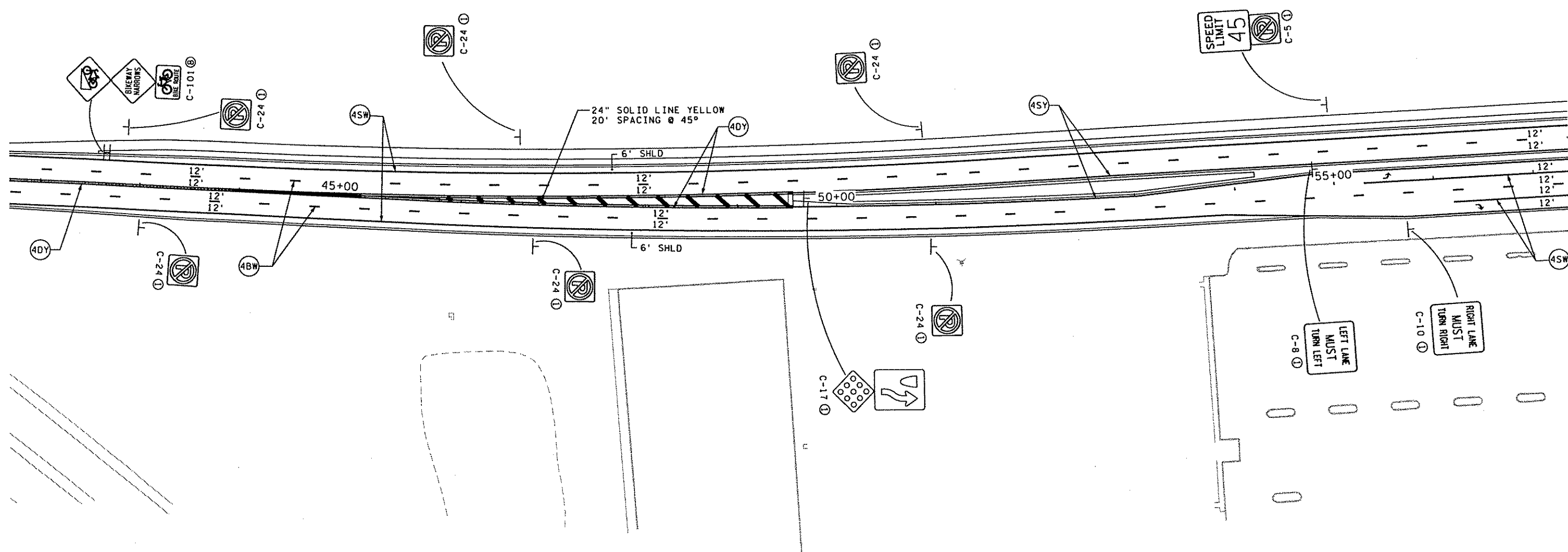
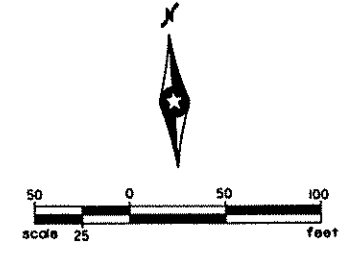
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

PHONE: 1651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 27+00 TO STA 42+00

FILE NO. ARAMSE0503	226
SS16 OF 5336	297



NOTES:
 ① FURNISH AND INSTALL
 ② INSTALL

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

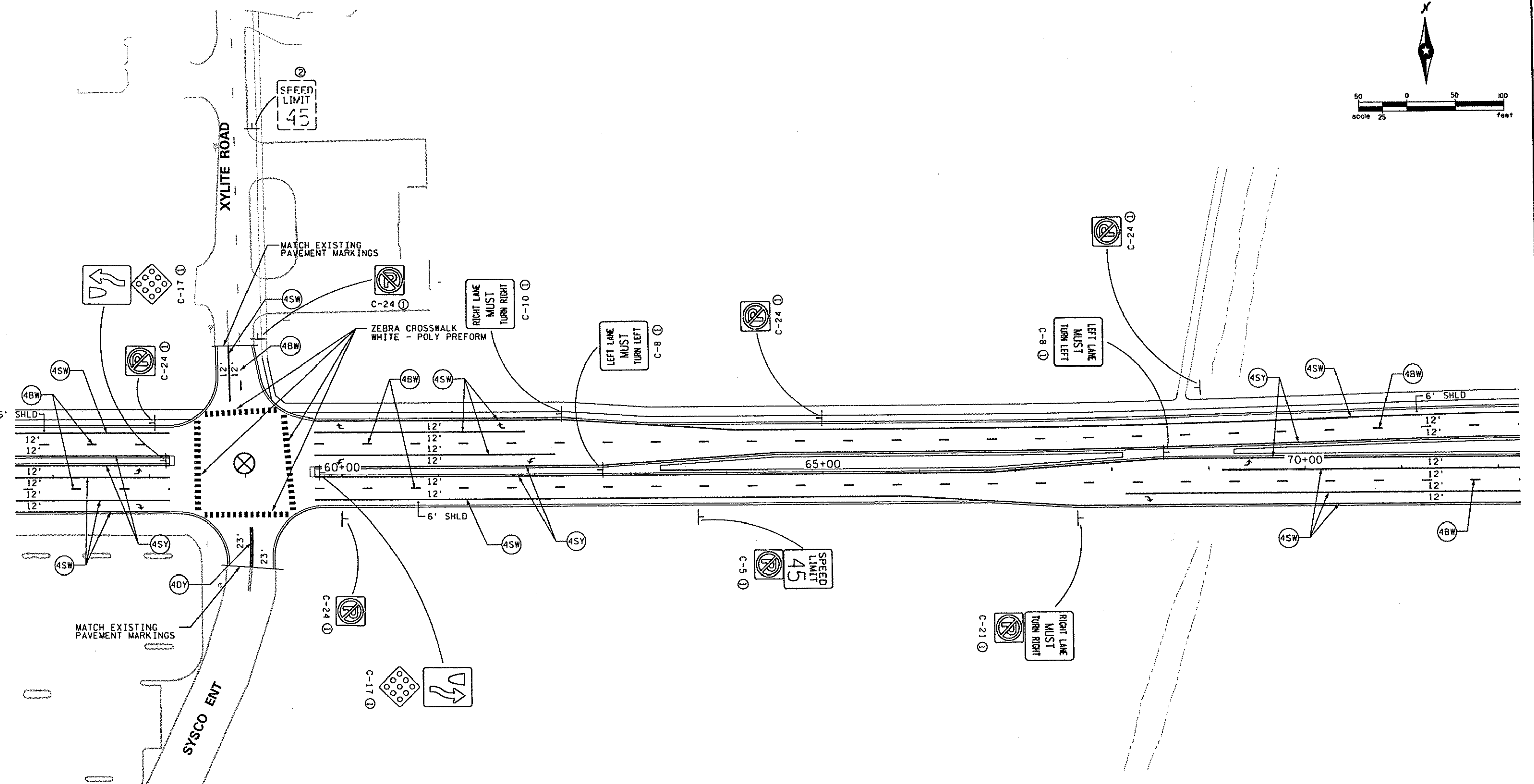
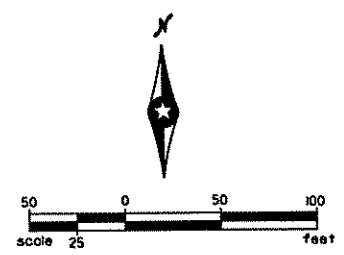
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 42+00 TO STA 57+00

FILE NO.	227
ARAMSE0503	
SS17	
OF SS36	297



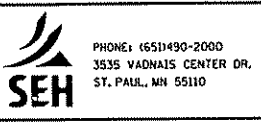
- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE SIGN TO REMAIN

COUNTY ROAD J

DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

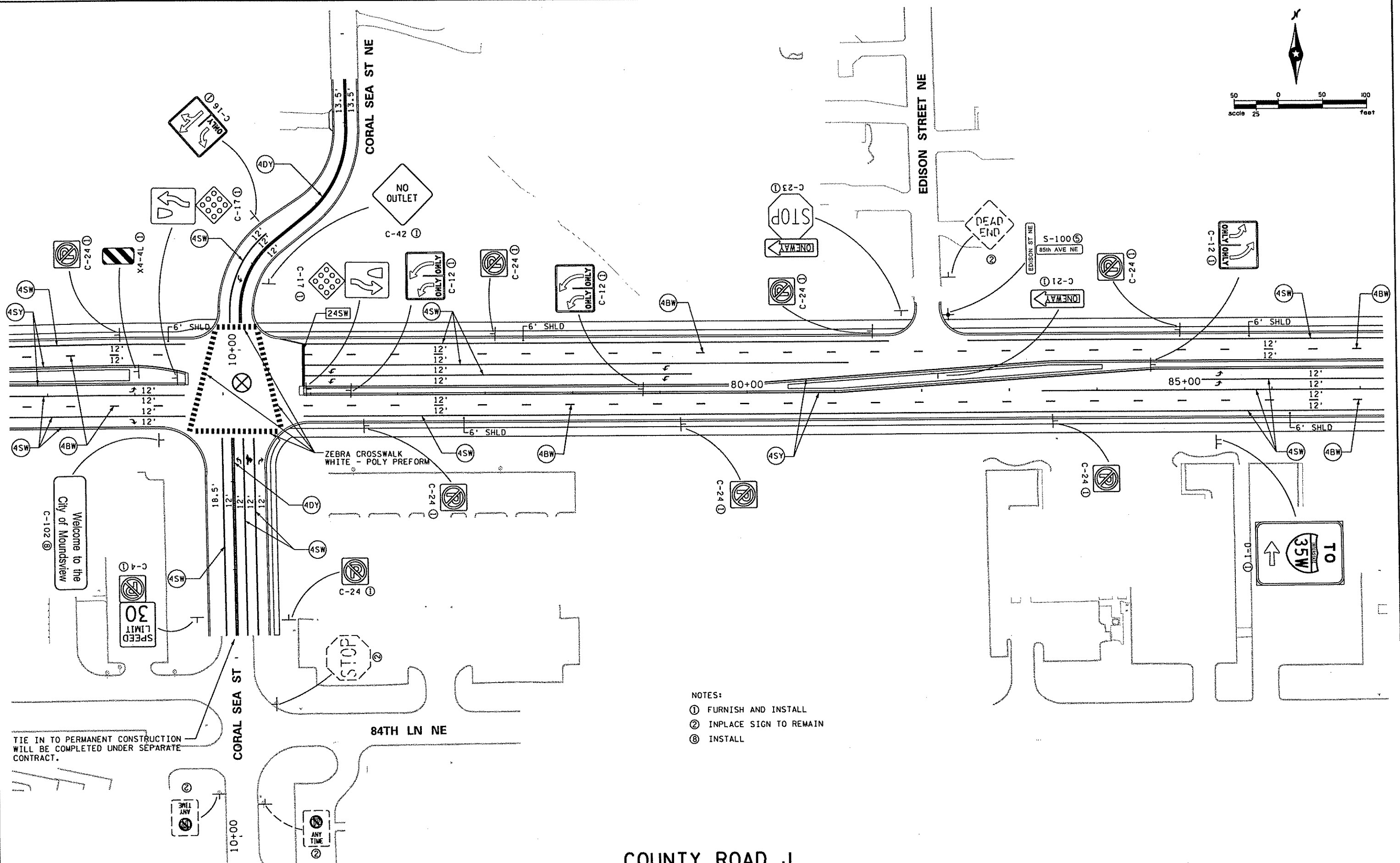
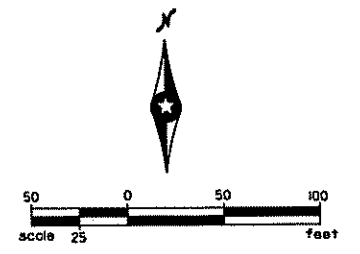
Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 57+00 TO STA 72+00

FILE NO. ARAMSE0503	228
SS18 OF 5536	297



TIE IN TO PERMANENT CONSTRUCTION WILL BE COMPLETED UNDER SEPARATE CONTRACT.

- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE SIGN TO REMAIN
 - ③ INSTALL

COUNTY ROAD J

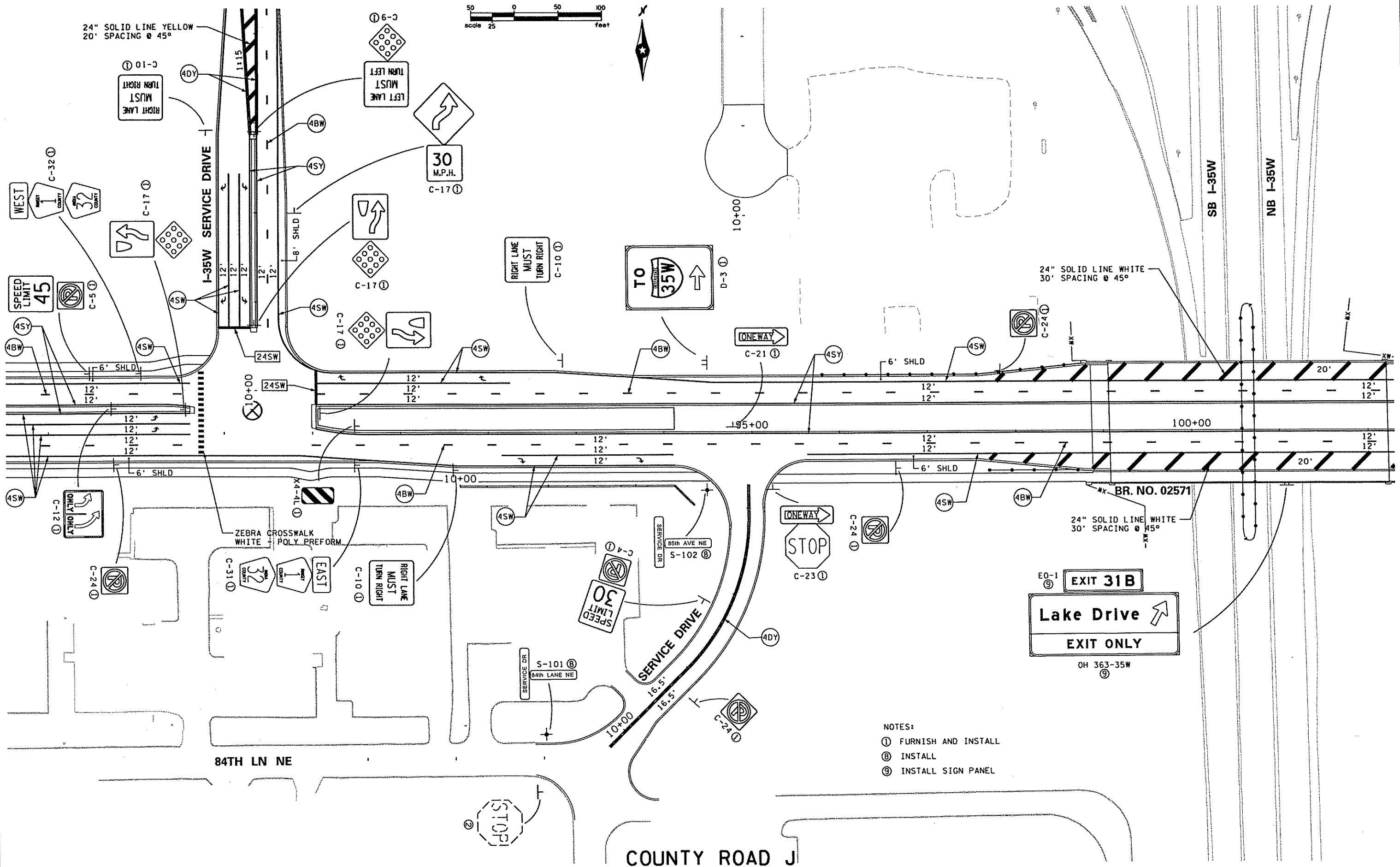
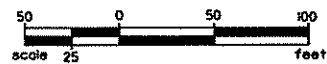
DESIGN TEAM				REVISIONS			
DRAWN BY:	MTT	NO.	BY	DATE			
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 72+00 TO STA 87+00

FILE NO.	229
ARAMSE0503	
SS19	
OF 5536	297



- NOTES:
- ① FURNISH AND INSTALL
 - ② INSTALL
 - ③ INSTALL SIGN PANEL

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

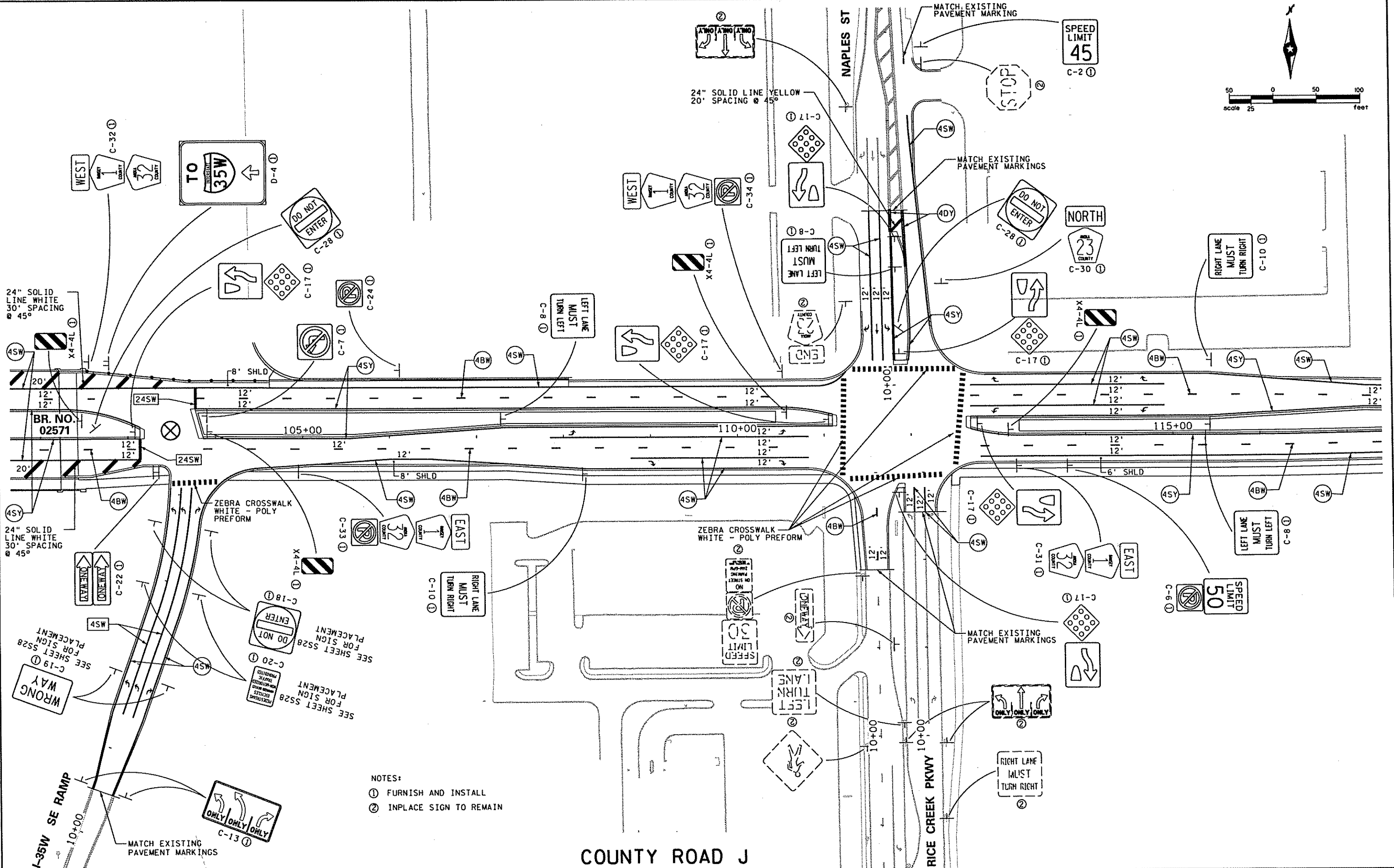
PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 87+00 TO STA 102+00

FILE NO.	230
ARAMSE0503	
SS20	
OF SS36	297

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02/17/2006
ss21
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- NOTES:
 ① FURNISH AND INSTALL
 ② INPLACE SIGN TO REMAIN

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

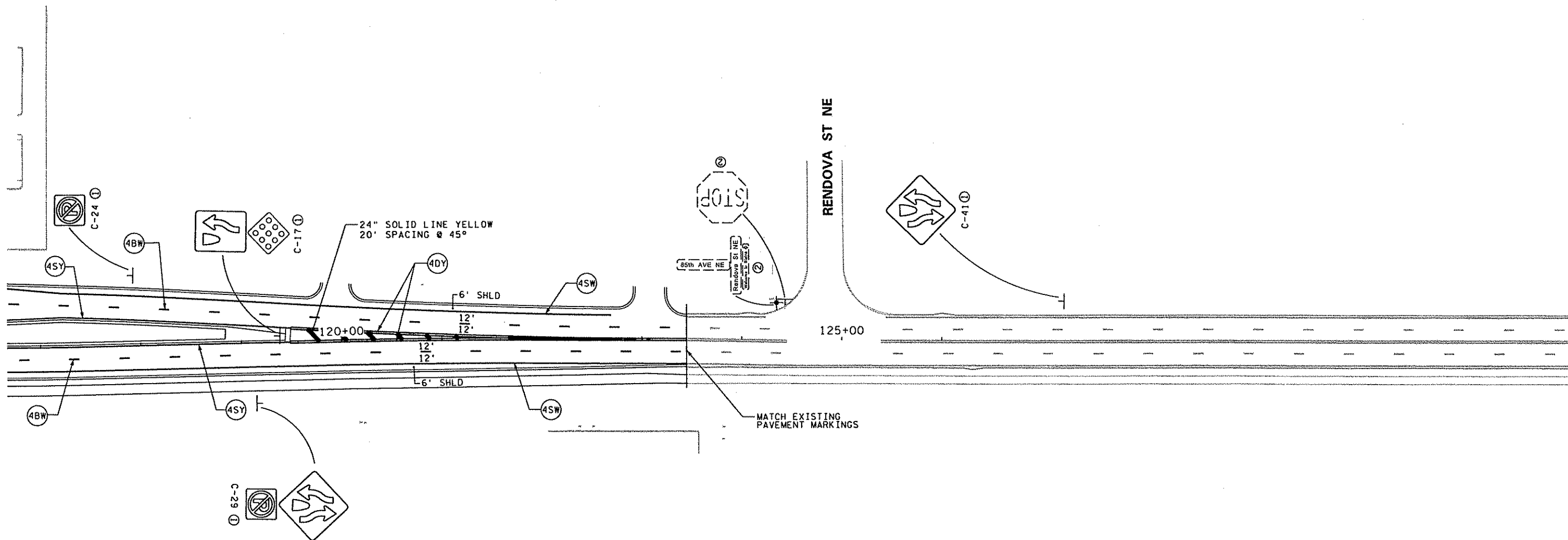
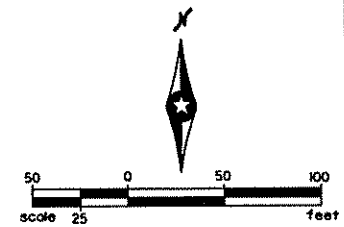
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

SEH
 PHONE: (651)90-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 102+00 TO STA 117+00

FILE NO. 231
 ARAMSE0503
 SS21
 OF 5536
 297




- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE SIGN TO REMAIN

COUNTY ROAD J

DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

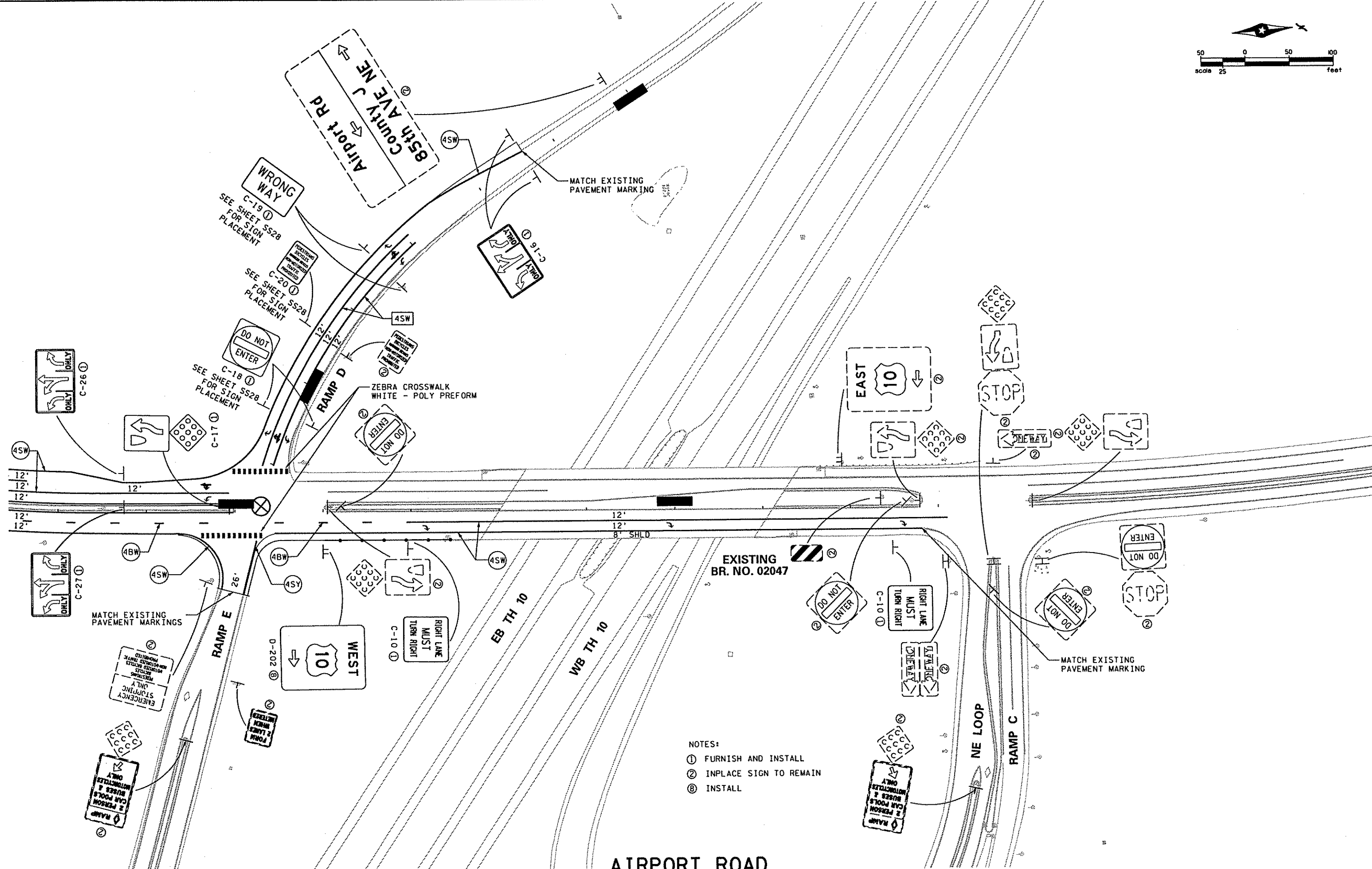
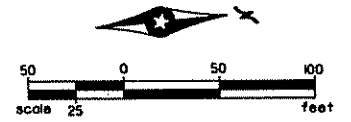


PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 STA 117+00 TO STA 126+00

FILE NO. ARAMSE0503	232
SS22 OF 5536	297



- NOTES:
- ① FURNISH AND INSTALL
 - ② INPLACE SIGN TO REMAIN
 - ③ INSTALL

AIRPORT ROAD

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.

Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Licensed Professional Engineer
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

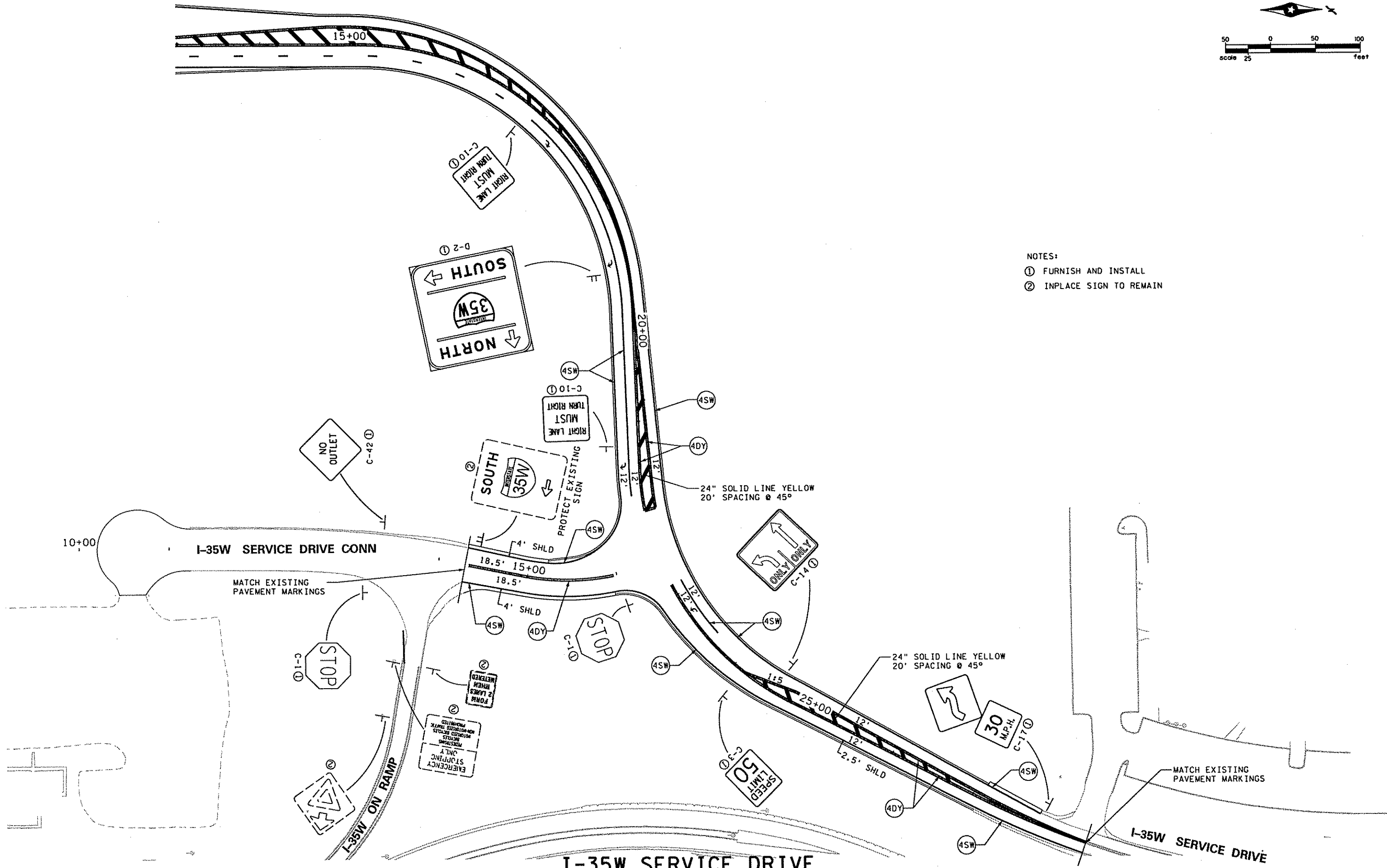
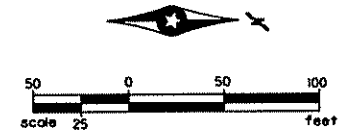


PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 AIRPORT ROAD

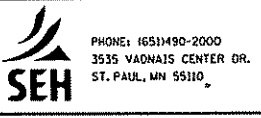
FILE NO.	233
ARAMSE0503	
SS23	
OF SS36	297



NOTES:
① FURNISH AND INSTALL
② INPLACE SIGN TO REMAIN

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
NO.	BY	DATE	REVISIONS

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006



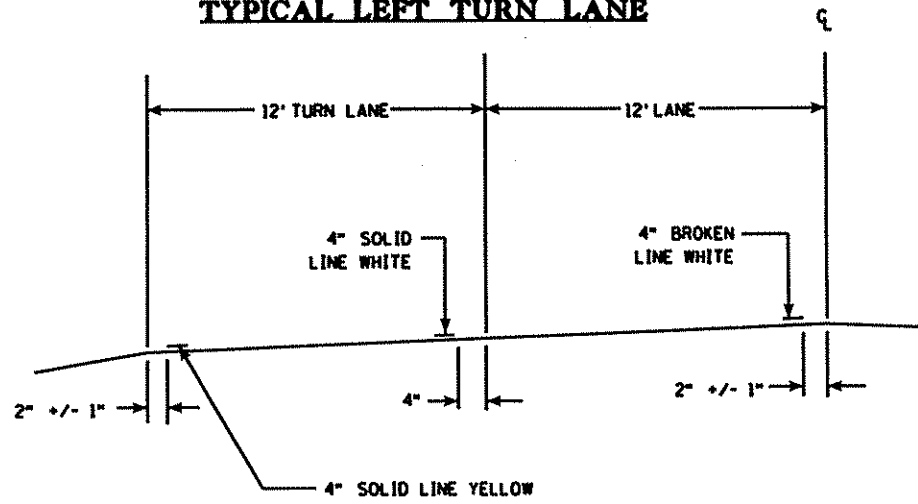
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

PROPOSED SIGNING & STRIPING
 I-35W SERVICE DRIVE

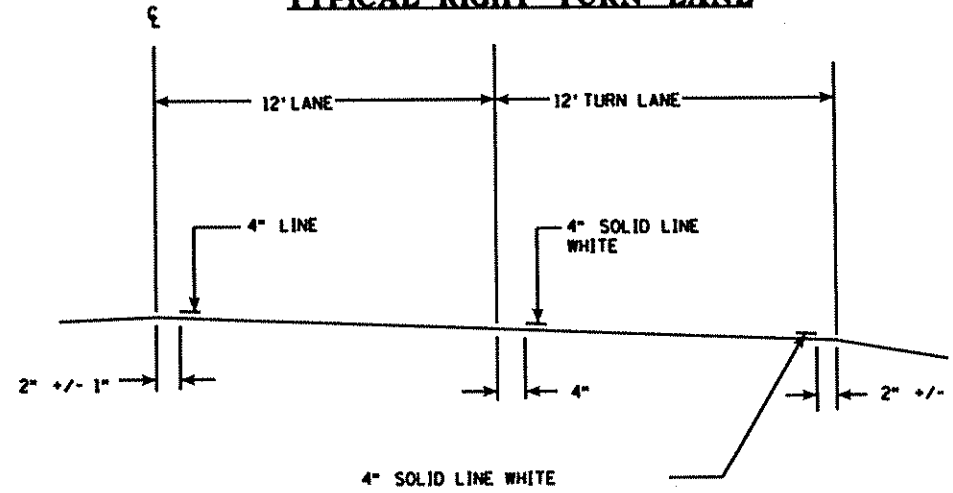
FILE NO. 234
 ARAMSE0503
 SS24
 OF 5536
 297

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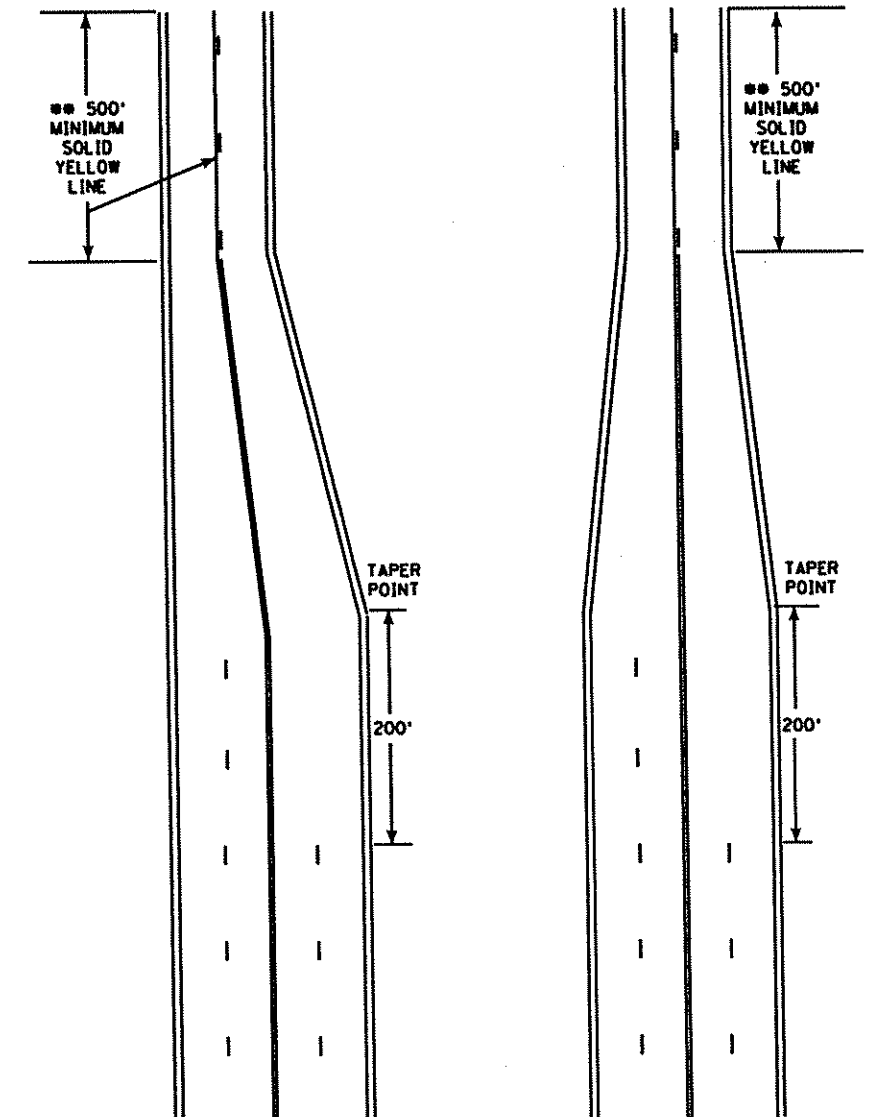
TYPICAL LEFT TURN LANE



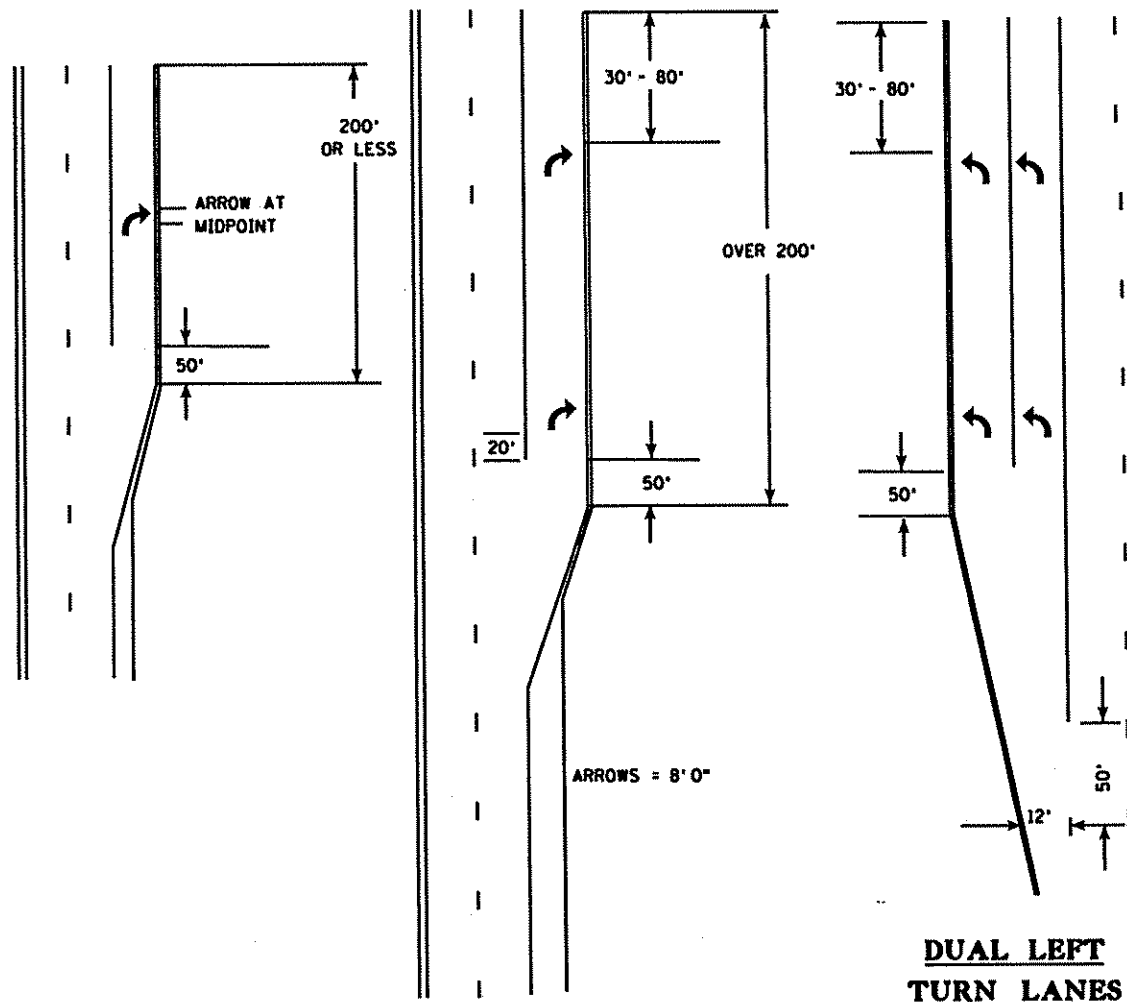
TYPICAL RIGHT TURN LANE



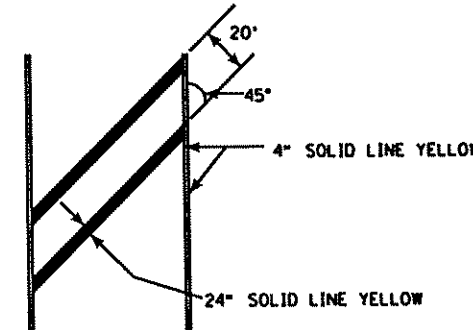
TYPICAL LANE REDUCTION TRANSITION



TYPICAL MESSAGE PLACEMENT FOR TURN LANES

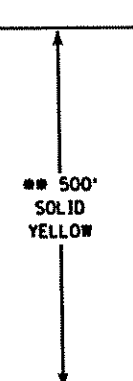


TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12".

AT SPEEDS OVER 40 MPH THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.



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

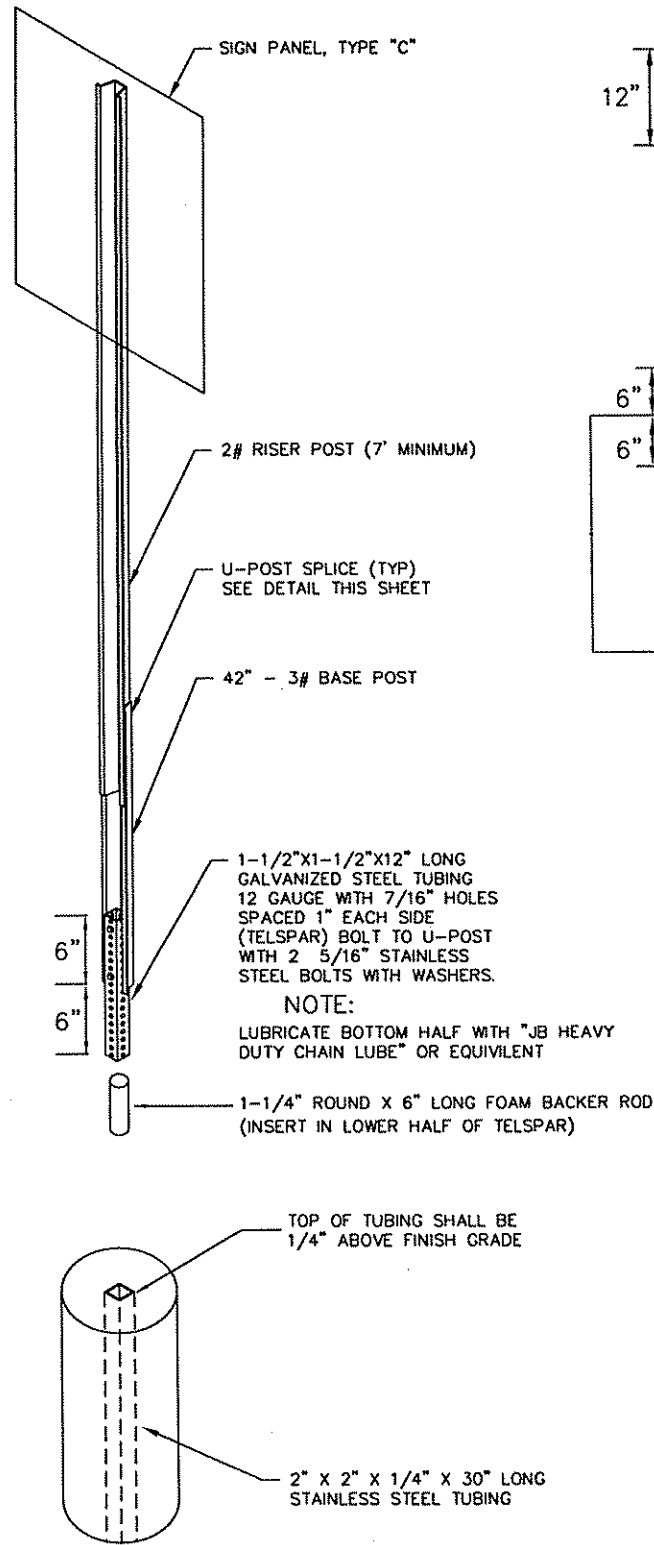
SS25 OF SS36

CERTIFIED BY *William J. Dago* LIC. NO. 40535 02/20/2006

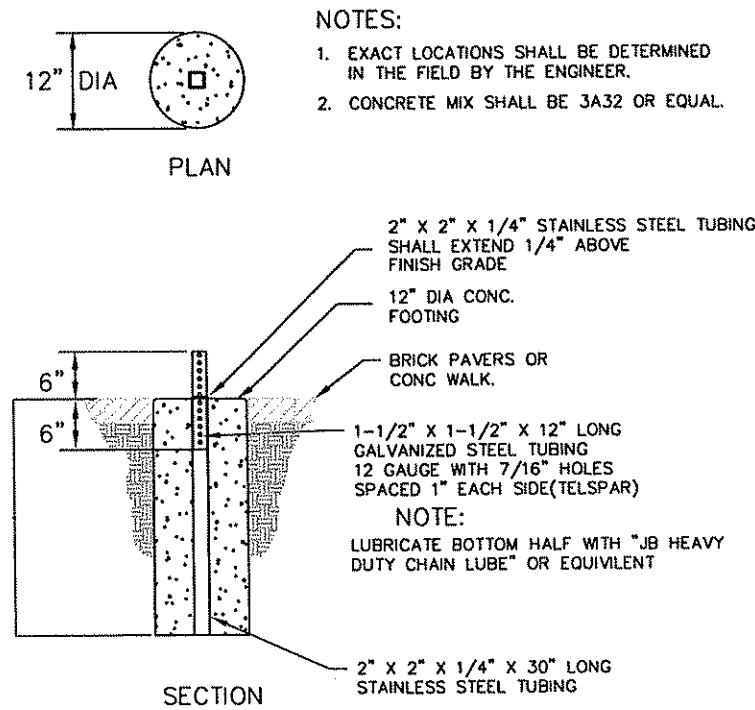
PERMANENT PAVEMENT MARKING SHEET NO 1	TITLE: PAVEMENT MARKING DETAILS TYPICAL
S.A.P. 02-632-14, S.A.P. 62-601-11	SHEET NO 235 OF 297 SHEETS

NEW DESIGN

BREAKAWAY SIGN POST
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)

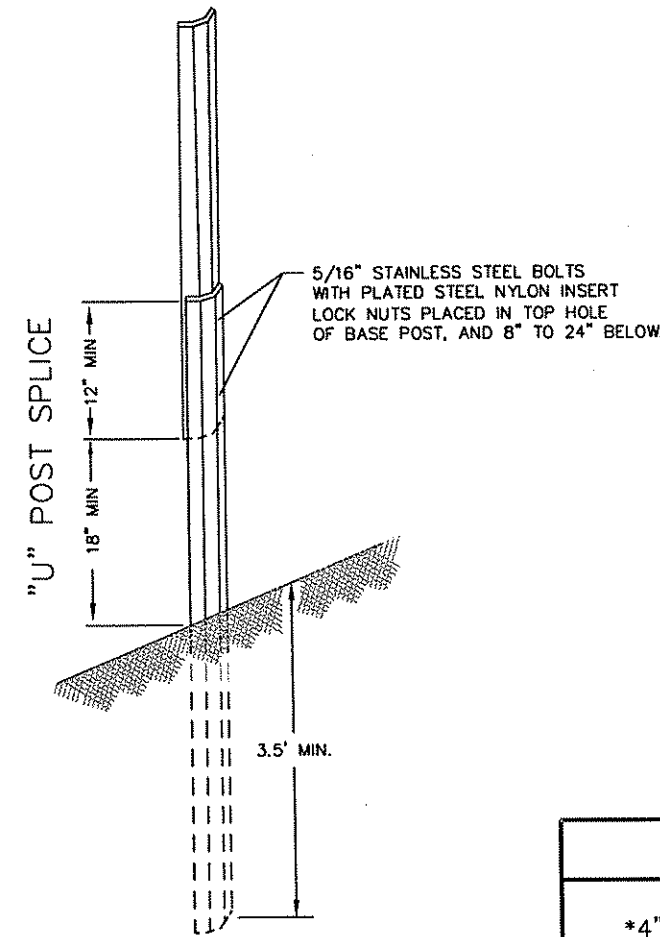


BREAKAWAY SIGN POST FOUNDATION
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)



- NOTES:
1. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2. CONCRETE MIX SHALL BE 3A32 OR EQUAL.

TYPE "C" POST
(GROUND INSTALLATION)

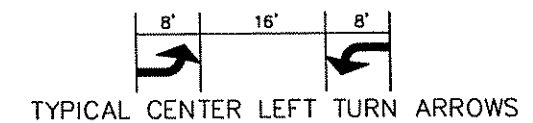


NOTES:

1. USE 3# RISER STUB POSTS, WITH 2# RISER POSTS, ALL SHALL CONFORM TO MN/DOT SPECIFICATION 3401.
2. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
3. ALL RISER (VERTICAL) "U" POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7 FEET LONG.
4. USE STAINLESS STEEL 5/16" BOLTS AND WASHERS WITH PLATED STEEL NYLON INSERT LOCK NUTS AS SHOWN.
5. STAINLESS STEEL WASHER WITH THE SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
6. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2004 OR NEWER.
7. ALL TRAFFIC CONTROL DEVICES SHALL HAVE DIAMOND GRADE CUBED RETROREFLECTIVE SHEETING.

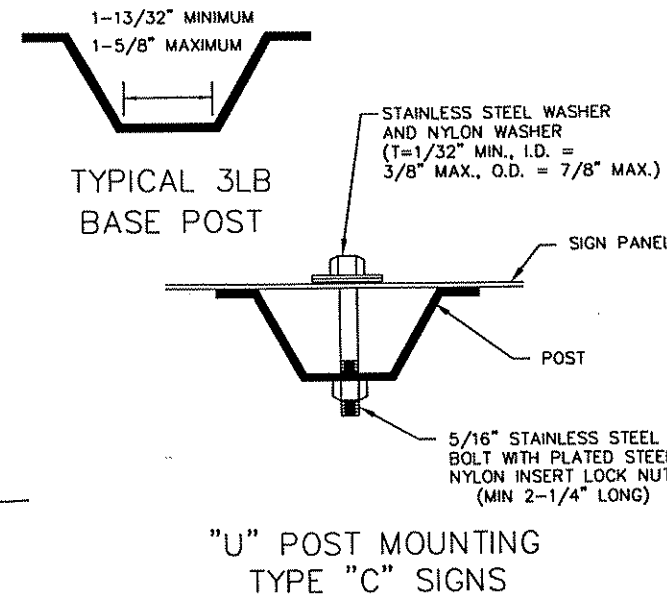
STRIPING DETAILS

- *4" SKIP CYCLE (10' LINE with 30' SPACE - 40' OVERALL)
- *8" SKIP CYCLE (3' LINE with 12' SPACE - 15' OVERALL)



*CROSSWALK BLOCKS ARE CENTERED ON AND BETWEEN LANE LINES (DISTANCE BETWEEN IS VARIABLE)

- *CROSSWALK BLOCKS ARE
 - 2.5' WIDE
 - 6' LONG AT CONTROLLED INTERSECTIONS
 - 8' LONG AT MIDBLOCK LOCATIONS
 - 8' LONG AT UN-CONTROLLED INTERSECTIONS



DIMENSIONS ARE IN ENGLISH UNITS

DESIGN TEAM				
DRAWN BY: MTT				
DESIGNER: TJD				
CHECKED BY: TJD				
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *Tiffany J. Dagon* Lic. No. 40535
 Printed Name: TIFFANY J. DAGON Date: 02/17/2006

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

PAVEMENT MARKING & SIGNING DETAILS

FILE NO. **236**
 ARAMSE0503
SS26
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297

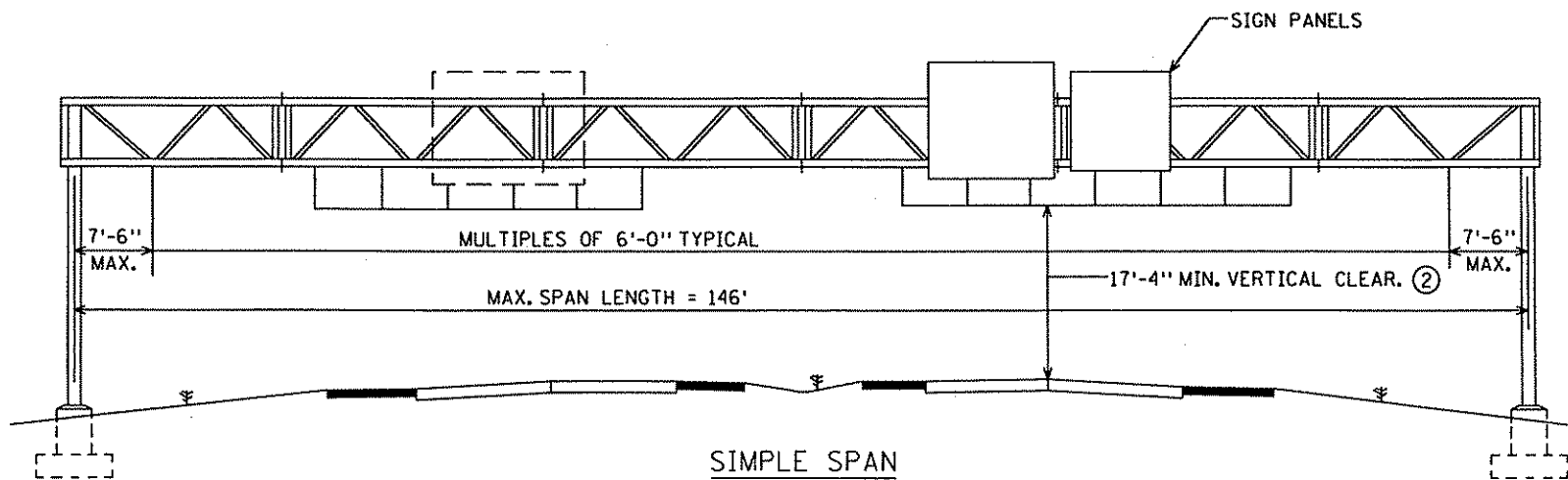
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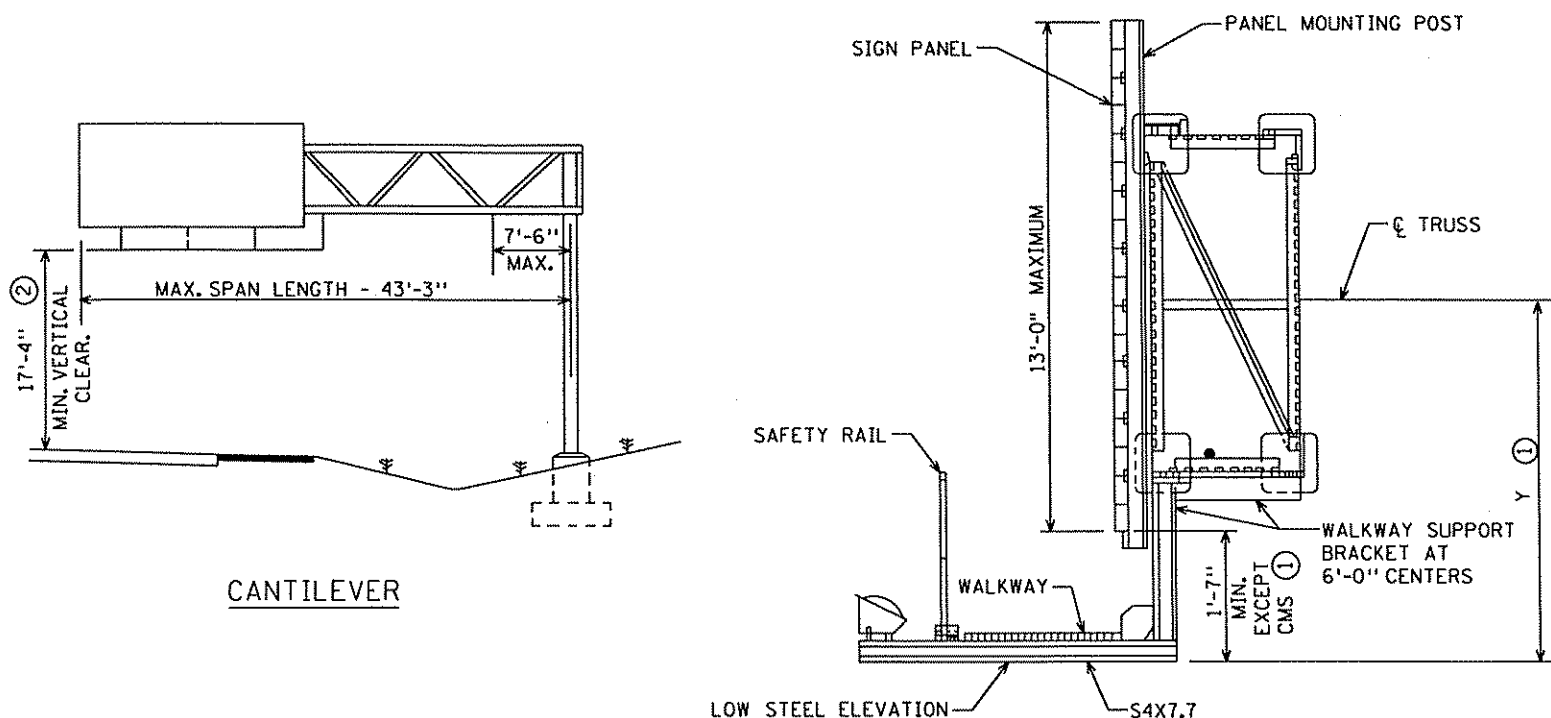
02/17/2006

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ST.DGN 511 10-5-98



SIMPLE SPAN



CANTILEVER

SECTION

INDEX OF STANDARD SIGN DRAWINGS

DRAWING	TITLE
ST-1	GENERAL ELEVATION AND NOTES
ST-2	CAMBER, POST IDENTIFICATION AND ESTIMATED QUANTITIES
ST-3	FOUNDATIONS AND ANCHOR RODS
ST-4	TRUSS/POST CONNECTION & BASEPLATE
ST-5	SIGN TRUSS DETAILS - TYPE A
ST-6	SIGN TRUSS DETAILS - TYPE B
ST-7	SIGN TRUSS DETAILS - TYPE C
ST-8	WALKWAY DETAILS
ST-9	FOLDING HANDRAIL
ST-10	SIGN PANEL AND PANEL MOUNTING POST DETAILS
ST-11	ELECTRICAL DETAILS
ST-12	ELECTRICAL DETAILS
ST-13	ELECTRICAL DETAILS (CMS SIGNS)

SIGN HEIGHT	Y (1)	
6'-6"	4'-4"	CMS (NEW LED)
7'-0"	4'-7"	
7'-6"	4'-10"	
8'-0"	5'-1"	CMS (LED)
8'-6"	5'-4"	
9'-0"	5'-7"	CMS (DRUM)
9'-6"	5'-10"	
10'-0"	6'-1"	
10'-6"	6'-4"	
11'-0"	6'-7"	
11'-6"	6'-10"	
12'-0"	7'-1"	
12'-6"	7'-4"	
13'-0"	7'-7"	

SPECIFIC NOTES:

- ① DIMENSION Y IS CONSTANT AND BASED ON THE DEEPEST SIGN PANEL ABOVE THAT WALKWAY. WHEN STANDARD SIGN PANEL(S) AND CMS ARE MOUNTED ON THE SAME SPAN, DIMENSION Y SHALL BE GOVERNED BY THE CMS.
- ② MINIMUM CLEARANCE WILL BE MEASURED FROM THE HIGHEST ELEVATION OF PAVEMENT, SHOULDERS, AND MOUNTABLE CURBS, OR IF INSURMOUNTABLE CURBS ARE USED, THE HIGHEST ELEVATION BETWEEN CURB LINES.

GENERAL NOTES:

DESIGN SPECIFICATIONS:

TRUSS, POST, & HARDWARE:
AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS DATED 1999.

LOADING:

WIND LOAD 90 M.P.H. NORMAL TO SIGN FACE IN COMBINATION WITH OTHER LOADS OUTLINED IN THE DESIGN SPECIFICATIONS.

UNIT STRESSES:

CONCRETE----- Fc = 1,600 PSI
REINFORCEMENT STEEL----- Fs = 24,000 PSI
FOOTING SOIL PRESSURE----- 1-1/4 TONS PER SQ. FT.

MATERIALS:

STRUCTURAL STEEL (EXCEPT POST, TUBES)- Mn/DOT 3306
POST STEEL----- VARIES
HIGH STRENGTH BOLTS----- Mn/DOT 3391.2B
ANCHOR RODS----- Mn/DOT 3385
CASTINGS----- Mn/DOT 3322
REINFORCEMENT
BARS----- Mn/DOT 3301
SPIRAL----- Mn/DOT 3305 NO SPLICES
WALKWAY GRATING----- FEDERAL SPECIFICATIONS RR-G-661b, TYPE 1, STEEL
CONCRETE----- Mn/DOT 2461 (MIX 3Y43)

FINISH:

ALL COMPONENTS SHALL BE GALVANIZED AFTER FABRICATION EXCEPT REINFORCEMENT BARS, LOWER PORTION OF ANCHOR RODS, ALUMINUM, AND OTHER NON FERROUS INCIDENTALS. GALVANIZING SHALL CONFORM TO Mn/DOT 3392 OR Mn/DOT 3394 AS APPLICABLE. BEARING SURFACES MUST BE SMOOTH.

FABRICATION:

FABRICATION OF STRUCTURAL METALS SHALL BE IN ACCORDANCE WITH Mn/DOT 2471, Mn/DOT 2564 AND THE APPLICABLE SPECIAL PROVISIONS. ALL WELDING TO BE CONTINUOUS. ALL CONTACT SURFACES MUST BE COMPLETELY SEALED.

INSPECTION:

INSPECTION BEFORE AND AFTER GALVANIZING PER Mn/DOT 1511 AND Mn/DOT 2471.

STANDARD OVERHEAD SIGN SUPPORTS
INTERIM DESIGN B

GENERAL ELEVATIONS
AND NOTES

DRAWING ST-1

SS27 OF SS36

REVISED 2/08/00

S.A.P. 02-632-14, S.A.P. 62-601-11

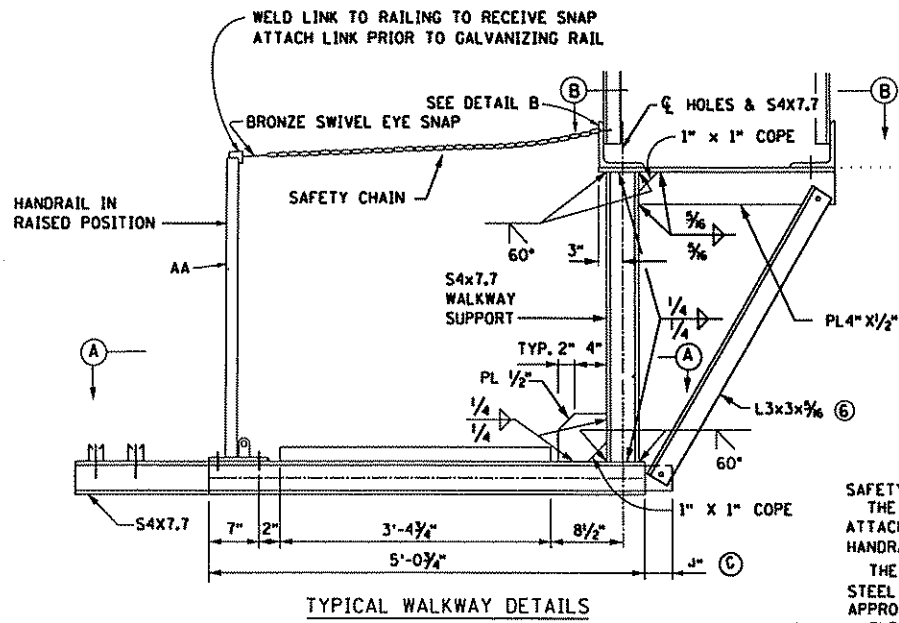
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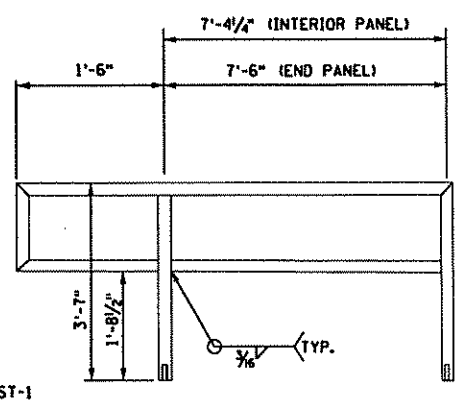
ST.DWG 518 10-5-98



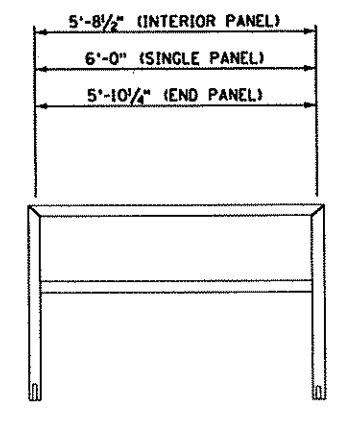
TYPICAL WALKWAY DETAILS

SIGN HEIGHT	X @	
6'-6"	1'-0"	⑤
7'-0"	1'-3"	
7'-6"	1'-6"	
8'-0"	1'-9"	③
8'-6"	2'-0"	
9'-0"	2'-3"	④
9'-6"	2'-6"	
10'-0"	2'-9"	
10'-6"	3'-0"	
11'-0"	3'-3"	
11'-6"	3'-6"	
12'-0"	3'-9"	
12'-6"	4'-0"	
13'-0"	4'-3"	

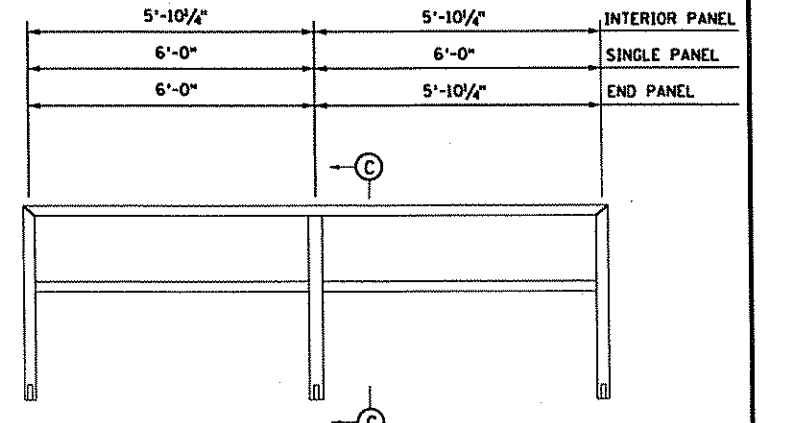
① SEE NOTE 1 ON DRAWING ST-1



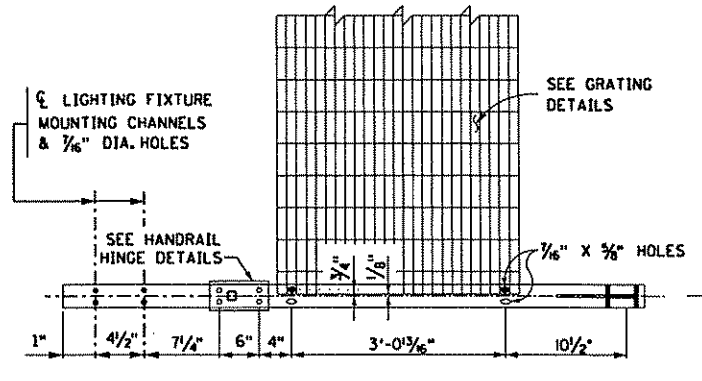
RAILING ELEVATION AT END OF CANTILEVER



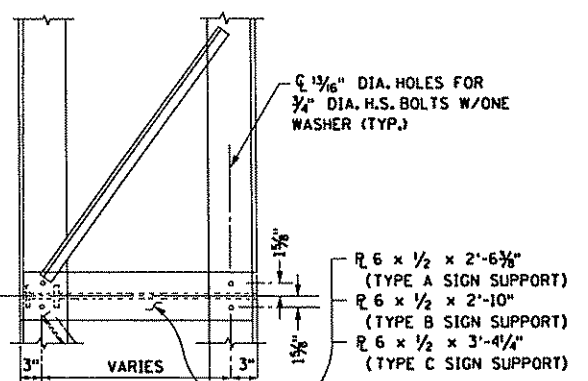
RAILING ELEVATION 6' PANEL



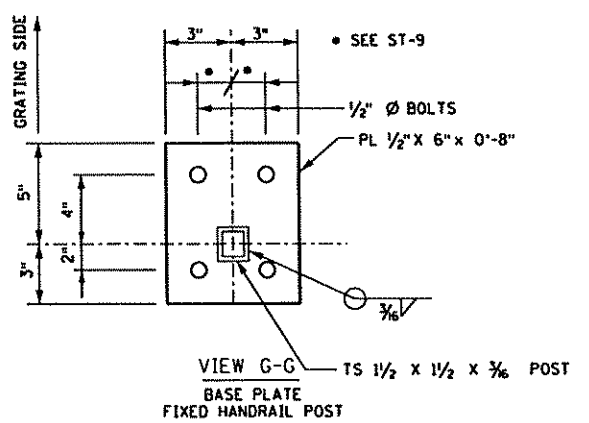
RAILING ELEVATION 12' PANEL



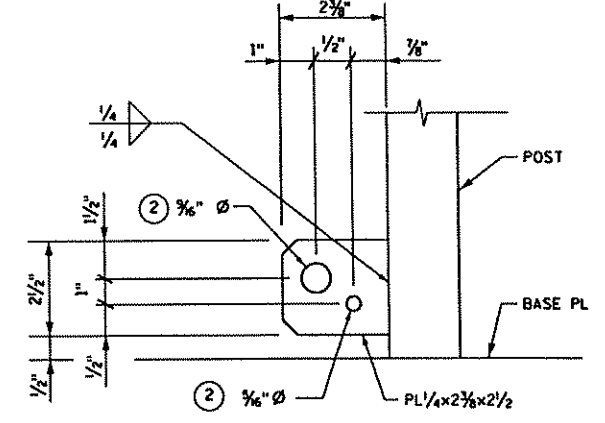
VIEW A-A



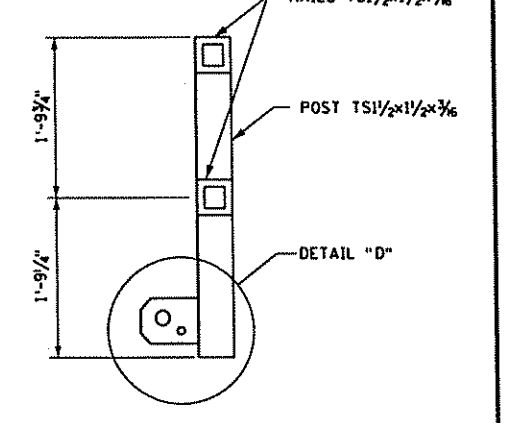
VIEW B-B



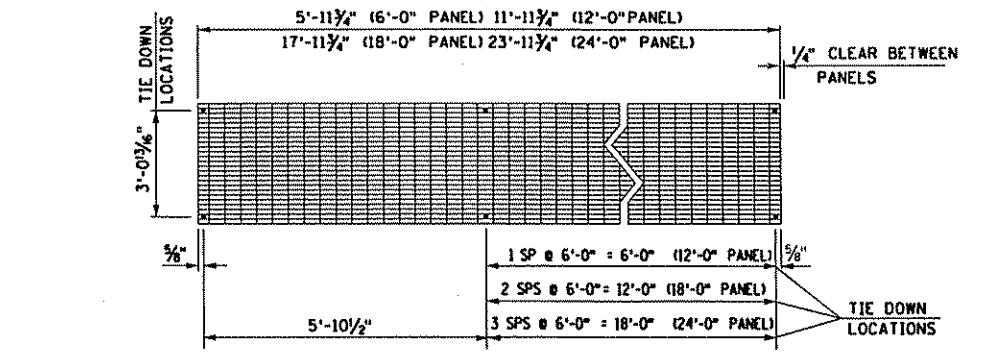
VIEW G-G - TS 1 1/2 x 1 1/2 x 3/16 POST
BASE PLATE FIXED HANDRAIL POST



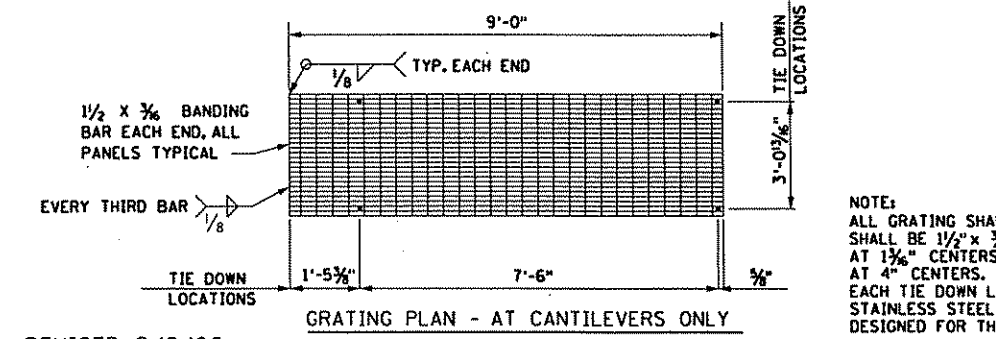
DETAIL "D"



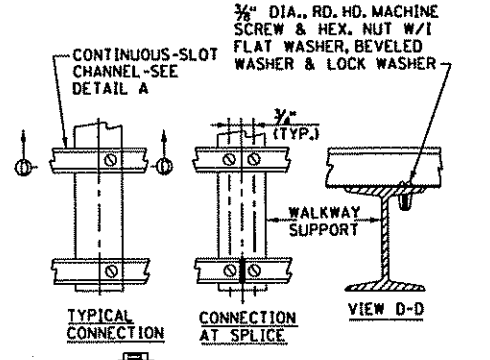
VIEW C-C
FOLDING HANDRAIL POST



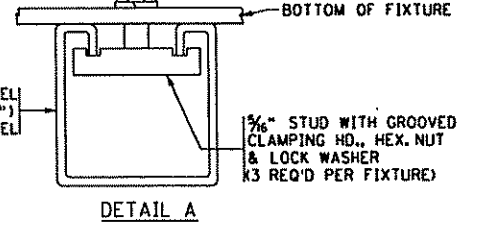
GRATING PLAN - 6'-0", 12'-0", 18'-0", OR 24'-0" PANELS



GRATING PLAN - AT CANTILEVERS ONLY



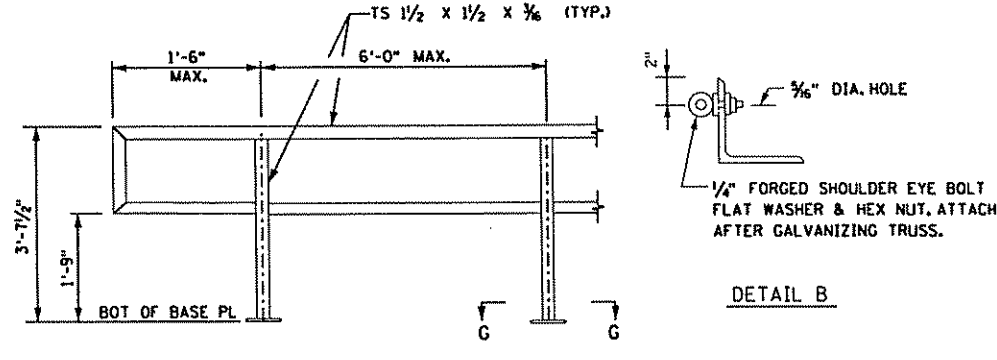
TYPICAL CONNECTION
CONNECTION AT SPLICE
VIEW D-D



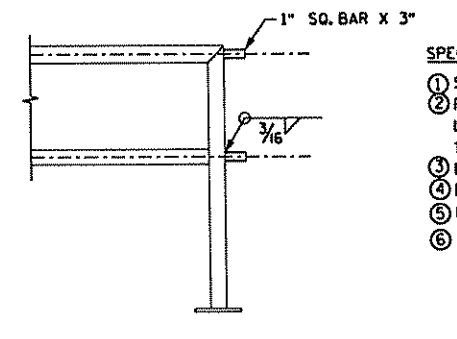
DETAIL A
FIXTURE MOUNTING DETAILS

NOTE:
ALL GRATING SHALL BE 3'-4 3/4" WIDE AND SHALL BE 1 1/2" x 3/8" SERRATED BEARING BARS AT 1 3/8" CENTERS WITH CROSS BARS AT 4" CENTERS. ATTACH GRATING AT EACH TIE DOWN LOCATION WITH A STAINLESS STEEL SADDLE ANCHOR DESIGNED FOR THIS SPECIFIC USE.

FIXTURE MOUNTING CHANNEL NOTES:
FIXTURE MOUNTING CHANNELS SHALL EXTEND THE FULL LENGTH OF THE WALKWAY AND SHALL BE CONTINUOUS OVER AS MANY WALKWAY SUPPORT SPANS AS PRACTICABLE CONSISTENT WITH EASE OF HANDLING AND ASSEMBLING. JOINTS IN THE CHANNELS SHALL BE CENTERED ON THE WALKWAY SUPPORTS WITH A MAX 1/8" GAP BETWEEN SECTIONS. CHANNELS SHALL HAVE A 1/4" DRAIN HOLE IN EACH WALKWAY SUPPORT SPAN.



FIXED HANDRAIL FOR OH SIGN



FIXED RAIL SPLICE DETAIL

- SPECIFIC NOTES:
- SEE NOTE 1 ON DRAWING ST-1
 - REAM RAILING SUPPORT BOLT AND LOCKING PIN HOLES AFTER GALVANIZING TO ENSURE BOLT AND PIN FIT.
 - LED CMS
 - DRUM CMS
 - NEW LED CMS
 - USE FOR SIGN HEIGHTS OF 11'-0" OR GREATER, EXTEND S4x7.7 BY 4" AND COPE FLANGES.

GENERAL NOTES:

WALKWAY DETAILS SHOWN ARE TYPICAL FOR CANTILEVER AND SIMPLE SPAN SIGNS

WHEN THE FORMAT SHEET INDICATES THAT THE WALKWAY IS CONTINUOUS FROM ONE SPAN TO ANOTHER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SPECIAL LENGTH GRATING AND HANDRAIL PANELS REQUIRED.

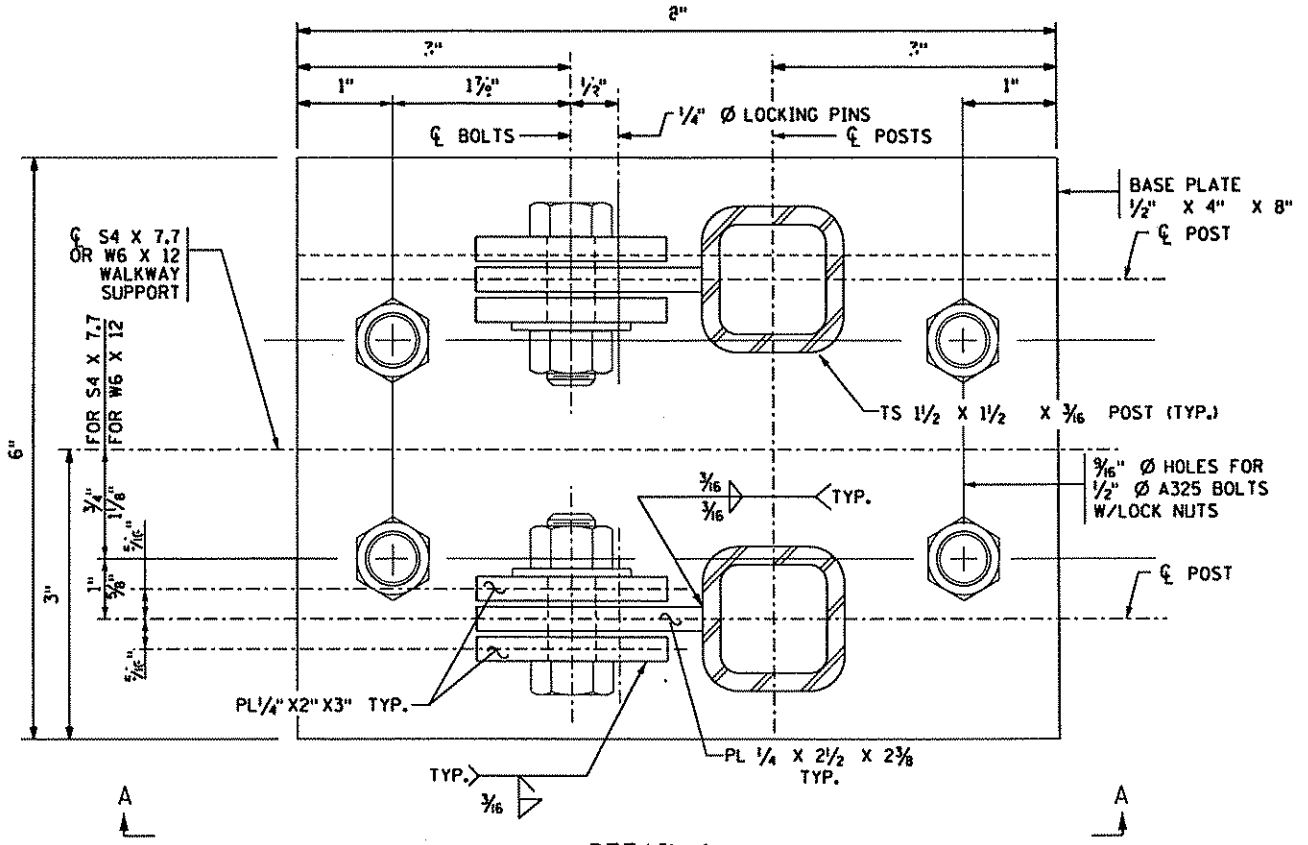
FOLDING HANDRAIL PANELS ARE TO BE CONTINUOUS OVER A MAX. OF TWO WALKWAY SUPPORT SPANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LENGTH OF GRATING AND HANDRAIL PANELS REQUIRED FOR BRIDGE MOUNTED SIGNS AND CANTILEVERS WHERE THE SPECIFIED LENGTH DOES NOT AGREE WITH THE DETAILS. PROVIDE ADEQUATE WEEP HOLES FOR HOT-DIP GALVANIZING.

**STANDARD OVERHEAD SIGN SUPPORTS
INTERIM DESIGN B**

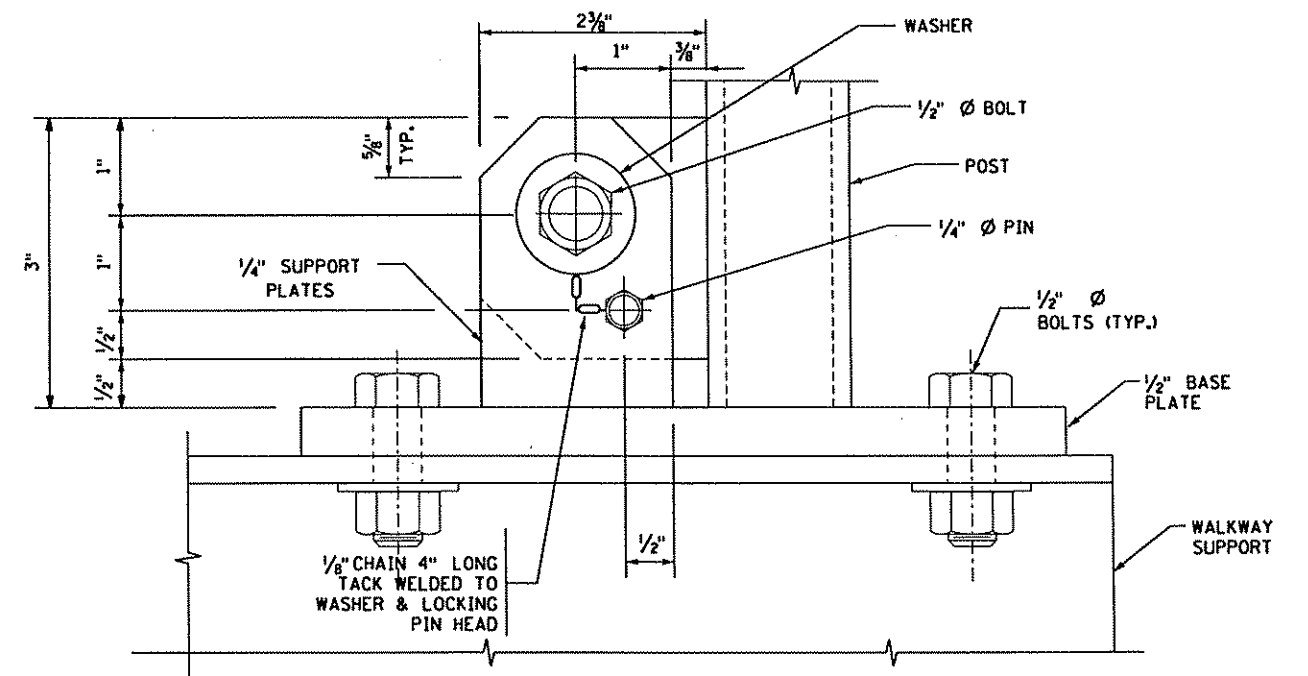
WALKWAY DETAILS

DRAWING ST-8

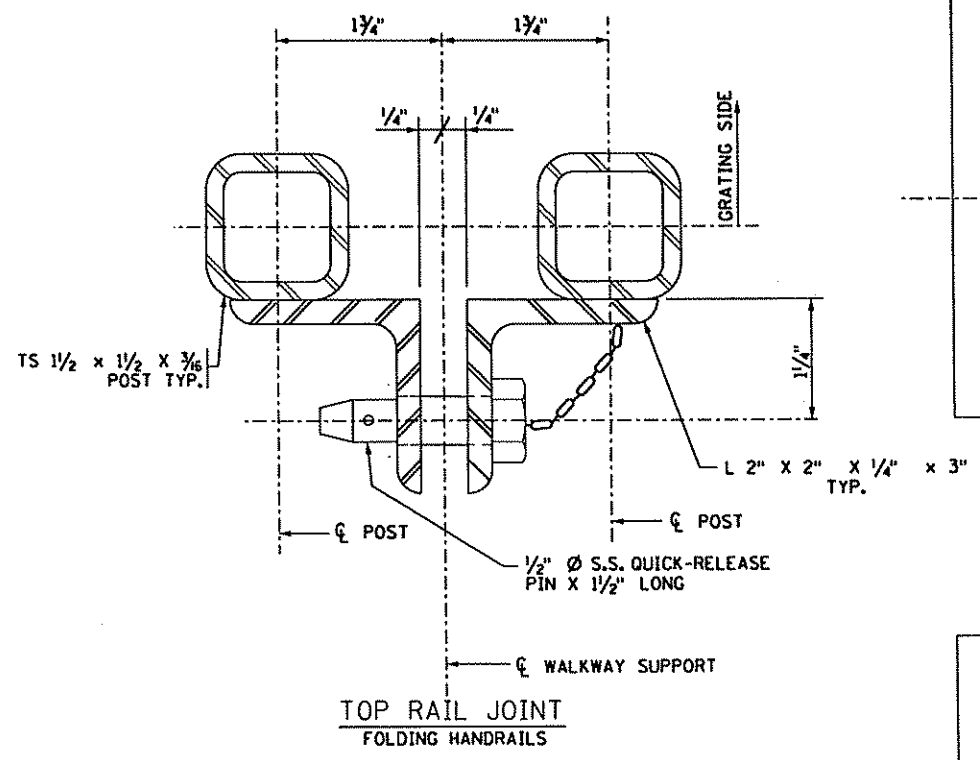
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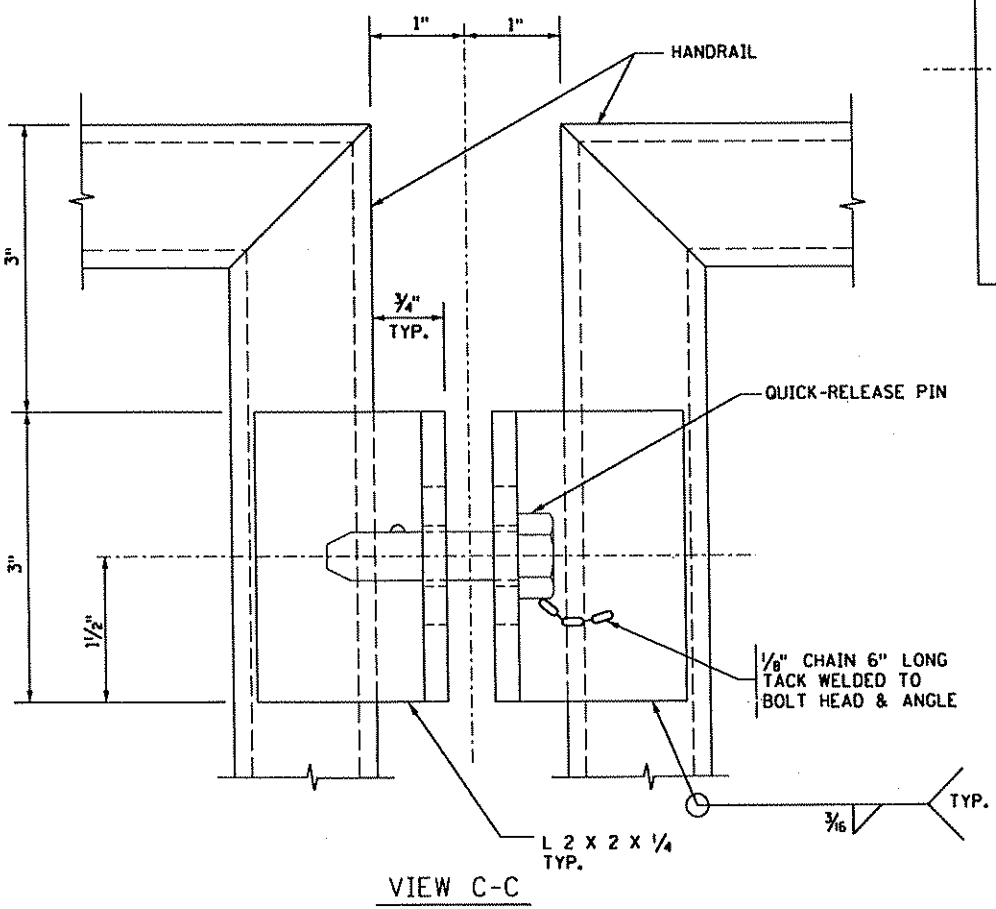
DETAIL 1
BASE PLATE & HINGE ASSEMBLY
FOR FOLDING HANDRAIL



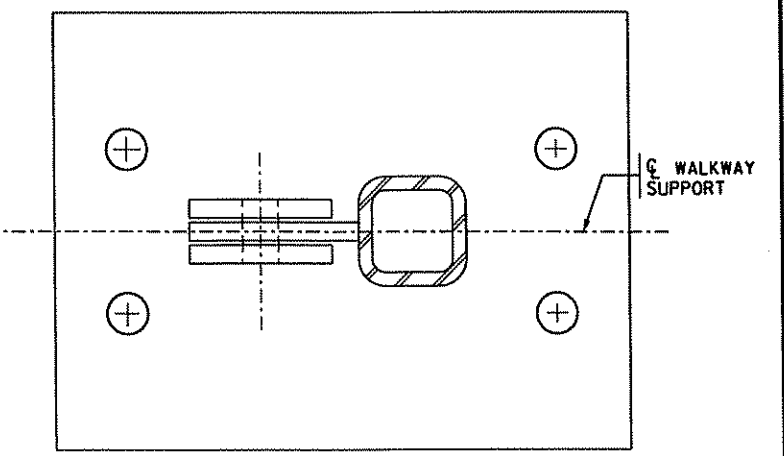
VIEW A-A
BASE PL. & HINGE FOR FOLDING HANDRAIL



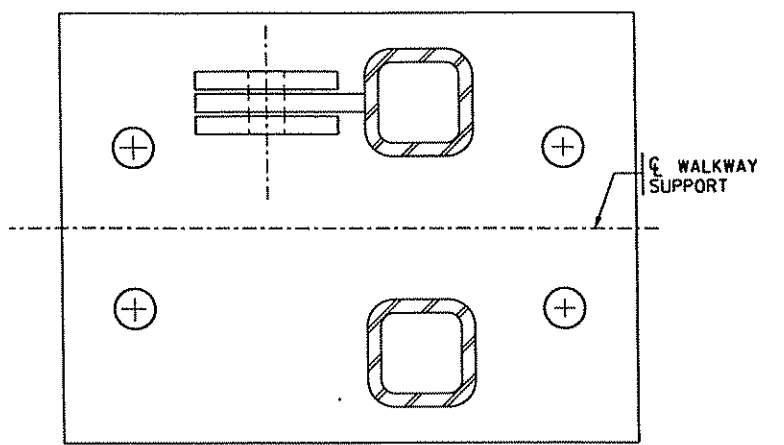
TOP RAIL JOINT
FOLDING HANDRAILS



VIEW C-C



BASEPLATE AND HINGE FOR FOLDING RAIL END POST



BASEPLATE AND HINGE FOR FIXED TO FOLDING TRANSITION
(MAY BE OPPOSITE HAND)

STANDARD OVERHEAD SIGN SUPPORTS INTERIM DESIGN B
FOLDING HANDRAIL
DRAWING ST-9

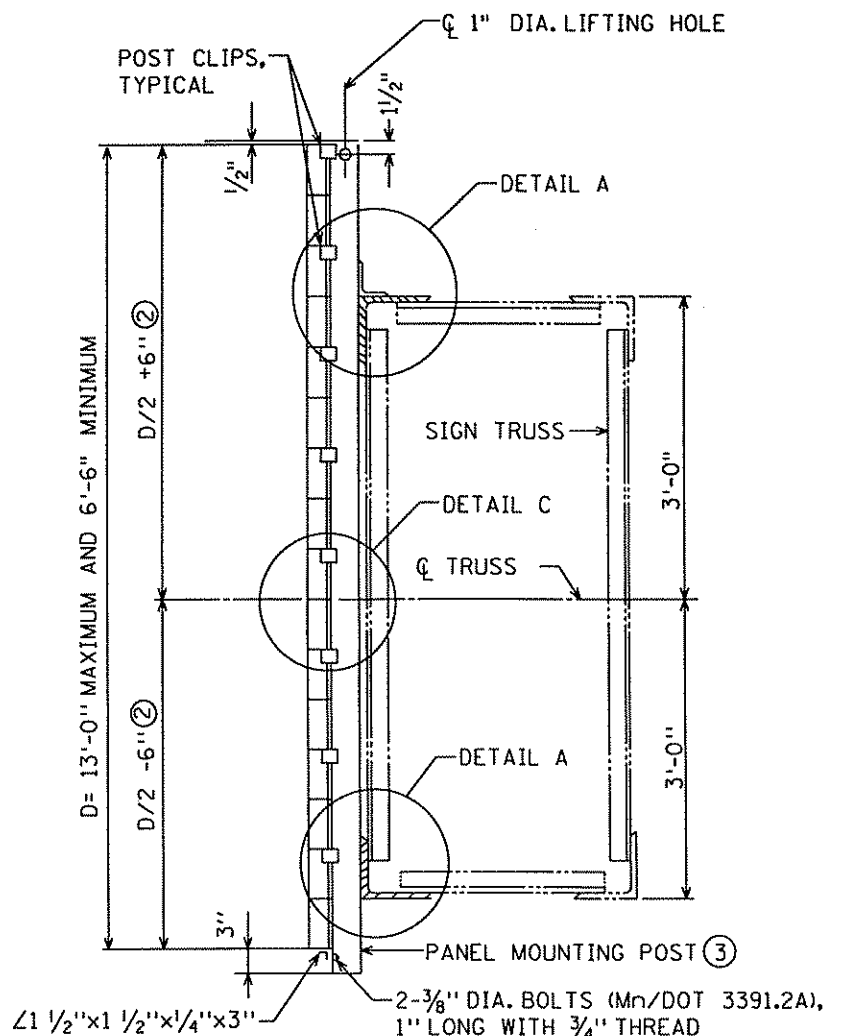
SS29 OF SS36

REVISED 2/8/00

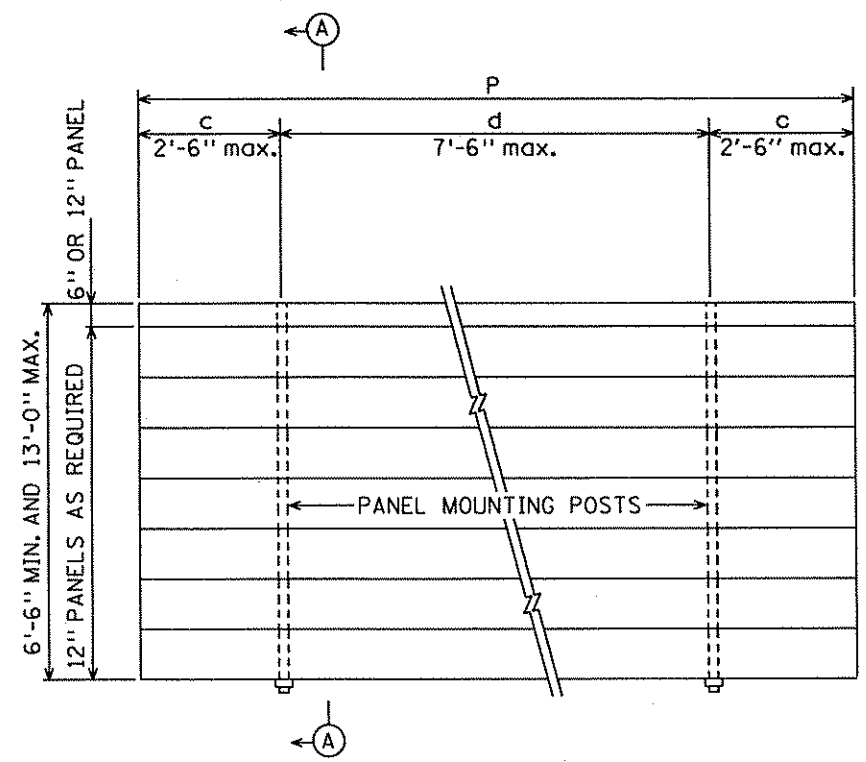
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Sheet No. 239 of 297 Sheets

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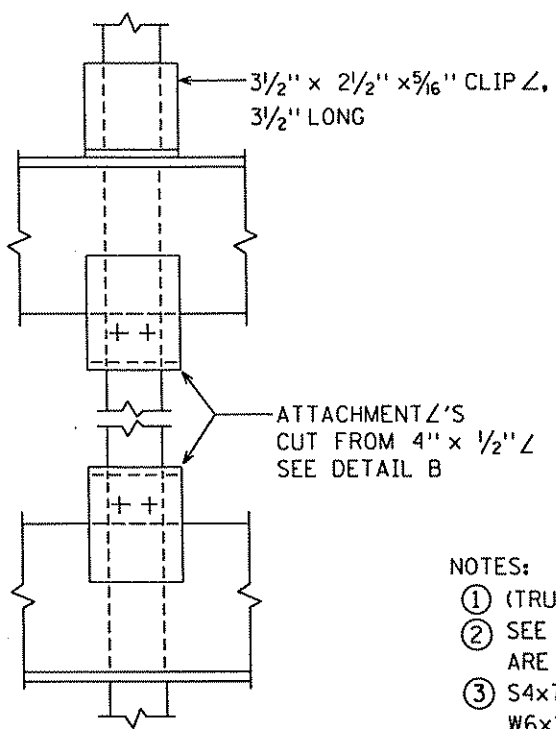
SECTION A-A



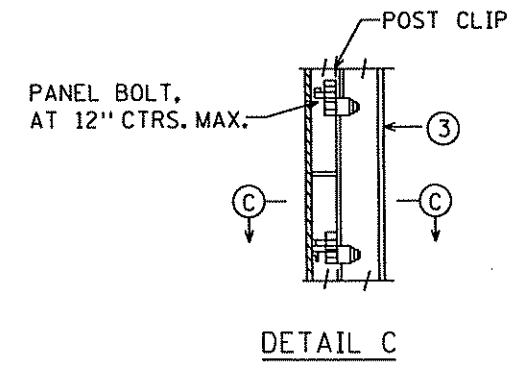
PANEL MOUNTING POST	
NO. OF POSTS	
2	P=144" OR LESS, c=.207P, d=.586P
3	P=150" THRU 204", c=.145P, d=.355P
4	P=210" THRU 276", c=.107P, d=.262P
5	P=282" THRU 348", c=.084P, d=.208P
6	P=354" THRU 420", c=.070P, d=.172P
7	P=426" THRU 492", c=.059P, d=.147P

POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS DETAILS IS ENCOUNTERED.

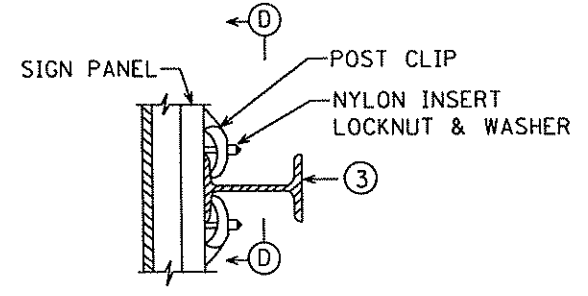
SIGN PANEL ELEVATION



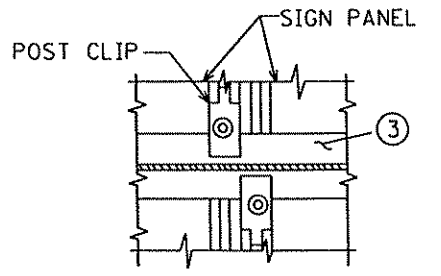
VIEW B-B



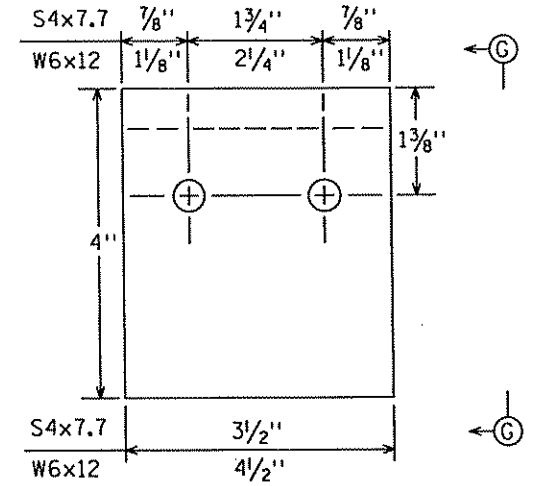
DETAIL C



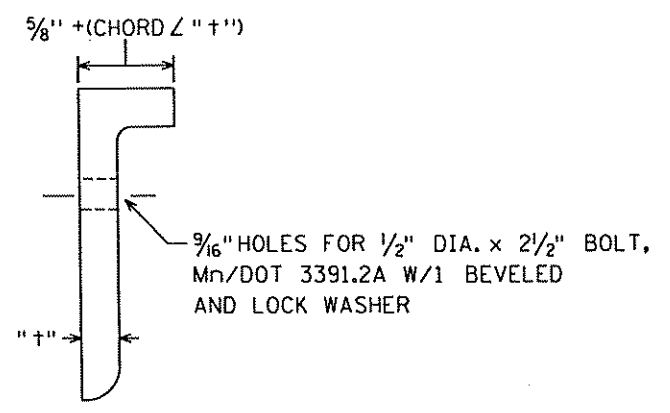
SECTION C



SECTION D-D



DETAIL B



VIEW G-G

- NOTES:
- (TRUSS DEPTH)-(TOP & BOTTOM CHORD Z LEGS)-1/4"
 - SEE NOTE 1 ON ST-1 WHEN STANDARD PANELS AND CMS ARE MOUNTED ON THE SAME SPAN
 - S4x7.7 FOR SIGN HEIGHTS ≤ 11'-0"
W6x12 FOR SIGN HEIGHTS OVER 11'-0"

STANDARD OVERHEAD SIGN SUPPORTS
INTERIM DESIGN B
SIGN PANEL AND PANEL
MOUNTING POST DETAILS
DRAWING ST-10

SS30 OF SS36

REVISED 10/3/03

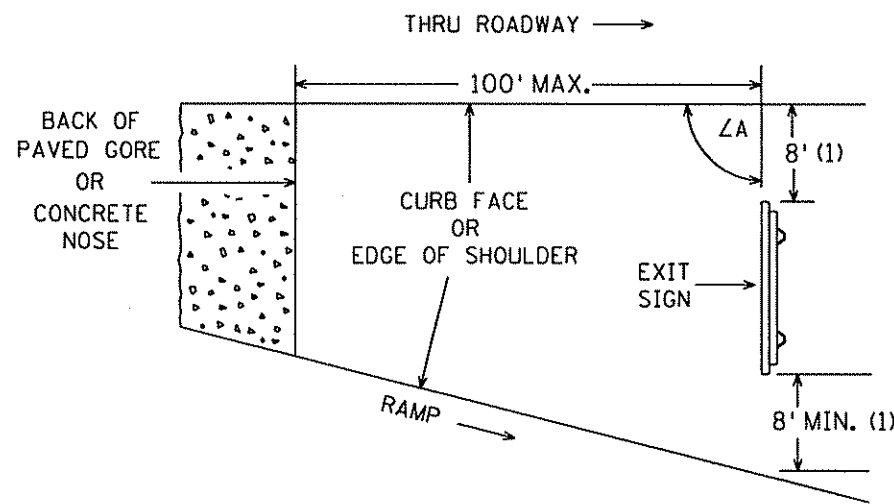
DETAIL A

S.A.P. 02-632-14, S.A.P. 62-601-11

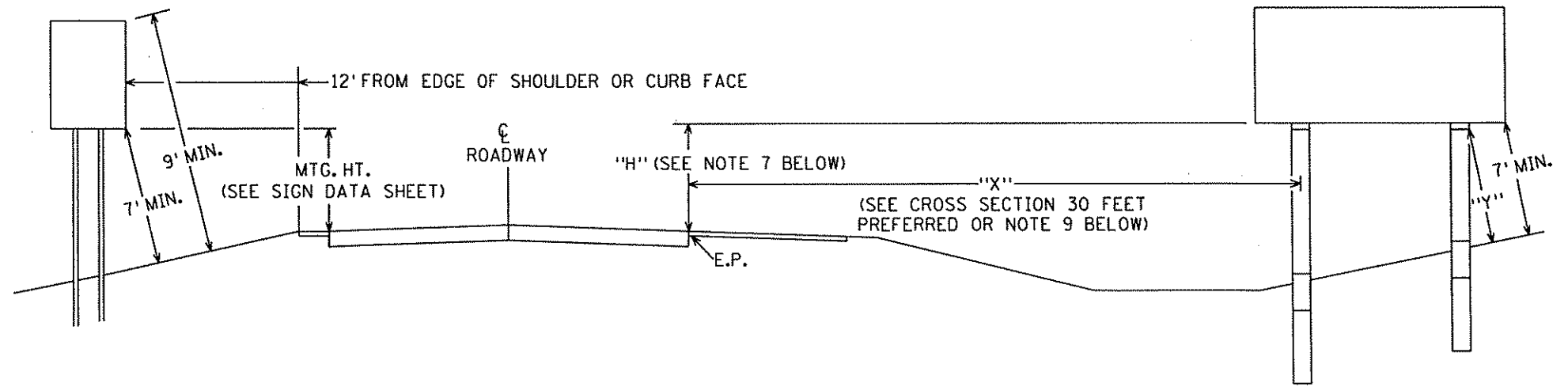
Sheet No. 240 of 297 Sheets

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 SIGN PLACEMENT (SNT.38) 11-01-01

GORE PLACEMENT

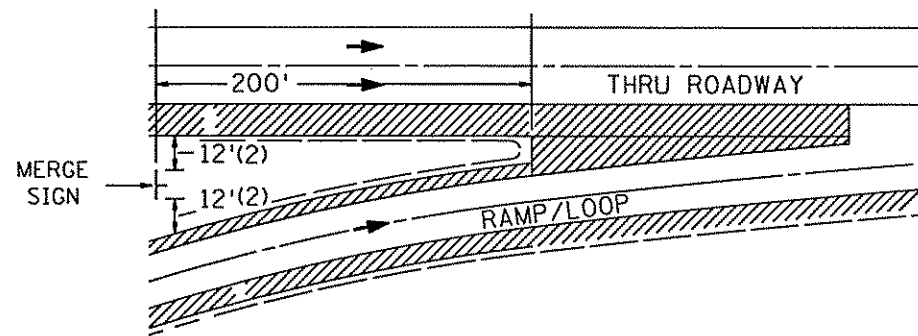


ROADSIDE PLACEMENT



ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
 MINOR GUIDE SIGNS - TYPE D

MAJOR GUIDE SIGN - TYPE A



SPECIFIC NOTES:

(1) EXIT SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE OTSO SIGNING UNIT.

(2) MERGE SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE OTSO SIGNING UNIT.

NOTES:

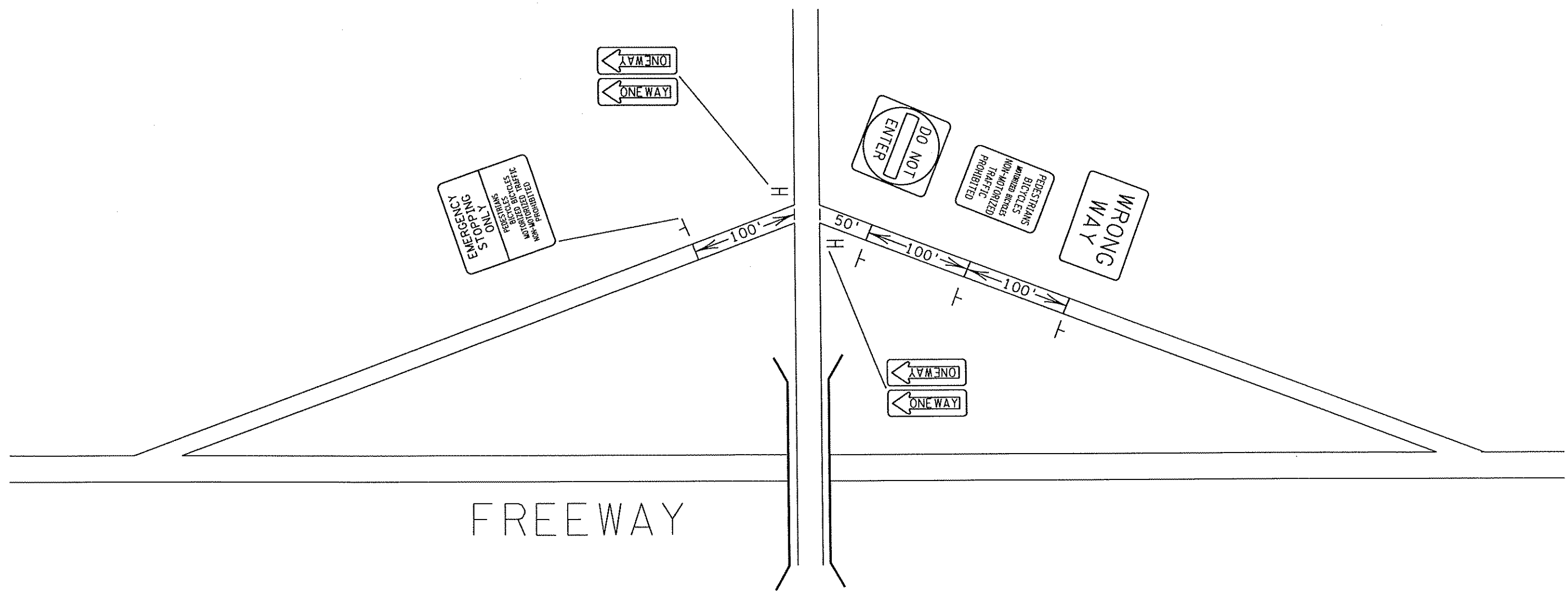
- IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 5'.
- ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 7' ABOVE PAVEMENT EDGE.
- SIGN FACES SHALL BE VERTICAL.
- OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
- TO AVOID SPECULAR GLARE, $\angle A$ SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF PAVEMENT AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
- "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
- WHERE "X" IS LESS THAN 30', "H" SHALL BE $7' \pm 6"$. WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
- LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
- WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 4 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

SIGN PLACEMENT

SS32 OF SS36

REVISED 3-14-05

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SIGN PLACEMENT (SHT. 59) 11-01-01
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FREEWAY

SS33 OF SS36

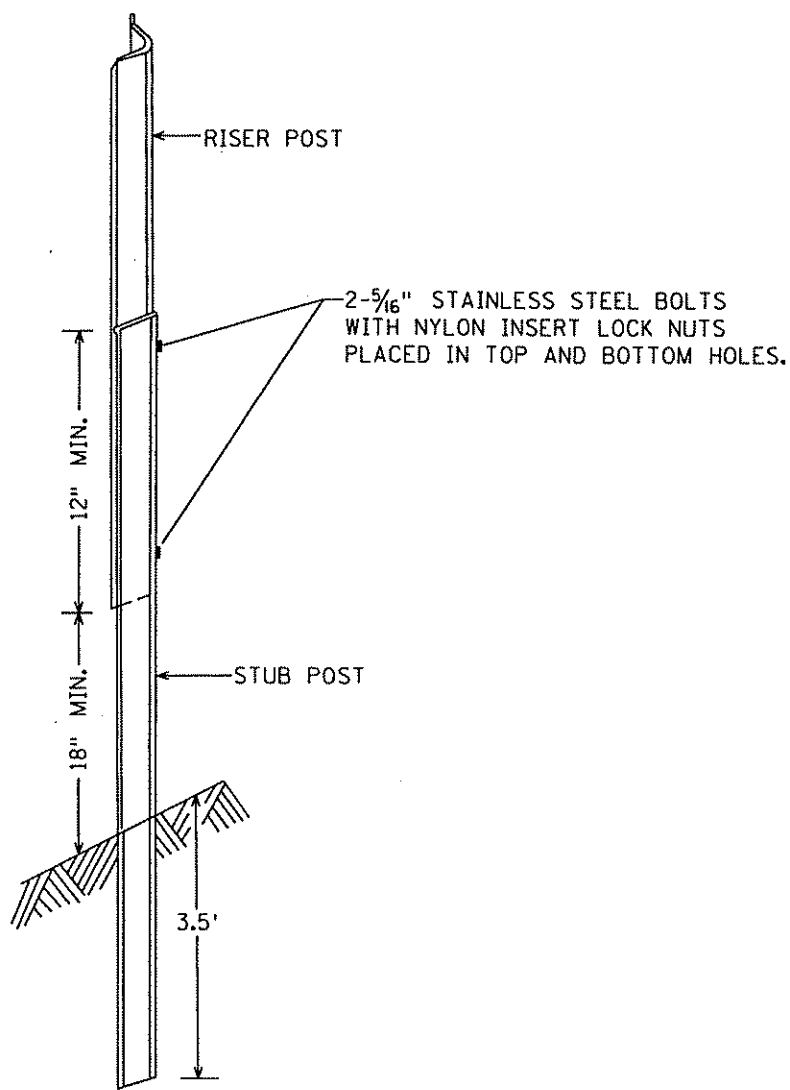
STANDARD SIGN PLACEMENT
REGULATORY, WRONG WAY, AND EXCLUSION SIGNS
ON FREEWAY DIAMOND INTERCHANGE RAMPS

DRAWN 2-14-00

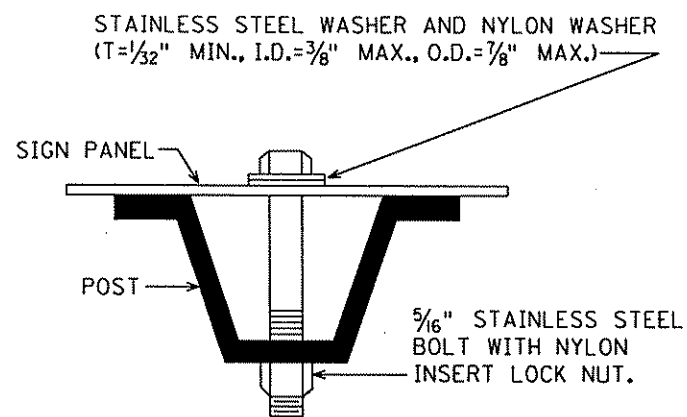
S.A.P. 02-632-14, S.A.P. 62-601-11 Sheet No. 243 of 297 Sheets

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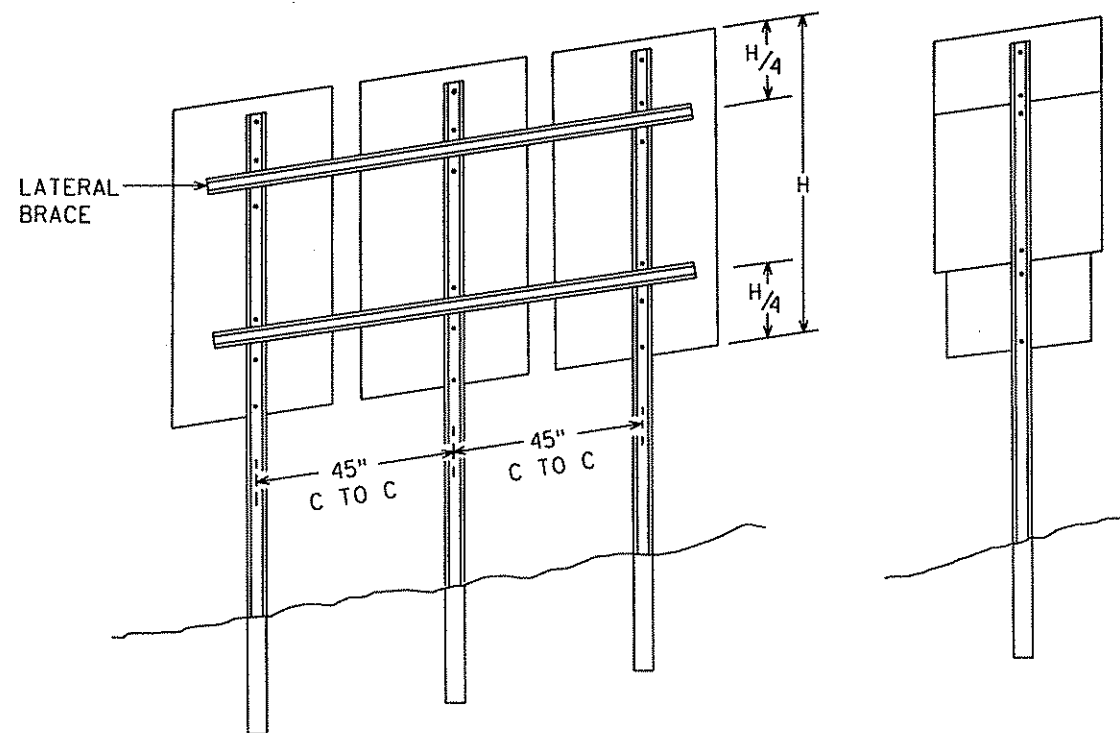
TYPE "C" & "D" POST



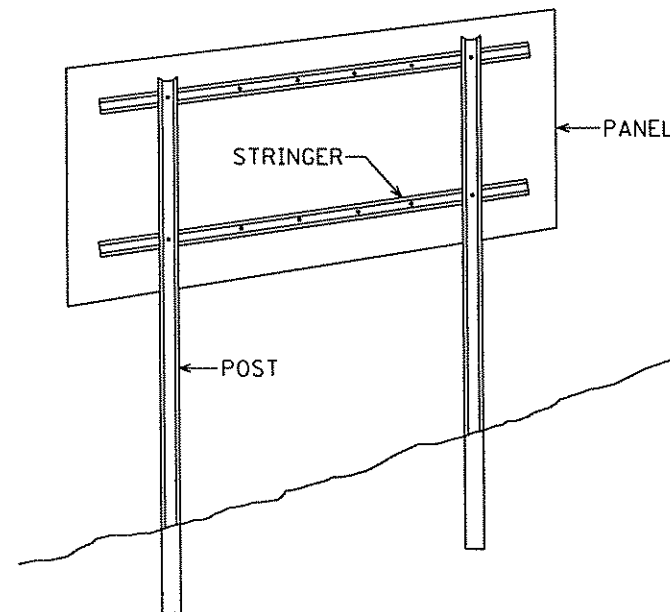
"U POST" SPLICE



"U POST" MOUNTING
TYPE "C" SIGNS



TYPICAL TYPE "C" INSTALLATIONS



TYPICAL TYPE "D" INSTALLATION

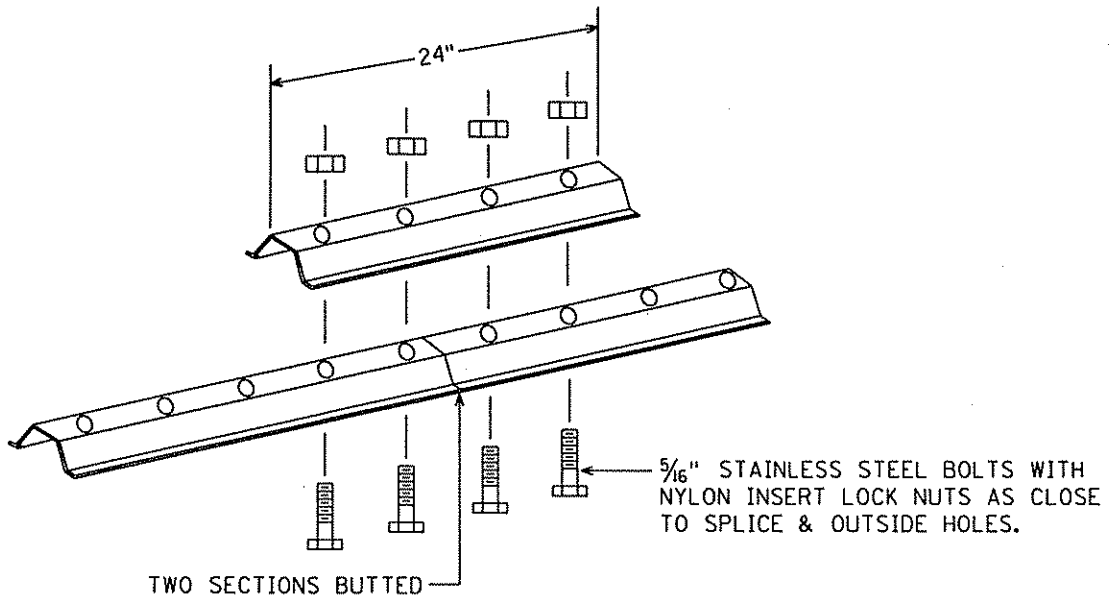
NOTES:

1. USE 3# 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 TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING 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 $\frac{5}{16}$ " 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 $3\frac{1}{2}$ '.
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 INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 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 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

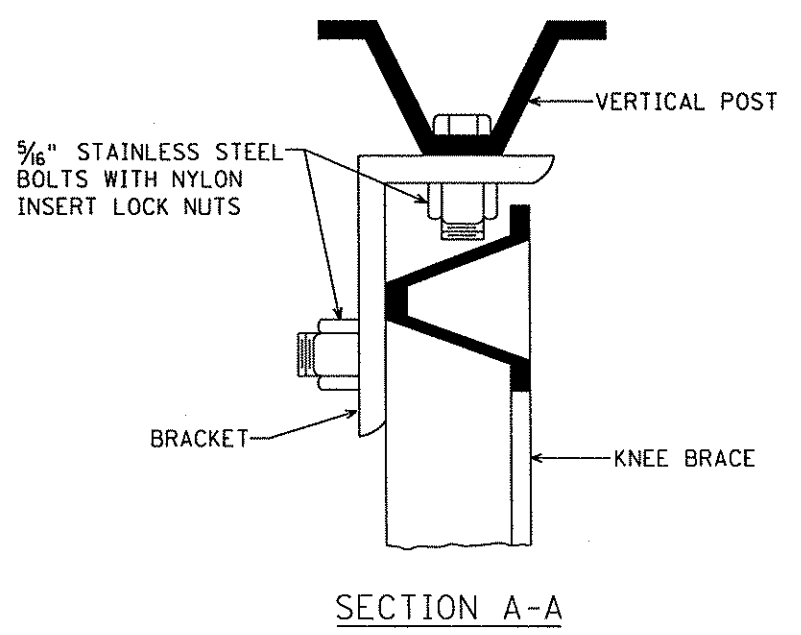
TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 1 of 3

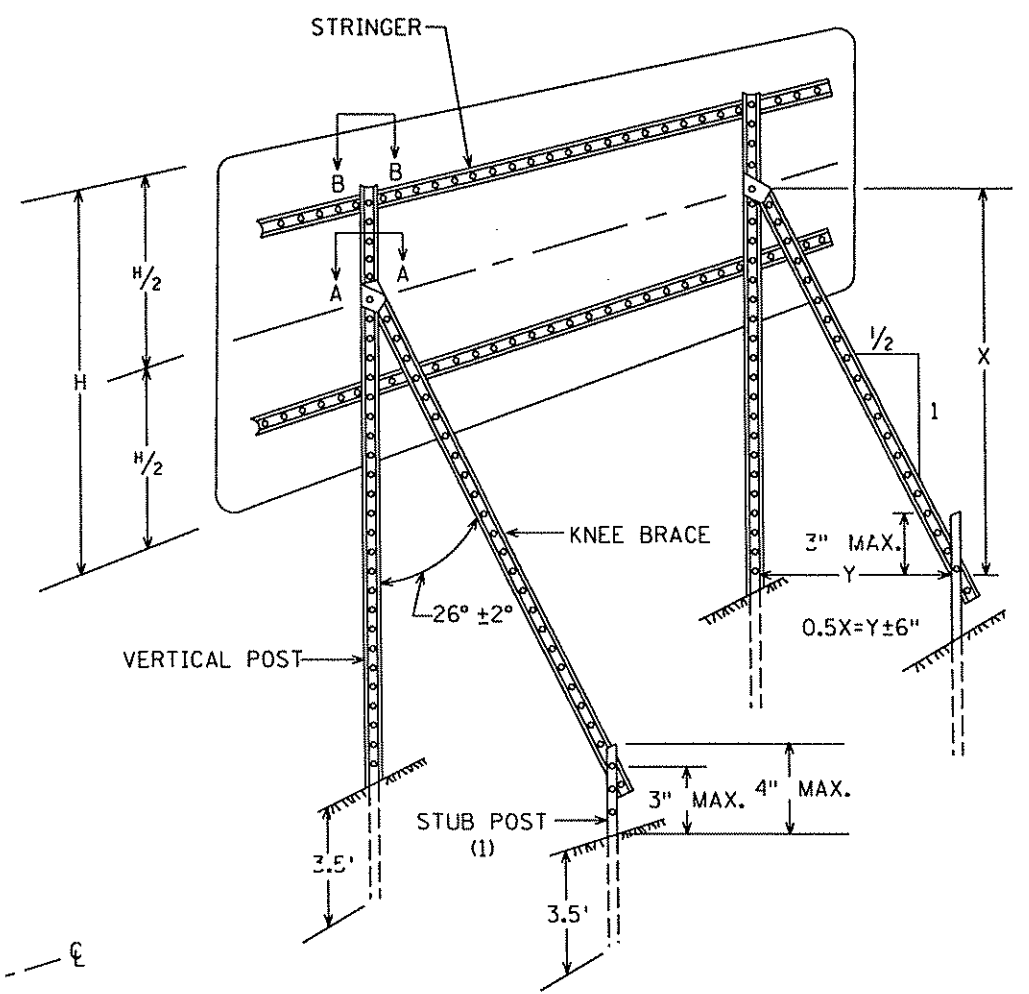
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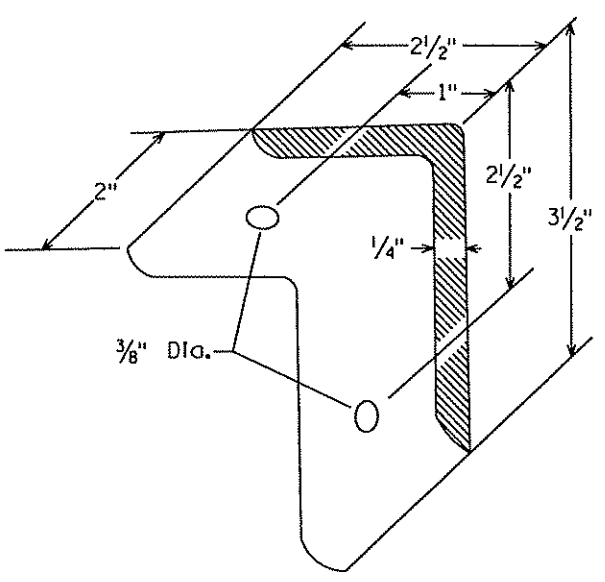
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

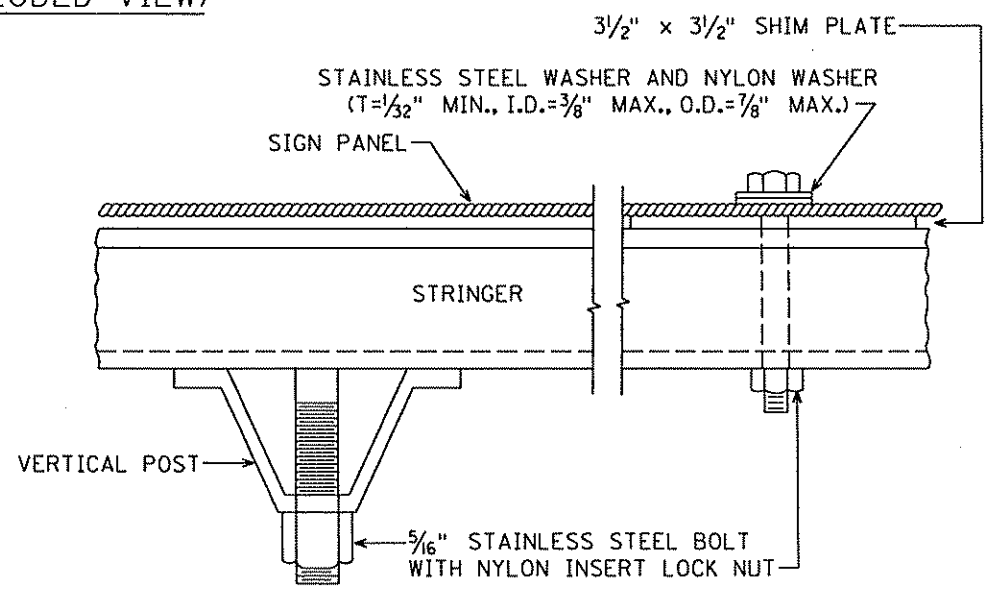


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

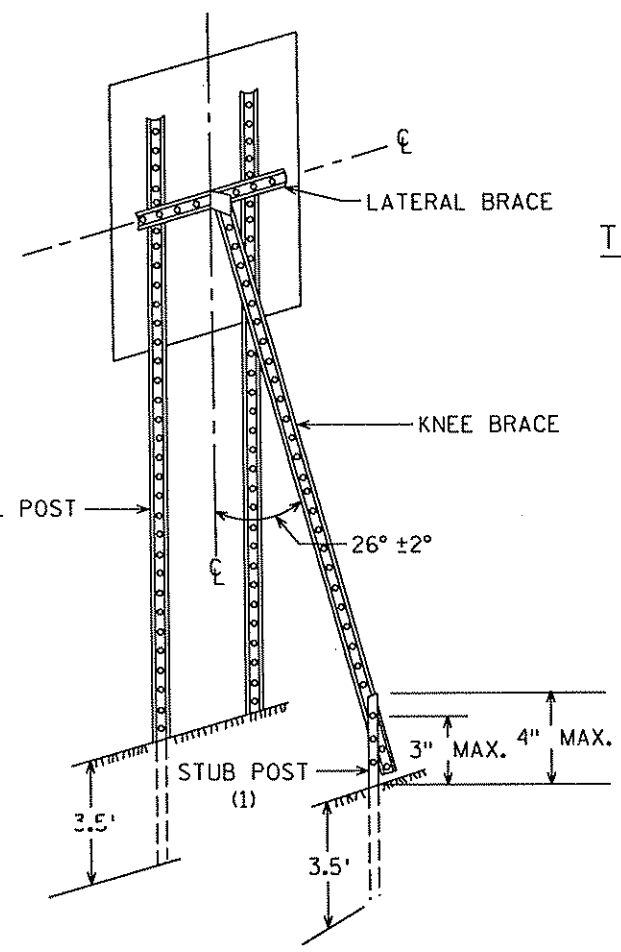


A-FRAME BRACKET

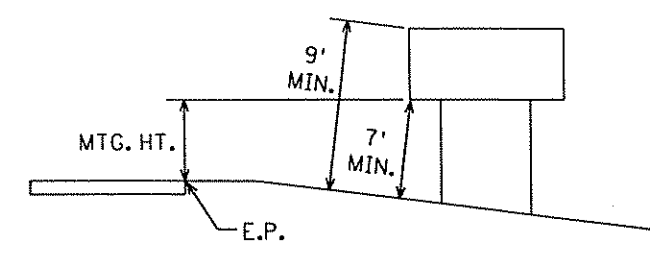
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B

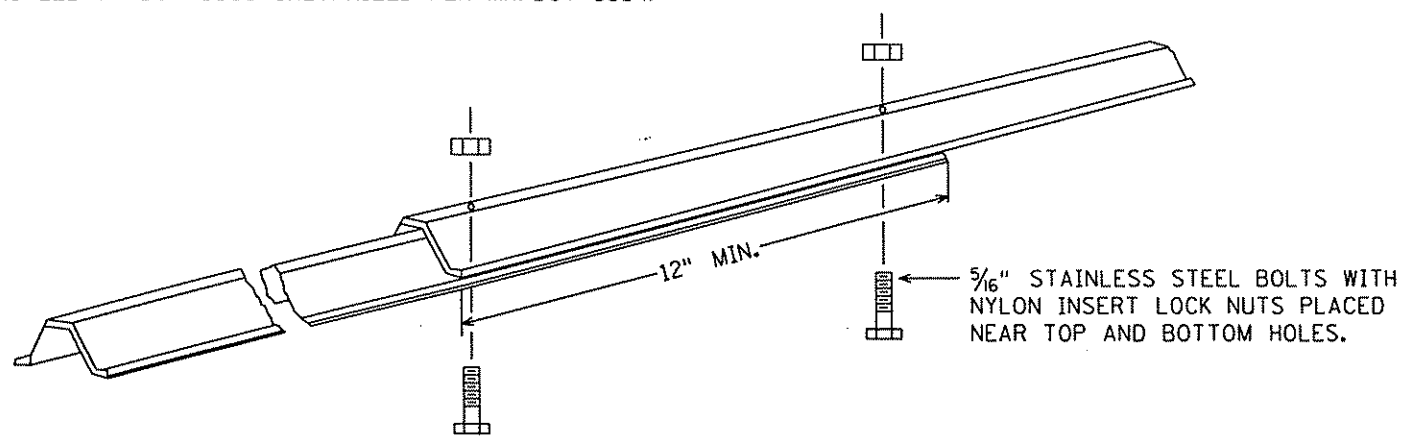


TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.



KNEE BRACE SPLICE

TYPE C & D SIGN
STRUCTURAL DETAILS

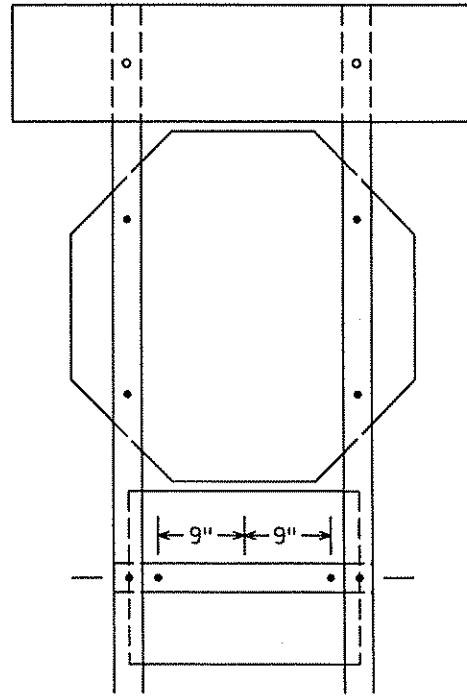
Sheet 2 of 3

SS35 OF SS36

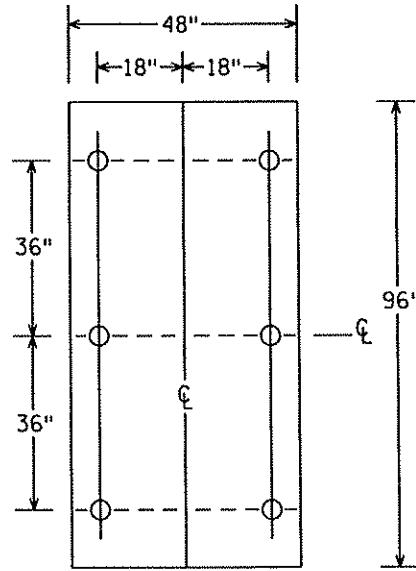
Revised 6-18-99

S.A.P. 02-632-14, S.A.P. 62-601-11

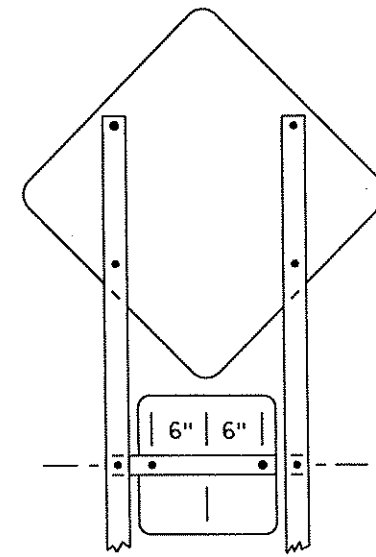
Sheet No. 245 of 297 Sheets



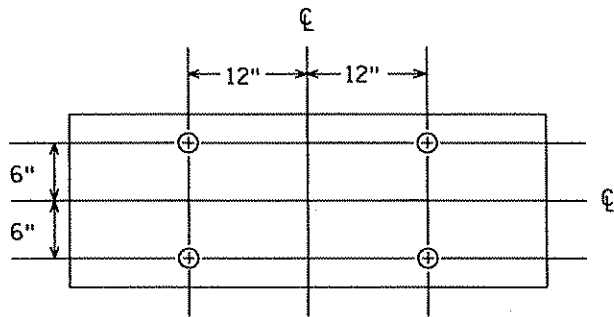
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



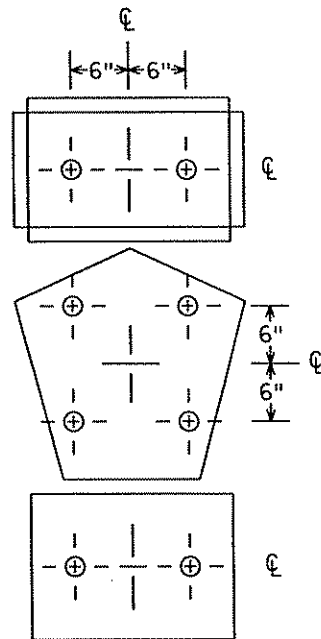
PUNCHING FOR R2-4b
SPEED LIMIT



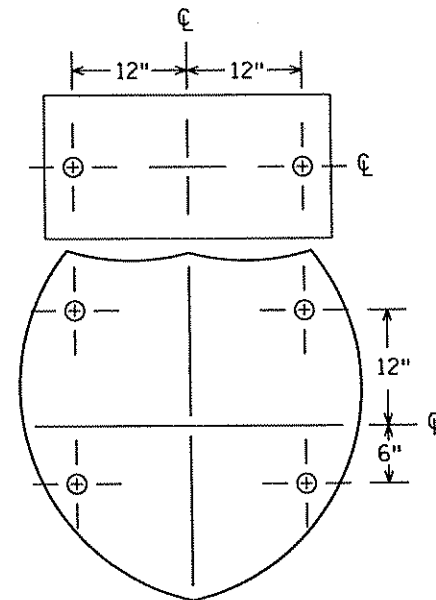
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



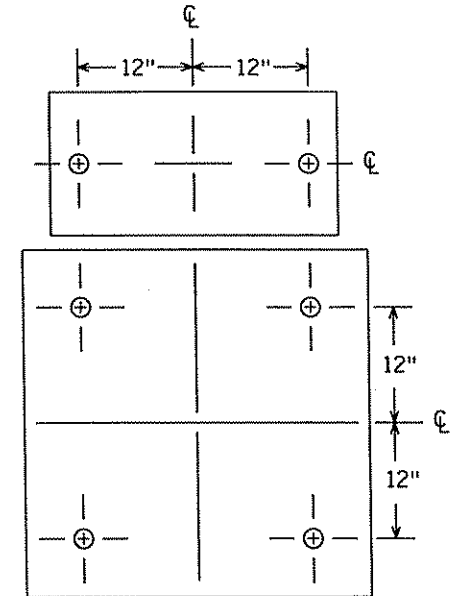
PUNCHING FOR R6-1(48" x 18")



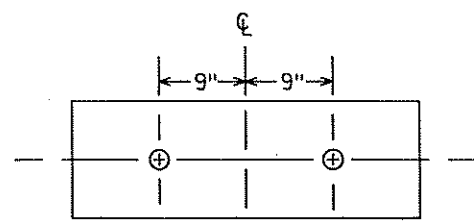
M2-1A [21" x 15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24" x 12"] AND
M1-6 [24" x 24"] AND
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21" x 15"]
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30" x 15"] AND
M1-1 [45" x 36" OR 36" x 36"]
PUNCHING



(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR
M3-4A) [30" x 15"] AND (M1-4 OR M1-5A) [36" x 36"]
PUNCHING



PUNCHING FOR R6-1(36" x 12")

TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 3 of 3

SS36 OF SS36

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	Ⓐ
SIGNAL BASE NO.	①
SIGNAL FACE NO.	②
LUMINAIRE NO.	Ⓐ
CONTROLLER AND CABINET	■
CONTROLLER AND CABINET - IN PLACE	□
HANDHOLE	○
HANDHOLE - IN PLACE	◻
RIGID STEEL CONDUIT (RSC)	—
RIGID STEEL CONDUIT (RSC) - IN PLACE	—
SIGNAL FACE WITH BACKGROUND SHIELD	→
SIGNAL FACE W/O BACKGROUND SHIELD	→
SIGNAL FACE - IN PLACE	→
PEDESTRIAN INDICATORS	→
PEDESTRIAN INDICATORS - IN PLACE	→
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	○
PEDESTRIAN PUSH BUTTON STATION	○
TRAFFIC SIGNAL PEDESTAL	⊠
TRAFFIC SIGNAL PEDESTAL - INPLACE	⊠
TRAFFIC SIGNAL POLE AND MAST ARM	○
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	○
STREET LIGHT POLE AND LUMINAIRE	○
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	○
MAST ARM AND LUMINAIRE	○
MAST ARM AND LUMINAIRE - INPLACE	○
WOOD POLE	○
WOOD POLE - IN PLACE	○
SOURCE OF POWER	○
RAILROAD SIGNAL - IN PLACE	⊠
RIGHT OF WAY LINE	—
CENTERLINE	—
EDGE OF ROADWAY	—
SHOULDERLINE	—
CURB LINE	—
STOP BAR	—
EMERGENCY VEHICLE PREEMPTION DETECTOR	→

ABBREVIATIONS

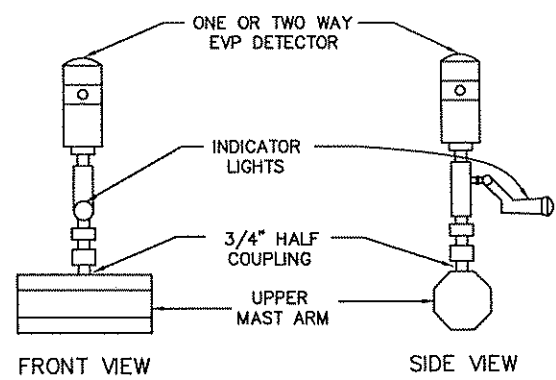
3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"
BR. GR.	BARE GROUND
CH. SW.	CHECK SWITCH
CLR	CLEAR
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"
DWK	DON'T WALK
EQG	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
G	GREEN
GLTA	GREEN LEFT TURN ARROW
GRN	GREEN
GR. R	GROUND ROD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

TRAFFIC SIGNAL TABULATION			
ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2104	SALVAGE SIGNAL SYSTEM "C"	LUMP SUM	1
2104	SALVAGE SIGNAL SYSTEM "E"	LUMP SUM	1
2104	SALVAGE SIGNAL SYSTEM "F"	LUMP SUM	1
2104	SALVAGE SIGNAL SYSTEM "G"	LUMP SUM	1
2564	SIGN PANELS TYPE D (SIGNALS)	SQ. FT.	442
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "A"	SIGNAL SYSTEM	1
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "C"	SIGNAL SYSTEM	1
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "D"	SIGNAL SYSTEM	1
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "E"	SIGNAL SYSTEM	1
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "F"	SIGNAL SYSTEM	1
2565	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM "G"	SIGNAL SYSTEM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "A"	LUMP SUM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "C"	LUMP SUM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "D"	LUMP SUM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "E"	LUMP SUM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "F"	LUMP SUM	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "G"	LUMP SUM	1
2565	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1
2565	PVC HANDHOLE (METAL FRAME AND COVER) - INTERCONNECT	EACH	12
2565	6/C FIBER OPTIC CABLE - INTERCONNECT	LIN. FT.	9200
2565	1/C #14 - INTERCONNECT	LIN. FT.	9200
2565	2-INCH RIGID STEEL CONDUIT - INTERCONNECT	LIN. FT.	350
2565	2-INCH NON-METALLIC CONDUIT - INTERCONNECT	LIN. FT.	4100
2565	3-INCH NON-METALLIC CONDUIT - INTERCONNECT	LIN. FT.	130
2565	REVISE SIGNAL SYSTEM "B"	SYSTEM	1

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

EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



STANDARD PLATES - SIGNAL SYSTEMS

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT			
PLATE NO.	DESCRIPTION	PLATE NO.	DESCRIPTION
▶ 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED	8120 L	POLE FOUNDATION (PA-85)
▶ 8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED	▶ 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
▶ 8112 D	PEDESTAL FOUNDATION	▶ 8122 C	PEDESTAL AND PEDESTAL BASE
▶ 8114 A	PVC HANDHOLE/PULLBOX	▶ 8123 E	POLE AND MAST ARM
▶ 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION	▶ 8124 E	MAST ARM SIGNAL HEAD MOUNTS
▶ 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC SIGNALS	▶ 8126 G	POLE FOUNDATION (PA90 AND PA100)
▶ 8119 C	GROUND MOUNTED CABINET FOUNDATION	8130 D	SAW CUT LOOP DETECTORS
▶ STANDARD PLATES APPLICABLE TO THIS PROJECT			

X:\PT\RAMSEY\8503007\...SIGNAL\8503007.DWG

DESIGN TEAM					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. Certified By: <i>John M. Gray</i> Lic. No. 22457 Printed Name: JOHN M. GRAY Date: 12/15/05	PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11	TRAFFIC SIGNAL SYSTEMS "A-G" DETAILS & STANDARD PLATES COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) SIGNAL SYSTEMS	FILE NO. ARAMSE0503	247
DRAWN BY: JMG				SG1					297	
DESIGNER: JMG				OF 5651						
CHECKED BY: JMG	NO.	BY	DATE	REVISIONS						

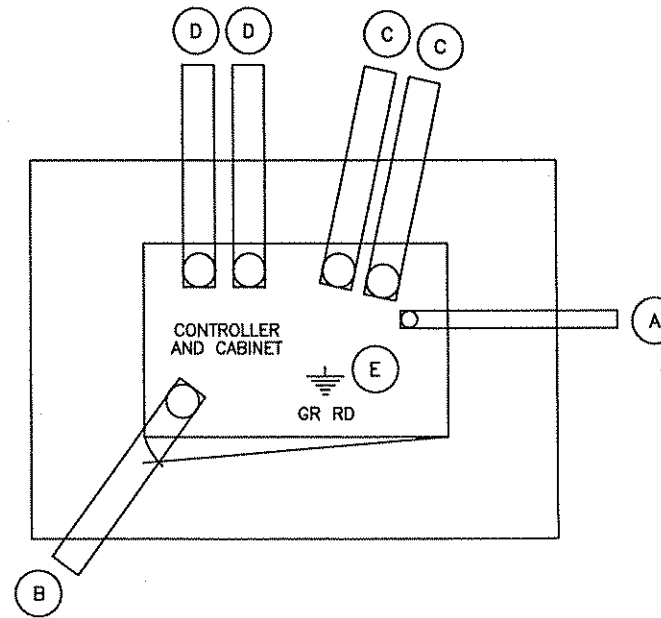
ALL SIGNAL SYSTEMS:

NOTES:

- 1) ANCHOR RODS, NUTS AND WASHERS (AND BASE GASKETING) FOR THE COUNTY FURNISHED CONTROLLER AND CABINET (FOR SYSTEM "A") WILL BE FURNISHED BY THE COUNTY FOR THE CONTRACTOR TO INSTALL.
- 2) ANCHOR RODS, NUTS AND WASHERS FOR THE CONTRACTOR FURNISHED CONTROLLERS AND CABINETS (FOR SYSTEMS "C-G") SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- 3) UPPER PART OF EACH EQUIPMENT PAD OR CONTROLLER CABINET PAD SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 4) TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
- 5) CONDUITS SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS OR SUPPORTING MEMBERS, ETC.
- 6) CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
- 7) CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
- 8) EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.

- (A) 2" R.S.C. FOR SERVICE CONNECTION (VIA HH 12)
- (B) 4" R.S.C. TO HH 1
- (C) 4" R.S.C. TO HH 11
- (D) 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE)
- (E) 5/8" DIA X 15' GROUND ROD

SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

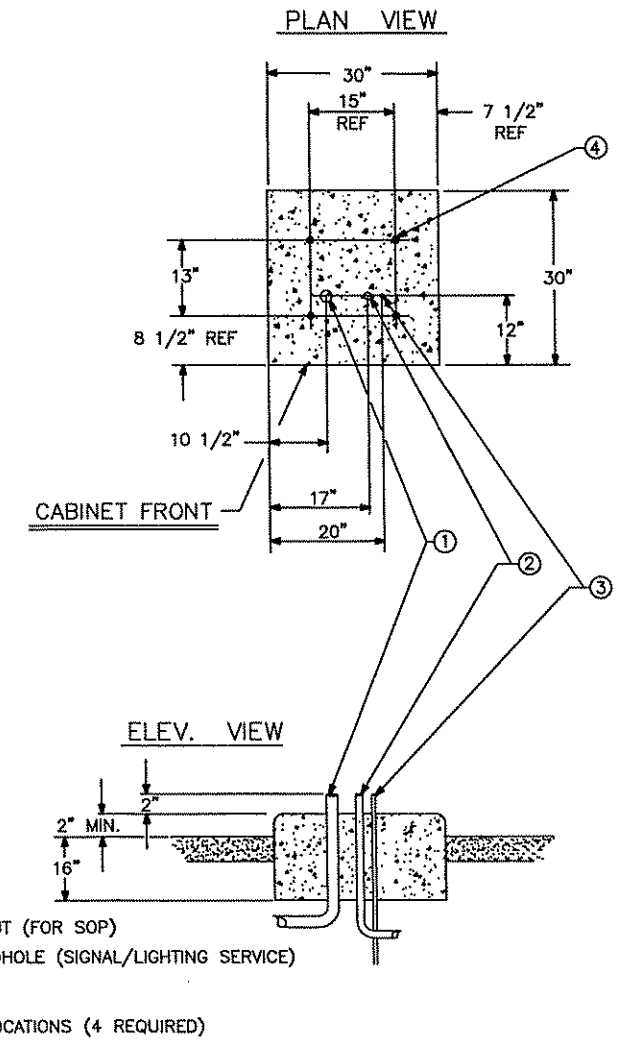


CONCRETE FOUNDATION
SEE MN/DOT STANDARD PLATE NO. 8119C FOR DIMENSIONS.

TYPICAL CONTROLLER CABINET PAD LAYOUT
TRAFFIC SIGNAL SYSTEM "A" (AIRPORT RD/TH 10 SOUTH RAMPS)

NO SCALE

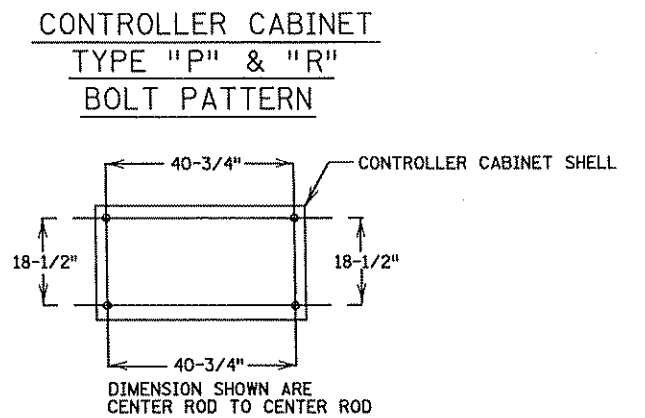
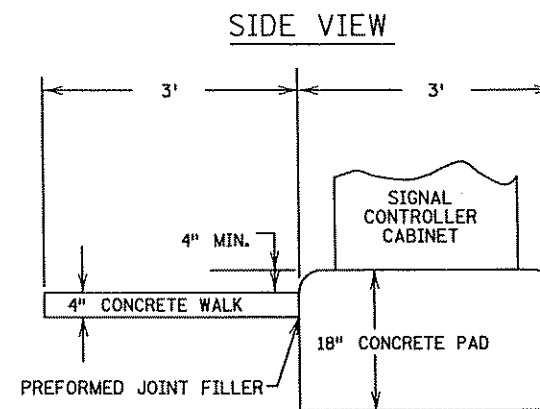
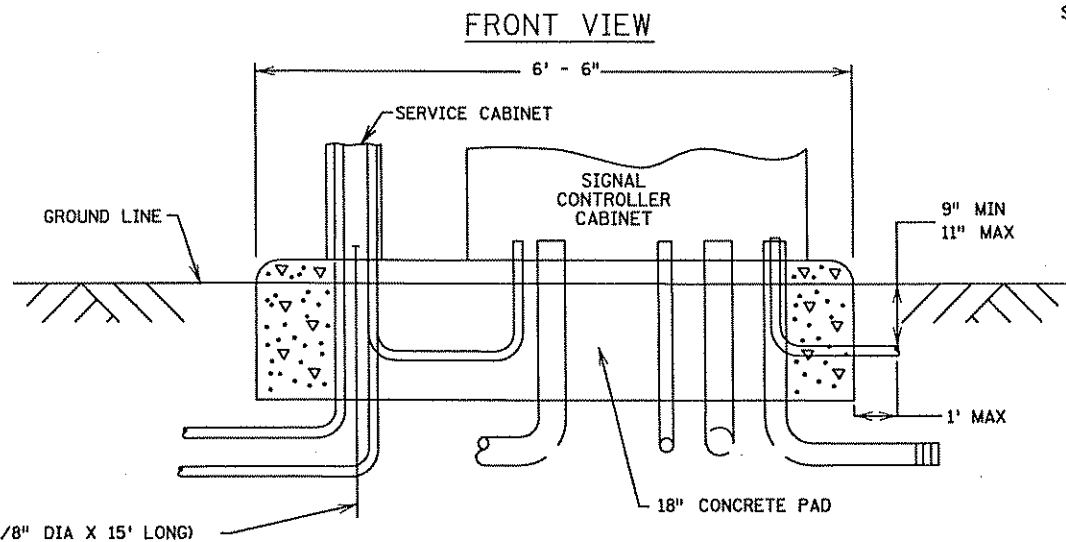
SERVICE CABINET FOUNDATION (SYSTEM "A" - AIRPORT RD/TH 10 SOUTH RAMPS)



- ① 2" RSC STUB OUT (FOR SOP)
- ② 2" RSC TO HANDHOLE (SIGNAL/LIGHTING SERVICE)
- ③ GROUNDING ROD
- ④ ANCHOR BOLT LOCATIONS (4 REQUIRED)

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET TRAFFIC SIGNAL SYSTEMS "C, D, E, F, G"

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)



DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.
Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

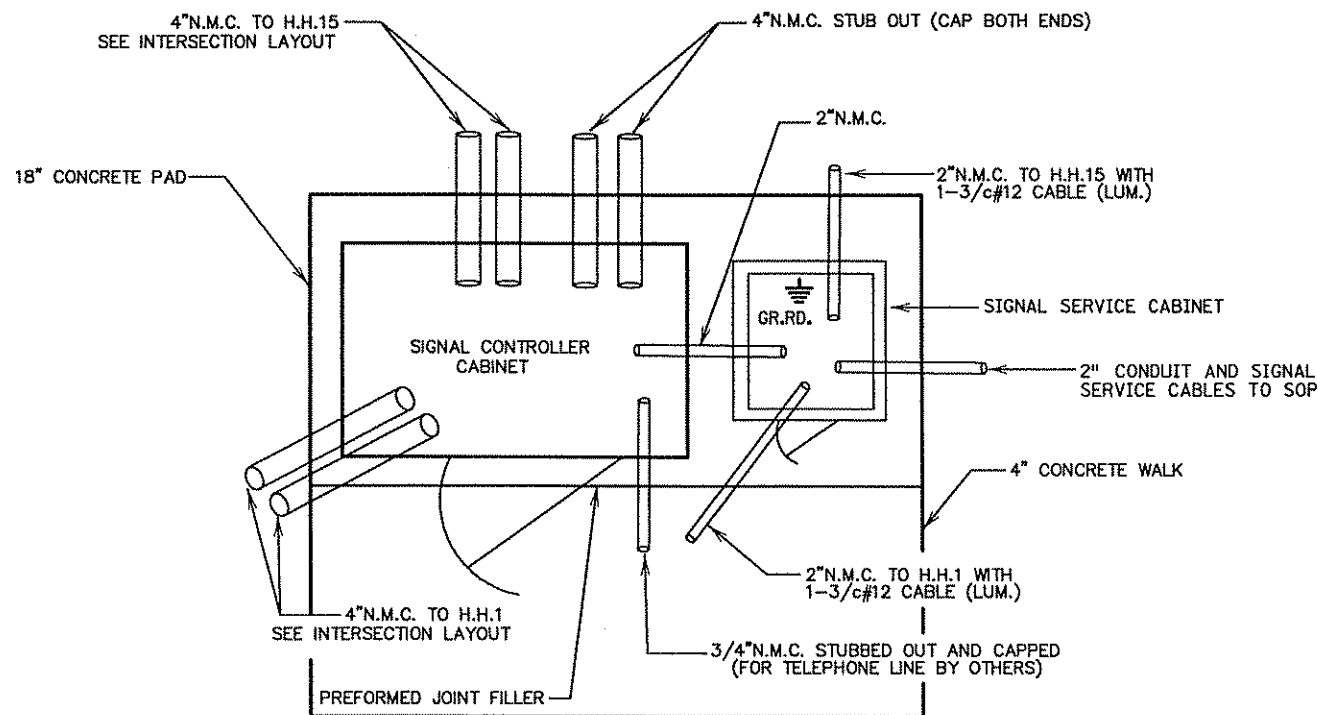
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RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

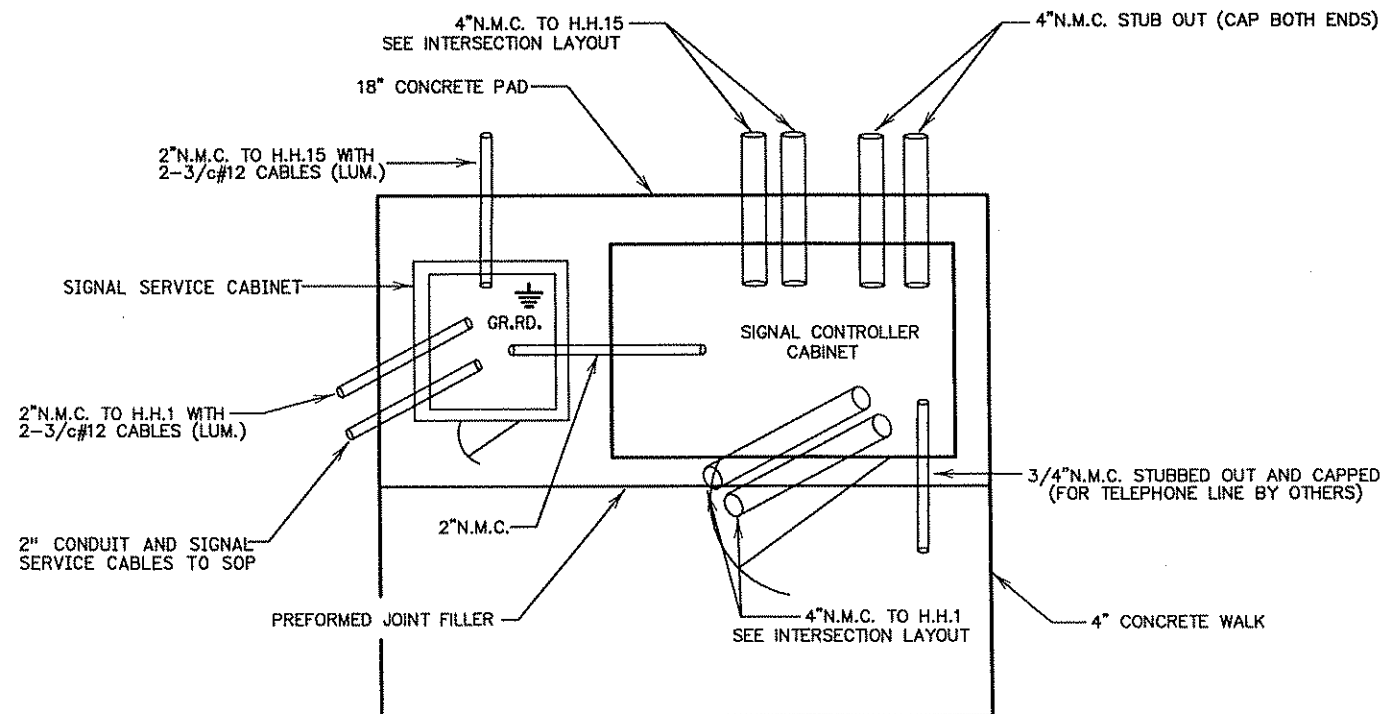
TRAFFIC SIGNAL SYSTEMS "A, C-G"
EQUIPMENT/CABINET PAD DETAILS
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
SIGNAL SYSTEMS

FILE NO. ARAMSE0503
SG2 OF SG51
248
297

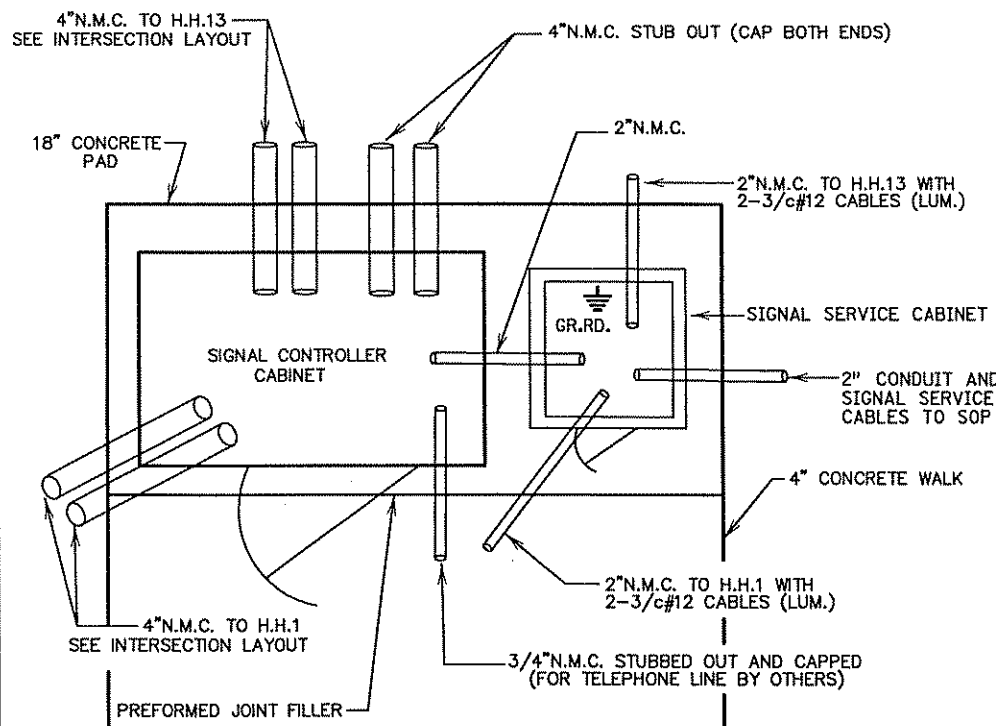
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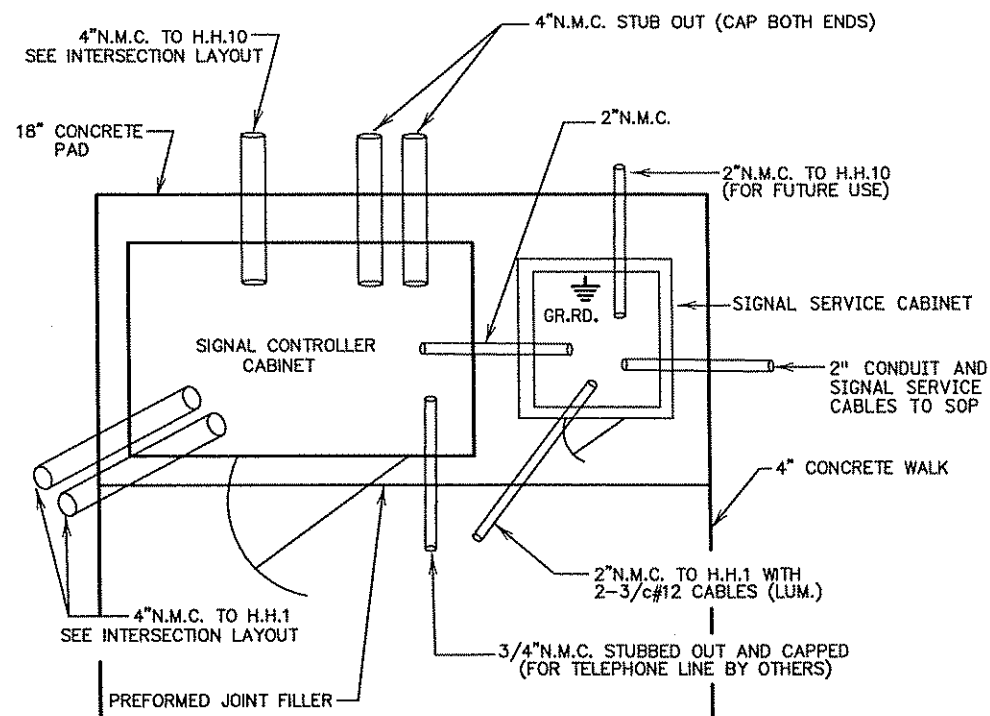
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COUNTY RD J/85TH AVE NE AT CORAL SEA STREET NE



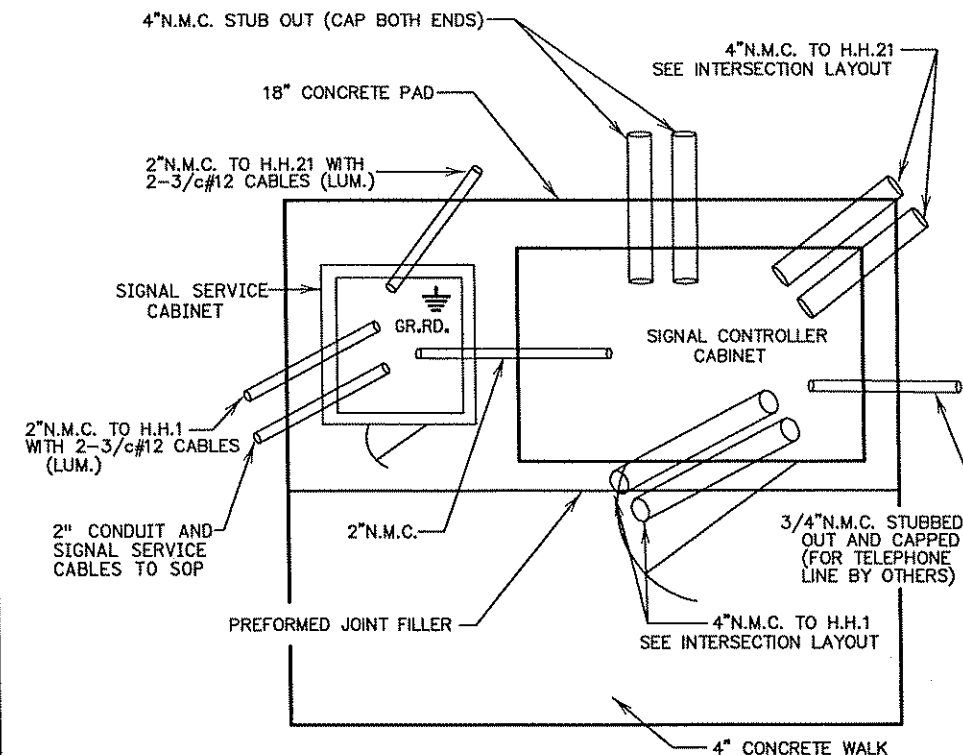
PLAN VIEW-SIGNAL SYSTEM "E"
COUNTY RD J/85TH AVE NE AT 35W SERVICE DRIVE



PLAN VIEW-SIGNAL SYSTEM "F"
COUNTY RD J/85TH AVE NE AT I-35W SE RAMP



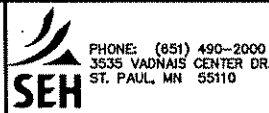
PLAN VIEW-SIGNAL SYSTEM "G"
COUNTY RD J/85TH AVE NE AT RICE CREEK PKWY/NAPLES ST



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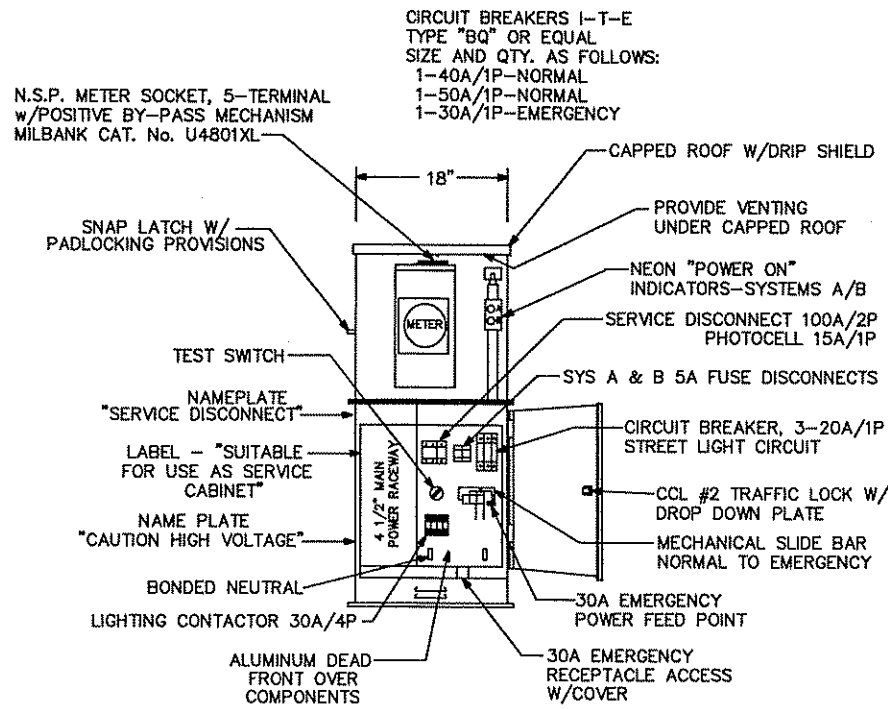
DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
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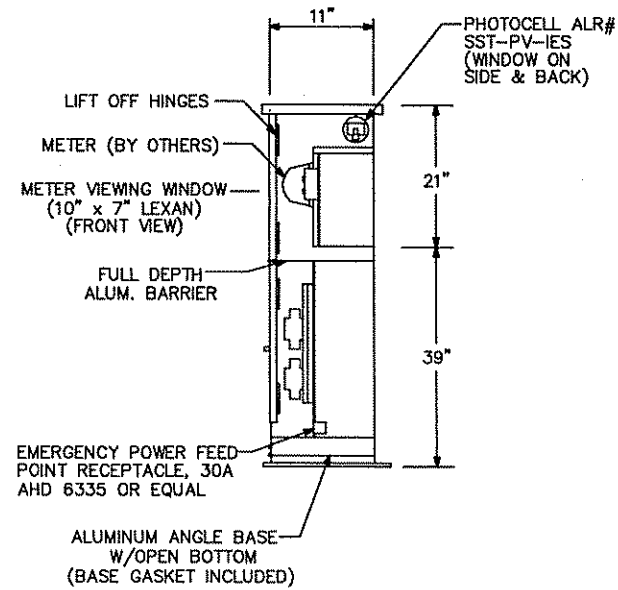


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COUNTY ROAD J
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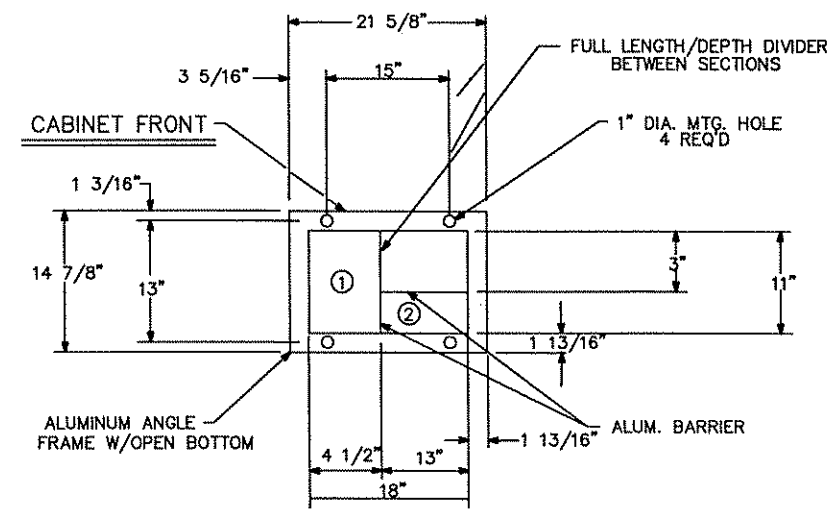
TRAFFIC SIGNAL SYSTEMS "C-G" EQUIPMENT PAD DETAILS COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) SIGNAL SYSTEMS	FILE NO. ARAMSE0503 SG3 OF S651	249 297
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FRONT ELEV.



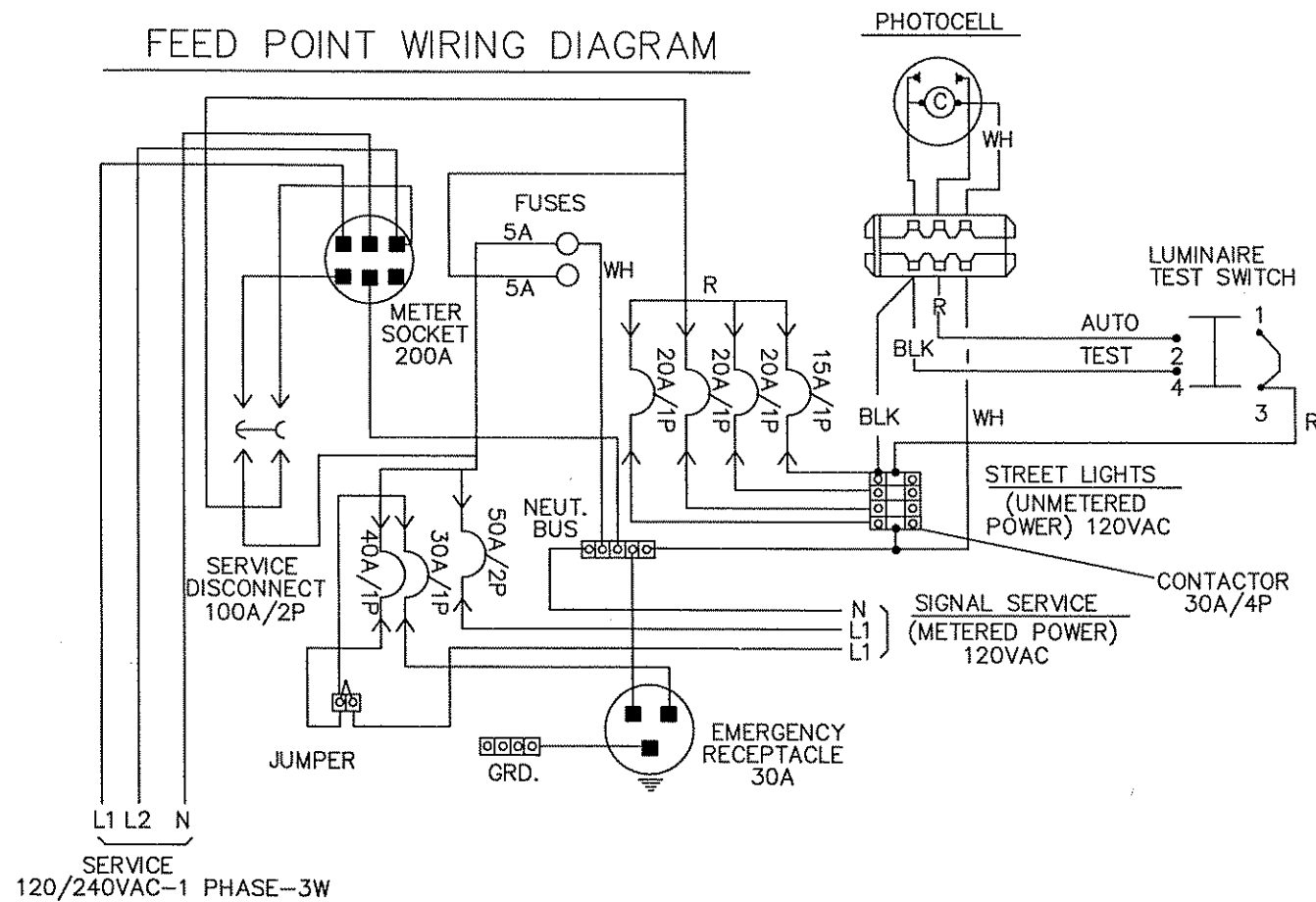
RIGHT SIDE ELEV.



- ① MAIN POWER CONDUIT SPACE
- ② LIGHTING & SIGNAL CONDUIT SPACE

BASE VIEW

FEED POINT WIRING DIAGRAM



CONSTRUCTION NOTES

- ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.
- DOORS TO BE NEOPRENE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION.
- CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.
- NEMA 3R ENCLOSURE SHALL BE "UL" APPROVED.
- CABINET SHALL HAVE BASE GASKET INCLUDED.

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DESIGN TEAM			
DRAWN BY:	JMG		
DESIGNER:	JMG		
CHECKED BY:	JMG		
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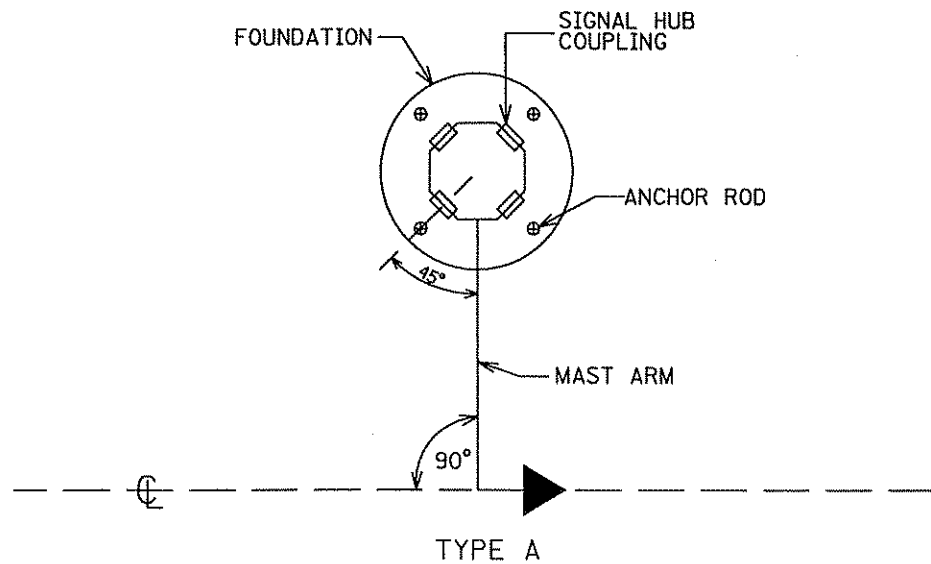
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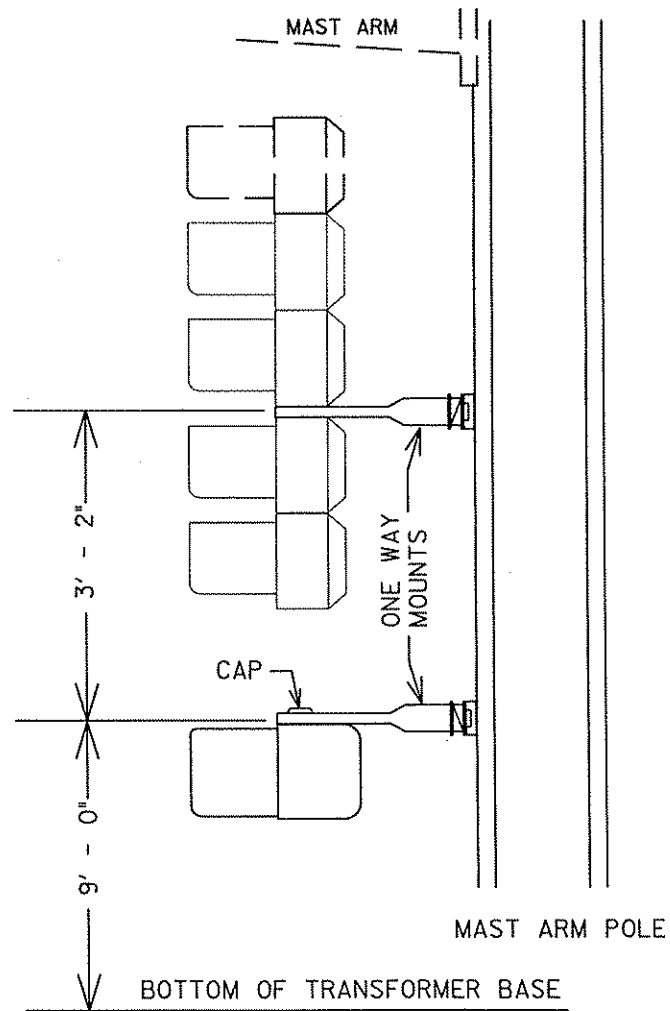
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS "A, C-G"
SERVICE CABINET DETAILS
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
SIGNAL SYSTEMS

FILE NO. ARAMSE0503	250
SG4 OF SG51	297

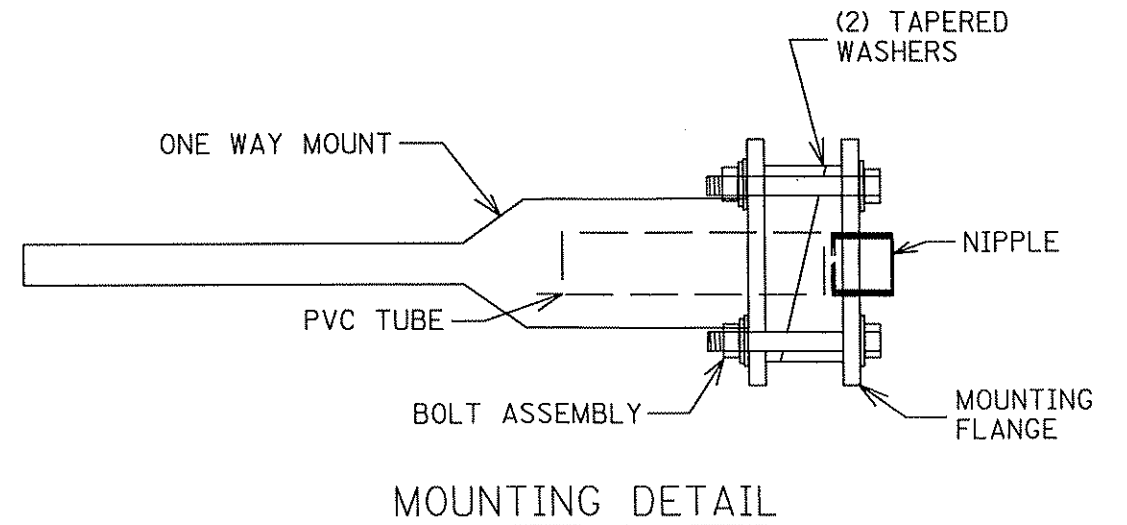


TYPE A
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS

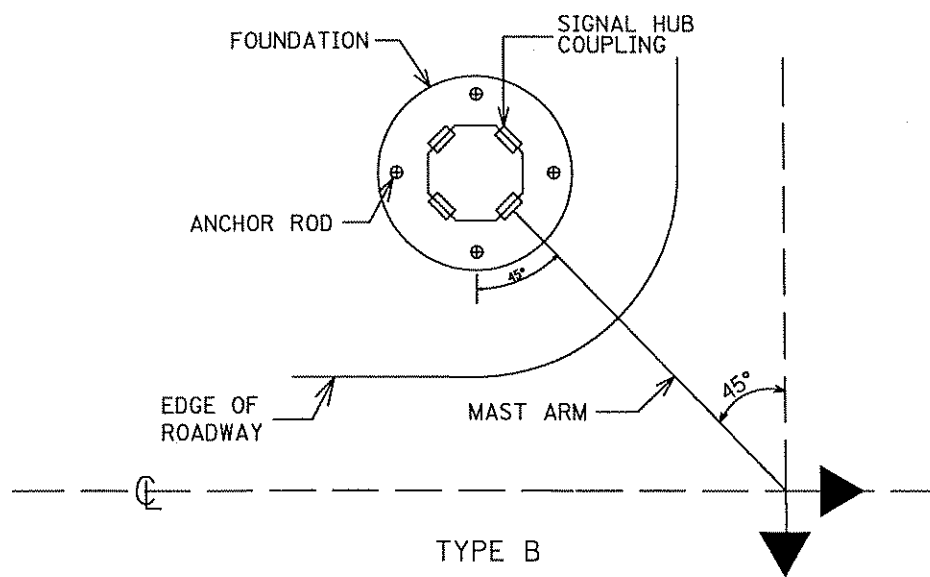


MAST ARM POLE

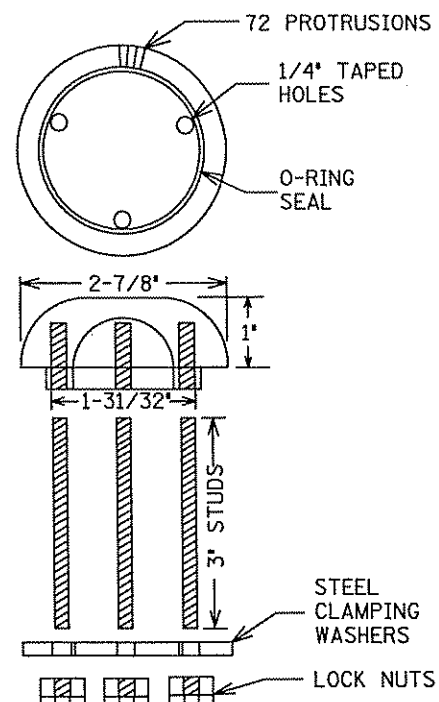
BOTTOM OF TRANSFORMER BASE



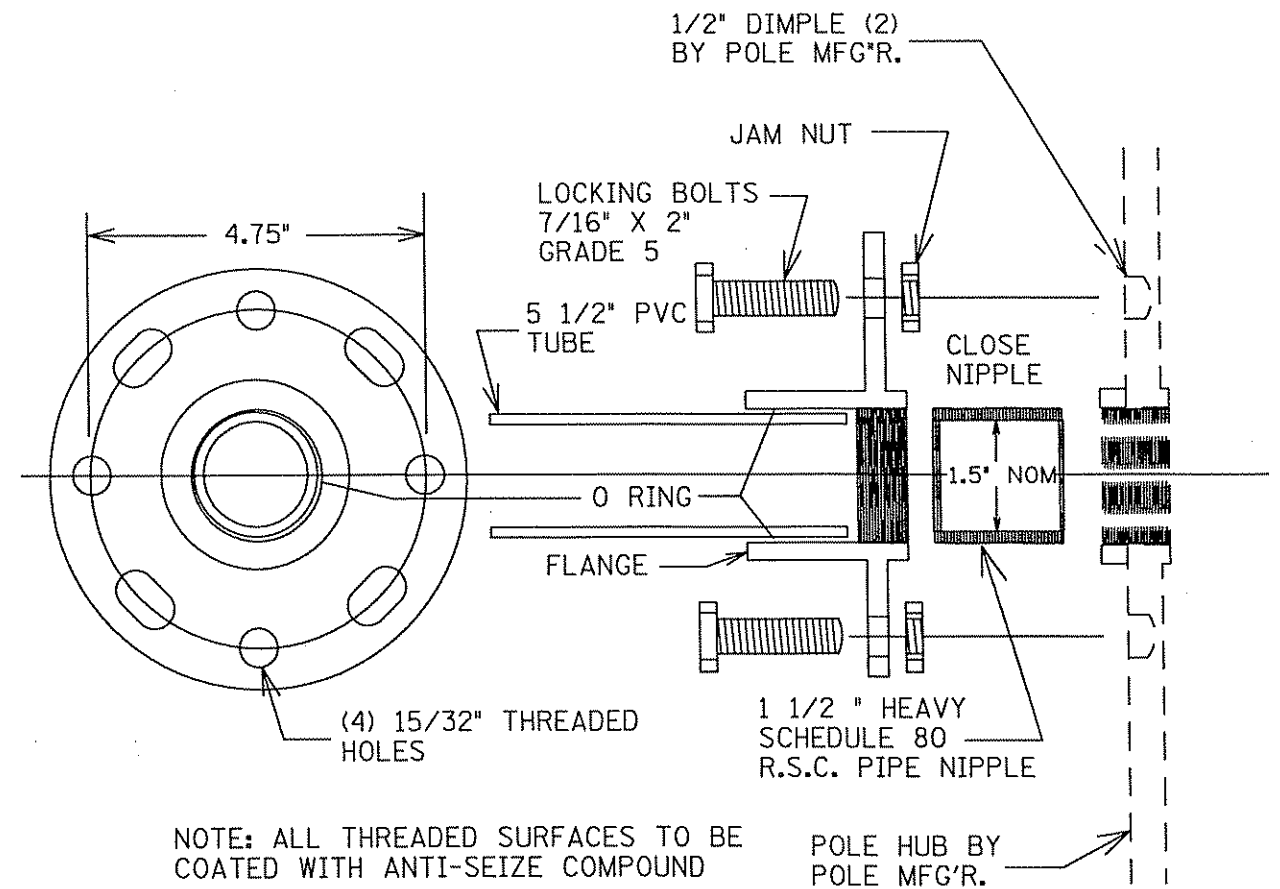
MOUNTING DETAIL



TYPE B
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS



SEALED CAP



NOTE: ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND

POLE HUB BY POLE MFG'R.

MACHINE HUB & NIPPLE

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

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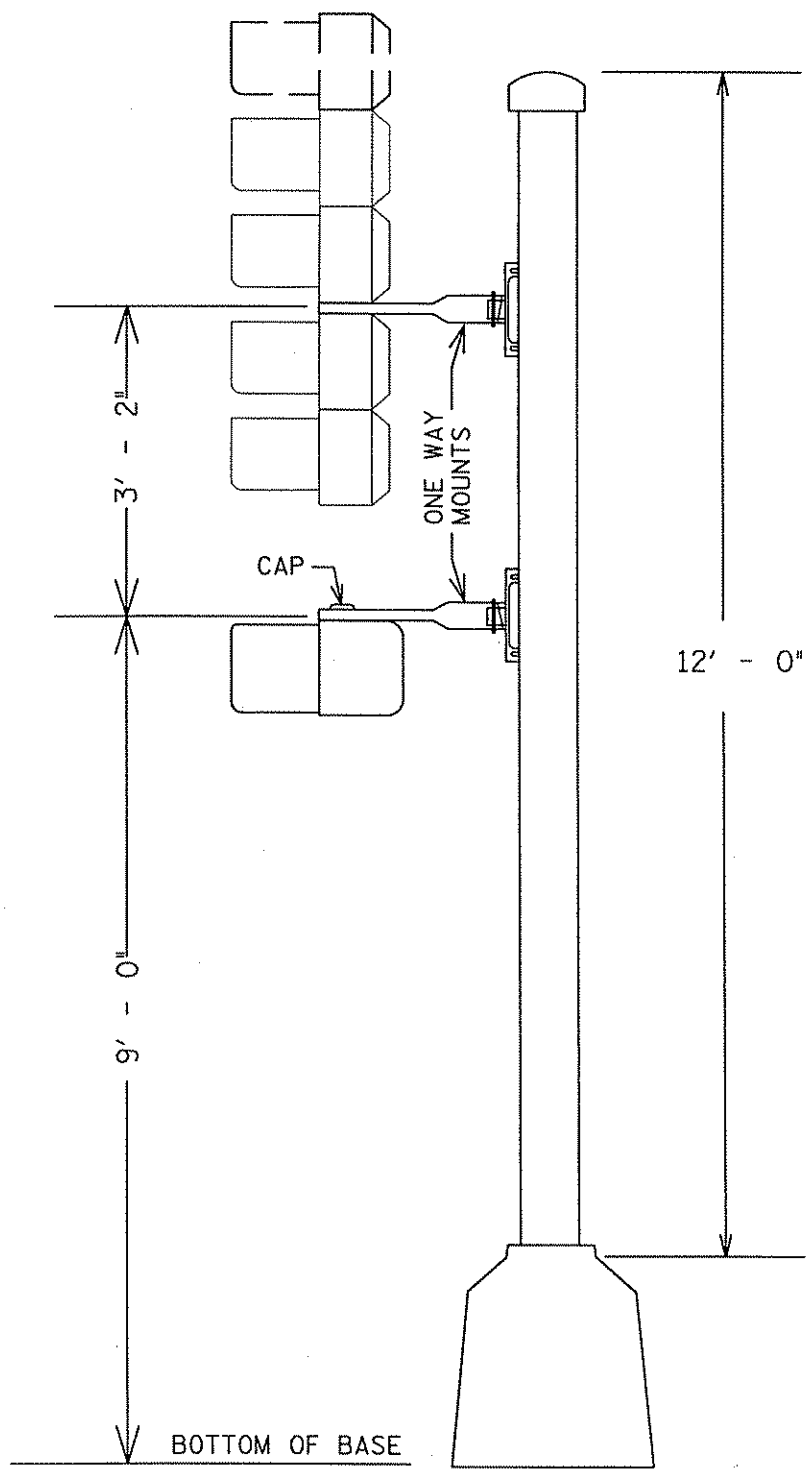
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COUNTY ROAD J
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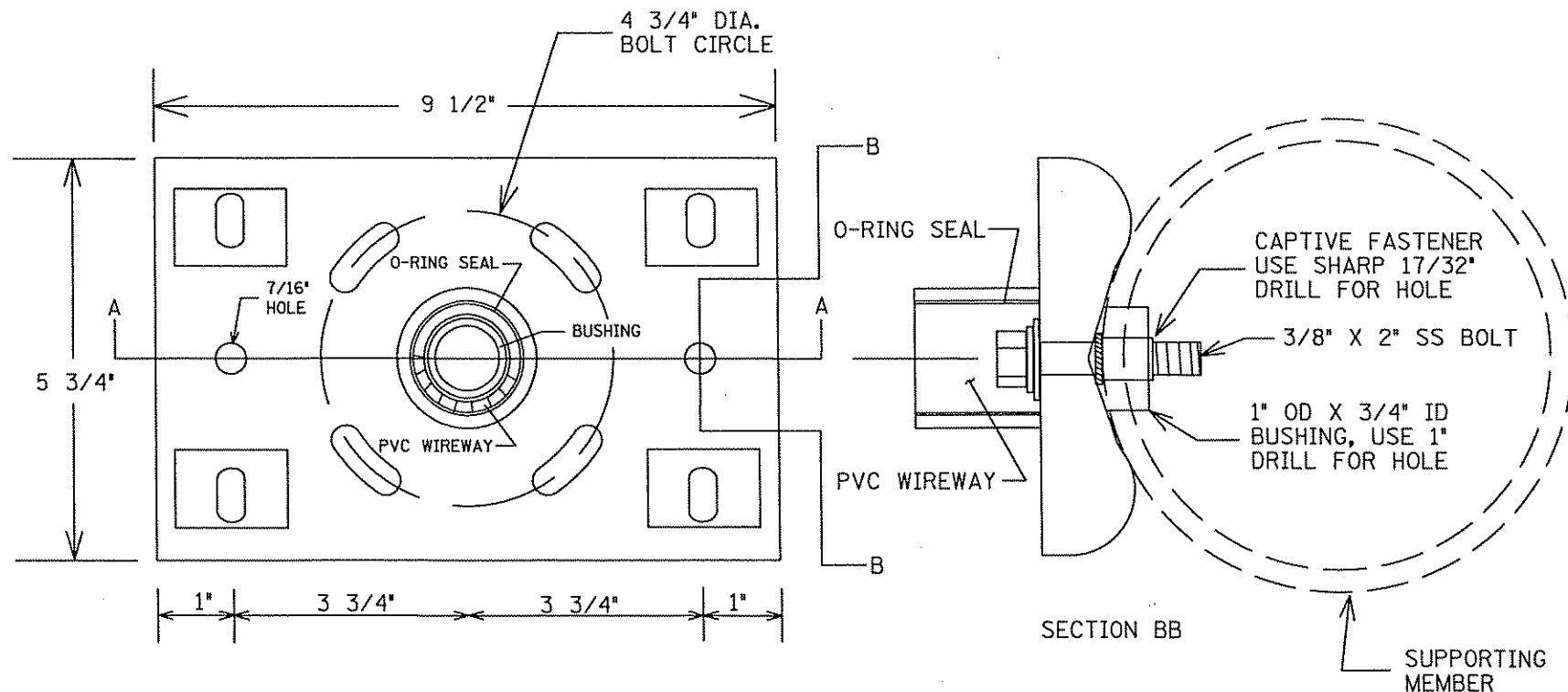
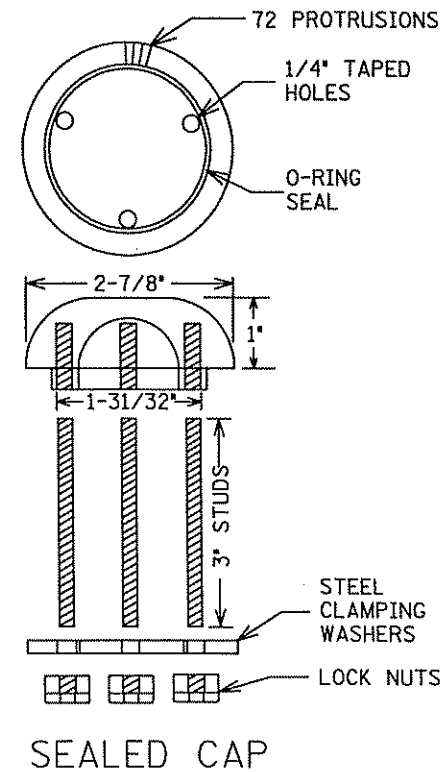
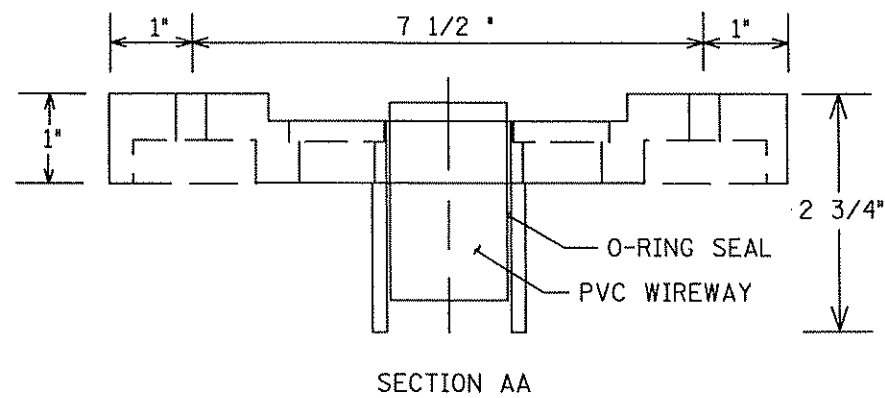
TRAFFIC SIGNAL SYSTEMS 'A, C-G'
ONE-WAY HEAD MOUNT DETAILS
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 SIGNAL SYSTEMS

FILE NO.
 ARAMSE0503
 SG5
 OF SG51

251
 297



TYPICAL MOUNTING ELEVATION



UNIVERSAL HUB - BOLTED

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DESIGNER:	JMG		
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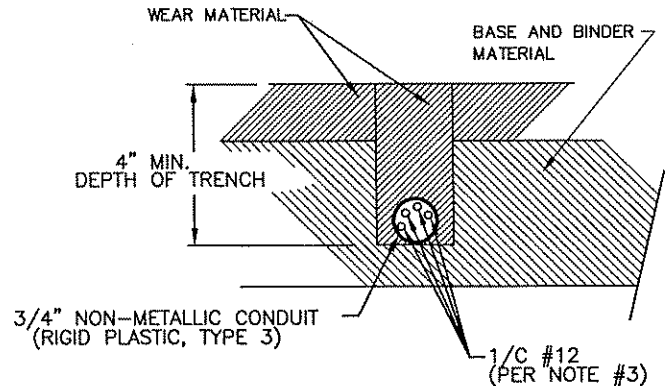
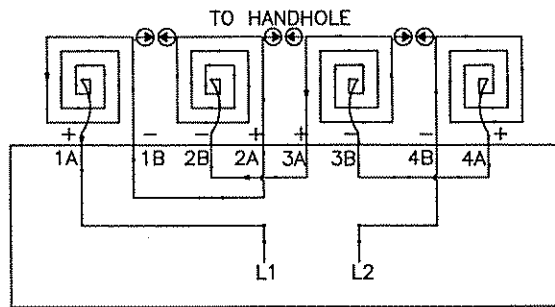
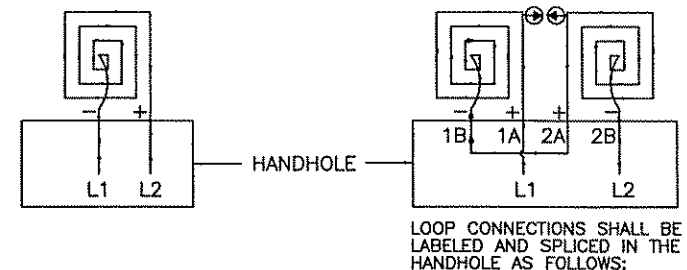
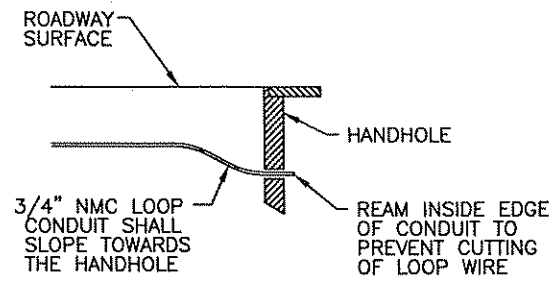
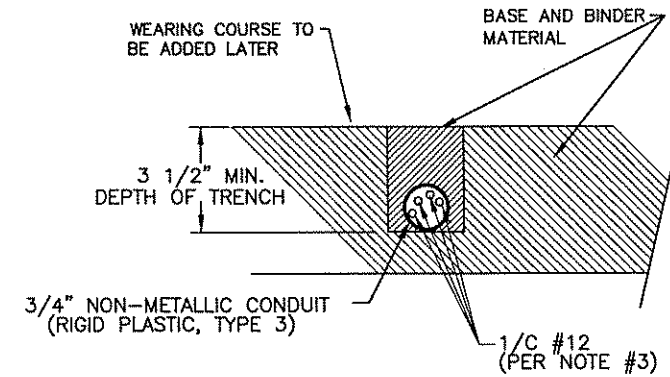
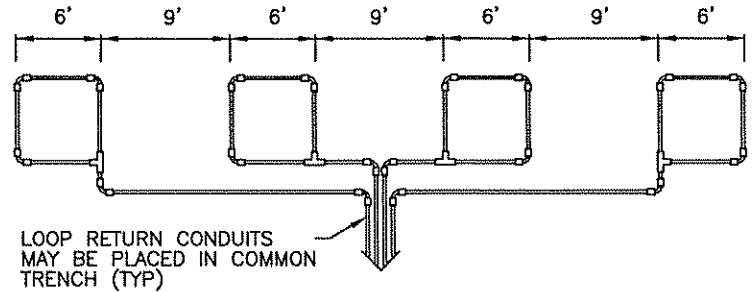
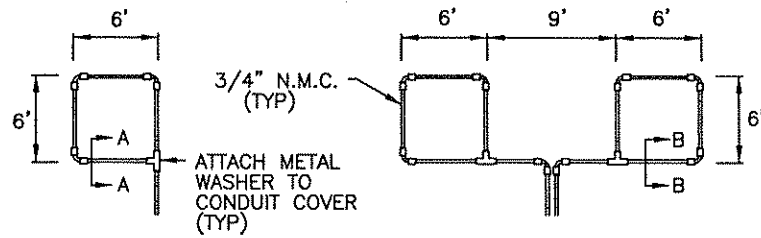
Certified By: *John M. Gray* Lic. No. 22457
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RAMSEY COUNTY
COUNTY ROAD J
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TRAFFIC SIGNAL SYSTEMS "A, C-G"
ONE-WAY HEAD MOUNT DETAILS
 COUNTY ROAD J/86TH AVENUE NE (CSAH 1/32)
 SIGNAL SYSTEMS

FILE NO. ARAMSE0503	252
SG6 OF SG51	297



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.

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

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 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)

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DRAWN BY:	JMG		
DESIGNER:	JMG		
CHECKED BY:	JMG		
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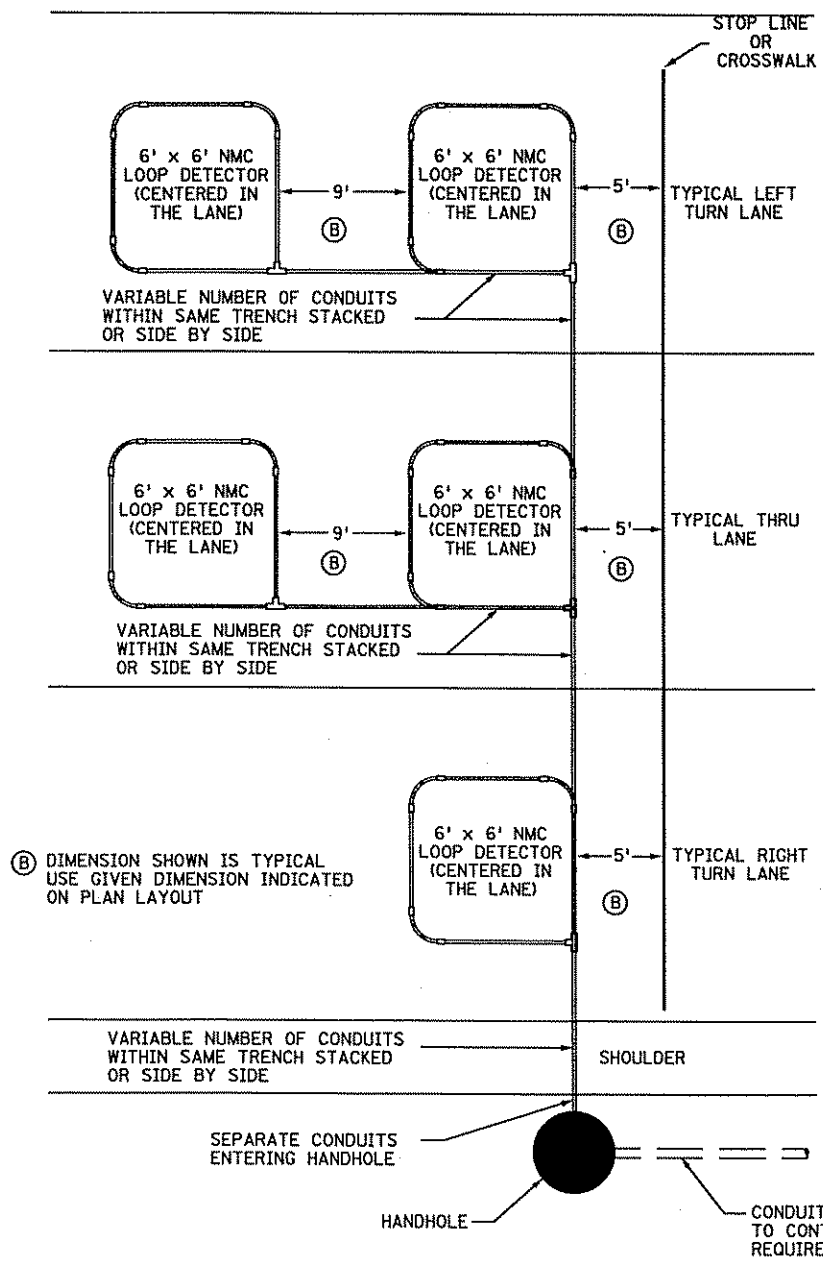
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COUNTY ROAD J
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TRAFFIC SIGNAL SYSTEMS 'A-B'
NMC LOOP DETECTOR DETAILS
 AIRPORT ROAD SIGNAL SYSTEMS

FILE NO. ARAMSE0503	253
SG7 OF SG51	297

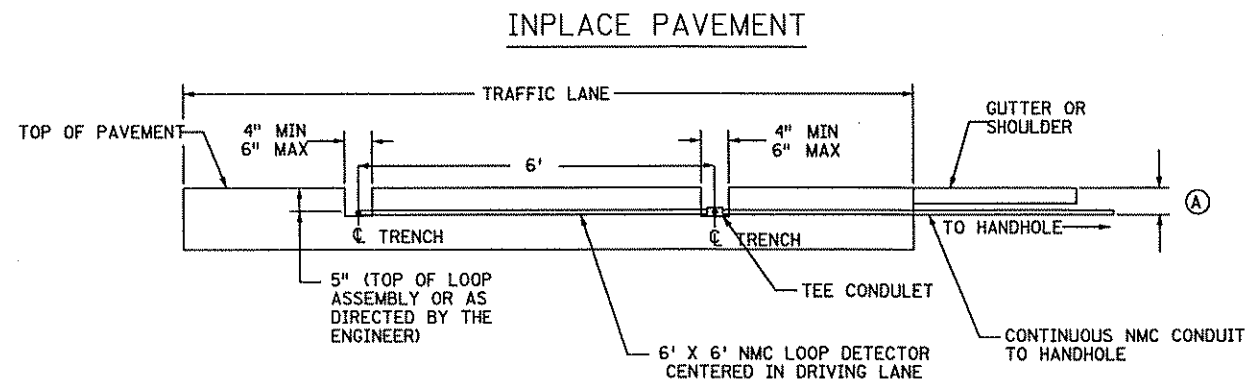
TYPICAL CROSS STREET NMC LOOP DETECTOR LAYOUT



NOTES:

- ROADWAY LOOP DETECTOR CONDUCTORS AND LOOP DETECTOR LEAD IN CABLES SHALL BE IN ACCORDANCE WITH MN/DOT SPEC 3815.
- THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
- THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS). THE FOURTH SHALL BE AN NMC TEE CONDULET.
- APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
- ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
- THE ROADWAY LOOP DETECTOR CONDUCTORS (1/C#14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
- ATTACH A FERROUS METAL ITEM IN OR ADJACENT TO THE TEE CONDULET COVER OR AS DIRECTED BY THE ENGINEER.
- EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
- LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
- THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL EXTEND 6' TO 10' INTO THE HAND HOLE FOR SPLICING.
- NO SPLICES ALLOWED IN CONDUIT.
- THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
- SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).
- TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6' AND 6' x 10'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
- ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.
- SEE SPECIAL PROVISIONS FOR APPROVED SPLICE KITS.
- PRIOR TO INSTALLING THE APPROVED SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD IN CONDUCTOR AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO THE INSTALLATION OF THE SPLICE KITS.
- IF BENDING OF THE NMC LOOP LEAD-IN IS REQUIRED, AN APPROPRIATE HEATING BLANKET OR DEVICE APPROVED BY THE ENGINEER SHALL BE USED. EXPOSED FLAME OR TORCHES ARE NOT ALLOWED.

TYPICAL NMC LOOP DETECTOR INSTALLATION

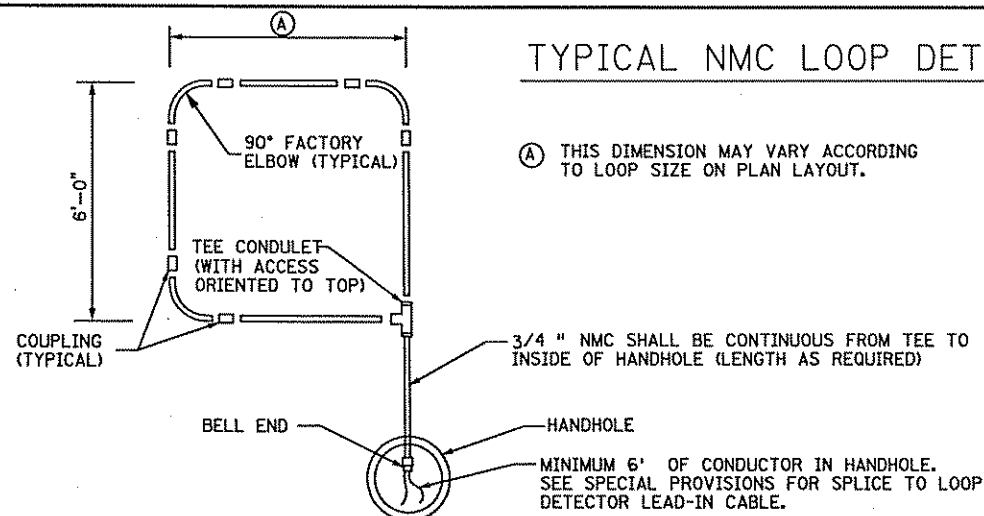


(A) VARIABLE DEPTH; MAINTAIN DRAINAGE TO HAND HOLE

NOTES:

- USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
- TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
- PROVIDE A MINIMUM 5" CLEARANCE, MEASURED FROM THE TOP OF THE FINISHED PAVEMENT TO HIGHEST POINT OF LOOP ASSEMBLY (INCLUDING CONDULET).
- AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
- APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA. USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A
- MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 2350 OR 2360. AGGREGATE SIZE 3 OR 4 WILL BE ALLOWED WHEN 2350 IS UTILIZED AND AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
- THE USE OF PETROLEUM DISTILLATES AS AN ANTI-ADHESIVE AGENT IS NOT ALLOWED. REFER TO MN/DOT TECH. MEMO NO. 94-16-MRE-05 DATED 3/10/94 FOR ADDITIONAL INFORMATION.
- COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTION THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
- THE COMPACTION MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
- APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTIONED MIXTURE TO PROVIDE AN ADDITIONAL SURFACE SEAL (EMULSIFIED ASPHALT 2355.2A). DRY SAND SHALL BE SPREAD ON THE FOG SEAL TO PREVENT MATERIAL PICKUP AND TRACKING.
- WHEN INSTALLING NMC LOOPS INTO PRE-ROADWAY AGGREGATE BASE, DEPTH OF TOP OF CONDUIT TO TOP OF AGGREGATE SHALL NOT EXCEED 2".
- WHEN LOOP DETECTORS ARE MILLED INTO CONCRETE SURFACES, THE TRENCHES SHALL BE FILLED USING A GROUTING MATERIAL WHICH MEETS MN/DOT SPEC 2520 OR OTHER MATERIAL AS APPROVED BY THE ENGINEER. BITUMINOUS FILL IS ACCEPTABLE WHEN OVERLAYING CONCRETE TRENCHES.
- MILLING IS REQUIRED FOR ALL NMC LOOP INSTALLATIONS. WHEN LOOPS ARE MILLED INTO EXISTING MILLED SURFACE THAT WILL BE OVERLAYED WITH BITUMINOUS, THE MINIMUM TRENCH DEPTH SHALL BE NO LESS THAN THE HIGHEST LOOP ASSEMBLY IN THE TRENCH.

TYPICAL NMC LOOP DETECTOR DETAIL



(A) THIS DIMENSION MAY VARY ACCORDING TO LOOP SIZE ON PLAN LAYOUT.

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DESIGN TEAM				
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS "C-G"
NMC LOOP DETECTOR DETAILS
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 SIGNAL SYSTEMS

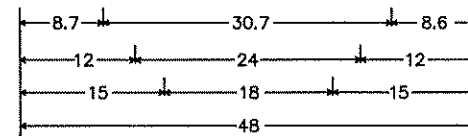
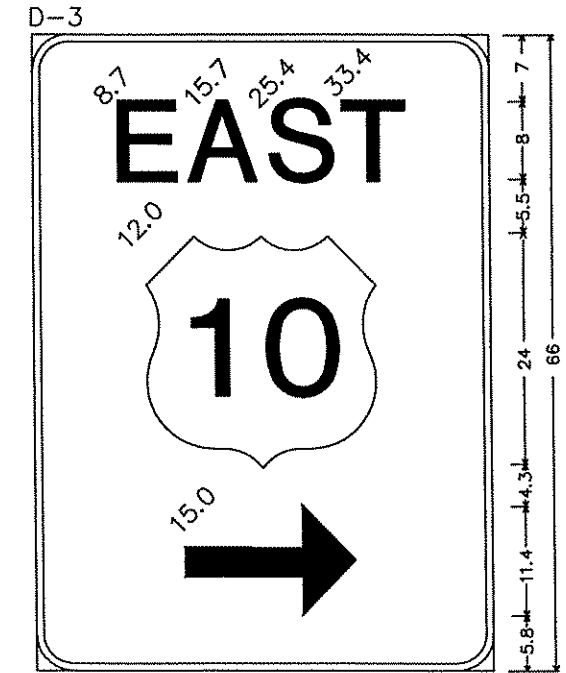
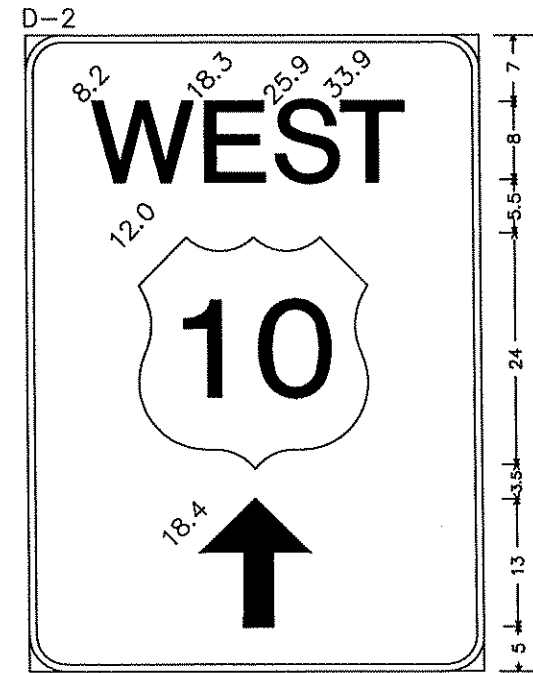
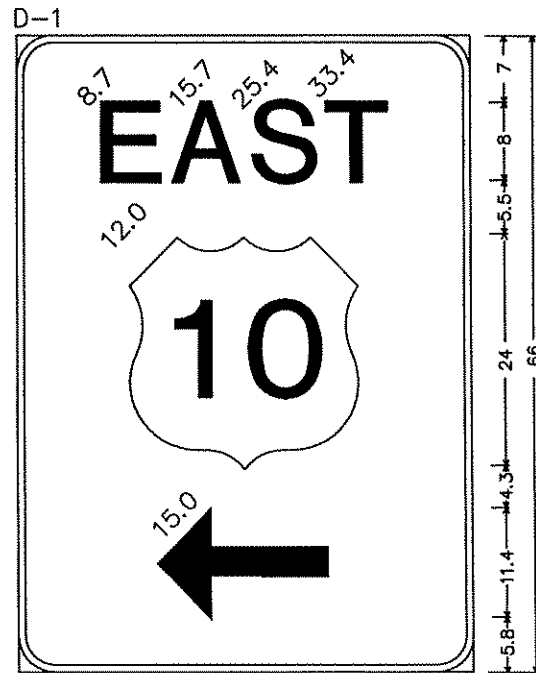
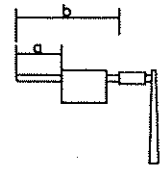
FILE NO.
 ARAMSE0503
 - SG8
 OF SG51

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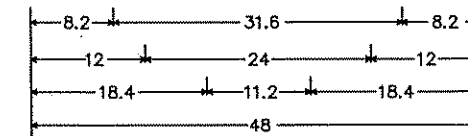
MAST ARM MOUNTED SIGNS										
SIGN PANELS - TYPE D										
SIGNAL SYSTEM	SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b	
A	D-1	48x66	1	2	-	22.00	1	4'	-	
A	D-2	48x66	1	2	-	22.00	3	4'	-	
A	D-3	48x66	1	2	-	22.00	3	-	15'	
A	D-4	78x24	1	3	-	13.00	4	8'	-	
A	D-5	96x36	1	4	-	24.00	4	-	20'	
C	D-6	90x24	1	4	-	15.00	1	30'	-	
C	D-7	96x36	1	4	-	24.00	2	15'	-	
C	D-8	90x24	1	4	-	15.00	3	30'	-	
C	D-9	96x36	1	4	-	24.00	4	15'	-	
D	D-10	114x24	1	4	-	19.00	1	30'	-	
D	D-11	96x36	1	4	-	24.00	2	15'	-	
D	D-12	114x24	1	4	-	19.00	3	30'	-	
D	D-13	96x36	1	3	-	24.00	4	15'	-	
E	D-14	42x66	1	4	-	19.25	1	35'	-	
E	D-15	96x36	1	4	-	24.00	2	25'	-	
E	D-16	42x66	1	4	-	19.25	3	20'	-	
F	D-17	42x66	1	4	-	19.25	3	-	15'	
F	D-18	96x36	1	4	-	24.00	4	20'	-	
G	D-19	138x36	1	4	-	34.50	1	30'	-	
G	D-20	96x36	1	4	-	24.00	2	20'	-	
G	D-21	138x36	1	4	-	34.50	3	30'	-	
G	D-22	96x36	1	4	-	24.00	4	20'	-	
TOTAL QUANTITIES			22				489.75			

(**) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 1/1/03) FOR BRACKET SPACING REQUIREMENTS.

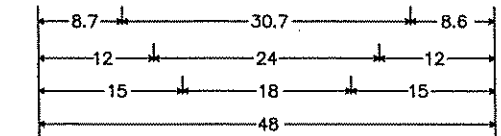
OVERLAYS				
CODE NO.	QUANTITY	SIZE (in.)	LEGEND	SQ.FT. PER OVERLAY
M1-1	3	30x24	INTERSTATE 35W	5.00
M1-4a	3	24x24	US HIGHWAY 10	4.00



6.0" Radius, 1.3" Border, White on Green (EAST) E Mod; Arrow 14 - 18.0" 180°



6.0" Radius, 1.3" Border, White on Green (WEST) E Mod; Arrow 5 - 13.0" 90°

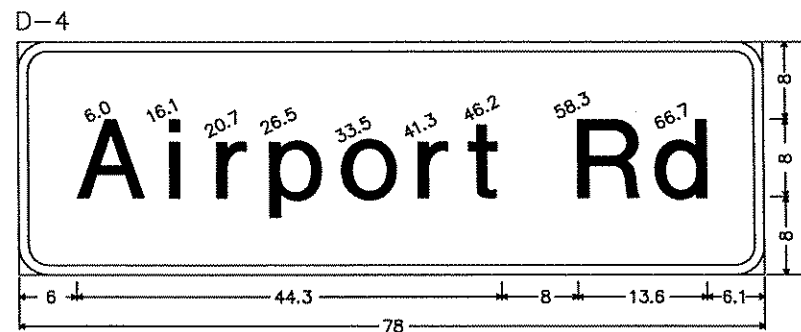


6.0" Radius, 1.3" Border, White on Green (EAST) E Mod; Arrow 14 - 18.0" 0°

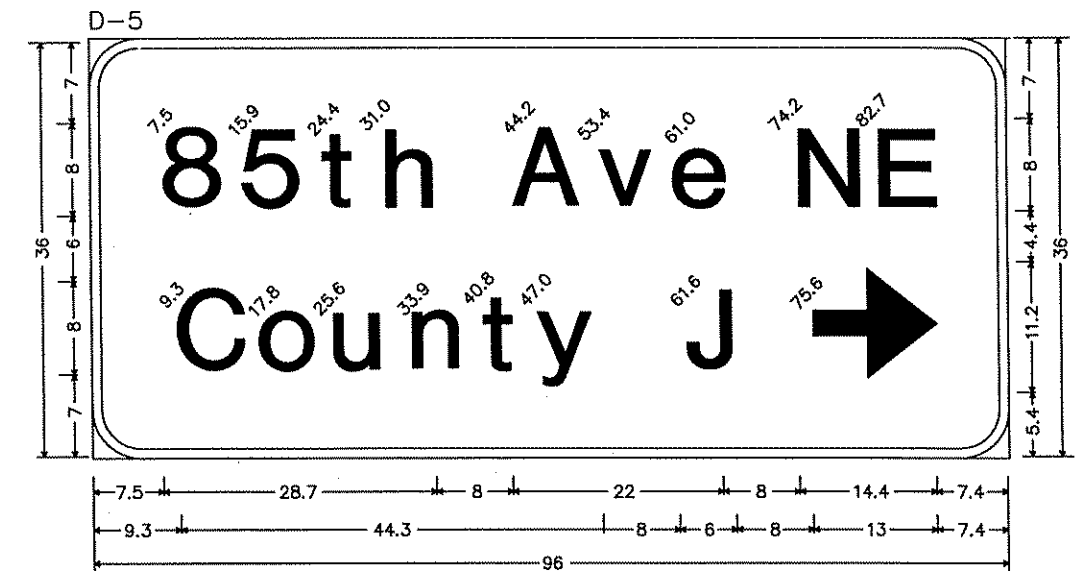
SIGNS FOR TRAFFIC SIGNAL SYSTEM										
SIGN PANELS - TYPE C										
SIGNAL SYSTEM	SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	TOTAL AREA (SQ.FT.)	POLE NO.	a	b
F	R3-2	36x36	2	2	-	9.00	18.00	1,3	2'	-
D	R3-4	24x24	1	2	-	4.00	4.00	3	2'	-
A	R9-3a	18x18	4	①	-	2.25	9.00	1,2,3,4	-	-
E	R9-3a	18x18	4	①	-	2.25	9.00	1,3,4	-	-
F	R9-3a	18x18	5	①	-	2.25	11.25	1,2,3,4	-	-
TOTAL QUANTITIES			16				51.25			

NOTES:

- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 1/1/03), AND SPECIAL PROVISIONS.
- SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.
- SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- FURNISHING AND INSTALLING TYPE C SIGNS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM) FOR EACH SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
- FURNISHING AND INSTALLING TYPE D SIGNS WILL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM) FOR EACH SIGNAL SYSTEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING PRISMATIC RETROREFLECTIVE SHEETING. SEE SPECIAL PROVISIONS.
- ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE OR ON PEDESTAL POLE.



3.0" Radius, 1.0" Border, White on Green; [Airport Rd] E Mod;



3.0" Radius, 1.0" Border, White on Green (85th Ave NE) E Mod; (County J) E Mod; Arrow 5 - 13.0" 0°

X:\PT\RAMSEY\050300\15\SIGNAL\SIGDETAILS.DWG

DESIGN TEAM	1	JMG	1/26/06	REVISED PER COUNTY AND STATE COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.
 Certified By: *John M. Gray* Lic.No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05

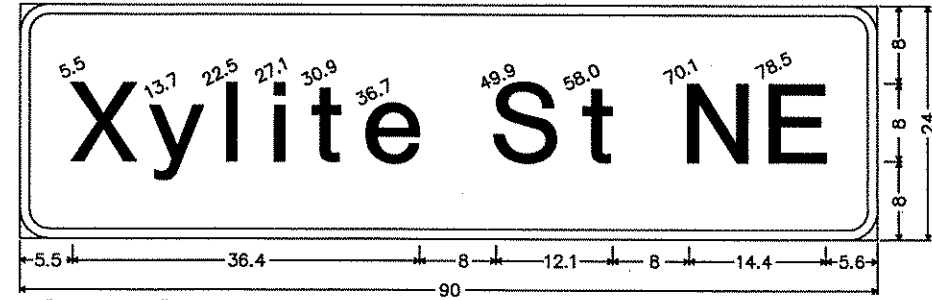
PHONE: (851) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS "A-G"
SIGNING DETAILS
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 SIGNAL SYSTEMS

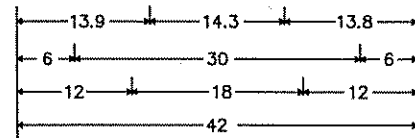
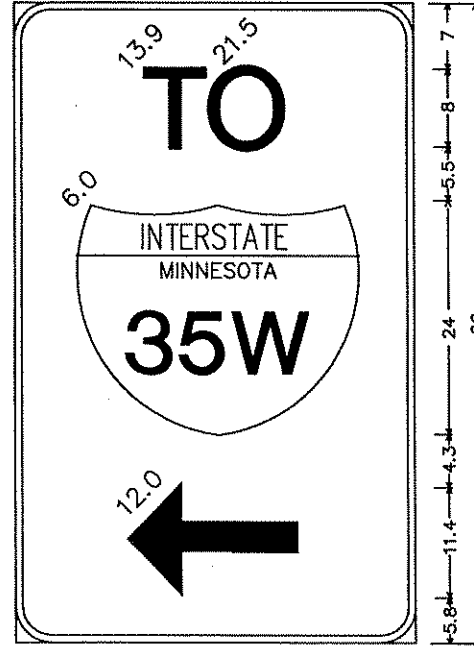
FILE NO. ARAMSE0503
 255
 SG9 OF SG51
 297

D-6, D-8



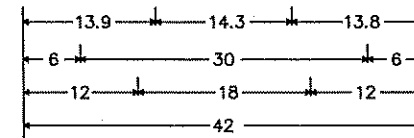
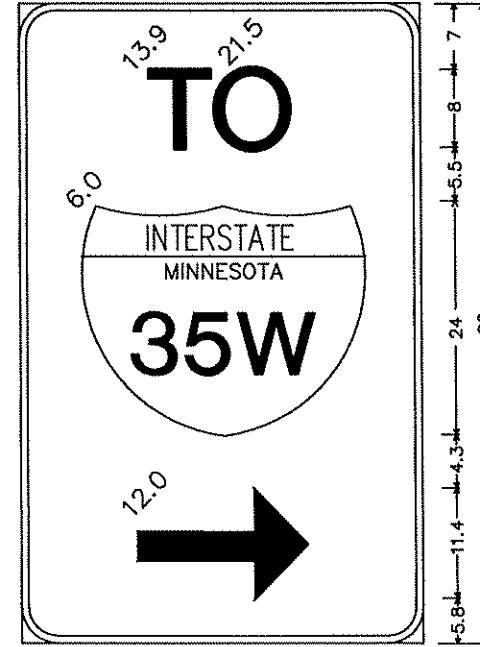
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D-14



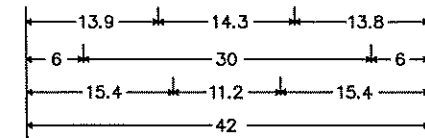
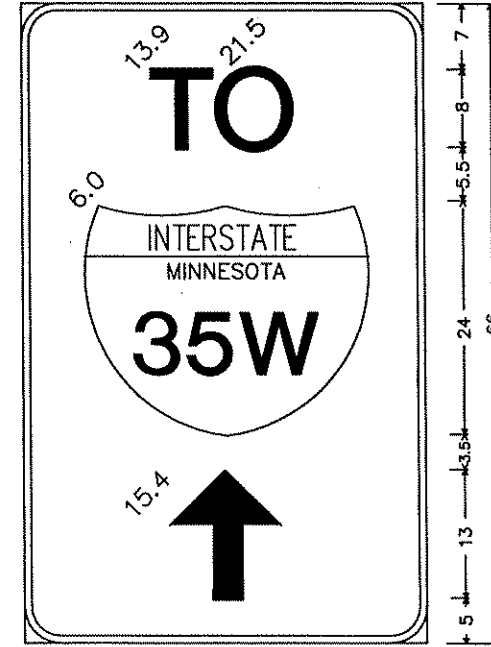
6.0" Radius, 1.3" Border, White on Green (TO) E Mod; Arrow 14 - 18.0° 180°

D-16



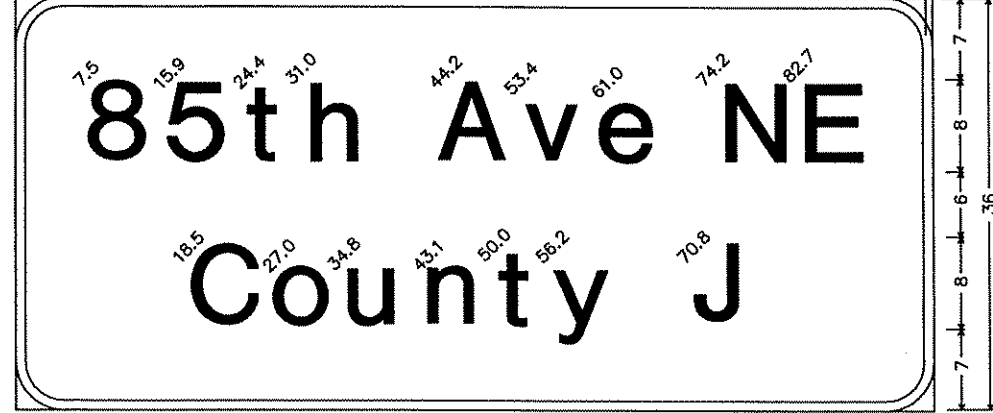
6.0" Radius, 1.3" Border, White on Green (TO) E Mod; Arrow 14 - 18.0° 0°

D-17



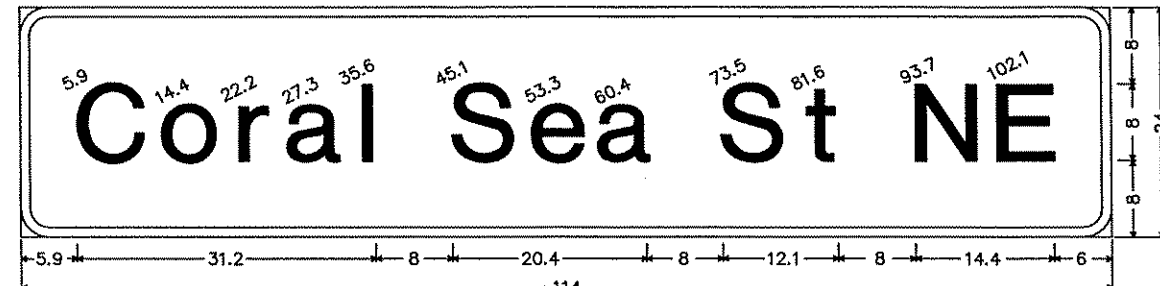
6.0" Radius, 1.3" Border, White on Green (TO) E Mod; Arrow 5 - 13.0° 90°

D-7, D-9, D-11, D-13, D-15, D-18, D-20, D-22



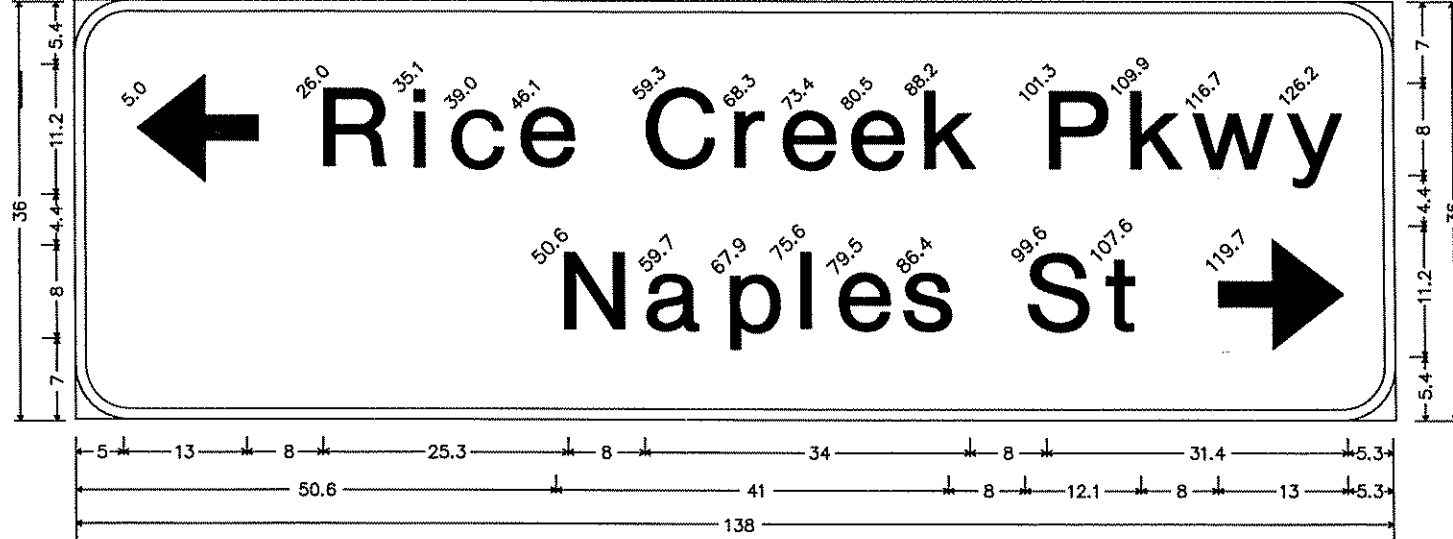
3.0" Radius, 1.0" Border, White on Green (85th Ave NE) E Mod; (County J) E Mod.

D-10, D-12



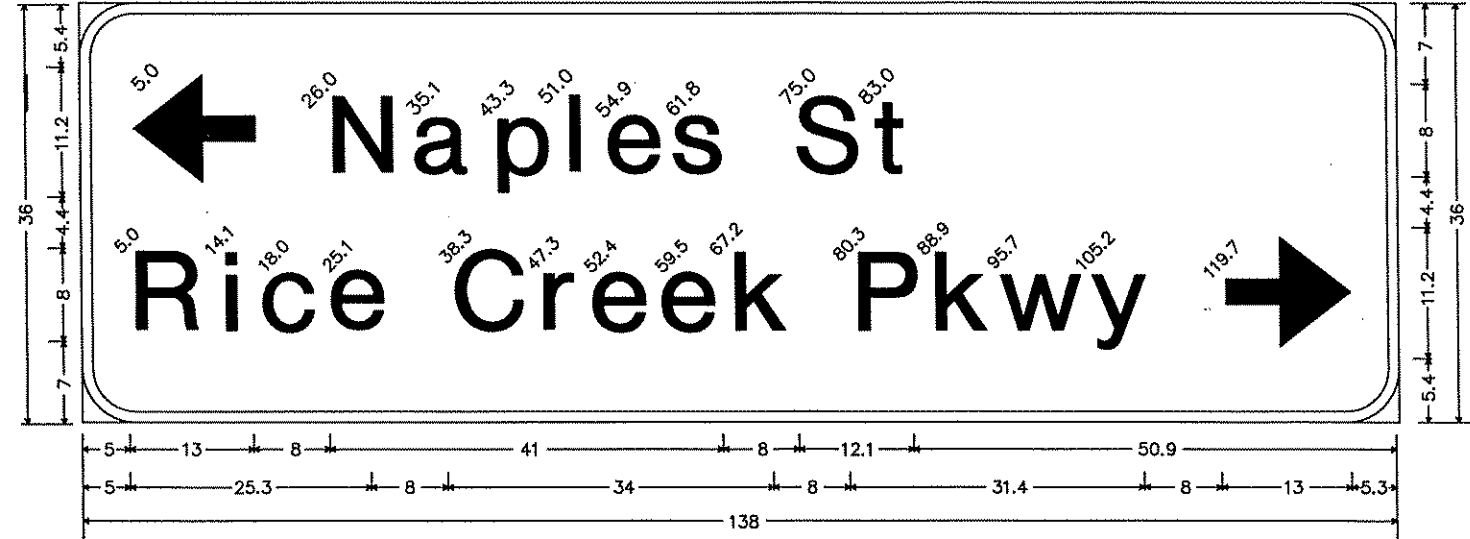
3.0" Radius, 1.0" Border, White on Green; [Coral Sea St NE] E Mod;

D-19



3.0" Radius, 1.0" Border, White on Green Arrow 5 - 13.0° 180°; (Rice Creek Pkwy) E Mod. (Naples St) E Mod.; Arrow 5 - 13.0° 0°

D-21



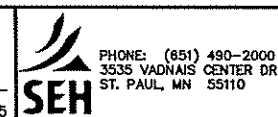
3.0" Radius, 1.0" Border, White on Green Arrow 5 - 13.0° 180°; (Naples St) E Mod.; Arrow 5 - 13.0° 0°

X:\PT\RAMSEY\050300\A...SIGNAL\SIGDETAILS.DWG

DESIGN TEAM	1	JMG	01/26/06	REVISED PER STATE COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS "A-G"
 SIGNING DETAILS
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 SIGNAL SYSTEMS

FILE NO. ARAMSE0503 256
 SG10 OF SG51 297

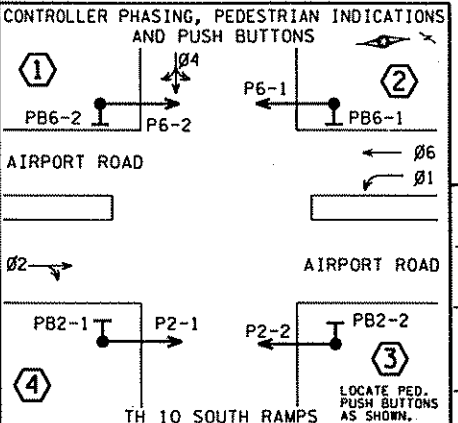
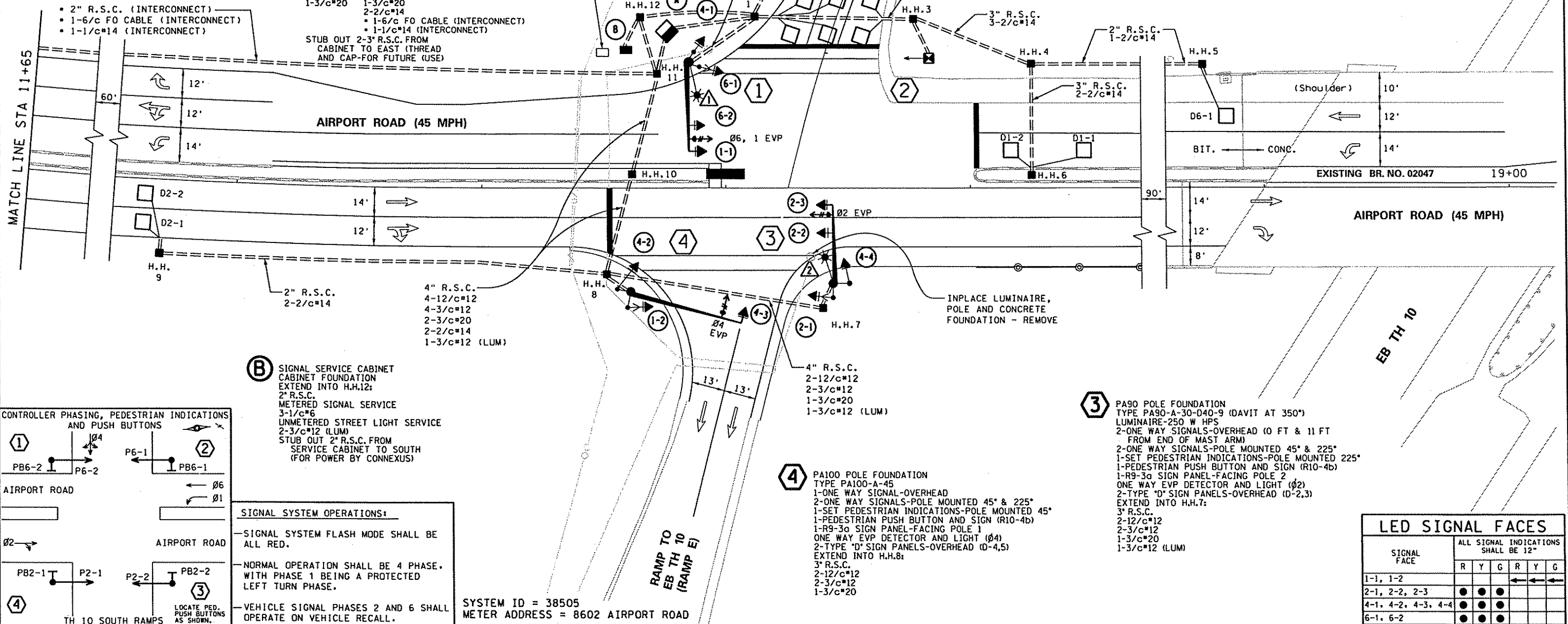
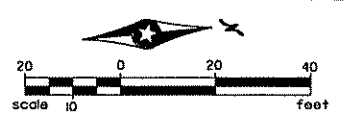
03/30/08 PM 02/17/2006 sq01

- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION 'FILLED' HAND/WALKING PERSON INDICATION.
 - 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR.
 - 9) ALL MAST ARM POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE DETAILS & SPECIAL PROVISIONS.
 - 10) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
 - 11) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
 - 12) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (+) DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM.

NMC LOOP DETECTORS			
NUMBER	SIZE (FEET)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D4-1	6x6	120'	2
D4-2	6x6	120'	2
D4-3	6x6	120'	2
D4-4	2-6x6	0' & 15'	3
D4-5	2-6x6	0' & 15'	3
D4-6	2-6x6	0' & 15'	1
D6-1	6x6	180'	1

- LOOP DETECTOR FUNCTIONS:**
- 1) = CALL AND EXTEND.
 - 2) = EXTEND ONLY.
 - 3) = DELAYED CALL, IMMEDIATE EXTEND.

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



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 1 BEING A PROTECTED LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

SYSTEM ID = 38505
METER ADDRESS = 8602 AIRPORT ROAD

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

REVISIONS			

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.

Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
AIRPORT ROAD AT TH 10 SOUTH RAMPS

FILE NO.	257
ARAMSE0503	
SG11	
OF SCS!	297

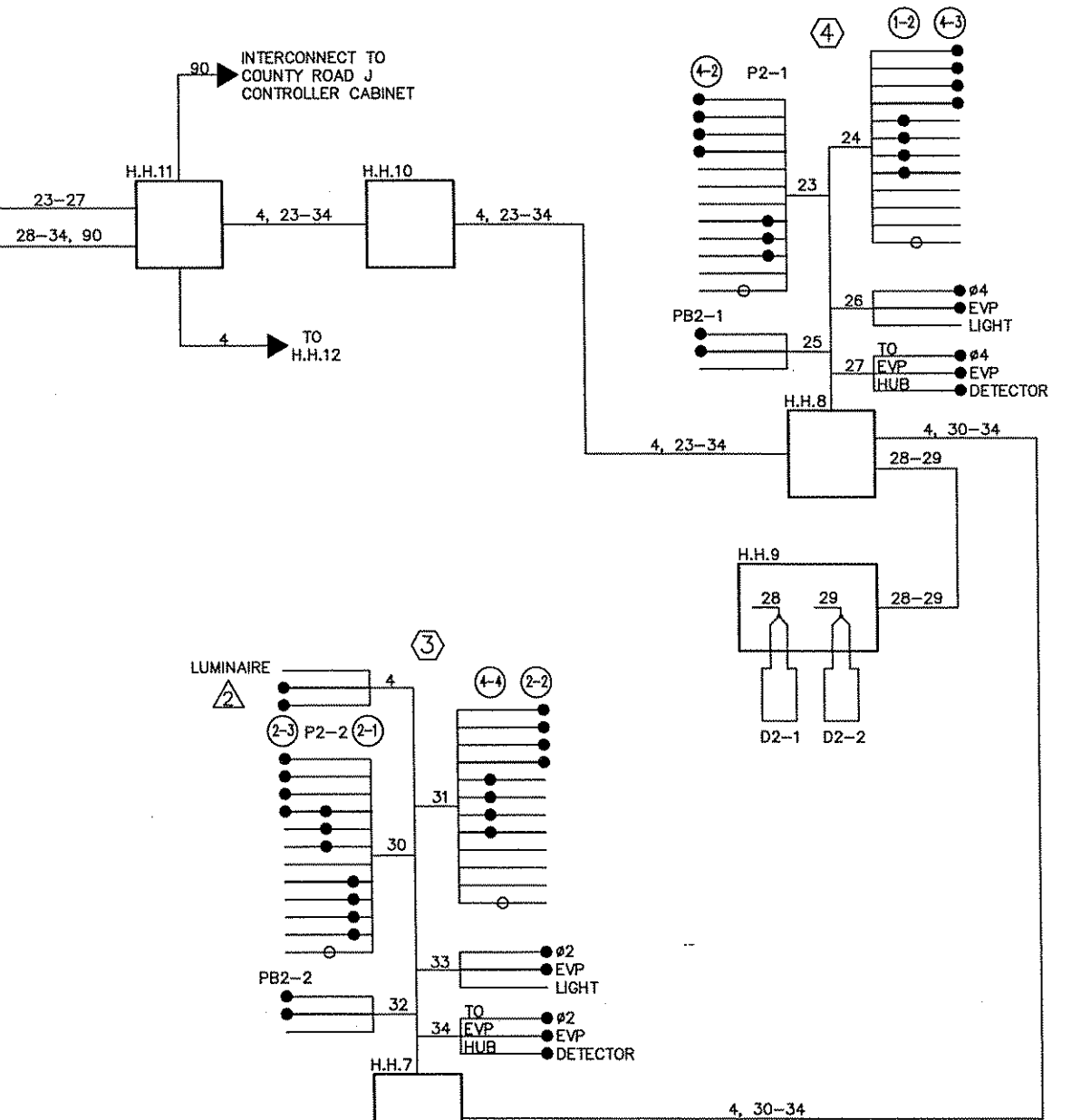
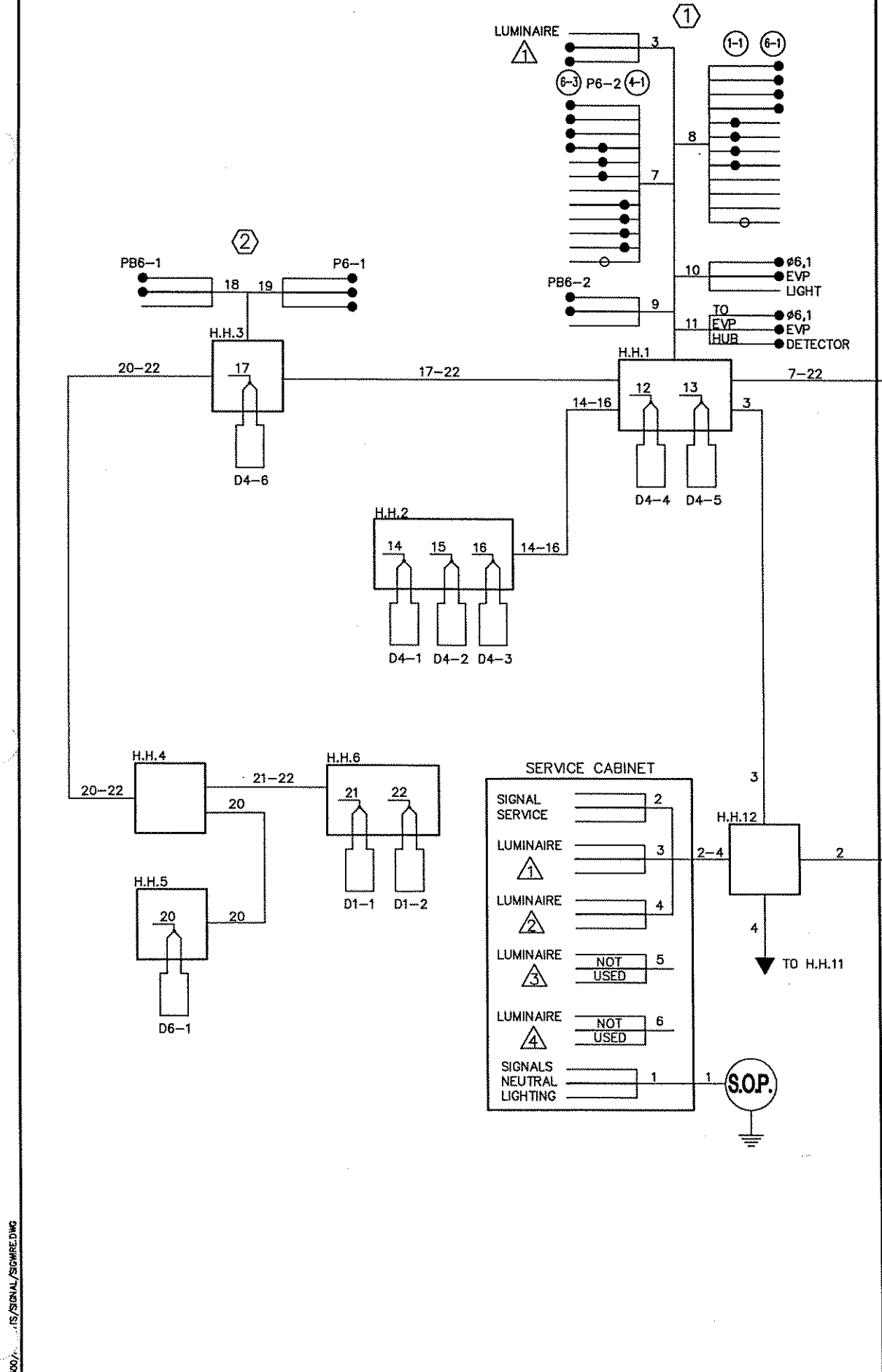
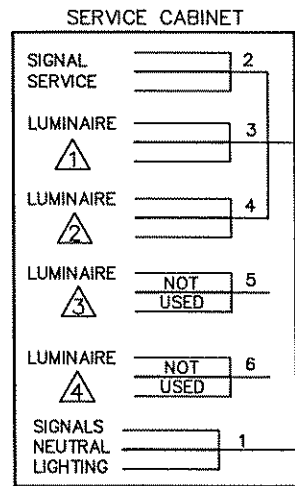
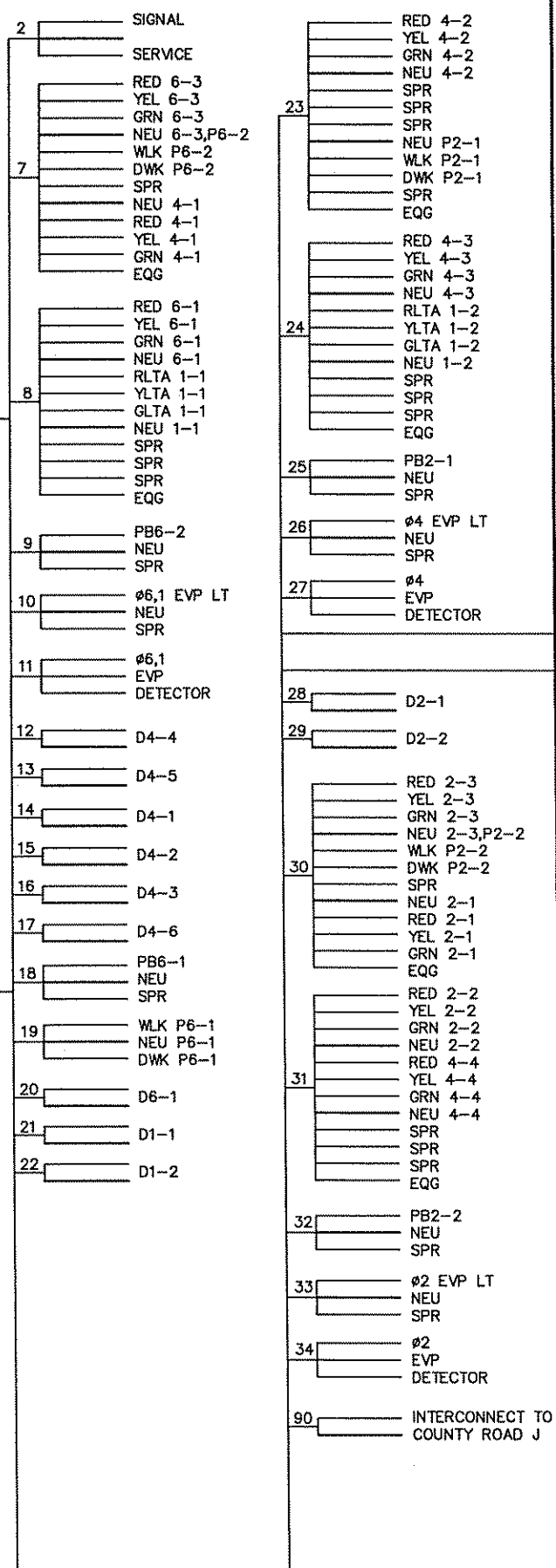
LED SIGNAL FACES						
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
1-1, 1-2						
2-1, 2-2, 2-3	●	●	●	←	←	←
4-1, 4-2, 4-3, 4-4	●	●	●			
6-1, 6-2	●	●	●			

CONTROLLER AND CABINET

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 WH/BLK BLK BLK/WH G/BLK G
2/C#14	BLK CLR	5/C#14	R O BL WH G BLK WH
2-1/C	BLK WH	5/C#12	R O BL WH G BLK WH
6PR#19		3/C#12	R O BL WH
		7/C#14	R O BL WH R/BLK O/BLK WH/BLK BLK BLK/WH G/BLK G
		5/C#14	R O BL WH G BLK WH
		4/C#14	R O BL WH G BLK WH
		2/C#14	R O BL WH

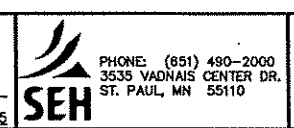
NOTE: TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



SYSTEM ID = 38505
METER ADDRESS = 8602 AIRPORT ROAD

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

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.
Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'A'
FIELD WIRING DIAGRAM
AIRPORT ROAD AT TH 10 SOUTH RAMPS

FILE NO. ARAMSE0503
258
SG12 OF SG51
297

03:40:00 PM
02/17/2006
sq13
x:\pvt\om\50300\p1nhts\signal\ramse0503_sq.dgn

- NOTES:**
- 1) LOCATION OF POLES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 3) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 5) EACH PEDESTRIAN INDICATION IS A ONE SECTION LED HAND/WALKING PERSON INDICATION, AND IS INPLACE.
 - 6) ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED.
 - 7) CONTRACTOR SHALL MAINTAIN OPERATION OF INPLACE SIGNAL SYSTEM AT ALL TIMES, UNTIL APPROVED BY ENGINEER FOR SIGNAL SYSTEM TO BE TURNED OFF.
 - 8) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
 - 9) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
 - 10) (S&I) = ITEMS TO BE SALVAGED AND INSTALLED BY CONTRACTOR.
(F&I) = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

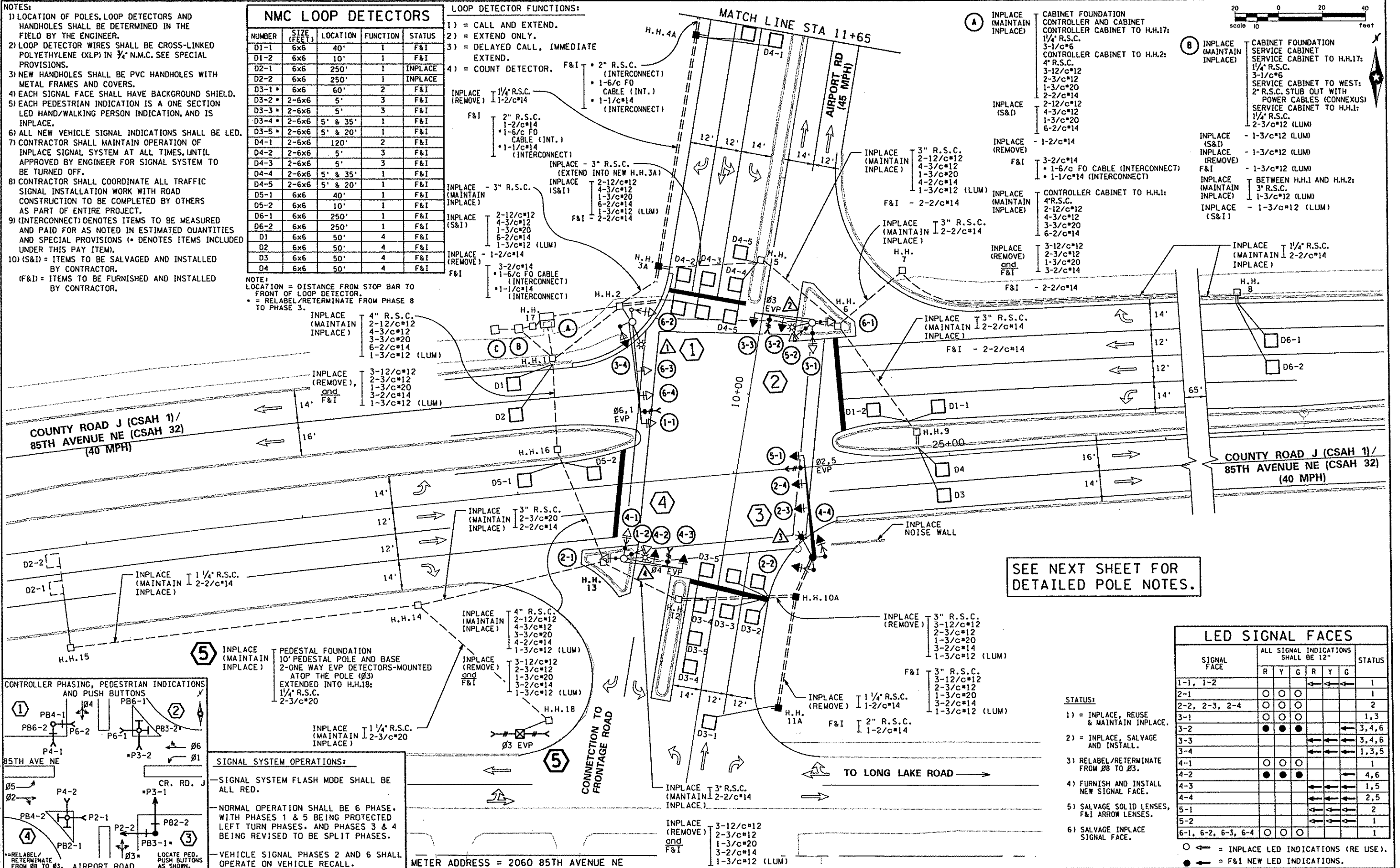
NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION	FUNCTION	STATUS
D1-1	6x6	40'	1	F&I
D1-2	6x6	10'	1	F&I
D2-1	6x6	250'	1	INPLACE
D2-2	6x6	250'	1	INPLACE
D3-1*	6x6	60'	2	F&I
D3-2*	2-6x6	5'	3	F&I
D3-3*	2-6x6	5'	3	F&I
D3-4*	2-6x6	5' & 35'	1	F&I
D3-5*	2-6x6	5' & 20'	1	F&I
D4-1	2-6x6	120'	2	F&I
D4-2	2-6x6	5'	3	F&I
D4-3	2-6x6	5'	3	F&I
D4-4	2-6x6	5' & 35'	1	F&I
D4-5	2-6x6	5' & 20'	1	F&I
D5-1	6x6	40'	1	F&I
D5-2	6x6	10'	1	F&I
D6-1	6x6	250'	1	F&I
D6-2	6x6	250'	1	F&I
D1	6x6	50'	4	F&I
D2	6x6	50'	4	F&I
D3	6x6	50'	4	F&I
D4	6x6	50'	4	F&I

NOTE:
LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.
* = RELABEL/RETERMINATE FROM PHASE 8 TO PHASE 3.

LOOP DETECTOR FUNCTIONS:

- 1) = CALL AND EXTEND.
- 2) = EXTEND ONLY.
- 3) = DELAYED CALL, IMMEDIATE EXTEND.
- 4) = COUNT DETECTOR.



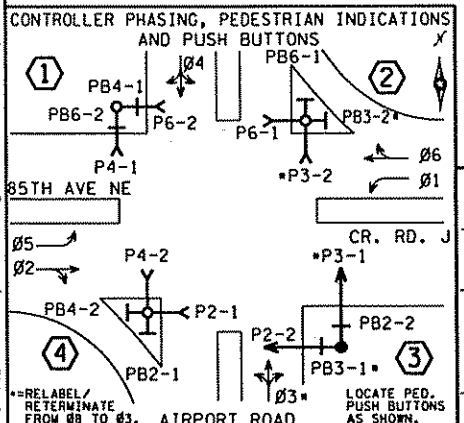
SEE NEXT SHEET FOR DETAILED POLE NOTES.

5 INPLACE (MAINTAIN) INPLACE) PEDESTAL FOUNDATION 10' PEDESTAL POLE AND BASE 2-ONE WAY EVP DETECTORS-MOUNTED ATOP THE POLE (Ø3) EXTENDED INTO H.H.18: 1 1/4" R.S.C. 2-3/c*20

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 & 4 BEING REVISED TO BE SPLIT PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

METER ADDRESS = 2060 85TH AVENUE NE



- (A)** INPLACE (MAINTAIN) INPLACE) CABINET FOUNDATION CONTROLLER AND CABINET CONTROLLER CABINET TO H.H.17: 1 1/4" R.S.C. 3-1/c*6 1/4" R.S.C. CONTROLLER CABINET TO H.H.2: 4" R.S.C. 3-12/c*12 2-3/c*12 1-3/c*20 2-2/c*14 2-2/c*12 4-3/c*12 1-3/c*20 6-2/c*14
- (B)** INPLACE (MAINTAIN) INPLACE) CABINET FOUNDATION SERVICE CABINET SERVICE CABINET TO H.H.17: 1 1/4" R.S.C. 3-1/c*6 SERVICE CABINET TO WEST: 2" R.S.C. STUB OUT WITH POWER CABLES (CONNEXUS) SERVICE CABINET TO H.H.1: 1 1/4" R.S.C. 2-3/c*12 (LUM) INPLACE (S&I) - 1-3/c*12 (LUM) INPLACE (REMOVE) - 1-3/c*12 (LUM) INPLACE (REMOVE) - 1-3/c*12 (LUM) F&I - 1-3/c*12 (LUM) INPLACE (MAINTAIN) INPLACE) BETWEEN H.H.1 AND H.H.2: 3" R.S.C. 1-3/c*12 (LUM) INPLACE (S&I) - 1-3/c*12 (LUM)

LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"						STATUS
	R	Y	G	R	Y	G	
1-1, 1-2							1
2-1	○	○	○				1
2-2, 2-3, 2-4	○	○	○				2
3-1	○	○	○				1,3
3-2	●	●	●				3,4,6
3-3				←	←	←	3,4,6
3-4				←	←	←	1,3,5
4-1	○	○	○				1
4-2	●	●	●				4,6
4-3				←	←	←	1,5
4-4				←	←	←	2,5
5-1				←	←	←	2
5-2				←	←	←	1
6-1, 6-2, 6-3, 6-4	○	○	○				1

- STATUS:**
- 1) = INPLACE, REUSE & MAINTAIN INPLACE.
 - 2) = INPLACE, SALVAGE AND INSTALL.
 - 3) RELABEL/RETERMINATE FROM Ø8 TO Ø3.
 - 4) FURNISH AND INSTALL NEW SIGNAL FACE.
 - 5) SALVAGE SOLID LENSES, F&I ARROW LENSES.
 - 6) SALVAGE INPLACE SIGNAL FACE.

○ ← = INPLACE LED INDICATIONS (RE USE).
● ← = F&I NEW LED INDICATIONS.

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

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.

Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

REVISE SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT AIRPORT ROAD

FILE NO. ARAMSE0503
SG13 OF SGI

259
297

03:40:03 PM
02/11/2006
sg14
x:\p1\ram_50300\plans\ts\signal\ramse0503.sg.dgn

1 INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
 LUMINAIRE-200 W HPS W/ PEC
 AND CHECK SWITCH
 3-ONE WAY SIGNALS-OVERHEAD
 TYPE 10B - POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 2-R6-1 SIGN PANELS - POLE MOUNTED 0° & 180°
 ONE WAY EVP DETECTOR AND LIGHT (Ø6,1)
 EXTENDED INTO H.H.2:
 3" R.S.C.
 3-12/c*12
 2-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)

INPLACE (SALVAGE) TYPE 10B BRACKETING - POLE MOUNTED 90°
 ONE WAY SIGNAL - POLE MOUNTED (8-4)

INPLACE (S&I) - 1 SET PEDESTRIAN INDICATIONS (P4-1)

F&I TYPE 10B BRACKETING - POLE MOUNTED 90°
 ONE WAY SIGNAL - POLE MOUNTED (3-4)

2 INPLACE (MAINTAIN INPLACE) PA85 POLE FOUNDATION
 TYPE PA85-A-25-D40-9 (DAVIT AT 350°)
 LUMINAIRE-200 W HPS W/ PEC
 AND CHECK SWITCH
 2-TYPE 10B - POLE MOUNTED 0° & 270°
 TYPE 10A - POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (Ø3)
 EXTENDED INTO H.H.6:
 3" R.S.C.
 2-12/c*12
 4-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)

INPLACE (SALVAGE) 2-ONE WAY SIGNALS-OVERHEAD (8-2, 8-3)
 R10-12 SIGN PANEL-OVERHEAD

F&I - 2-ONE WAY SIGNALS-OVERHEAD (3-2, 3-3)

3 INPLACE (REMOVE) PA100 POLE FOUNDATION
 EXTENDED INTO H.H.10:
 3" R.S.C.
 3-12/c*12
 2-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)

INPLACE (S&I) TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
 LUMINAIRE-200 W HPS W/ PEC
 AND CHECK SWITCH
 3-ONE WAY SIGNALS-OVERHEAD
 2-TYPE 10B - POLE MOUNTED 90° & 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 2-R6-1 SIGN PANELS - POLE MOUNTED 0° & 180°
 ONE WAY EVP DETECTOR AND LIGHT (Ø2,5)

F&I PA100 POLE FOUNDATION
 12" RLTA/YLTA/GLTA LENSES FOR 4-4
 (SALVAGE RYG LENSES)
 EXTENDED INTO H.H.10A:
 3" R.S.C.
 3-12/c*12
 2-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)

4 INPLACE (MAINTAIN INPLACE) PA85 POLE FOUNDATION
 TYPE PA85-A-25-D40-9 (DAVIT AT 350°)
 LUMINAIRE-200 W HPS W/ PEC
 AND CHECK SWITCH
 ONE WAY SIGNAL-OVERHEAD (4-3)
 2-TYPE 10B - POLE MOUNTED 0° & 270°
 TYPE 10A - POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND LIGHT (Ø4)
 EXTENDED INTO H.H.13:
 3" R.S.C.
 2-12/c*12
 4-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)

INPLACE (SALVAGE) ONE WAY SIGNAL-OVERHEAD (4-2)
 R10-12 SIGN PANEL-OVERHEAD

F&I ONE WAY SIGNAL-OVERHEAD (4-2)
 12" RLTA/YLTA/GLTA LENSES FOR 4-3
 (SALVAGE RYG LENSES)

METER ADDRESS = 2060 85TH AVENUE NE

DESIGN TEAM				
DRAWN BY: CIF				
DESIGNER: JMC				
CHECKED BY: JMC				
	NO.	BY	DATE	REVISIONS

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.

Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 02/11/2006

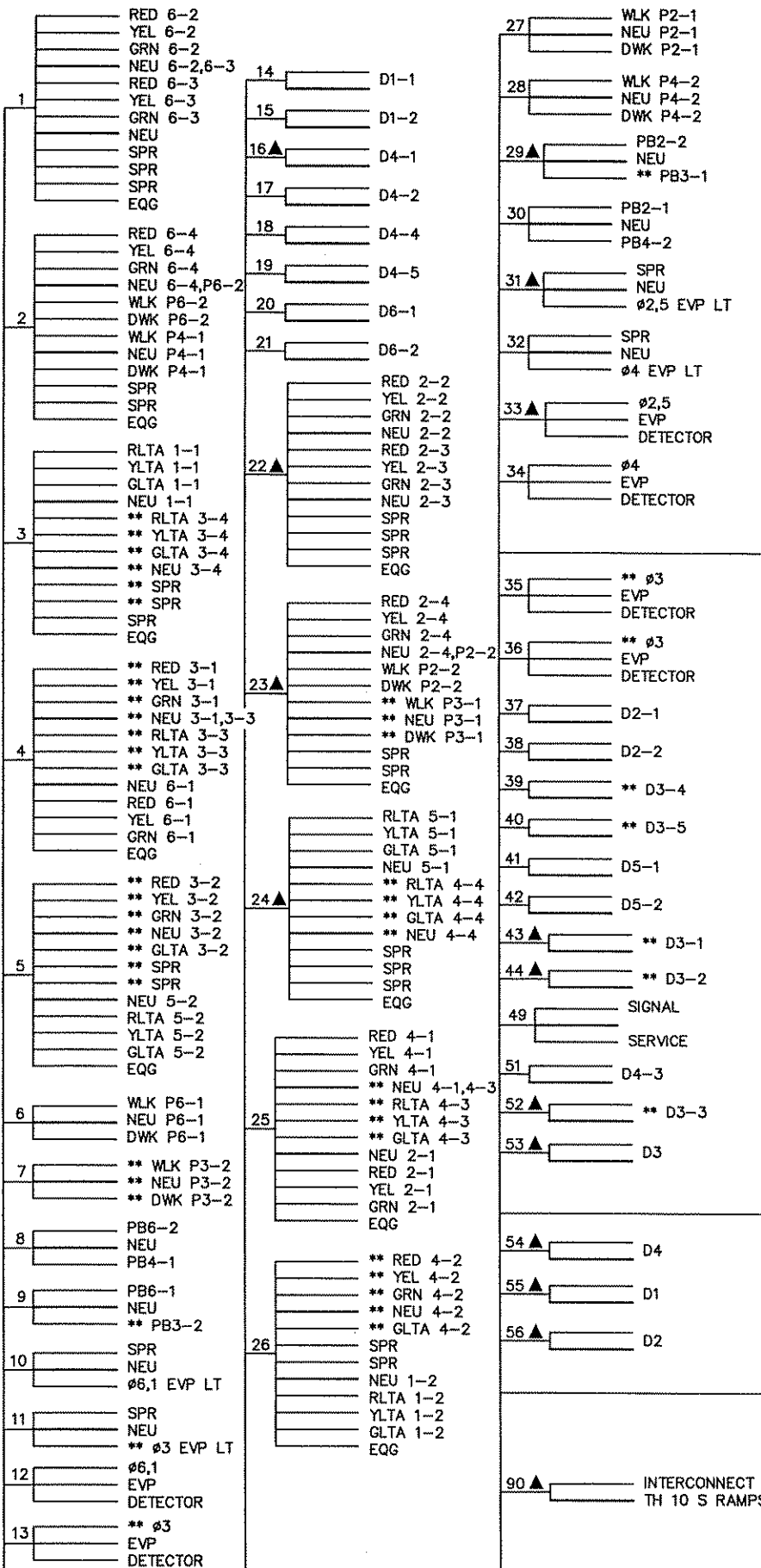


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REVISE SIGNAL SYSTEM "B"
 INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT AIRPORT ROAD

FILE NO. ARAMSE0503	260
SG14 OF SCS	297

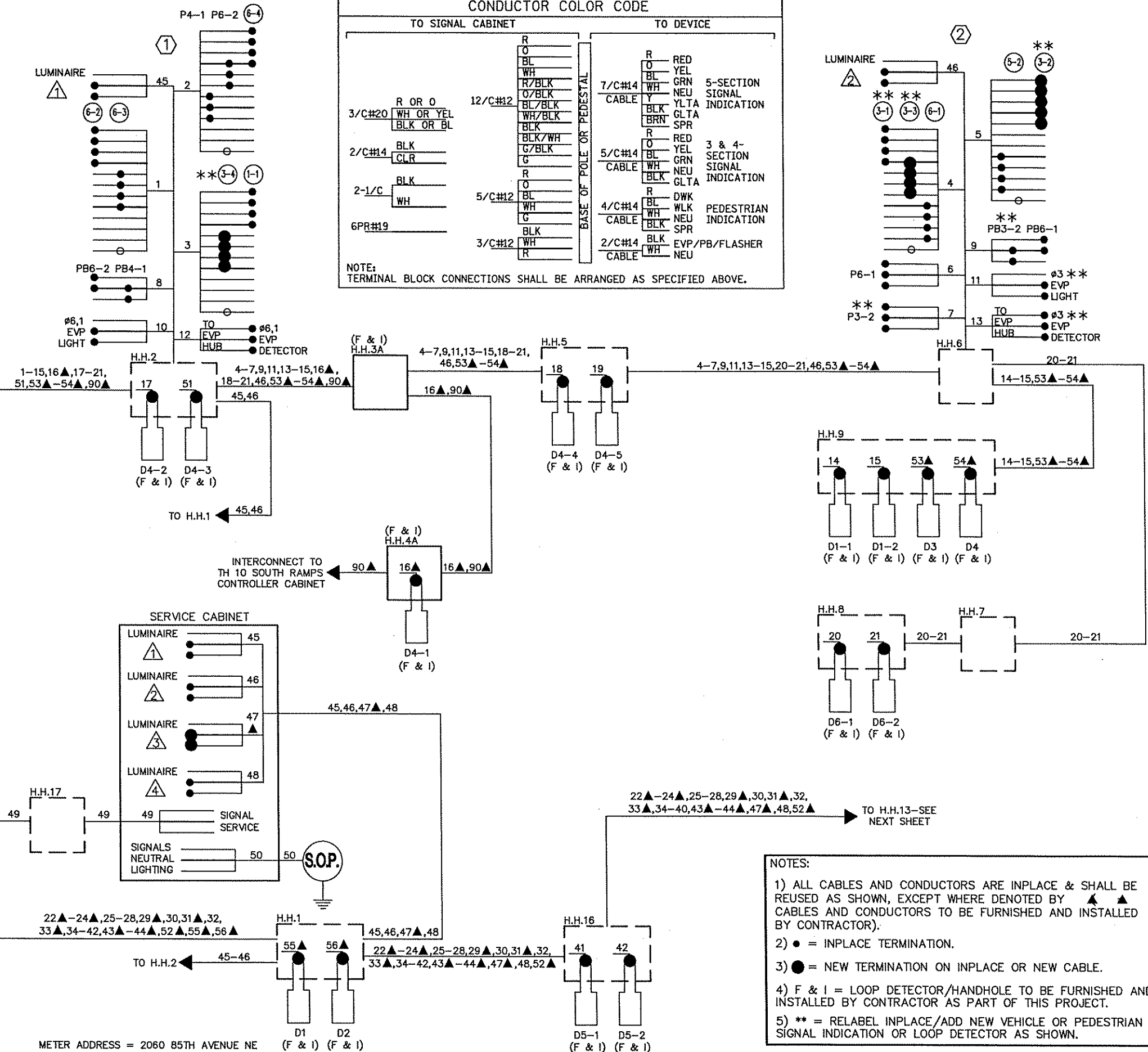
CONTROLLER AND CABINET



CONDUCTOR COLOR CODE

TO SIGNAL CABINET		TO DEVICE	
R OR O	R	R	RED
WH OR YEL	BL	BL	YEL
BLK OR BL	R/BLK	WH	GRN
	O/BLK	Y	NEU
	BL/BLK	BLK	YLTA
	WH/BLK	BLK	GLTA
	BLK/WH	BRN	SPR
	G/BLK	BLK	RED
	G	BL	YEL
		WH	GRN
		BLK	GLTA
		R	3 & 4-SECTION SIGNAL INDICATION
		O	RED
		BL	YEL
		WH	GRN
		BLK	GLTA
		R	DWK
		BL	WLK
		WH	NEU
		G	SPR
		BLK	EVP/PB/FLASHER
		WH	NEU

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) ● = INPLACE TERMINATION.
- 3) ● = NEW TERMINATION ON INPLACE OR NEW CABLE.
- 4) F & I = LOOP DETECTOR/HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- 5) ** = RELABEL INPLACE/ADD NEW VEHICLE OR PEDESTRIAN SIGNAL INDICATION OR LOOP DETECTOR AS SHOWN.

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

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Certified By: *John M. Gray* Lic. No. 22457

Printed Name: JOHN M. GRAY Date: 12/15/05

SEH
PHONE: (851) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

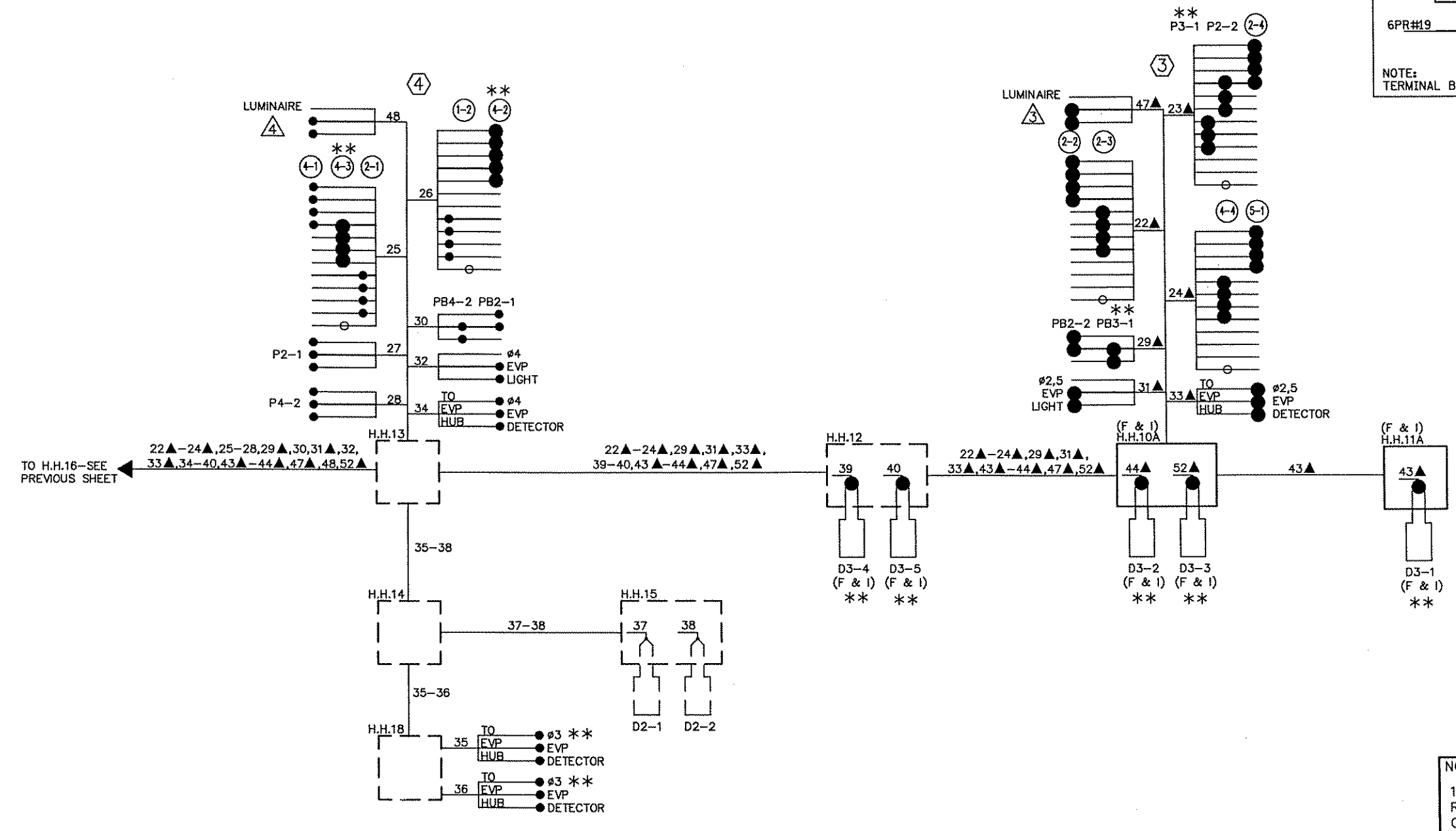
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

REVISE SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT AIRPORT ROAD

FILE NO. ARAMSE0503	261
SG15 OF S651	297

CONDUCTOR COLOR CODE	
TO SIGNAL CABINET	TO DEVICE
3/C#20 R OR O WH OR YEL BLK OR BL	BASE OF POLE OR PEDESTAL R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G
2/C#14 BLK CLR	R O BL WH G BLK WH G BLK WH
2-1/C BLK WH	R O BL WH G BLK WH
6PR#19	R O BL WH G BLK WH
	7/C#14 CABLE Y BLK BRN
	5/C#14 CABLE WH BLK
	4/C#14 CABLE BLK WH
	2/C#14 CABLE BLK WH
	R RED O YEL BL GRN WH NEU Y YLTA BLK GLTA BRN SPR R RED O YEL BL GRN WH NEU BLK GLTA BL DWK WH WLK CABLE BLK NEU 2/C#14 BLK EVP/PB/FLASHER CABLE WH NEU

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

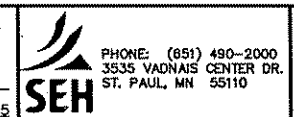


- NOTES:
- 1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ ▲ CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).
 - 2) ● = INPLACE TERMINATION.
 - 3) ●● = NEW TERMINATION ON INPLACE OR NEW CABLE.
 - 4) F & I = LOOP DETECTOR/HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
 - 5) ** = RELABEL INPLACE/ADD NEW VEHICLE OR PEDESTRIAN SIGNAL INDICATION OR LOOP DETECTOR AS SHOWN.

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

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Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

REVISE SIGNAL SYSTEM 'B'
 FIELD WIRING DIAGRAM
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT AIRPORT ROAD

FILE NO. ARAMSE0503	262
SG16 OF SG51	297

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sq17
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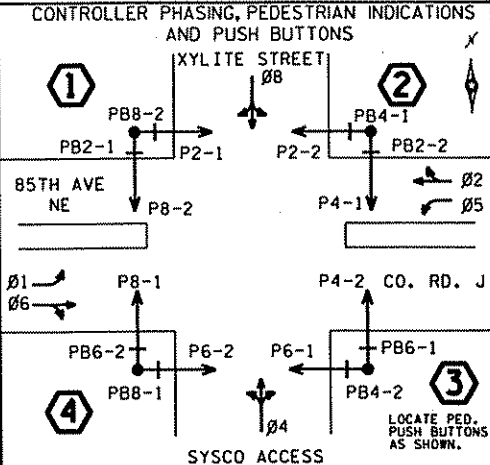
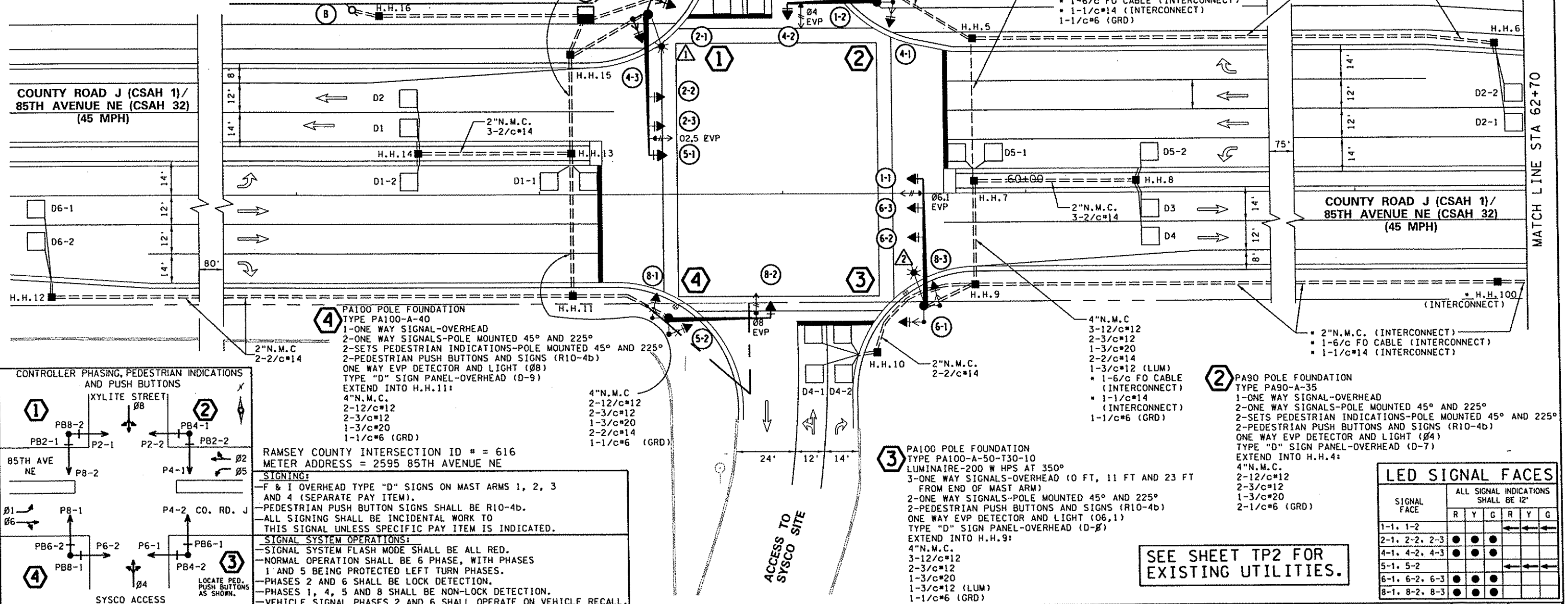
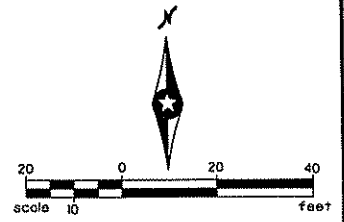
- NOTES:**
- (1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
 - (2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - (3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION OVERLAID "FILLED" HAND/WALKING PERSON INDICATION.
 - (4) ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED INDICATIONS.
 - (5) A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 6 FEET FROM THE END OF THE MAST ARM ON EACH POLE.
 - (6) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
 - (7) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM No. 2565).
 - (8) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY.
 - (9) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM No. 2565).
 - (10) ALL CONDUIT SHALL BE "RED" SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH WALL INNERDUCT SCHEDULE 80, EXCEPT AS OTHERWISE NOTED IN THE PLANS.
 - (11) SPLICING OF 1-1/c#6 INSULATED GREEN-EQUIPMENT GROUNDING CONDUCTORS IN HANDHOLES WILL NOT BE PERMITTED.

NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION
D1-1	2-6x6	0' & 15'
D1-2	6x6	80'
D2-1	6x6	300'
D2-2	6x6	300'
D4-1	2-6x6	0' & 15'
D4-2	2-6x6	0' & 15'
D5-1	2-6x6	0' & 15'
D5-2	6x6	80'
D6-1	6x6	300'
D6-2	6x6	300'
D8-1	6x6	130'
D8-2	2-6x6	0' & 15'
D8-3	2-6x6	0' & 15'
D1	6x6	80'
D2	6x6	80'
D3	6x6	80'
D4	6x6	80'

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

(B) INPLACE WOOD POLE (SOP) (TO BE RELOCATED BY CONXENUS) 2" R.S.C. RISER AND WEATHERHEAD 3-1/c#2 EXTEND INTO H.H. 16: 2" R.S.C. 3-1/c#2



RAMSEY COUNTY INTERSECTION ID # = 616
METER ADDRESS = 2595 85TH AVENUE NE

SIGNING:

- F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, 3 AND 4 (SEPARATE PAY ITEM).
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
- ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SIGNAL UNLESS SPECIFIC PAY ITEM IS INDICATED.

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE LOCK DETECTION.
- PHASES 1, 4, 5 AND 8 SHALL BE NON-LOCK DETECTION.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

4"N.M.C.
2-12/c#12
2-3/c#12
1-3/c#20
2-2/c#14
1-1/c#6 (GRD)

3 PA100 POLE FOUNDATION
TYPE PA100-A-50-T30-10
LUMINAIRE-200 W HPS AT 350°
3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT AND 23 FT FROM END OF MAST ARM)
2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
2-PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
ONE WAY EVP DETECTOR AND LIGHT (Ø6,1)
TYPE "D" SIGN PANEL-OVERHEAD (D-Ø)
EXTEND INTO H.H.9:
4"N.M.C.
3-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)
1-1/c#6 (GRD)

2 PA90 POLE FOUNDATION
TYPE PA90-A-35
1-ONE WAY SIGNAL-OVERHEAD
2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE WAY EVP DETECTOR AND LIGHT (Ø4)
TYPE "D" SIGN PANEL-OVERHEAD (D-7)
EXTEND INTO H.H.4:
4"N.M.C.
2-12/c#12
2-3/c#12
1-3/c#20
2-1/c#6 (GRD)

LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
1-1, 1-2	●	●	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●	●	●
4-1, 4-2, 4-3	●	●	●	●	●	●
5-1, 5-2	●	●	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●	●	●

SEE SHEET TP2 FOR EXISTING UTILITIES.

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	CIF			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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.

Certified By: *John M. Gray* L.L.C. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



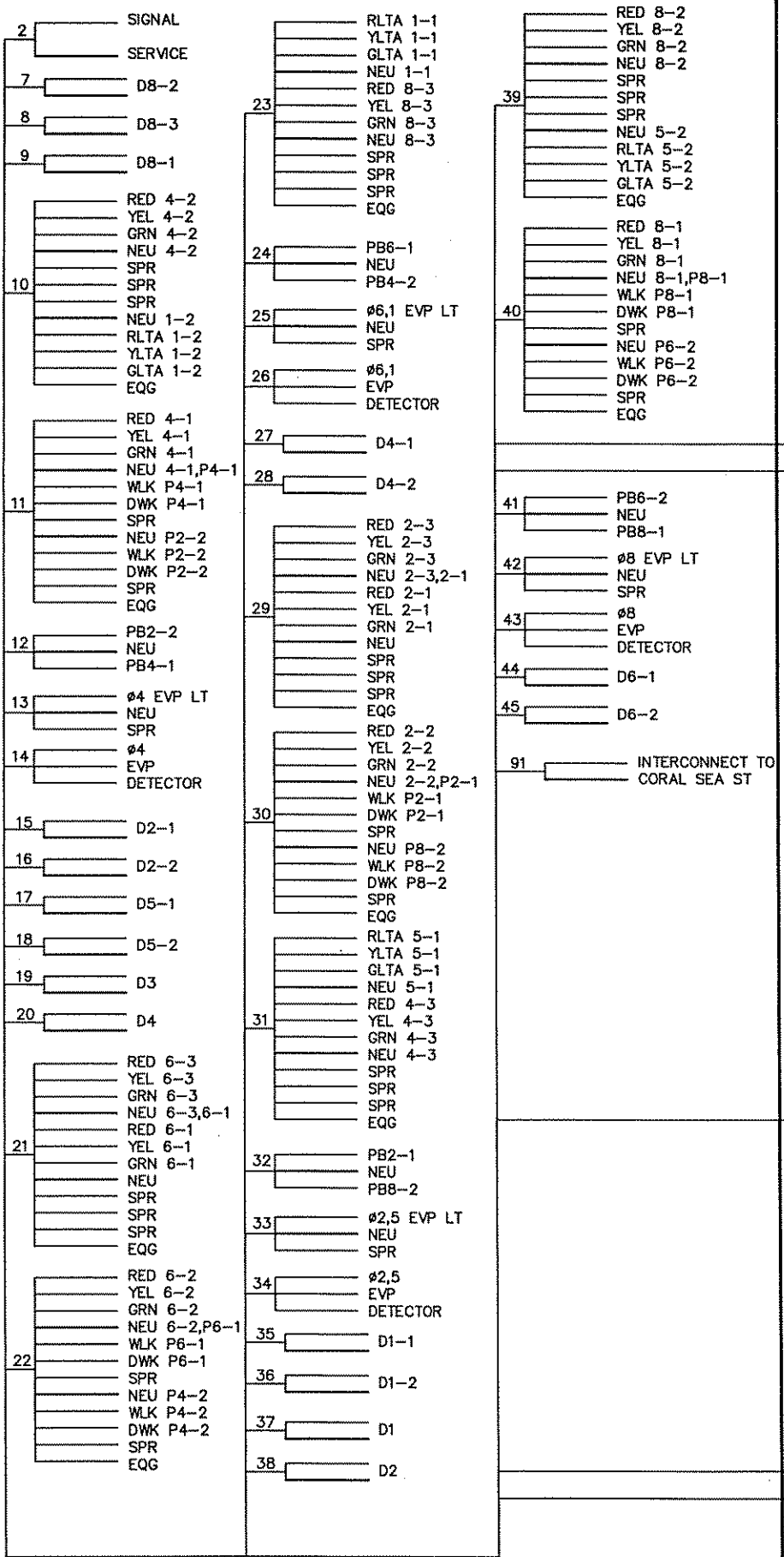
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "C" INTERSECTION LAYOUT
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT XYLITE STREET NE/SYSCO ACCESS

FILE NO. ARAMSE0503
SG17
OF 5651

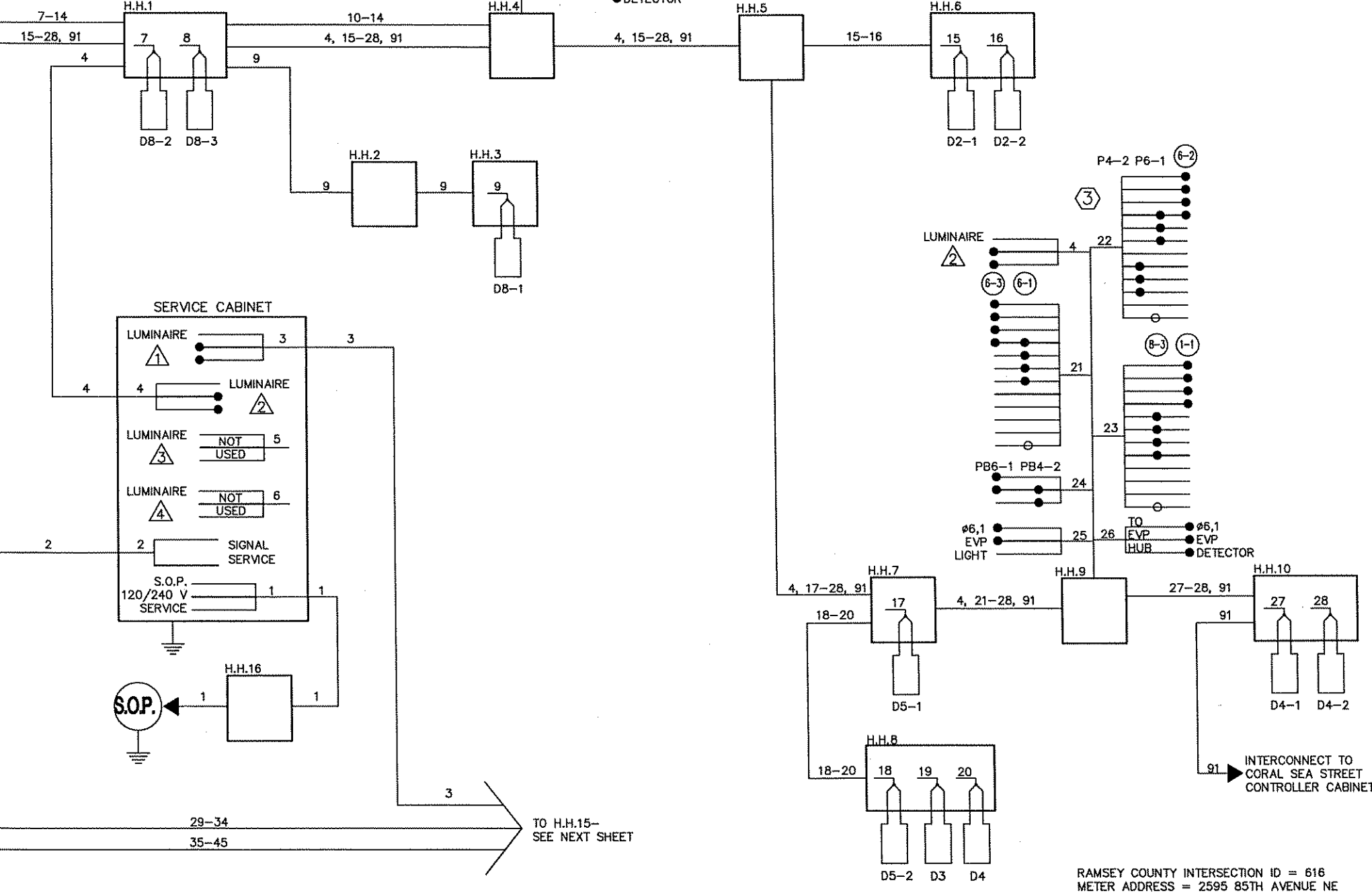
263
297

CONTROLLER AND CABINET



CONDUCTOR COLOR CODE

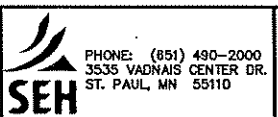
TO SIGNAL CABINET	TO DEVICE
R OR O	R RED
3/C#20 WH OR YEL	O BLK
BLK OR BL	BL YEL
	WH GRN
	Y NEU
	BLK YLTA
	BRN SPR
	O RED
	BL YEL
	WH GRN
	BLK NEU
	BLK GLTA
	R DWK
	BL WLK
	WH NEU
	BLK SPR
	BLK EVP/PB/FLASHER
	R NEU



X:\NO RAISE\0503007\3\SIGNAL\SIGNRED.DWG

DESIGN TEAM	1	JMG	1/16/08	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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 Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05



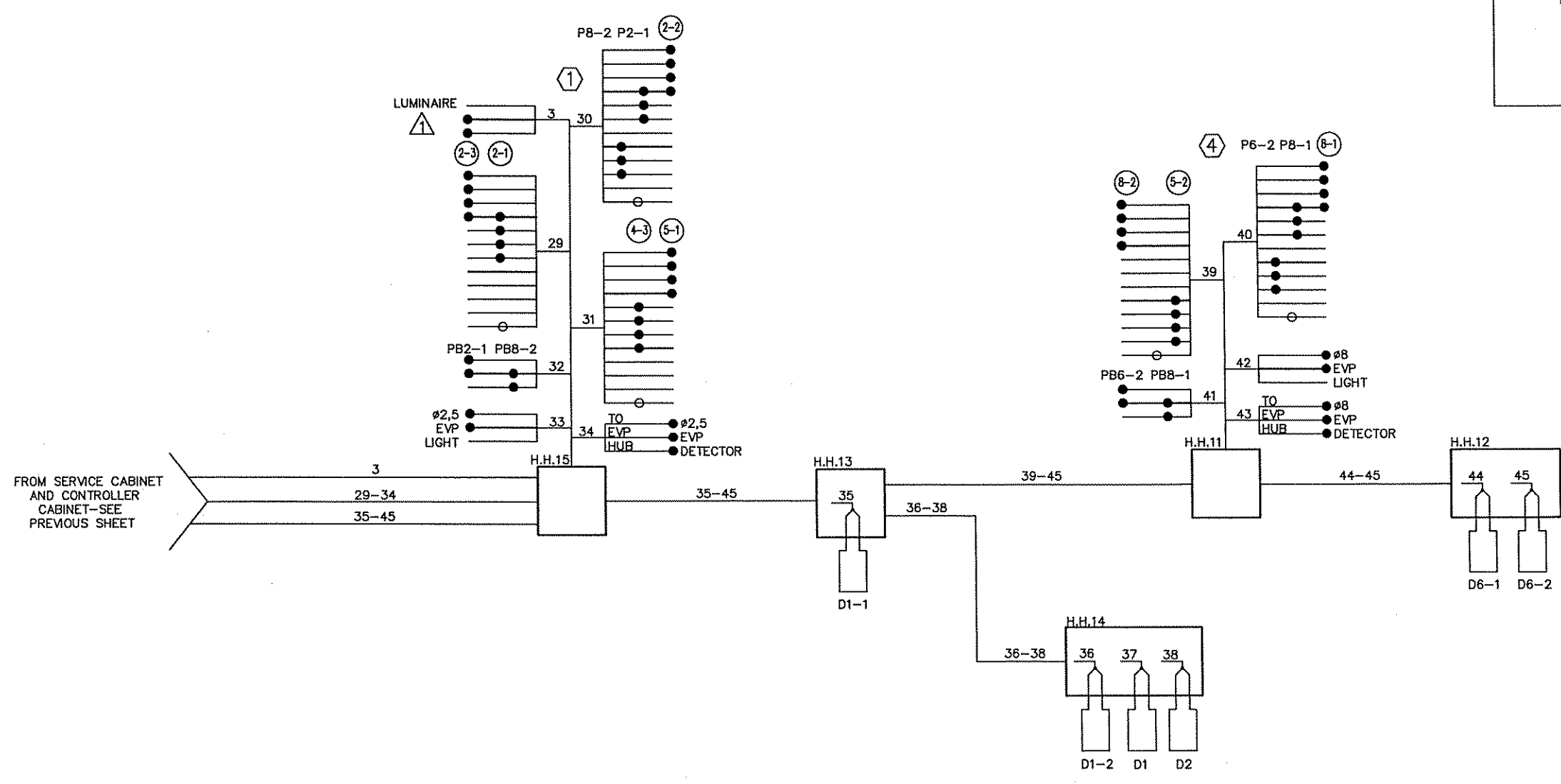
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "C"
 FIELD WIRING DIAGRAM
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT XYLITE STREET NE/SYSCO ACCESS

FILE NO. ARAMSE0503	264
SG18 OF SG51	297

RAMSEY COUNTY INTERSECTION ID = 616
 METER ADDRESS = 2595 85TH AVENUE NE

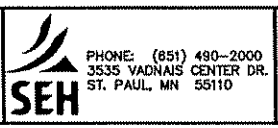
CONDUCTOR COLOR CODE			
TO SIGNAL CABINET		TO DEVICE	
3/C#20 R OR O WH OR YEL BLK OR BL	12/C#12	R	R
		O	O
		BL	BL
		WH	WH
		R/BLK	R/BLK
		O/BLK	O/BLK
		BL/BLK	BL/BLK
		WH/BLK	WH/BLK
		BLK	BLK
		BLK/WH	BLK/WH
		G/BLK	G/BLK
		G	G
2/C#14 BLK CLR	5/C#12	R	R
		O	O
		BL	BL
2-1/C BLK WH	3/C#12	WH	WH
		G	G
		BLK	BLK
		R	R
		O	O
		BL	BL
		WH	WH
		G	G
		BLK	BLK
		WH	WH
		R	R



RAMSEY COUNTY INTERSECTION ID = 616
METER ADDRESS = 2595 85TH AVENUE NE

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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Certified By: *John M. Gray* Lic.No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'C'
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT XYLITE STREET NE/SYSCO ACCESS

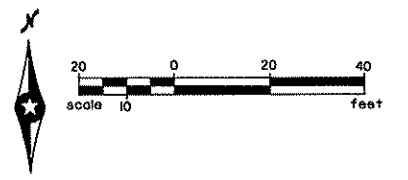
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SG19 OF SG51	297

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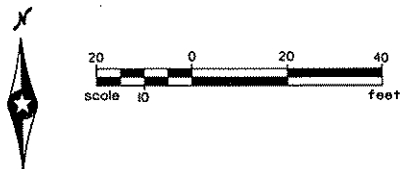
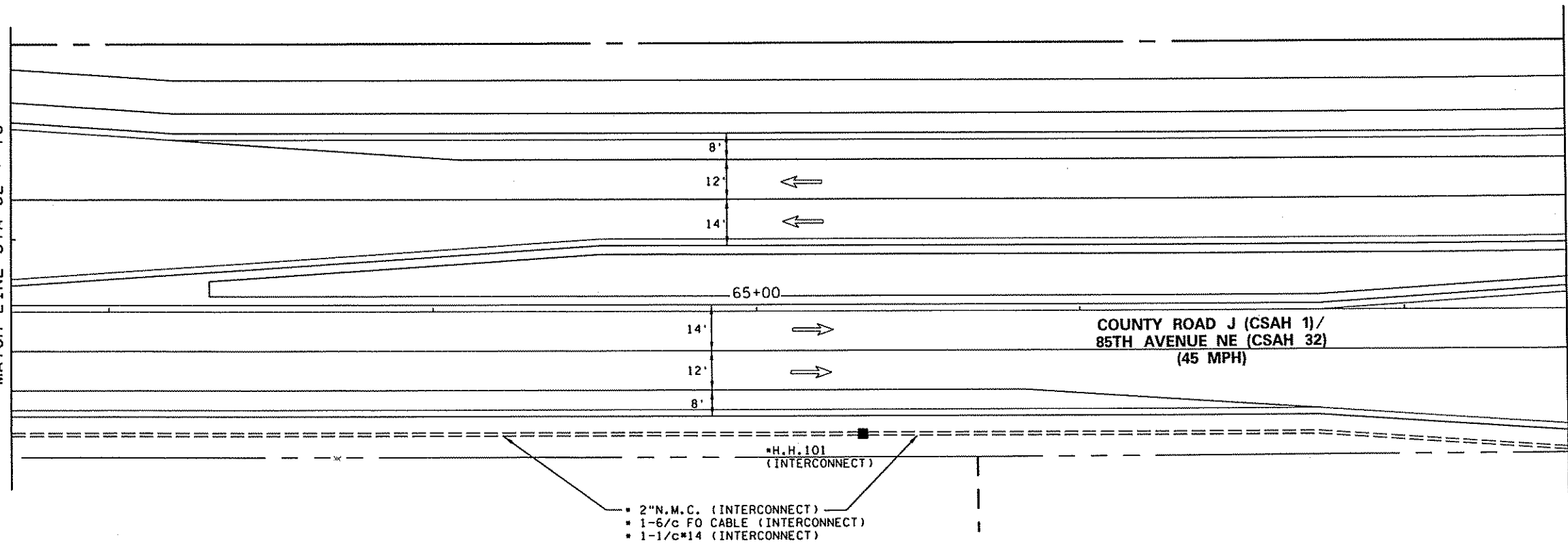
02/17/2006

sg20

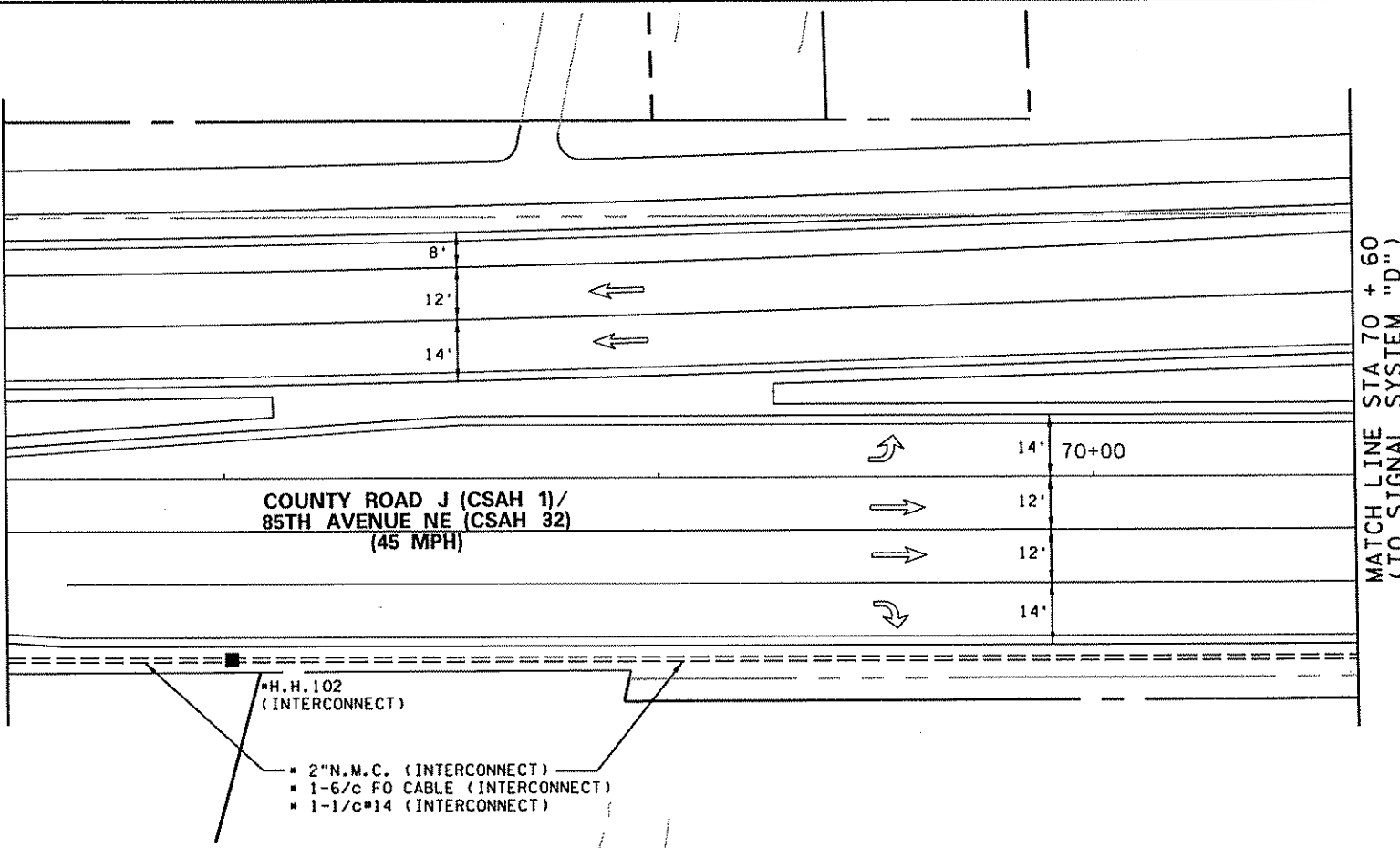
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(TO SIGNAL SYSTEM "C")
MATCH LINE STA 62 + 70



MATCH LINE STA 67+50



NOTES:

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).

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

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.

Certified By: *[Signature]* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC CONTROL INTERCONNECTION
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
(XYLITE ST TO CORAL SEA ST)

FILE NO. ARAMSE0503	266
SG20 OF SG51	297

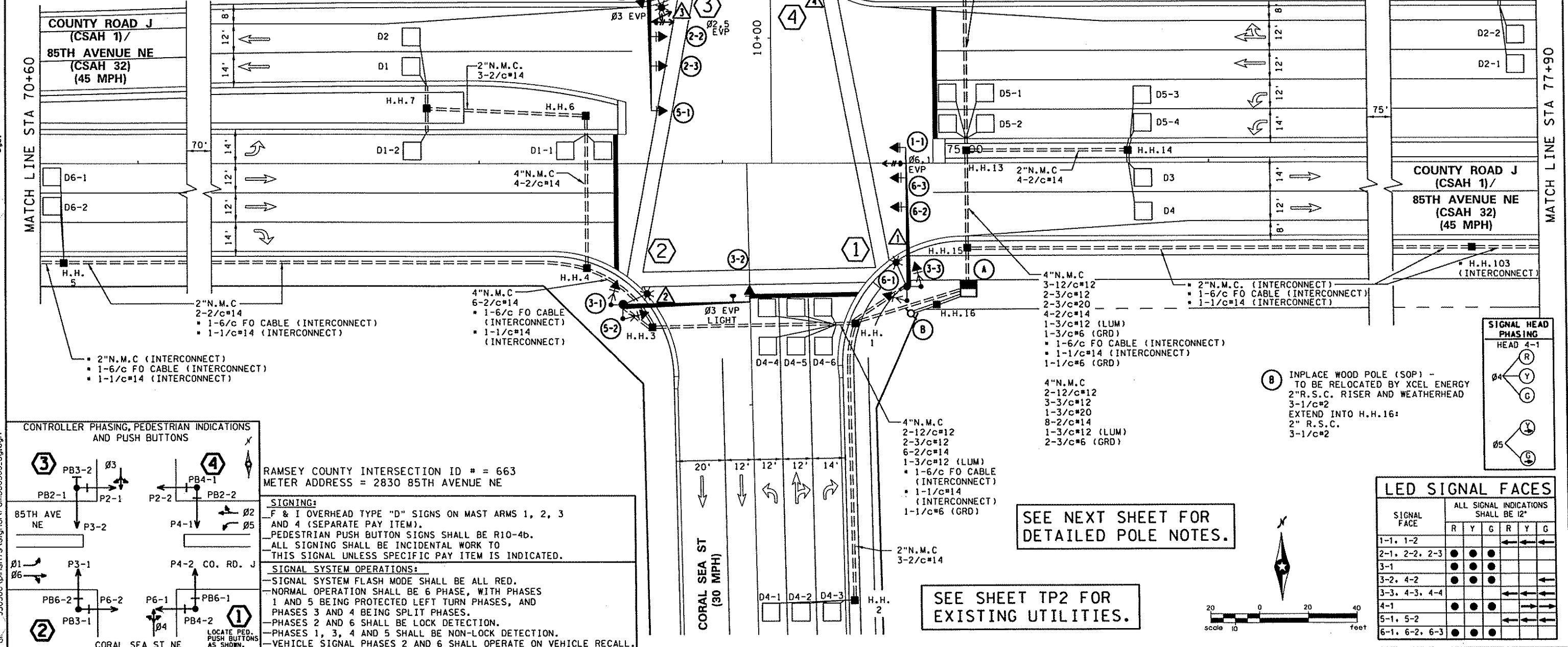
02/17/2006 sg21 02:40:08 PM

- NOTES:**
- (1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
 - (2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - (3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION OVERLAID "FILLED" HAND/WALKING PERSON INDICATION.
 - (4) ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED INDICATIONS.
 - (5) A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 6 FEET FROM THE END OF THE MAST ARM ON EACH POLE.
 - (6) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
 - (7) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565).
 - (8) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY.
 - (9) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565).
 - (10) ALL CONDUIT SHALL BE "RED" SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH WALL INNERDUCT SCHEDULE 80, EXCEPT AS OTHERWISE NOTED IN THE PLANS.
 - (11) SPLICING OF 1-1/2" INSULATED GREEN-EQUIPMENT GROUNDING CONDUCTORS IN HANDHOLES WILL NOT BE PERMITTED.

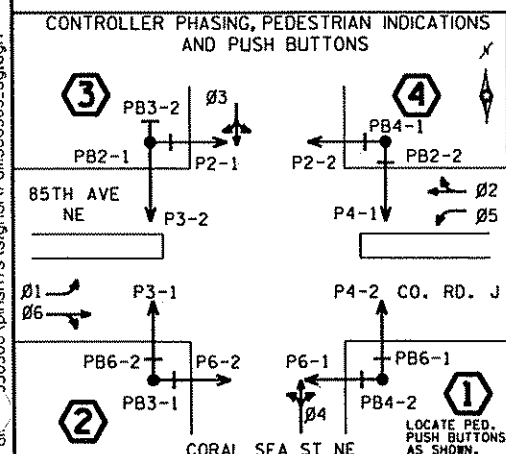
NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION
D1-1	2-6x6	0' & 15'
D1-2	6x6	80'
D2-1	6x6	300'
D2-2	6x6	300'
D3-1	6x6	130'
D3-2	6x6	130'
D3-3	2-6x6	0' & 15'
D3-4	2-6x6	0' & 15'
D4-1	6x6	130'
D4-2	6x6	130'
D4-3	6x6	130'
D4-4	2-6x6	0' & 15'
D4-5	2-6x6	0' & 15'
D4-6	2-6x6	0' & 15'
D5-1	2-6x6	0' & 15'
D5-2	2-6x6	0' & 15'
D5-3	6x6	80'
D5-4	6x6	80'
D6-1	6x6	300'
D6-2	6x6	300'
D1	6x6	80'
D2	6x6	80'
D3	6x6	80'
D4	6x6	80'

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



- (A) EQUIPMENT PAD-SEE DETAILS**
- CONTROLLER AND CABINET SERVICE CABINET
 - SERVICE CABINET TO H.H. 16: 2"N.M.C., 3-1/c#2
 - SERVICE CABINET TO H.H. 1: 2"N.M.C., 2-3/c#12 (LUM), 1-1/c#6 (GRD)
 - SERVICE CABINET TO H.H. 15: 2"N.M.C., 2-3/c#12 (LUM), 1-1/c#6 (GRD)
 - BETWEEN SERVICE CABINET AND CONTROLLER CABINET: 2"N.M.C., 2-1/c#6, 1-1/c#6 Ins. Gr.
- CONTROLLER CABINET TO H.H. 1:** 4"N.M.C., 2-12/c#12, 2-3/c#12, 6-2/c#14, 1-6/c FO CABLE (INTERCONNECT), 1-1/c#14 (INTERCONNECT), 1-1/c#6 (GRD)
- CONTROLLER CABINET TO H.H. 15:** 4"N.M.C., 2-12/c#12, 3-3/c#12, 1-3/c#20, 8-2/c#14, 1-6/c FO CABLE (INTERCONNECT), 1-1/c#14 (INTERCONNECT), 1-1/c#6 (GRD)



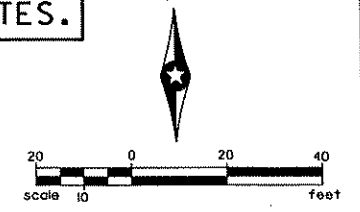
RAMSEY COUNTY INTERSECTION ID # = 663
METER ADDRESS = 2830 85TH AVENUE NE

SIGNING:
F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, 3 AND 4 (SEPARATE PAY ITEM).
PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SIGNAL UNLESS SPECIFIC PAY ITEM IS INDICATED.

SIGNAL SYSTEM OPERATIONS:
-SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
-NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 AND 4 BEING SPLIT PHASES.
-PHASES 2 AND 6 SHALL BE LOCK DETECTION.
-PHASES 1, 3, 4 AND 5 SHALL BE NON-LOCK DETECTION.
-VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

SEE NEXT SHEET FOR DETAILED POLE NOTES.

SEE SHEET TP2 FOR EXISTING UTILITIES.



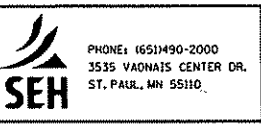
LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
1-1, 1-2						
2-1, 2-2, 2-3	●	●	●			
3-1	●	●	●			
3-2, 4-2	●	●	●			
3-3, 4-3, 4-4				●	●	●
4-1				●	●	●
5-1, 5-2	●	●	●			
6-1, 6-2, 6-3	●	●	●			

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	CIF			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.

Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "D"
INTERSECTION LAYOUT
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT CORAL SEA STREET NE

FILE NO. 267
ARAME0503
SG21
OF SCS1
297

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 s922
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① PA100 POLE FOUNDATION
 TYPE PA100-A-55-T30-10
 LUMINAIRE-200 W HPS AT 350°
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT AND 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATION-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø6,1)
 TYPE "D" SIGN PANEL-OVERHEAD (D-10)
 EXTEND INTO H.H.1:
 4"N.M.C.
 3-12/c*12
 2-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)
 2-1/c*6 (GRD)

③ PA100 POLE FOUNDATION
 TYPE PA100-A-50-T30-10
 LUMINAIRE-200 W HPS AT 350°
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 17 FT AND 29 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 TWO-WAY TWO-CHANNEL EVP DETECTOR AND ONE WAY LIGHT (Ø2,5 AND Ø3) AT 35' FROM END OF MAST ARM
 TYPE "D" SIGN PANEL-OVERHEAD (D-12)
 R3-4 SIGN PANEL-OVERHEAD (ADJACENT TO 5-1)
 EXTEND INTO H.H.8:
 4"N.M.C.
 3-12/c*12
 2-3/c*12
 2-3/c*20
 1-3/c*12 (LUM)
 1-1/c*6 (GRD)

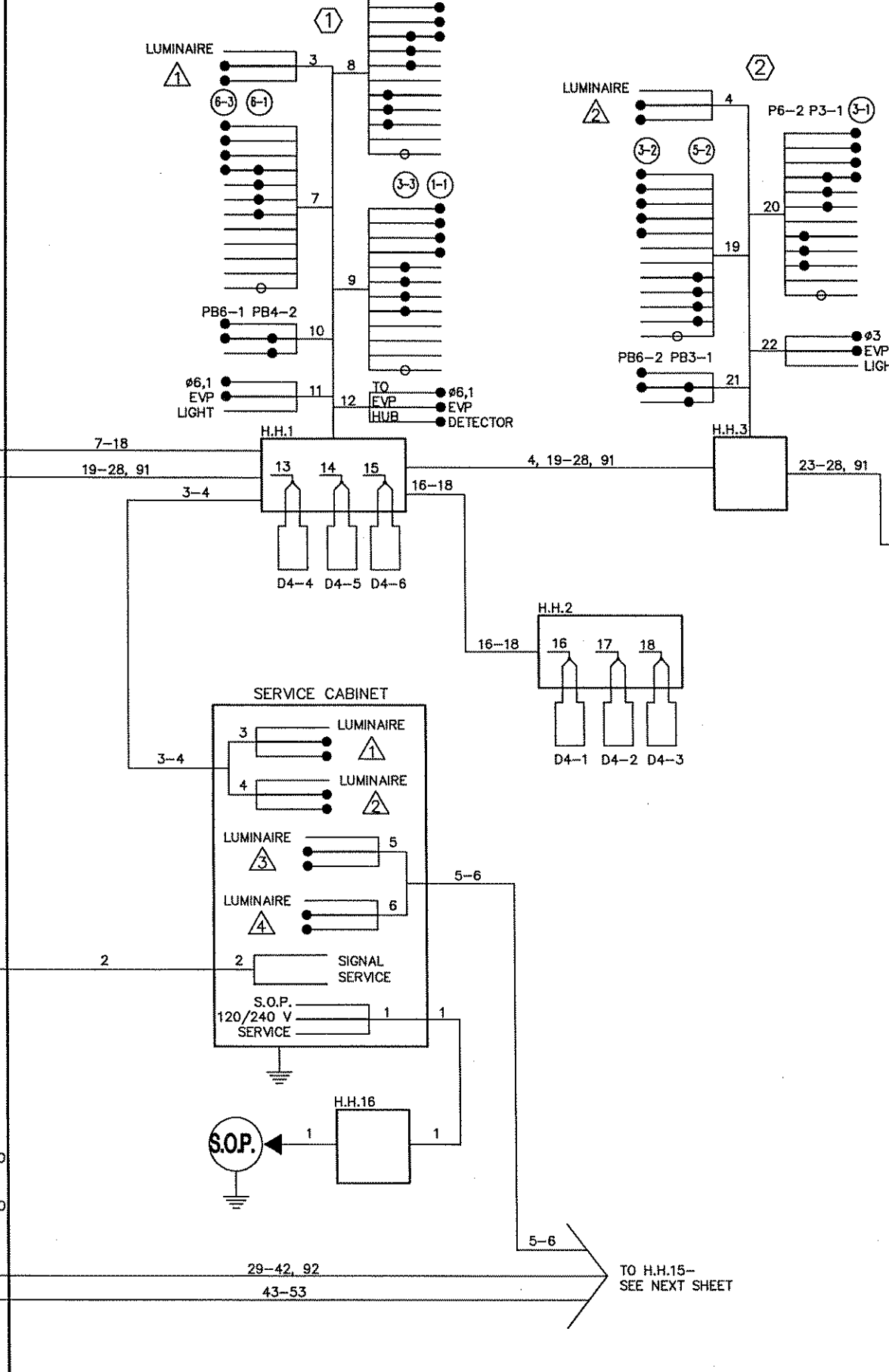
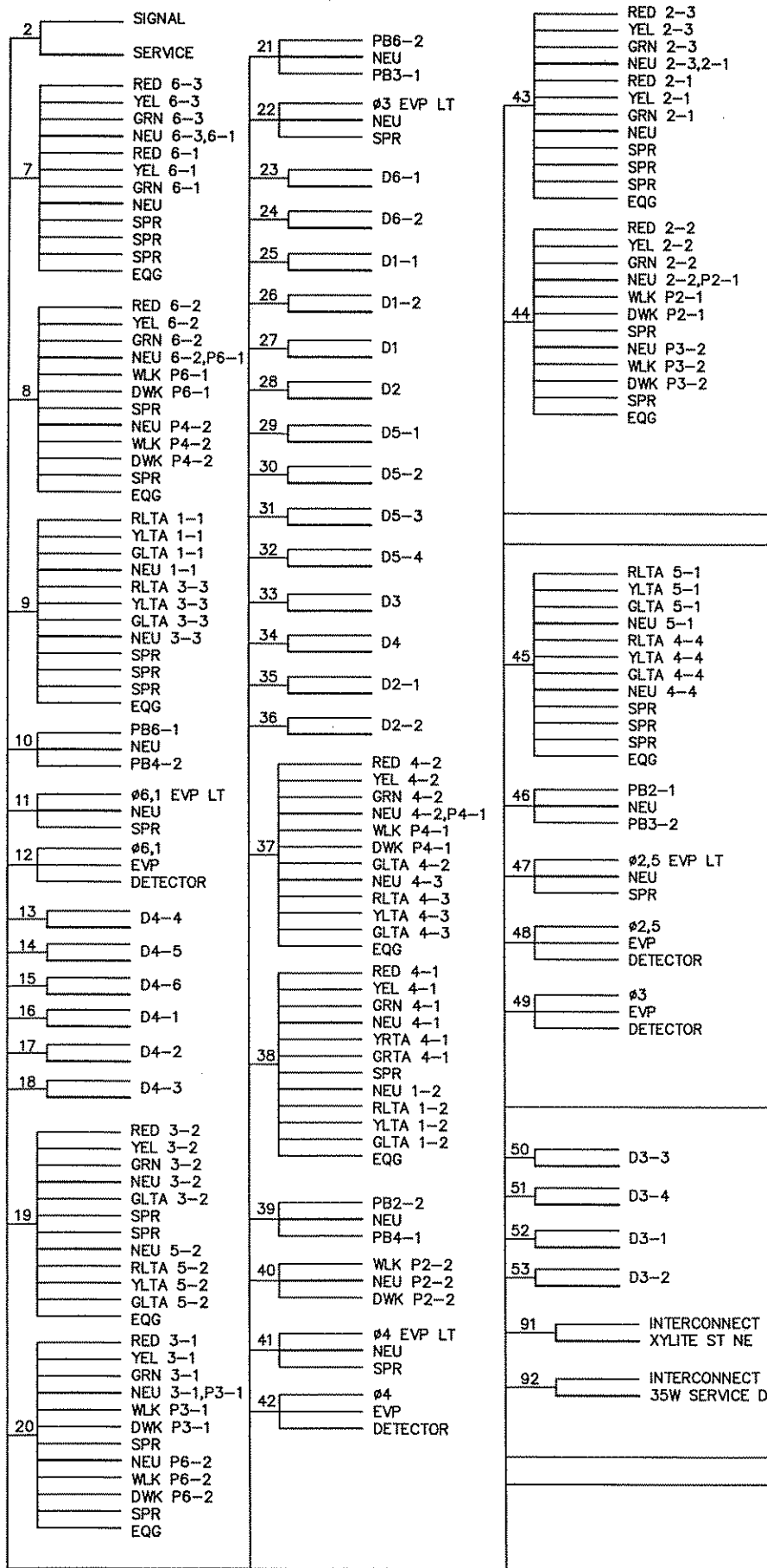
② PA100 POLE FOUNDATION
 TYPE PA100-A-50-T30-10
 LUMINAIRE-200 W HPS AT 350°
 ONE WAY SIGNAL-OVERHEAD
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP LIGHT (Ø3)
 TYPE "D" SIGN PANEL-OVERHEAD (D-11)
 EXTEND INTO H.H.3:
 4"N.M.C.
 2-12/c*12
 2-3/c*12
 1-3/c*12 (LUM)
 1-1/c*6 (GRD)

④ PA90 POLE FOUNDATION
 TYPE PA90-A-30-T30-10
 LUMINAIRE-200 W HPS AT 350°
 2-ONE WAY SIGNALS-OVERHEAD (0 FT AND 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø4)
 TYPE "D" SIGN PANEL-OVERHEAD (D-13)
 EXTEND INTO H.H.10:
 4"N.M.C.
 2-12/c*12
 3-3/c*12
 1-3/c*20
 1-3/c*12 (LUM)
 2-1/c*6 (GRD)

RAMSEY COUNTY INTERSECTION ID * = 663
 METER ADDRESS = 2830 85TH AVENUE NE

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS	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. Certified By: <i>John M. Gray</i> Lic. No. 22457 Printed Name: JOHN M. GRAY Date: 02/17/2006	 PHONE: 651-490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	RAMSEY COUNTY COUNTY ROAD J S.A.P. 02-632-14, S.A.P. 62-601-11	TRAFFIC SIGNAL SYSTEM "D" INTERSECTION LAYOUT COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT CORAL SEA STREET NE	FILE NO.	268
DRAWN BY: CIF				ARAMSE0503						
DESIGNER: JMG				SG22						
CHECKED BY: JMG				OF SGGI					297	
	NO.	BY	DATE	REVISIONS						

CONTROLLER AND CABINET



CONDUCTOR COLOR CODE

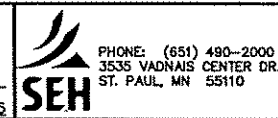
TO SIGNAL CABINET		TO DEVICE	
R OR O	R	R	RED
BL	BL	BL	YEL
WH	WH	GRN	GRN
R/BLK	O/BLK	NEU	NEU
O/BLK	BL/BLK	YLTA	5-SECTION SIGNAL INDICATION
WH OR YEL	BLK/BLK	Y	YLTA
BLK OR BL	BLK	BLK	GLTA
	BLK	BRN	SPR
	BLK	R	RED
	BLK/WH	O	YEL
	G/BLK	BL	GRN
	G	WH	NEU
	R	BLK	GLTA
	O	R	RED
	BL	BL	DWK
	WH	WH	WLK
	G	WH	NEU
	BLK	BLK	SPR
	WH	WH	EVP/PB/FLASHER
	R	R	NEU

RAMSEY COUNTY INTERSECTION ID = 663
METER ADDRESS = 2830 85TH AVENUE NE

X:\NO\RAMSEY\05\JMS\TRAFFIC SIGNAL\SIGMRE.DWG

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.
Certified By: *John M. Gray* Lic.No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

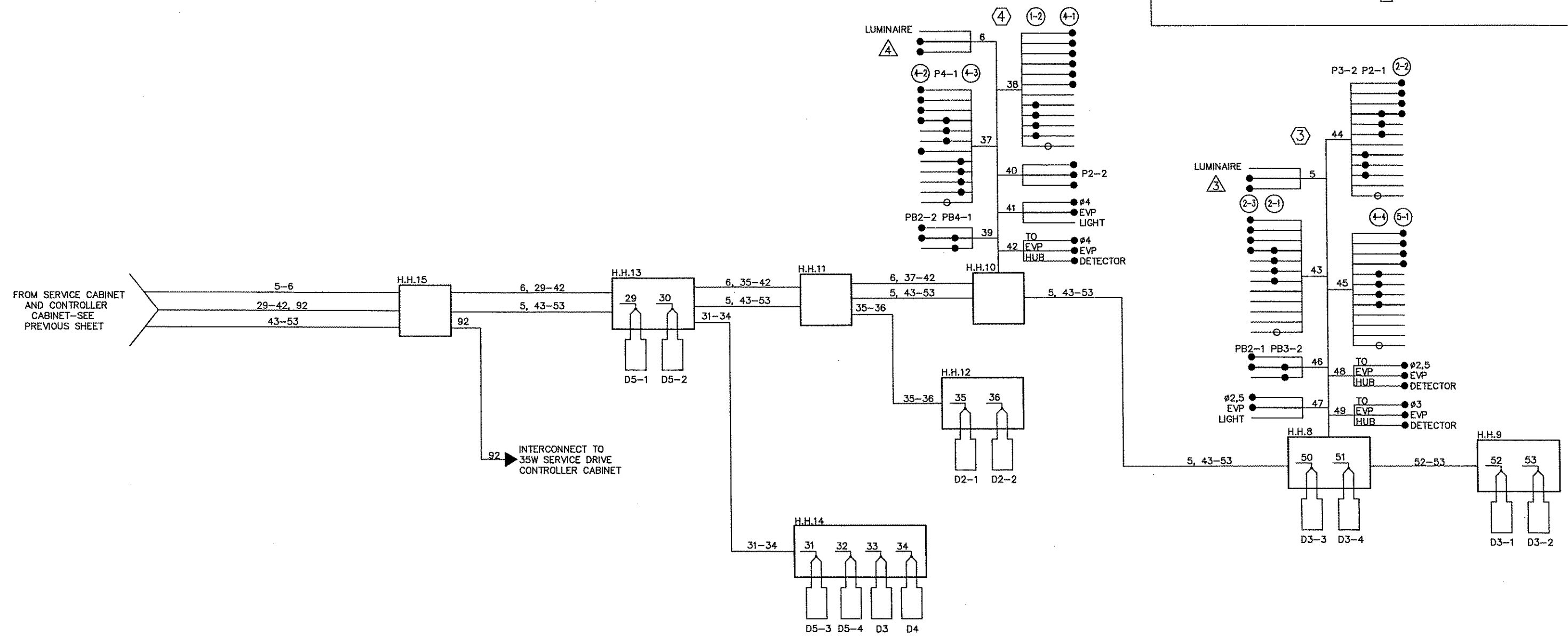


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'D'
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT CORAL SEA STREET NE

FILE NO. ARAMSE0503	269
SG23 OF SG51	297

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
2/C#14	BLK CLR	5/C#12	R O BL WH G BLK WH
2-1/C	BLK WH	3/C#12	R O BL WH
			BASE OF POLE OR PEDESTAL
		7/C#14	R RED O YEL BL GRN WH NEU Y YLTA BLK GLTA BRN SPR
		5/C#14	R RED O YEL BL GRN WH NEU BLK GLTA
		4/C#14	R DWK BL WLK WH NEU BLK SPR
		2/C#14	BLK EVP/PB/FLASHER WH NEU

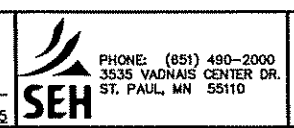


RAMSEY COUNTY INTERSECTION ID = 663
METER ADDRESS = 2830 85TH AVENUE NE

X:\AO\RAMSEY\050300\A\J\SIGNAL\SGWRE.DWG

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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.
Certified By: *John M. Gray* Lic.No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'D'
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT CORAL SEA STREET NE

FILE NO. ARAMSE0503	270
SG24 OF SG51	297

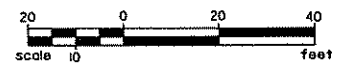
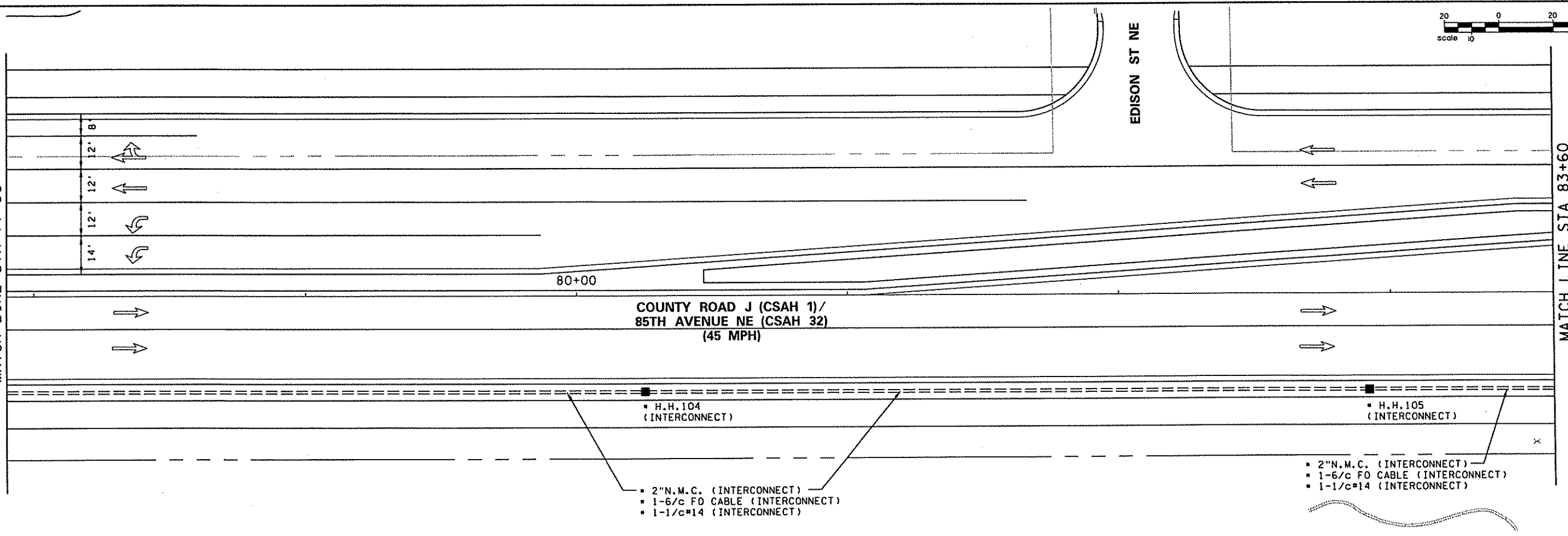
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02/17/2006

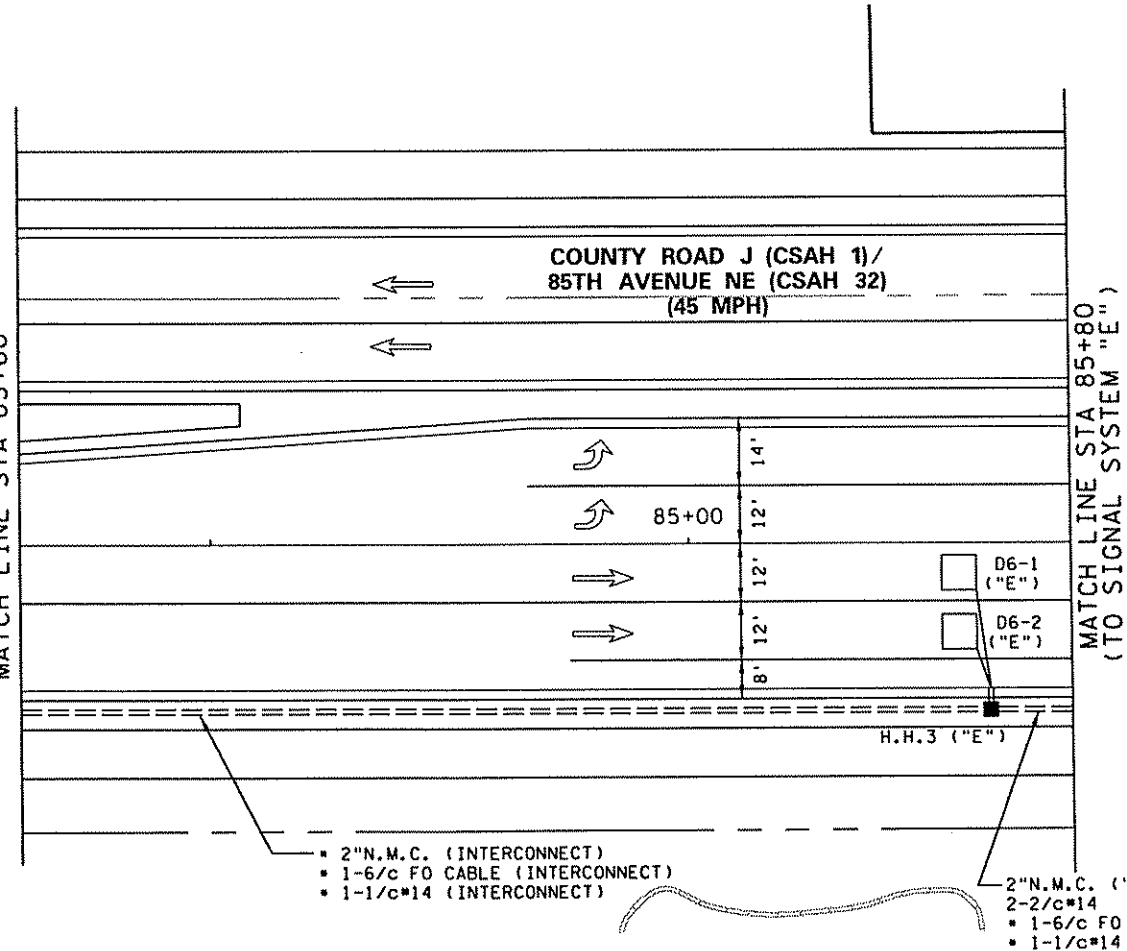
sg25

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(TO SIGNAL SYSTEM "D")
MATCH LINE STA 77+90



MATCH LINE STA 83+60



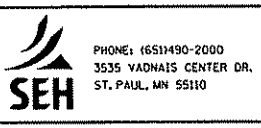
NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TEL. NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).

DESIGN TEAM	NO.	BY	DATE	REVISIONS
1	JMG	1/16/06	REVISED PER COUNTY COMMENTS	

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.

Certified By: *[Signature]* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS /
 INTERCONNECT
 INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 (BETWEEN CORAL SEA STREET AND 35W SERVICE DRIVE)

FILE NO. ARAMSE0503
 271
 SG25
 OF SG51
 297

02/17/2006 03:40:13 PM sq26

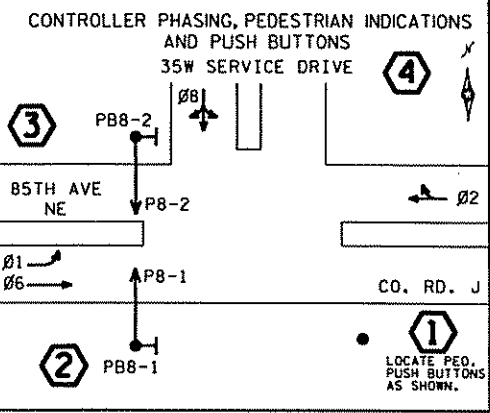
NOTES:

- (1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
- (2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- (3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION OVERLAID "FILLED" HAND/WALKING PERSON INDICATION.
- (4) ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED INDICATIONS.
- (5) A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 6 FEET FROM THE END OF THE MAST ARM ON EACH POLE.
- (6) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
- (7) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565).
- (8) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY.
- (9) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565).
- (10) ALL CONDUIT SHALL BE "RED" SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH WALL INNERDUCT SCHEDULE 80, EXCEPT AS OTHERWISE NOTED IN THE PLANS.
- (11) SPLICING OF 1-1/2" INSULATED GREEN-EQUIPMENT GROUNDING CONDUCTORS IN HANDHOLES WILL NOT BE PERMITTED.

NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION
D1-1	2-6x6	0' & 15'
D1-2	2-6x6	0' & 15'
D1-3	6x6	80'
D1-4	6x6	80'
D2-1	6x6	300'
D2-2	6x6	300'
D6-1	6x6	300'
D6-2	6x6	300'
D8-1	6x6	130'
D8-2	6x6	130'
D8-3	6x6	130'
D8-4	2-6x6	0' & 15'
D8-5	2-6x6	0' & 15'
D8-6	2-6x6	0' & 15'
D1	6x6	80'
D2	6x6	80'
D3	6x6	50'
D4	6x6	50'

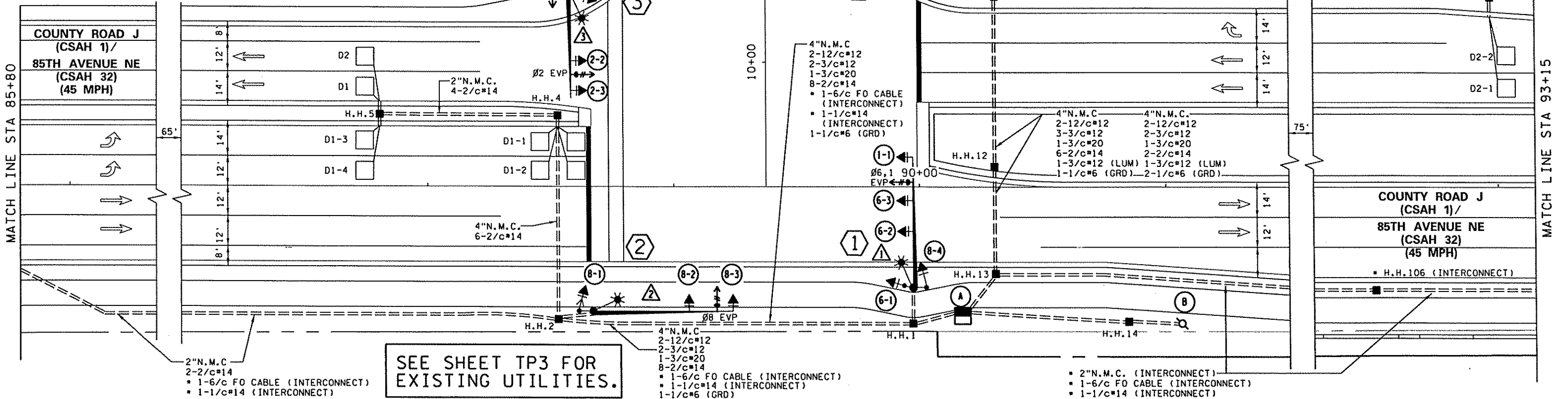
Note: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



SIGNING:
 - F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, AND 3 (SEPARATE PAY ITEM).
 - PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
 - ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SIGNAL UNLESS SPECIFIC PAY ITEM IS INDICATED.

SIGNAL SYSTEM OPERATIONS:
 - SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 1 BEING PROTECTED LEFT TURN PHASE.
 - PHASES 2 AND 6 SHALL BE LOCK DETECTION.
 - PHASES 1 AND 8 SHALL BE NON-LOCK DETECTION.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

RAMSEY COUNTY INTERSECTION ID= 385
 METER ADDRESS = 3098 85TH AVENUE NE



SEE SHEET TP3 FOR EXISTING UTILITIES.

LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
1-1, 1-2						
2-1, 2-2, 2-3	●	●	●			
6-1, 6-2, 6-3	●	●	●			
8-1, 8-2	●	●	●			
8-3, 8-4				●	●	●

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DESIGNED BY: CJF	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DESIGNER: JMG				
CHECKED BY: JMG				

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.
 Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 02/17/2006

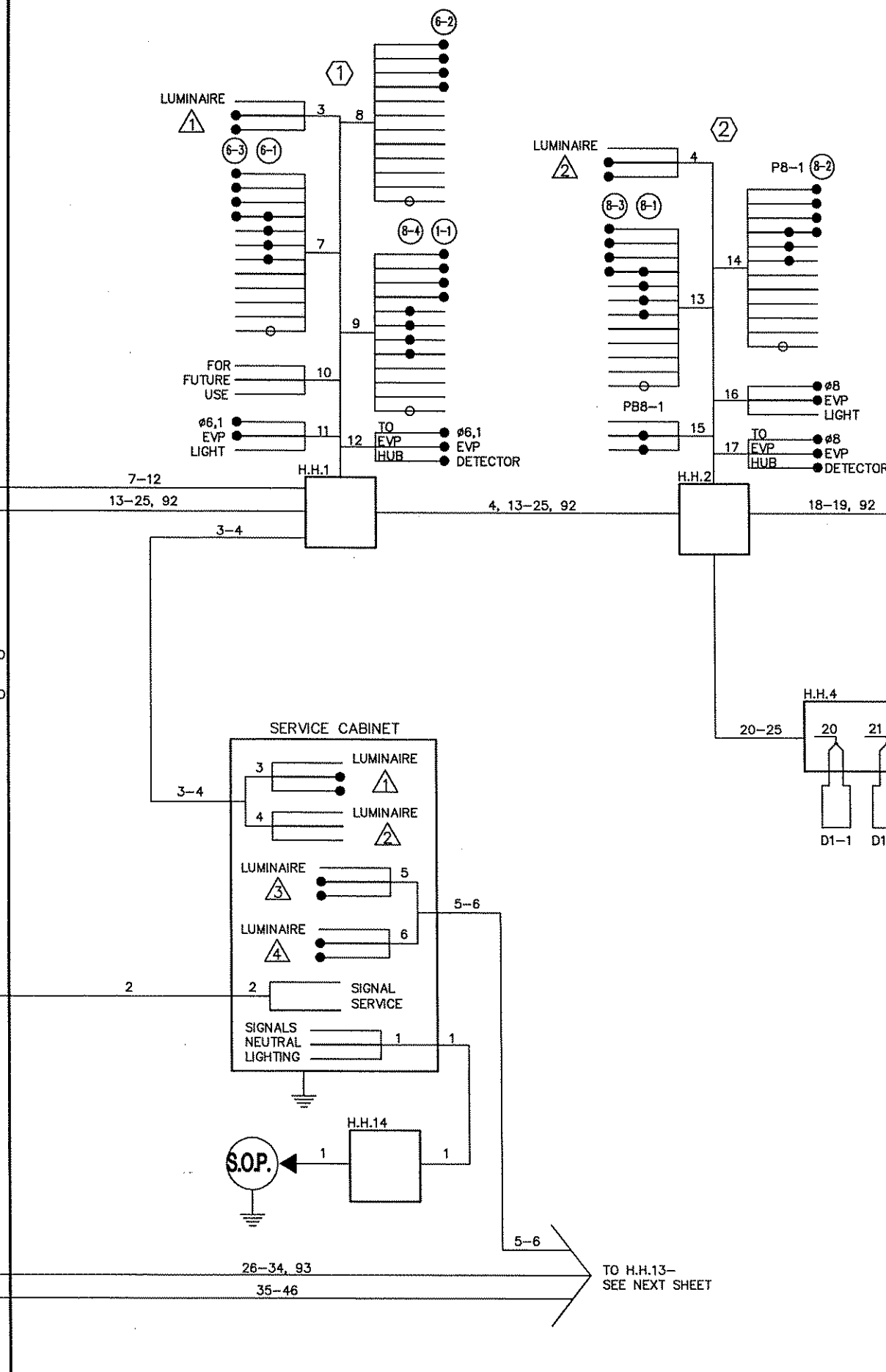
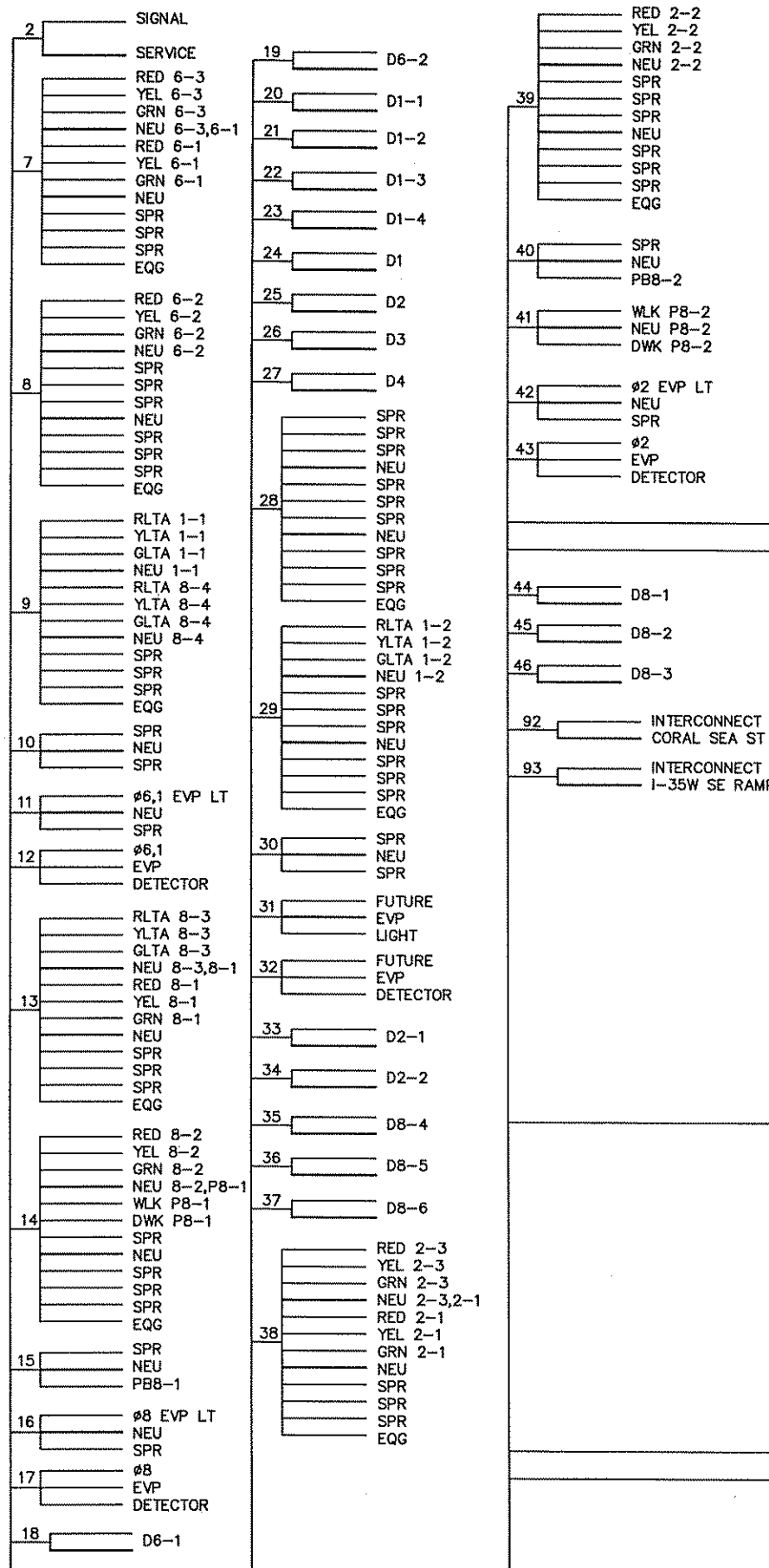


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "E"
INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT INTERSTATE 35W SERVICE DRIVE

FILE NO. **272**
 ARAMSE0503
SG26
 OF 5051
297

CONTROLLER AND CABINET



CONDUCTOR COLOR CODE

TO SIGNAL CABINET	TO DEVICE
R	R RED
O	BL YEL
BL	WH GRN
WH	Y NEU
R/BLK	BLK YLTA
O/BLK	BLK GRN
BL/BLK	BLK YLTA
WH/BLK	BLK GRN
BLK	BLK YLTA
BLK/WH	BLK GRN
G/BLK	BLK YLTA
G	BLK GRN
R	BLK YLTA
O	BLK GRN
BL	BLK YLTA
WH	BLK GRN
G	BLK YLTA
BLK	BLK GRN
WH	BLK YLTA
R	BLK GRN

BASE OF POLE OR PEDESTAL

RAMSEY COUNTY INTERSECTION ID = 385
METER ADDRESS = 3098 85TH AVENUE NE

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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.

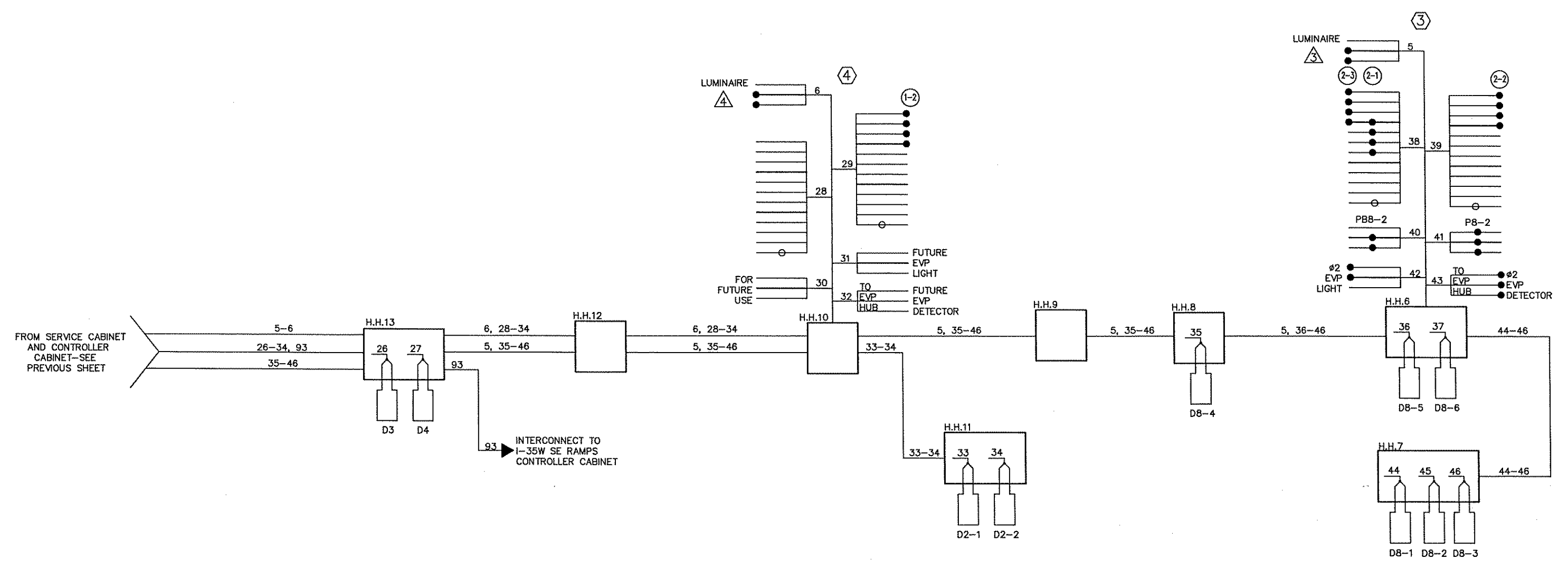
Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'E'
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT 35W SERVICE DRIVE

FILE NO.	273
ARAMSE0503	
SG27	
OF SG51	297

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 R O BL WH G BLK WH R
2/C#14	BLK CLR	5/C#12	R O BL WH G BLK WH R
2-1/C	BLK WH	3/C#12	BLK WH R
			BASE OF POLE OR PEDESTAL
		7/C#14	R O BL WH Y BLK BRN
		5/C#14	R O BL WH BLK
		4/C#14	R O BL WH BLK
		2/C#14	R O BL WH
			RED YEL GRN NEU YLTA GLTA SPR RED YEL GRN NEU GLTA DWK WLK PEDESTRIAN INDICATION NEU EVP/PB/FLASHER NEU

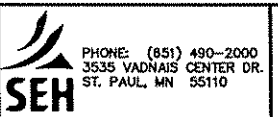


RAMSEY COUNTY INTERSECTION ID = 385
METER ADDRESS = 3098 85TH AVENUE NE

X:\NO\RAMSEY\0503000\1_5\SIGNAL\SGWRE.DWG

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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Certified By: *John M. Gray* Lic.No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

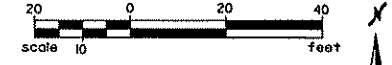
TRAFFIC SIGNAL SYSTEM 'E'
FIELD WIRING DIAGRAM
COUNTY ROAD-J/85TH AVENUE NE (CSAH 1/32)
AT 35W SERVICE DRIVE

FILE NO. ARAMSE0503	274
SG28 OF SG51	297

03:40:15 PM

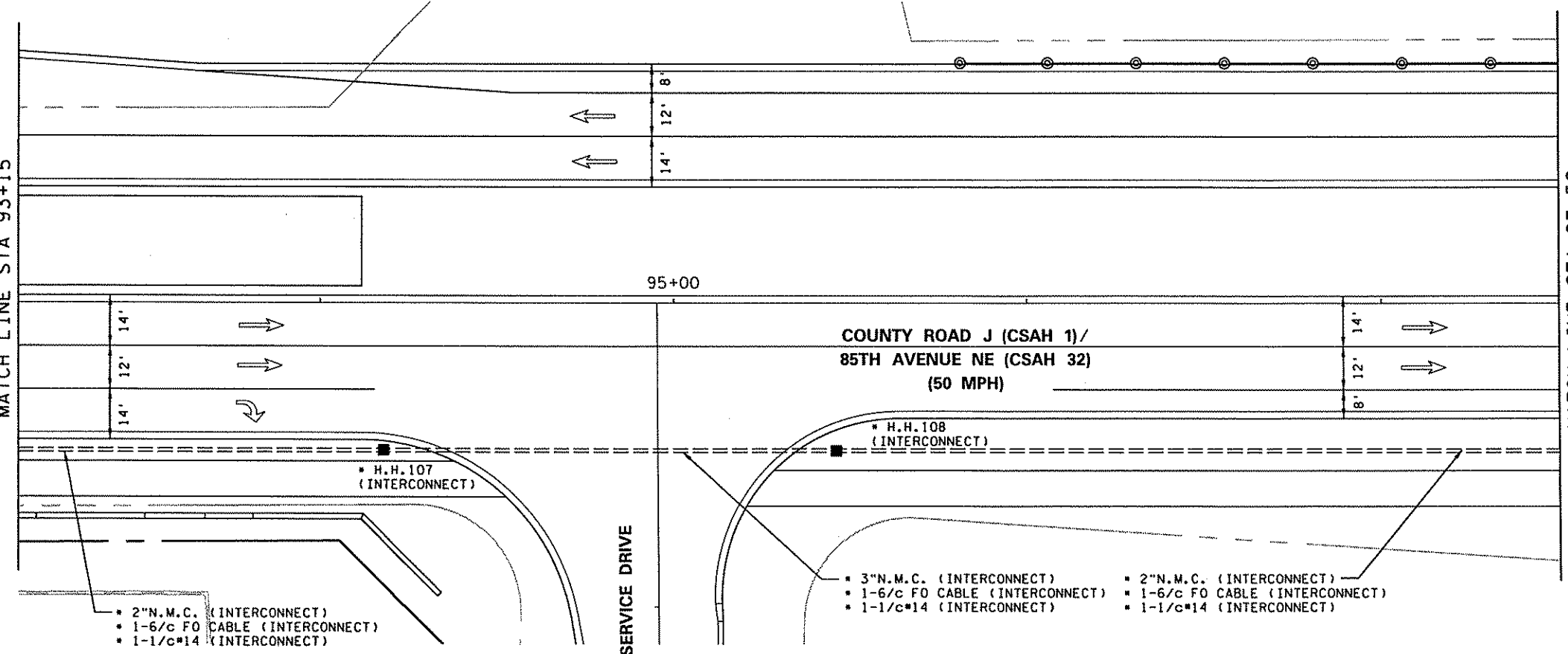
02/17/2006

sg29



(TO SIGNAL SYSTEM "E")
MATCH LINE STA 93+15

MATCH LINE STA 97+50

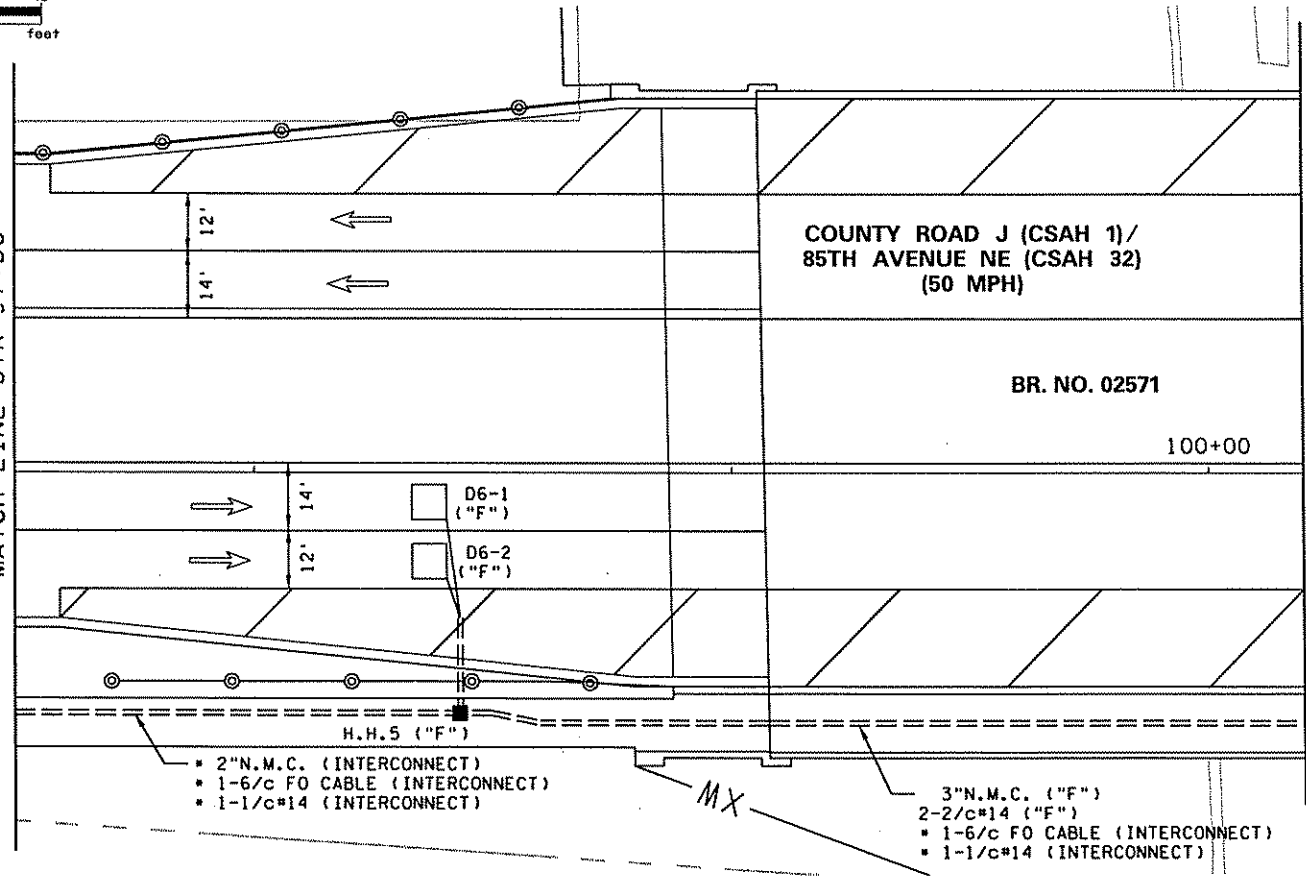


- NOTES:
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TEL. NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).



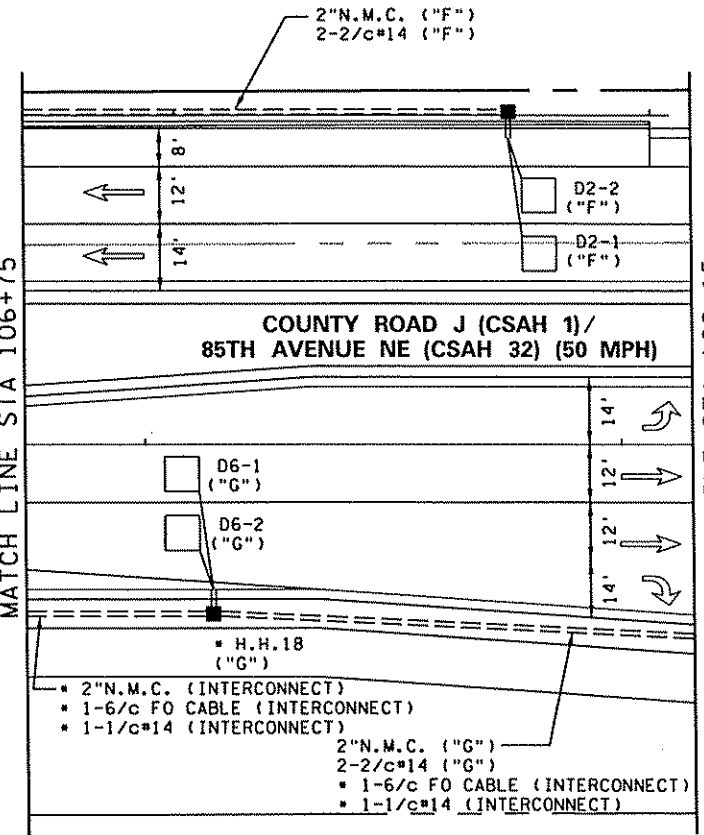
MATCH LINE STA 97+50

MATCH LINE STA 100+20
(TO SIGNAL SYSTEM "F")



TO SIGNAL SYSTEM "F"
MATCH LINE STA 106+75

MATCH LINE STA 108+15
TO SIGNAL SYSTEM "G"

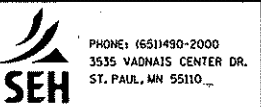


DESIGN TEAM			
DRAWN BY:	CIF		
DESIGNER:	JMG		
CHECKED BY:	JMG		
NO.	BY	DATE	REVISIONS

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.

Certified By: Lic. No. 22457

Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEMS /
 INTERCONNECT
 INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 (BETWEEN SIGNAL SYSTEMS "E" AND "G")

FILE NO. 275
 ARAMSE0503
 SG29
 OF SGI 297

- NOTES:**
- (1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
 - (2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - (3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION OVERLAID "FILLED" HAND/WALKING PERSON INDICATION.
 - (4) ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED INDICATIONS.
 - (5) A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 6 FEET FROM THE END OF THE MAST ARM ON EACH POLE.
 - (6) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).

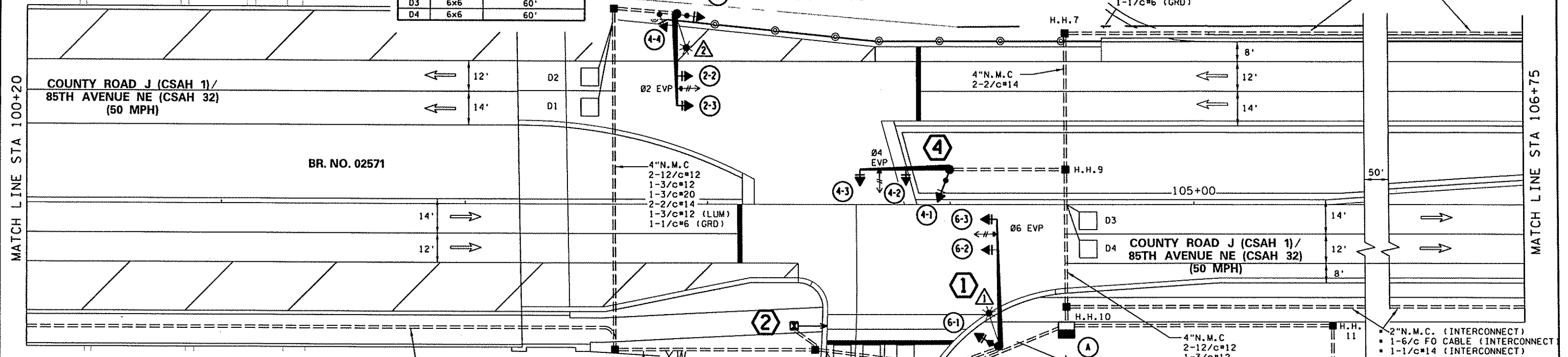
NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION
D2-1	6x6	400'
D2-2	6x6	400'
D4-1	2-6x6	130'
D4-2	6x6	130'
D4-3	2-6x6	0' & 15'
D4-4	2-6x6	0' & 15'
D4-5	2-6x6	0' & 15'
D6-1	6x6	475'
D6-2	6x6	475'
D1	6x6	60'
D2	6x6	60'
D3	6x6	60'
D4	6x6	60'

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

3 PA90 POLE FOUNDATION
 TYPE PA90-A-35-T30-10
 LUMINAIRE-200 W HPS AT 350°
 2-ONE WAY SIGNALS-OVERHEAD (0 FT AND 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 1-R9-3a SIGN PANEL-FACING POLE 2
 ONE WAY EVP DETECTOR AND LIGHT (Ø2)
 TYPE "D" SIGN PANEL-OVERHEAD (D-17)
 R3-2 SIGN PANEL-OVERHEAD
 EXTEND INTO H.H.6:
 4" N.M.C.
 2-12/c#12
 1-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 1-1/c#6 (GRD)

4 PA100 POLE FOUNDATION
 TYPE PA100-A-35
 2-ONE WAY SIGNALS-OVERHEAD (0 FT AND 17 FT FROM END OF MAST ARM)
 1-ONE WAY SIGNAL-POLE MOUNTED 225°
 2-R9-3a SIGN PANELS-FACING POLE 1 AND NE CORNER
 ONE WAY EVP DETECTOR AND LIGHT (Ø4)
 TYPE "D" SIGN PANEL-OVERHEAD (D-18)
 EXTEND INTO H.H.9:
 4" N.M.C.
 2-12/c#12
 1-3/c#12
 1-3/c#20
 1-1/c#6 (GRD)



- (7) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS, AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565).
- (8) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY.
- (9) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565).
- (10) ALL CONDUIT SHALL BE "RED" SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH WALL INNERDUCT SCHEDULE 80, EXCEPT AS OTHERWISE NOTED IN THE PLANS.
- (11) SPLICING OF THE 1-1/c#6 INSULATED GREEN-EQUIPMENT GROUNDING CONDUCTORS IN HANDHOLES WILL NOT BE PERMITTED.

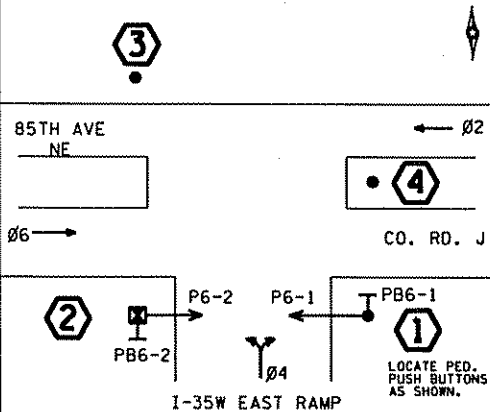
SEE SHEET TP3 FOR EXISTING UTILITIES.

2 PEDESTAL FOUNDATION
 10' PEDESTAL POLE (INCLUDES BASE)
 WIND COLLAR FOR PEDESTAL POLE
 1-SET PEDESTRIAN INDICATIONS AND MOUNTING BRACKETS
 1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
 1-R9-3a SIGN PANEL-FACING POLE 3
 EXTEND INTO H.H.3:
 4" N.M.C.
 2-3/c#12
 1-1/c#6 (GRD)

1 PA100 POLE FOUNDATION
 TYPE PA100-A-50-T30-10
 LUMINAIRE-200 W HPS AT 350°
 2-ONE WAY SIGNALS-OVERHEAD (0 FT AND 11 FT FROM END OF MAST ARM)
 1-ONE WAY SIGNAL-POLE MOUNTED 225°
 1-SET PEDESTRIAN INDICATIONS-POLE MOUNTED 225°
 1-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
 1-R9-3a SIGN PANEL-FACING POLE 4
 ONE WAY EVP DETECTOR AND LIGHT (Ø6)
 R3-2 SIGN PANEL-OVERHEAD
 EXTEND INTO H.H.1:
 4" N.M.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 2-1/c#6 (GRD)

- A** EQUIPMENT PAD-SEE DETAILS
 CONTROLLER AND CABINET
 SERVICE CABINET
 SERVICE CABINET TO H.H. 11:
 2"N.M.C.
 2-3/c#12 (LUM)
 1-1/c#6 (GRD)
- B** WOOD POLE (SOP) - TO BE F & I BY XCEL ENERGY
 2"R.S.C. RISER AND WEATHERHEAD
 3-1/c#2
 EXTEND INTO H.H. 11:
 2"R.S.C.
 3-1/c#2
- CONTROLLER CABINET TO H.H. 1:
 4"N.M.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 6-2/c#14
 1-6/c FO CABLE (INTERCONNECT)
 1-1/c#14 (INTERCONNECT)
 1-1/c#6 (GRD)
- SERVICE CABINET TO H.H. 10:
 2"N.M.C.
 2-3/c#12 (LUM)
 1-1/c#6 (GRD)
- SERVICE CABINET TO H.H. 10:
 2"N.M.C.
 (FOR FUTURE USE)
- BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
 2"N.M.C.
 2-1/c#6
 1-1/c#6 Ins. Gr.
- CONTROLLER CABINET TO H.H. 15:
 4"N.M.C.
 2-12/c#12
 1-3/c#12
 1-3/c#20
 4-2/c#14
 1-6/c FO CABLE (INTERCONNECT)
 1-1/c#14 (INTERCONNECT)
 1-1/c#6 (GRD)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



RAMSEY COUNTY INTERSECTION ID * = 386
 Mn/DOT SYSTEM ID = 22007
 METER ADDRESS = 3402 85TH AVENUE NE

SIGNING:
 -F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 3 AND 4 (SEPARATE PAY ITEM).
 -PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
 -ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SIGNAL UNLESS SPECIFIC PAY ITEM IS INDICATED.

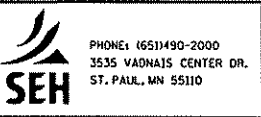
SIGNAL SYSTEM OPERATIONS:
 -SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 -NORMAL OPERATION SHALL BE 3 PHASE.
 -PHASES 2 AND 6 SHALL BE LOCK DETECTION.
 -PHASES 8 SHALL BE NON-LOCK DETECTION.
 -VEHICLE PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
2-1, 2-2, 2-3	●	●	●			
6-1, 6-2, 6-3	●	●	●			
4-1, 4-2	→	→	→			
4-3, 4-4	→	→	→			

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	CIF			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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.
 Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 02/17/2006

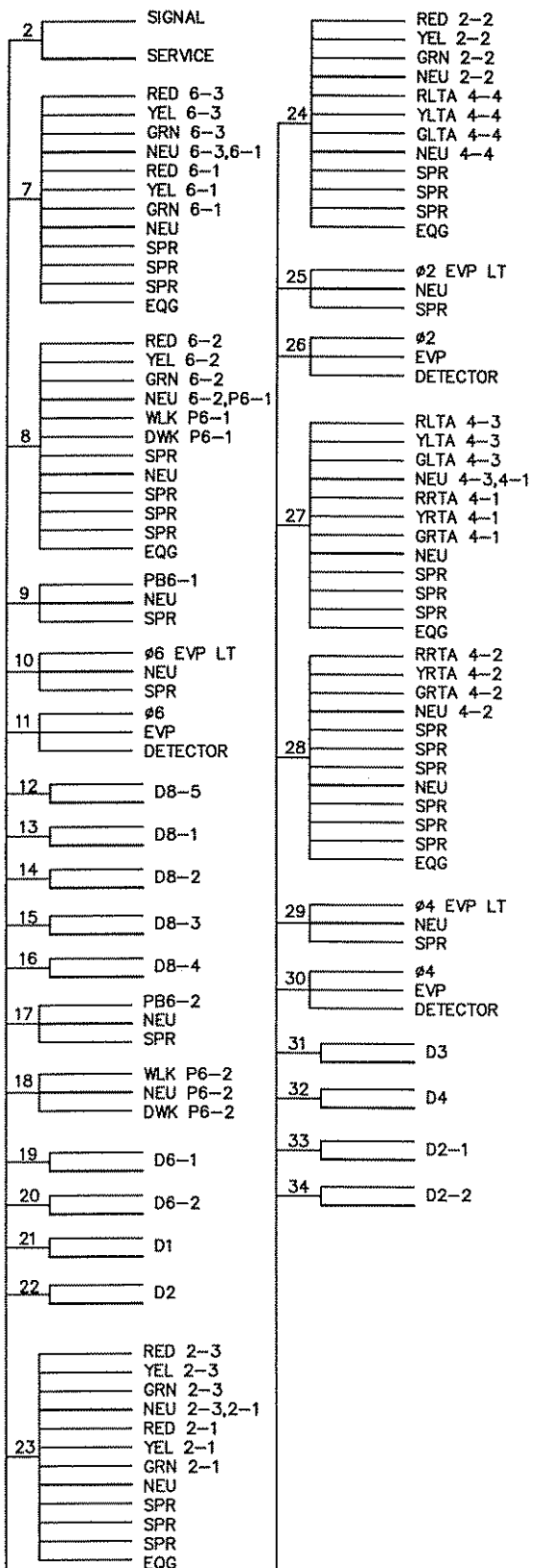


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

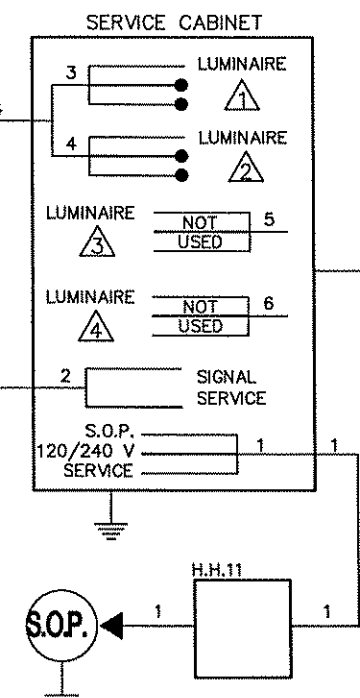
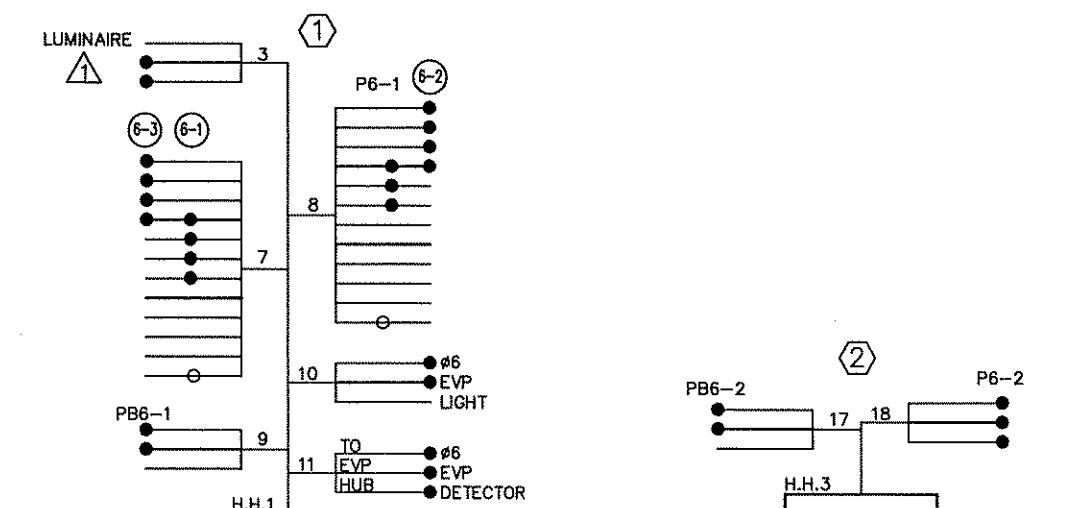
TRAFFIC SIGNAL SYSTEM "F"
INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT INTERSTATE 35W SE RAMP

FILE NO. ARAMSE0503
 SG30 OF SG51
 276
 297

CONTROLLER AND CABINET

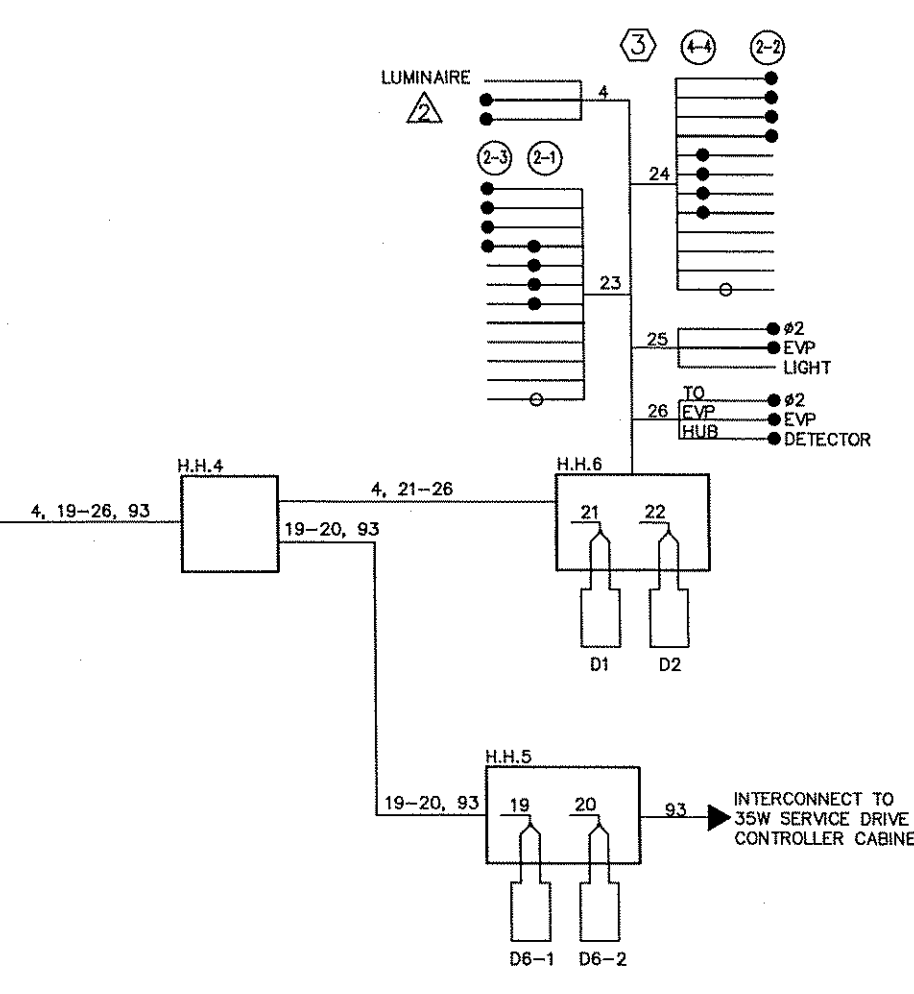


93 INTERCONNECT TO 35W SERVICE DR
94 INTERCONNECT TO RICE CREEK PKWY



CONDUCTOR COLOR CODE

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

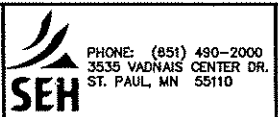


TO H.H.10- SEE NEXT SHEET

RAMSEY COUNTY INTERSECTION ID = 386
MNDOT SYSTEM ID = 22007
METER ADDRESS = 3402 85TH AVENUE NE

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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Certified By: *John M. Gray* Lic.No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM 'F'
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT INTERSTATE 35W SE RAMP

FILE NO. ARAMSE0503	277
SG31 OF SG51	297

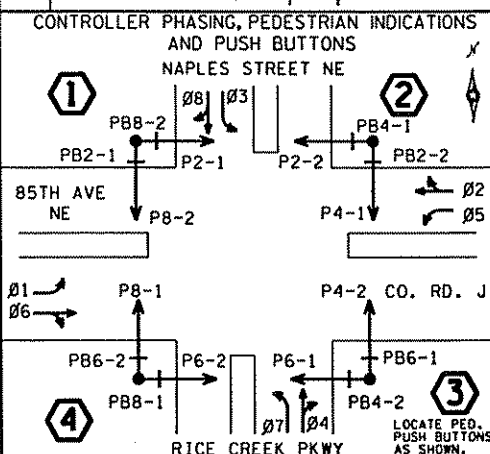
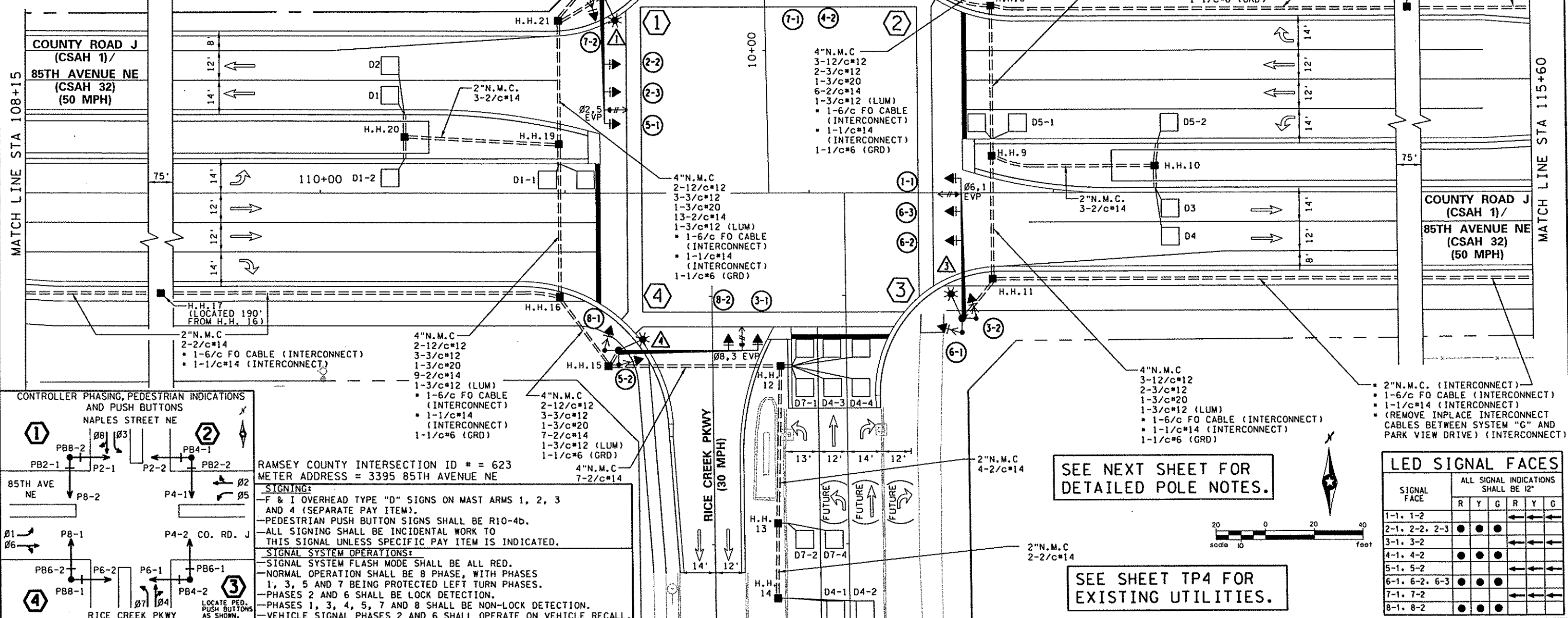
02/17/2006 sg33 03:40:19 PM 50300\pnh\ts\signal\ramsey0503_s0.dgn

- NOTES:**
- LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE LOCATED IN THE FIELD BY THE ENGINEER.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION OVERLAID "FILLED" HAND/WALKING PERSON INDICATION.
 - ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED INDICATIONS.
 - A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 6 FEET FROM THE END OF THE MAST ARM ON EACH POLE.
 - (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
 - CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565).
 - CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY.
 - SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565).
 - ALL CONDUIT SHALL BE "RED" SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) SMOOTH WALL INNERDUCT SCHEDULE 80, EXCEPT AS OTHERWISE NOTED IN THE PLANS.
 - SPLICING OF 1-1/2" INSULATED GREEN-EQUIPMENT GROUNDING CONDUCTORS IN HANDHOLES WILL NOT BE PERMITTED.

NMC LOOP DETECTORS

NUMBER	SIZE (FEET)	LOCATION
D1-1	2-6x6	0' & 15'
D1-2	6x6	80'
D2-1	6x6	400'
D2-2	6x6	400'
D3-1	2-6x6	0' & 15'
D3-2	6x6	80'
D4-1	6x6	130'
D4-2	6x6	130'
D4-3	2-6x6	0' & 15'
D4-4	2-6x6	0' & 15'
D5-1	2-6x6	0' & 15'
D5-2	6x6	80'
D6-1	6x6	400'
D6-2	6x6	400'
D7-1	2-6x6	0' & 15'
D7-2	6x6	80'
D7-4	6x6	80'
D8-1	6x6	130'
D8-2	6x6	130'
D8-3	2-6x6	0' & 15'
D8-4	2-6x6	0' & 15'
D1	6x6	80'
D2	6x6	80'
D3	6x6	80'
D4	6x6	80'

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



RAMSEY COUNTY INTERSECTION ID # = 623
METER ADDRESS = 3395 85TH AVENUE NE

SIGNING:

- F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, 3 AND 4 (SEPARATE PAY ITEM).
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
- ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SIGNAL UNLESS SPECIFIC PAY ITEM IS INDICATED.

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.
- PHASES 2 AND 6 SHALL BE LOCK DETECTION.
- PHASES 1, 3, 4, 5, 7 AND 8 SHALL BE NON-LOCK DETECTION.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON VEHICLE RECALL.

SEE NEXT SHEET FOR DETAILED POLE NOTES.

SEE SHEET TP4 FOR EXISTING UTILITIES.



LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	R	Y	G	R	Y	G
1-1, 1-2	●	●	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●	●	●
3-1, 3-2	●	●	●	●	●	●
4-1, 4-2	●	●	●	●	●	●
5-1, 5-2	●	●	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●	●	●
7-1, 7-2	●	●	●	●	●	●
8-1, 8-2	●	●	●	●	●	●

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	CIF			
DESIGNER:	JMG			
CHECKED BY:	JMG			
	NO.	BY	DATE	REVISIONS

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Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 02/17/2006



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "G"
INTERSECTION LAYOUT
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT RICE CREEK PKWY/NAPLES STREET NE (CSAH 23)

FILE NO. 279
ARAME0503
SG33
OF 5051
297

03:40:20 PM
02/17/2006
sg34
x:\p1\ram_50300\plans\ts\signal\ramse0503.sg.dgn

① PA100 POLE FOUNDATION
 TYPE PA100-A-50-T30-10
 LUMINAIRE-200 W HPS AT 350°
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT AND 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø2,5)
 TYPE "D" SIGN PANEL-OVERHEAD (D-19)
 EXTEND INTO H.H.21:
 4"N.M.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 2-1/c#6 (GRD)

③ PA100 POLE FOUNDATION
 TYPE PA100-A-55-T30-10
 LUMINAIRE-200 W HPS AT 350°
 3-ONE WAY SIGNALS-OVERHEAD (0 FT, 11 FT AND 23 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø6,1)
 TYPE "D" SIGN PANEL-OVERHEAD (D-21)
 EXTEND INTO H.H.11:
 4"N.M.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 1-1/c#6 (GRD)

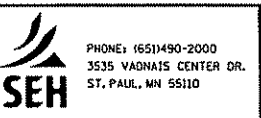
② PA100 POLE FOUNDATION
 TYPE PA100-A-55-T30-10
 LUMINAIRE-200 W HPS AT 350°
 2-ONE WAY SIGNALS-OVERHEAD (0 FT & 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø4,7)
 TYPE "D" SIGN PANEL-OVERHEAD (D-20)
 EXTEND INTO H.H.5:
 4"N.M.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 2-1/c#6 (GRD)

④ PA100 POLE FOUNDATION
 TYPE PA100-A-55-T30-10
 LUMINAIRE-200 W HPS AT 350°
 2-ONE WAY SIGNAL-OVERHEAD (0 FT AND 11 FT FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° AND 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° AND 225°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (Ø8,3)
 TYPE "D" SIGN PANEL-OVERHEAD (D-22)
 EXTEND INTO H.H.15:
 4"N.M.C.
 2-12/c#12
 3-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)
 1-1/c#6 (GRD)

RAMSEY COUNTY INTERSECTION ID # = 623
 METER ADDRESS = 3395 85TH AVENUE NE

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY: CIF				
DESIGNER: JMG				
CHECKED BY: JMG				
	NO.	BY	DATE	REVISIONS

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.
 Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 02/17/2006

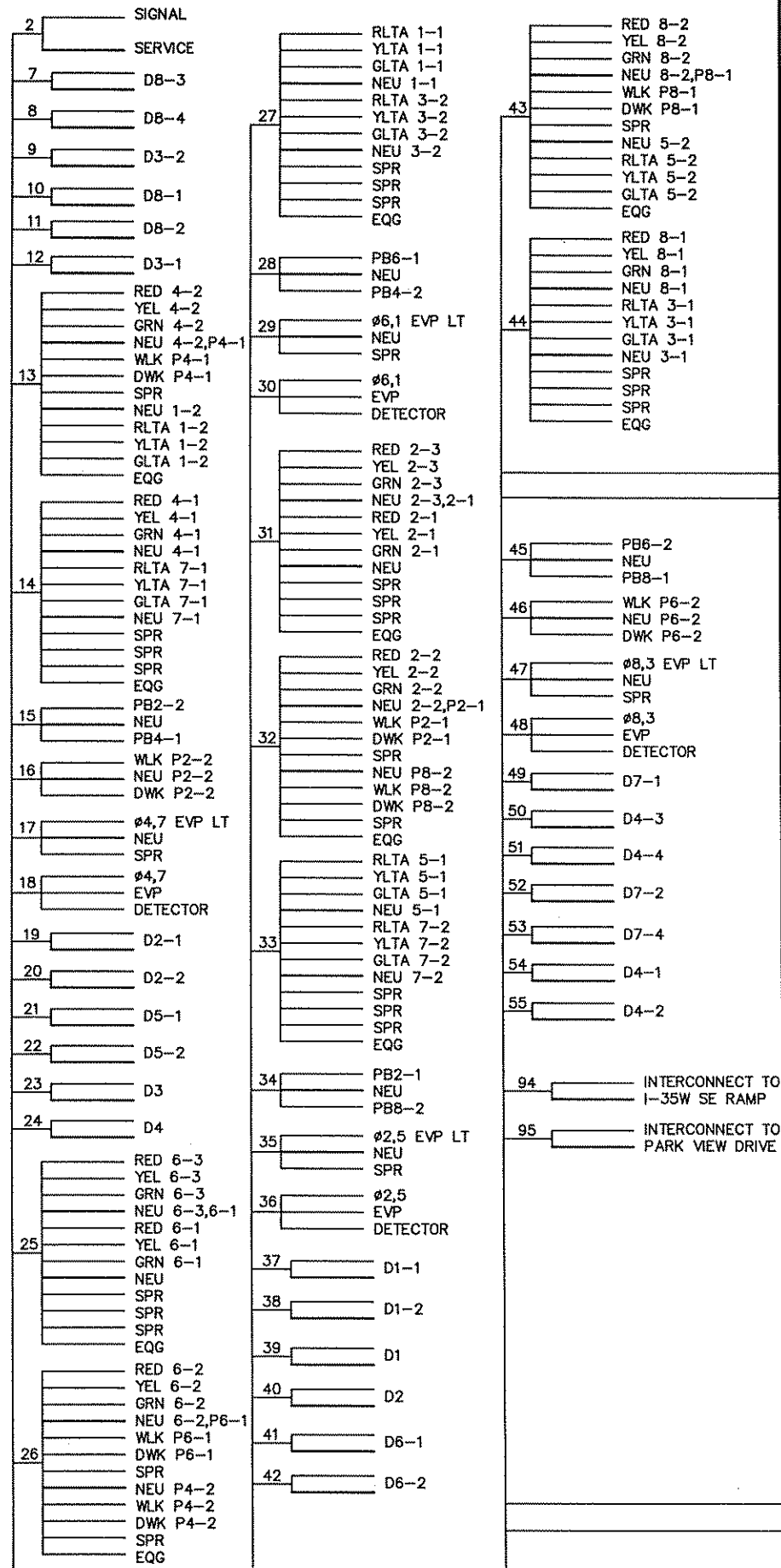


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

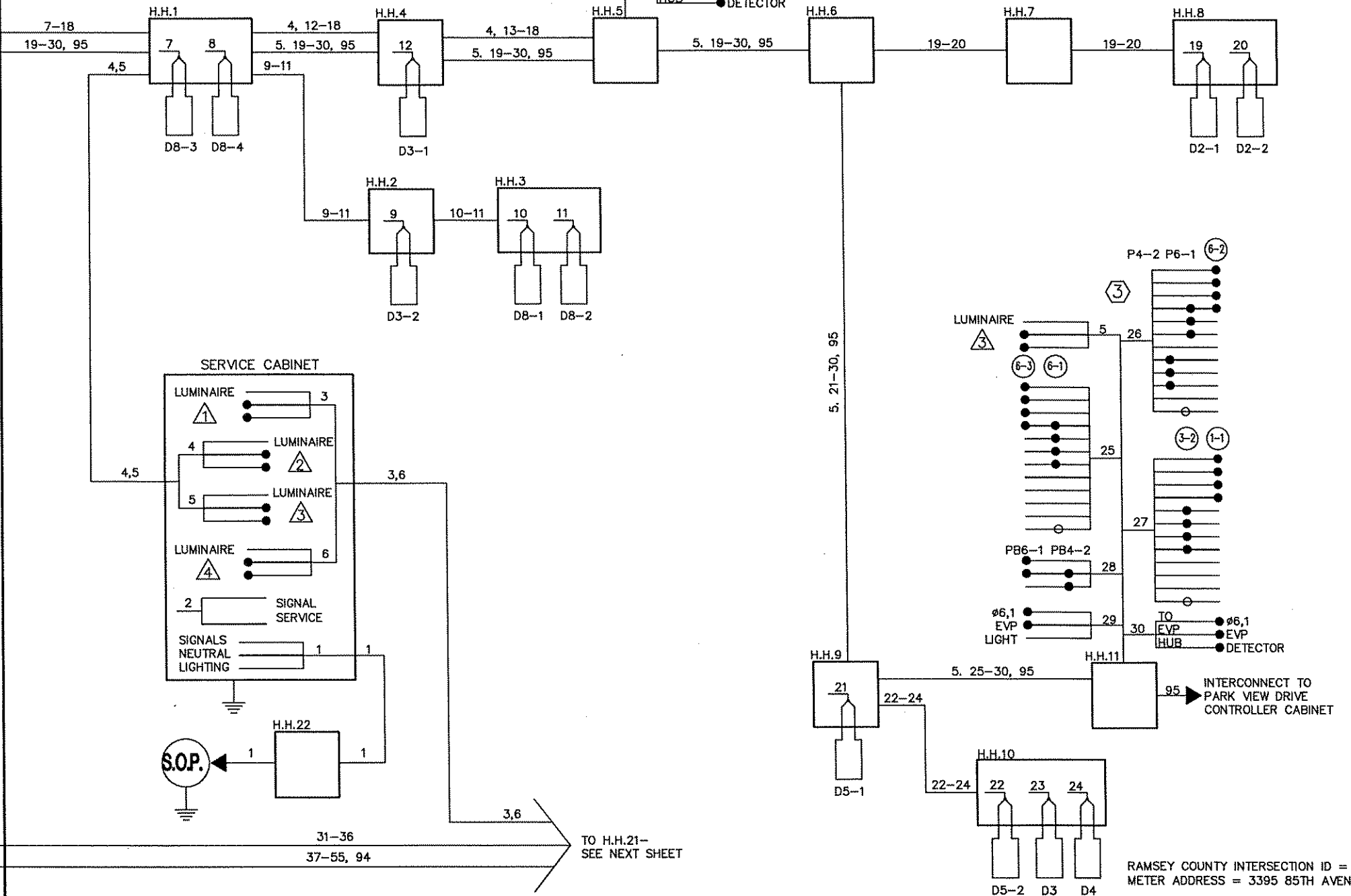
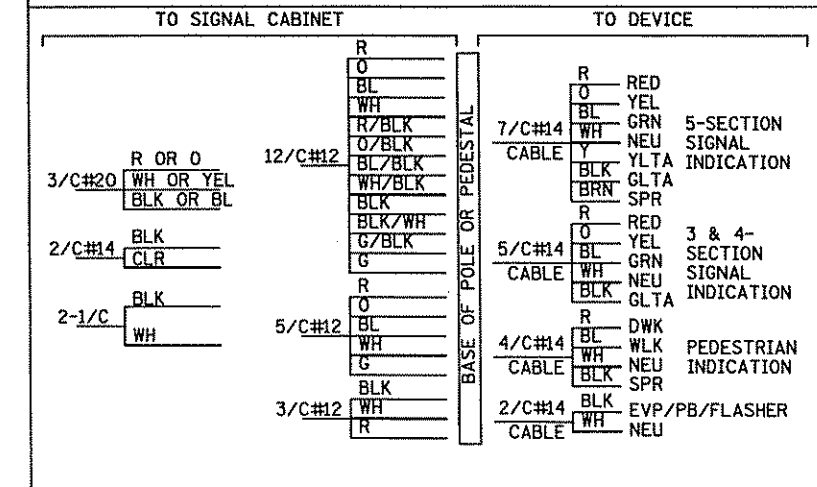
TRAFFIC SIGNAL SYSTEM "G"
 INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT
 RICE CREEK PKWY/NAPLES STREET NE (CSAH 23)

FILE NO.	280
ARAMSE0503	
SG34	297
OF SCS	

CONTROLLER AND CABINET



CONDUCTOR COLOR CODE

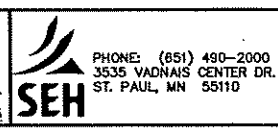


RAMSEY COUNTY INTERSECTION ID = 623
METER ADDRESS = 3395 85TH AVENUE NE

S:\NO\RAMSEY\0503006.DWG

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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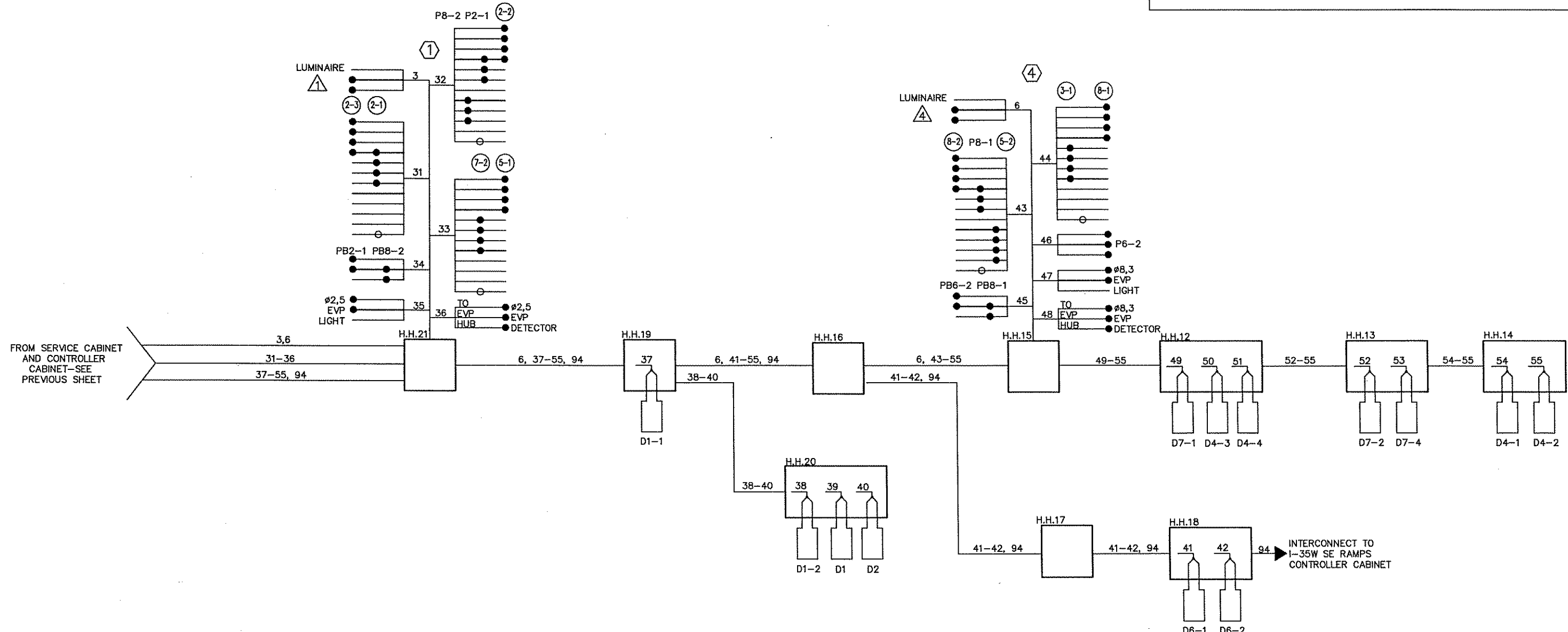


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "G"
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT RICE CREEK PKWY/NAPLES ST (CSAH 23)

FILE NO. ARAMSE0503
SG35 OF SG51
281
297

CONDUCTOR COLOR CODE			
TO SIGNAL CABINET	TO DEVICE		
3/C#20 R OR 0 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 R O BL WH G BLK WH R	7/C#14 CABLE Y BLK BRN	5-SECTION SIGNAL INDICATION GLTA SPR
2/C#14 BLK CLR	5/C#14 CABLE R O BL WH G BLK WH R	5/C#14 CABLE BLK WH	3 & 4- SECTION SIGNAL INDICATION GLTA SPR
2-1/C BLK WH	5/C#12 R O BL WH G BLK WH R	4/C#14 CABLE WH BLK WH	PEDESTRIAN INDICATION WLNK SPR
	3/C#12 WH R	2/C#14 CABLE BLK WH	EVP/PB/FLASHER NEU

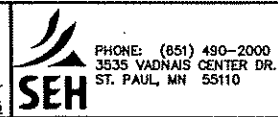


RAMSEY COUNTY INTERSECTION ID = 623
METER ADDRESS = 3395 85TH AVENUE NE

X:\NO\RAMSEY\20030007\3\SIGNAL\SIGWIRE.DWG

DESIGN TEAM	1	JMG	1/16/06	REVISED PER COUNTY COMMENTS
DRAWN BY:	JMG			
DESIGNER:	JMG			
CHECKED BY:	JMG			
NO.	BY	DATE	REVISIONS	

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Printed Name: JOHN M. GRAY Date: 12/15/05

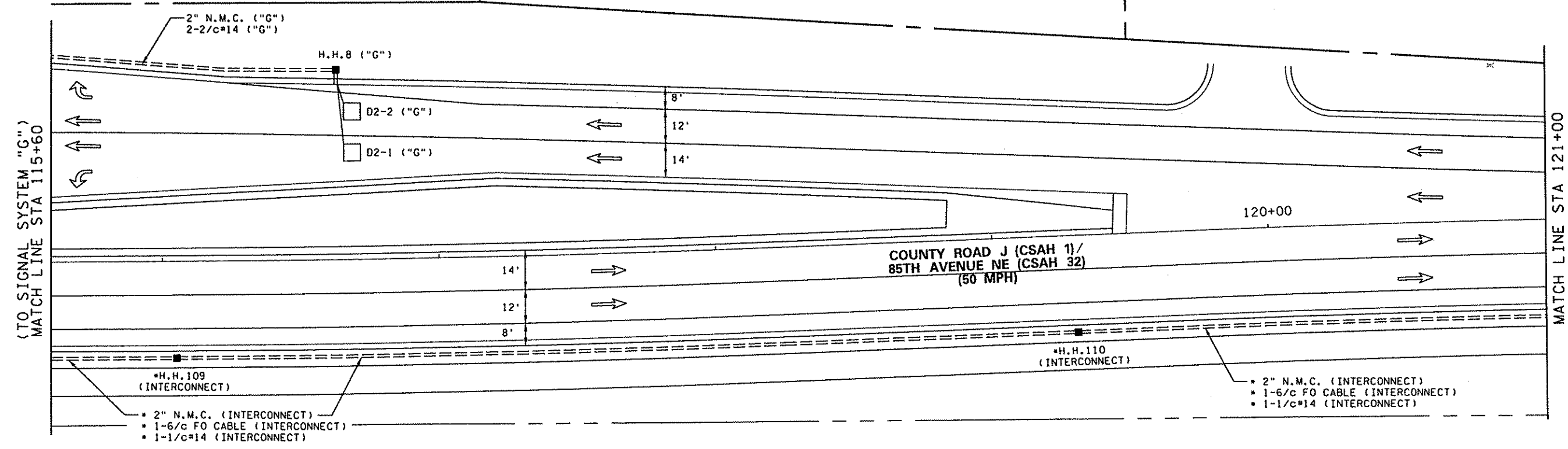


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC SIGNAL SYSTEM "G"
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT RICE CREEK PKWY/NAPLES ST (CSAH 23)

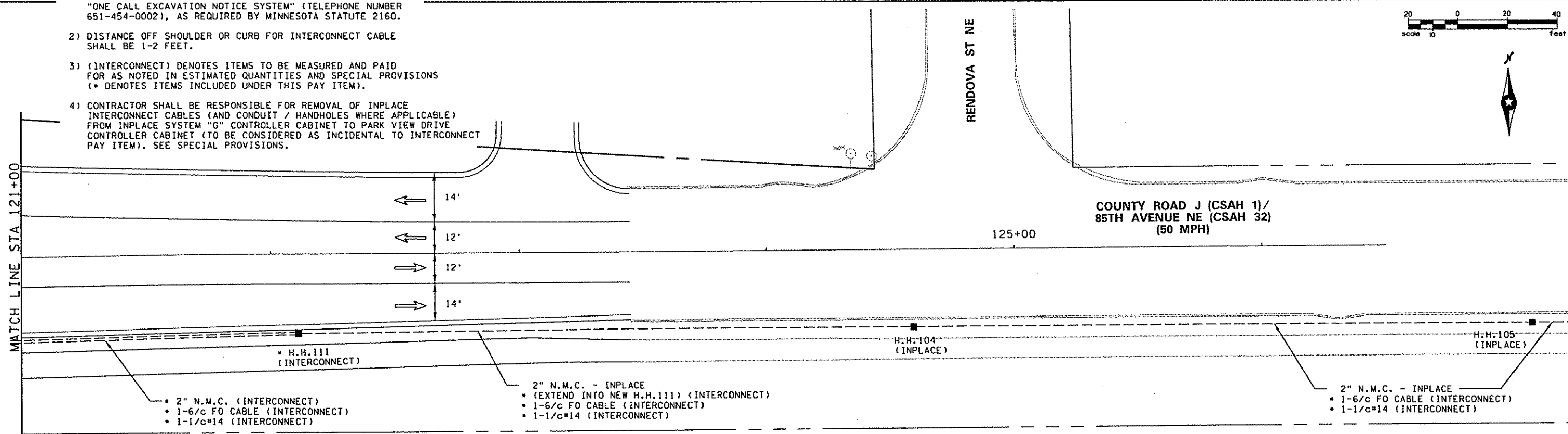
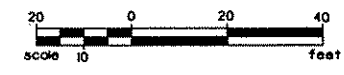
FILE NO. ARAMSE0503	282
SG36 OF 551	297

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sg37
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NOTES:

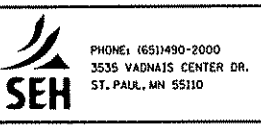
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
- 4) CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF INPLACE INTERCONNECT CABLES (AND CONDUIT / HANDHOLES WHERE APPLICABLE) FROM INPLACE SYSTEM "G" CONTROLLER CABINET TO PARK VIEW DRIVE CONTROLLER CABINET (TO BE CONSIDERED AS INCIDENTAL TO INTERCONNECT PAY ITEM). SEE SPECIAL PROVISIONS.



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

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Certified By: *John M. Gray* Lic. No. 22457
 Licensed Professional Engineer
 Printed Name: JOHN M. GRAY Date: 02/17/2006

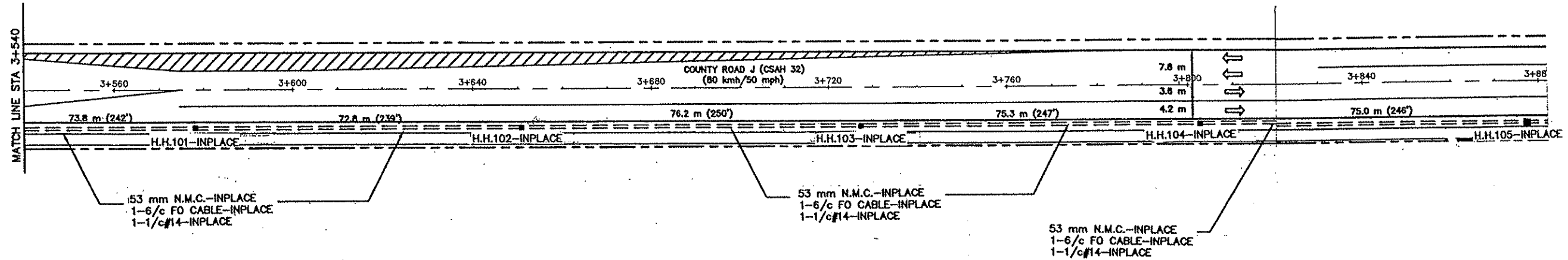
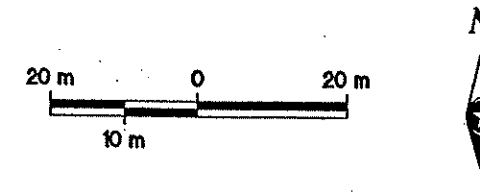


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**TRAFFIC SIGNAL SYSTEM "G" /
 INTERCONNECT INTERSECTION LAYOUT**
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1 / 32)
 (BETWEEN RICE CREEK PKWY AND PROJECT LIMITS)

FILE NO. **283**
 ARAMSE0503
 SG37
 OF 505
297

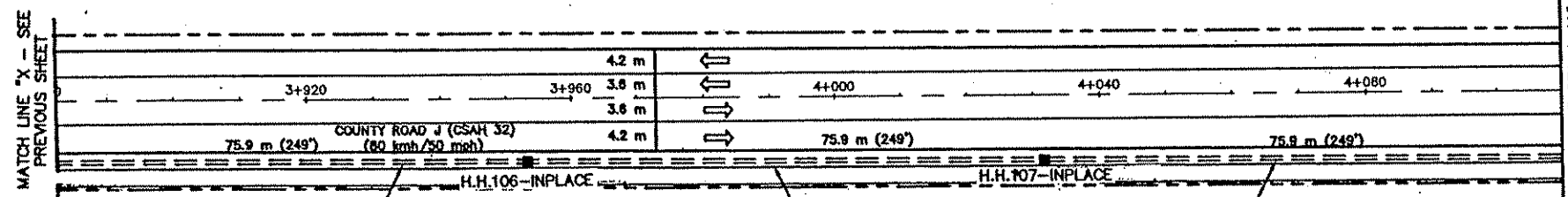
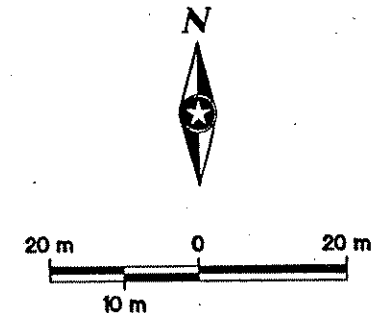
NOTE: STATION 3+540 TO STATION 3+880 ON THE TOP OF THIS PLAN SHEET IS THE INPLACE INTERCONNECT RUN AND IS BEING SHOWN FOR INFORMATIONAL PURPOSES ONLY.



NOTES:

- 1) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
- 2) CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF INPLACE INTERCONNECT CABLES (AND CONDUIT AND HANDHOLES WHERE APPLICABLE) FROM INPLACE SYSTEM "G" CONTROLLER CABINET TO PARK VIEW DRIVE CONTROLLER CABINET (TO BE CONSIDERED AS INCIDENTAL TO INTERCONNECT PAY ITEM). SEE SPECIAL PROVISIONS.

NOTE: STATION 3+880 TO STATION 4+110 ON THE BOTTOM OF THIS PLAN SHEET IS INTERCONNECT WORK TO BE COMPLETED BY CONTRACTOR AS PART OF THIS PROJECT.



53 mm N.M.C.-INPLACE
 * 1-6/c FO CABLE-INPLACE (REMOVE) (INTERCONNECT)
 * 1-1/c#14-INPLACE (REMOVE) (INTERCONNECT)
 * 1-6/c FO CABLE - F & I (INTERCONNECT)
 * 1-1/c#14 - F & I (INTERCONNECT)

53 mm N.M.C.-INPLACE
 * 1-6/c FO CABLE-INPLACE (REMOVE) (INTERCONNECT)
 * 1-1/c#14-INPLACE (REMOVE) (INTERCONNECT)
 * 1-6/c FO CABLE - F & I (INTERCONNECT)
 * 1-1/c#14 - F & I (INTERCONNECT)

NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

X:\PT\RAMSEY\050300\PLANS\SIGN\PLAN\PLANS.DWG

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

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.
 Certified By: *[Signature]* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC CONTROL INTERCONNECTION INTERSECTION LAYOUT
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 (RICE CREEK PKWY TO PARK VIEW DRIVE)

FILE NO. ARAMSE0503	284
SG38 OF 561	297

NOTES:

- 1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
- 4) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED INDICATIONS. SEE SPECIAL PROVISIONS.
- 5) A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 0.6 m, 1.2 m AND 1.8 m FROM END OF THE MAST ARM ON EACH MAST ARM PER Mn/DOT 3831.2C.
- 6) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
- 7) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 8) ALL LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (meters)	LOCATION	FUNCTION
D2-1	1.7 x 1.7	100 m	C & E
D4-1	2-1.7 x 1.7	45 m	C & E
D4-2	2-1.7 x 1.7	20 m	C & E
D4-3	2-1.7 x 1.7	0 m & 4.5 m	C & E (TD)
D4-4	2-1.7 x 1.7	0 m & 4.5 m	C & E (TD)
D5-1	2-1.7 x 1.7	0 m & 4.5 m	C & E
D5-2	1.7 x 1.7	25 m	C & E
D6-1	1.7 x 1.7	110 m	C & E
D6-2	1.7 x 1.7	110 m	C & E
D1	1.7 x 1.7	25 m	COUNT
D2	1.7 x 1.7	25 m	COUNT
D3	1.7 x 1.7	25 m	COUNT

C & E = CALL AND EXTEND
(TD) = TIME DELAYED
LOCATION = DISTANCE FROM CROSSWALK TO FRONT OF DETECTOR

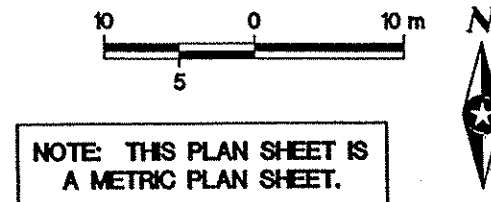
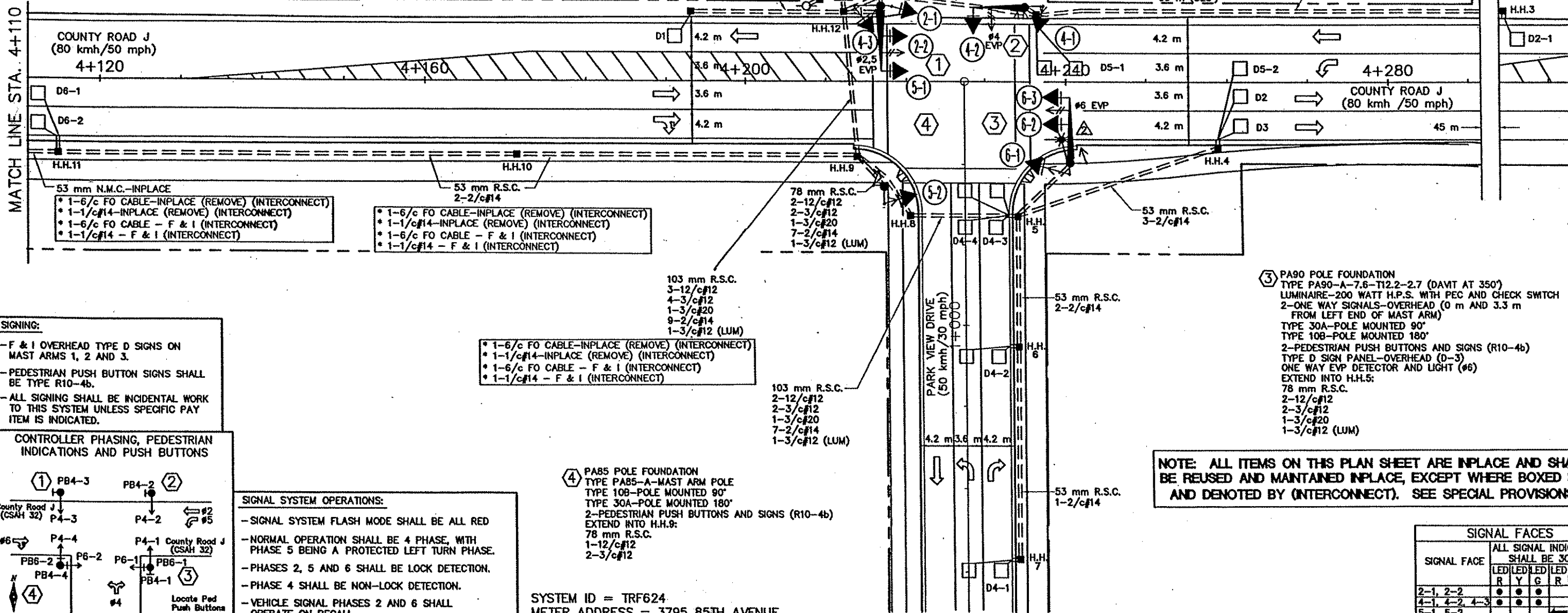
(B) INPLACE WOOD POLE (S.O.P.)
53 mm R.S.C. RISER AND WEATHERHEAD
3-1/c#2
EXTEND INTO H.H.14:
53 mm R.S.C.
3-1/c#2

(1) PA90 POLE FOUNDATION
TYPE PA90-A-7.6
2-ONE WAY SIGNALS-OVERHEAD (0 m, AND 3.3 m FROM LEFT END OF MAST ARM)
TYPE 10B-POLE MOUNTED 90°
TYPE 10A-POLE MOUNTED 270°
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-1)
ONE WAY EVP DETECTOR AND LIGHT (#2,5)
EXTEND INTO H.H.1:
78 mm R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

NOTES:

- 1) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS (* DENOTES ITEMS INCLUDED UNDER THIS PAY ITEM).
- 2) CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF INPLACE INTERCONNECT CABLES (AND CONDUIT AND HANDHOLES WHERE APPLICABLE) FROM INPLACE SYSTEM "G" CONTROLLER CABINET TO PARK VIEW DRIVE CONTROLLER CABINET (TO BE CONSIDERED AS INCIDENTAL TO INTERCONNECT PAY ITEM). SEE SPECIAL PROVISIONS.

MATCH LINE STA. 4+110



NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

(2) PA90 POLE FOUNDATION
TYPE PA90-A-6.1
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 180°
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-2)
ONE WAY EVP DETECTOR AND LIGHT (#4)
EXTEND INTO H.H.2:
78 mm R.S.C.
1-12/c#12
2-3/c#12
1-3/c#20

(3) PA90 POLE FOUNDATION
TYPE PA90-A-7.6-T12.2-2.7 (DAVT AT 350')
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
TYPE 30A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-3)
ONE WAY EVP DETECTOR AND LIGHT (#6)
EXTEND INTO H.H.5:
78 mm R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

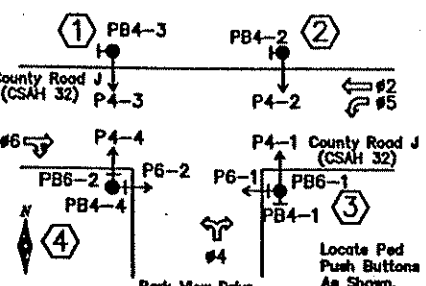
(4) PA85 POLE FOUNDATION
TYPE PA85-A-MAST ARM POLE
TYPE 10B-POLE MOUNTED 90°
TYPE 30A-POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
EXTEND INTO H.H.9:
78 mm R.S.C.
1-12/c#12
2-3/c#12

NOTE: ALL ITEMS ON THIS PLAN SHEET ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (INTERCONNECT). SEE SPECIAL PROVISIONS.

SIGNING:

- F & I OVERHEAD TYPE D SIGNS ON MAST ARMS 1, 2 AND 3.
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE TYPE R10-4b.
- ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SYSTEM UNLESS SPECIFIC PAY ITEM IS INDICATED.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED
- NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 5 BEING A PROTECTED LEFT TURN PHASE.
- PHASES 2, 5 AND 6 SHALL BE LOCK DETECTION.
- PHASE 4 SHALL BE NON-LOCK DETECTION.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SYSTEM ID = TRF624
METER ADDRESS = 3795 85TH AVENUE

SIGNAL FACES	
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 300 mm.
2-1, 2-2	LED R Y G LED R Y G
4-1, 4-2, 4-3	LED R Y G LED R Y G
5-1, 5-2	LED R Y G LED R Y G
6-1, 6-2, 6-3	LED R Y G LED R Y G

DESIGN TEAM			
NO.	BY	DATE	REVISIONS

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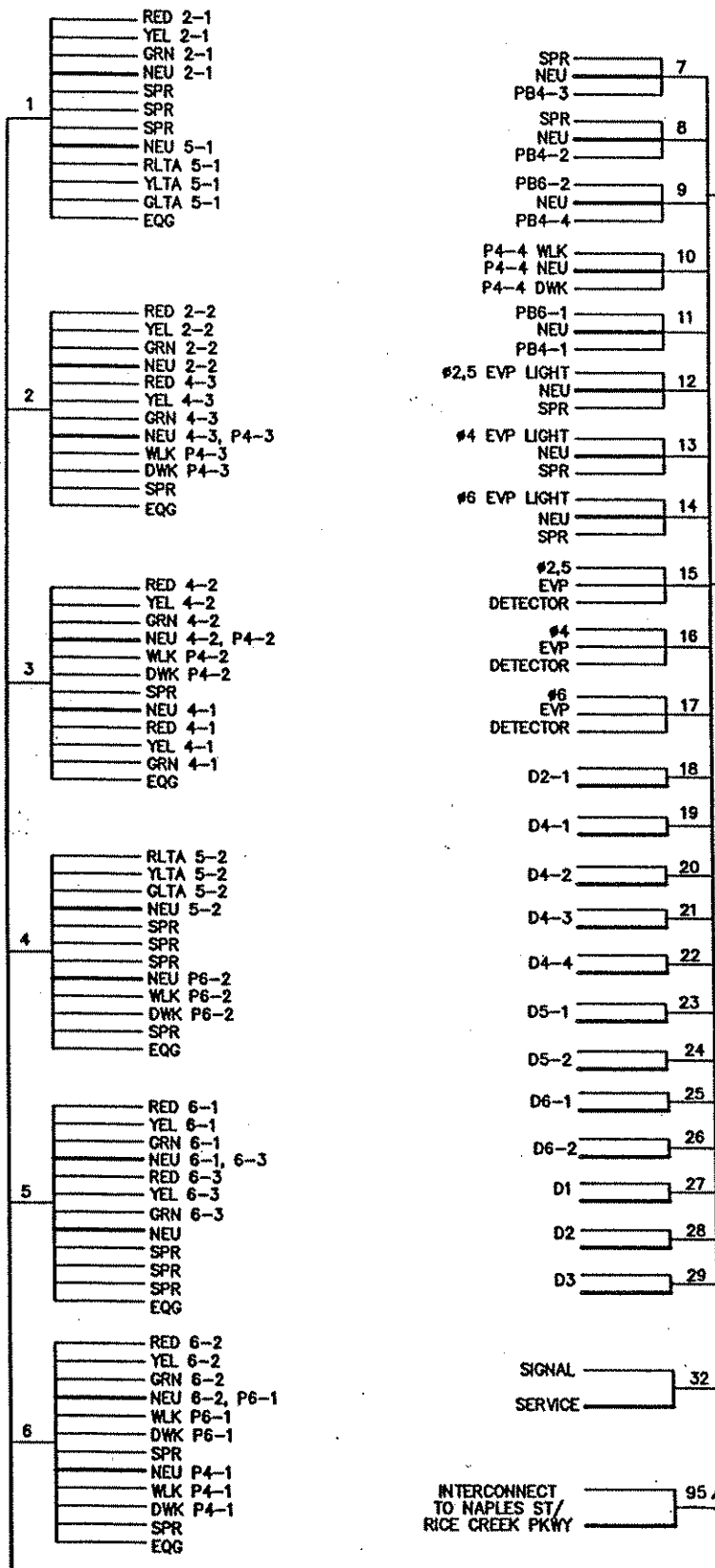


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

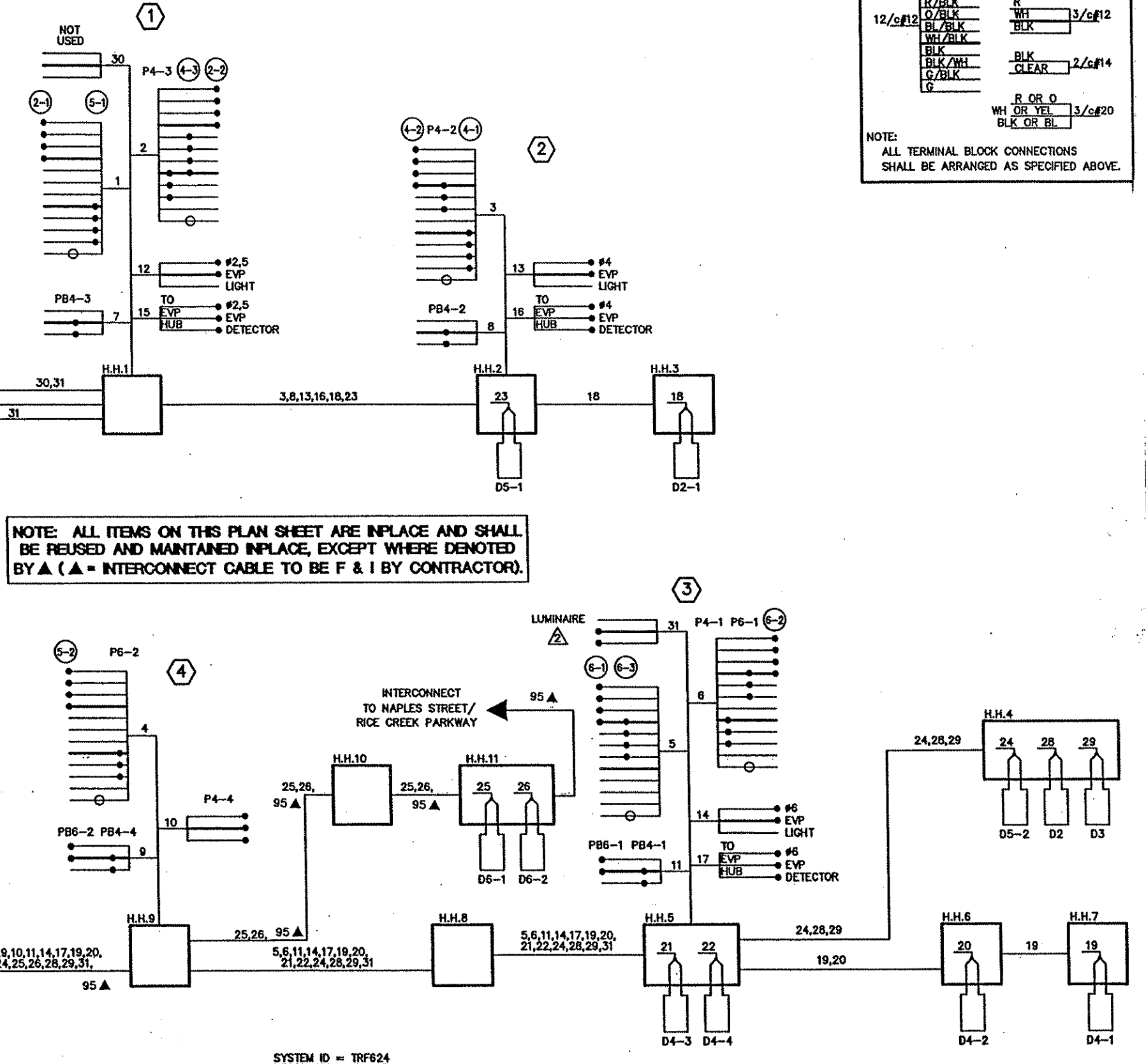
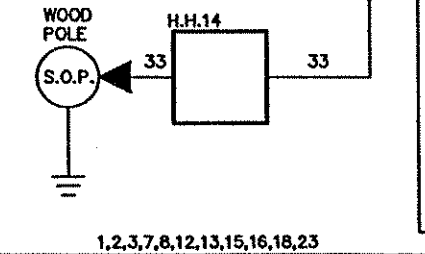
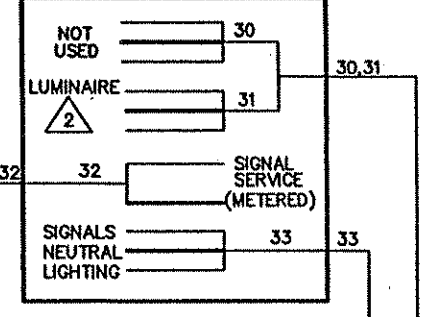
TRAFFIC CONTROL INTERCONNECTION INTERSECTION LAYOUT
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT PARK VIEW DRIVE

FILE NO. ARAMSE0503
SG39 OF SG51
285
297

CONTROLLER CABINET



SERVICE CABINET



NOTE: ALL ITEMS ON THIS PLAN SHEET ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = INTERCONNECT CABLE TO BE F & I BY CONTRACTOR).

CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL		
WH		
R/BLK	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O		
WH OR YEL		3/c#20
BLK OR BL		

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

SYSTEM ID = TRF624
METER ADDRESS = 3795 85TH AVENUE

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

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Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

TRAFFIC CONTROL INTERCONNECTION
FIELD WIRING DIAGRAM
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT PARK VIEW DRIVE

FILE NO. ARAM0503	286
SG40 OF SG51	297

- 1. BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2. SEE SPECIAL PROVISIONS FOR COUNTY-FURNISHED MATERIALS.
- 3. LOOP DETECTOR WIRES SHALL BE 12 A.W.G. CROSS-LINKED POLYETHYLENE (XLP) IN 21 mm N.M.C. (SEE SPECIAL PROVISIONS AND DETAILS.)
- 4. NOT USED
- 5. EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- 6. ALL VEHICLE SIGNAL INDICATIONS AND ALL PEDESTRIAN INDICATIONS SHALL BE L.E.D. TYPE. (SEE SPECIAL PROVISIONS.)
- 7. EACH PEDESTRIAN INDICATION SHALL BE A SINGLE SECTION HAND / WALKING PERSON INDICATION. (SEE SPECIAL PROVISIONS.)
- 8. SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- 9. THE PAVEMENT MARKINGS AND DIMENSIONS SHOWN ARE APPROXIMATE. PERMANENT PAVEMENT MARKINGS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL NOT CONSTRUCT ANY LOOP DETECTORS UNTIL THE PERMANENT PAVEMENT MARKING LOCATIONS HAVE BEEN ESTABLISHED BY THE ENGINEER.
- 10. SUPPLEMENTARY #3 AND #8 E.V.P. DETECTORS TO DETECT EMERGENCY VEHICLES TRAVELING EAST OR WEST ON 85TH AVENUE N.E.

- (A) INSTALL CONTROLLER AND CABINET (TO BE FURNISHED BY THE COUNTY)**
 CONTROLLER CABINET TO SERVICE CABINET VIA H.H. 17:
 35 mm R.S.C. (METERED SIGNAL SERVICE)
 3-1/C #6
 CONTR. CABINET TO H.H. 1:
 103 mm R.S.C.
 5-12/C #12
 6-3/C #12
 9-2/C #14
 4-3/C #20
 CONTR. CABINET TO H.H. 2:
 103 mm R.S.C.
 5-12/C #12
 6-3/C #12
 9-2/C #14
 2-3/C #20

- (B) SERVICE CABINET (SEE DETAIL)**
 CABINET FOUNDATION (SEE DETAIL)
 SERVICE CABINET TO CONTROLLER CABINET VIA H.H.17:
 35 mm R.S.C. (METERED SIGNAL SERVICE)
 3-1/C #6
 SERVICE CABINET TO H.H. 1:
 35 mm R.S.C. (UNMETERED LIGHTING SERVICE)
 4-3/C #12 (LUM.)
 53 mm R.S.C. STUB OUT

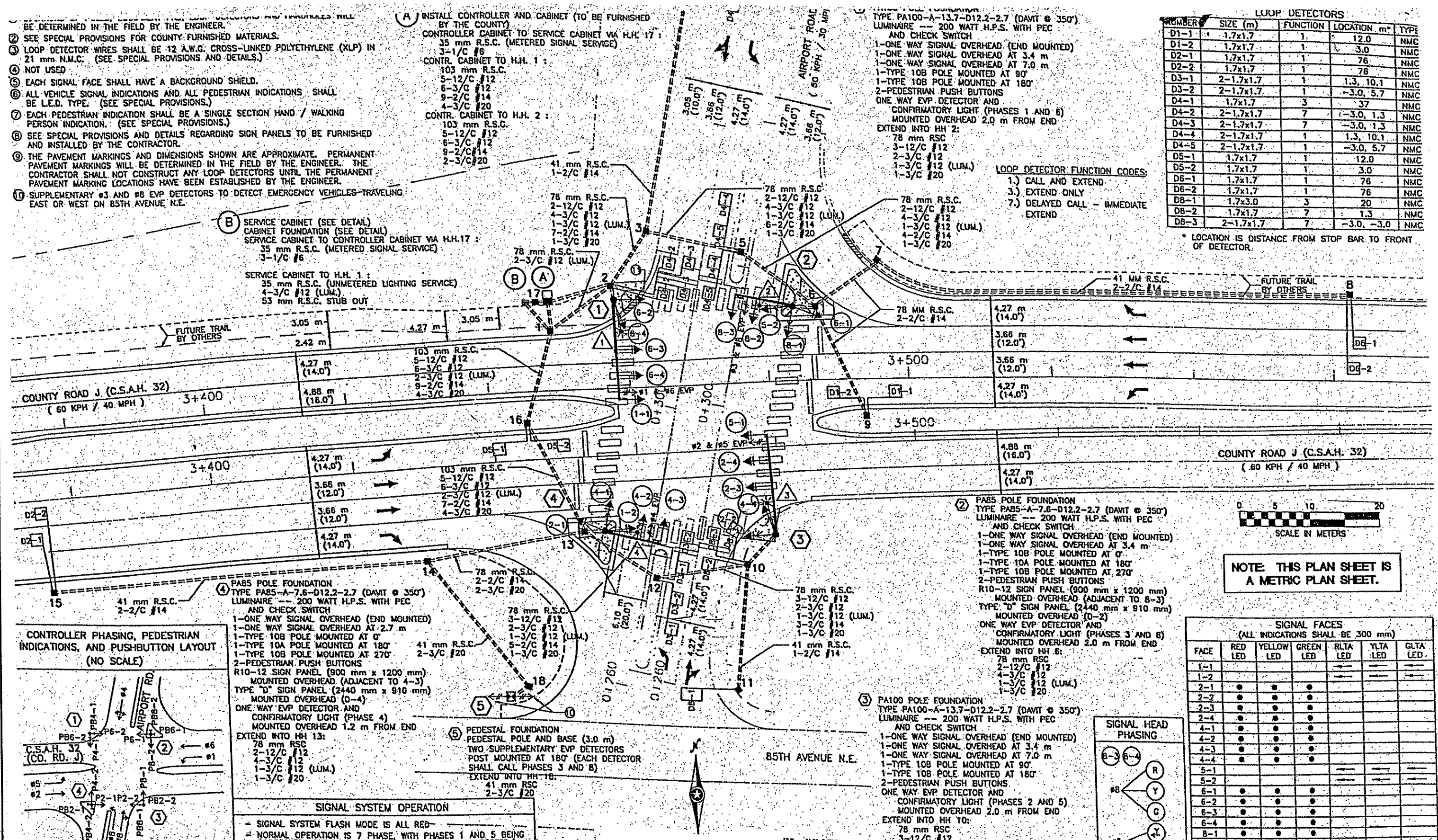
- (C) PA100-A-13.7-D12.2-2.7 (DAVIT @ 350')**
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.4 m
 1-ONE WAY SIGNAL OVERHEAD AT 7.0 m
 1-TYPE 10B POLE MOUNTED AT 90°
 1-TYPE 10B POLE MOUNTED AT 180°
 2-PEDESTRIAN PUSH BUTTONS
 ONE WAY E.V.P. DETECTOR AND CONFIRMATORY LIGHT (PHASES 1 AND 6)
 MOUNTED OVERHEAD 2.0 m FROM END
 EXTEND INTO HH 2:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

LOOP DETECTORS

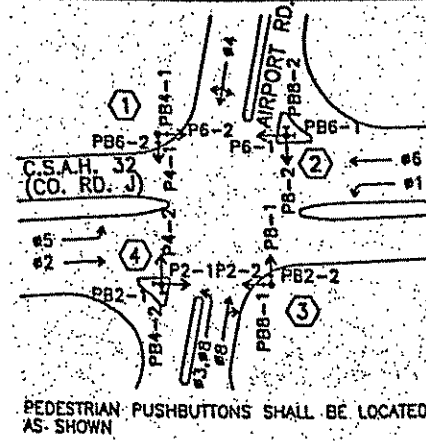
NUMBER	SIZE (m)	FUNCTION	LOCATION m*	TYPE
D1-1	1.7x1.7	1	12.0	NMC
D1-2	1.7x1.7	1	3.0	NMC
D2-1	1.7x1.7	1	7.6	NMC
D2-2	1.7x1.7	1	7.6	NMC
D3-1	2-1.7x1.7	1	1.3, 10.1	NMC
D3-2	2-1.7x1.7	1	-3.0, 5.7	NMC
D4-1	1.7x1.7	3	37	NMC
D4-2	2-1.7x1.7	7	-3.0, 1.3	NMC
D4-3	2-1.7x1.7	7	-3.0, 1.3	NMC
D4-4	2-1.7x1.7	1	1.3, 10.1	NMC
D4-5	2-1.7x1.7	1	-3.0, 5.7	NMC
D5-1	1.7x1.7	1	12.0	NMC
D5-2	1.7x1.7	1	3.0	NMC
D6-1	1.7x1.7	1	7.6	NMC
D6-2	1.7x1.7	1	7.6	NMC
DB-1	1.7x3.0	3	20	NMC
DB-2	1.7x1.7	7	1.3	NMC
DB-3	2-1.7x1.7	7	-3.0, -3.0	NMC

* LOCATION IS DISTANCE FROM STOP BAR TO FRONT OF DETECTOR.

- LOOP DETECTOR FUNCTION CODES:**
 1.) CALL AND EXTEND
 3.) EXTEND ONLY
 7.) DELAYED CALL - IMMEDIATE EXTEND



CONTROLLER PHASING, PEDESTRIAN INDICATIONS, AND PUSHBUTTON LAYOUT (NO SCALE)



- (4) PA85 POLE FOUNDATION**
 TYPE PA85-A-7.6-D12.2-2.7 (DAVIT @ 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 2.7 m
 1-TYPE 10B POLE MOUNTED AT 0°
 1-TYPE 10A POLE MOUNTED AT 180°
 1-TYPE 10B POLE MOUNTED AT 270°
 2-PEDESTRIAN PUSH BUTTONS
 R10-12 SIGN PANEL (900 mm x 1200 mm) MOUNTED OVERHEAD (ADJACENT TO 4-3)
 TYPE "D" SIGN PANEL (2440 mm x 910 mm) MOUNTED OVERHEAD (0-4)
 ONE WAY E.V.P. DETECTOR AND CONFIRMATORY LIGHT (PHASE 4) MOUNTED OVERHEAD 1.2 m FROM END
 EXTEND INTO HH 13:
 78 mm RSC
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

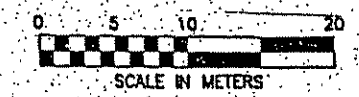
- (5) PEDESTAL FOUNDATION**
 PEDESTAL POLE AND BASE (3.0 m)
 TWO SUPPLEMENTARY E.V.P. DETECTORS POST MOUNTED AT 180° (EACH DETECTOR SHALL CALL PHASES 3 AND 8)
 EXTEND INTO HH 18:
 41 mm RSC
 2-3/C #20

- SIGNAL SYSTEM OPERATION**
- SIGNAL SYSTEM FLASH MODE IS ALL RED -
 - NORMAL OPERATION IS 7 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURNS AND PHASE 3 BEING A PROTECTED/PERMISSIVE LEFT TURN. THE SOUTHBOUND LEFT TURN ONTO EASTBOUND COUNTY ROAD J SHALL BE PERMITTED ONLY.
 - PHASES 2 AND 6 SHALL BE ON RECALL TO VEHICLE MINIMUM

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

- (2) PA85 POLE FOUNDATION**
 TYPE PA85-A-7.6-D12.2-2.7 (DAVIT @ 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.4 m
 1-TYPE 10B POLE MOUNTED AT 0°
 1-TYPE 10A POLE MOUNTED AT 180°
 1-TYPE 10B POLE MOUNTED AT 270°
 2-PEDESTRIAN PUSH BUTTONS
 R10-12 SIGN PANEL (900 mm x 1200 mm) MOUNTED OVERHEAD (ADJACENT TO 8-3)
 TYPE "D" SIGN PANEL (2440 mm x 910 mm) MOUNTED OVERHEAD (0-2)
 ONE WAY E.V.P. DETECTOR AND CONFIRMATORY LIGHT (PHASES 3 AND 8) MOUNTED OVERHEAD 2.0 m FROM END
 EXTEND INTO HH 8:
 78 mm RSC
 2-12/C #12
 4-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20

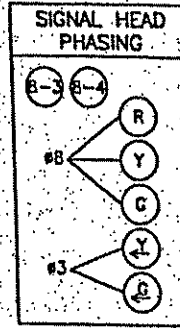
- (3) PA100 POLE FOUNDATION**
 TYPE PA100-A-13.7-D12.2-2.7 (DAVIT @ 350')
 LUMINAIRE --- 200 WATT H.P.S. WITH PEC AND CHECK SWITCH
 1-ONE WAY SIGNAL OVERHEAD (END MOUNTED)
 1-ONE WAY SIGNAL OVERHEAD AT 3.4 m
 1-ONE WAY SIGNAL OVERHEAD AT 7.0 m
 1-TYPE 10B POLE MOUNTED AT 90°
 1-TYPE 10B POLE MOUNTED AT 180°
 2-PEDESTRIAN PUSH BUTTONS
 ONE WAY E.V.P. DETECTOR AND CONFIRMATORY LIGHT (PHASES 2 AND 5) MOUNTED OVERHEAD 2.0 m FROM END
 EXTEND INTO HH 10:
 78 mm RSC
 3-12/C #12
 2-3/C #12
 1-3/C #12 (LUM.)
 1-3/C #20



NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

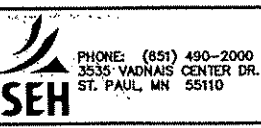
SIGNAL FACES (ALL INDICATIONS SHALL BE 300 mm)

FACE	RED LED	YELLOW LED	GREEN LED	RLTA LED	YLTA LED	GLTA LED
1-1						
1-2						
2-1	●	●	●			
2-2	●	●	●			
2-3	●	●	●			
2-4	●	●	●			
4-1	●	●	●			
4-2	●	●	●			
4-3	●	●	●			
4-4	●	●	●			
5-1				●	●	●
5-2				●	●	●
6-1	●	●	●			
6-2	●	●	●			
6-3	●	●	●			
6-4	●	●	●			
8-1	●	●	●			
8-2	●	●	●			
8-3	●	●	●			
8-4	●	●	●			



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

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.
 Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05

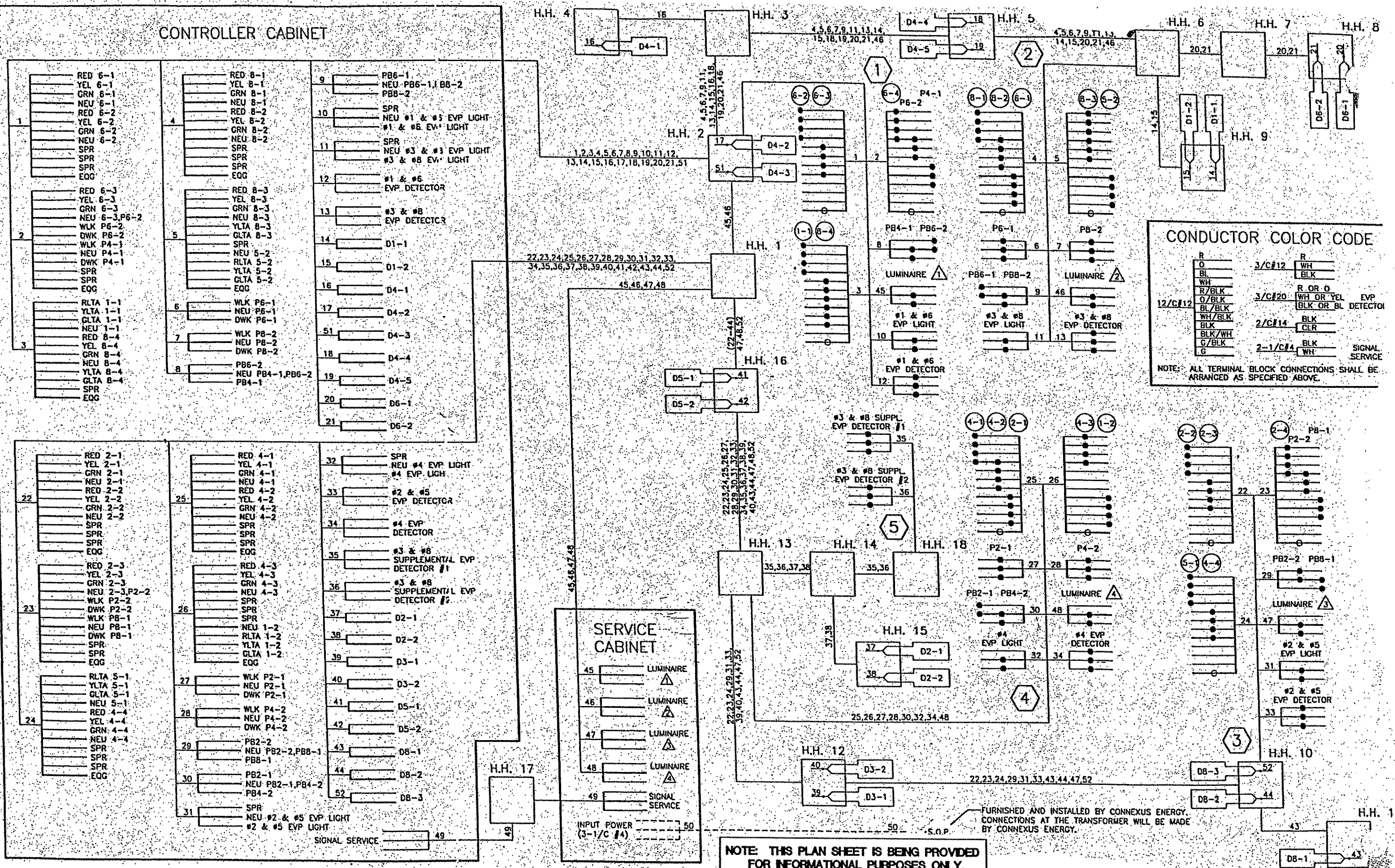


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM "B" FOR INFORMATION ONLY
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32) AT AIRPORT ROAD

FILE NO. ARAMSE0503
 SG41 OF SG51
287
297

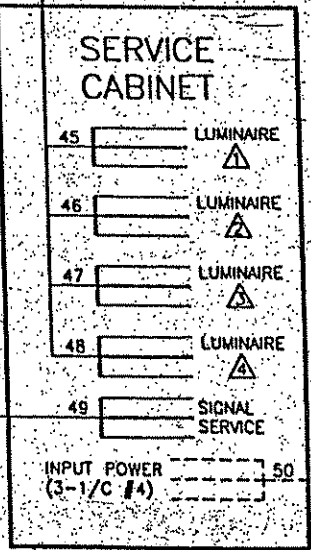
CONTROLLER CABINET



CONDUCTOR COLOR CODE

R	3/C#12	R	WH
O		BLK	
BL		BLK	
WH		R OR O	
R/BLK	3/C#20	WH OR YEL	EVP
O/BLK		BLK OR BL	DETECTOR
BL/BLK		BLK	
WH/BLK	2/C#14	CLR	
BLK		BLK	
BLK/WH		BLK	SIGNAL SERVICE
G/BLK	2-1/C#4	WH	
G			

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



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

FURNISHED AND INSTALLED BY CONNEXUS ENERGY. CONNECTIONS AT THE TRANSFORMER WILL BE MADE BY CONNEXUS ENERGY.

S:\PT\RAMSEY\050300\7

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

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.

Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM 'B'
 FOR INFORMATION ONLY
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT AIRPORT ROAD

FILE NO. ARAMSE0503
 SG42 OF SG51
 288
 297

- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLPE) IN 21 mm N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
 - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS, PER Mn/DOT STANDARD PLATE NO. M8114A.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - 7) ALL "RED" VEHICLE SIGNAL INDICATIONS AND ALL "HAND" PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
 - 9) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROX. 1.8 m FROM THE LEFT END OF MAST ARMS 1 AND 4, AND APPROX. 4.0 m FROM THE LEFT END OF MAST ARM 3 (FOR EVP).
 - 10) SEE SPECIAL PROVISIONS, DETAILS AND REMAINDER OF PLANS FOR INFORMATION REGARDING SIGN PANELS, STRIPING AND CONCRETE WALKWAY TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
 - 11) SEE SHEETS 6 AND 7, SPECIAL PROVISIONS AND ESTIMATED QUANTITIES REGARDING RECONSTRUCTION OF SOUTHEAST CORNER OF INTERSECTION, AND CONSTRUCTION OF EASTBOUND RIGHT TURN LANE (TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.511 FOR THIS INTERSECTION).

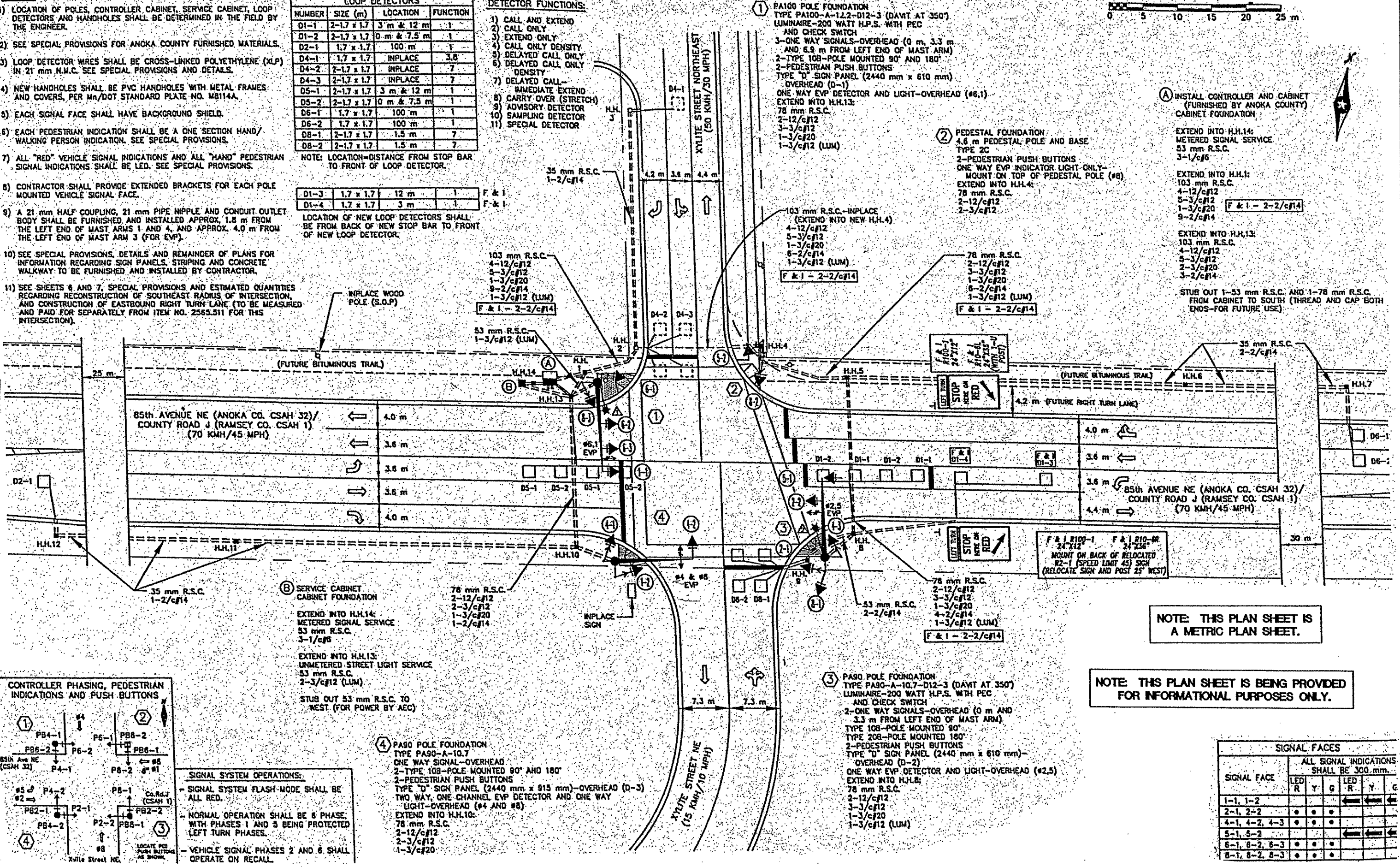
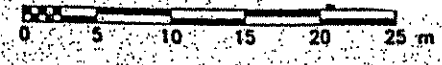
LOOP DETECTORS			
NUMBER	SIZE (m)	LOCATION	FUNCTION
D1-1	2-1.7 x 1.7	3 m & 12 m	1
D1-2	2-1.7 x 1.7	0 m & 7.5 m	1
D2-1	1.7 x 1.7	100 m	1
D4-1	1.7 x 1.7	INPLACE	3,8
D4-2	2-1.7 x 1.7	INPLACE	7
D4-3	2-1.7 x 1.7	INPLACE	7
D5-1	2-1.7 x 1.7	3 m & 12 m	1
D5-2	2-1.7 x 1.7	0 m & 7.5 m	1
D6-1	1.7 x 1.7	100 m	1
D6-2	1.7 x 1.7	100 m	1
D8-1	2-1.7 x 1.7	1.5 m	7
D8-2	2-1.7 x 1.7	1.5 m	7

NOTE: LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- DETECTOR FUNCTIONS:**
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL DETECTOR

D1-3	1.7 x 1.7	12 m	1	F & I
D1-4	1.7 x 1.7	3 m	1	F & I

LOCATION OF NEW LOOP DETECTORS SHALL BE FROM BACK OF NEW STOP BAR TO FRONT OF NEW LOOP DETECTOR.

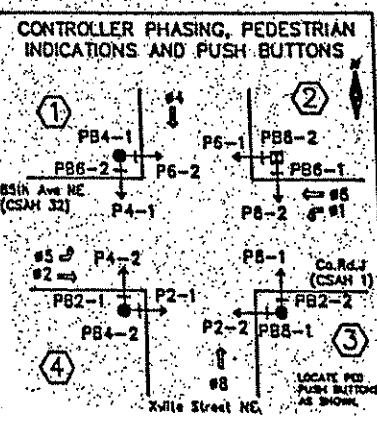


INSTALL CONTROLLER AND CABINET (FURNISHED BY ANOKA COUNTY) CABINET FOUNDATION

- EXTEND INTO H.H.14:
METERED SIGNAL SERVICE
53 mm R.S.C.
3-1/c#6
- EXTEND INTO H.H.1:
103 mm R.S.C.
4-12/c#12
5-3/c#12
1-3/c#20
9-2/c#14
- EXTEND INTO H.H.13:
103 mm R.S.C.
4-12/c#12
5-3/c#12
2-3/c#20
3-2/c#14
- STUB OUT 1-53 mm R.S.C. AND 1-78 mm R.S.C. FROM CABINET TO SOUTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.



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

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 300 mm.							
	LED	R	Y	G	LED	R	Y	G
1-1, 1-2	•	•	•	•	•	•	•	•
2-1, 2-2	•	•	•	•	•	•	•	•
4-1, 4-2, 4-3	•	•	•	•	•	•	•	•
5-1, 5-2	•	•	•	•	•	•	•	•
6-1, 6-2, 6-3	•	•	•	•	•	•	•	•
8-1, 8-2, 8-3	•	•	•	•	•	•	•	•

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

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.

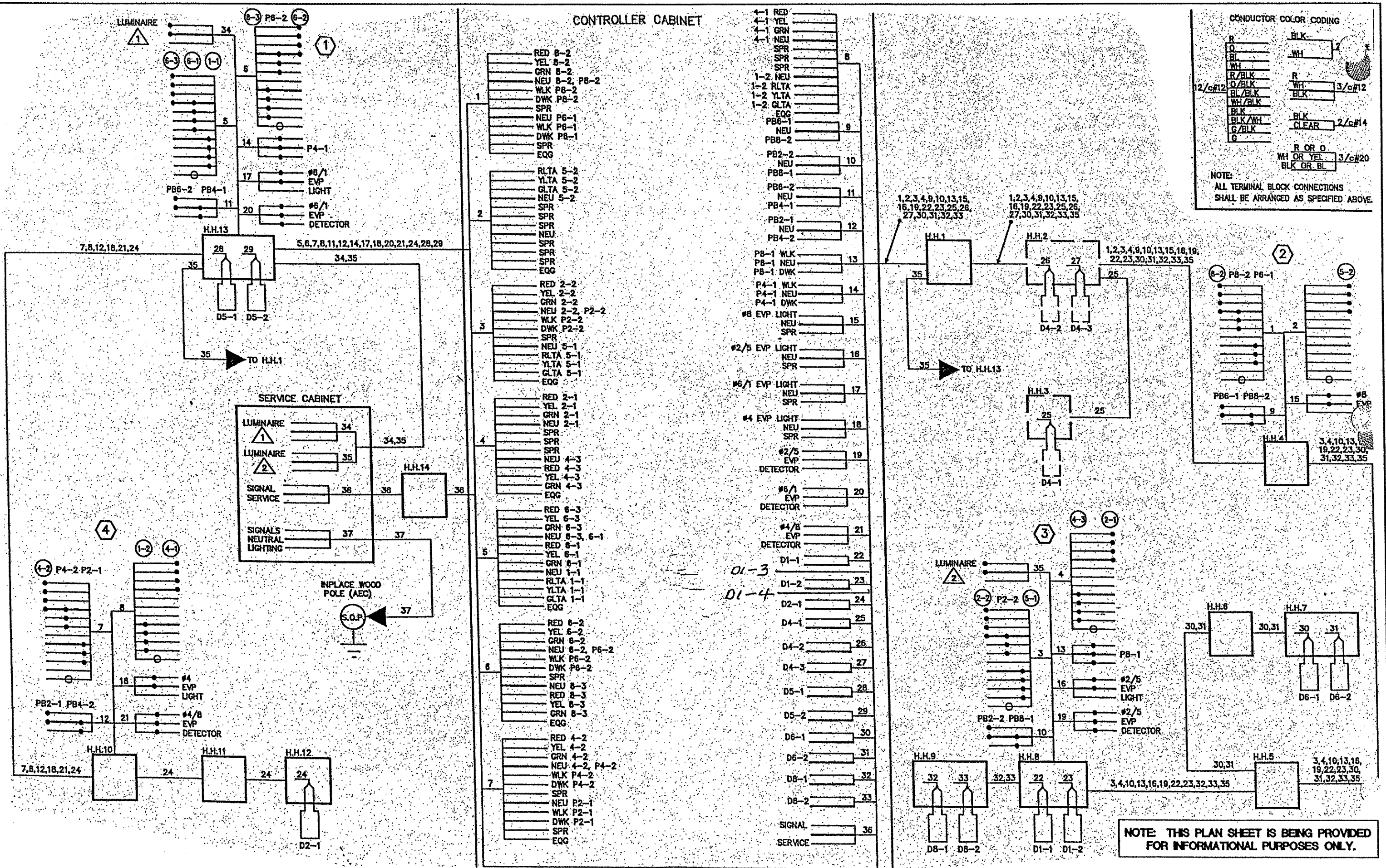
Certified By: *[Signature]* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM "C" FOR INFORMATION ONLY
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT XYLITE STREET NE/SYSCO ACCESS

FILE NO. ARAMSE0503
289
SG43 OF SG51
297



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

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.

Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05

SEH
 PHONE: (851) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMBEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM 'C'
FOR INFORMATION ONLY
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT XYLITE STREET NE/SYSCO ACCESS

FILE NO.	290
ARAMSE0503	
SG44	
OF S651	297

NOTES:

- 1) LOCATION OF POLES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) NEW LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
- 4) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGE AND REINSTALLING OF INPLACE SIGNAL EQUIPMENT (INCIDENTAL TO ITEM NO.2565.616).
- 5) SEE DETAILS FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
- 6) ALL INPLACE RED VEHICLE SIGNAL INDICATIONS ARE LED.
- 7) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF REVISED SIGNAL SYSTEM SHALL BE PROTECTED AND MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
- 8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
- 9) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, EXCEPT WHEN APPROVED BY ENGINEER. SEE SPECIAL PROVISIONS.
- 10) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF SHOREVIEW AND RAMSEY COUNTY. SEE SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS				
NUMBER	SIZE (m)	LOCATION	FUNCTION	STATUS
D1-1	1.7 x 1.7	15 m	1	F & I
D1-2	2-1.7 x 1.7	1.5 m & 6 m	2	F & I
D2-1	1.7 x 1.7	91 m	1	INPLACE
D2-2	1.7 x 1.7	40 m	1	INPLACE
D4-1	3-1.7 x 1.7	1.5 m & 15 m	1	F & I
D4-2	2-1.7 x 1.7	1.5 m & 6 m	2	F & I
D5-1	1.7 x 1.7	15 m	1	INPLACE
D5-2	2-1.7 x 1.7	1.5 m & 6 m	2	INPLACE
D6-1	1.7 x 1.7	91 m	1	F & I
D6-2	3-1.7 x 1.7	1.5 m & 15 m	1	INPLACE
DB-1	1.7 x 1.7	1.5 m	1	INPLACE
DB-2	1.7 x 1.7	1.5 m	2	INPLACE

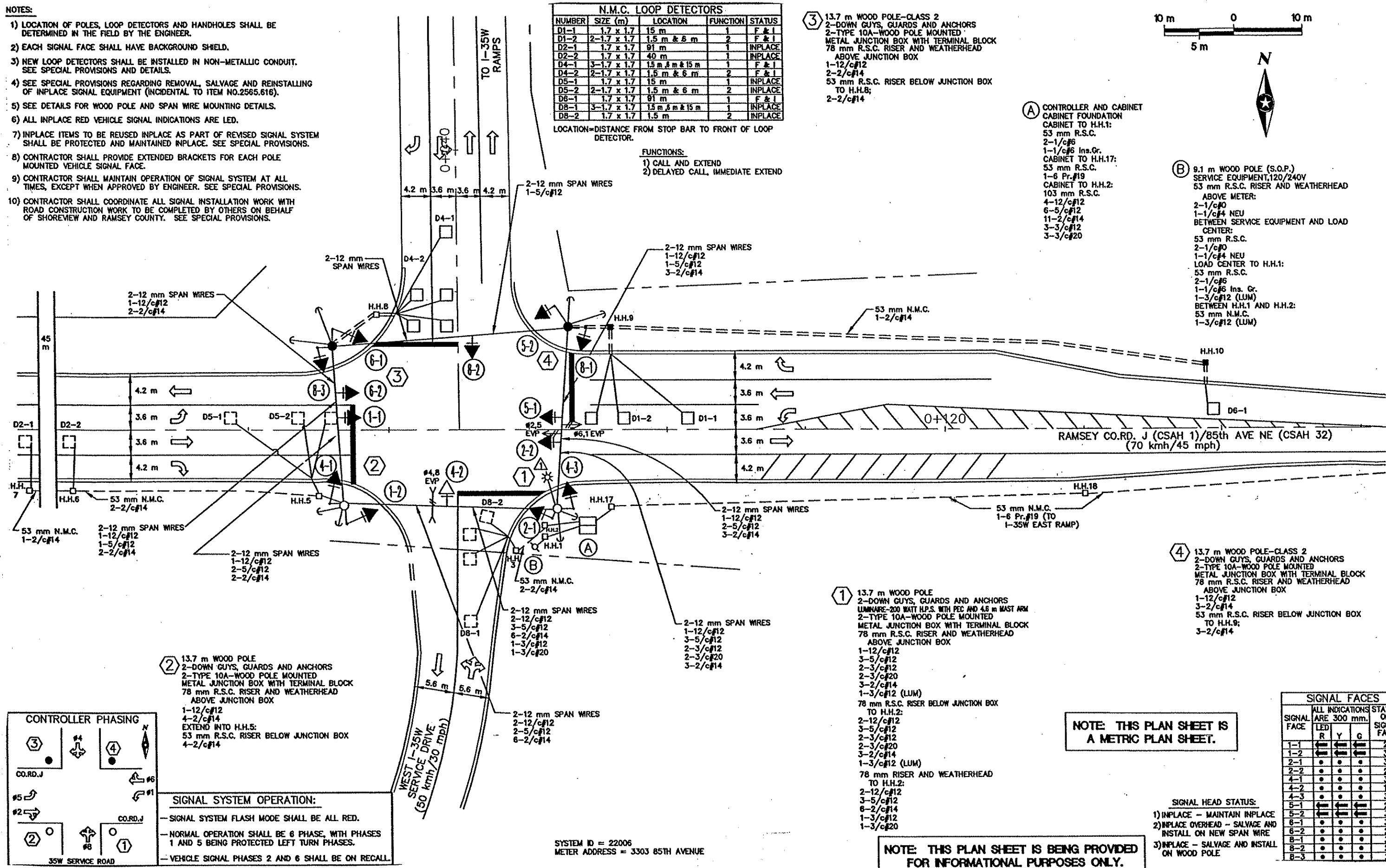
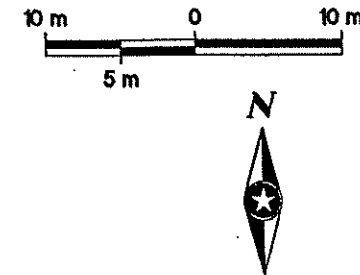
LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- FUNCTIONS:**
- 1) CALL AND EXTEND
 - 2) DELAYED CALL, IMMEDIATE EXTEND

- ③ 13.7 m WOOD POLE-CLASS 2
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10A-WOOD POLE MOUNTED
 METAL JUNCTION BOX WITH TERMINAL BLOCK
 78 mm R.S.C. RISER AND WEATHERHEAD
 ABOVE JUNCTION BOX
 1-12/c#12
 2-2/c#14
 53 mm R.S.C. RISER BELOW JUNCTION BOX
 TO H.H.8;
 2-2/c#14

- Ⓐ CONTROLLER AND CABINET
 CABINET FOUNDATION
 CABINET TO H.H.1:
 53 mm R.S.C.
 2-1/c#6
 1-1/c#6 Ins.Gr.
 CABINET TO H.H.17:
 53 mm R.S.C.
 1-6 Pr.#19
 CABINET TO H.H.2:
 103 mm R.S.C.
 4-12/c#12
 6-5/c#12
 11-2/c#14
 3-3/c#12
 3-3/c#20

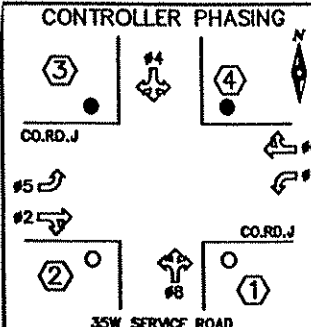
- Ⓑ 9.1 m WOOD POLE (S.O.P.)
 SERVICE EQUIPMENT,120/240V
 53 mm R.S.C. RISER AND WEATHERHEAD
 ABOVE METER:
 2-1/c#0
 1-1/c#4 NEU
 LOAD CENTER TO H.H.1:
 53 mm R.S.C.
 2-1/c#6
 1-1/c#6 Ins. Gr.
 1-3/c#12 (LUM)
 BETWEEN H.H.1 AND H.H.2:
 53 mm N.M.C.
 1-3/c#12 (LUM)



- ② 13.7 m WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10A-WOOD POLE MOUNTED
 METAL JUNCTION BOX WITH TERMINAL BLOCK
 78 mm R.S.C. RISER AND WEATHERHEAD
 ABOVE JUNCTION BOX
 1-12/c#12
 4-2/c#14
 EXTEND INTO H.H.5:
 53 mm R.S.C. RISER BELOW JUNCTION BOX
 4-2/c#14

- ① 13.7 m WOOD POLE
 2-DOWN GUYS, GUARDS AND ANCHORS
 LUMINAIRE-200 WATT H.P.S. WITH PEC AND 4.6 m MAST ARM
 2-TYPE 10A-WOOD POLE MOUNTED
 METAL JUNCTION BOX WITH TERMINAL BLOCK
 78 mm R.S.C. RISER AND WEATHERHEAD
 ABOVE JUNCTION BOX
 1-12/c#12
 3-5/c#12
 2-3/c#12
 2-3/c#20
 3-2/c#14
 1-3/c#12 (LUM)
 78 mm R.S.C. RISER BELOW JUNCTION BOX
 TO H.H.2:
 2-12/c#12
 3-5/c#12
 2-3/c#12
 2-3/c#20
 3-2/c#14
 1-3/c#12 (LUM)
 78 mm RISER AND WEATHERHEAD
 TO H.H.2:
 2-12/c#12
 3-5/c#12
 6-2/c#14
 1-3/c#12
 1-3/c#20

- ④ 13.7 m WOOD POLE-CLASS 2
 2-DOWN GUYS, GUARDS AND ANCHORS
 2-TYPE 10A-WOOD POLE MOUNTED
 METAL JUNCTION BOX WITH TERMINAL BLOCK
 78 mm R.S.C. RISER AND WEATHERHEAD
 ABOVE JUNCTION BOX
 1-12/c#12
 3-2/c#14
 53 mm R.S.C. RISER BELOW JUNCTION BOX
 TO H.H.9;
 3-2/c#14



SIGNAL SYSTEM OPERATION:

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

NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

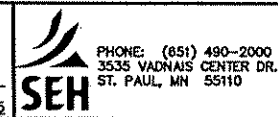
SIGNAL FACES		
SIGNAL FACE	ALL INDICATIONS ARE 300 mm.	STATUS OF SIGNAL FACE
1-1	←	2
1-2	←	3
2-1	•	3
2-2	•	2
4-1	•	3
4-2	•	1
4-3	•	3
5-1	←	2
5-2	←	3
6-1	•	3
6-2	•	2
8-1	•	3
8-2	•	2
8-3	•	3

- SIGNAL HEAD STATUS:**
- 1) INPLACE - MAINTAIN INPLACE
 - 2) INPLACE OVERHEAD - SALVAGE AND INSTALL ON NEW SPAN WIRE
 - 3) INPLACE - SALVAGE AND INSTALL ON WOOD POLE

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

SYSTEM ID = 22006
 METER ADDRESS = 3303 85TH AVENUE

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.
 Certified By: *John M. Gray* Lic.No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05



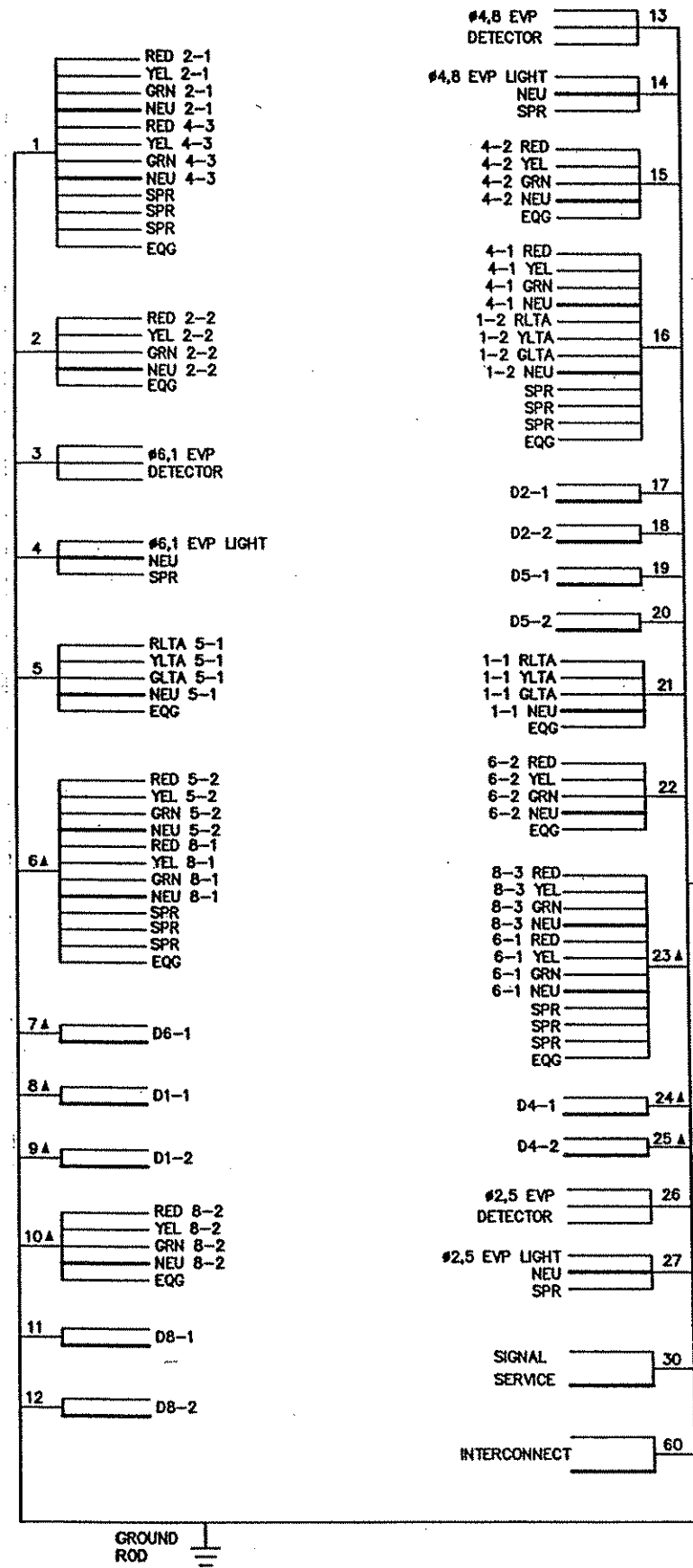
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM 'E'
 FOR INFORMATION ONLY
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT 35W SERVICE DRIVE

FILE NO. ARAMSE0503
 SG45 OF SG51
 291
 297

X:\PT\RAMSEY\0503000... \S\SIGNAL\SIGNPLANS.DWG

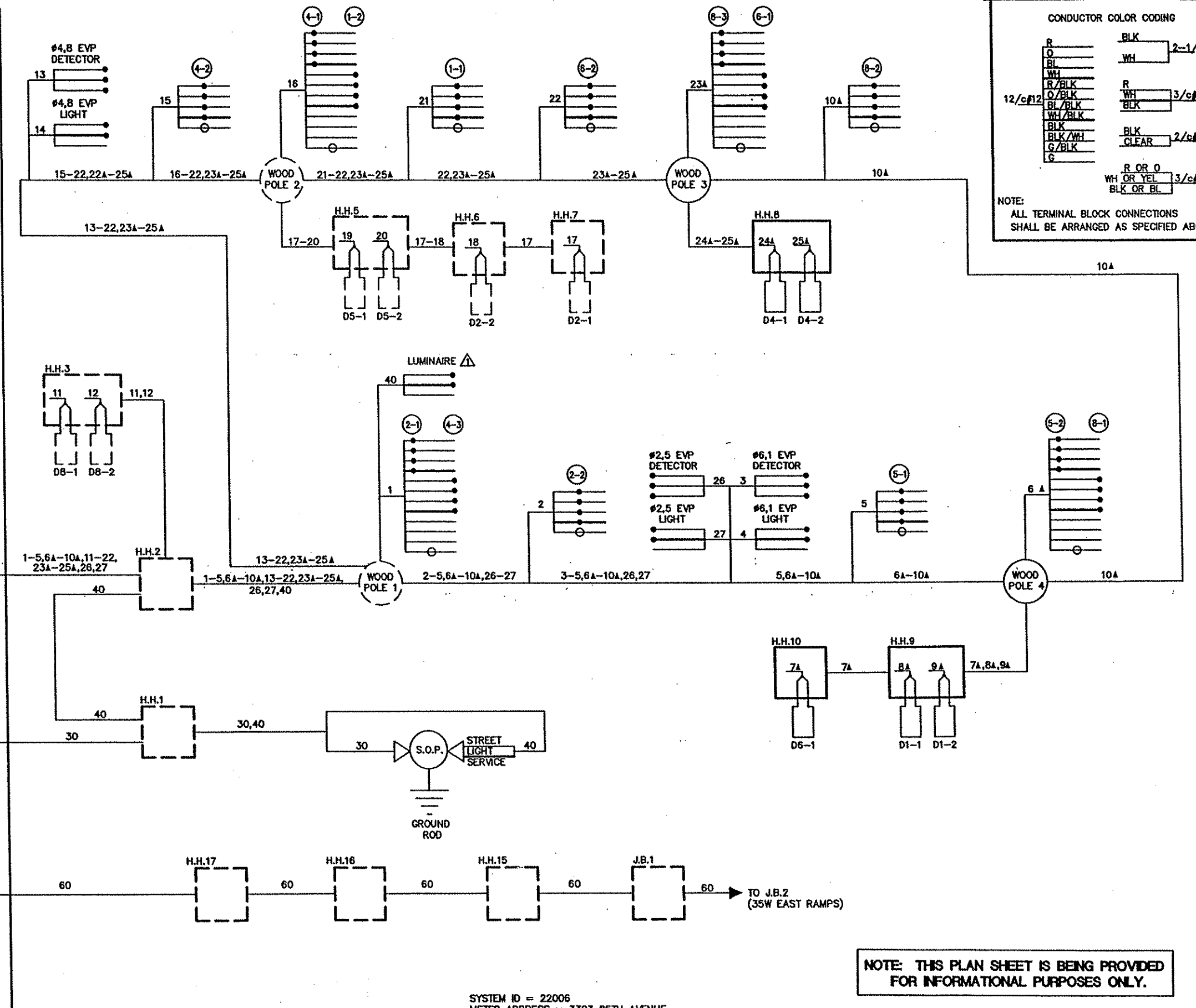
CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL	WH	3/c#12
R/BLK	R	
O/BLK	WH	
BL/BLK	BLK	
WH/BLK	BLK	
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O	WH OR YEL	3/c#20
	BLK OR BL	

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



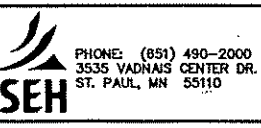
NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

SYSTEM ID = 22006
METER ADDRESS = 3303 85TH AVENUE

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

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.

Certified By: *[Signature]* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM 'E'
FOR INFORMATIONAL PURPOSES ONLY
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT 35W SERVICE DRIVE

FILE NO. ARAMSE0503	292
SG46 OF SG51	297

NOTES:

- SEE SPECIAL PROVISIONS FOR PEDESTRIAN INDICATIONS, LED RED INDICATIONS, PVC HANDHOLES WITH METAL FRAMES AND COVERS, AND STATE FURNISHED MATERIALS.
- EACH SIGNAL SHALL HAVE A BACKGROUND SHIELD.
- LOCATIONS OF POLES, CABINET, HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
- FOR WOOD POLE SPAN WIRE SIGNAL SYSTEM SEE SPAN WIRE MOUNTING DETAIL.
- SEE PAVEMENT MARKING SHEET FOR WOOD POLE SPAN WIRE SIGNAL SYSTEM PEDESTRIAN PAVEMENT MARKINGS. PEDESTRIAN PAVEMENT MARKINGS (APPROX. 126 S.F.) AND STOP LINES (APPROX. 80 L.F.) SHALL BE INCIDENTAL TO THE SIGNAL SYSTEM.
- ALL YELLOW AND GREEN INDICATIONS SHALL HAVE GLASS LENSES.

- (A) CABINET FOUNDATION
CONTROLLER AND CABINET
CABINET TO HH 1:**
2" RSC
2-1/C # 6
1-1/C # 6 INSULATED STRANDED GR. WIRE
CABINET TO HH 2:
4" RSC
2-12/C # 12
4-5/C # 12
6-2/C # 14
5-3/C # 12
2-3/C # 20
1-6PR. # 19

- (B) S.D.P.
30' WOOD POLE
SERVICE EQUIPMENT 120/240V.
ABOVE METER**
2" RSC RISER AND WEATHERHEAD
2-1/C # 2
1-1/C # 6 NEU.
BETWEEN SERVICE EQUIPMENT AND LOAD CENTER
2" RSC
2-1/C # 2
1-1/C # 6 NEU.
LOAD CENTER TO HH 1:
2" RSC
2-1/C # 6
1-1/C # 6 INSULATED STRANDED GR. WIRE
2-3/C # 12 (LUM) (NOT METERED)

- (WOOD POLE 1)**
45' WOOD POLE
2-DOWN GUYS, GUARDS, AND ANCHORS
2-TYPE 10A
15' MAST ARM AND LUMINAIRE WITH PEC
200 WATT HPS
METAL JUNCTION BOX WITH TERMINAL BLOCK
3" RSC RISER AND WEATHERHEAD
ABOVE JUNCTION BOX:
1-12/C # 12
3-5/C # 12
5-2/C # 14
5-3/C # 12
3" RSC BELOW JUNCTION BOX TO HH 2:
2-12/C # 12
4-5/C # 12
7-2/C # 14
7-3/C # 12
2-3/C # 20
1-6PR. # 19
17" RSC RISER AND WEATHERHEAD
ABOVE SPAN WIRE:
1-3/C # 12 (LUM)

- (WOOD POLE 2)**
45' WOOD POLE
2-DOWN GUYS, GUARDS, AND ANCHORS
1-TYPE 10A
1-TYPE 10B
1-PED. PUSH BUTTON
METAL JUNCTION BOX WITH TERMINAL BLOCK
3" RSC RISER AND WEATHERHEAD
ABOVE JUNCTION BOX:
1-12/C # 12
1-3/C # 12
1-2/C # 14
2" RSC BELOW JUNCTION BOX TO HH 3:
1-2/C # 14
1" RSC RISER BELOW JUNCTION BOX
1-3/C # 12

SIGNAL FACES

ALL INDICATIONS SHALL BE 12"

FACE	INDICATIONS			
	R	LED	Y	G
2-1	O	O	O	
2-2	O	O	O	
2-3	O	O	O	
4-1	O	O	O	
4-2	O	O	O	
4-3	O	O	O	
6-1	O	O	O	
6-2	O	O	O	

LOOP DETECTORS

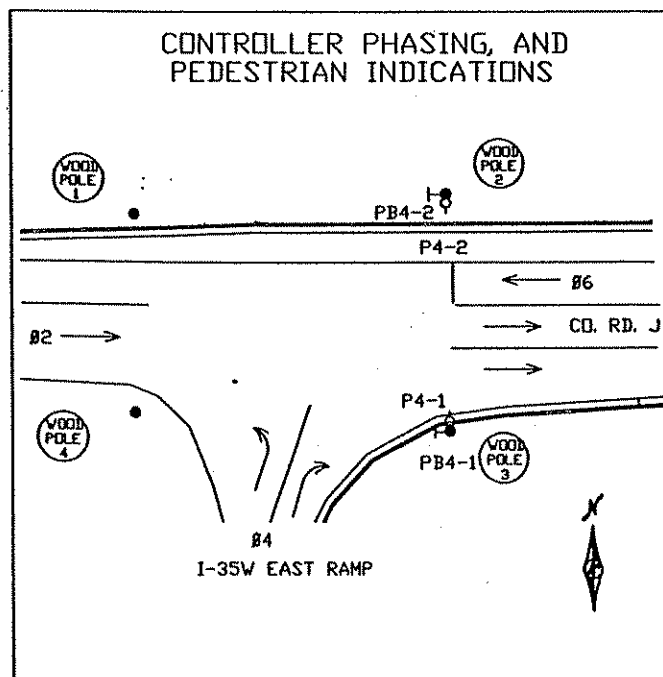
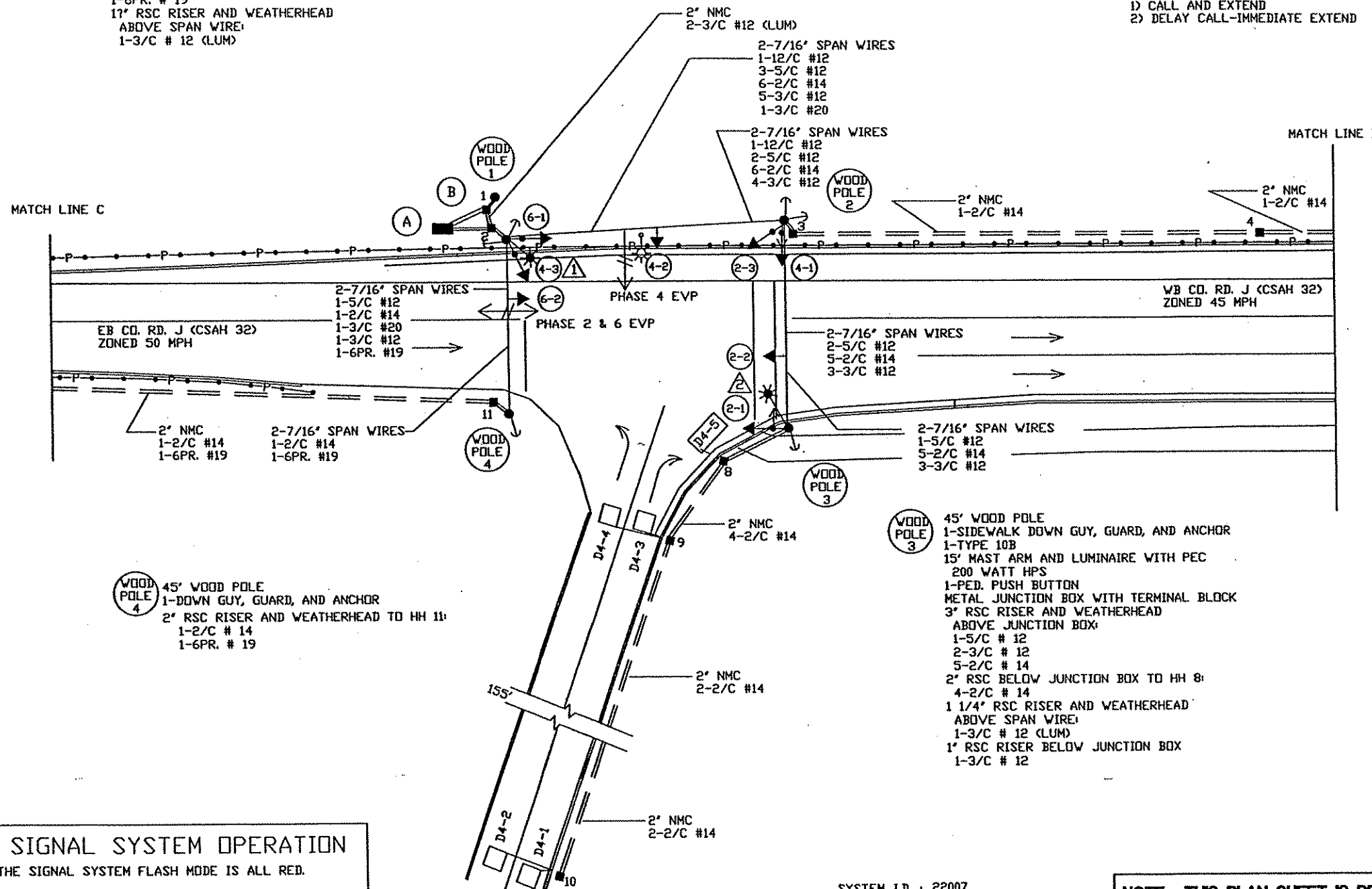
NUMBER	TYPE	SIZE (FEET)	FUNCTION	LOCATION
D2-1	NMC	6X6	1	AS SHOWN
D4-1	SAWCUT	6X6	1	300
D4-2	SAWCUT	6X6	1	300
D4-3	SAWCUT	6X6	1	AS SHOWN
D4-4	SAWCUT	6X6	1	AS SHOWN
D4-5	SAWCUT	6X15	2	5
D6-1	NMC	6X6	1	600

LOCATION = DISTANCE FROM STOP LINE TO DETECTOR IN FEET

LOOP DETECTOR FUNCTION

- CALL AND EXTEND
- DELAY CALL-IMMEDIATE EXTEND

0 20'
SCALE



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 2 PHASE.
- PHASES B2 & B6 SHALL BE ON VEHICLE RECALL.

SYSTEM I.D. : 22007
METER ADDRESS: 3504 85 th AVE.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

X:\PT\RAMSEY\050300...ITS\SIGNAL\SIGNPLANS.DWG

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

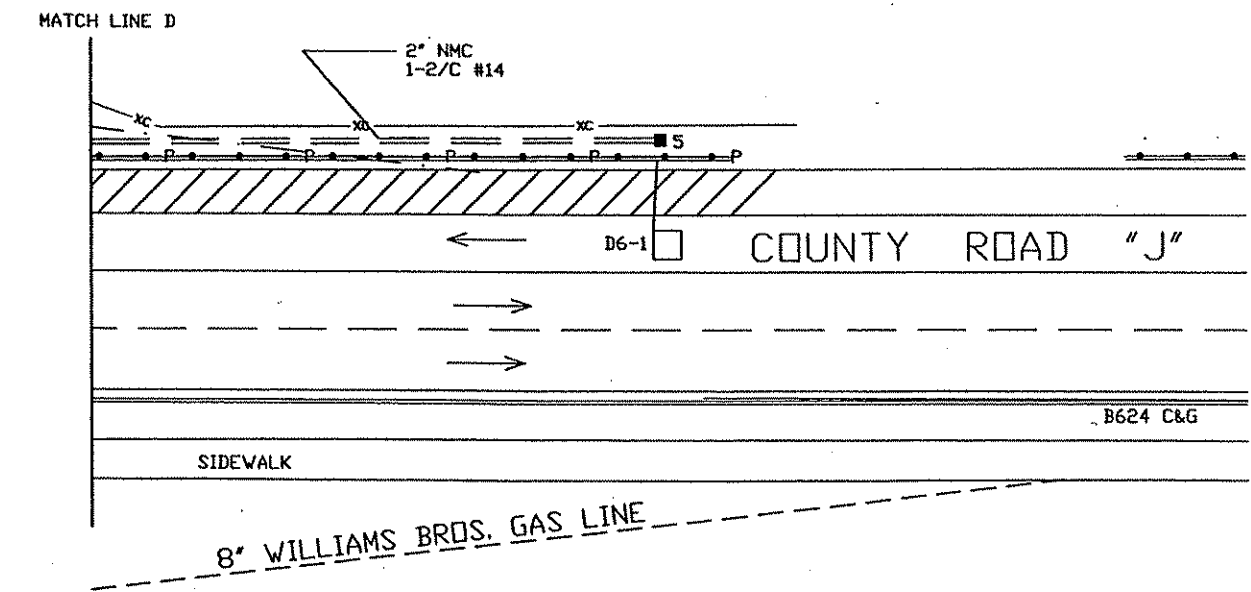
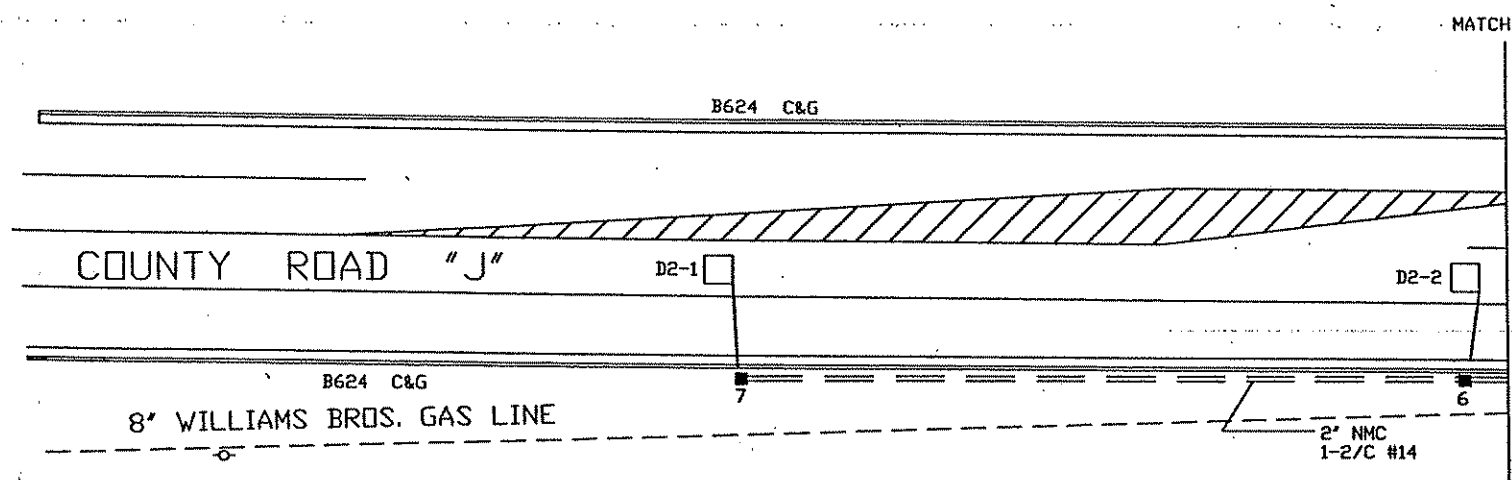
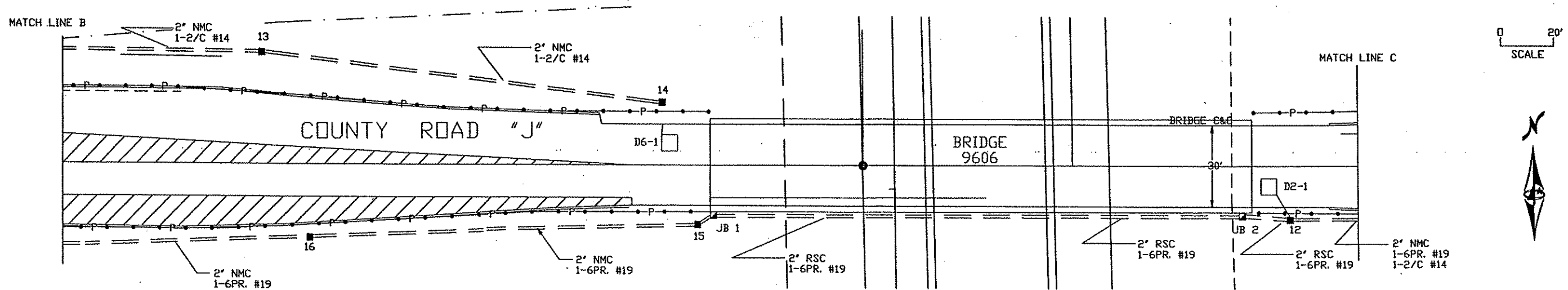
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

**INPLACE SIGNAL SYSTEM 'F'
FOR INFORMATION ONLY**
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT INTERSTATE 35W SE RAMP

FILE NO. ARAM50503
293
SG47 OF SG51
297



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

X:\PT\RAMSEY\050304...SIGNAL\SIGNPLANS.DWG

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

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Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 12/15/05

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

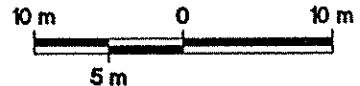
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM "F"
FOR INFORMATION ONLY
 COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
 AT INTERSTATE 35W SE RAMP

FILE NO. ARAMSE0503	294
SG48 OF SG51	297

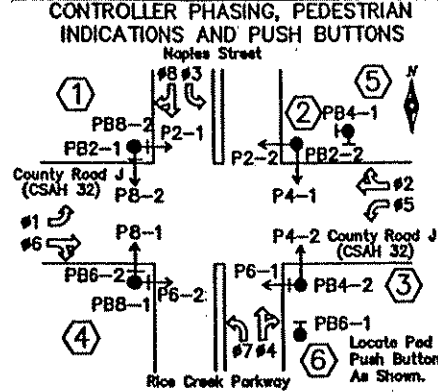
NOTES:

- 1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) ALL PEDESTRIAN INDICATIONS SHALL BE ONE SECTION HAND/WALKING PERSON INDICATIONS. SEE SPECIAL PROVISIONS.
- 4) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 5) ALL LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
- 6) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
- 7) A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 0.6 m, 1.2 m AND 1.8 m FROM END OF THE MAST ARM ON EACH MAST ARM PER Mn/DOT 3831.2C.
- 8) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
- 9) CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND MAKING OPERATIONAL THE TRAFFIC SIGNAL CONTROLLER AND CABINET. SEE SPECIAL PROVISIONS.
- 10) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF SHOREVIEW AND RAMSEY COUNTY. SEE SPECIAL PROVISIONS.



(B) WOOD POLE (S.O.P)-INPLACE
53 mm R.S.C. RISER AND WEATHERHEAD
3-1/c#2
EXTEND INTO H.H.19:
53 mm R.S.C.
3-1/c#2

SIGNING:
- F & I OVERHEAD TYPE D SIGNS ON MAST ARMS 1, 2, 3 AND 4.
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE R10-4b.
- ALL SIGNING SHALL BE INCIDENTAL WORK TO THIS SYSTEM UNLESS SPECIFIC PAY ITEM IS INDICATED.



103 mm R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
9-2/c#14
1-3/c#12 (LUM)
1-6/c FIBER OPTIC CABLE (INTERCONNECT)
1-1/c#14 (INTERCONNECT)

METER ADDRESS = 3395 85TH AVENUE
SYSTEM ID = TRF623

(1) PA100 POLE FOUNDATION
TYPE PA100-A-15.2
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 90° AND 270°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-4)
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#2,5)
EXTEND INTO H.H.1:
78 mm R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(2) PA100 POLE FOUNDATION
TYPE PA100-A-15.2-T12.2-2.7 (DAVIT AT 350°)
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 0° AND 270°
TYPE D SIGN PANEL-OVERHEAD (D-5)
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#4,7)
EXTEND INTO H.H.5:
78 mm R.S.C.
2-12/c#12
4-3/c#12
1-3/c#20
1-3/c#12 (LUM)

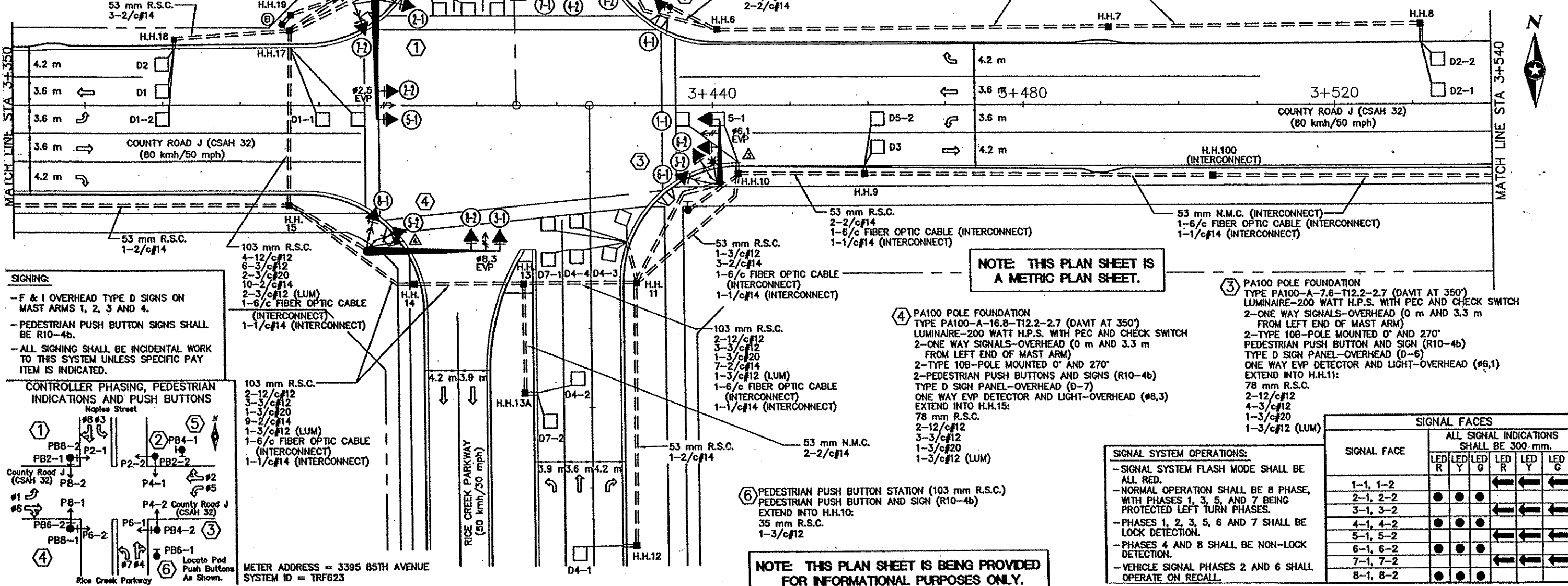
(5) PEDESTRIAN PUSH BUTTON STATION (103 mm R.S.C.)
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
EXTEND INTO H.H.6:
35 mm R.S.C.
1-3/c#12

(A) EQUIPMENT PAD - SEE DETAILS
CONTROLLER AND CABINET
MASTER CONTROLLER UNIT
SERVICE CABINET
SERVICE CABINET TO H.H.19:
53 mm R.S.C.
3-1/c#2
SERVICE CABINET TO H.H.17:
53 mm R.S.C.
4-3/c#12 (LUM)
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
53 mm R.S.C.
2-1/c#6
1-1/c#6 Ins. Gr.
BETWEEN H.H.1 AND H.H.17:
53 mm R.S.C.
2-3/c#12 (LUM)
STUB OUT 2-78 mm R.S.C. FROM CONTROLLER CABINET TO SOUTH (THREAD AND CAP BOTH ENDS- FOR FUTURE USE)

CONTROLLER CABINET TO H.H.1:
103 mm R.S.C.
4-12/c#12
6-3/c#12
2-3/c#20
8-2/c#14
CONTROLLER CABINET TO H.H.17:
103 mm R.S.C.
4-12/c#12
6-3/c#12
2-3/c#20
14-2/c#14
1-6/c FIBER OPTIC CABLE (INTERCONNECT)
1-1/c#14 (INTERCONNECT)

N.M.C. LOOP DETECTORS				
NUMBER	SIZE (m)	LOCATION	FUNCTION	
D1-1	2-1.7x1.7	0 m & 4.5 m	C & E	
D1-2	1.7x1.7	25 m	C & E	
D2-1	1.7x1.7	100 m	C & E	
D2-2	1.7x1.7	100 m	C & E	
D3-1	2-1.7x1.7	0 m & 4.5 m	C & E	
D3-2	1.7x1.7	25 m	C & E	
D4-1	1.7x1.7	45 m	C & E	
D4-2	1.7x1.7	20 m	C & E	
D4-3	2-1.7x1.7	0 m & 4.5 m	C & E (TD)	
D4-4	2-1.7x1.7	0 m & 4.5 m	C & E	
D5-1	2-1.7x1.7	0 m & 4.5 m	C & E	
D5-2	1.7x1.7	25 m	C & E	
D6-1	1.7x1.7	100 m	C & E	
D7-1	2-1.7x1.7	0 m & 4.5 m	C & E	
D7-2	1.7x1.7	25 m	C & E	
D8-1	1.7x1.7	45 m	C & E	
D8-2	1.7x1.7	20 m	C & E	
D8-3	2-1.7x1.7	0 m & 4.5 m	C & E (TD)	
D8-4	2-1.7x1.7	0 m & 4.5 m	C & E	
D1	1.7x1.7	25 m	COUNT	
D2	1.7x1.7	25 m	COUNT	
D3	1.7x1.7	25 m	COUNT	

FUNCTIONS:
C & E = CALL AND EXTEND
(TD) = TIME DELAYED
LOCATION = DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.



NOTE: THIS PLAN SHEET IS A METRIC PLAN SHEET.

(4) PA100 POLE FOUNDATION
TYPE PA100-A-16.8-T12.2-2.7 (DAVIT AT 350°)
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 0° AND 270°
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-7)
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#8,3)
EXTEND INTO H.H.15:
78 mm R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(3) PA100 POLE FOUNDATION
TYPE PA100-A-7.6-T12.2-2.7 (DAVIT AT 350°)
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0 m AND 3.3 m FROM LEFT END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 0° AND 270°
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
TYPE D SIGN PANEL-OVERHEAD (D-6)
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD (#6,1)
EXTEND INTO H.H.11:
78 mm R.S.C.
2-12/c#12
4-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(6) PEDESTRIAN PUSH BUTTON STATION (103 mm R.S.C.)
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4b)
EXTEND INTO H.H.10:
35 mm R.S.C.
1-3/c#12

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

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.
- PHASES 1, 2, 3, 5, 6 AND 7 SHALL BE LOCK DETECTION.
- PHASES 4 AND 8 SHALL BE NON-LOCK DETECTION.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 300 mm.					
	LED R	LED Y	LED G	LED R	LED Y	LED G
1-1, 1-2				←	←	←
2-1, 2-2	●	●	●	←	←	←
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
5-1, 5-2	●	●	●	←	←	←
6-1, 6-2	●	●	●			
7-1, 7-2				←	←	←
8-1, 8-2	●	●	●			

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

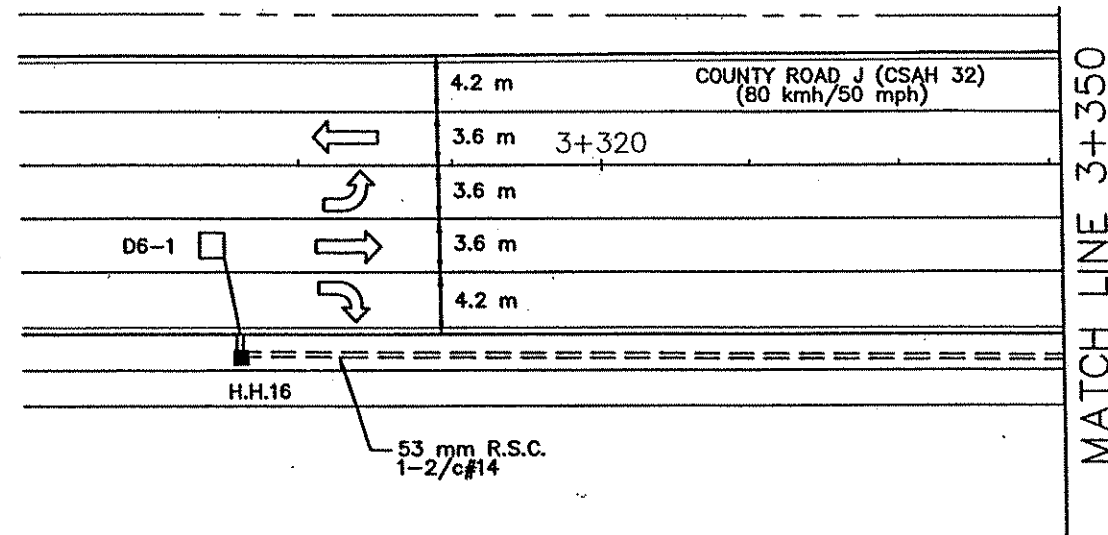
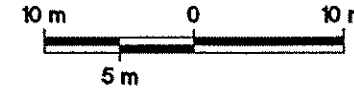
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Certified By: *John M. Gray* License No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM "G"
FOR INFORMATION ONLY
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT RICE CREEK PKWY/NAPLES ST (CSAH 23)

FILE NO. ARAMSE0503
295
SG49 OF SG51
297



NOTE: THIS PLAN SHEET IS
A METRIC PLAN SHEET.

SYSTEM ID = TRF823
METER ADDRESS = 3395 85TH AVENUE

NOTE: THIS PLAN SHEET IS BEING PROVIDED
FOR INFORMATIONAL PURPOSES ONLY.

X:\PT\RAMSEY\050300\PLANS\5\SIGNAL\SIGINFOP\PLANS.DWG

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

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Printed Name: JOHN M. GRAY Date: 12/15/05

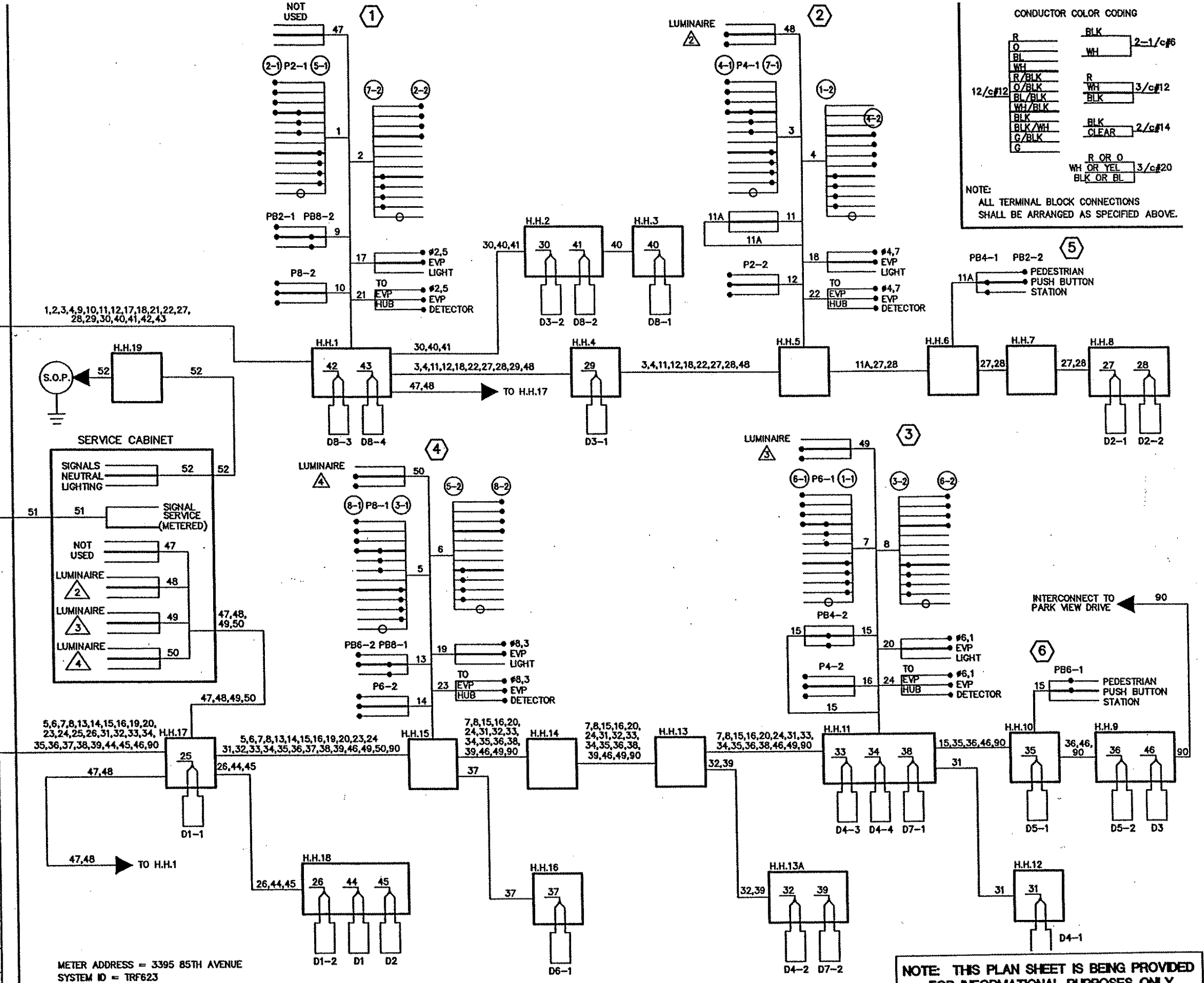
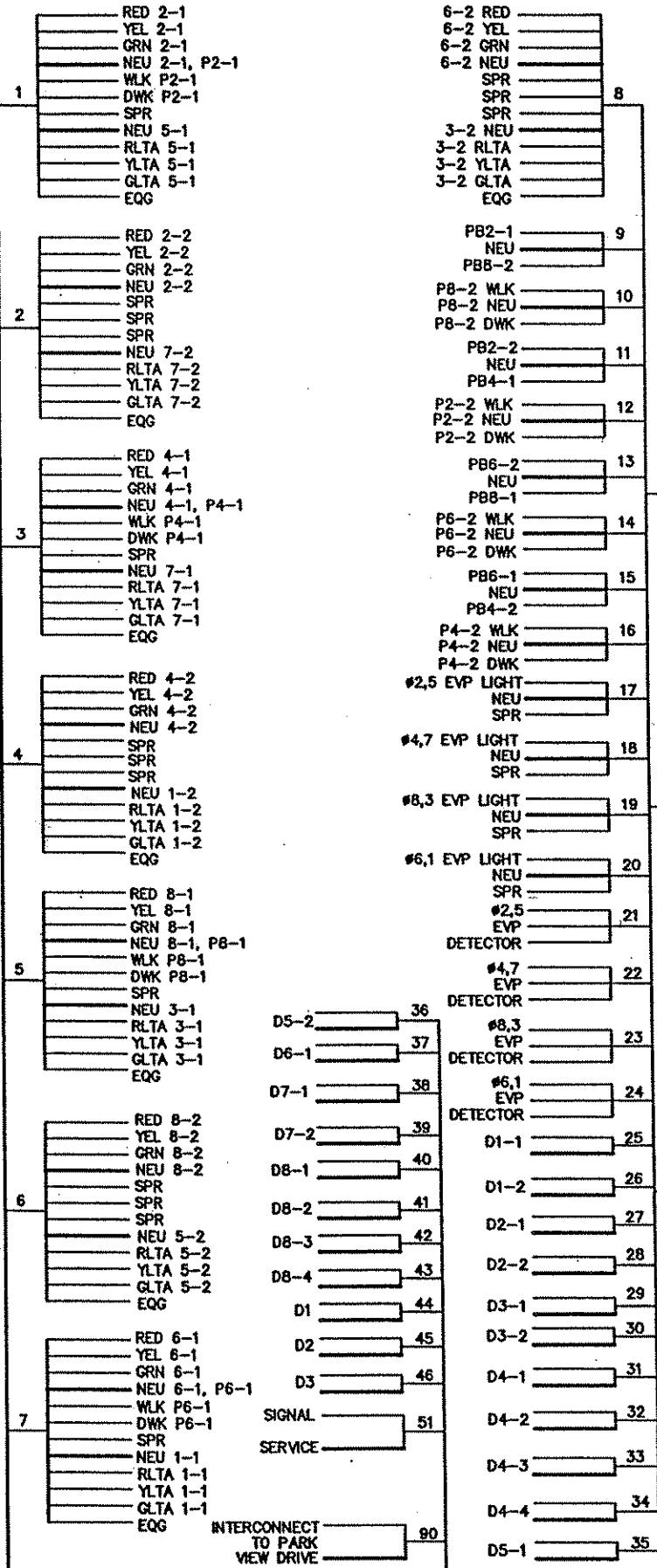
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM "G"
FOR INFORMATION ONLY
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT RICE CREEK PKWY/NAPLES ST (CSAH 23)

FILE NO. ARAMSE0503	296
SG50 OF SG51	297

CONTROLLER CABINET



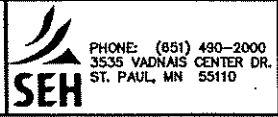
METER ADDRESS = 3395 85TH AVENUE
SYSTEM ID = TRF823

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

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

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.

Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 12/15/05



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

INPLACE SIGNAL SYSTEM 'G'
FOR INFORMATION ONLY
COUNTY ROAD J/85TH AVENUE NE (CSAH 1/32)
AT RICE CREEK PKWY/NAPLES ST (CSAH 23)

FILE NO. ARAMSE0503
SG51 OF SG51
297


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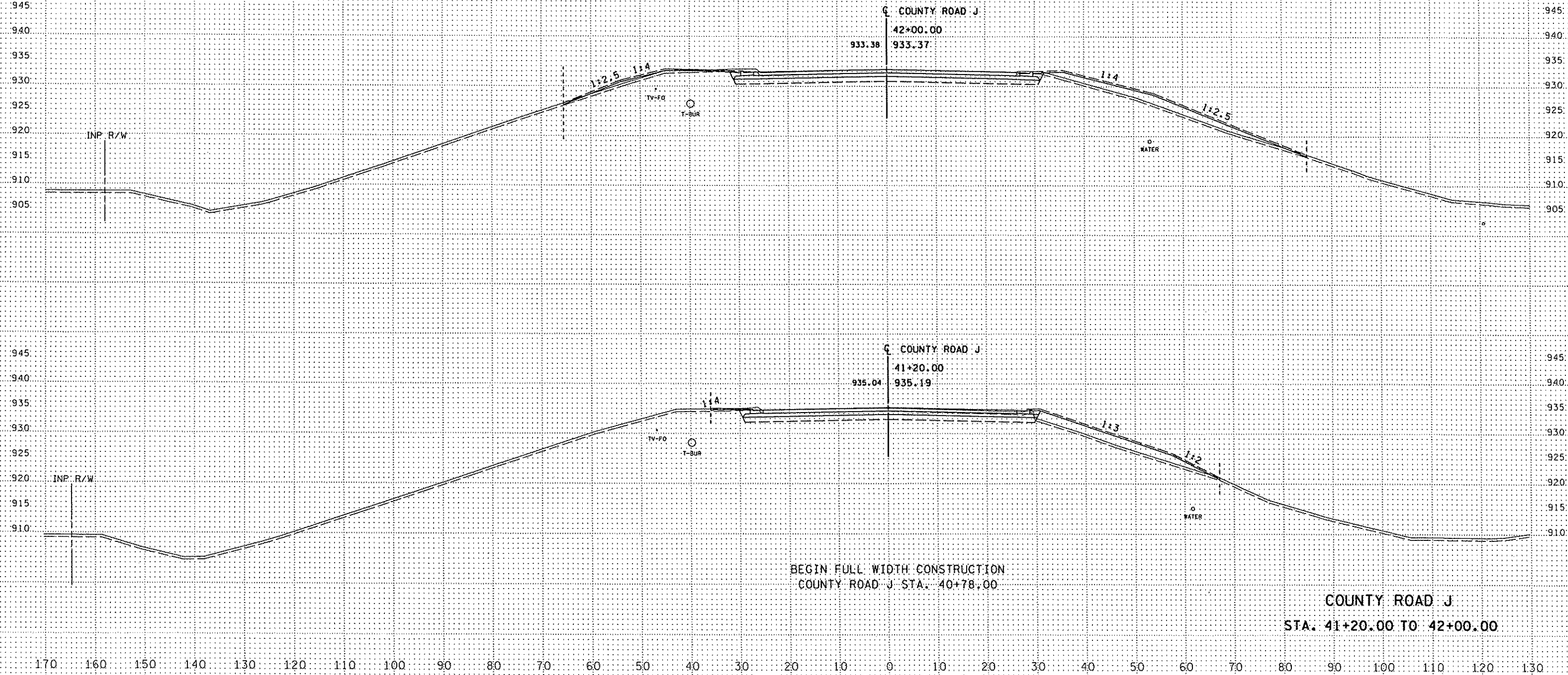
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LEGEND:

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 BURIED TELEPHONE VAULT



BEGIN FULL WIDTH CONSTRUCTION
COUNTY ROAD J STA. 40+78.00

COUNTY ROAD J
STA. 41+20.00 TO 42+00.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

SEH

PHONE: 651-950-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J

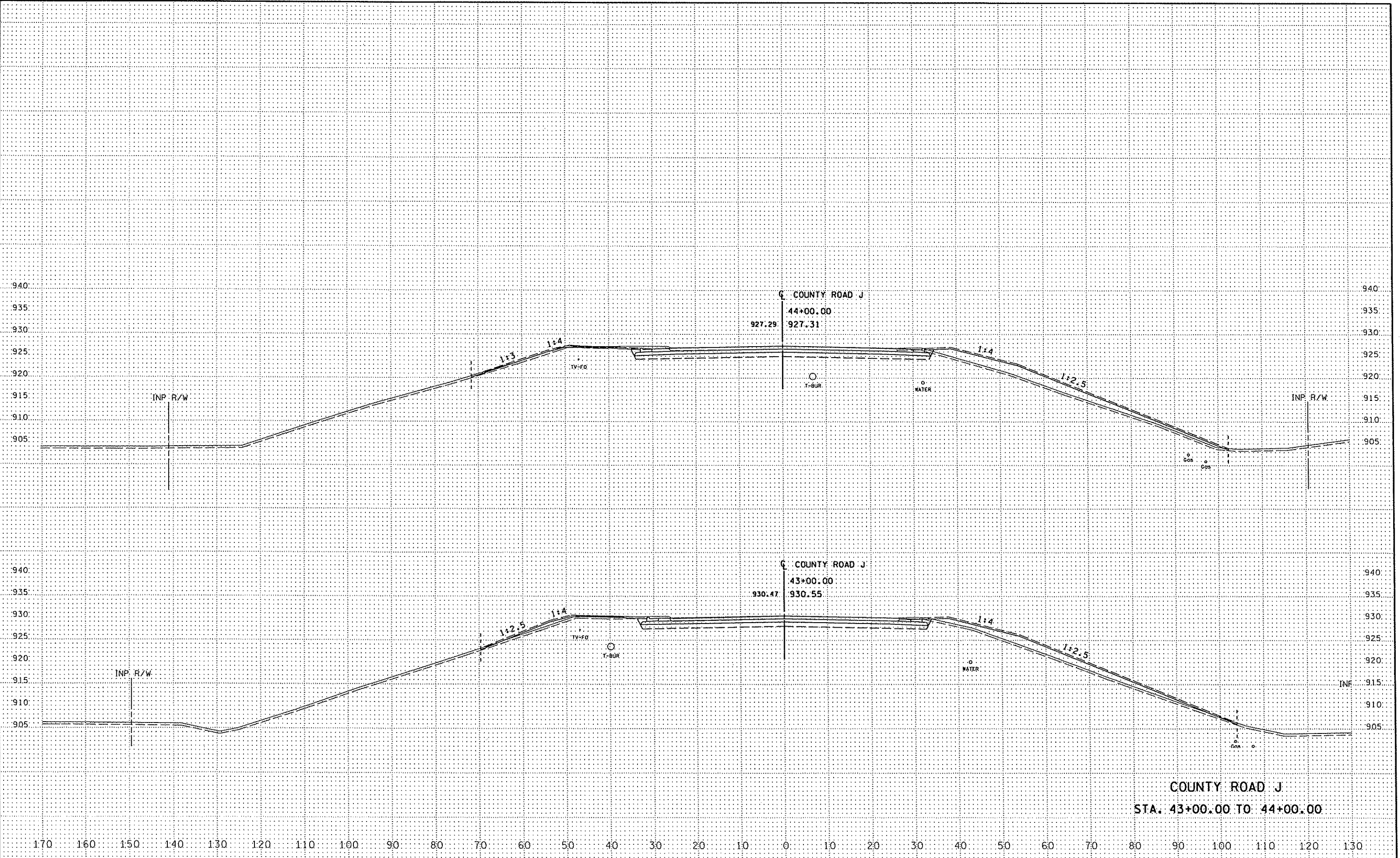
~S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
ARAMSE0503

**CROSS SECTIONS
COUNTY ROAD J**

XS1
OF XS60

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DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

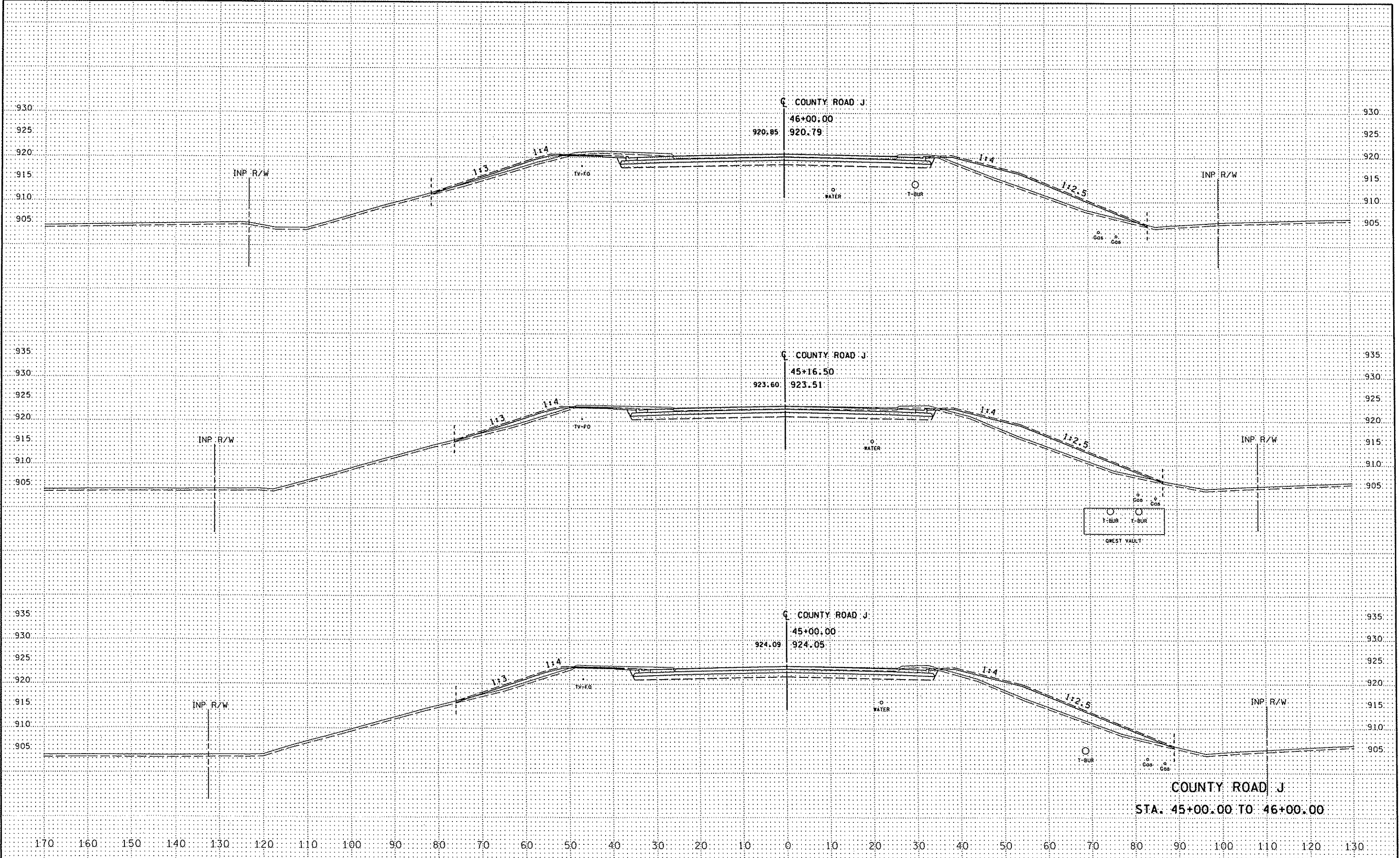
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COUNTY ROAD J

FILE NO. ARAME0503
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OF XS60

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COUNTY ROAD J
 STA. 45+00.00 TO 46+00.00

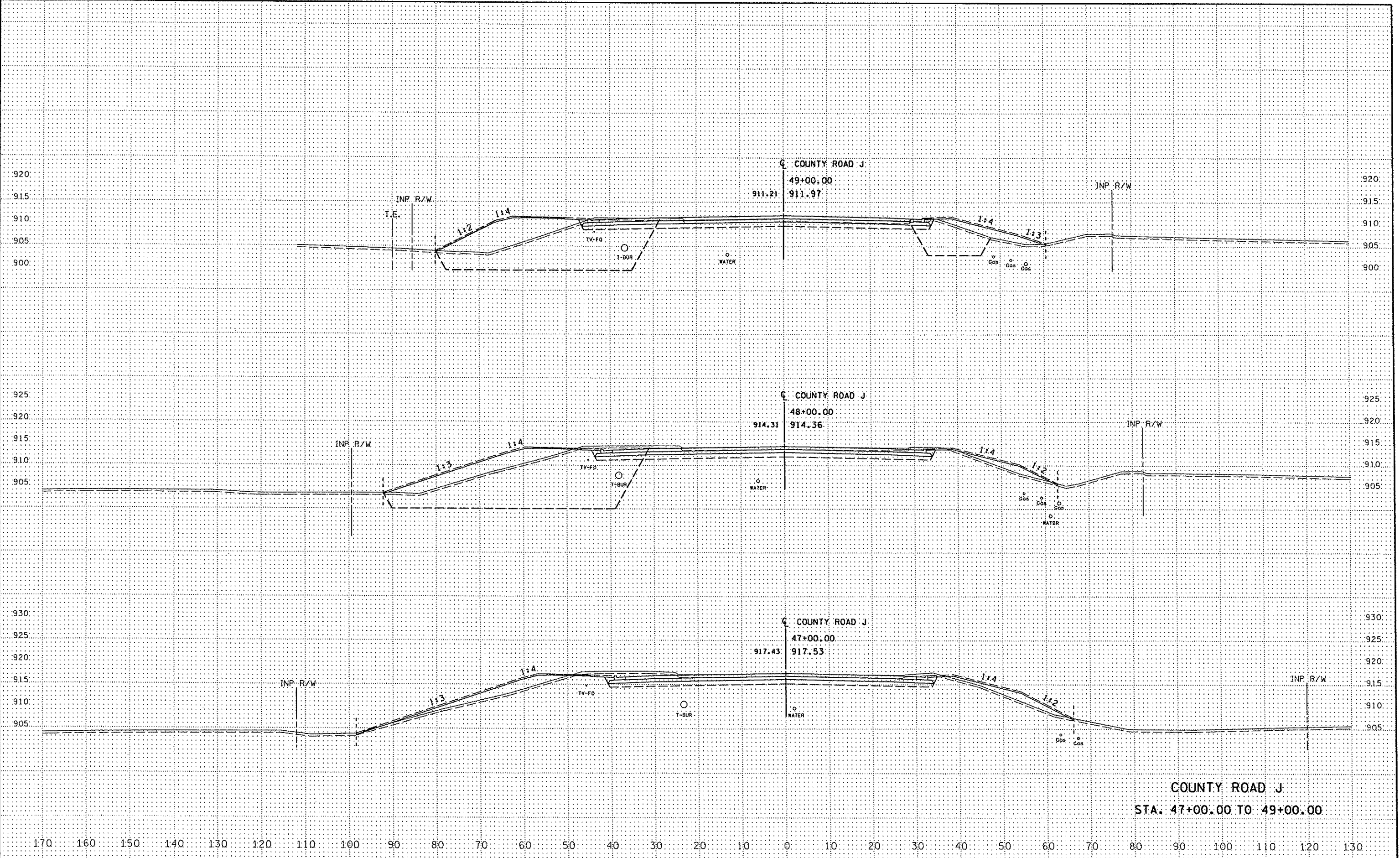
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DESIGNER:	JEV			
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 PHONE: 651-490-2000
 3535 YADNAIS CENTER DR.
 ST. PAUL, MN 55110

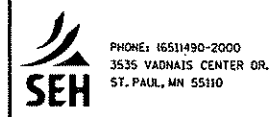
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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 OF XS60

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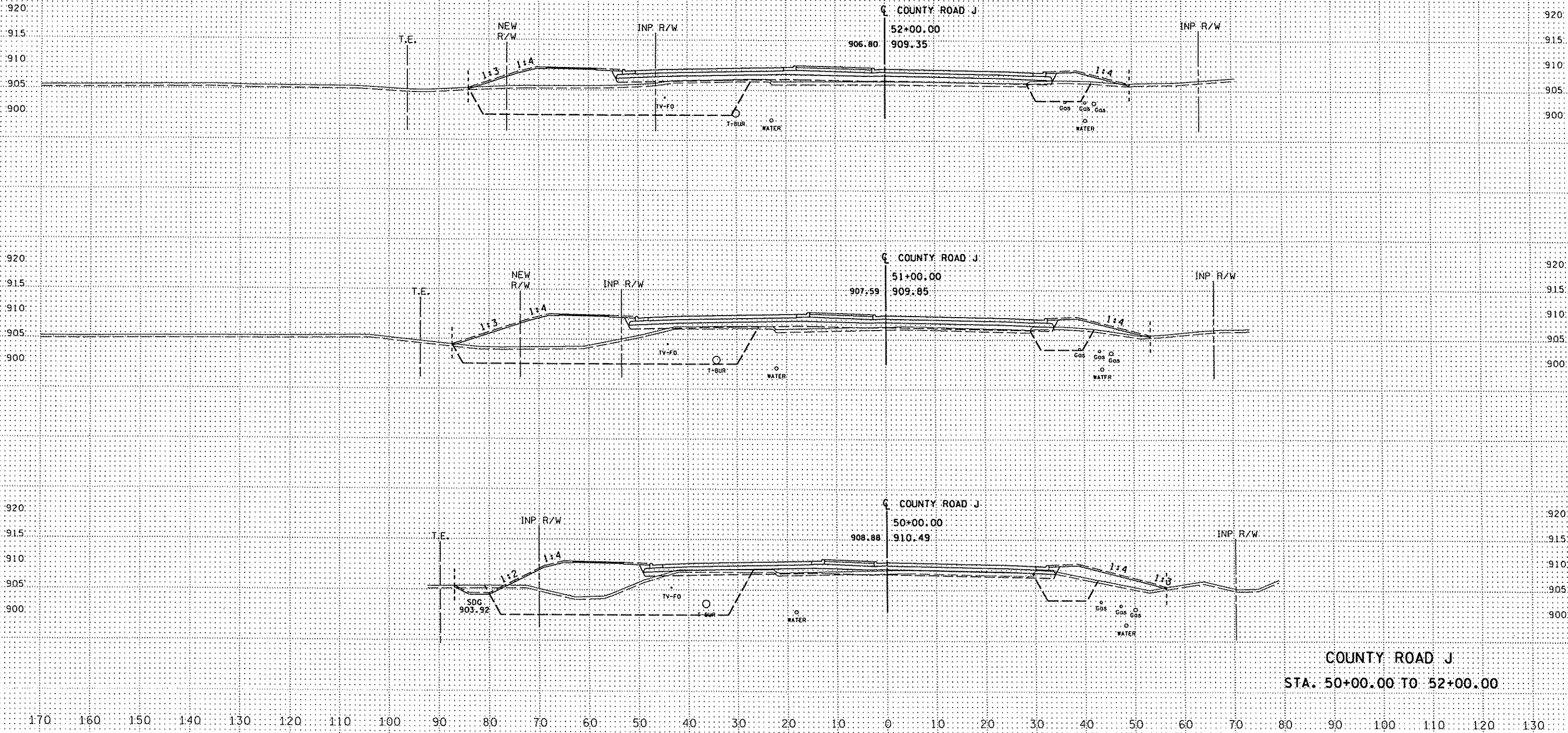


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DRAWN BY:	JEV		
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NO.	BY	DATE	REVISIONS



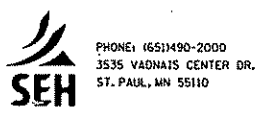
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J
 FILE NO.
 ARAMSE0503
 XS4
 OF XS60



COUNTY ROAD J
 STA. 50+00.00 TO 52+00.00

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DRAWN BY:	JEV			
DESIGNER:	JEV			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS



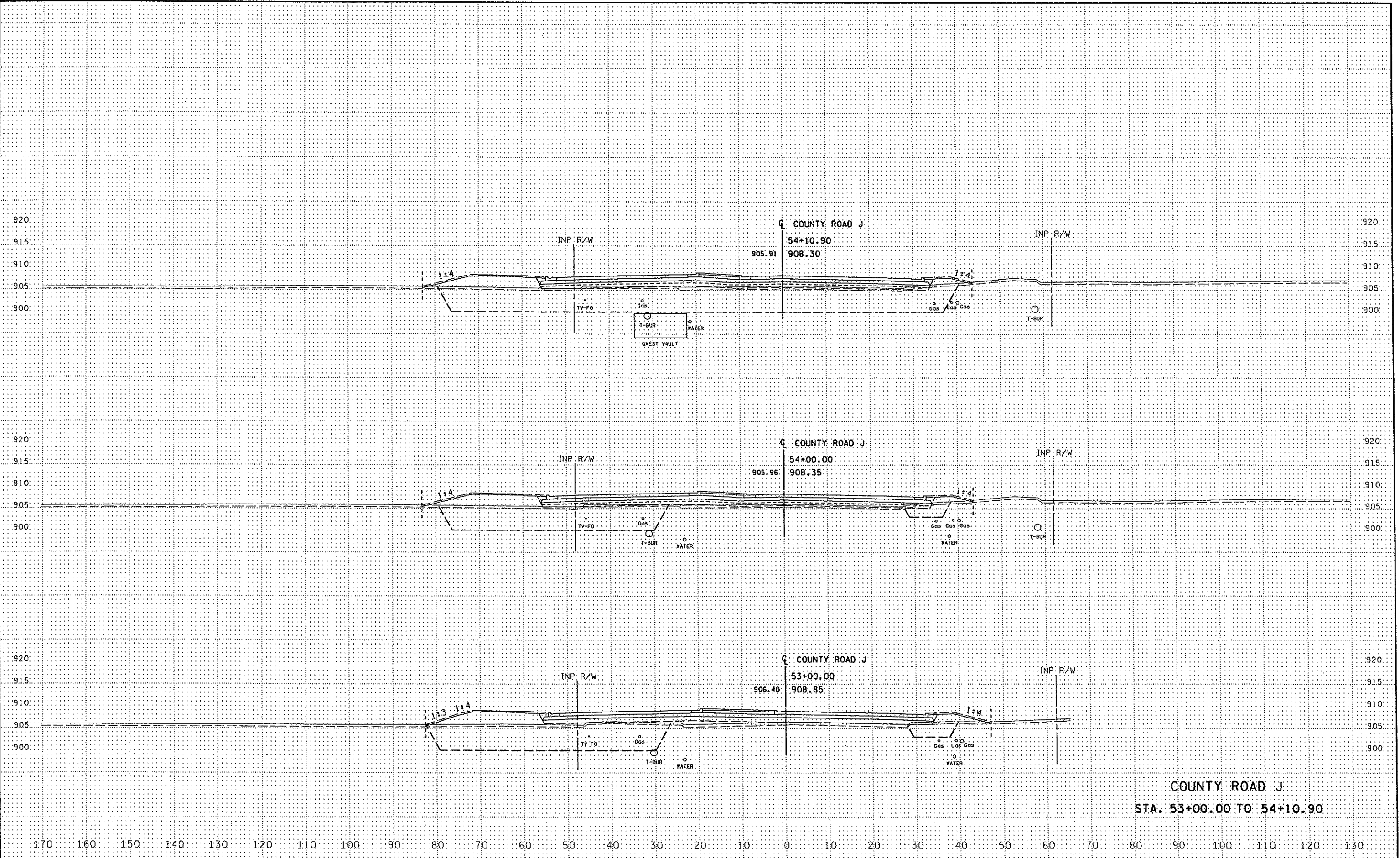
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

CROSS SECTIONS
 COUNTY ROAD J
 FILE NO. ARAMSE0503
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 OF XS60

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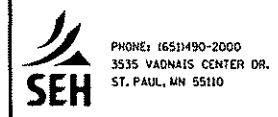
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COUNTY ROAD J
 STA. 53+00.00 TO 54+10.90

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

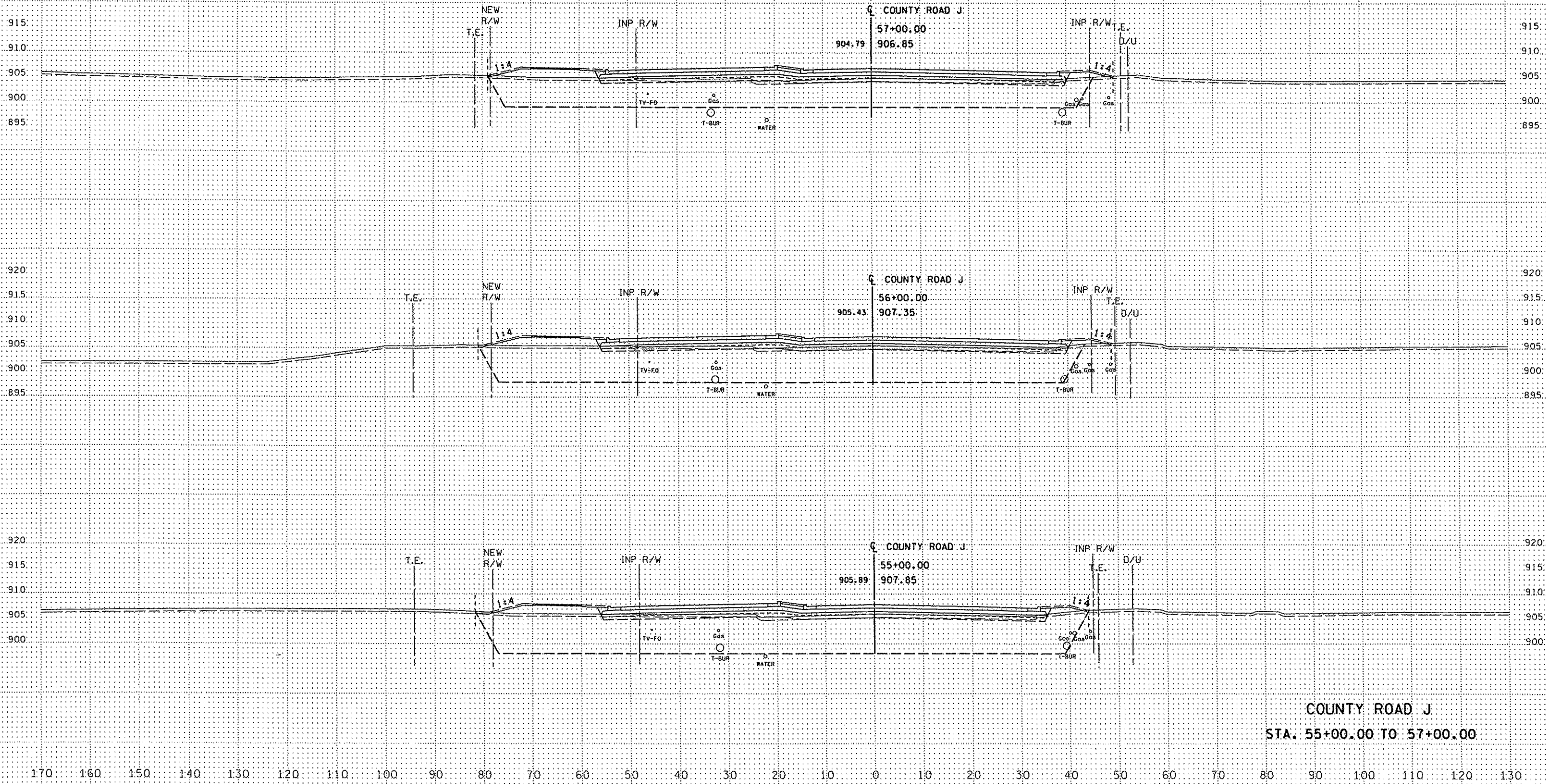
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FILE NO.
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STA. 55+00.00 TO 57+00.00

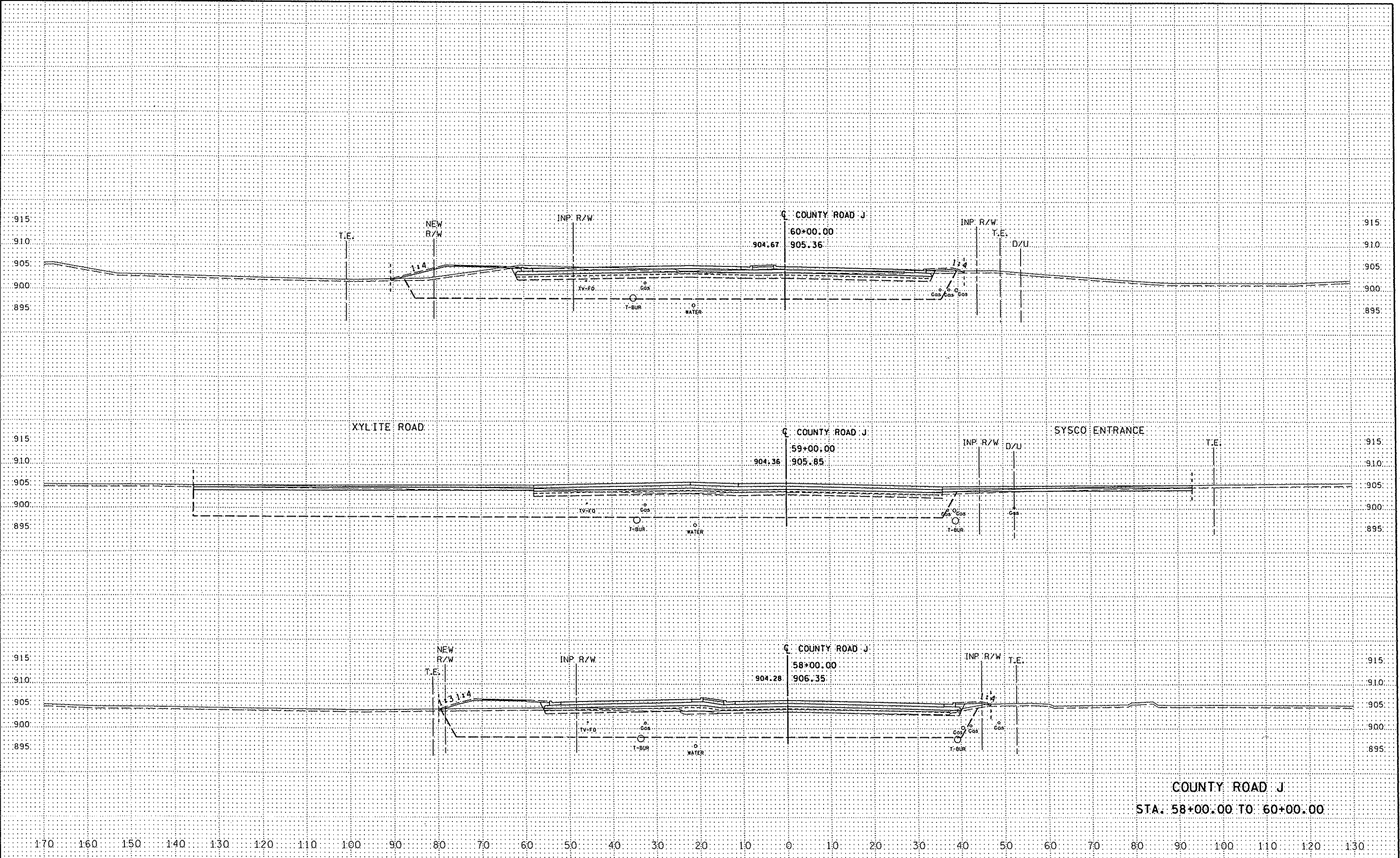
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RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

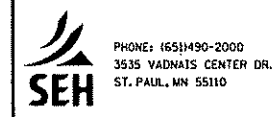
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COUNTY ROAD J
 STA. 58+00.00 TO 60+00.00

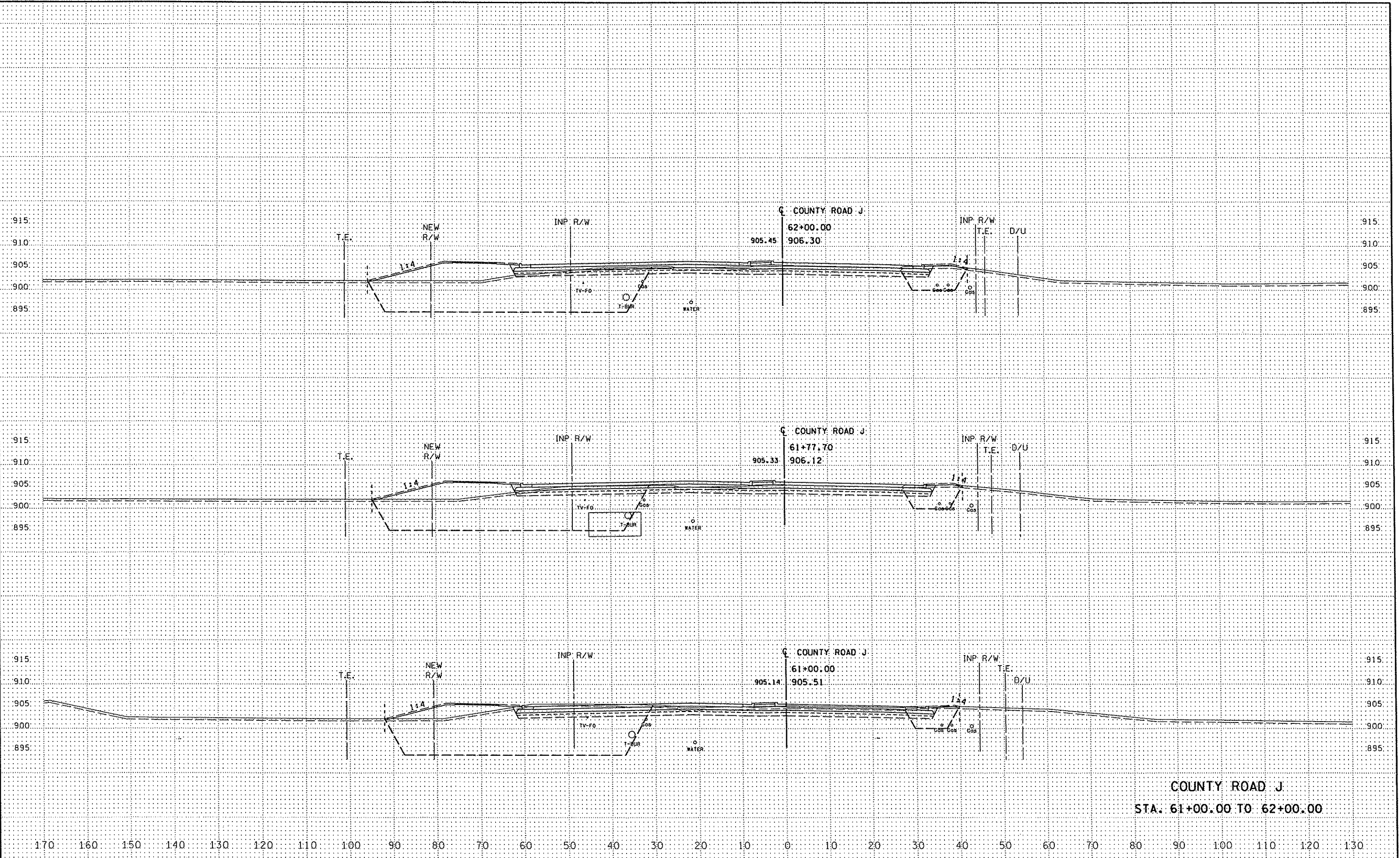
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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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CROSS SECTIONS
COUNTY ROAD J
 XS8
 OF XS60

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DESIGNER:	JEV		
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NO.	BY	DATE	REVISIONS

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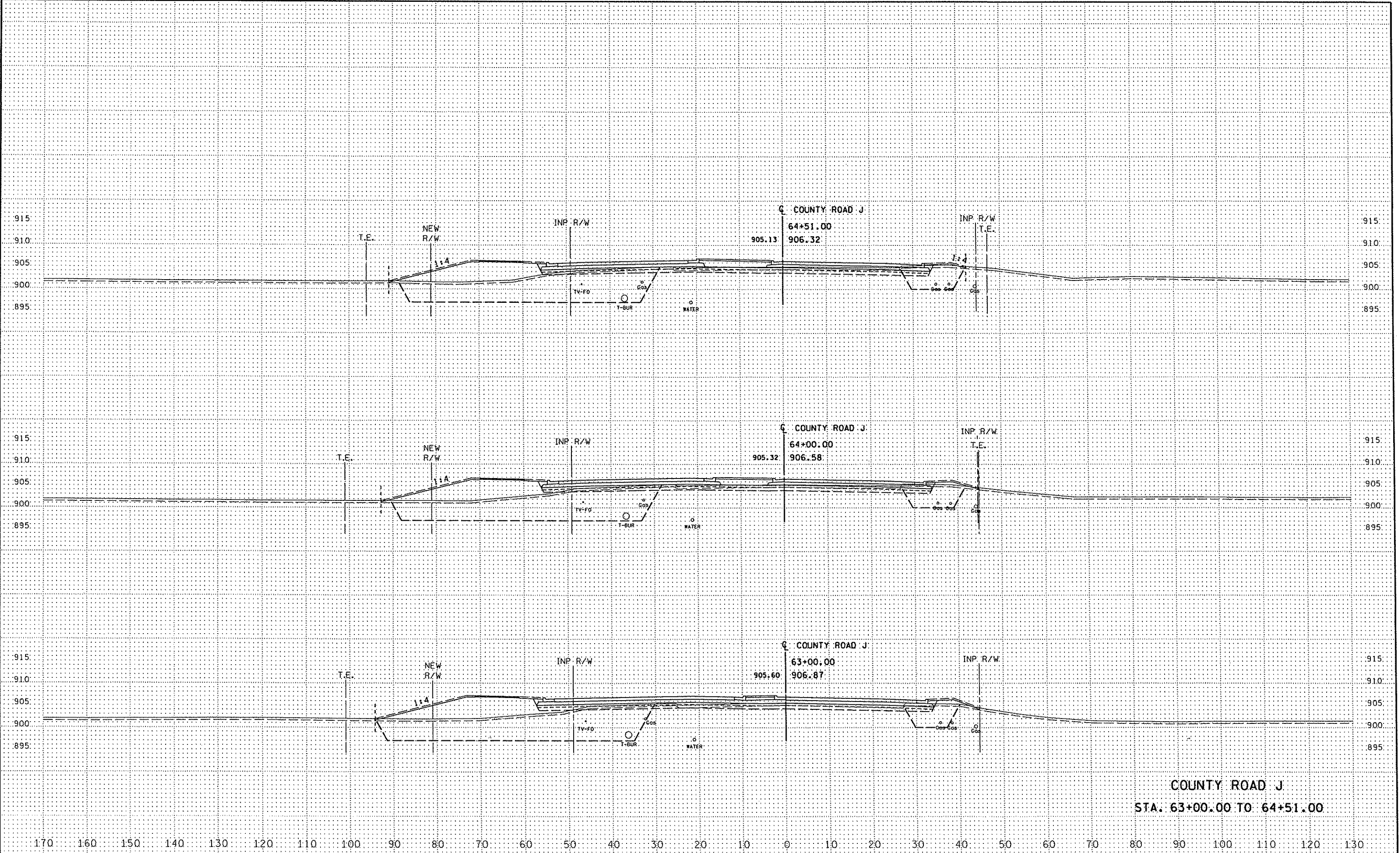

 PHONE: (651)490-2000
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RAMSEY COUNTY
COUNTY ROAD J
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CROSS SECTIONS
COUNTY ROAD J

FILE NO.
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COUNTY ROAD J
STA. 63+00.00 TO 64+51.00

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DESIGNER:	JEV		
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NO.	BY	DATE	REVISIONS



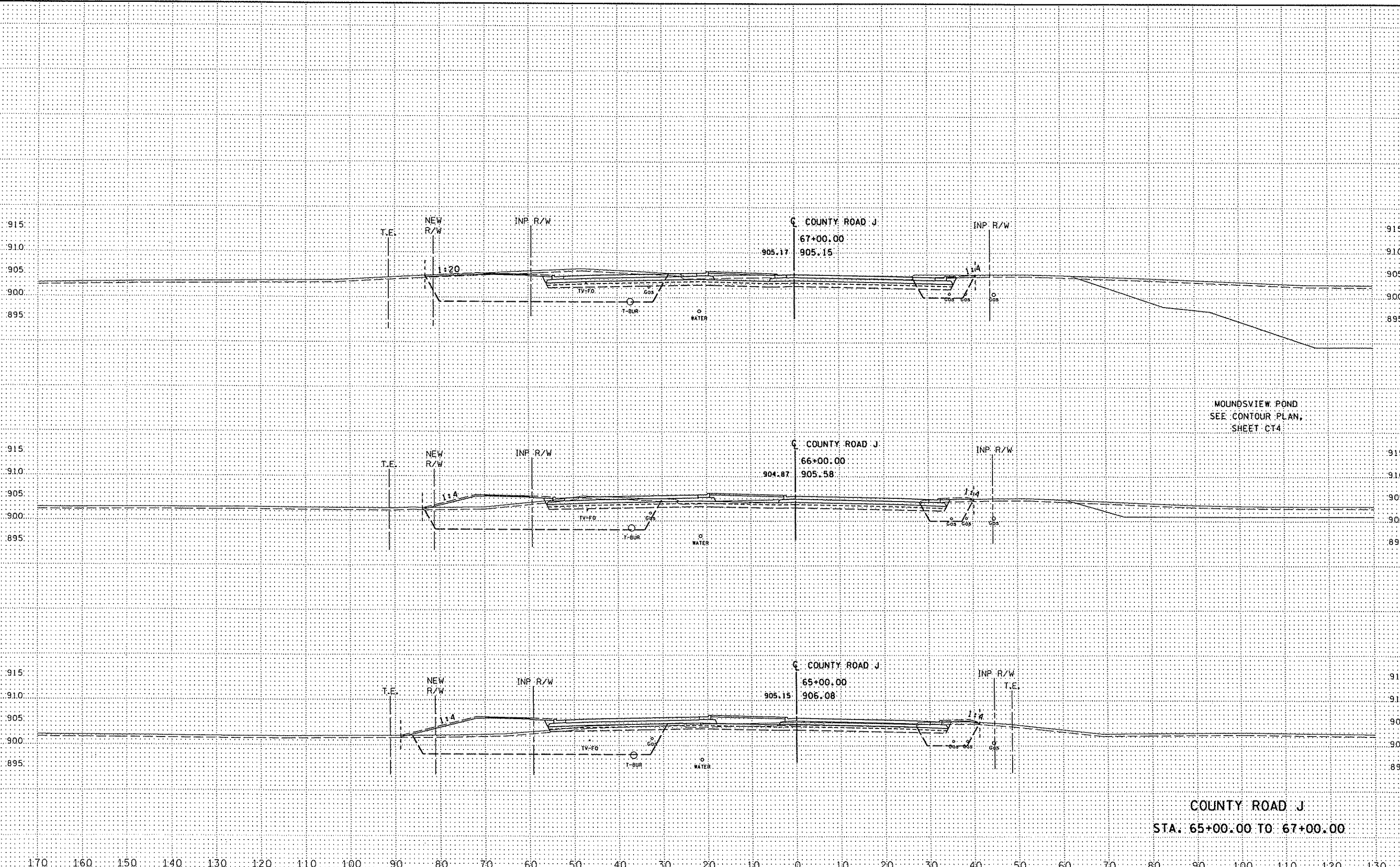
RAMSEY COUNTY
COUNTY ROAD J
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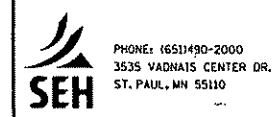
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COUNTY ROAD J
 STA. 65+00.00 TO 67+00.00

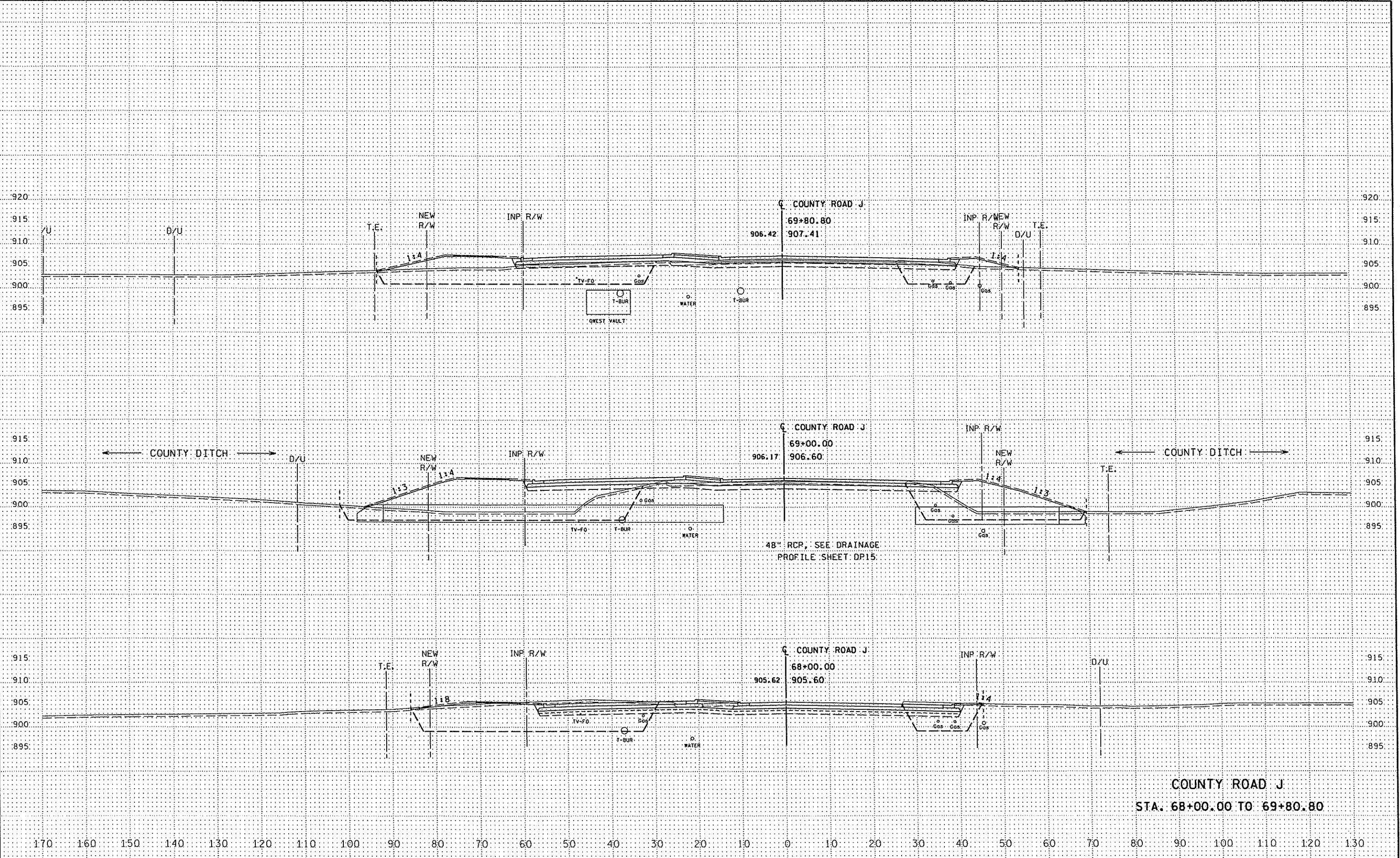
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DESIGNER: JEV				
CHECKED BY: APM				



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

FILE NO.
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COUNTY ROAD J
 STA. 68+00.00 TO 69+80.80

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NO.	BY	DATE	REVISIONS



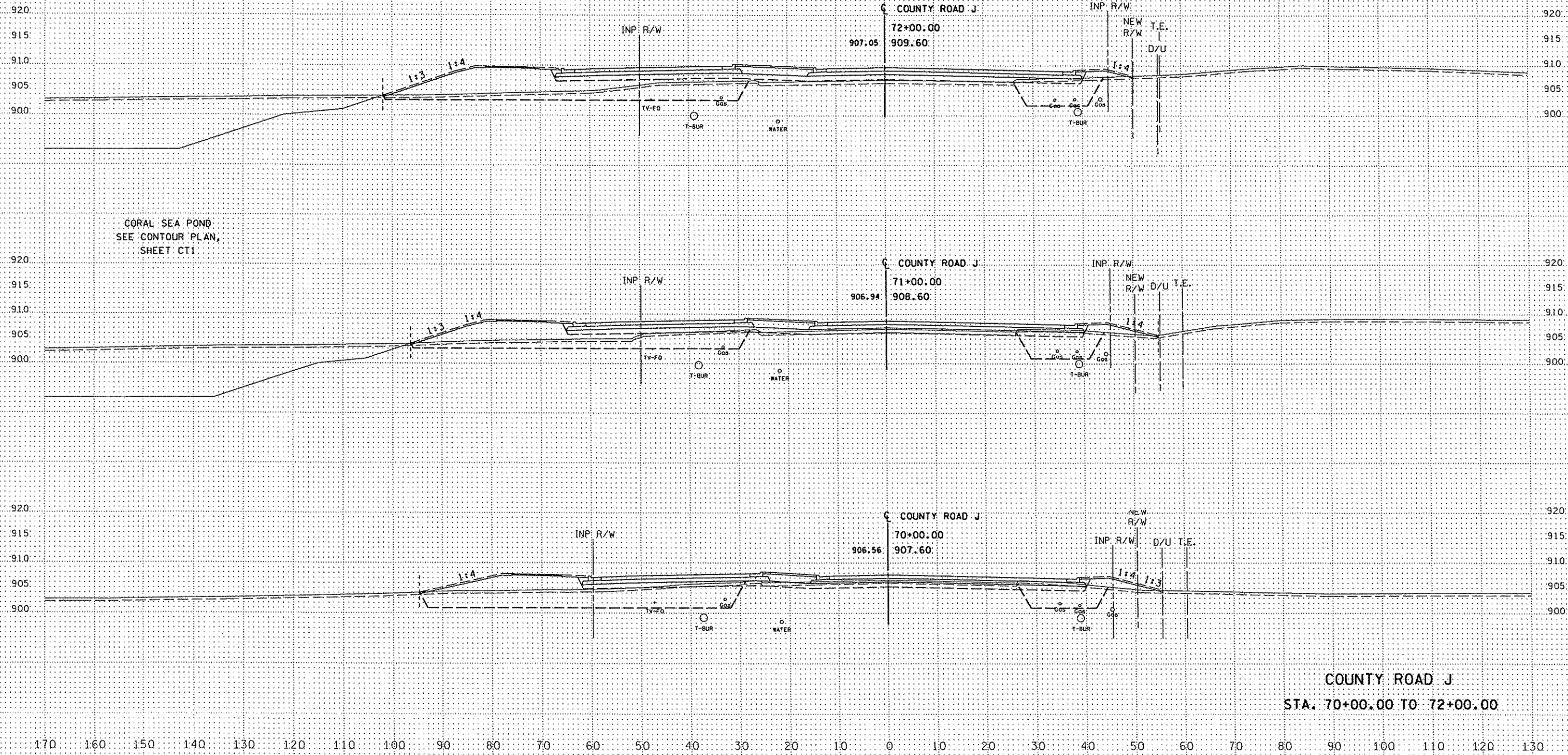
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

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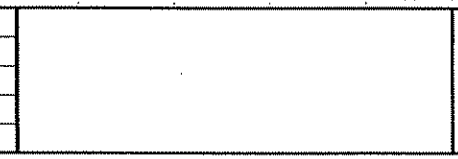
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DESIGN TEAM			
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DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J

S.A.P. 02-632-14, S.A.P. 62-601-11

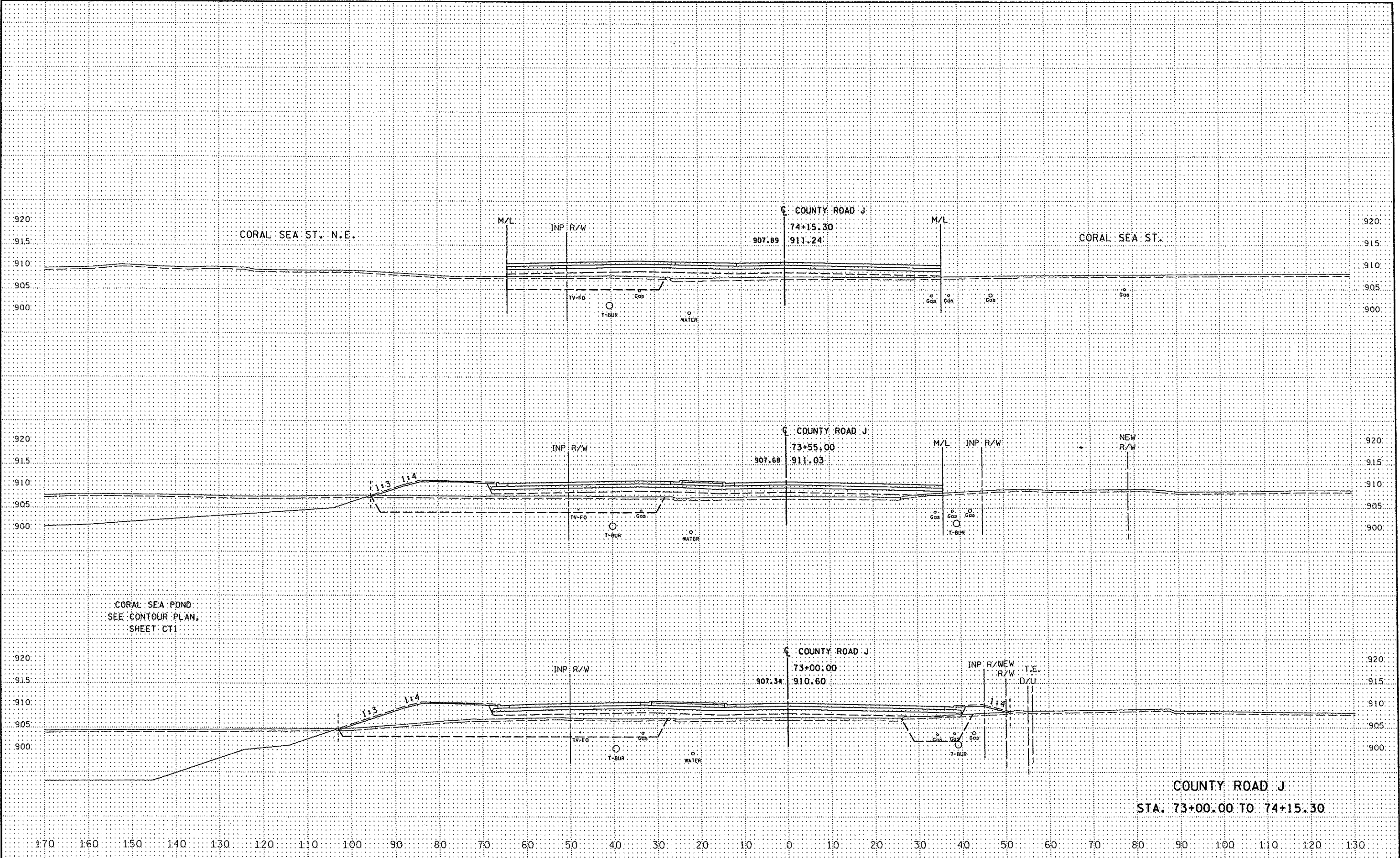
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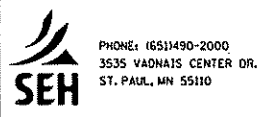
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DESIGN TEAM				
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DESIGNER:	JEV			
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	NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

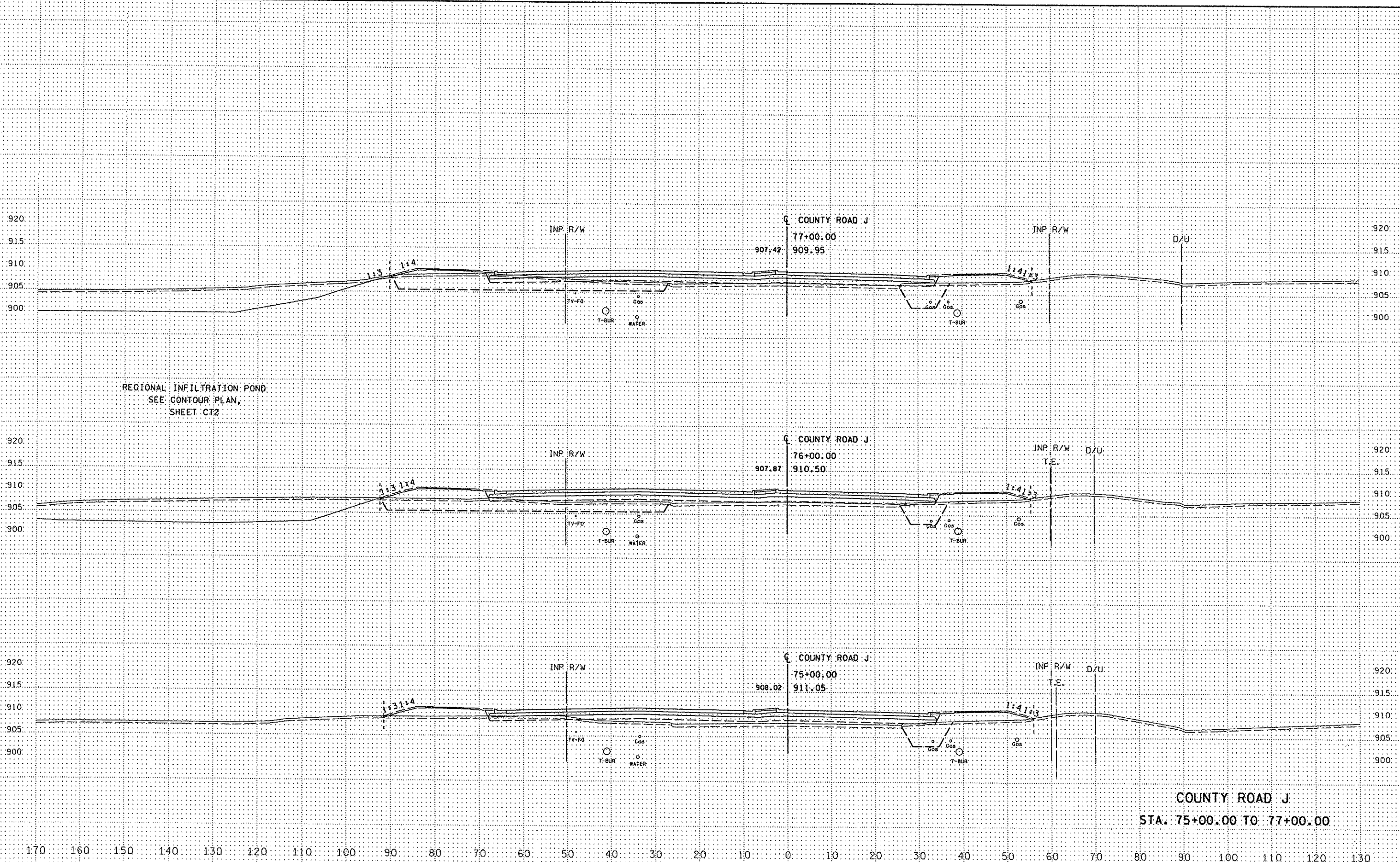
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 COUNTY ROAD J**

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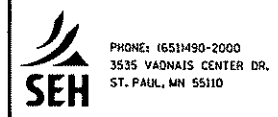
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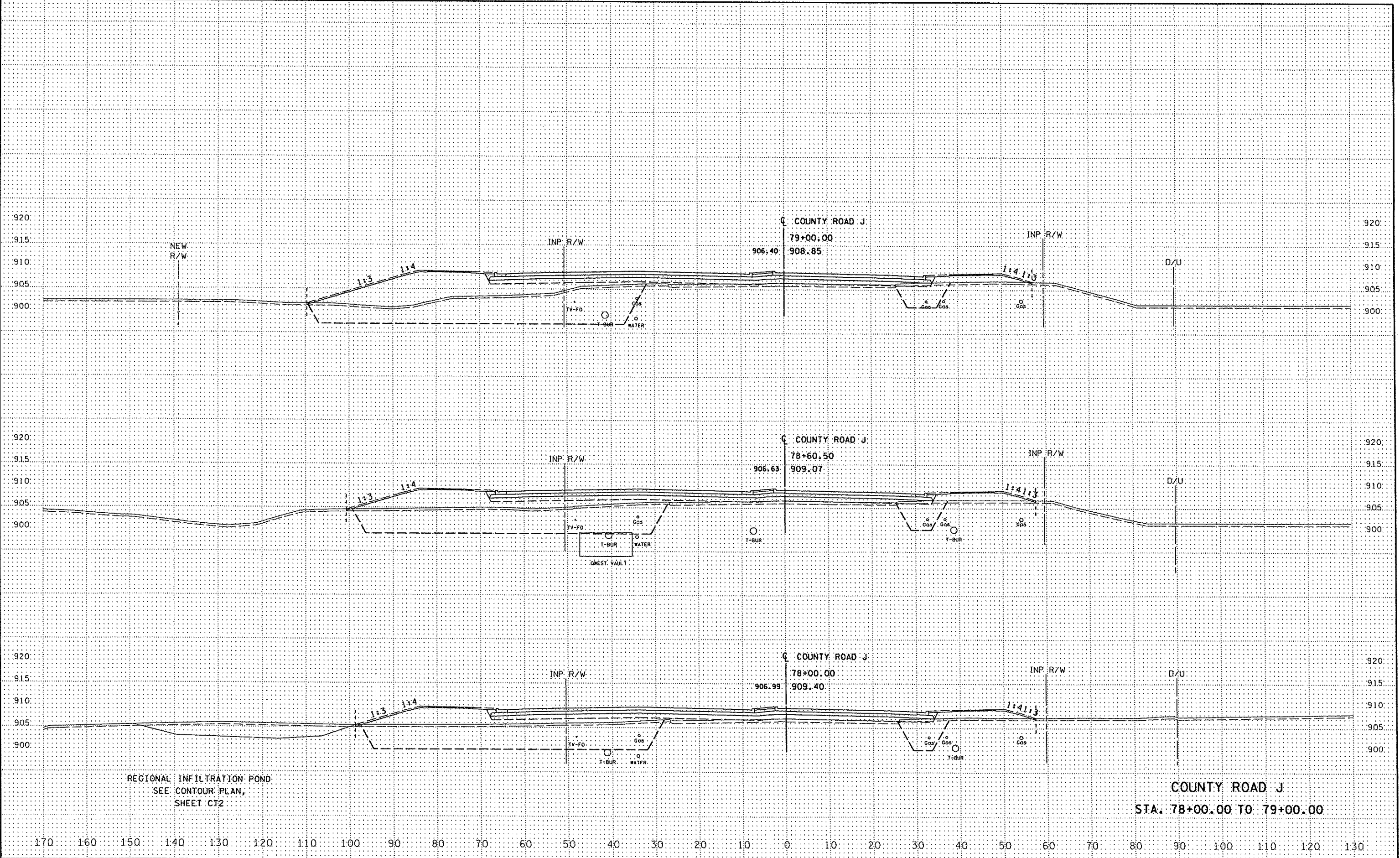
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

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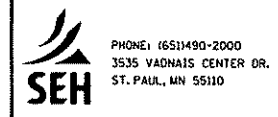
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REGIONAL INFILTRATION POND
SEE CONTOUR PLAN,
SHEET CT2

COUNTY ROAD J
STA. 78+00.00 TO 79+00.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

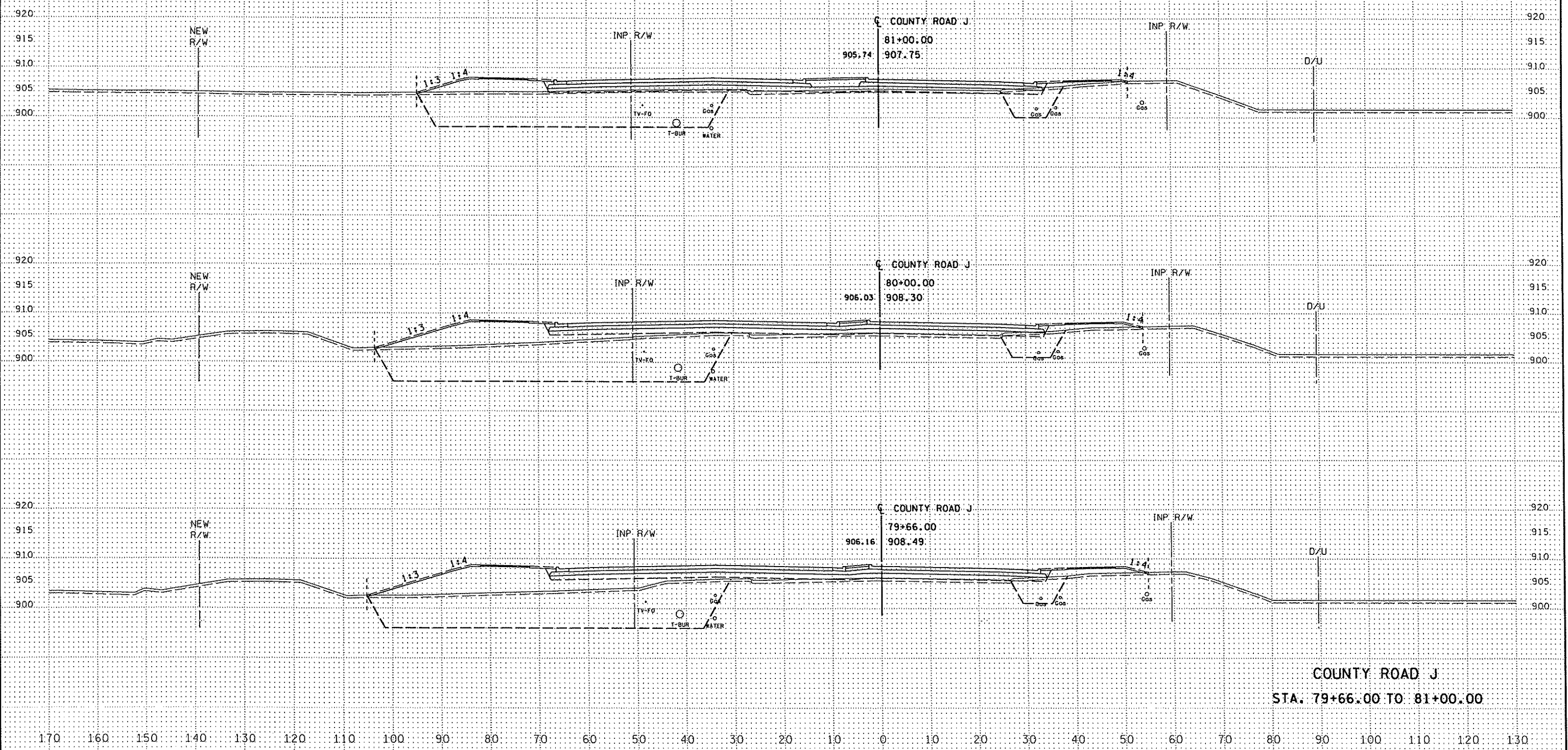


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J

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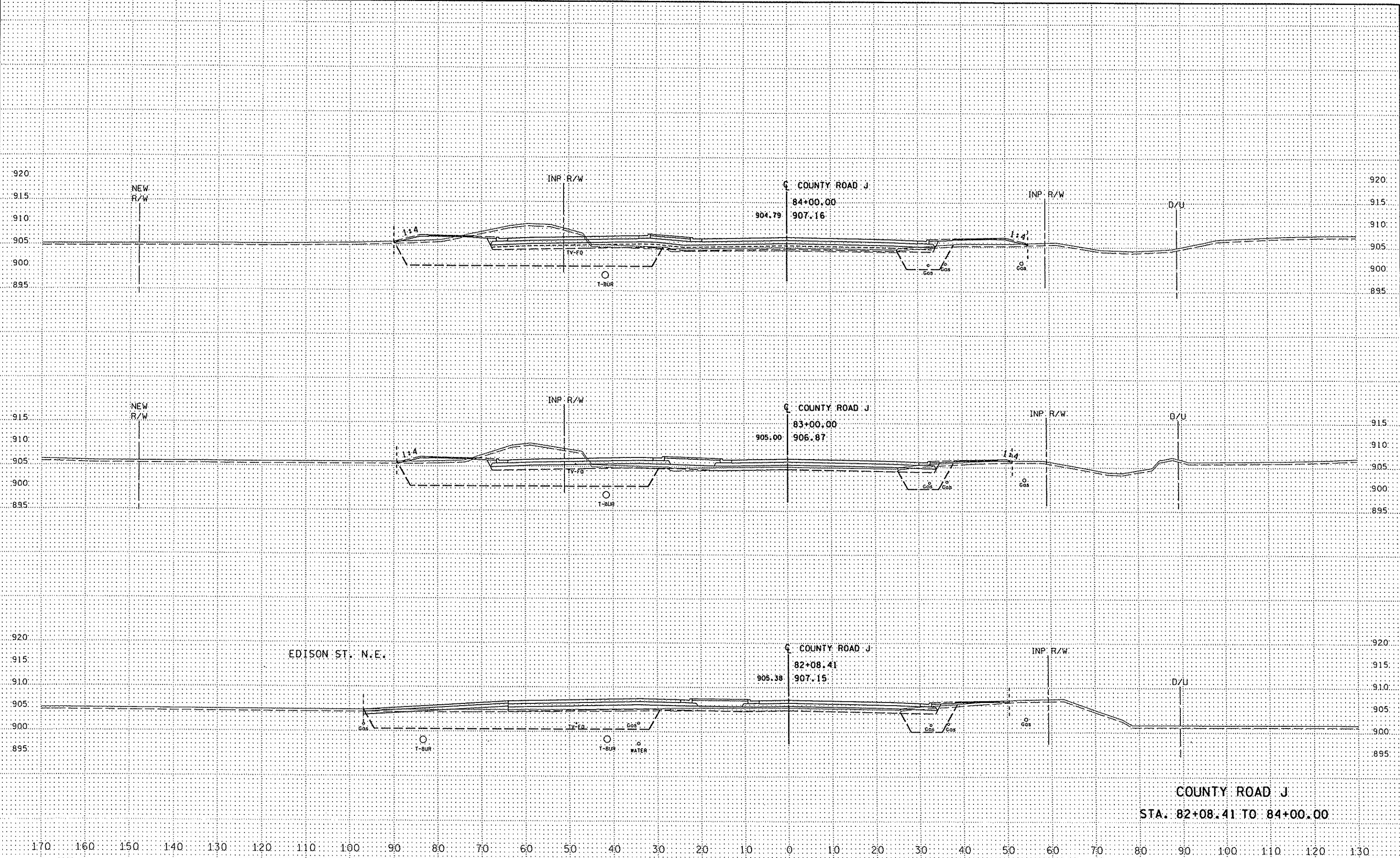
COUNTY ROAD J
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DESIGN TEAM				
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RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 COUNTY ROAD J
 FILE NO. ARAMSE0503
 XS17
 OF XS60



EDISON ST. N.E.

COUNTY ROAD J
STA. 82+08.41 TO 84+00.00

DESIGN TEAM				
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DESIGNER:	JEV			
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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

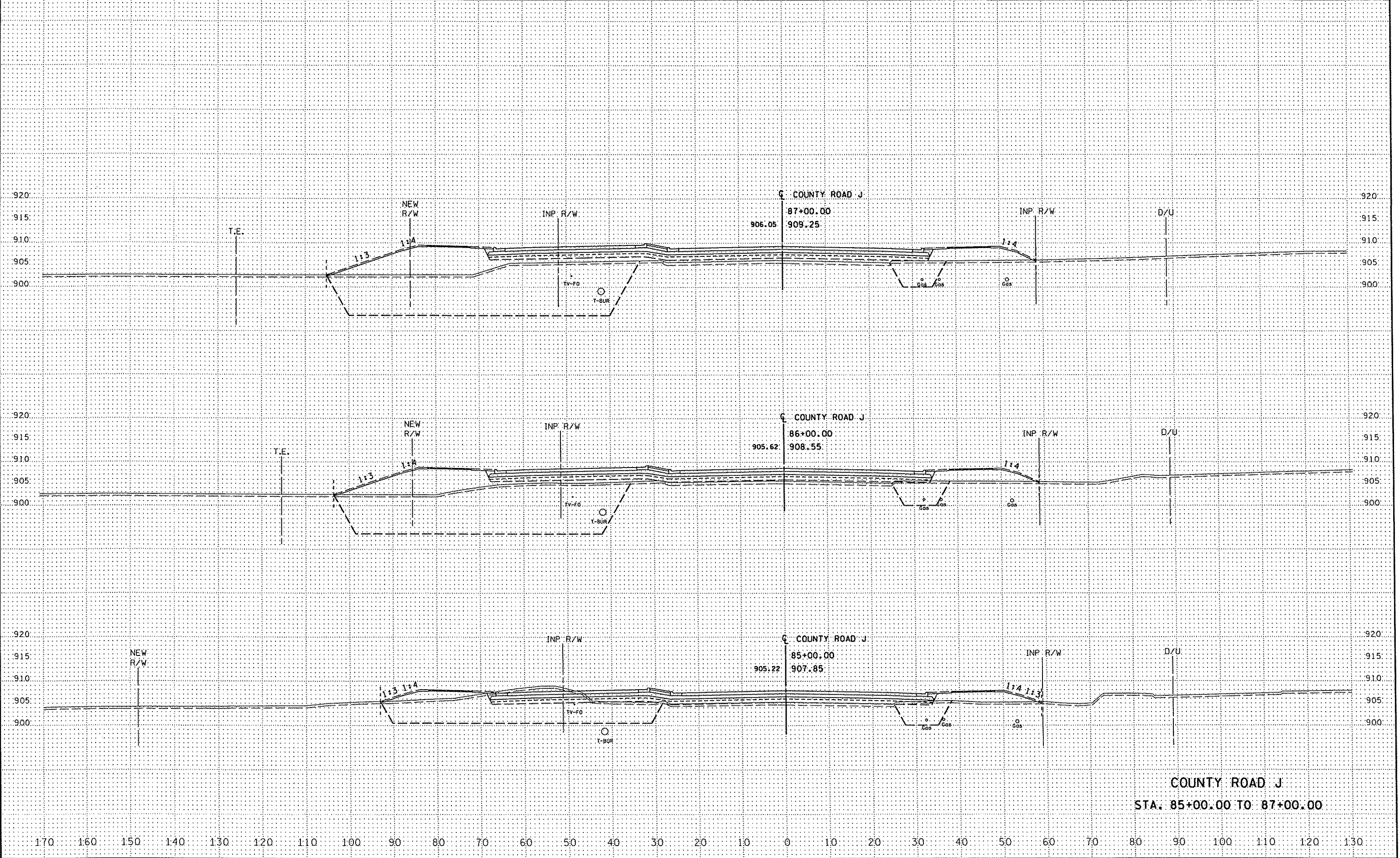
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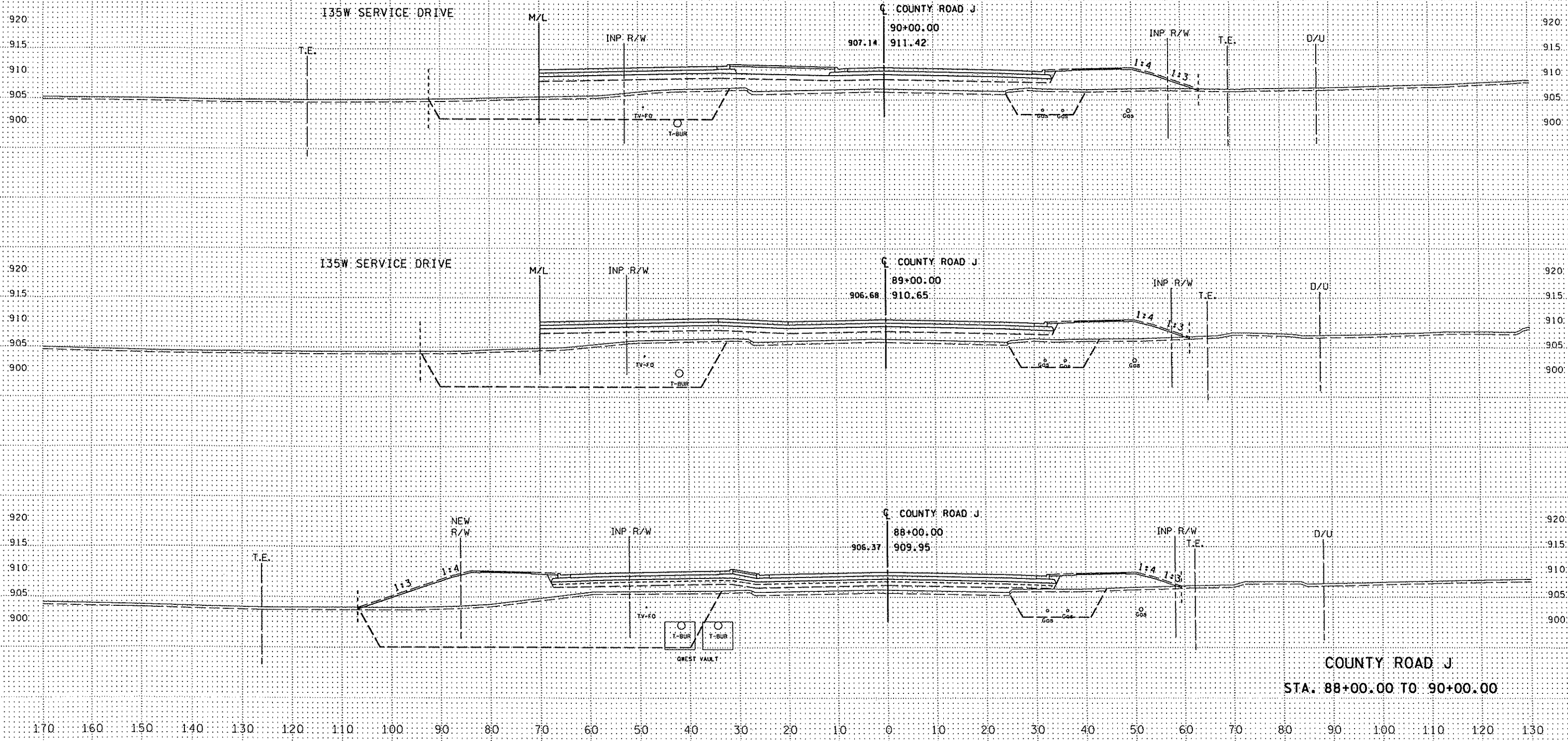
COUNTY ROAD J
 STA. 85+00.00 TO 87+00.00

DESIGN TEAM			
DRAWN BY:	J.E.V.		
DESIGNER:	J.E.V.		
CHECKED BY:	APM		
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SEH
 PHONE: 651-490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

CROSS SECTIONS
 COUNTY ROAD J
 FILE NO.
 ARAMSE0503
 XS19
 OF XS60



COUNTY ROAD J
STA. 88+00.00 TO 90+00.00

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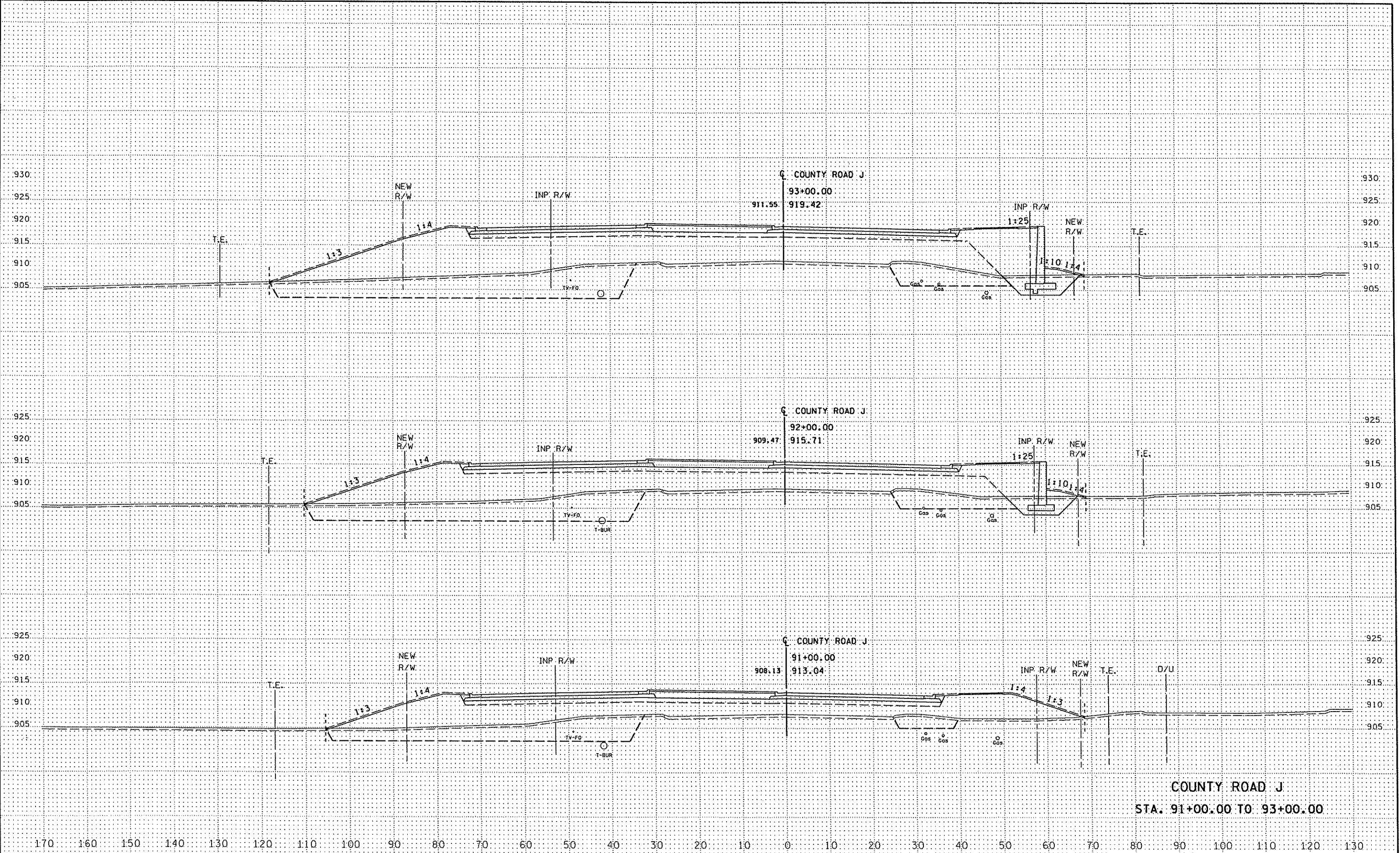


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J

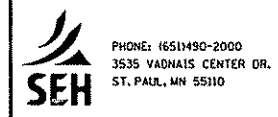
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COUNTY ROAD J
 STA. 91+00.00 TO 93+00.00

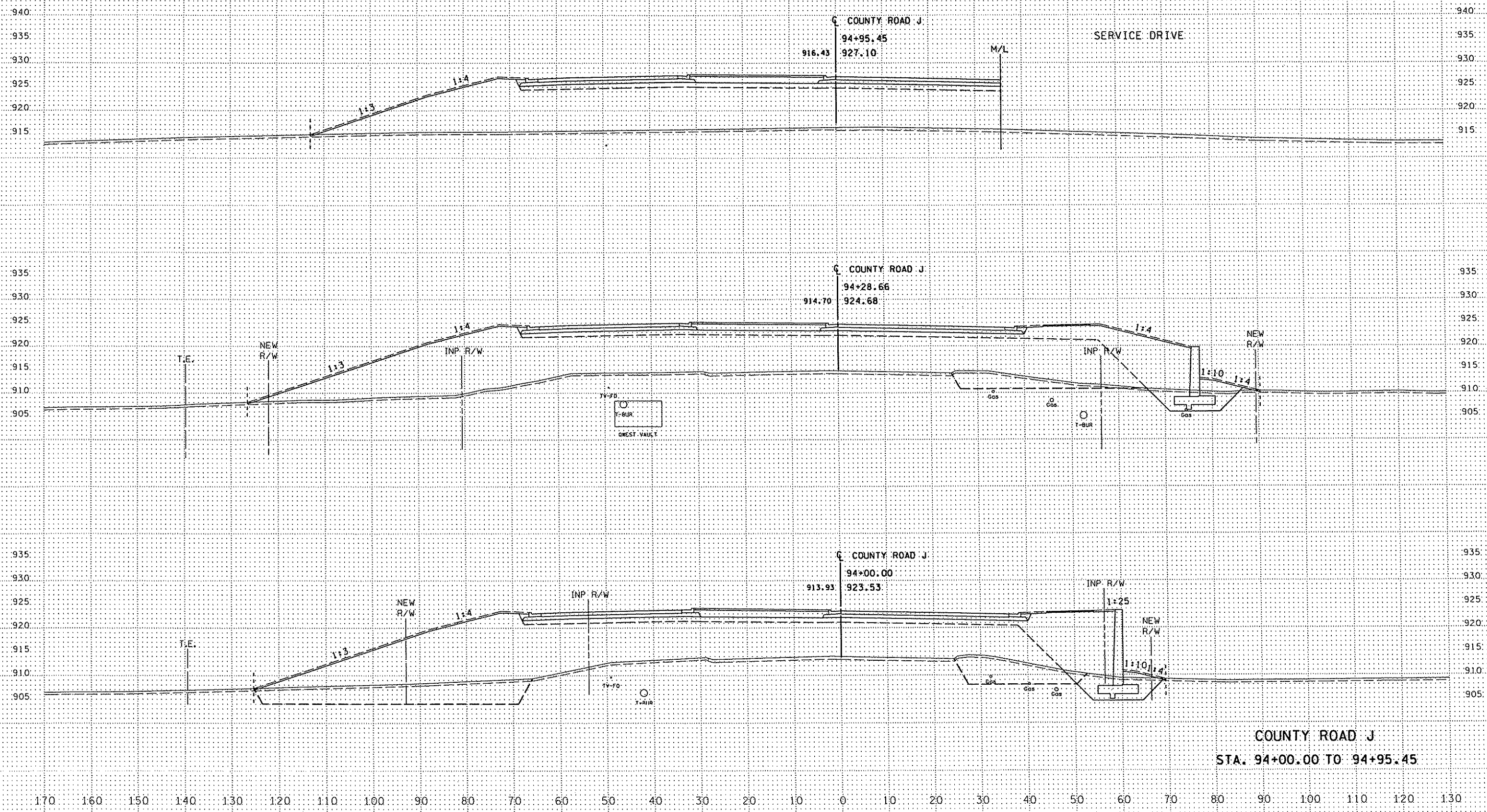
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RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

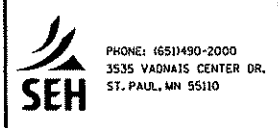
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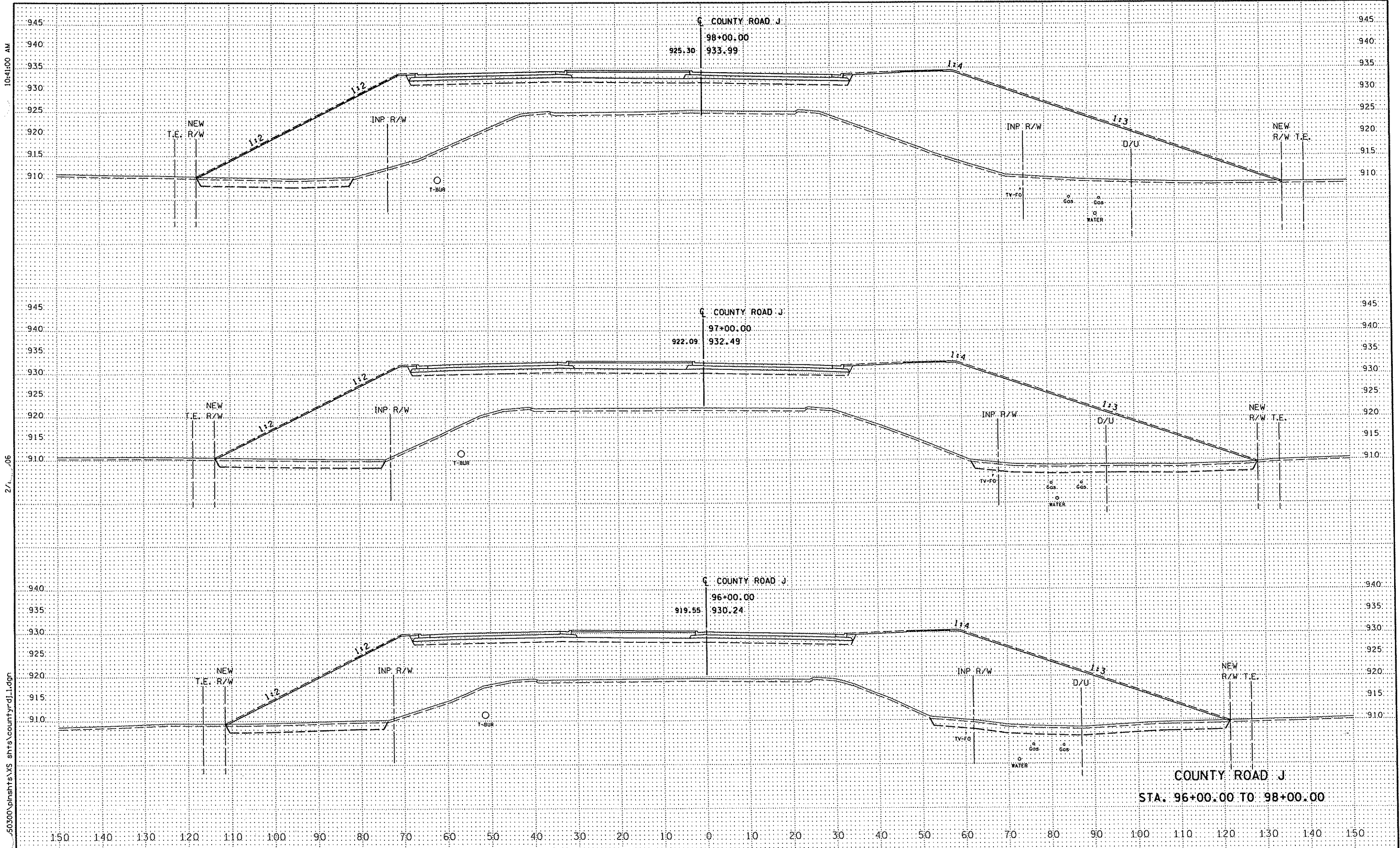
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DESIGN TEAM			
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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XS22
 OF XS60

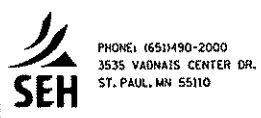


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COUNTY ROAD J
 STA. 96+00.00 TO 98+00.00

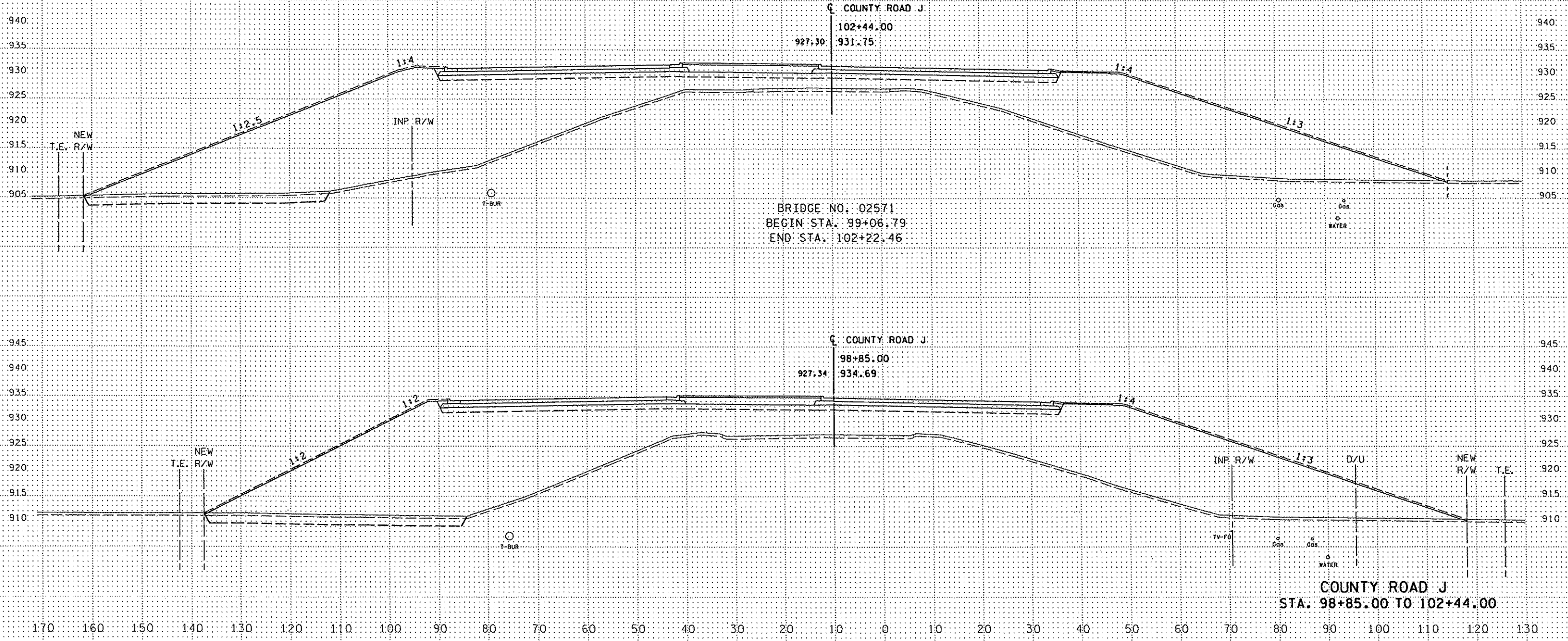
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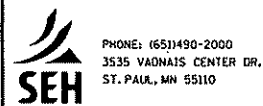
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
 COUNTY ROAD J**

FILE NO.
 ARAMSE0503
XS23
 OF XS60



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DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

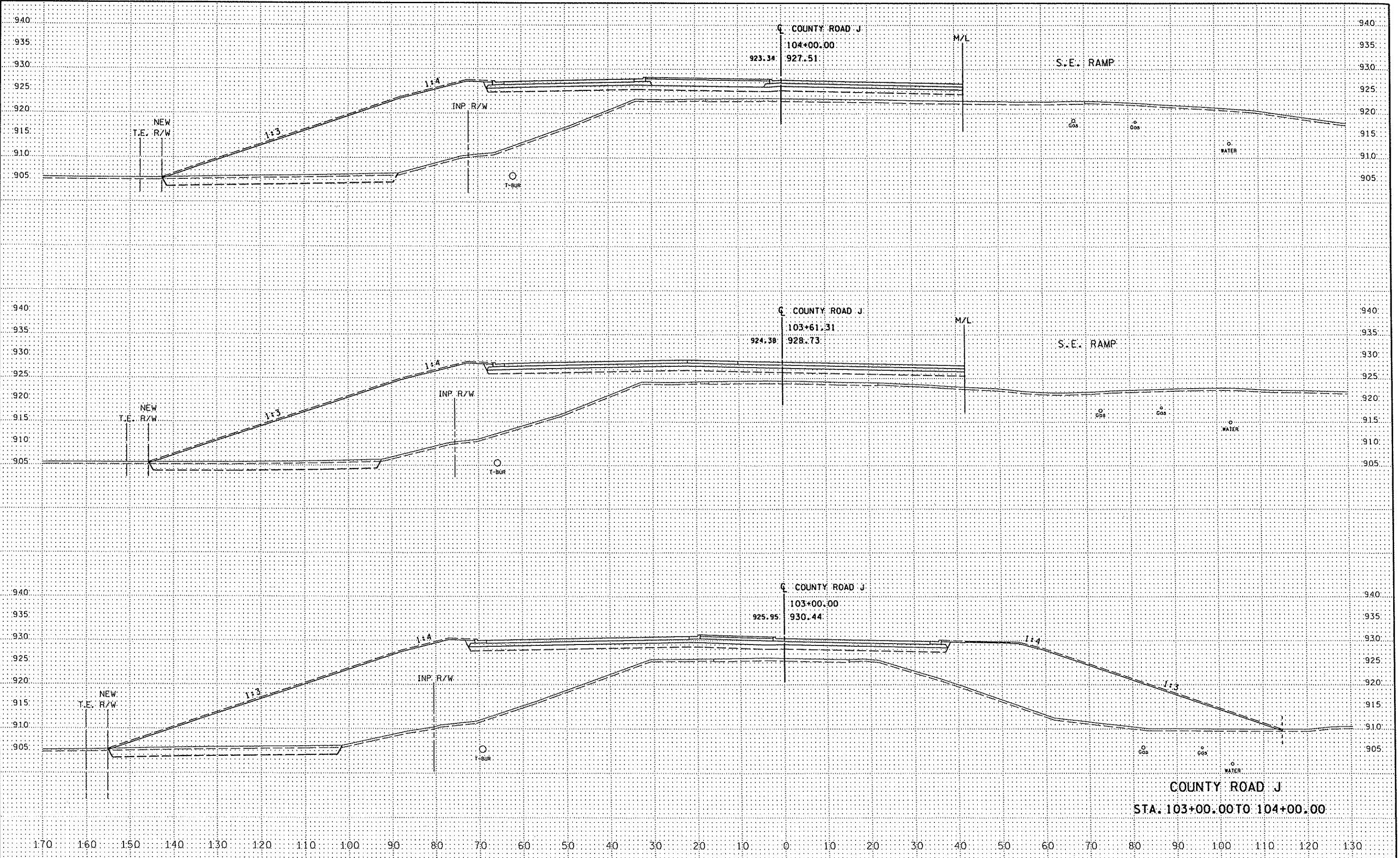


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J

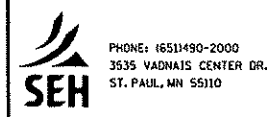
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COUNTY ROAD J
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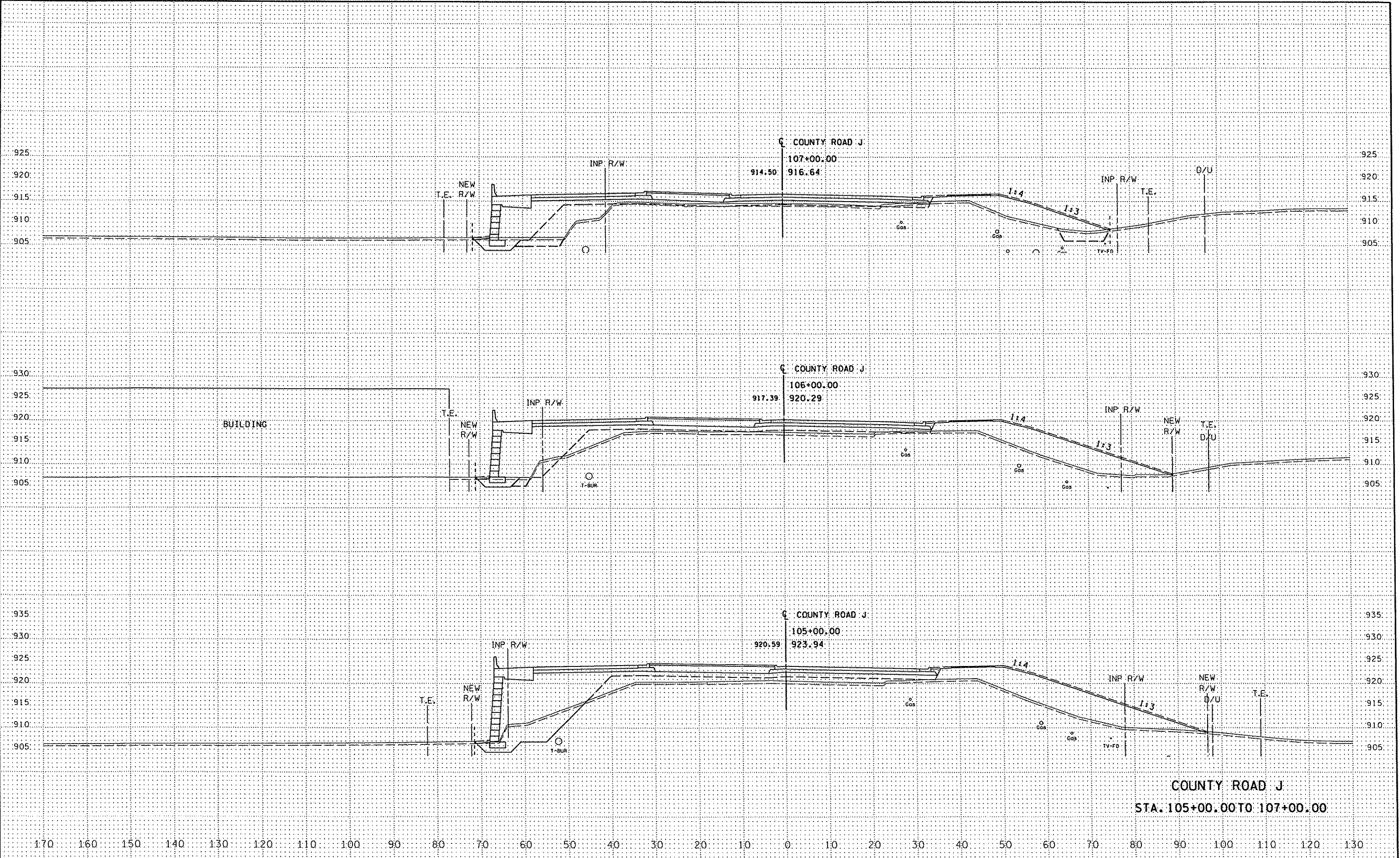
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DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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**CROSS SECTIONS
 COUNTY ROAD J**
 XS25
 OF XS60

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COUNTY ROAD J
 STA. 105+00.00 TO 107+00.00

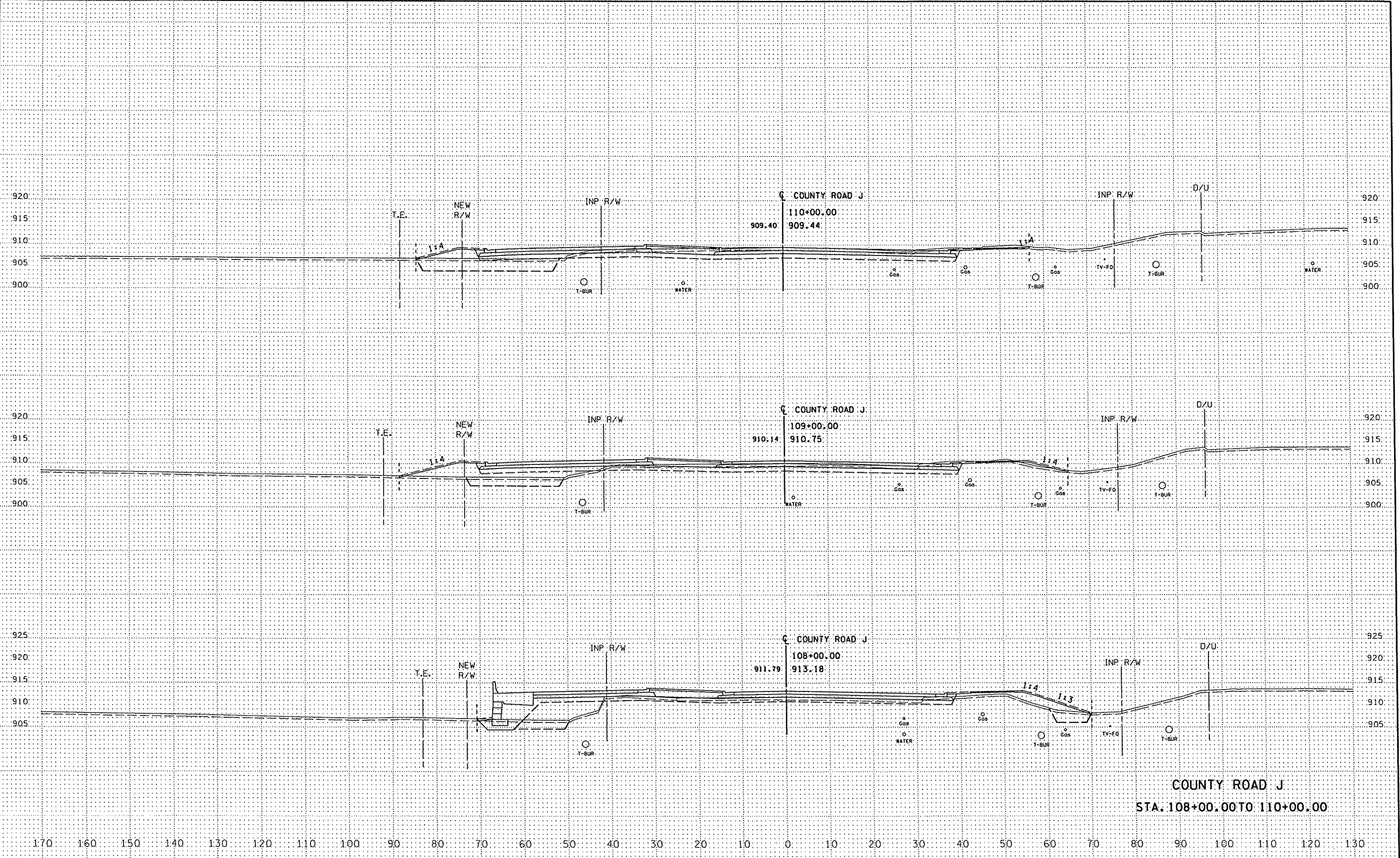
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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XS26
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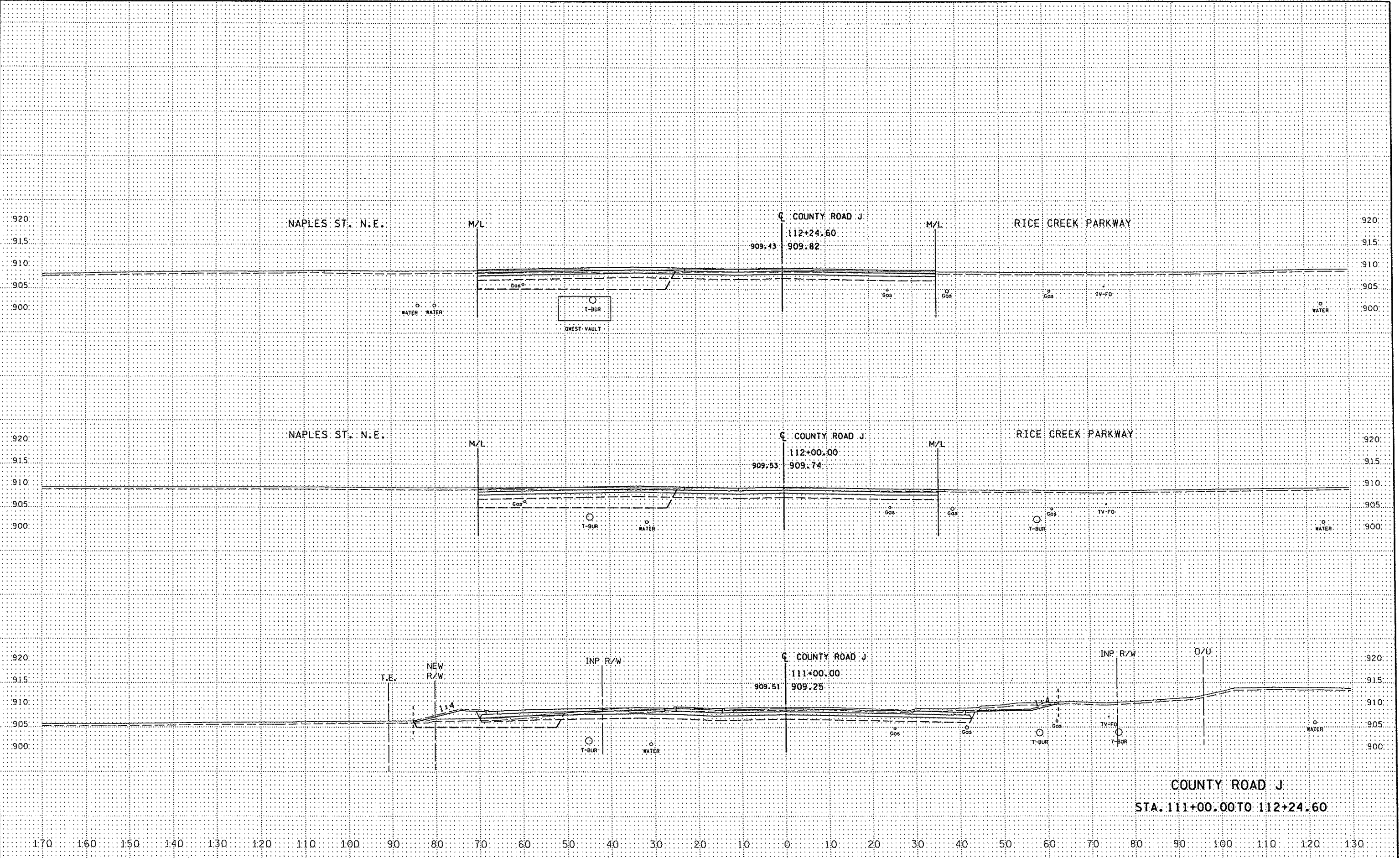
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 COUNTY ROAD J
 FILE NO.
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XS27
 OF XS60

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DESIGNER:	JEV		
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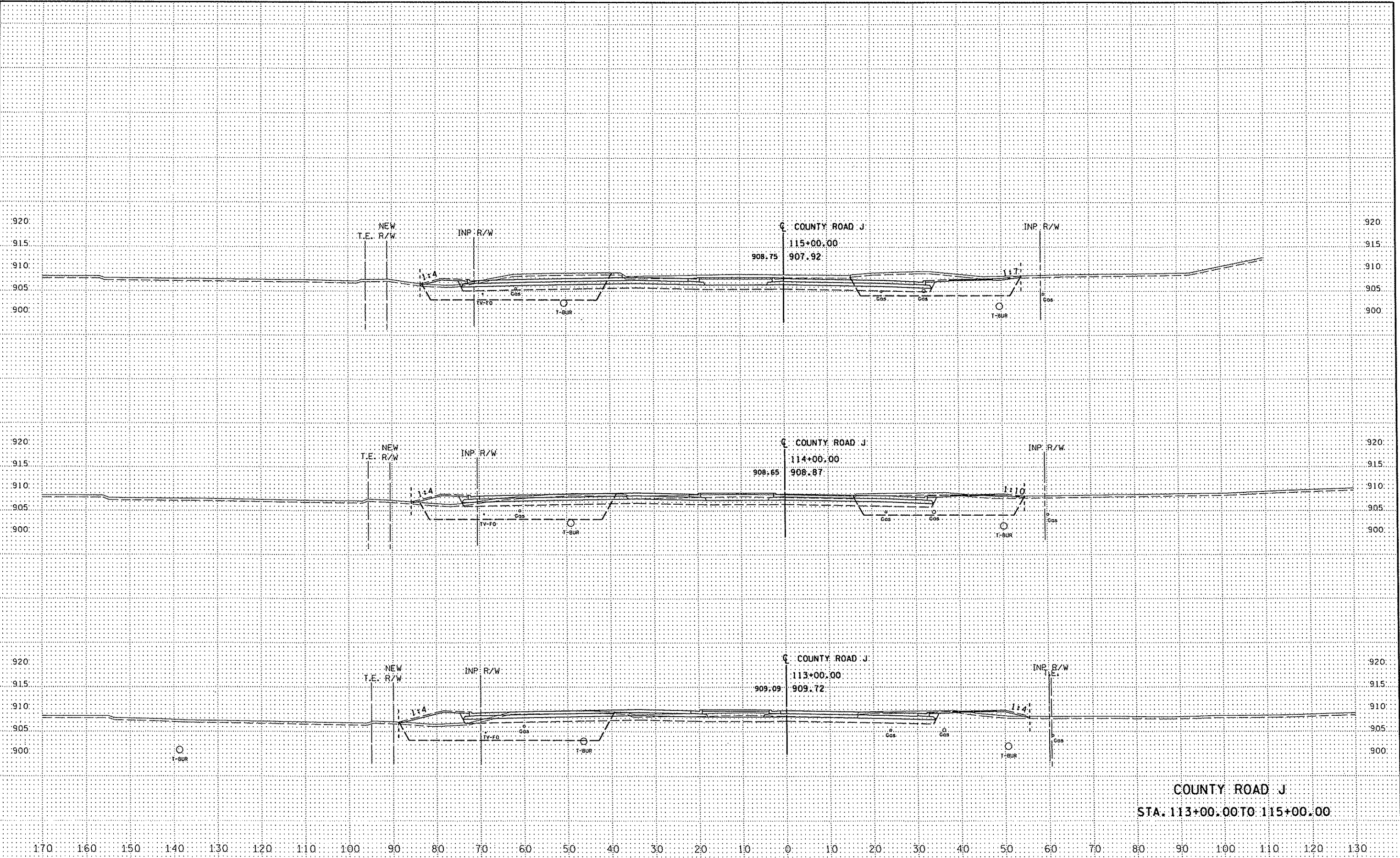


RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J

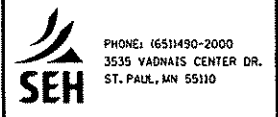
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COUNTY ROAD J
STA. 113+00.00 TO 115+00.00

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DESIGNER:	JEV		
CHECKED BY:	APM		
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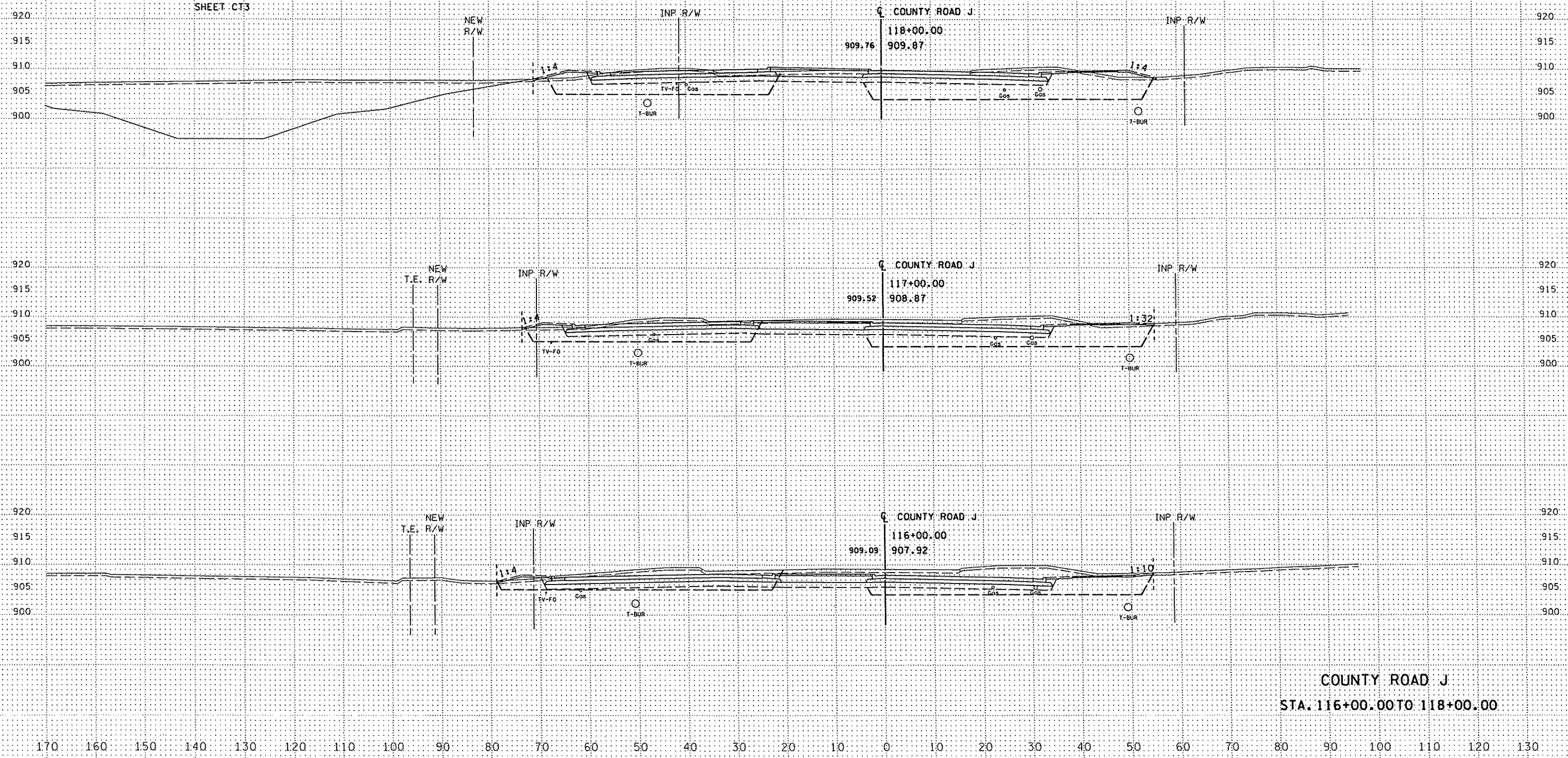


RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J
FILE NO. ARAMSE0503
XS29
OF XS60

10:41:03 AM
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NAPLES POND
 SEE CONTOUR PLAN,
 SHEET CT3



COUNTY ROAD J
 STA. 116+00.00 TO 118+00.00

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DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



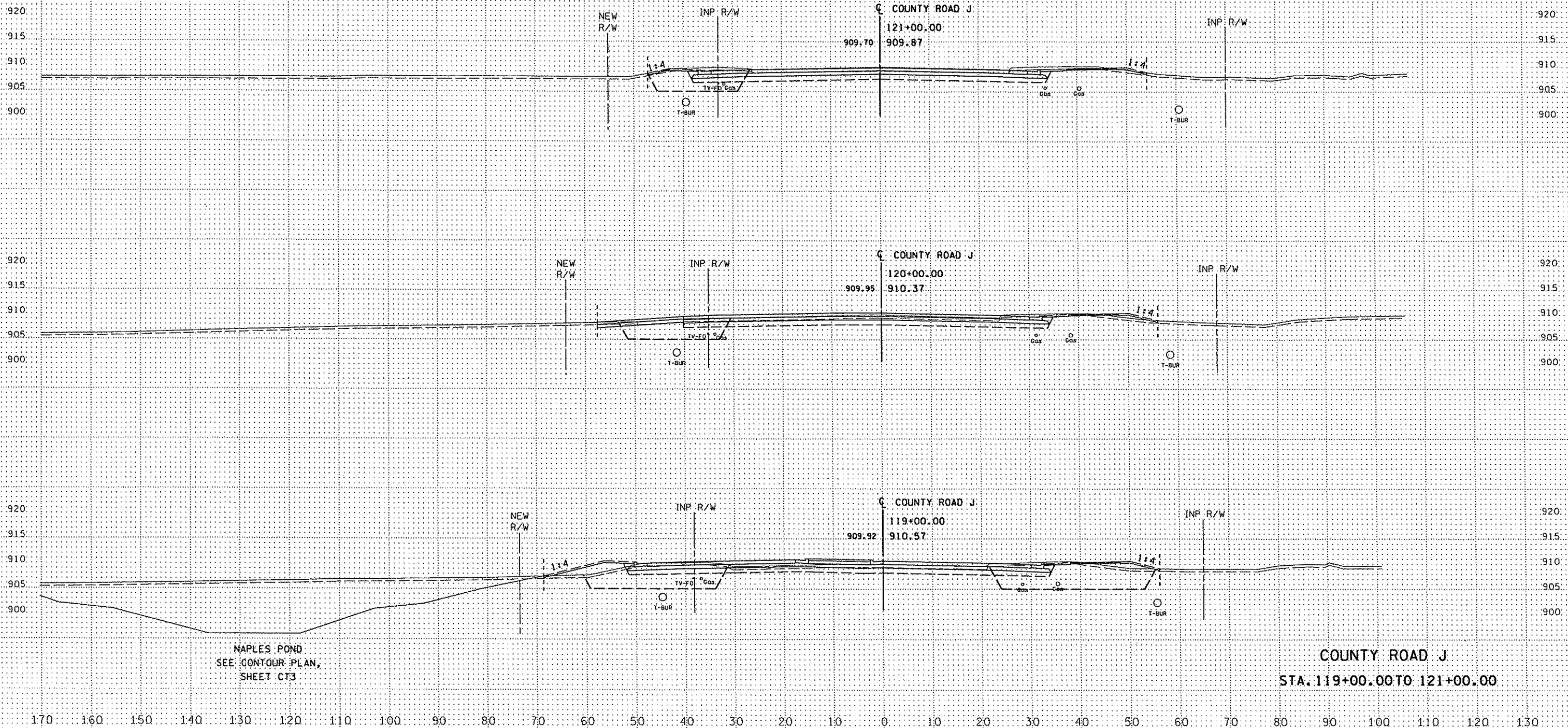
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 COUNTY ROAD J
 FILE NO. ARAMSE0503
 XS30 OF XS60

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DESIGN TEAM			
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DESIGNER:	JEV		
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NO.	BY	DATE	REVISIONS

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

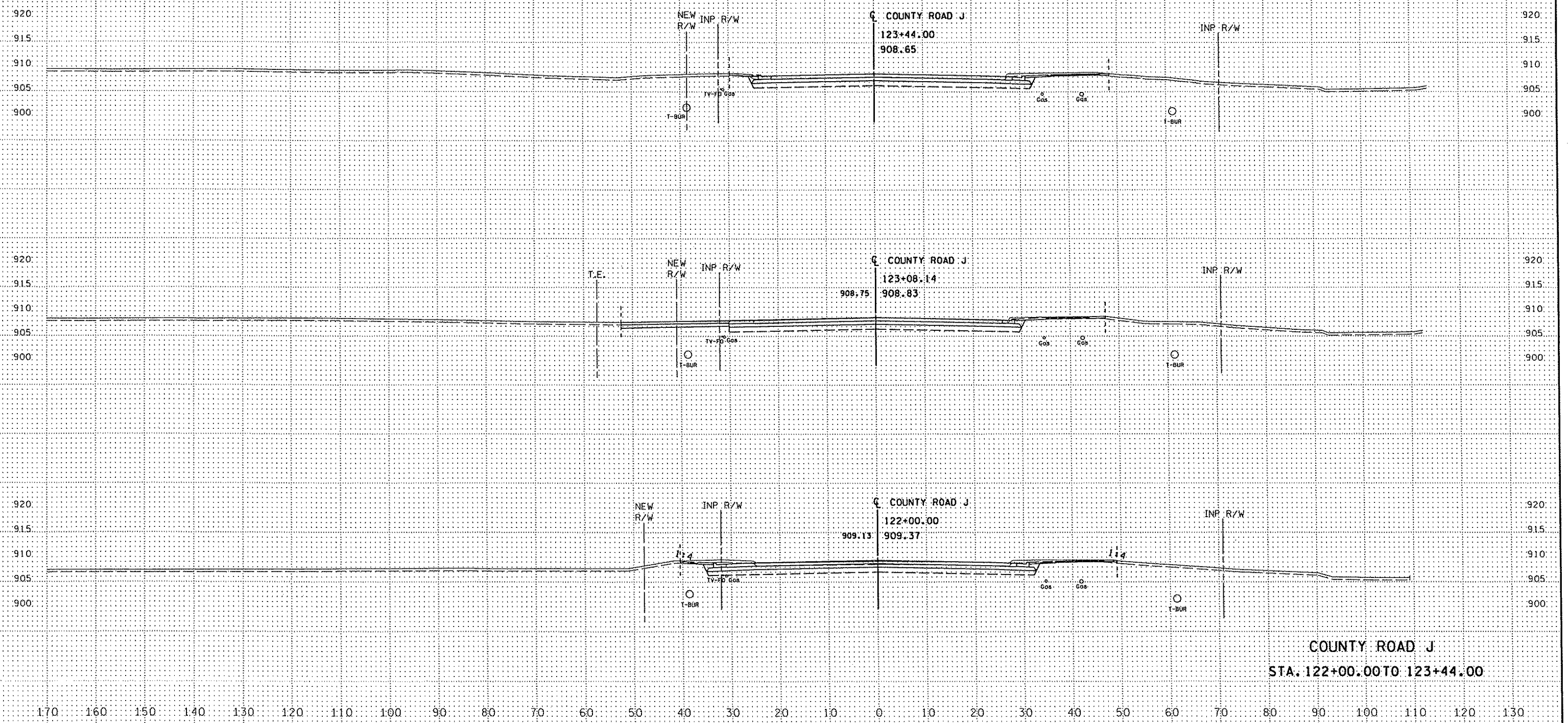
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
COUNTY ROAD J

FILE NO.
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XS31
 OF XS60

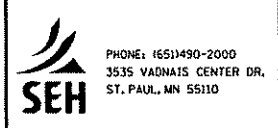
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END CONSTRUCTION COUNTY ROAD J STA. 123+44.81



COUNTY ROAD J
STA. 122+00.00 TO 123+44.00

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DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



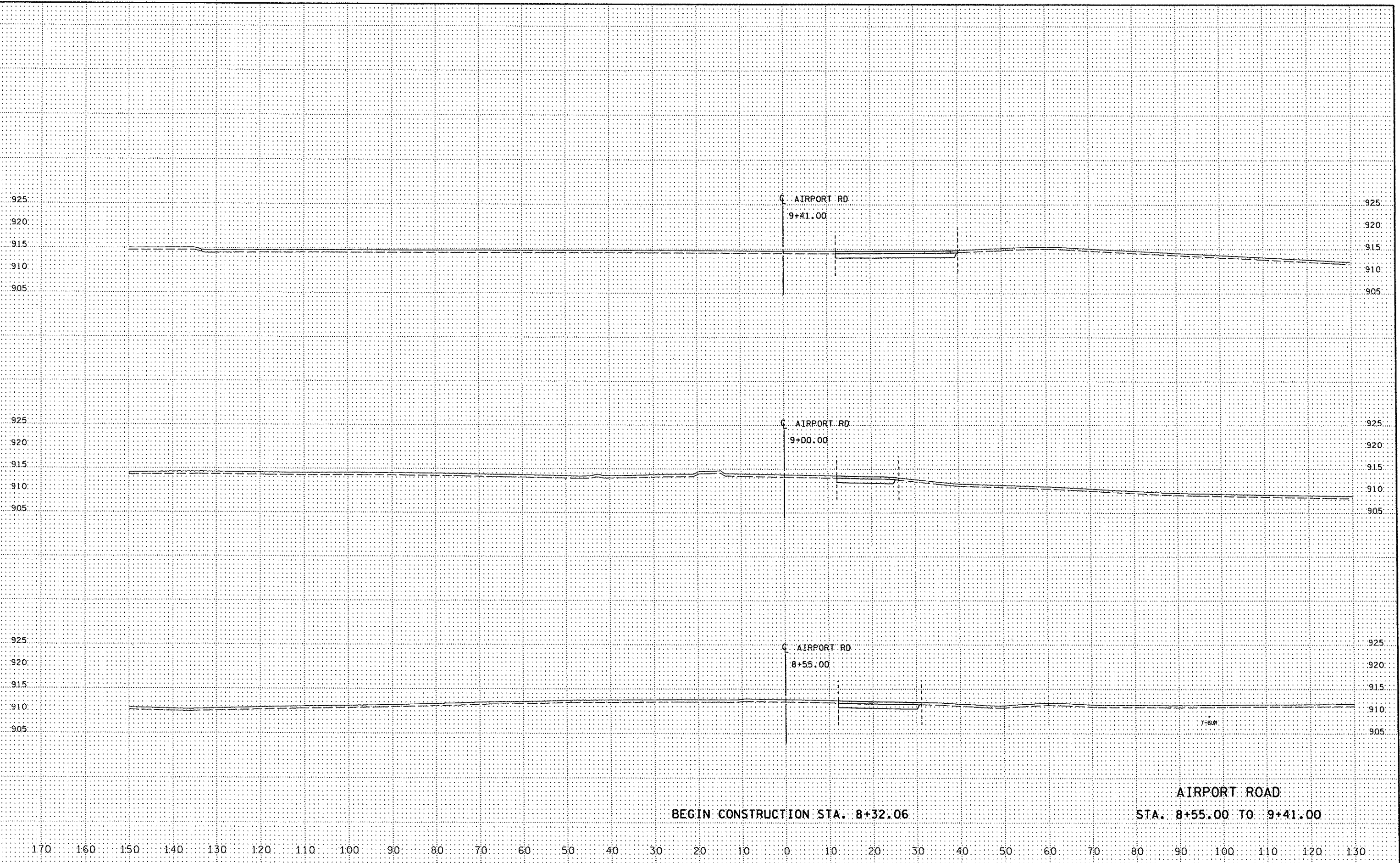
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
COUNTY ROAD J**
FILE NO.
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XS32
OF XS60

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2. J06

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BEGIN CONSTRUCTION STA. 8+32.06

AIRPORT ROAD
STA. 8+55.00 TO 9+41.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS

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

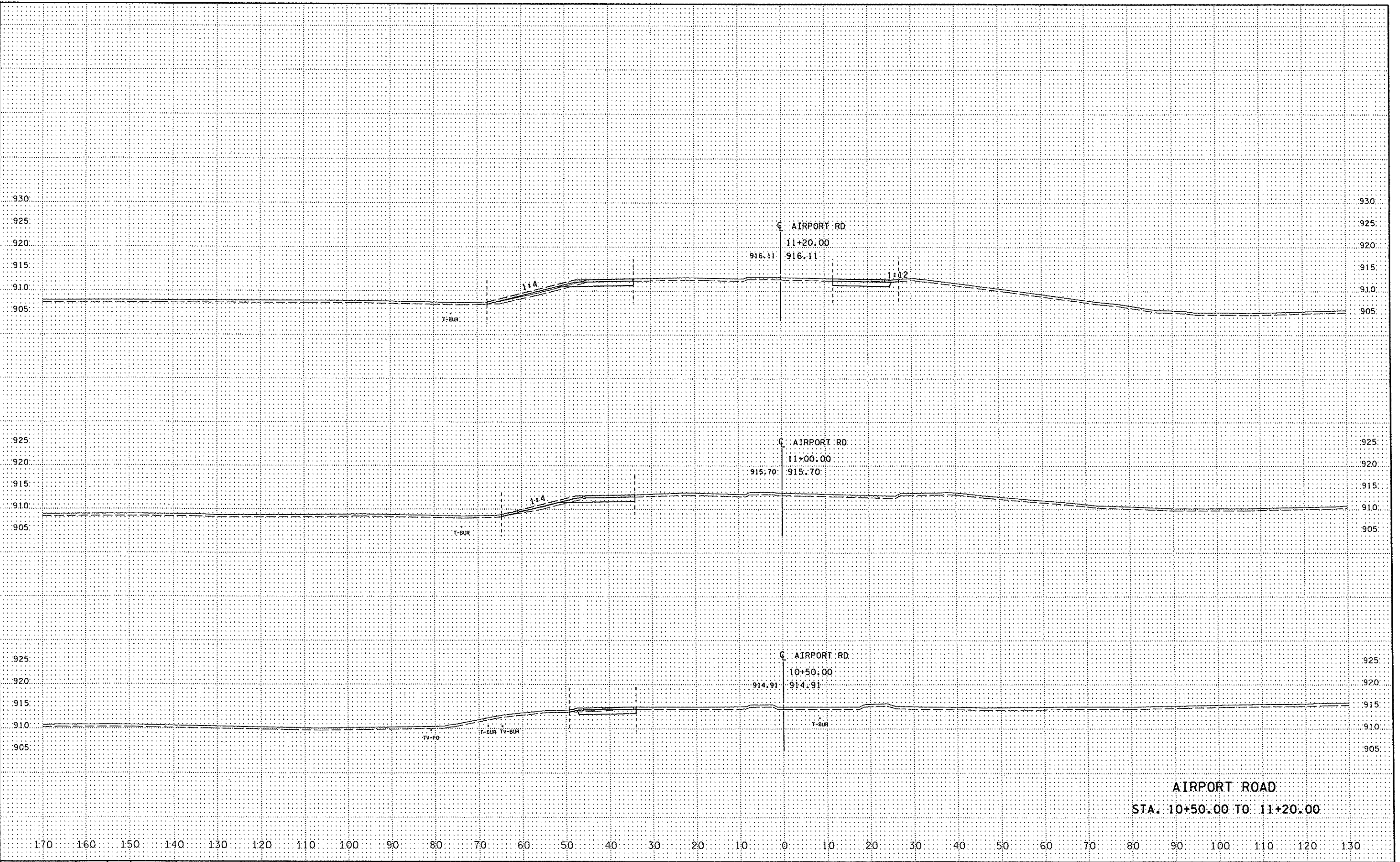
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

FILE NO.
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**CROSS SECTIONS
 AIRPORT ROAD**
 XS33
 OF XS60

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AIRPORT ROAD
 STA. 10+50.00 TO 11+20.00

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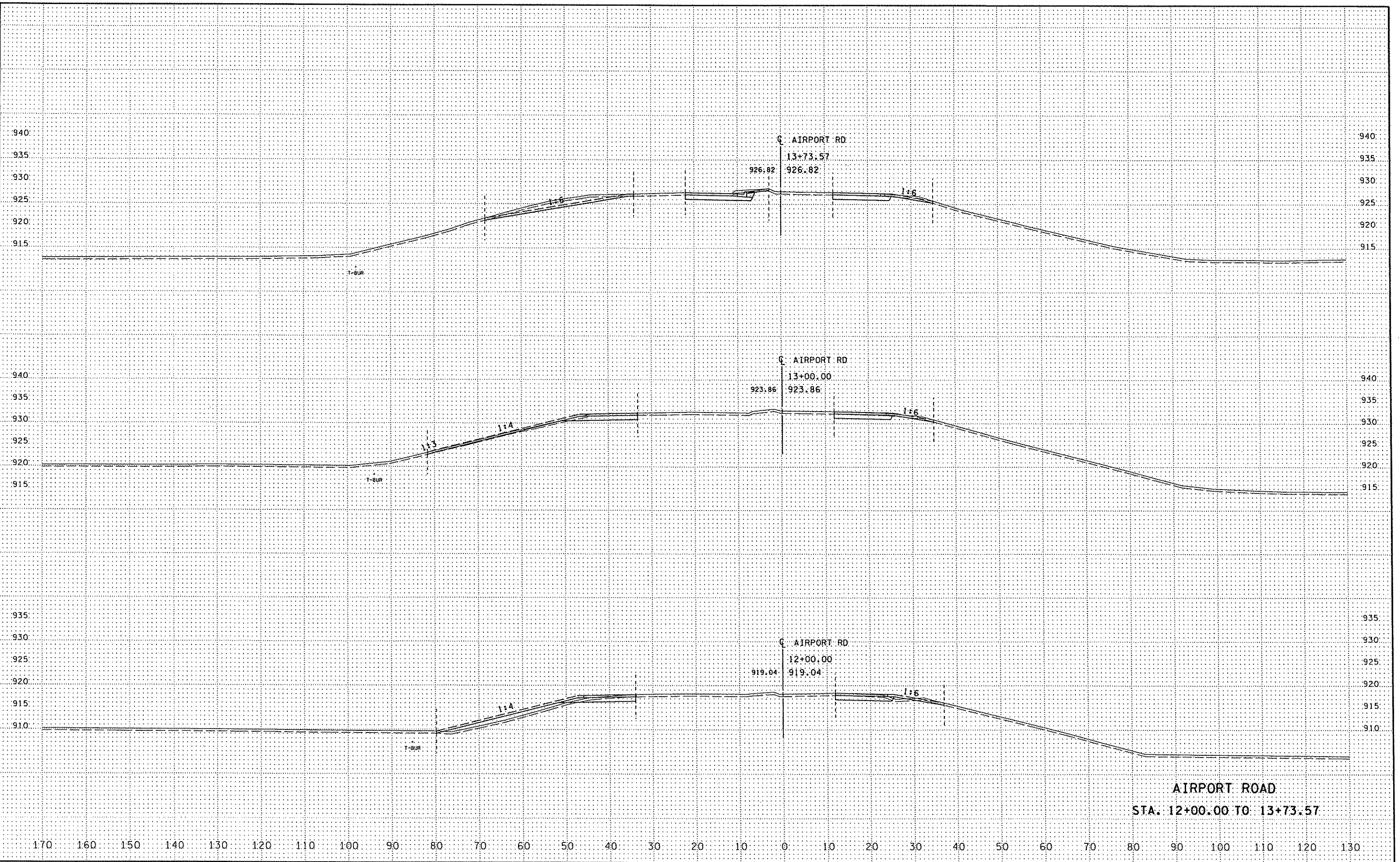
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
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 FILE NO. ARAMSE0503
 XS34
 OF XS60

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AIRPORT ROAD
 STA. 12+00.00 TO 13+73.57

DESIGN TEAM				
DRAWN BY:	JEV			
DESIGNER:	JEV			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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

RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

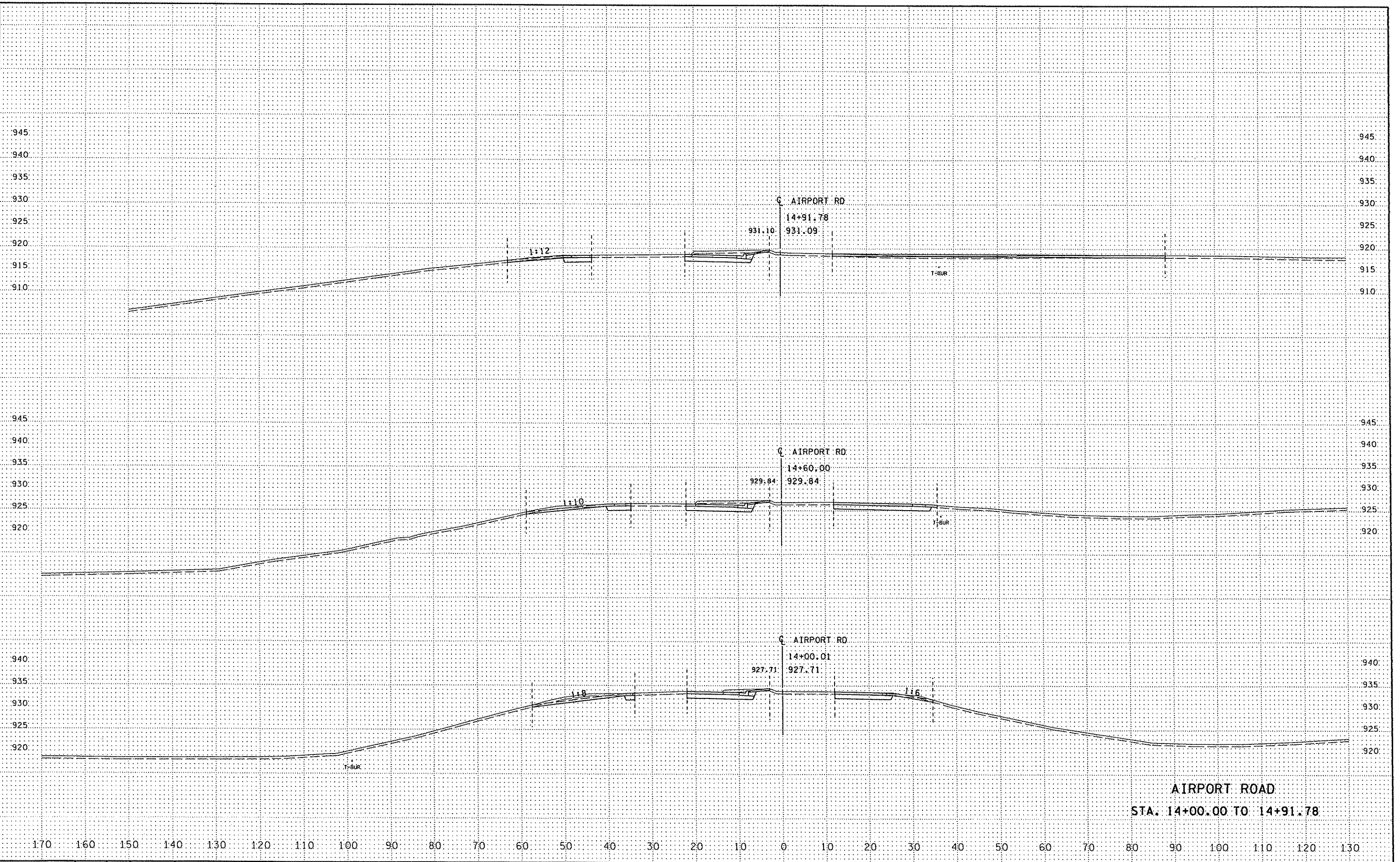
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FILE NO.
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XS35
 OF XS60

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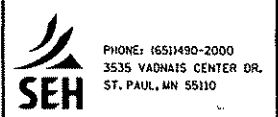
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AIRPORT ROAD
 STA. 14+00.00 TO 14+91.78

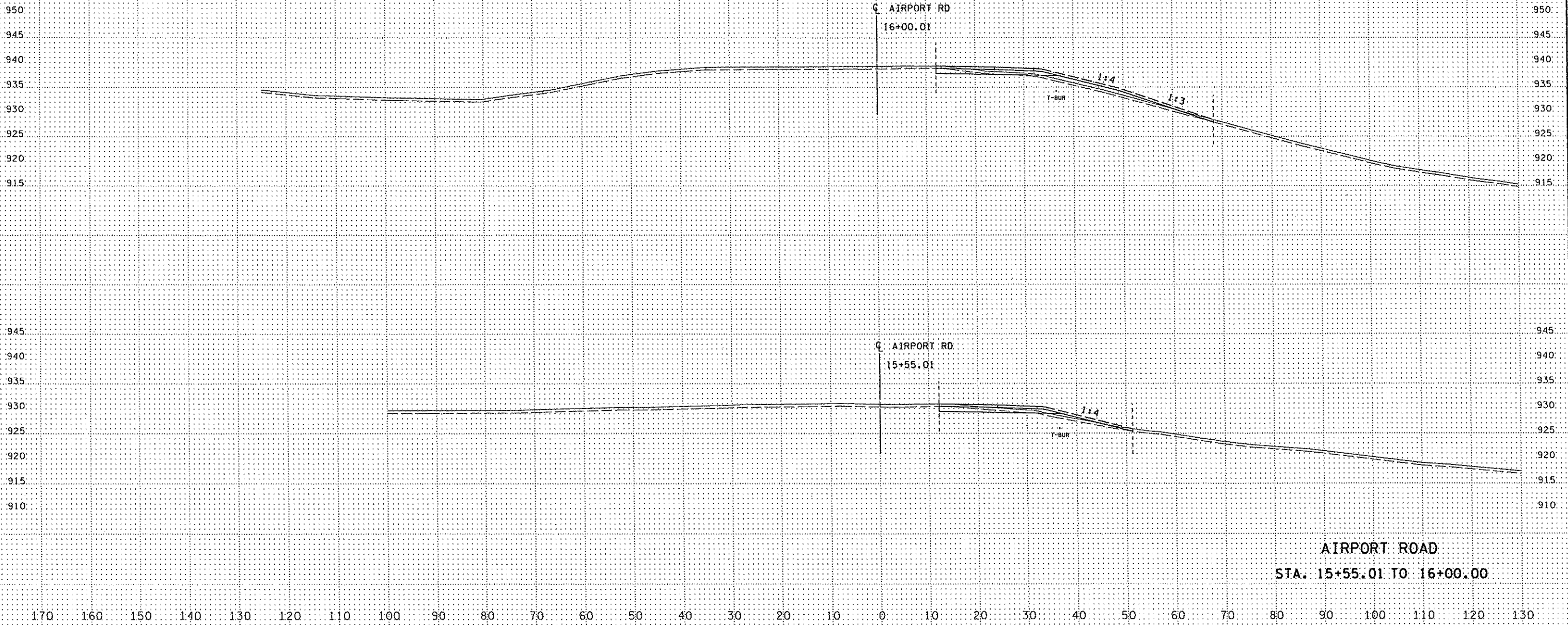
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RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

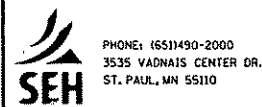
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END CONSTRUCTION STA. 17+36.04



AIRPORT ROAD
STA. 15+55.01 TO 16+00.00

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NO.	BY	DATE	REVISIONS



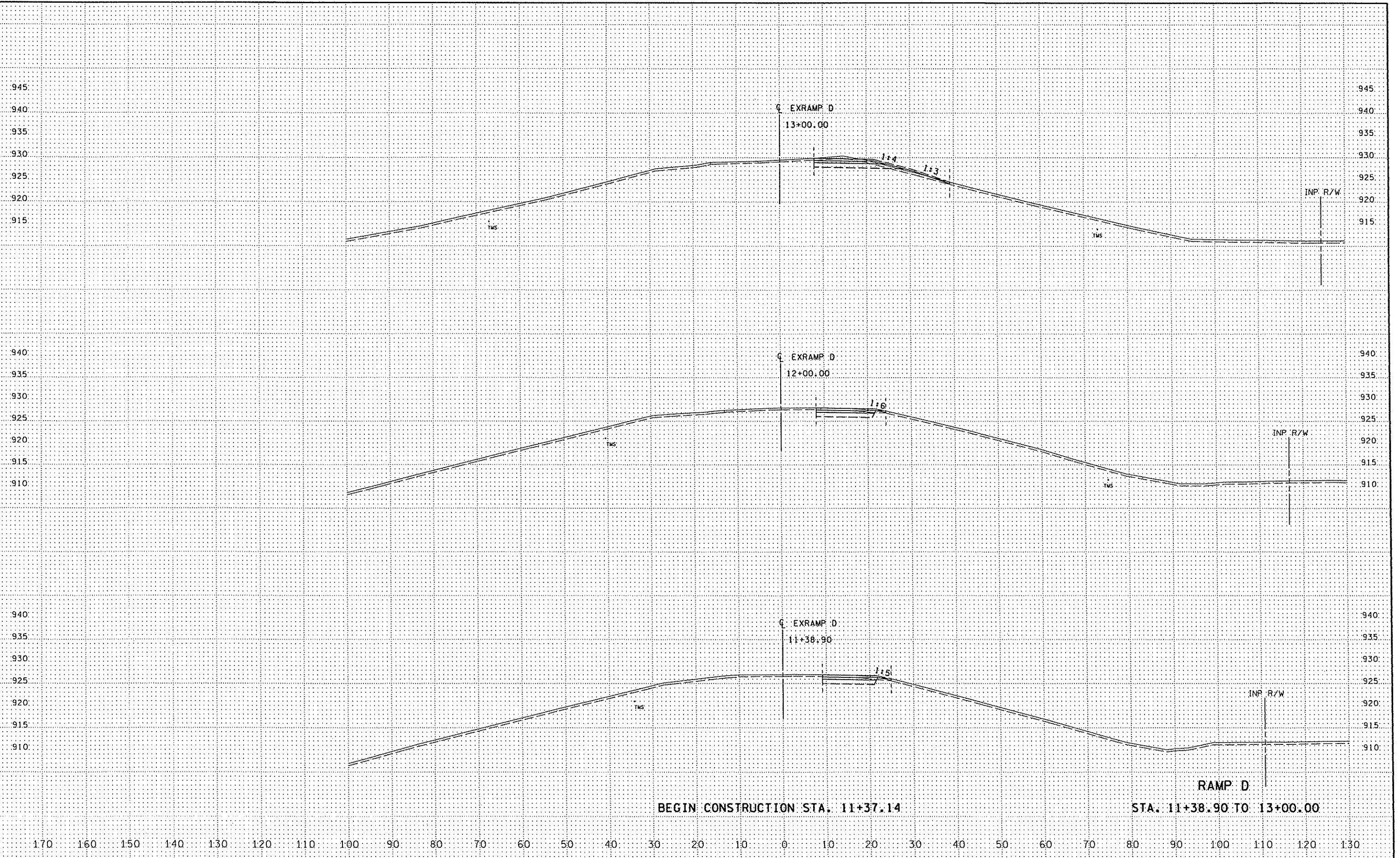
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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AIRPORT ROAD
 XS37
 OF XS60

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DESIGN TEAM			
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DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



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

RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

CROSS SECTIONS
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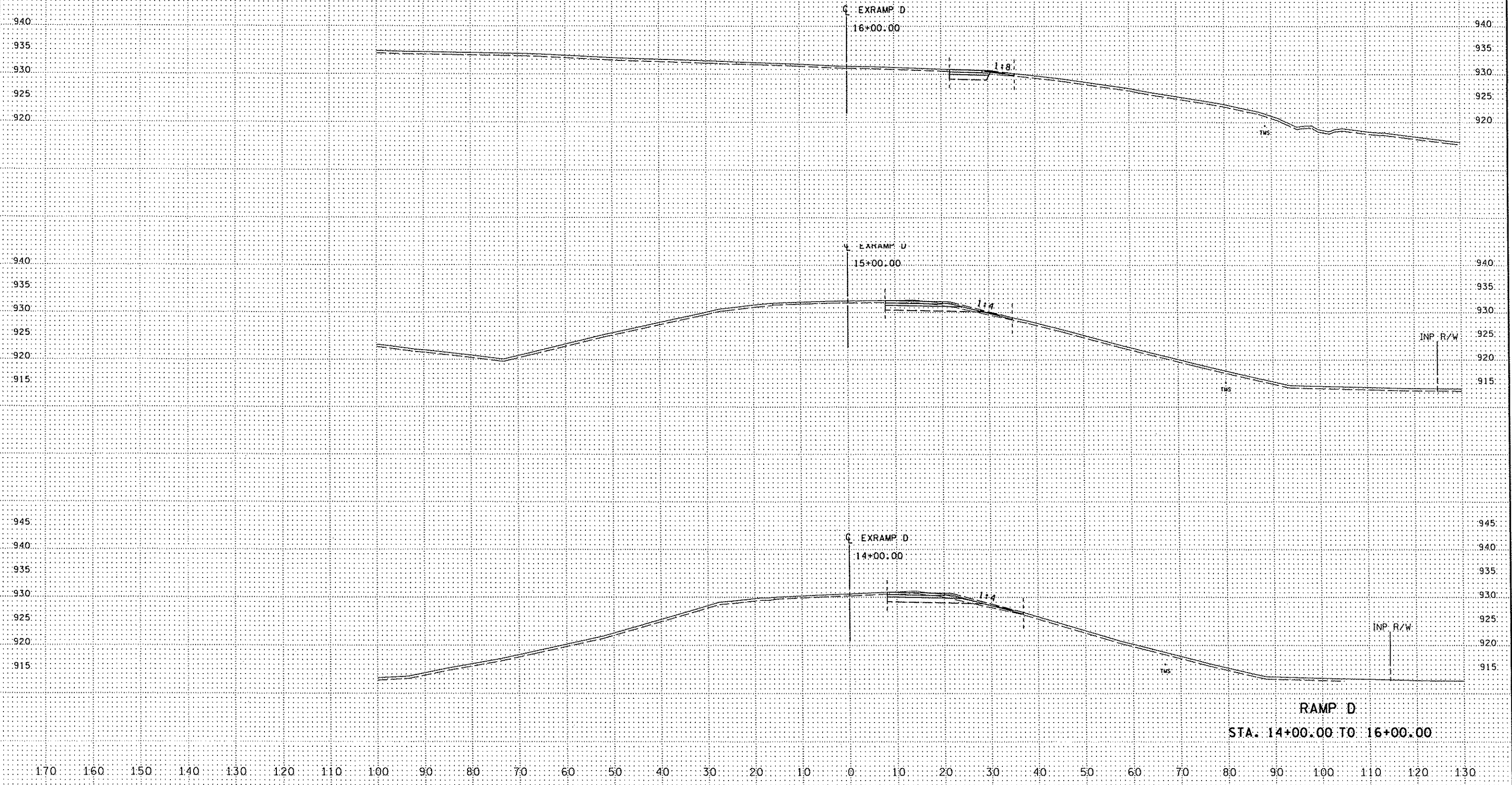
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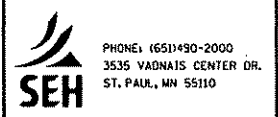
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RAMP D
STA. 14+00.00 TO 16+00.00

DESIGN TEAM				REVISIONS			
DRAWN BY:	JEV			NO.	BY	DATE	
DESIGNER:	JEV						
CHECKED BY:	APM						



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

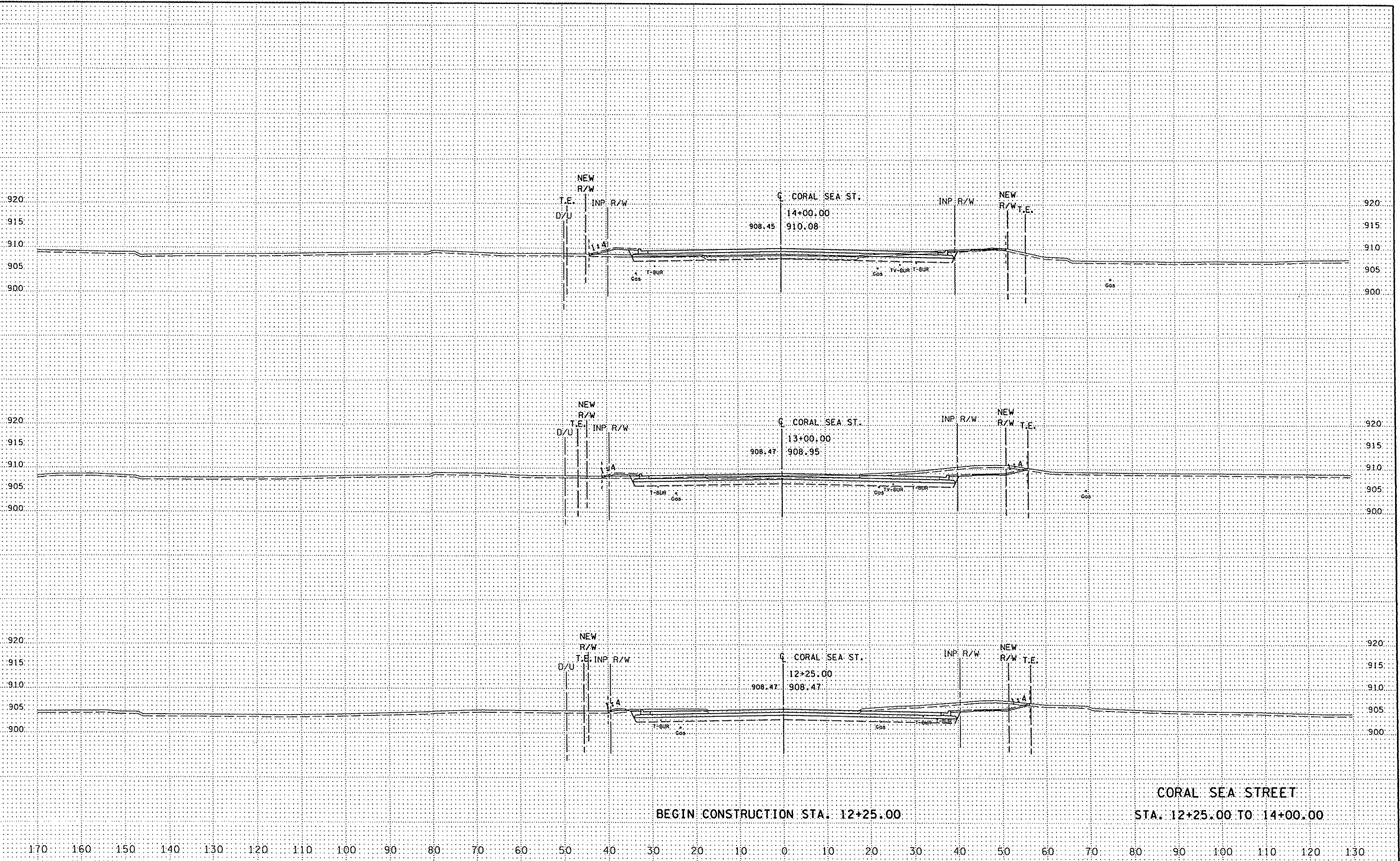
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BEGIN CONSTRUCTION STA. 12+25.00

CORAL SEA STREET
STA. 12+25.00 TO 14+00.00

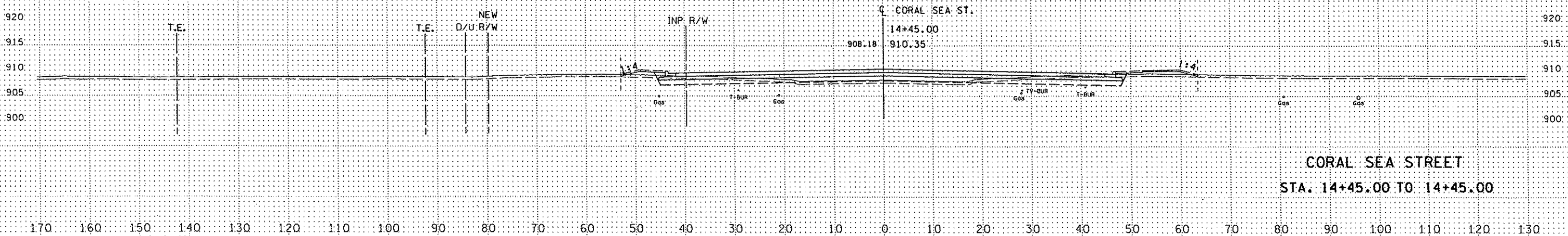
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DESIGNER:	JEV		
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NO.	BY	DATE	REVISIONS

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

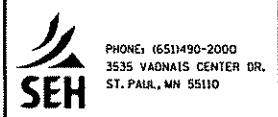
**RAMSEY COUNTY
 COUNTY ROAD J**
 S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
 CORAL SEA STREET**
 FILE NO. ARAMSE0503
 XS40
 OF XS60

END CONSTRUCTION STA. 14+62.79

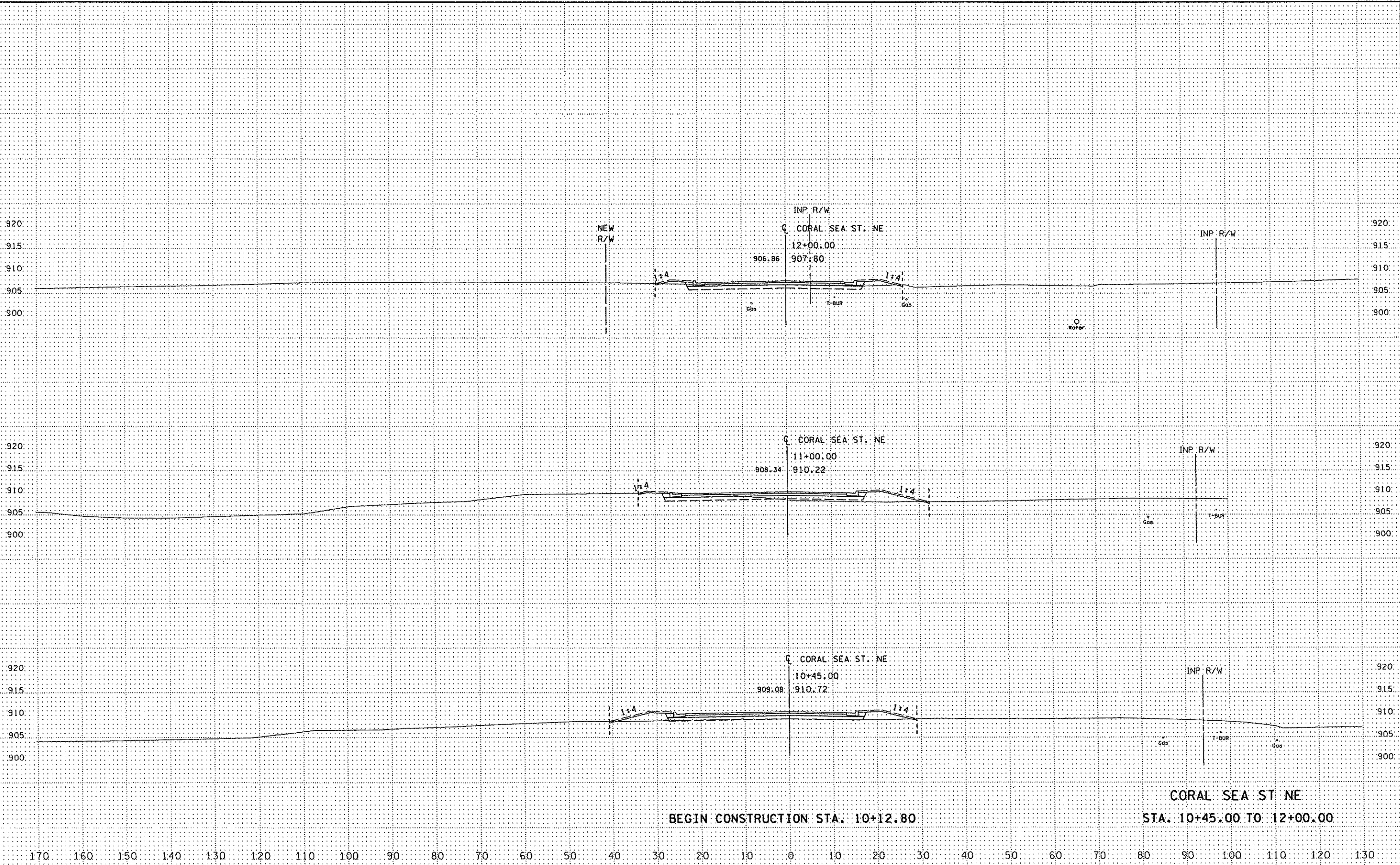


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RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

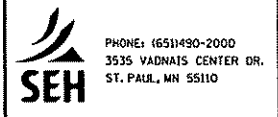
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CORAL SEA STREET
FILE NO. ARAMSE0503
XS41
OF XS60



BEGIN CONSTRUCTION STA. 10+12.80

CORAL SEA ST NE
STA. 10+45.00 TO 12+00.00

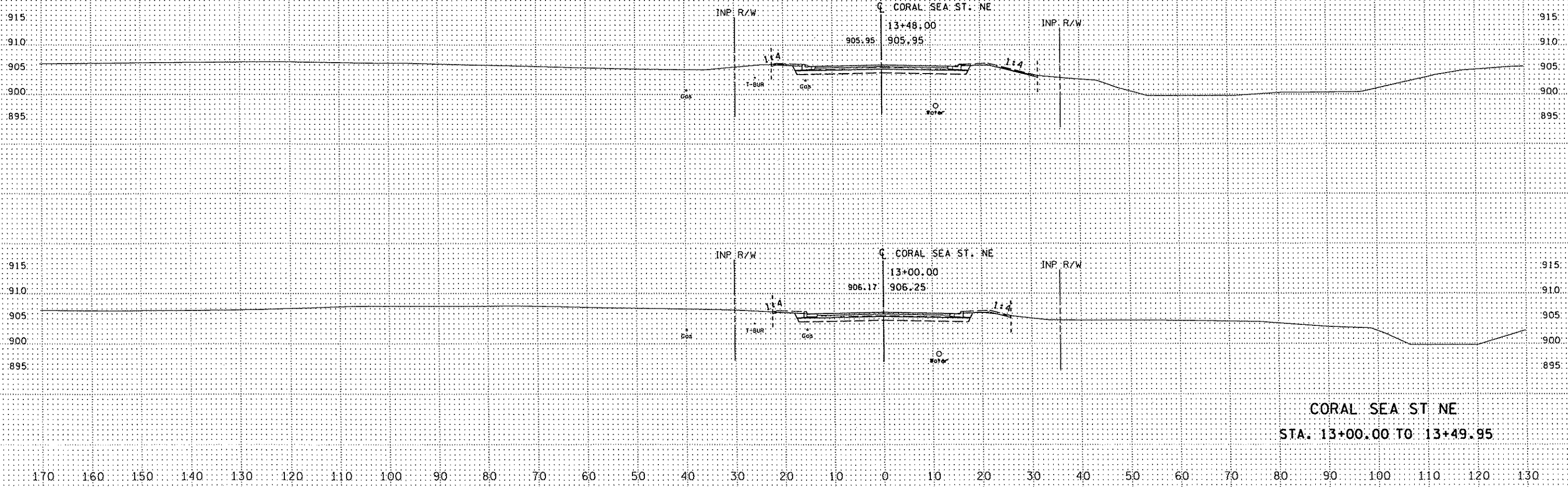
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

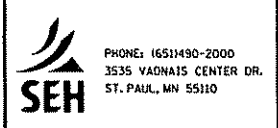
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**CROSS SECTIONS
 CORAL SEA ST NE**
 XS42
 OF XS60

END CONSTRUCTION STA. 13+48.76



CORAL SEA ST NE
STA. 13+00.00 TO 13+49.95

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DESIGNER:	JEV			
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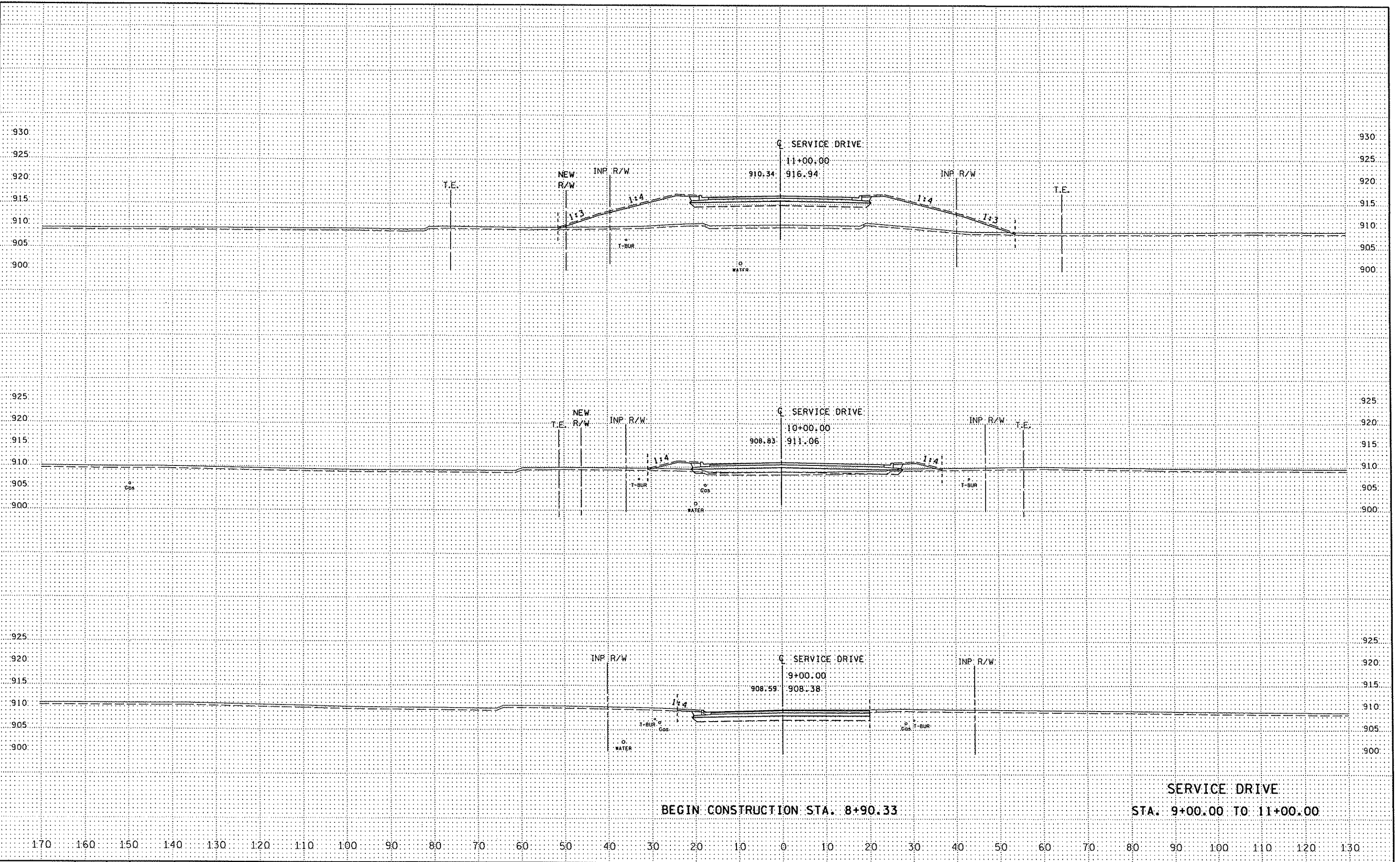
RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14. S.A.P. 62-601-11

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2/1/06

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BEGIN CONSTRUCTION STA. 8+90.33

SERVICE DRIVE
STA. 9+00.00 TO 11+00.00

DESIGN TEAM				
DRAWN BY:	JEV			
DESIGNER:	JEV			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS

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

**RAMSEY COUNTY
 COUNTY ROAD J**
 S.A.P. 02-632-14, S.A.P. 62-601-11

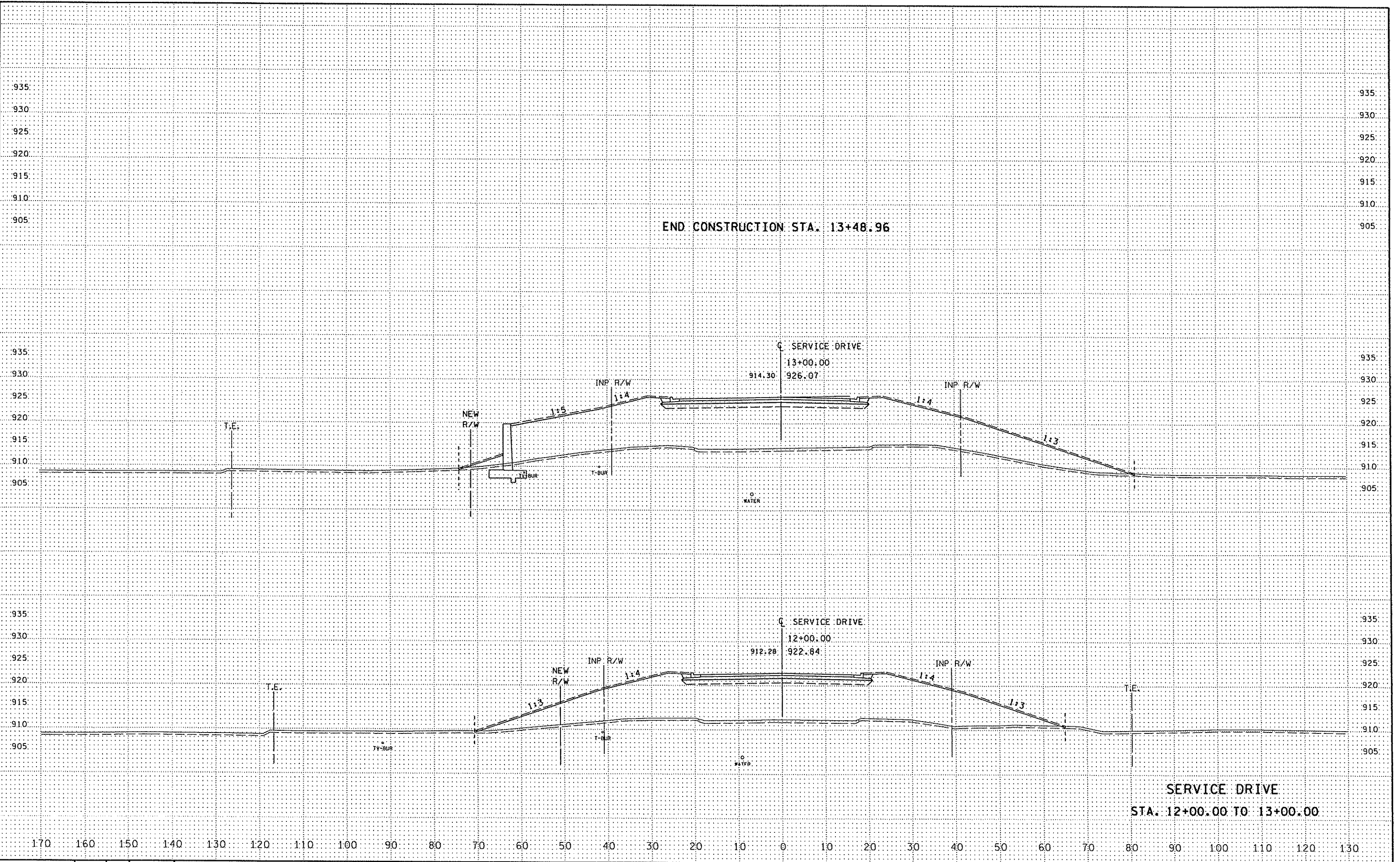
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FILE NO.
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XS44
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2/1/06

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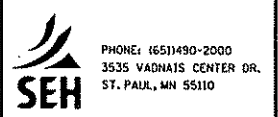
END CONSTRUCTION STA. 13+48.96

C SERVICE DRIVE
13+00.00
914.30 926.07

C SERVICE DRIVE
12+00.00
912.28 922.84

SERVICE DRIVE
STA. 12+00.00 TO 13+00.00

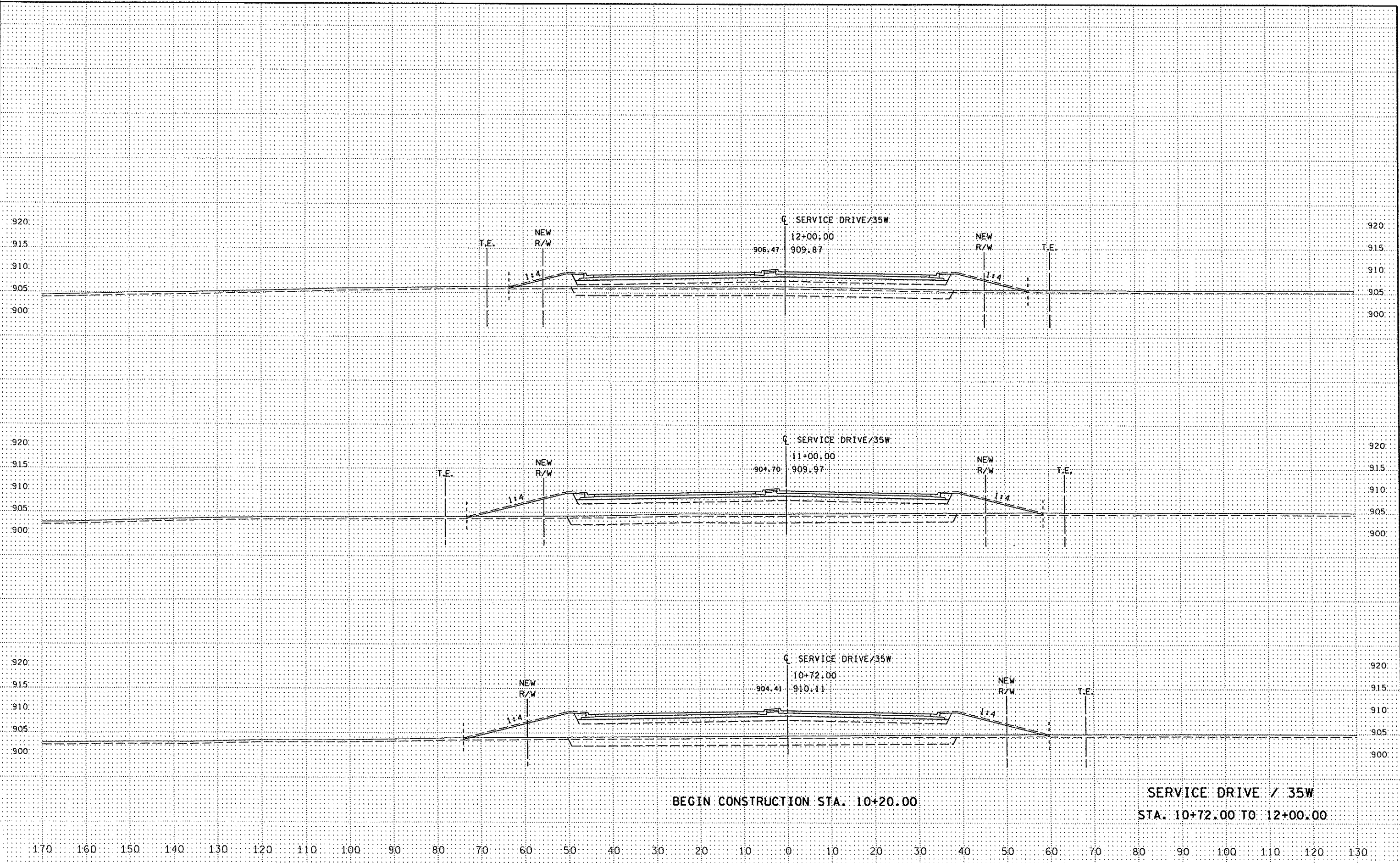
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RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14. S.A.P. 62-601-11

**CROSS SECTIONS
 SERVICE DRIVE**
 FILE NO. ARAMSE0503
 XS45
 OF XS60

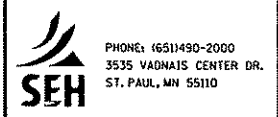
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BEGIN CONSTRUCTION STA. 10+20.00

SERVICE DRIVE / 35W
 STA. 10+72.00 TO 12+00.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



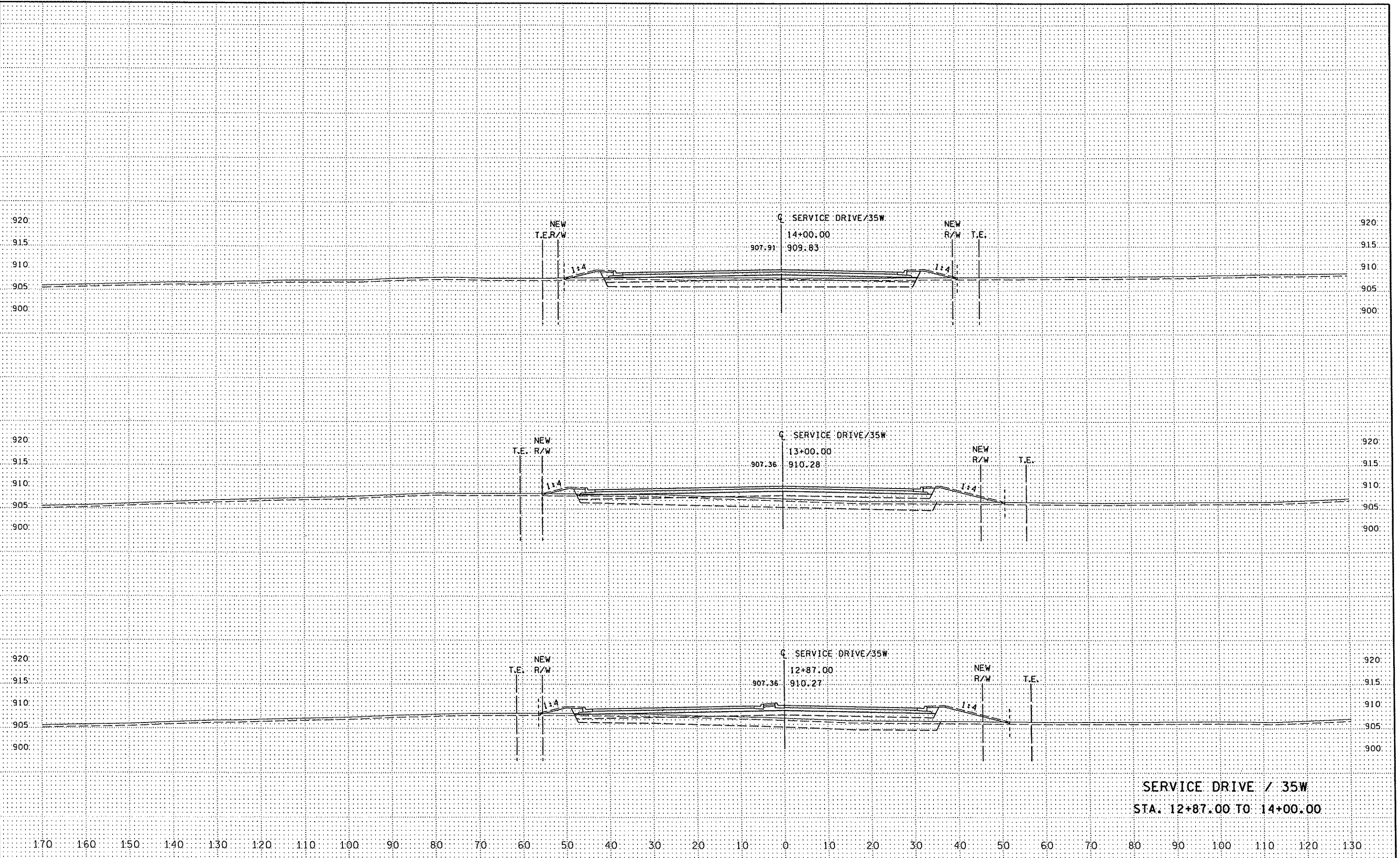
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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CROSS SECTIONS
SERVICE DRIVE / 35W
 XS46
 OF XS60

11:37:12 AM

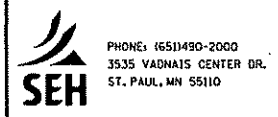
2/2006

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SERVICE DRIVE / 35W
 STA. 12+87.00 TO 14+00.00

DESIGN TEAM			
DRAWN BY:	JEV		
DESIGNER:	JEV		
CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



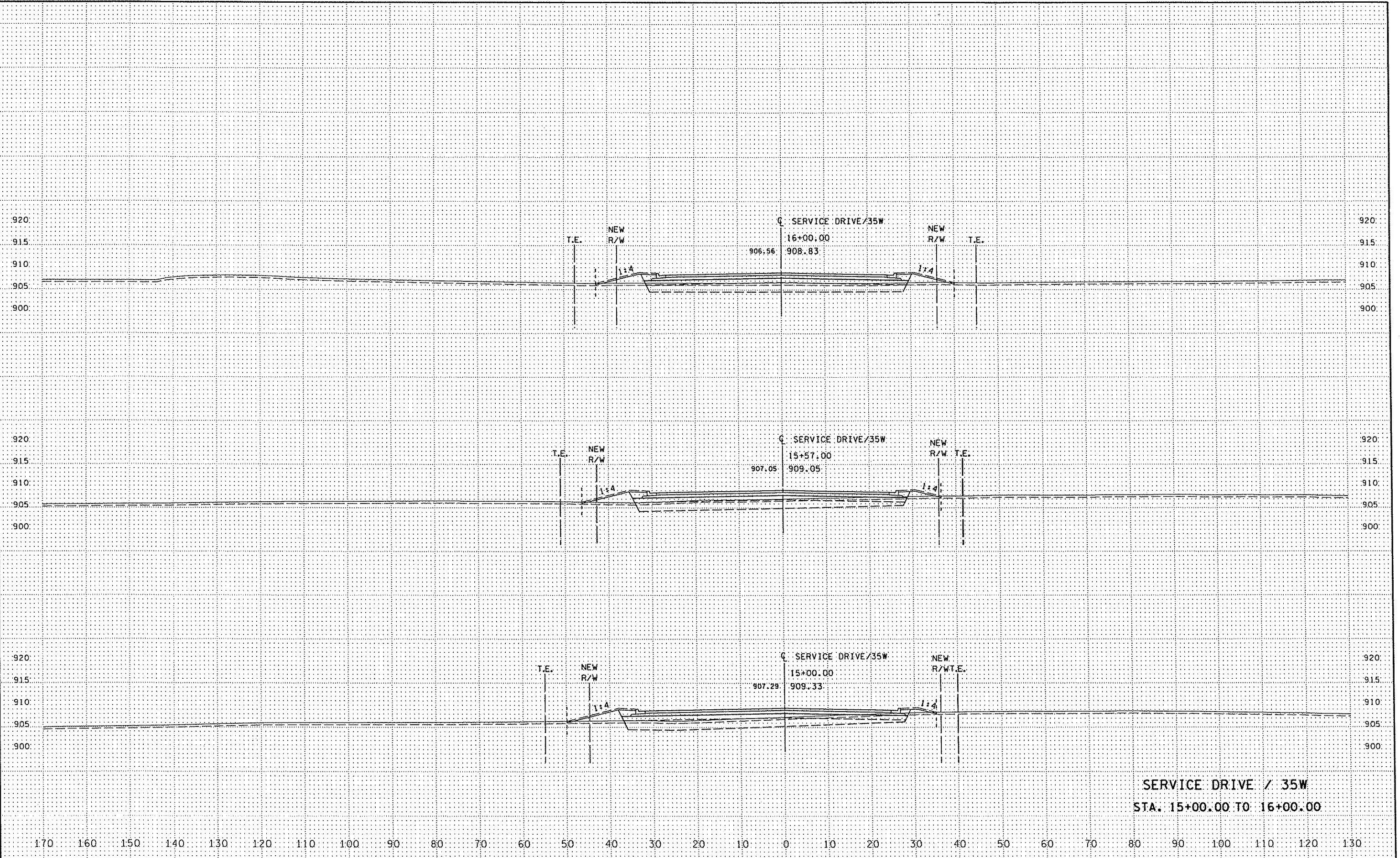
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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CROSS SECTIONS
SERVICE DRIVE / 35W
 XS47
 OF XS60

11:37:12 AM

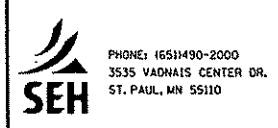
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SERVICE DRIVE / 35W
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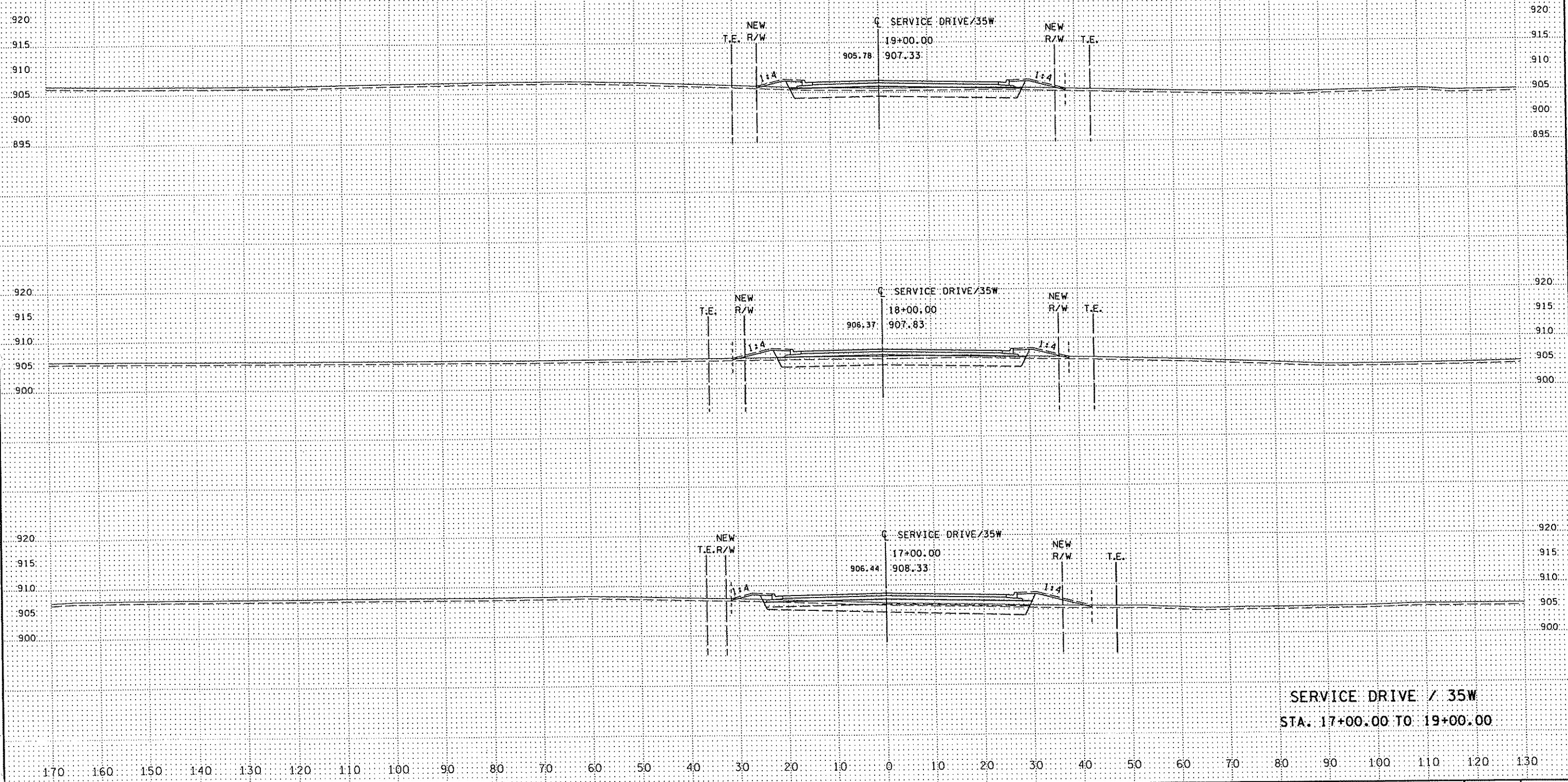
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RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 SERVICE DRIVE / 35W

FILE NO.
 ARAMSE0503
 XS48
 OF XS60



SERVICE DRIVE / 35W
 STA. 17+00.00 TO 19+00.00

DESIGN TEAM			
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DESIGNER:	JEV		
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NO.	BY	DATE	REVISIONS



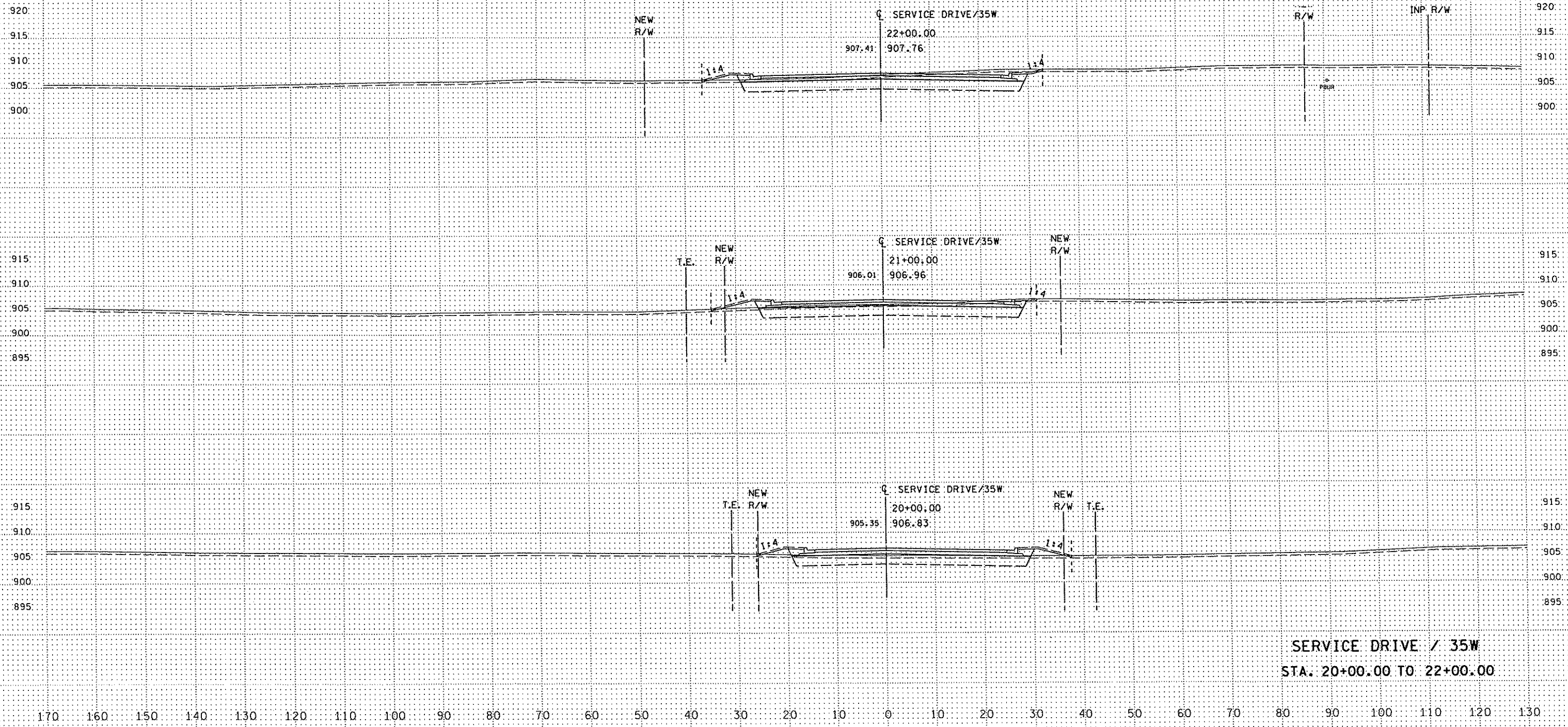
RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 SERVICE DRIVE / 35W
 FILE NO. ARAMSE0503
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 OF XS60

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SERVICE DRIVE / 35W
STA. 20+00.00 TO 22+00.00

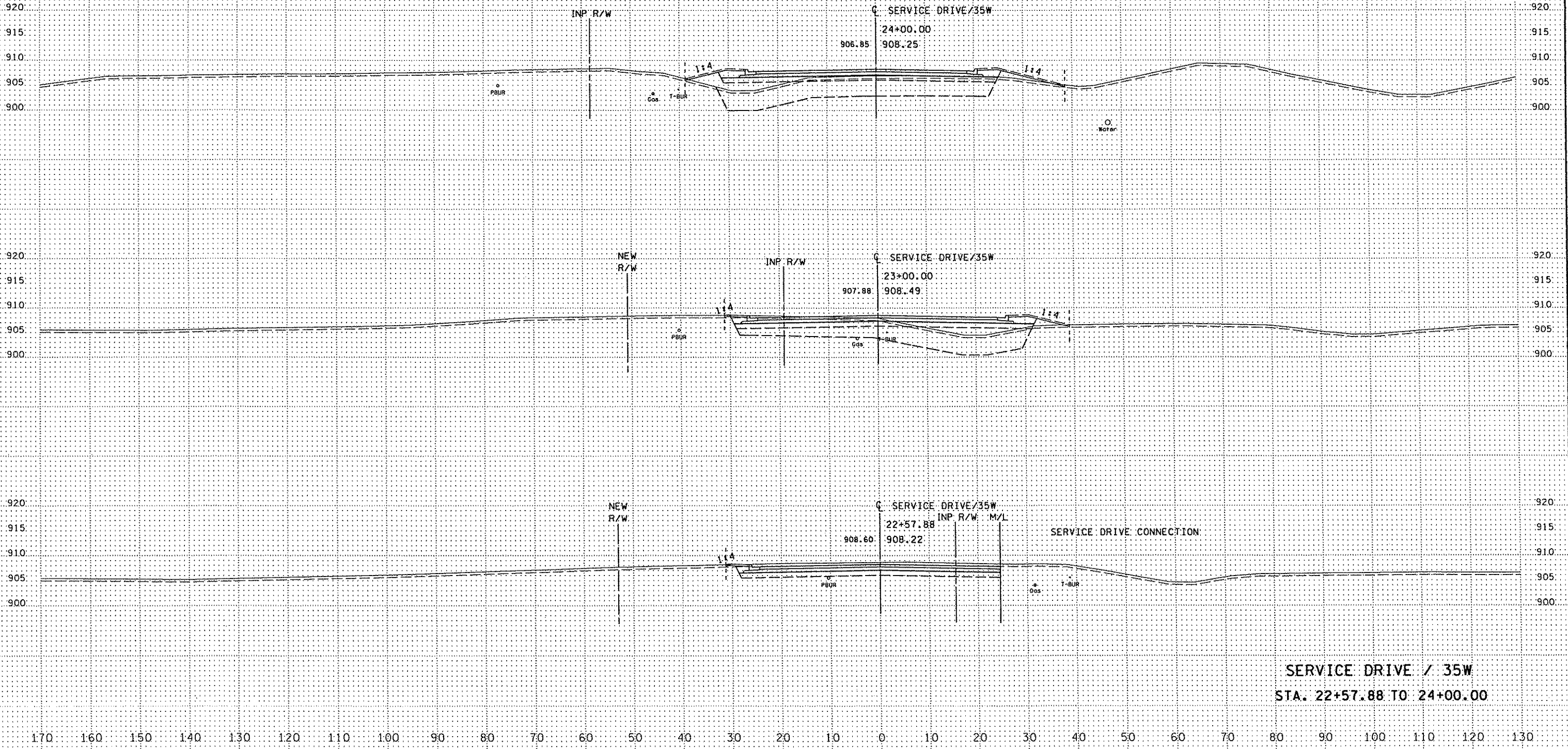
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DESIGNER:	JEV		
CHECKED BY:	APM		
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RAMSEY COUNTY
COUNTY ROAD J
-S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
SERVICE DRIVE / 35W

FILE NO.
ARAMSE0503
XS50
OF XS60



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DESIGNER:			
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NO.	BY	DATE	REVISIONS

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

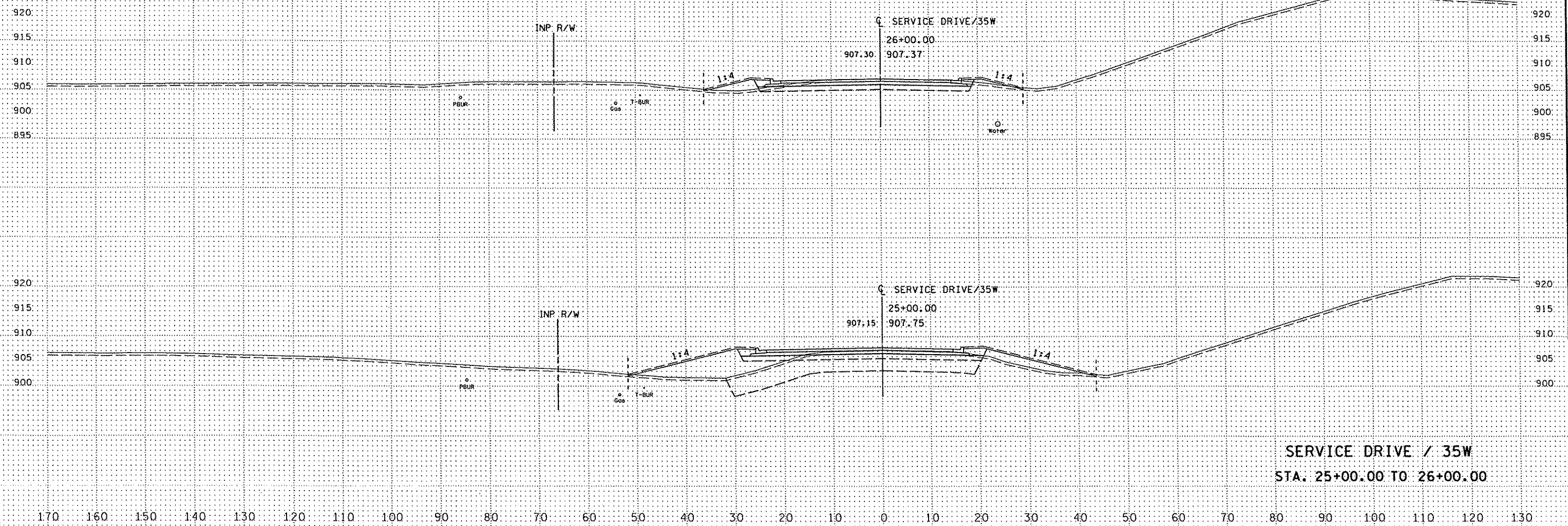
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
SERVICE DRIVE / 35W

FILE NO.
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XS51
 OF XS60

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END CONSTRUCTION STA. 27+10.39



SERVICE DRIVE / 35W
STA. 25+00.00 TO 26+00.00

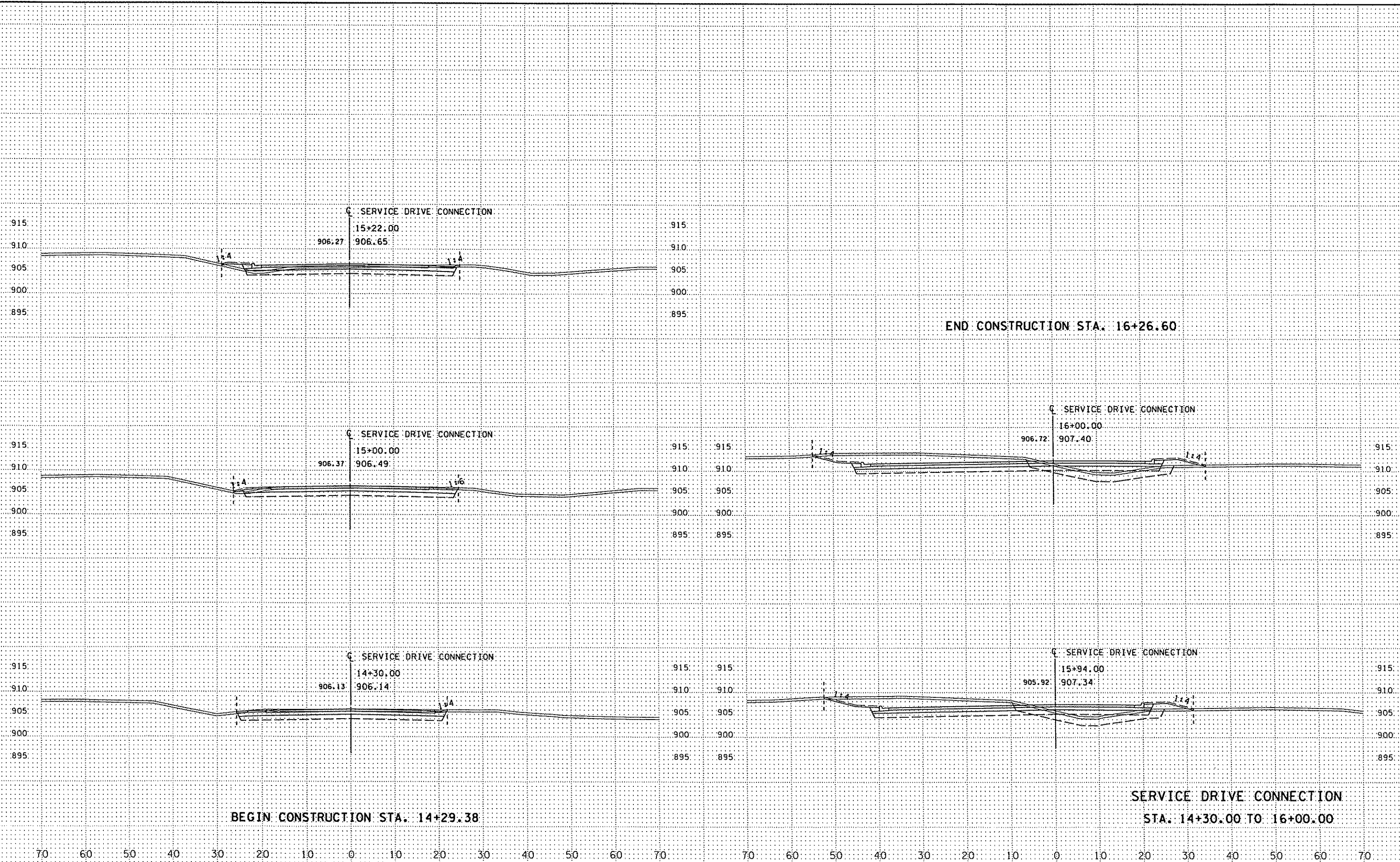
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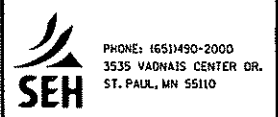
RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

FILE NO.
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 OF XS60

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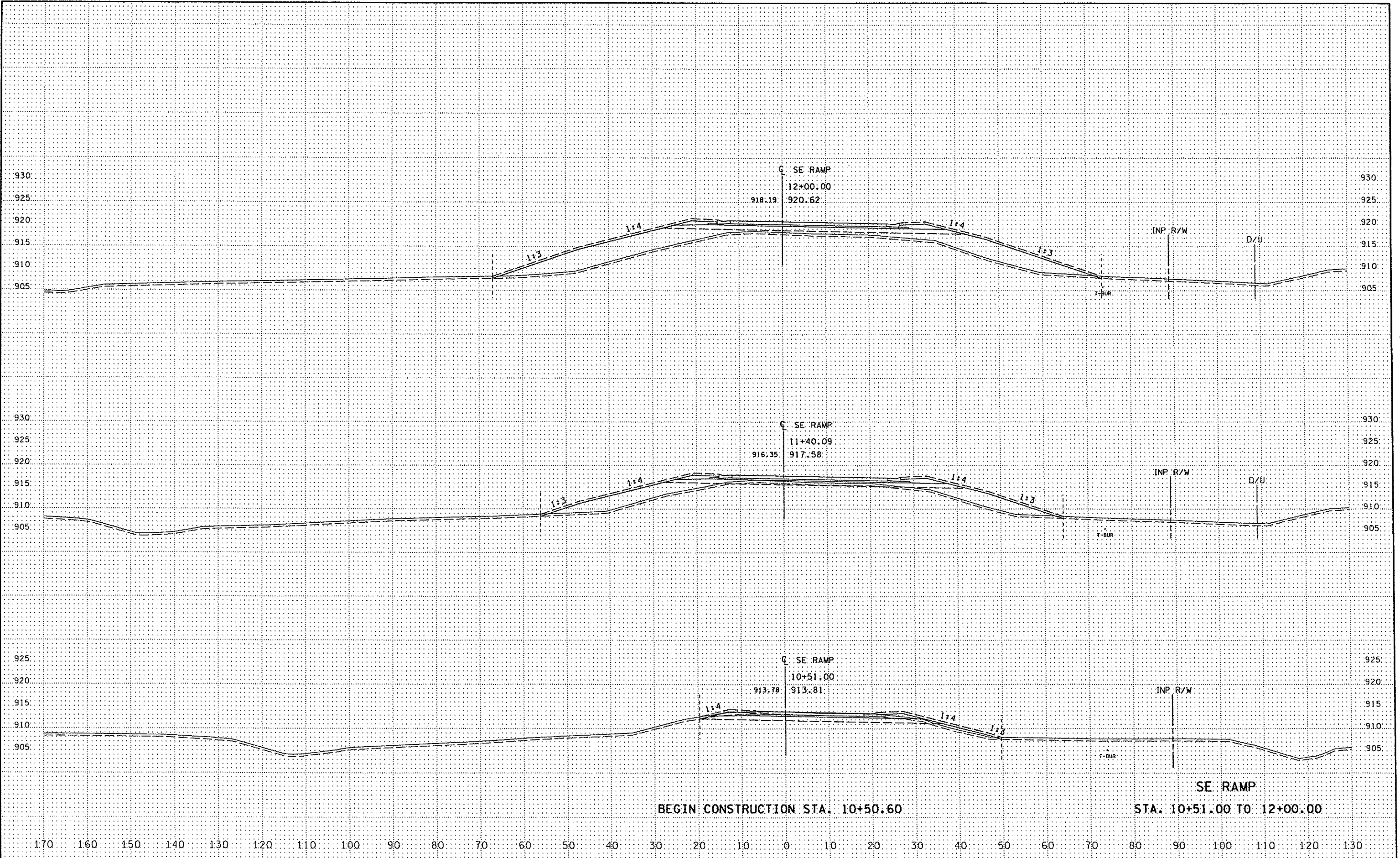
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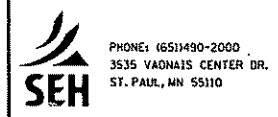
**RAMSEY COUNTY
 COUNTY ROAD J**
 S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
 SERVICE DRIVE CONNECTION**
 FILE NO. ARAM5053
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 OF XS60

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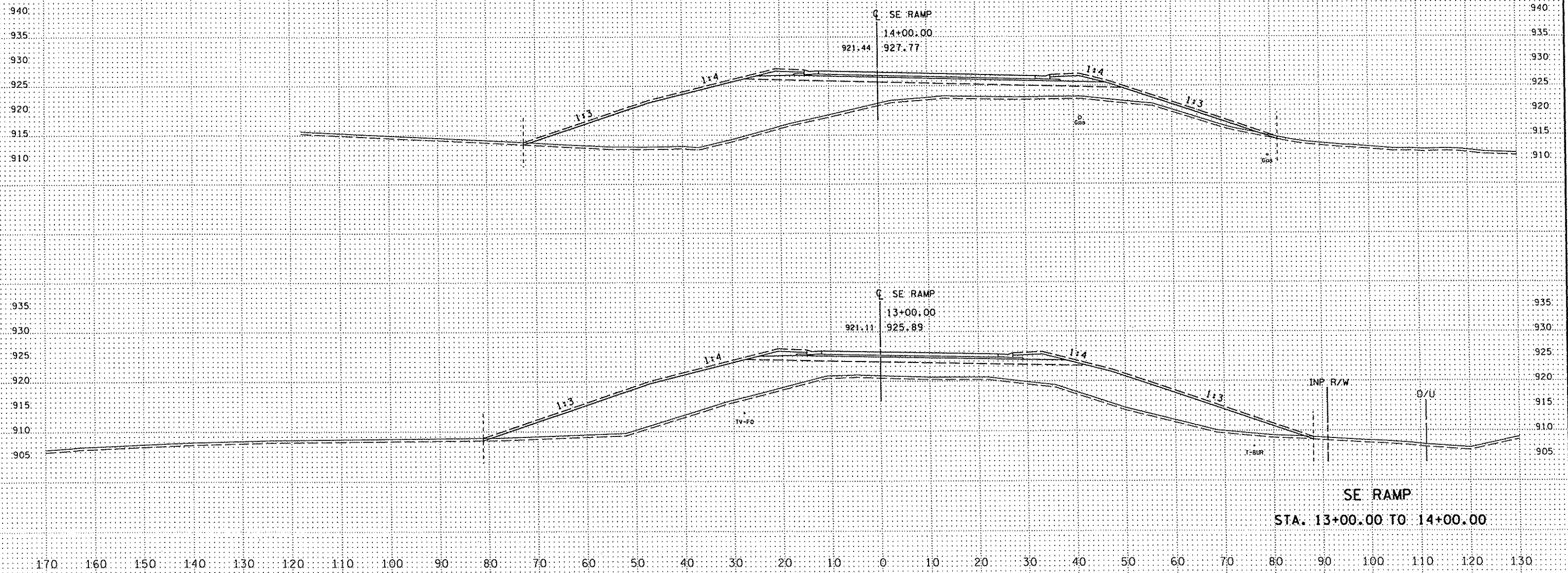


RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 SE RAMP

FILE NO.
 ARAMSE0503
 XS54
 OF XS60

END CONSTRUCTION STA. 14+22.04



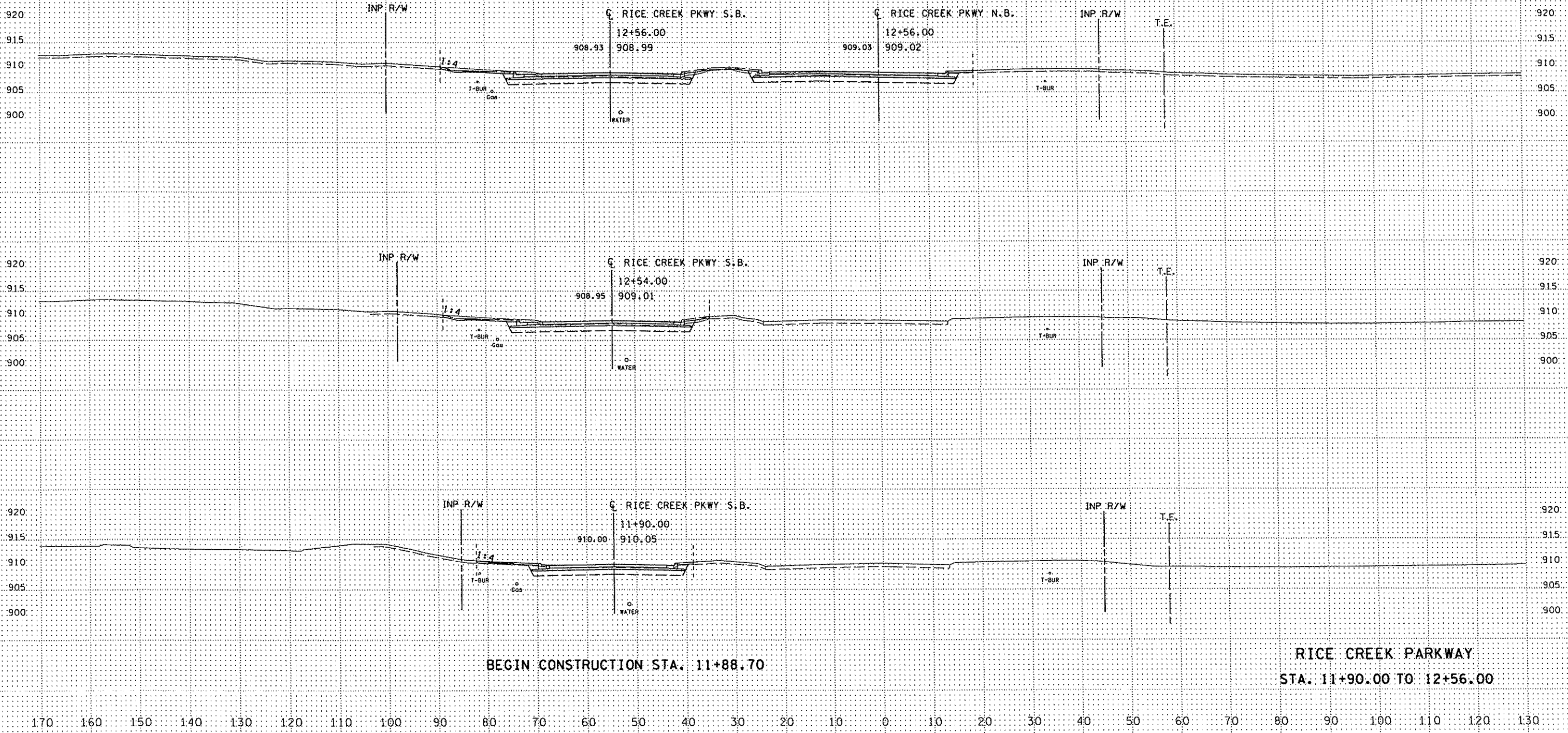
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NO.	BY	DATE	REVISIONS

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

**RAMSEY COUNTY
 COUNTY ROAD J**
 S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
 SE RAMP**

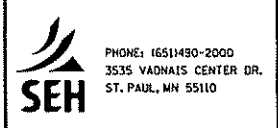
FILE NO.
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 OF XS60



BEGIN CONSTRUCTION STA. 11+88.70

RICE CREEK PARKWAY
STA. 11+90.00 TO 12+56.00

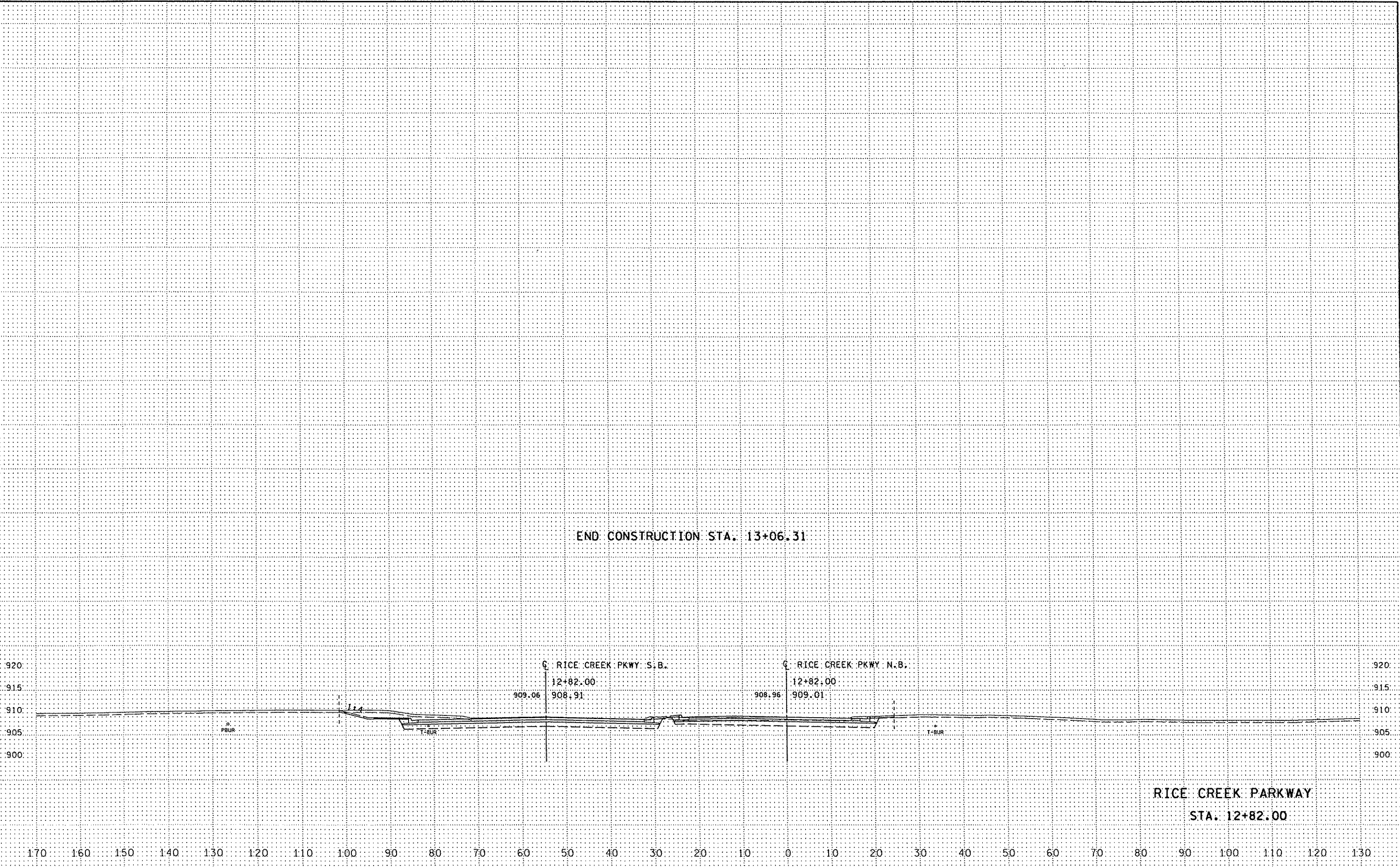
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CHECKED BY:	APM		
NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
RICE CREEK PARKWAY

FILE NO.
ARAMSE0503
XS56
OF XS60



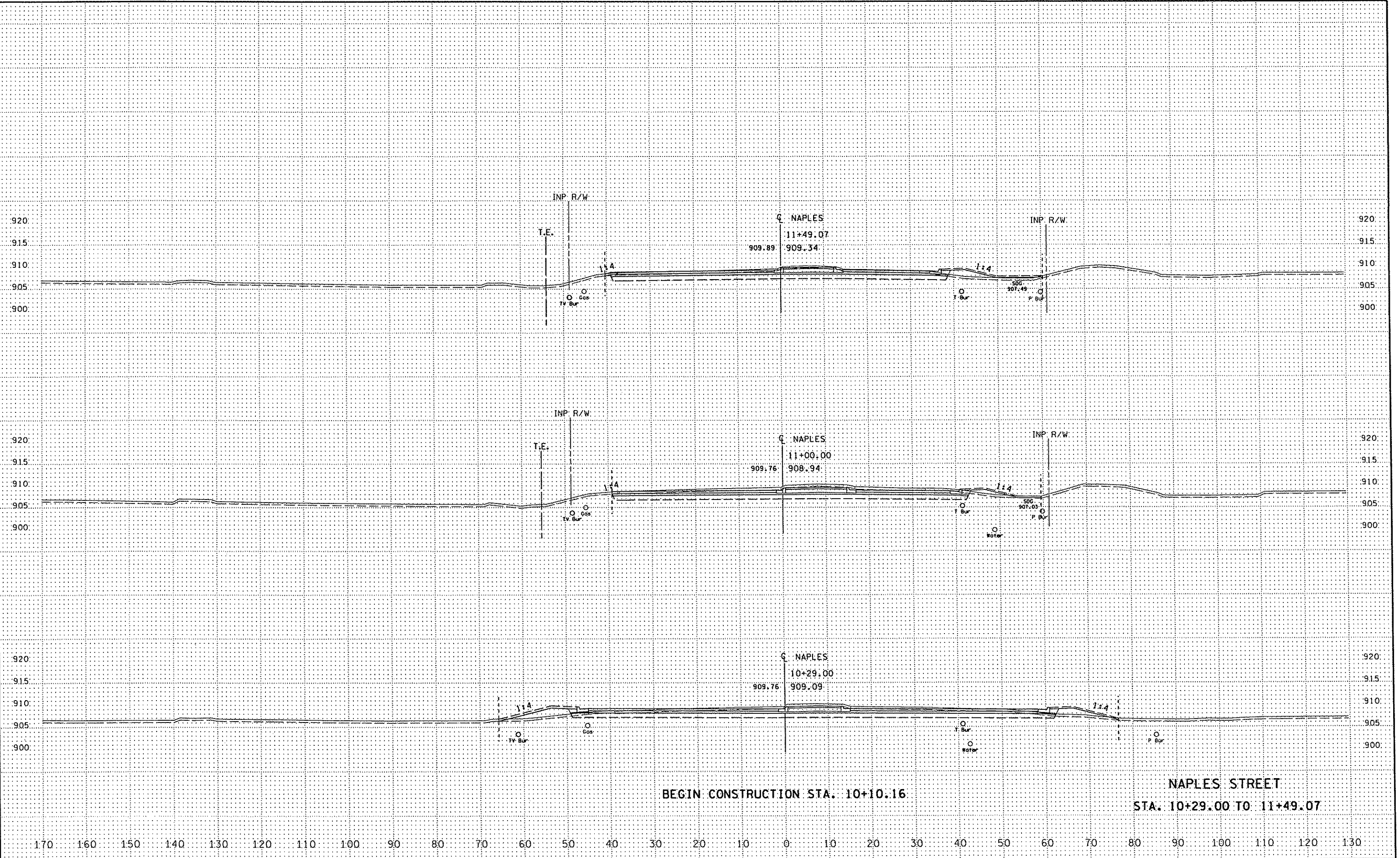
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CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
 RICE CREEK PARKWAY

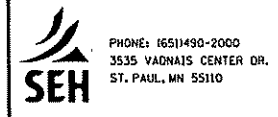
FILE NO.
 ARAMSE0503
 XS57
 OF XS60



BEGIN CONSTRUCTION STA. 10+10.16

NAPLES STREET
STA. 10+29.00 TO 11+49.07

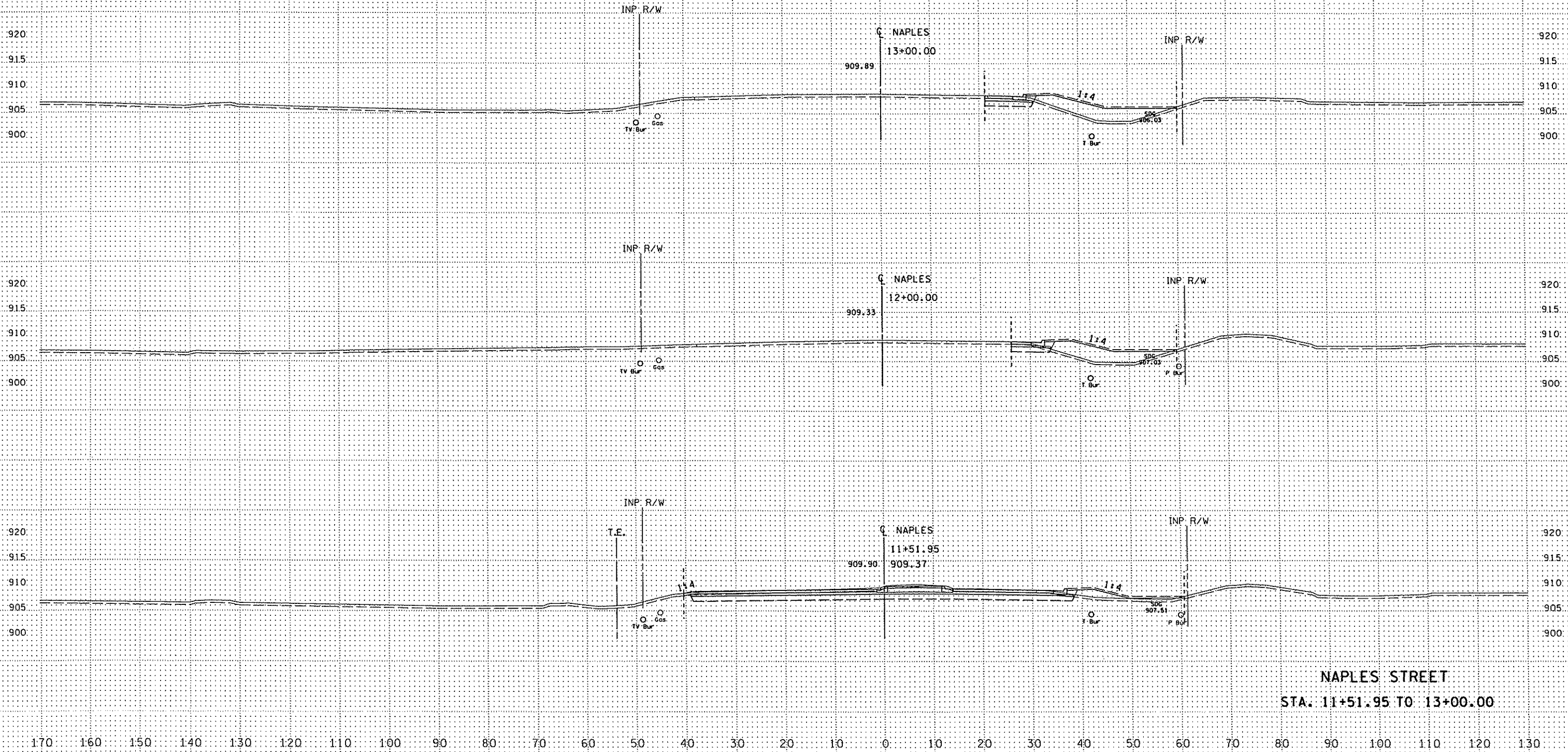
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CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
S.A.P. 02-632-14, S.A.P. 62-601-11

CROSS SECTIONS
NAPLES STREET

FILE NO.
ARAMSE0503
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OF XS60



NAPLES STREET
 STA. 11+51.95 TO 13+00.00

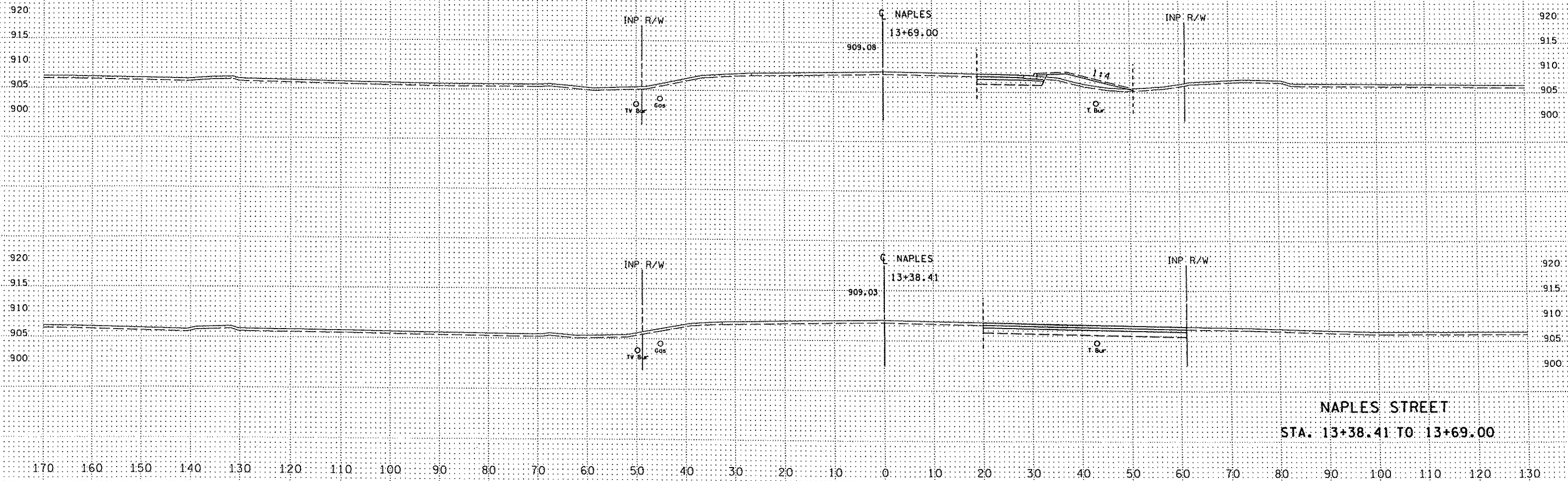
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NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
 COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

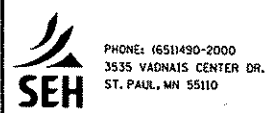
FILE NO.
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 OF XS60

END CONSTRUCTION STA. 13+70.00



NAPLES STREET
STA. 13+38.41 TO 13+69.00

DESIGN TEAM				
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DESIGNER:	JEV			
CHECKED BY:	APM			
	NO.	BY	DATE	REVISIONS



RAMSEY COUNTY
COUNTY ROAD J
 S.A.P. 02-632-14, S.A.P. 62-601-11

**CROSS SECTIONS
 NAPLES STREET**

FILE NO.
 ARAMSE0503
XS60
 OF XS60

