

PLAN SYMBOLS

- 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 (Except Land Lines)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS

- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT-OF-WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TILE
- 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)
- F-FRAME
- S-STONE
- B-BRICK
- C-CONCRETE
- T-TILE
- ST-STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

- UTILITY SYMBOLS
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)

- GAS MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED COMMUNICATION CABLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (SANITARY)
- SEWER (STORM)
- SEWER MANHOLE
- HANDHOLE
- CATCH BASIN

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
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- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (SANITARY)
- SEWER (STORM)
- SEWER MANHOLE
- HANDHOLE
- CATCH BASIN

- NOTE:
- THE EXACT LOCATION OF UNDERGROUND GAS, TELEPHONE, FIBEROPTIC, ELECTRIC, CABLE TV AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT Gopher State One Call BEFORE COMMENCING EXCAVATION.



RAMSEY COUNTY DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR CONCRETE CURB & GUTTER, BITUMINOUS PAVING, STORM & SANITARY SEWER, TRAFFIC SIGNALS & MISC CONSTRUCTION

LOCATED IN RAMSEY COUNTY ON COUNTY ROAD E AND LABORE ROAD

S.A.P. 62-615-24: COUNTY RD E, WILLOW LAKE BLVD. TO 250' E OF ENGLISH STREET
LABORE RD, 150' S OF COUNTY RD E TO 450' N OF COUNTY RD E

CITY PROJ. NO. 2001-04: LABORE ROAD, 350' N OF COUNTY RD E TO 900' N OF COUNTY RD E

END CITY PROJ. NO. 2001-04
Q LABORE ROAD 12+00.00

BEGIN CITY PROJ. NO. 2001-04
Q LABORE ROAD 5+94.79

END S.A.P. 62-615-24
Q LABORE ROAD 5+94.79

BEGIN S.A.P. 62-615-24
Q COUNTY ROAD E 36+30.00

BEGIN S.A.P. 62-615-24
Q LABORE ROAD 1+00.00

SCALES (FULL SIZE)
PLAN 1"=30'
PROFILE HORIZ. 1"=30'
VERT. 1"=5'
X-SECTION HORIZ. 1"=10'
VERT. 1"=5'

COUNTY ROAD E
S.A.P. 62-615-24

LABORE ROAD
CITY PROJ. NO. 2001-04

FUNCTIONAL CLASSIFICATION:	HIGH DENSITY ARTERIAL
NO. OF TRAFFIC LANES:	4
NO. OF PARKING LANES:	0
STRUCTURAL DESIGN:	10 TON
R VALUE:	16
ADT (Current Year) (2001) =	21,180
ADT (Future Year) (2021) =	42,145
HCADT (Future Year) (2021) =	7.1%
ESALS = 20 YEAR CUMULATIVE	6,684,000

GROSS LENGTH	2,940 ft	0.557 mi
BRIDGE LENGTH	0 ft	0 mi
EXCEPTION LENGTH	0 ft	0 mi
NET LENGTH	2,940 ft	0.557 mi
DESIGN SPEED:	45 mph*	

BASED ON: STOPPING SIGHT DISTANCE.
HEIGHT OF EYE: 3.5 ft. HEIGHT OF OBJECT: 0.5 ft.

*NOTE: 45 MPH DESIGN SPEED NOT MET FROM STA 41+50 TO STA 42+50 (30 MPH) AND STA 55+50 TO STA 56+50 (30 MPH)

FUNCTIONAL CLASSIFICATION:	URBAN COLLECTOR
NO. OF TRAFFIC LANES:	2
NO. OF PARKING LANES:	0
STRUCTURAL DESIGN:	9 TON
R VALUE:	16
ADT (Current Year) (2001) =	5,415
ADT (Future Year) (2021) =	8,450
HCADT (Future Year) (2021) =	7.1%
ESALS = 20 YEAR CUMULATIVE	1,465,000

GROSS LENGTH	605 ft	0.115 mi
BRIDGE LENGTH	0 ft	0 mi
EXCEPTION LENGTH	0 ft	0 mi
NET LENGTH	605 ft	0.115 mi
DESIGN SPEED:	40 mph	

BASED ON: STOPPING SIGHT DISTANCE.
HEIGHT OF EYE: 3.5 ft. HEIGHT OF OBJECT: 0.5 ft.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, JANUARY 2001.

PLAN REVISIONS		
DA	SHEET NO.	APPROVED BY



PROJECT LOCATION
COUNTY RAMSEY
METRO DIVISION

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" SHALL GOVERN. ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE APPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

INDEX

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2-4	STATEMENT OF ESTIMATED QUANTITIES
5	LANDSCAPE PLAN
6-9	TYPICAL SECTIONS
10-12	TABULATIONS
13-15	ALIGNMENT PLAN
16-17	REMOVAL PLAN
18-32	PLAN & PROFILE SHEETS
33-46	CROSS SECTIONS
47-55	SIGNING & PAVEMENT MARKINGS
56-71	TRAFFIC CONTROL
72-74	DETAILS
75	LIGHTING PLAN
76-92	SIGNAL SYSTEMS

THIS PLAN CONTAINS 92 SHEETS.

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

David L. Betts
David L. Betts, P.E.

Lic. No. 26848 Date 9/28/01

SEH SHORT ELLIOTT HENDRICKSON INC.

Approved *Keesha* 10/2 2001
RAMSEY COUNTY ENGINEER

Approved *Merald Urban* 10/1 2001
CITY OF VADNAIS HEIGHTS

Approved *Frederic* 10/1 20 01
CITY OF GEM LAKE

Approved for State Aid Division *Donal* 10/30 01
APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

Recommended for Approval *Donal* 10/30 01
METRO - ASSISTANT DIVISION ENGINEER - STATE AID;
REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

**ASBUILT PLAN
CONFORMING TO
CONST. RECORDS**
DONE BY *DJB*
DATE 12-8-08

28-256

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

DATE LIC. NO.

STATE AID PROJ. NO. 62-615-24
CITY PROJ. NO. 2001-04 SHEET NO. 1 OF 92 SHEETS

DATE: 08-12-01 TIME: 9:39 AM USER: CRUSOSP

ITEM NO.	ITEM	UNIT	TOTAL		GROUP I COUNTY ROAD E 100% S.A.P. 62-615-24		GROUP II STORM SEWER 100% S.A.P. 62-615-24		GROUP III LABORE ROAD 100% CITY OF VADNAIS HEIGHTS		GROUP IV UTILITIES 100% CITY OF VADNAIS HEIGHTS		GROUP V SIDEWALK 25% S.A.P. 62-615-24/75% CITY OF V.H.		NOTES	TAB
			ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY		
2021.501	MOBILIZATION	LS	1.00		0.69		0.03		0.17		0.07		0.04			
2101.501	CLEARING	ACRE	0.19		0.07				0.12							A
2101.502	CLEARING	TREE	94.00		65				29							A
2101.506	GRUBBING	ACRE	0.19		0.07				0.12							A
2101.507	GRUBBING	TREE	94.00		65				29							A
2101.603	ROOT CUTTING	LF	130.00		130											
2102.502	PAVEMENT MARKING REMOVAL	LF	5,500.00		5,500											
2104.501	REMOVE CONCRETE CURB & GUTTER	LF	4,112.00		4,112											B
2104.501	REMOVE PIPE DRAIN	LF	3,050.00		3,050											
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SF	12,085.00		10,890				1,195							C
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	SF	570.00						570							B
2104.503	REMOVE CONCRETE SIDEWALK	SF	477.00		477											B
2104.505	REMOVE BITUMINOUS PAVEMENT (ROADWAY)	SY	6,568.00		4,415				2,153							C
2104.509	REMOVE DRAINAGE STRUCTURE	EA	10.00				10.00									H
2104.509	REMOVE MANHOLE (SANITARY)	EA	2.00		2											
2104.509	REMOVE SIGN FOUNDATION	EA	2.00		2											
2104.511	SAWING CONCRETE DRIVEWAY PAVEMENT (FULL DEPTH)	LF	15.00						15							D
2104.513	SAWING BITUMINOUS DRIVEWAY PAVEMENT (FULL DEPTH)	LF	318.00		280				38							D
2104.513	SAWING BITUMINOUS PVMT (FULL DEPTH)	LF	6,837.00		6,797				40							D
2104.521	REMOVE PIPE CULVERT	LF	144.00		36				108							
2104.521	SALVAGE WOODEN FENCE	LF	80.00		80											
2104.521	SALVAGE FENCE	LF	130.00		130											
2104.523	SALVAGE ORNAMENTAL BOULDER	EA	2.00		2											
2104.523	SALVAGE HYDRANT & VALVE	EA	5.00		5											G
2104.523	SALVAGE SIGN TYPE SPECIAL (SNS)	EACH	2.00		2											L
2104.523	SALVAGE SIGN TYPE SPECIAL, "A"	EA	4.00		4									4		
2104.523	SALVAGE SIGN TYPE SPECIAL, "B"	EA	4.00		4									5		
2104.523	SALVAGE SIGNS - TYPE "C"	EACH	25.00		22				3							J
2104.523	SALVAGE SIGNS - TYPE "D"	EACH	2.00		2											P
2104.601	HAUL SALVAGED MATERIAL	LS	1.00		1											
2104.602	SALVAGE & INSTALL MANHOLE CASTING	EA	11.00		11											
2104.604	SALVAGE CONCRETE RETAINING WALL	SY	32.00		32											
2105.501	COMMON EXCAVATION (P)	CY	15,475.00		9,210				6,265							
2105.522	SELECT GRANULAR BORROW (CV)	CY	6,969.00		4,936				2,033							
2105.525	TOPSOIL BORROW (CV)	CY	1,675.00		1,425				250							
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	hour	10.00		10											
2130.501	WATER FOR DUST CONTROL	MGAL	300.00		50				250							
2211.501	AGGREGATE BASE, CLASS 7	TON	980.00		500				480							
2211.503	AGGREGATE BASE, CLASS 7 (CV)	CY	3,710.00		2,550				690				470			
2232.501	MILL BITUMINOUS SURFACE (3")	SY	13,464.00		13,464											C
2350.501	TYPE HV WEARING COURSE MIXTURE PG64-28 - HVWE37540E	TON	1,230.00		1,230											
2350.501	TYPE MV WEARING COURSE MIXTURE PG64-22 - MVWE35030L	TON	70.00		60				10							3
2350.501	TYPE MV WEARING COURSE MIXTURE PG58-34 - MVWE35035C	TON	425.00		178				247							
2350.502	TYPE HV NON WEARING COURSE MIXTURE PG64-28 - HVNW37540E	TON	1,230.00		1,230											
2350.502	TYPE MV NON WEARING COURSE MIXTURE PG58-28 - MVNW35035B	TON	1,130.00		1,130											
2350.502	TYPE MV NON WEARING COURSE MIXTURE PG58-34 - MVNW35035C	TON	425.00		178				247							
2350.502	TYPE LV NON WEARING COURSE MIXTURE PG58-28 - LVNW35030B	TON	1,135.00		475				660							
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	3,055.00		2,725				330							
2411.604	MODULAR BLOCK RETAINING WALL, NON-REINFORCED	SF	413		413											
2451.609	CRUSHED ROCK PIPE FOUNDATION	TON	780.00		100		20.00		500		160					
2451.609	GRANULAR PIPE FOUNDATION	TON	780.00		100		20.00		500		160					
2451.609	REPLACEMENT BACKFILL	TON	4,130.00		200		20.00		3,750		160					
2501.511	24" RC PIPE CULVERT	LF	83						83							
2501.515	24" RC PIPE APRON W/ TRASHGUARD	EA	1.0						1							
2502.541	4" PERFORATED PE DRAIN TILE W/ SOCK	LF	3,702.00		3,232				470							
2503.511	8" PVC PIPE SEWER (SDR 26)	LF	1,685.00		74						1,611					
2503.541	12" RCP PIPE SWR, DES. 3006, CL V	LF	73.00				73.00									
2503.541	15" RCP PIPE SWR, DES. 3006, CL V	LF	373.00				373.00									
2503.602	8"x4" PVC WYE	EA	2.00								2					
2503.602	CONNECT TO EXISTING SANITARY SEWER	EA	2.00		2											F

SEE SHEET 4 FOR NOTES

AS-BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *SLB*
 DATE: 12-10-08

28-256

CITY PROJECT 2001-4 S.A.P. 62-615-24

Q:\CLIENTS\12\ADNA\0106\ACAD\VALOREQ1.DWG
 DATE: 10-20-01 TIME: 1:45 pm USER: PRJ009SP

DRAWN BY: SLP			
DESIGNER: SLP			
CHECKED BY: DLB			
DESIGN TEAM	NO.	BY	DATE

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
 DAVID L. BETTS, P.E.
 Lic. No. 26848
 Date: 9/28/01

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

RAMSEY COUNTY, MINNESOTA

**ESTIMATED QUANTITIES
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	2
DATE 9/28/01	92

ITEM NO.	ITEM	UNIT	TOTAL		GROUP I COUNTY ROAD E 100% S.A.P. 62-615-24		GROUP II STORM SEWER 100% S.A.P. 62-615-24		GROUP III LABORE ROAD 100% CITY OF VADNAIS HEIGHTS		GROUP IV UTILITIES 100% CITY OF VADNAIS HEIGHTS		GROUP V SIDEWALK 25% S.A.P. 62-615-24/75% CITY OF V.H.		NOTES	TAB
			ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY		
2503.603	4" PVC SANITARY SEWER RISER PIPE	LF	40.00									40				
2503.603	4" PVC SANITARY SEWER SERVICE PIPE	LF	60.00									60				
2503.603	8" DIP OUTSIDE DROP, CLASS 52	LF	6.40		6.4											F
2504.602	1" CORP STOP	EA	2.00									2				
2504.602	2" CORP STOP	EA	1.00									1				
2504.602	1" CURB STOP	EA	2.00									2				
2504.602	2" CURB STOP	EA	1.00									1				
2504.602	6" GV & BOX	EA	7.00		4							3				G
2504.602	8" GV & BOX	EA	2.00									2				G
2504.602	12" GV & BOX	EA	2.00									2				G
2504.602	ADJUST VALVE BOX	EA	8.00		8											G
2504.602	CONNECT TO EXISTING WATER MAIN	EA	6.00		4							2				G
2504.602	F & I HYDRANT	EA	7.00									7				G
2504.603	1" COPPER	LF	110.00									110				
2504.603	2" COPPER	LF	35.00									35				
2504.603	6" PVC SLEEVE, SCH. 40	LF	35.00									35				
2504.603	6" DIP WATER MAIN, CLASS 52	LF	136.00		88							48			1	G
2504.603	8" DIP WATER MAIN, CLASS 52	LF	45.00									45			1	G
2504.603	12" DIP WATER MAIN, CLASS 52	LF	700.00									700			1	G
2504.620	DIP WATER MAIN FITTINGS - EPOXY COATED	LBS	1,700.00		100							1,600				
2506.501	CONSTRUCT DRAINAGE STRUCTURE DES A OR F	LF	14.83				11.00		3.83							H
2506.501	CONSTRUCT DRAINAGE STRUCTURE DES C OR G	LF	8.12				4.29		3.83							H
2506.501	CONSTRUCT DRAINAGE STRUCTURE DES LP-4	LF	52.00				52.00									H
2506.522	ADJUST FRAME & RING CASTING	EA	11.00		11											H,F
2506.602	CONNECT TO EXISTING STORM SEWER	EA	4.00				4.00									H
2506.602	CONNECT TO EXISTING STORM STRUCTURE	EA	6.00				6.00									H
2506.602	STANDARD SANITARY MH (0'-8" DEEP)	EA	8.00		2							6				F
2506.603	EXTRA DEPTH SANITARY MANHOLE	LF	92.82		7							85.82				
2511.501	RANDOM RIPRAP CLASS III	CY	8.30						8.3							
2511.515	GEOTEXTILE FILTER TYPE IV	SY	20.00						20							F
2521.501	4" CONCRETE SIDEWALK	SF	24,120.00											24,120		
2521.501	6" CONCRETE SIDEWALK	SF	750.00		750											2
2531.501	CONC CURB & GUTTER, DESIGN B618 (H.E.)	LF	500.00		500											
2531.501	CONC CURB & GUTTER, DESIGN B624 (H.E.)	LF	8,090.00		7,465				625							
2531.501	CONC CURB & GUTTER, DESIGN D412 (H.E.)	LF	100.00		100											
2531.503	4" CONCRETE MEDIAN	SY	787.00		787											
2531.507	6" CONCRETE DRIVEWAY PAVEMENT (H.E.)	SY	885.00		760				125							
2531.602	CONCRETE ENTRANCE NOSE 7113 (H.E.)	EA	6.00		6											
2531.602	PEDESTRIAN CURB RAMP	EA	26.00		26											
2533.603	CONCRETE MEDIAN BARRIER DESIGN 8337	LF	760.00		760											
2554.505	F & I PERMANENT BARRICADE	LF	48.00		48											R
2554.615	IMPACT ATTENUATOR	AMBY	1.00		1											
2557.603	INSTALL SALVAGED FENCE	LF	130.00		130											
2563.601	TRAFFIC CONTROL	LS	1.00		0.69		0.03		0.17			0.07		0.04		
2563.603	MEDIAN BARRIER DELINEATOR	EACH	15.00		15											
2564.531	F & I SIGN PANELS TYPE C	SF	283.00		259				24							
2564.531	F & I SIGN PANELS TYPE D (SIGNALS)	SF	41.00		41											I
2564.602	FURNISH SIGN PANEL TYPE SPECIAL (SNS)	EACH	4.00		4											K
2564.602	INSTALL SIGN TYPE SPECIAL (SNS)	EACH	2.00		2											M
2564.602	INSTALL SIGN PANELS TYPE C	EACH	3.00		3											N
2564.602	INSTALL SIGN PANELS TYPE D	EACH	1.00		1											Q
2564.602	PAVEMENT MESSAGE WHITE (LEFT ARROW) - EPOXY	EACH	13.00		13											
2564.602	PAVEMENT MESSAGE WHITE (RIGHT ARROW) - EPOXY	EACH	2.00		2											
2564.602	RELOCATE SIGN TYPE SPECIAL 'B'	EACH	1.00		1											
2564.603	4" BROKEN LINE WHITE-EPOXY	LF	1,080.00		1,080											S
2564.603	4" BROKEN LINE WHITE-PAINT	LF	40.00		40											S
2564.603	4" BROKEN LINE YELLOW-EPOXY	LF	160.00		160											S
2564.603	4" DOUBLE SOLID LINE YELLOW-EPOXY	LF	2,550.00		1,350				1,200							S
2564.603	4" DOUBLE SOLID LINE YELLOW-PAINT	LF	1,525.00		1,525											S
2564.603	4" SOLID LINE WHITE-EPOXY	LF	2,830.00		1,860				970							S

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
 DONE BY: *DLB*
 DATE: 12-18-08

SEE SHEET 4 FOR NOTES

28-256

Q:\CLIENTS\71\ADNA\10106\ACAD\VA060601.DWG
 DATE: 11-28-01 TIME: 10:23 am USER: CPU309SP
 XREFS:

DRAWN BY: SLP			
DESIGNER: SLP			
CHECKED BY: DLB			
DESIGN TEAM	NO.	BY	DATE

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
 DAVID L. BETTS, P.E.
 Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

ESTIMATED QUANTITIES COUNTY ROAD E & LABORE ROAD

CITY PROJECT 2001-4 S.A.P. 62-615-24

FILE NO. AVADNA0106	3
DATE 9/28/01	92

ITEM NO.	ITEM	UNIT	TOTAL		GROUP I COUNTY ROAD E 100% S.A.P. 62-615-24		GROUP II STORM SEWER 100% S.A.P. 62-615-24		GROUP III LABORE ROAD 100% CITY OF VADNAIS HEIGHTS		GROUP IV UTILITIES 100% CITY OF VADNAIS HEIGHTS		GROUP V SIDEWALK 25% S.A.P. 62-615-24 / 75% CITY OF V.H.		NOTES	TAB
			ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY	ESTIMATED QUANTITY	FINAL QUANTITY				
2564.603	4" SOLID LINE WHITE-PAINT	LF	300.00		300											S
2564.603	4" SOLID LINE YELLOW-EPOXY	LF	3,660.00		3,660											S
2564.603	4" SOLID LINE YELLOW-PAINT	LF	4,080.00		4,080											S
2564.603	24" SOLID LINE YELLOW-EPOXY	LF	820.00		430				390							S
2564.604	ZEBRA CROSSWALK WHITE-EPOXY	SF	1,950.00		1,950											
2565.511	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM	1.00		1											
2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LS	1.00						1							
2565.601	SALVAGE SIGNAL SYSTEM	LS	1.00		1											
2565.601	TRAFFIC CONTROL INTERCONNECTION	LS	1.00		1											
2565.602	PVC HANDHOLE (METAL FRAME AND COVER) - INTERCONNECT	EA	1.00		1											
2565.603	1/C #14 CABLE - INTERCONNECT	LF	1,200.00		1,200											
2565.603	2 INCH NON METALLIC CONDUIT - INTERCONNECT	LF	500.00		500											
2565.603	6/C FIBER OPTIC CABLE - INTERCONNECT	LF	1,200.00		1,200											
2565.616	REVISE SIGNAL SYSTEM	SYSTEM	1.00		0.50				0.50							
2571.501	CONIFEROUS TREE 10' HT B&B	TREE	12		12											
2571.501	CONIFEROUS TREE 12' HT B&B	TREE	11						11							
2571.504	CONIFEROUS SHRUB #5 CONT	SHRUB	26		26											
2571.541	TRANSPLANT TREE (10' HT CONIFEROUS)	EA	4.00		4											
2571.607	HARDWOOD MULCH	CY	135		67.5				67.5							
2572.501	TEMPORARY FENCE	LF	1,500.00		750				750							
2573.502	SILT FENCE, TYPE PREASSEMBLED	LF	325.00		175				150							
2575.505	SODDING, TYPE LAWN AND BOULEVARD	SY	11,022.00		8,902				2,120							
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LF	1,930.00		1,930											

NOTES:

- 1.) WRAP PIPE IN POLYETHYLENE WRAP (INCIDENTAL)
- 2.) 6" SIDEWALK TO BE USED AT SOUTHWEST CORNER OF LABORE ROAD AND COUNTY ROAD E. SEE PLAN FOR LOCATION.
- 3.) 4" BITUMINOUS DRIVEWAY PAVEMENT IN TWO LIFTS. TYPE MV WEARING COURSE MIXTURE MVWE35035L (PG 64-22) SHALL BE VIRGIN MIX (NO RAP ALLOWED).
- 4.) SIGN TYPE SPECIAL "A" INCLUDES EXISTING COMMERCIAL SIGN WITH ELECTRICAL CONNECTIONS.
- 5.) SIGN TYPE SPECIAL "B" INCLUDES EXISTING COMMERCIAL SIGN WITHOUT ELECTRICAL CONNECTIONS.

GENERAL NOTES:

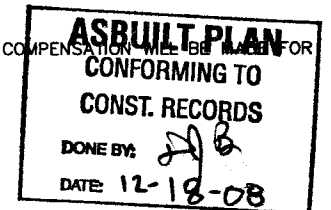
GROUP I: 100% S.A.P. 62-615-24
 GROUP II: 100% S.A.P. 62-615-24
 GROUP III: 100% CITY OF VADNAIS HEIGHTS
 GROUP IV: 100% CITY OF VADNAIS HEIGHTS
 GROUP V: 25% S.A.P. 62-615-24 / 75% CITY OF VADNAIS HEIGHTS

MN/DOT STANDARD PLATES	
PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006 G	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR R.C. PIPE
3133 C	RIPRAP AT RCP OUTLETS
4000 J	MANHOLE OR CATCHBASIN
4010 H	CONCRETE SHORT CONE AND ADJUSTING RING
4011 E	PRECAST CONCRETE BASE
4021 E	PRECAST CURB OPENING CATCH BASIN
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
7036 D	PEDESTRIAN CURB RAMP
7100 G	CONCRETE CURB AND GUTTER
7113 A	CONCRETE APPROACH NOSE

BASIS FOR ESTIMATED QUANTITIES		
2105.582	SELECT GRANULAR BORROW (CV)	140 LBS/CU. FT
2211.501	AGGREGATE BASE, CLASS 7 (100% CRUSHED)	140 LBS/CU. FT
2350.501	TYPE HV WEARING COURSE MIXTURE	110 LBS/SQ. YD./INCH
2350.501	TYPE MV WEARING COURSE MIXTURE	110 LBS/SQ. YD./INCH
2350.502	TYPE HV NON-WEARING COURSE MIXTURE	110 LBS/SQ. YD./INCH
2350.502	TYPE MV NON-WEARING COURSE MIXTURE	110 LBS/SQ. YD./INCH
2350.502	TYPE LV NON-WEARING COURSE MIXTURE	110 LBS/SQ. YD./INCH
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GALLONS/SQ. YD.
2451.609	REPLACEMENT BACKFILL	140 LBS/CU. FT

CONSTRUCTION NOTES:

- 1.) UTILITY COMPANIES WILL RELOCATE THEIR FACILITIES CONCURRENTLY WITH THE CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. CONTRACTOR SHALL SCHEDULE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION.
- 2.) CONTRACTOR SHALL NOTIFY PROPERTY OWNERS, IN WRITING, 72 HOURS IN ADVANCE OF DISRUPTION TO SANITARY SEWER AND WATER MAIN SERVICES.
- 3.) CONTRACTOR SHALL MINIMIZE INTERRUPTION OF SANITARY SEWER AND WATER SERVICE TO ADJACENT PROPERTIES. ANY PROPERTY OUT OF SERVICE LONGER THAN 8 HOURS MUST BE PROVIDED WITH A TEMPORARY SERVICE.
- 4.) PROVIDE FOR REMOVAL AND DISPOSAL (OUTSIDE THE CONSTRUCTION ZONE) OF ALL INPLACE STRUCTURES THAT WILL INTERFERE WITH CONSTRUCTION. DISPOSAL OF ITEMS REMOVED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3C3.
- 5.) EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3C3 AND 2105.3D.
- 6.) SODDING QUANTITIES ALONG ROADWAY SLOPES ARE BASED ON SODDING LIMITS FROM THE BACK OF THE CURB TO THE CONSTRUCTION LIMITS, EXCLUDING SIDEWALK AREAS AND IN MEDIAN AREAS FROM THE BACK OF CURB TO THE BACK OF CURB.
- 7.) WHEN CONNECTION TO EXISTING BITUMINOUS PAVEMENT IS REQUIRED, THE EDGE OF EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE PRIOR TO CONSTRUCTING ASPHALT SURFACING.
- 8.) STABILIZING AGGREGATE SHALL BE APPLIED IF NECESSARY TO ACHIEVE SATISFACTORY SURFACE STABILITY AS DETERMINED BY THE ENGINEER. THE MATERIAL SHALL SATISFY THE REQUIREMENTS OF SECTION 3149.2C AND SHALL BE APPLIED IN ACCORDANCE WITH SECTION 2105.3G OF THE STANDARD SPECIFICATIONS.
- 9.) USE TACK COATS BETWEEN ALL BITUMINOUS LIFTS. COMPACTION OF ALL BITUMINOUS ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD".
- 10.) WATER, GAS, ELECTRIC, TELEPHONE, SEWER, AND TV CABLE LINES SHOWN ON THE DRAWINGS AND CROSS-SECTIONS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION, BUT MAY NOT REFLECT ACTUAL LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES BEFORE BEGINNING CONSTRUCTION WHICH MAY BE AFFECTED BY A UTILITY CONFLICT. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE OWNERS OF ALL KNOWN UTILITIES BEFORE STARTING ANY OPERATIONS AFFECTING THOSE PROPERTIES, OR BEGINNING EXCAVATION IN THE VICINITY OF THOSE PROPERTIES. THE CONTRACTORS ATTENTION IS DIRECTED TO SECTION 1507 IN THE STANDARD SPECIFICATIONS.
- 11.) ALL USES OF THE WORD "INCIDENTAL" IN THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO MEAN INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.
- 12.) ALL EXISTING TRAFFIC SIGNS ON THE PROJECT WILL BE SALVAGED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER.
- 13.) CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION AND REMOVALS.....(651)454-0002.
- 14.) REMOVABLE PRE-FORMED PLASTIC PAVEMENT MARKINGS WILL BE PAID FOR IN ACCORDANCE WITH SECTION 2581. NO ADDITIONAL COMPENSATION WILL BE MADE FOR REMOVAL.
- 15.) PROLIPOGRAPH TESTING EXCLUDED IN ACCORDANCE WITH TABLE 2350-12.



28-256

CITY PROJECT 2001-4 S.A.P. 62-615-24

Q:\CLIENTS\T\ADNA\0108\ACAD\VA108E01.DWG DATE: 11-28-01 TIME: 10:29 am USER: CPJ039SP

DRAWN BY: SLP			
DESIGNER: SLP			
CHECKED BY: DLB			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 David L. Betts, P.E.
 Date: 9/28/01 Lic. No. 26848

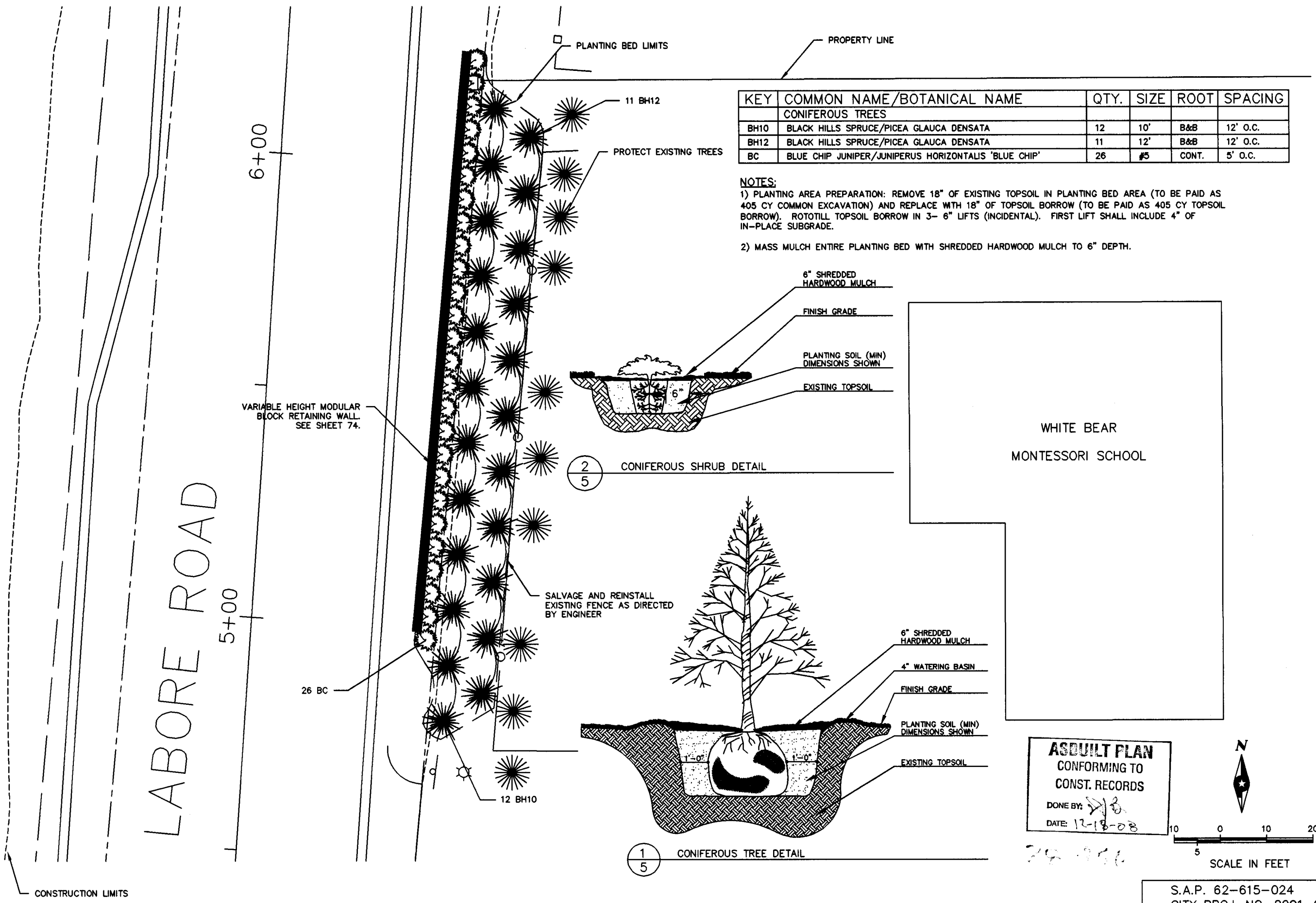


RAMSEY COUNTY, MINNESOTA

ESTIMATED QUANTITIES COUNTY ROAD E & LABORE ROAD

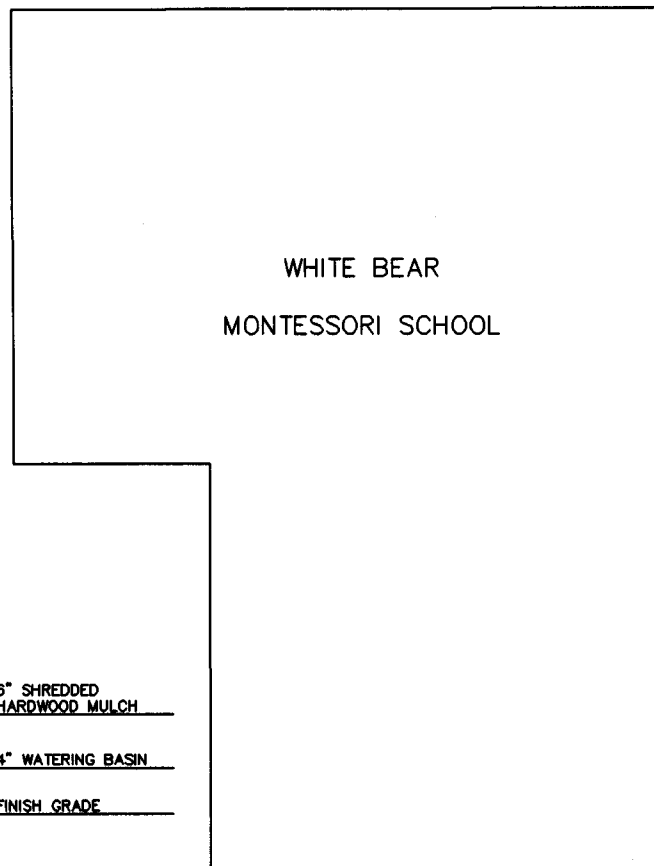
FILE NO. AVADNA0106
 DATE 9/28/01

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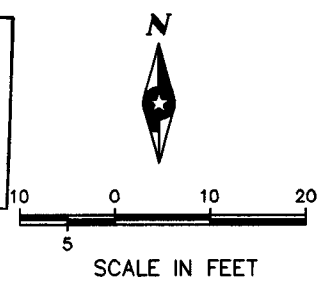


KEY	COMMON NAME/BOTANICAL NAME	QTY.	SIZE	ROOT	SPACING
CONIFEROUS TREES					
BH10	BLACK HILLS SPRUCE/PICEA GLAUCA DENSATA	12	10'	B&B	12' O.C.
BH12	BLACK HILLS SPRUCE/PICEA GLAUCA DENSATA	11	12'	B&B	12' O.C.
BC	BLUE CHIP JUNIPER/JUNIPERUS HORIZONTALIS 'BLUE CHIP'	26	#5	CONT.	5' O.C.

NOTES:
 1) PLANTING AREA PREPARATION: REMOVE 18" OF EXISTING TOPSOIL IN PLANTING BED AREA (TO BE PAID AS 405 CY COMMON EXCAVATION) AND REPLACE WITH 18" OF TOPSOIL BORROW (TO BE PAID AS 405 CY TOPSOIL BORROW). ROTOTILL TOPSOIL BORROW IN 3- 6" LIFTS (INCIDENTAL). FIRST LIFT SHALL INCLUDE 4" OF IN-PLACE SUBGRADE.
 2) MASS MULCH ENTIRE PLANTING BED WITH SHREDDED HARDWOOD MULCH TO 6" DEPTH.



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08



Q:\CLIENTS\T.J. VADNA\0108\ACAD\LABORE.DWG
 DATE: 06-12-01 TIME: 9:37 am USER: CRUSKOPF
 XREFS:

DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM				
NO.	BY	DATE	REVISIONS	

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.
Laurie McRoelle
 Laurie McRoelle, LLA
 Date: 9/28/01 Reg. No. 20168

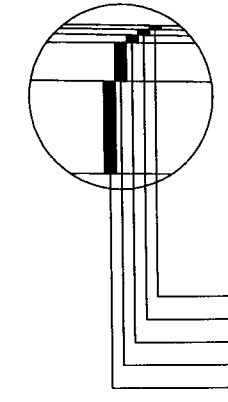
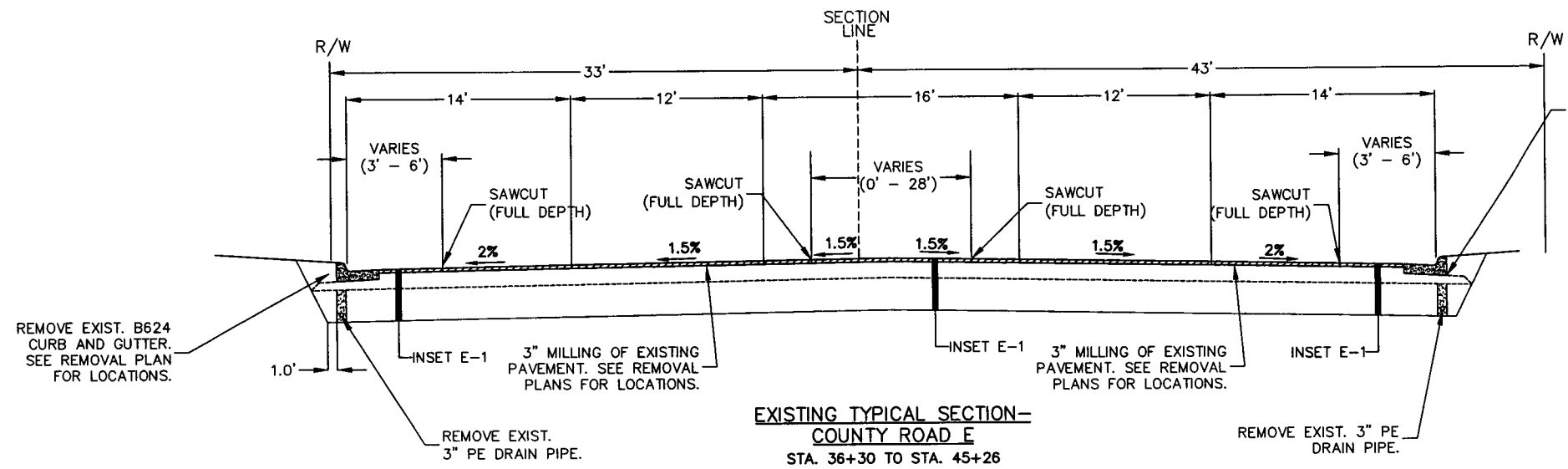
SEH
 PHONE: (851) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY,
 MINNESOTA

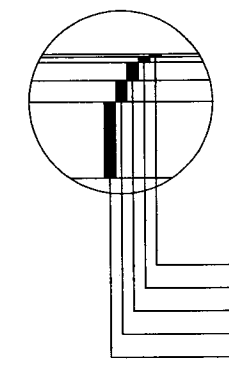
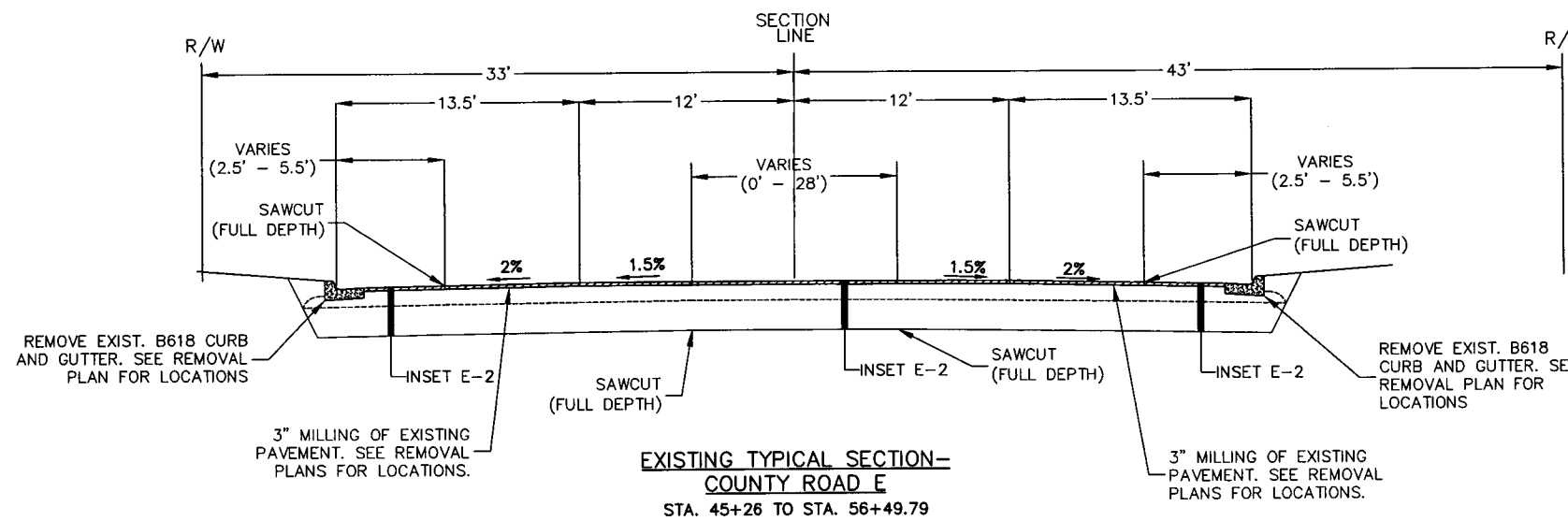
LANDSCAPE PLAN
 COUNTY ROAD E & LABORE ROAD

FILE NO.	AVADNA0106	5
DATE	9/28/01	92

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04



EXISTING SECTION
INSET E-1



EXISTING SECTION
INSET E-2

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DLB*
DATE: 12-18-08

- NOTES:
1) SEE REMOVAL PLAN FOR SAWCUT AND PAVEMENT MILLING LOCATIONS.
2) ALL DEPTH OF EXISTING SECTIONS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

Q:\CLIENTS\12\1\ADNA\0106\ACAD\1\106T1.DWG USER: CPUSGOSP DATE: 06-13-01 TIME: 1:12 PM

DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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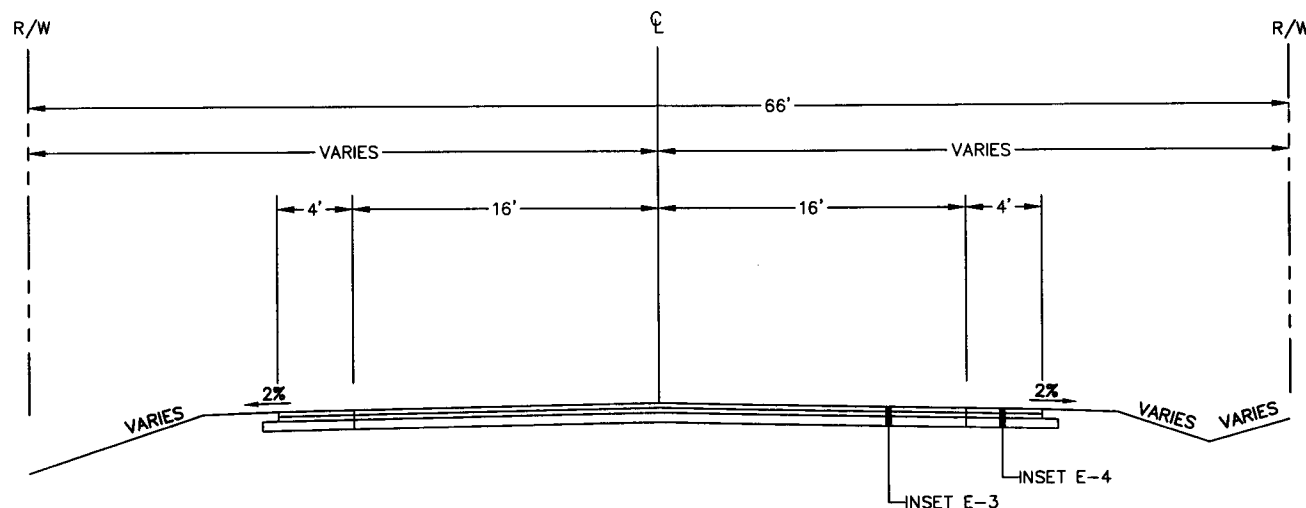
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
D.L.B.
DAVID L. BETTS, P.E.
Date: 9/28/01 Lic. No. 26848

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

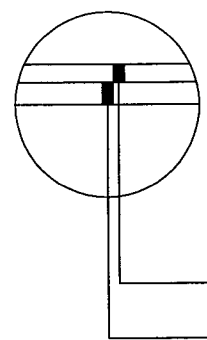
RAMSEY COUNTY, MINNESOTA

EXISTING TYPICAL SECTIONS COUNTY ROAD E & LABORE ROAD

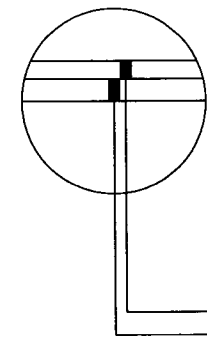
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DATE 9/28/01	



**EXISTING TYPICAL SECTION -
LABORE ROAD**
STA. 1+00 TO STA. 12+00

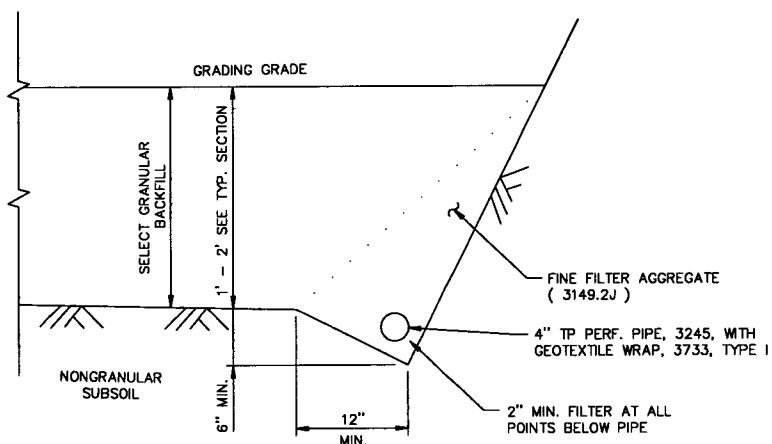


**EXISTING SECTION
INSET E-3**

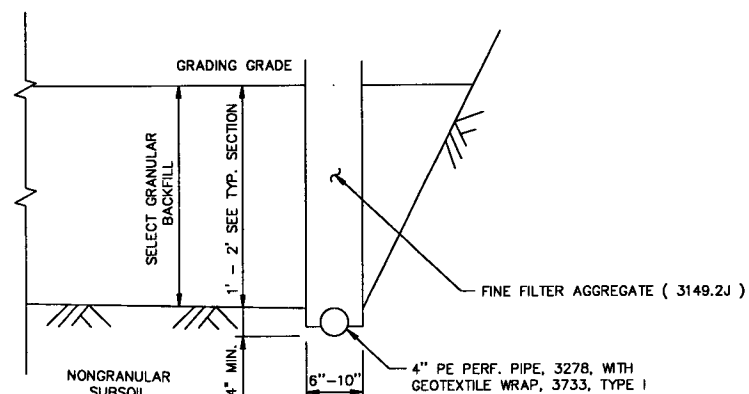


**EXISTING SECTION
INSET E-4**

NOTES:
ALL DEPTH OF EXISTING SECTIONS ARE APPROXIMATE.
CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.



TYPICAL SECTION (OPTION NO. 1)

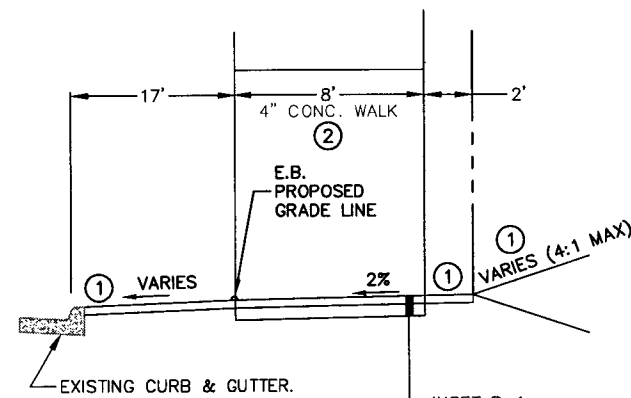


TYPICAL SECTION (OPTION NO. 2)

OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.

NOTE:
REVIEW EACH CATCH BASIN CONNECTION FOR ADEQUATE DEPTH PRIOR TO INSTALLING PE DRAIN PIPE.

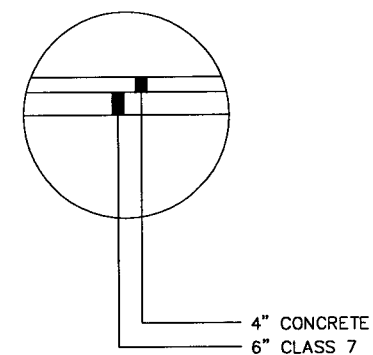
SUBCUT DRAIN DETAILS (2 OPTIONS)



**PROPOSED TYPICAL SECTION -
COUNTY ROAD E SIDEWALK**
STA. 57+90 TO 65+69.57

NOTES:

- ① ALL AREAS DISTURBED BY CONSTRUCTION TO BE RESTORED WITH 4" TOPSOIL AND SOD.
- ② INCREASE SIDEWALK THICKNESS TO 6" & REDUCE CLASS 7 THICKNESS TO 4" @ DRIVEWAYS.



INSET P-1

**ASBUILT PLAN
CONFORMING TO
CONST. RECORDS**
DONE BY: *DLB*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

G:\CLIENTS\LA\ADNA\0108\ACAD\VA108TYP2.DWG DATE: 08-13-01 TIME: 1:13 pm USER: CPUS60SP

DRAWN BY: SLP			
DESIGNER: TJP			
CHECKED BY: DLB			
DESIGN TEAM	NO.	BY	DATE

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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.
David L. Betts
DAVID L. BETTS, P.E.
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
Date: 9/28/01 Lic. No. 26848

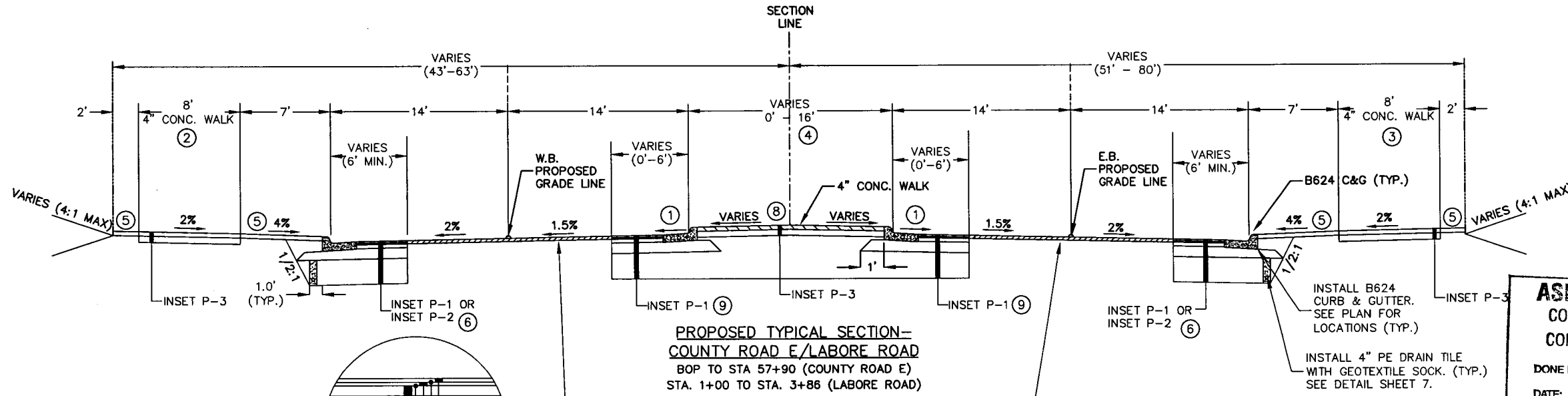
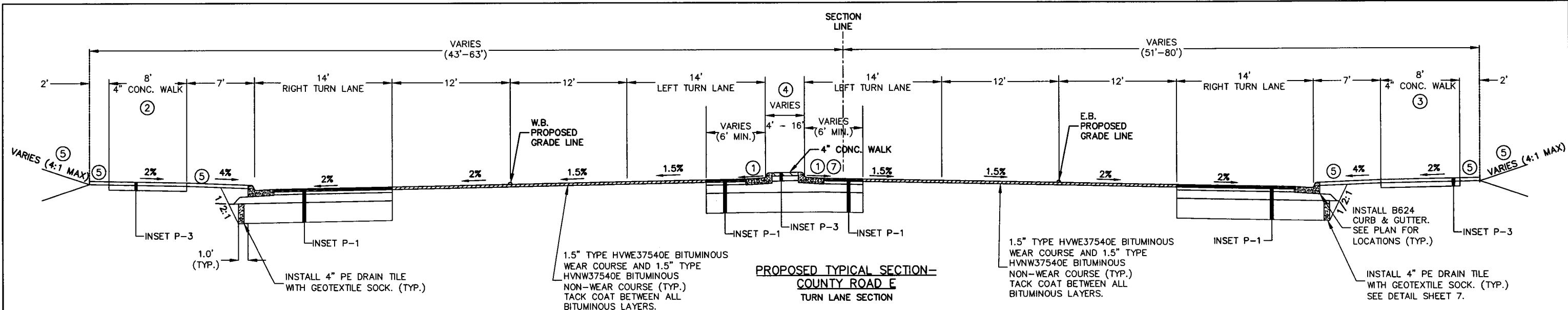
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**RAMSEY COUNTY,
MINNESOTA**

**TYPICAL SECTIONS
COUNTY ROAD E & LABORE ROAD**

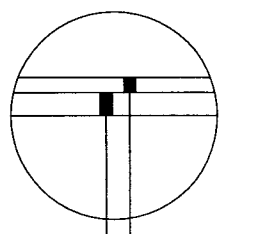
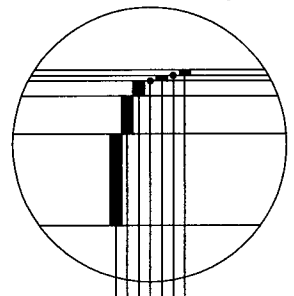
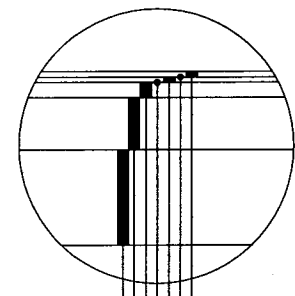
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AVADNA0106
DATE
9/28/01

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92



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DLB*
 DATE: 12-18-08

- NOTES:**
- MEDIAN GUTTERS TO BE SLOPED TOWARDS ROADWAY AT 0.015' PER FOOT NORMAL FROM STATION 39+00 TO STA. 52+00. E.B. MEDIAN GUTTER IN LEFT TURN LANE SECTION FROM STA. 36+30 TO STA 37+80 SHALL BE A NORMAL GUTTER SECTION.
 - CONCRETE WALK TO BE CONSTRUCTED FROM STA. 38+67 TO STA. 47+40.
 - CONCRETE WALK TO BE CONSTRUCTED FROM STA. 39+27 TO STA. 39+62 AND FROM STA. 42+50 TO STA. 65+70. INCREASE SIDEWALK THICKNESS TO 6" & REDUCE CLASS 7 THICKNESS TO 4" @ DRIVEWAYS & AT SE CORNER OF THE INTERSECTION OF COUNTY ROAD E & LABORE ROAD.
 - VARIES. SEE PLAN VIEW FOR MEDIAN WIDTHS AND LOCATIONS.
 - ALL AREAS DISTURBED BY CONSTRUCTION TO BE RESTORED WITH 4" TOPSOIL AND SOD.
 - INSET P-1 FROM STA 36+30 TO STA 48+36, INSET P-2 FROM STA 48+36 TO STA 57+90.
 - SLOPE IN E.B. LEFT TURN LANE, FROM STA 36+30 TO STA 37+80, IS IN TRANSITION. SEE PLAN.
 - INSTALL SOD IN MEDIAN FROM STA 40+20 TO STA 42+30.
 - 24" SELECT GRANULAR IS NOT REQUIRED IN MEDIAN SECTION FROM STA 36+30 TO 45+00 (VERIFY).



- INSET P-1**
- 1.5" TYPE 2350 BITUMINOUS WEAR COURSE - HVWE37540E
 - BITUMINOUS TACK COAT
 - 1.5" TYPE 2350 BITUMINOUS NON-WEAR COURSE - HVNW37540E
 - BITUMINOUS TACK COAT
 - 4" TYPE 2350 BITUMINOUS NON-WEAR COURSE - MVNW35035B
 - 10" AGGREGATE BASE, CLASS 7
 - 24" SELECT GRANULAR BORROW

- INSET P-2**
- 1.5" TYPE 2350 BITUMINOUS WEAR COURSE - HVWE37540E
 - BITUMINOUS TACK COAT
 - 1.5" TYPE 2350 BITUMINOUS NON-WEAR COURSE - HVNW37540E
 - BITUMINOUS TACK COAT
 - 4" TYPE 2350 BITUMINOUS NON-WEAR COURSE - MVNW35035B
 - 6" AGGREGATE BASE, CLASS 7
 - 12" SELECT GRANULAR BORROW

- INSET P-3**
- 4" CONCRETE
 - 6" CLASS 7

28-256

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

Q:\CLIENTS\T.L.VADNAIS\08\ACAD\VA108TVDWG USER: CPU413SP
 DATE: 05-31-01 TIME: 1:29 pm
 REFS:

DRAWN BY: SLP	DESIGNER: TJP	CHECKED BY: DLB
DESIGN TEAM	NO. BY DATE	REVISIONS

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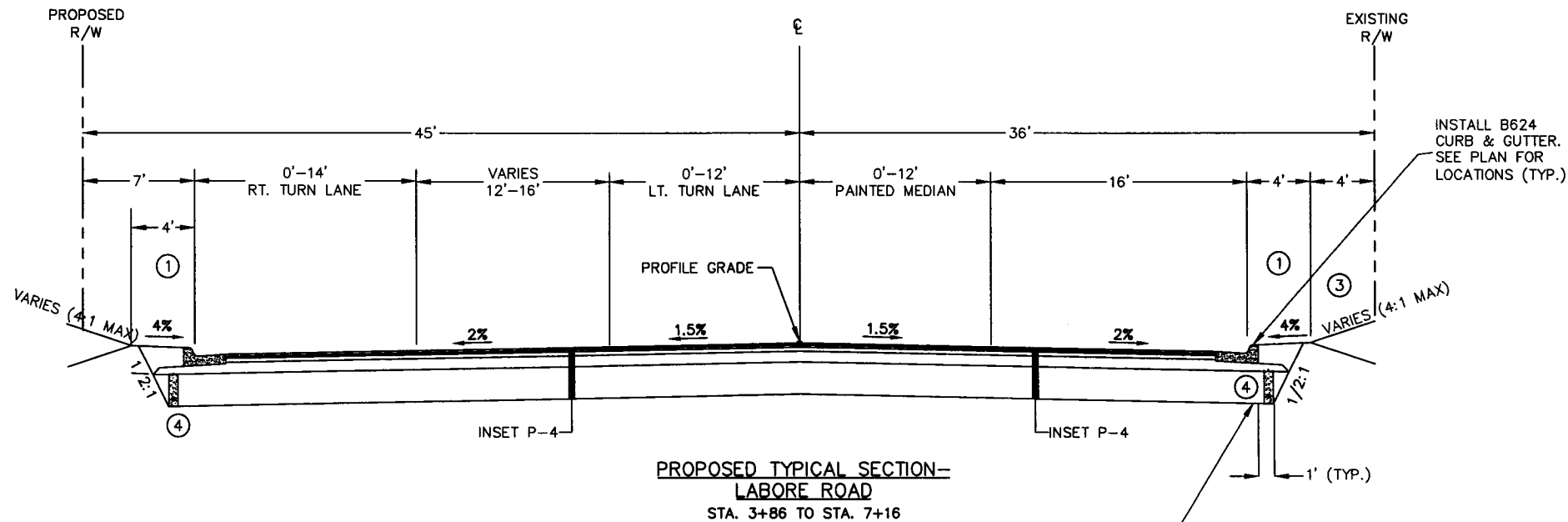
HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
 DAVID L. BETTS, P.E.
 Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

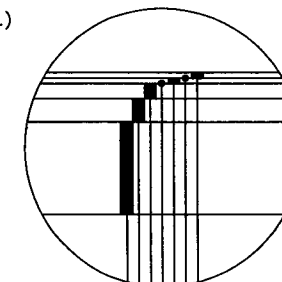
**PROPOSED TYPICAL SECTIONS
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA106	8
DATE 9/28/01	92

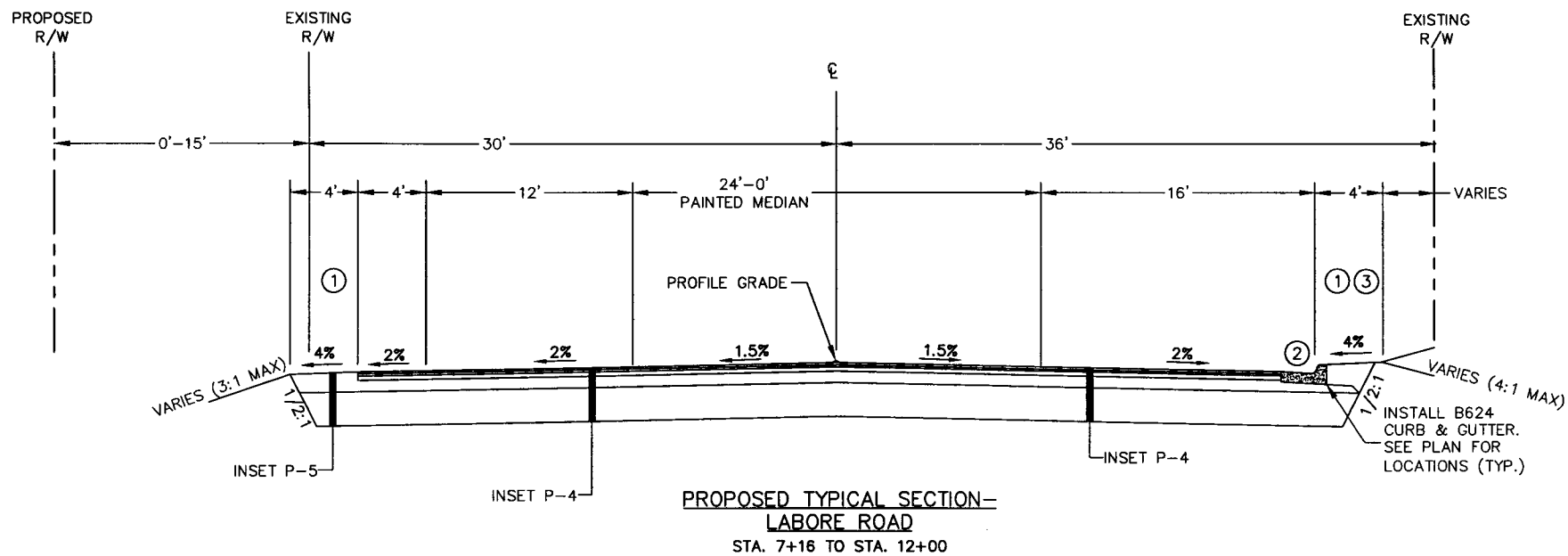


**PROPOSED TYPICAL SECTION-
LABORE ROAD**
STA. 3+86 TO STA. 7+16

INSTALL 4" PE DRAIN TILE WITH GEOTEXTILE SOCK. (TYP.) SEE DETAIL SHEET 7.

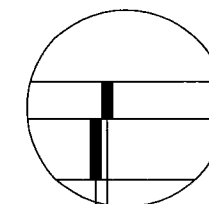


- 1.5" TYPE MVWE35035C BITUMINOUS WEAR COURSE
- BITUMINOUS TACK COAT
- 1.5" TYPE MVNW35035C BITUMINOUS NON-WEAR COURSE
- BITUMINOUS TACK COAT
- 4" TYPE LVNW35030B BITUMINOUS NON-WEAR COURSE
- 8" AGGREGATE BASE, CLASS 7
- 24" SELECT GRANULAR BORROW



**PROPOSED TYPICAL SECTION-
LABORE ROAD**
STA. 7+16 TO STA. 12+00

INSTALL B624 CURB & GUTTER. SEE PLAN FOR LOCATIONS (TYP.)



- 14" AGGREGATE BASE, CLASS 7
- 24" SELECT GRANULAR BORROW

NOTES:

- ① ALL AREAS DISTURBED BY CONSTRUCTION TO BE RESTORED WITH 4" TOPSOIL AND SOD.
- ② CURB & GUTTER ENDS AND 4' SHOULDER BEGINS AT STATION 10+50, RT.
- ③ CONSTRUCT RETAINING WALL FROM STA 5+00 TO STA 6+25 AND FROM STA 9+30 TO STA 10+65. SEE PLAN SHEET FOR OFFSETS.
- ④ END PE DRAIN TILE AT STA. 5+95 (RT AND LT)

INSET P-5

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DLB*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

Q:\CLIENTS\17\ADNA\0106\ACAD\101074.DWG DATE: 08-31-01 TIME: 1:31 pm USER: CPU413SP

DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
DAVID L. BETTS, P.E.
Date: 9/28/01 Lic. No. 26848

SEH
PHONE: (851) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**RAMSEY COUNTY,
MINNESOTA**

**PROPOSED TYPICAL SECTIONS
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	9 92
DATE 9/28/01	

CLEARING AND GRUBBING TABULATION									
STATION	LOCATION		DIAMETER IN	DESCRIPTION	CLEAR EACH	GRUB EACH	CLEAR ACRE	GRUB ACRE	NOTES
	LT	RT							
COUNTY ROAD E									
42+12	62	RT	10	DECIDUOUS	1	1			
43+39	48	LT	8	DECIDUOUS	1	1			
43+53	48	LT	6	DECIDUOUS	1	1			
43+80	40	RT	4	DECIDUOUS	1	1			
44+18	40	RT	6	DECIDUOUS	1	1			
44+52	40	RT	6	DECIDUOUS	1	1			
44+88	41	RT	6	DECIDUOUS	1	1			
44+90	38	LT	12	DECIDUOUS	1	1			
45+22	41	RT	6	DECIDUOUS	1	1			
45+38	38	LT	10	DECIDUOUS	1	1			
45+81	51	RT	8	DECIDUOUS	1	1			
46+37	59	LT	10	DECIDUOUS	1	1			
46+48	45	LT	20	DECIDUOUS	1	1			
46+64	43	LT	8	DECIDUOUS	1	1			
46+72	61	LT	6	DECIDUOUS	1	1			
46+78	49	LT	18	DECIDUOUS	1	1			
46+82	48	LT	12	DECIDUOUS	1	1			
46+95	47	LT	18	DECIDUOUS	1	1			
46+98	44	LT	12	DECIDUOUS	1	1			
47+08	56	LT	18	DECIDUOUS	1	1			
48+68	52	LT	12	CONIFER	1	1			
48+80	50	LT	12	CONIFER	1	1			
49+22	46	RT		BUSH	1	1			
49+40	52	RT		BUSH	1	1			
50+74	53	RT	18	CONIFER	1	1			
50+80	40	RT	6	CONIFER	1	1			
50+82	49	RT	8	CONIFER	1	1			
50+84	37	RT	8	CONIFER	1	1			
50+85	39	RT	8	CONIFER	1	1			
50+99	36	RT	6	CONIFER	1	1			
51+06	36	RT	8	CONIFER	1	1			
51+11	35	RT	6	CONIFER	1	1			
52+03	39	RT		BUSH	1	1			
52+64	47	RT	18	CONIFER	1	1			
52+73	42	RT	18	CONIFER	1	1			
54+68	47	RT		DECIDUOUS	1	1			
55+91	60	RT	18	DECIDUOUS	1	1			
55+95	44	RT	4	DECIDUOUS	1	1			
55+96	55	RT	16	DECIDUOUS	1	1			
55+98	48	RT	4	DECIDUOUS	1	1			
56+02	57	RT	10	DECIDUOUS	1	1			
56+10	49	RT	14	CONIFER	1	1			
56+10	44	RT	12	CONIFER	1	1			
56+10	36	RT	12	CONIFER	1	1			
56+22	37	RT	14	CONIFER	1	1			
56+92	44	RT	14	CONIFER	1	1			
56+92	38	RT	14	CONIFER	1	1			
56+99	38	RT	16	CONIFER	1	1			SIDEWALK PROJECT
57+00	44	RT	16	CONIFER	1	1			SIDEWALK PROJECT
57+30	38	RT	8	DECIDUOUS	1	1			SIDEWALK PROJECT
57+32	40	RT	10	CONIFER	1	1			SIDEWALK PROJECT
57+34	35	RT	6	DECIDUOUS	1	1			SIDEWALK PROJECT
58+19-59+28	39	RT		WOODS			0.07	0.07	SIDEWALK PROJECT
59+33	58	RT	18	CONIFER	1	1			SIDEWALK PROJECT
59+34	42	RT	18	CONIFER	1	1			SIDEWALK PROJECT
59+43	49	RT	14	CONIFER	1	1			SIDEWALK PROJECT
59+88	50	RT	18	CONIFER	1	1			SIDEWALK PROJECT
59+98	57	RT	18	CONIFER	1	1			SIDEWALK PROJECT
61+77	50	RT	14	DECIDUOUS	1	1			SIDEWALK PROJECT
62+27	51	RT	12	DECIDUOUS	1	1			SIDEWALK PROJECT
63+67	51	RT	14	CONIFER	1	1			SIDEWALK PROJECT
64+30	46	RT	32	DECIDUOUS	1	1			SIDEWALK PROJECT
64+78	47	RT	6	DECIDUOUS	1	1			SIDEWALK PROJECT
64+79	42	RT	6	DECIDUOUS	1	1			SIDEWALK PROJECT
64+80	46	RT	6	DECIDUOUS	1	1			SIDEWALK PROJECT
64+80	48	RT	8	DECIDUOUS	1	1			SIDEWALK PROJECT
LABORE ROAD									
3+26	50	RT	12	CONIFER	1	1			
3+31	47	RT	12	CONIFER	1	1			
4+24	32	RT	12	CONIFER	1	1			
4+27	48	LT	8	DECIDUOUS	1	1			
4+39	44	LT	14	DECIDUOUS	1	1			
4+68	46	LT	12	DECIDUOUS	1	1			
4+72	30	RT	12	CONIFER	1	1			
4+77	44	RT	12	CONIFER	1	1			
4+82	49	LT	12	CONIFER	1	1			
4+88	44	RT	12	CONIFER	1	1			
4+94	31	RT	12	CONIFER	1	1			
5+01	44	RT	12	CONIFER	1	1			

CLEARING AND GRUBBING TABULATION (CONT.)									
STATION	LOCATION		DIAMETER IN	DESCRIPTION	CLEAR EACH	GRUB EACH	CLEAR ACRE	GRUB ACRE	NOTES
	LT	RT							
5+02	53	LT	12	CONIFER	1	1			
5+07	31	RT	10	CONIFER	1	1			
5+13	44	RT	12	CONIFER	1	1			
5+21	30	RT	6	CONIFER	1	1			
5+23	41	LT	12	DECIDUOUS	1	1			
5+24	44	RT	12	CONIFER	1	1			
5+33	31	RT	12	CONIFER	1	1			
5+37	44	RT	12	CONIFER	1	1			
5+44	32	RT	12	CONIFER	1	1			
5+47	44	RT	12	CONIFER	1	1			
5+62	44	RT	12	CONIFER	1	1			
5+76	44	RT	12	CONIFER	1	1			
5+78-6+52	24	LT	-	WOODS			0.05	0.05	
5+82	30	RT	12	CONIFER	1	1			
5+99	44	RT	12	CONIFER	1	1			
6+83	31	RT	12	CONIFER	1	1			
7+08-8+62	27	LT	-	WOODS			0.07	0.07	
7+35	24	RT	4	CONIFER	1	1			
11+41	27	LT	8	DECIDUOUS	1	1			
TOTALS					94	94	0.19	0.19	

SAWCUT PAVEMENT							
ALIGNMENT	FROM STATION	TO STATION	LOCATION	SAWCUT BITUMINOUS PAVEMENT	SAWCUT BITUMINOUS DRIVEWAY PAVEMENT	SAWCUT CONCRETE DRIVEWAY PAVEMENT	NOTES
				LF	LF	LF	
COUNTY ROAD E	36+30	36+30	RT-LT	72			BEGIN S.A.P.
COUNTY ROAD E	36+30	37+84	MEDIAN	322			
COUNTY ROAD E	37+78	56+50	LT	1880			SAWCUT FOR SANITARY SEWER TRENCH MATCH EXISTING AT WILLOW LAKE BLVD
COUNTY ROAD E	37+79	38+81	RT	102			
COUNTY ROAD E	38+34		LT		25		
COUNTY ROAD E	39+00	42+57	MEDIAN	750			
COUNTY ROAD E	39+45		RT		25		
COUNTY ROAD E	40+52		LT		25		
COUNTY ROAD E	41+22	47+44	RT	626			
COUNTY ROAD E	42+35		RT		31		
COUNTY ROAD E	42+63	47+21	MEDIAN	948			
COUNTY ROAD E	45+50		RT		30		
COUNTY ROAD E	45+70	45+92	W.B. LANE	16			SAWCUT FOR STORM SEWER TRENCH
COUNTY ROAD E	45+70	45+92	E.B. LANE	42			SAWCUT FOR STORM SEWER TRENCH
COUNTY ROAD E	47+91	54+87	RT	704			
COUNTY ROAD E	48+29	48+36	W.B. LANE	40			
COUNTY ROAD E	48+36	51+99	MEDIAN	767			
COUNTY ROAD E	49+00		RT		25		
COUNTY ROAD E	50+37		LT		28		
COUNTY ROAD E	52+44		RT		20		
COUNTY ROAD E	54+87	55+90	RT	144			MATCH EXISTING AT JUDSON ROAD
COUNTY ROAD E	56+56	56+56	RT-LT	48			END S.A.P.
COUNTY ROAD E	57+17		RT		12		
COUNTY ROAD E	60+14		RT		14		
COUNTY ROAD E	61+29		RT		10		
COUNTY ROAD E	62+54		RT		10		
COUNTY ROAD E	63+03	63+48	RT	80			MATCH EXISTING AT ENGLISH STREET
LABORE ROAD	1+00	2+19	LT	115			BEGIN S.A.P.
LABORE ROAD	1+00	2+44	RT	141			END S.A.P.
LABORE ROAD	4+54				25		
LABORE ROAD	6+47				20		
LABORE ROAD	9+20		RT			15	
LABORE ROAD	10+92				18		
LABORE ROAD	12+00	12+00	RT-LT	40			END CITY PROJECT
TOTALS				6837	318	15	

ASBUILT PLAN
CONFORMING TO
CONST RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

28-256

S.A.P. NO. 62-615-024
 CITY PROJ. 2001-04

G:\CLIENTS\T\Z\ADNA\0106\ACAD\VA106102.DWG
 DATE: 08-28-01 TIME: 10:57 am USER: CPJ12SP
 XREFS:

DRAWN BY: GEN			
DESIGNER: HNK			
CHECKED BY: TAS			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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[Signature]
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 Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

TABULATION
COUNTY ROAD E AND LABORE ROAD

FILE NO. AVADNA0106.00	10
DATE 9/28/01	92

G WATER MAIN SCHEDULE																
ALIGNMENT	STATION	LOCATION	TYPE	ADJUST VALVE BOX EACH	SALVAGE HYDRANT & VALVE EACH	FURNISH AND INSTALL						CONNECT TO EXISTING WATER MAIN EACH	1" CURB STOP	1" CORP STOP	1" COPPER LF	
						6" DIP WM FT	8" DIP WM FT	12" DIP WM FT	6" GATE VALVE & BOX EACH	8" GATE VALVE & BOX EACH	12" GATE VALVE & BOX EACH					HYDRANT EACH
COUNTY ROAD E	42+10	54' RT	HYDRANT		1	10				1			1			
COUNTY ROAD E	46+60	75' RT	HYDRANT		1	18				1			1			
COUNTY ROAD E	46+83	41' RT	GATE VALVE & BOX	1												
COUNTY ROAD E	48+22	10' RT	GATE VALVE & BOX	1												
COUNTY ROAD E	50+80	39' LT	HYDRANT		1	30				1			1			
COUNTY ROAD E	54+65	35' RT	HYDRANT		1	30				1			1			
COUNTY ROAD E	55+25	13' RT	GATE VALVE & BOX	1												
COUNTY ROAD E	63+02	55' RT	HYDRANT		1	16				1			1			
LABORE RD	1+50	26' LT	GATE VALVE & BOX	1												
LABORE RD	1+59	24' LT	GATE VALVE & BOX	1												
LABORE RD	1+78	22' LT	GATE VALVE & BOX	1												
LABORE RD	4+56	27' LT	GATE VALVE & BOX	1												
LABORE RD	4+63	27' LT	GATE VALVE & BOX	1				700								
LABORE RD	5+98	34' LT	HYDRANT			14			1				1			
LABORE RD	6+05	18' LT	STUB				26			1						
LABORE RD	7+15	12' LT	GATE VALVE & BOX							1						
LABORE RD	8+89	RT	WATER SERVICE									1	1		55	
LABORE RD	11+19	RT	WATER SERVICE									1	1		55	
LABORE RD	11+58	11' LT	STUB				19			1						
LABORE RD	11+63	29' LT	HYDRANT			18				1						
LABORE RD	11+68	10' LT	GATE VALVE & BOX													
TOTALS				8	5	136	45	700	7	2	2	7	6	2	2	110

NOTE: INSTALL 33 LF 2" COPPER, 1 EA 2" CORP STOP, 1 EA 2" CURB STOP AND 33 LF 6" PVC, SCH. 40 SLEEVE FOR IRRIGATION SERVICE AT STA. 41+80 (COUNTY ROAD E).

B REMOVE CONCRETE										
FROM STATION	TO STATION	LOCATION				CONCRETE CURB AND GUTTER FT	CONCRETE WALK SF	CONCRETE DRIVEWAY SF		
		FROM FT	LT-RT	TO FT	LT-RT					
COUNTY ROAD E										
	36+37	36+40	11 RT	21 RT		16				
	37+86	38+33	28 LT	53 LT		76				
	38+56	38+67	53 LT	28 LT		31				
	38+67	40+20	28 LT	30 LT		189				
	39+26	39+62	41 RT	40 RT		40				
	40+20	40+40	30 LT	53 LT		35				
	40+65	40+80	53 LT	30 LT		29				
	40+80	47+42	30 LT	25 LT		686				
	41+22	42+15	35 RT	52 RT		117				
	41+80	42+15	42 RT	42 RT			295			
	42+52	45+34	53 RT	51 RT		327				
	45+64	46+99	51 RT	40 RT		162				
	47+25	47+35	24 RT	39 RT		50	182			
	47+85	55+15	41 RT	53 RT		748				
	48+52	56+50	25 LT	25 LT		845				
	48+84	48+88	25 RT	56 RT		33				
	49+16	49+11	25 RT	56 RT		33				
	52+20	52+30	25 RT	63 RT		45				
	52+54	52+68	63 RT	25 RT		45				
	55+52	55+77	57 RT	25 RT		41				
	63+04	63+09	36 RT	65 RT		42				
	63+42	63+48	57 RT	33 RT		40				
LABORE ROAD										
	1+03	1+80	25 LT	49 LT		86				
	1+04	2+27	23 RT	24 RT		124				
	3+28	4+35	26 RT	23 RT		112				
	3+19	4+85	24 LT	24 LT		160				
	9+20									275
TOTALS						4112	477			275

E 4" P.E. PERFORATED DRAIN PIPE						
ALIGNMENT	FROM STATION	LOCATION	TO STATION	LOCATION	4" P.E. PERF. DRAIN PIPE LF	NOTES
COUNTY ROAD E	41+22	RT	45+81	RT	459	FROM EXISTING DRAIN PIPE TO STRUCT. 114, BYPASS STRUCTS. 111 AND 109
COUNTY ROAD E	45+81	RT	46+50	RT	69	FROM STRUCT. 114 TO STA. 46+50
COUNTY ROAD E	48+40	RT	52+10	RT	370	FROM STRUCT. 117 TO STRUCT. 123
COUNTY ROAD E	52+10	RT	55+80	RT	370	FROM STRUCT. 123 TO STRUCT. 129
COUNTY ROAD E	55+80	RT	56+56	RT	76	FROM STRUCT. 129 TO EXISTING DRAIN PIPE
COUNTY ROAD E	55+80	LT	56+56	LT	76	FROM STRUCT. 130 TO EXISTING DRAIN PIPE
COUNTY ROAD E	38+07	LT	42+21	LT	414	FROM EXISTING DRAIN PIPE TO STRUCT. 112
COUNTY ROAD E	42+21	LT	45+81	LT	360	FROM STRUCT. 112 TO STRUCT. 115
COUNTY ROAD E	45+81	LT	47+67	LT	235	FROM STRUCT. 115 TO STRUCT. 121
COUNTY ROAD E	48+39	LT	48+41	LT	64	FROM STRUCT. 120 TO STRUCT. 118
COUNTY ROAD E	48+41	LT	48+90	LT	49	FROM STRUCT. 118 TO STRUCT. 119
COUNTY ROAD E	48+90	LT	52+10	LT	320	FROM STRUCT. 119 TO STRUCT. 127
COUNTY ROAD E	52+10	LT	55+80	LT	370	FROM STRUCT. 127 TO STRUCT. 130
LABORE ROAD	3+59	RT	5+94	RT	235	FROM STRUCT. 120 TO STA. 5+94
LABORE ROAD	3+59	LT	5+94	LT	235	FROM STRUCT. 121 TO STA. 5+94
TOTAL					3702	

NOTE: A MINIMUM SEPARATION OF 3" SHALL BE MAINTAINED BETWEEN THE INVERT OF THE DRAIN PIPE AND THE INVERT OF THE OUTLET PIPE. IN AREAS WHERE A 3" SEPARATION CAN NOT BE ACHIEVED BY FOLLOWING THE SUBGRADE SLOPE, THE DRAIN PIPE SHALL BE RAISED TO MAKE THE CONNECTION.

C REMOVE BITUMINOUS PAVEMENT							
ALIGNMENT	FROM STATION	TO STATION	LOCATION	MILL BITUMINOUS PAVEMENT (3") SY	REMOVE BITUMINOUS ROADWAY PAVEMENT SY	REMOVE BITUMINOUS DRIVEWAY PAVEMENT SF	NOTES
COUNTY ROAD E	36+30	56+50	CL	13280			ROADWAY
COUNTY ROAD E	38+34		LT			600	
COUNTY ROAD E	39+45		RT			625	
COUNTY ROAD E	40+52		LT			750	
COUNTY ROAD E	42+35		RT			625	
COUNTY ROAD E	45+50		RT			795	
COUNTY ROAD E	49+00		RT			712	
COUNTY ROAD E	50+37		LT			715	
COUNTY ROAD E	52+44		RT			892	
COUNTY ROAD E	57+17		RT			965	
COUNTY ROAD E	60+14		RT			950	
COUNTY ROAD E	61+29		RT			915	
COUNTY ROAD E	62+54		RT			1400	
COUNTY ROAD E	46+75	47+44	RT		120		RIGHT TURN LANE AT INTERSECTION
COUNTY ROAD E	55+00	55+70	RT	184			JUDSON ROAD
LABORE ROAD	2+85	5+94	CL		1585		CL NORTH OF COUNTY ROAD E (S.A.P.)
LABORE ROAD	5+94	12+00	CL		2153		CL NORTH OF COUNTY ROAD E (CITY PROJ.)
LABORE ROAD	4+54		RT			410	
LABORE ROAD	6+47		RT			365	
LABORE ROAD	10+92		RT			220	
PROJECT TOTAL				13464	3858		

TABULATION INDEX		
TAB	SHEET NO.	DESCRIPTION
A	10	CLEARING & GRUBBING
B	11	REMOVE CONCRETE
C	10	REMOVE BITUMINOUS PAVEMENT
D	10	SAWCUT BITUMINOUS PAVEMENT
E	11	P.E. PERFORATED DRAIN PIPE
F	12	SANITARY SEWER SCHEDULE
G	11	WATER MAIN SCHEDULE
H	12	STORM SEWER SCHEDULE
I	47	SIGN PANELS TYPE "C"
J	47	SALVAGE SIGNS TYPE "C"

TABULATION INDEX (CONT.)		
TAB	SHEET NO.	DESCRIPTION
K	48	SIGN PANELS TYPE SPEC. (SNS)
L	48	SALV. SIGNS TYPE SPEC. (SNS)
M	48	INSTALL SIGNS TYPE SPEC. (SNS)
N	48	INSTALL SIGNS TYPE "C"
P	48	SALVAGE SIGNS TYPE "D"
Q	48	INSTALL SIGNS TYPE "D"
R	48	MISC. SIGNS- PERM. BARRICADES
S	48	PAVEMENT MARKING TABULATION

AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *AB*
DATE: 12-18-08

28-256

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

G:\CLIENTS\T_Z\VAONA\0106\ACAD\VA06TB3.DWG DATE: 08-28-01 TIME: 11:11 am USER: CPU512SP XREFS: G:\CLIENTS\T_Z\VAONA\0106\ACAD\BLOCKS\TABESZ

DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	TAS			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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

RAMSEY COUNTY, MINNESOTA

TABULATION COUNTY ROAD E AND LABORE ROAD

FILE NO. AVADNA0106.00
DATE 9/28/01
11
92

STRUCT NO.	ALIGNMENT	STATION	LOCATION	REMOVE DRAINAGE STRUCTURE EACH	SALVAGE & INSTALL CASTING EACH	EXISTING TOP OF CASTING	DESIGN			CASTING TYPE	TOP OF CASTING	OUTLET ELEV.	DRAINS TO			12" RCP FT	15" RCP FT	24" RCP	CONNECT TO EXISTING STRUCTURE EACH	CONNECT TO EXISTING STORM SEWER EACH	NOTES
							A OR F	C OR G	LP-4				STRUCTURE NO.	GRADE %	INVERT ELEV.						
							LF	LF	LF												
102	COUNTY ROAD E	37+11	8' LT		1	918.68				918.61	EXIST.	101	EXIST.	EXIST.							
103	COUNTY ROAD E	37+11	17' RT							919.02	913.17	102	EXIST.	EXIST.							1
104	COUNTY ROAD E	37+11	76' RT									103	EXIST.	EXIST.							3
105	COUNTY ROAD E	37+11	19' LT									102	EXIST.	EXIST.							3
106	COUNTY ROAD E	39+00	10' LT		1	919.51				919.51		102	EXIST.	EXIST.							
107	COUNTY ROAD E	39+14	61' RT									106	EXIST.	EXIST.							3
108	COUNTY ROAD E	42+20	17' LT		1	921.84				922.17		106	EXIST.	EXIST.							
109	COUNTY ROAD E	42+16	60' RT				3.66			921.20	917.54	108	EXIST.	EXIST.						1	
110	COUNTY ROAD E	42+20	103' RT									109	EXIST.	EXIST.							3
111	COUNTY ROAD E	41+93	61' RT							921.39	917.66	109	0.5	917.54		23					
112	COUNTY ROAD E	42+21	18' LT	1						921.75	917.55	108	3.0	916.63		15			1		2
113	COUNTY ROAD E	45+81	17' LT		1	930.18				930.57		108	EXIST.	EXIST.							4
114	COUNTY ROAD E	45+81	62' RT	1						929.98	925.81	113	1.0	925.36					1		3
115	COUNTY ROAD E	45+81	29' LT	1						929.68	925.72	113	1.0	925.26					1		3
116	COUNTY ROAD E	48+39	6' LT		1	935.87				935.98		113	EXIST.	EXIST.							
117	COUNTY ROAD E	48+40	39' RT	1						935.49	931.62	116	1.8	930.92		11					2
118	COUNTY ROAD E	48+41	LT	1			4.35			935.45	931.10	116	1.0	930.81		29			1		
119	COUNTY ROAD E	48+90	LT							936.67	932.60	118	3.0	931.10		50					
120	LABORE ROAD	3+59	RT							936.08	931.40	118	0.5	931.10		59					
121	LABORE ROAD	3+59	LT							935.73	931.76	120	0.5	931.40		73					
122	COUNTY ROAD E	52+10	LT		1	944.93				944.89		116	EXIST.	EXIST.							
123	COUNTY ROAD E	52+10	RT	1						944.62	940.35	122	1.3	939.88					1		2
124	COUNTY ROAD E	52+10	RT	1				3.04		943.50	940.46	123	0.5	940.35	22.5						
125	COUNTY ROAD E	52+33	RT	1				3.94		944.50	940.56	124	0.5	940.47	20						
126	COUNTY ROAD E	52+10	RT						4.29	945.00	940.71	122	0.5	940.12	30						
127	COUNTY ROAD E	52+10	LT	1					4.29	944.84	940.55	122	1.3	940.12		10			1		2
128	COUNTY ROAD E	55+80	LT		1	954.12				954.11		122	EXIST.	EXIST.							
129	COUNTY ROAD E	55+80	RT									127	EXIST.	EXIST.							3
130	COUNTY ROAD E	55+80	LT	1						954.2	949.75	127	2.6	949.23		2			1		2
201	LABORE ROAD	7+79	35' RT						3.83	939.50	935.67	202	1.65	934.30							5
202	LABORE ROAD	7+72	45' LT								934.30										
TOTALS					10	7		14.99	8.12	52					73	373	83		6	3	

NOTES:

- BUILD CATCH BASIN OVER EXISTING PIPE.
- EXISTING GRADE IS APPROXIMATE
- EXISTING STRUCTURE. NO WORK REQUIRED
- CLEAR OUT EXISTING WASTE CONCRETE (INCIDENTAL)
- INSTALL 24" RCP APRON W/TRASH GUARD

CASTINGS:

- A NEENAH R-1642-B, OR EQUAL, LETTERED "STORM" (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM)
- B SALVAGE EXISTING CASTING AND INSTALL ON NEW STRUCTURE (INCIDENTAL, NOT A SEPARATE PAY ITEM)
- C RING CASTING 790-2, COVER CASTING NO. 716 (INCLUDE WITH STRUCTURE, NOT SEPARATE PAY ITEM)
- D NEENAH R-2561-A, OR EQUAL (INCLUDE WITH STRUCTURE, NOT A SEPARATE PAY ITEM)

ALIGNMENT	STATION	LOCATION	STRUCTURE NO.	SALVAGE & INSTALL CASTING EACH	TOP OF CASTING	INVERT ELEV.	STANDARD SANITARY MH (0-8')	EXTRA DEPTH SANITARY MH	8" DIP OUTSIDE DROP, CL. 52 LF	CASTING TYPE	DRAINS TO			8" PVC SDR 26 LF	CONNECT TO EXISTING SANITARY EACH	8"x4" PVC WYE	4" PVC LF	4" PVC PLUG	NOTES		
											STRUCTURE NO.	INVERT ELEV.	GRADE %								
COUNTY ROAD E	40+68	36' LT	1		920.10	908.89	1	3.21		B	EXIST.	EXIST.	0.42	5.0	1						
COUNTY ROAD E	41+35	40' LT	2		920.96	909.17	1	3.79	6.40	B	1	908.89	0.4	69.3	1						
COUNTY ROAD E	42+90	40' LT	3		923.63	909.78	1	5.85		A	2	909.17	0.4	154.4							
COUNTY ROAD E	42+90	55' LT	STUB			909.84				A	3	909.78	0.4	15.0						1	
COUNTY ROAD E	45+39	36' LT	4		928.92	910.78	1	10.14		A	3	909.78	0.4	249.9							
COUNTY ROAD E	45+39	55' LT	STUB			910.86				A	4	909.84	0.4	19.0						1	
COUNTY ROAD E	47+89	32' LT	5		934.91	911.79	1	15.12		A	4	910.78	0.4	251.7							
COUNTY ROAD E	47+92	19' RT		1	934.72																
COUNTY ROAD E	50+92	22' RT		1	941.39																
COUNTY ROAD E	53+71	22' RT		1	948.94																
COUNTY ROAD E	57+89			1																	
LABORE ROAD	1+58	17' RT		1																	
LABORE ROAD	6+60.5	CL	6		939.76	913.41	1	18.35		A	5	911.79	0.4	341.0							
LABORE ROAD	6+60.5	45' LT	STUB			913.62					6	913.28	0.4	45.0							1
LABORE ROAD	8+79	RT														1	50	1			
LABORE ROAD	9+42.3	CL	7		941.17	914.28	1	18.89		A	6	913.28	0.4	282.0							
LABORE ROAD	11+06	RT																			
LABORE ROAD	11+46.8	CL	8		940.56	915.09	1	17.47		A	7	914.28	0.4	203.0							
LABORE ROAD	11+46.8	48' LT	STUB			915.21					8	915.09	0.4	30.0							1
LABORE ROAD	11+66.8	CL	STUB			915.17					8	915.09	0.4	20.0							1
TOTALS					5		8	92.82	6.4					1685	2						

- PLUG END, WATER TIGHT

CASTINGS:

- A NEENAH R-1642-B, LETTERED "SANITARY" W/ NEOPRENE BOOT OR EQUAL. (INCIDENTAL)
- B SALVAGE EXISTING CASTING AND INSTALL W/ NEOPRENE BOOT. (INCIDENTAL)

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *SB*
DATE: 12-18-08

28-256

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

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DRAWN BY: GEN
DESIGNER: HNK
CHECKED BY: TAS
DESIGN TEAM

NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848

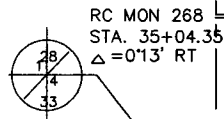
SEH
PHONE: (651) 490-2000
3535 VAADNA CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

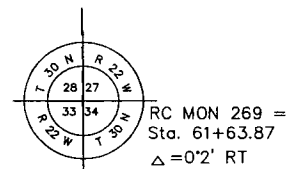
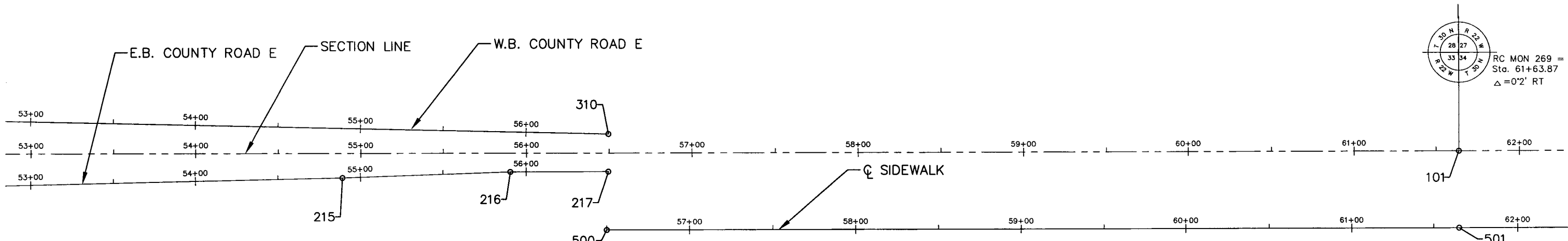
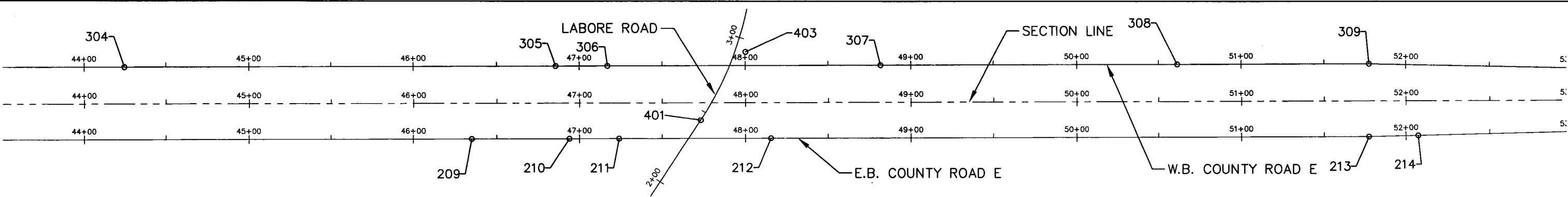
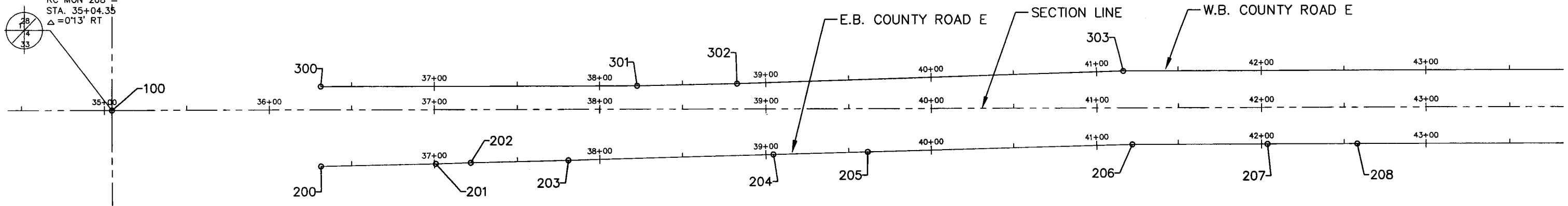
TABULATION
COUNTY ROAD E AND LABORE ROAD

FILE NO. AVADNA0106.00
DATE 9/28/01

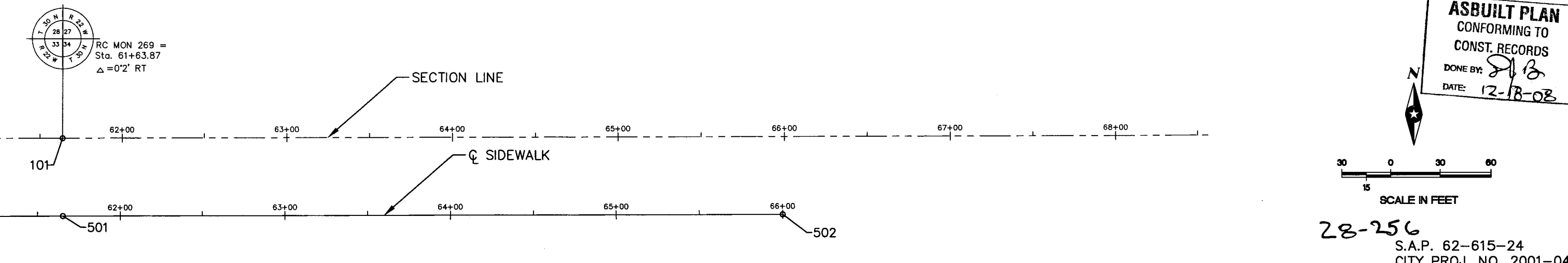
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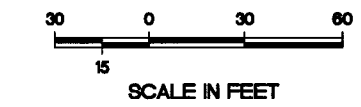
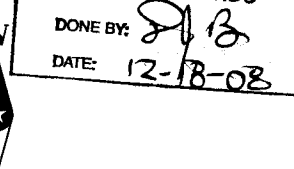
RC MON 268
STA. 35+04.35
Δ = 0'13' RT



RC MON 269 =
Sta. 61+63.87
Δ = 0'2' RT



RC MON 269 =
Sta. 61+63.87
Δ = 0'2' RT



28-256
S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

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DATE: 08-13-01 TIME: 1:22 pm USER: CPUS60SP
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DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM				
NO.	BY	DATE	REVISIONS	

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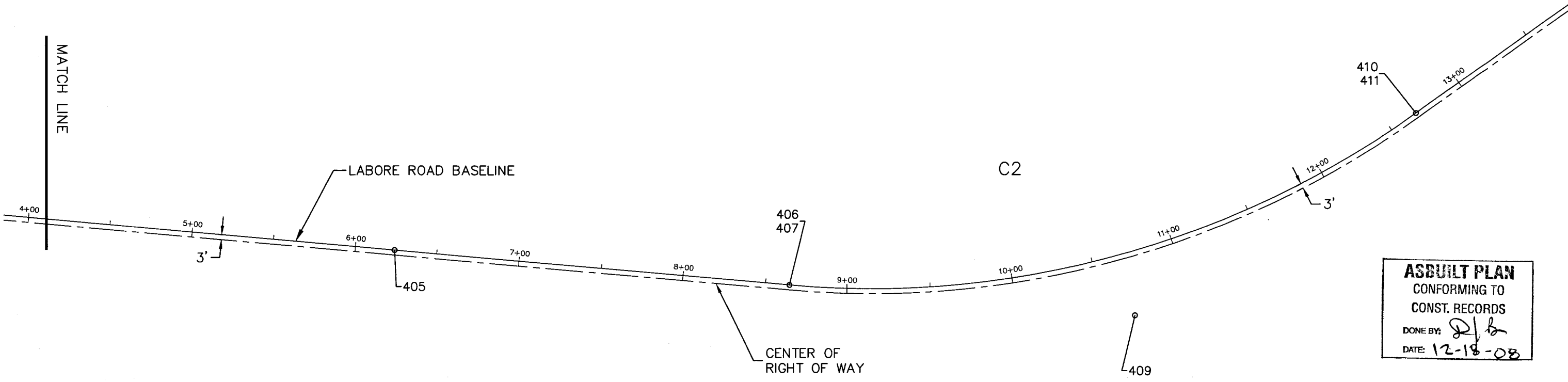
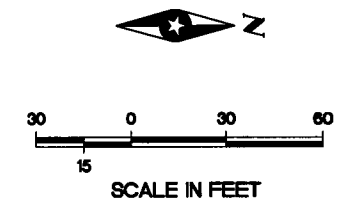
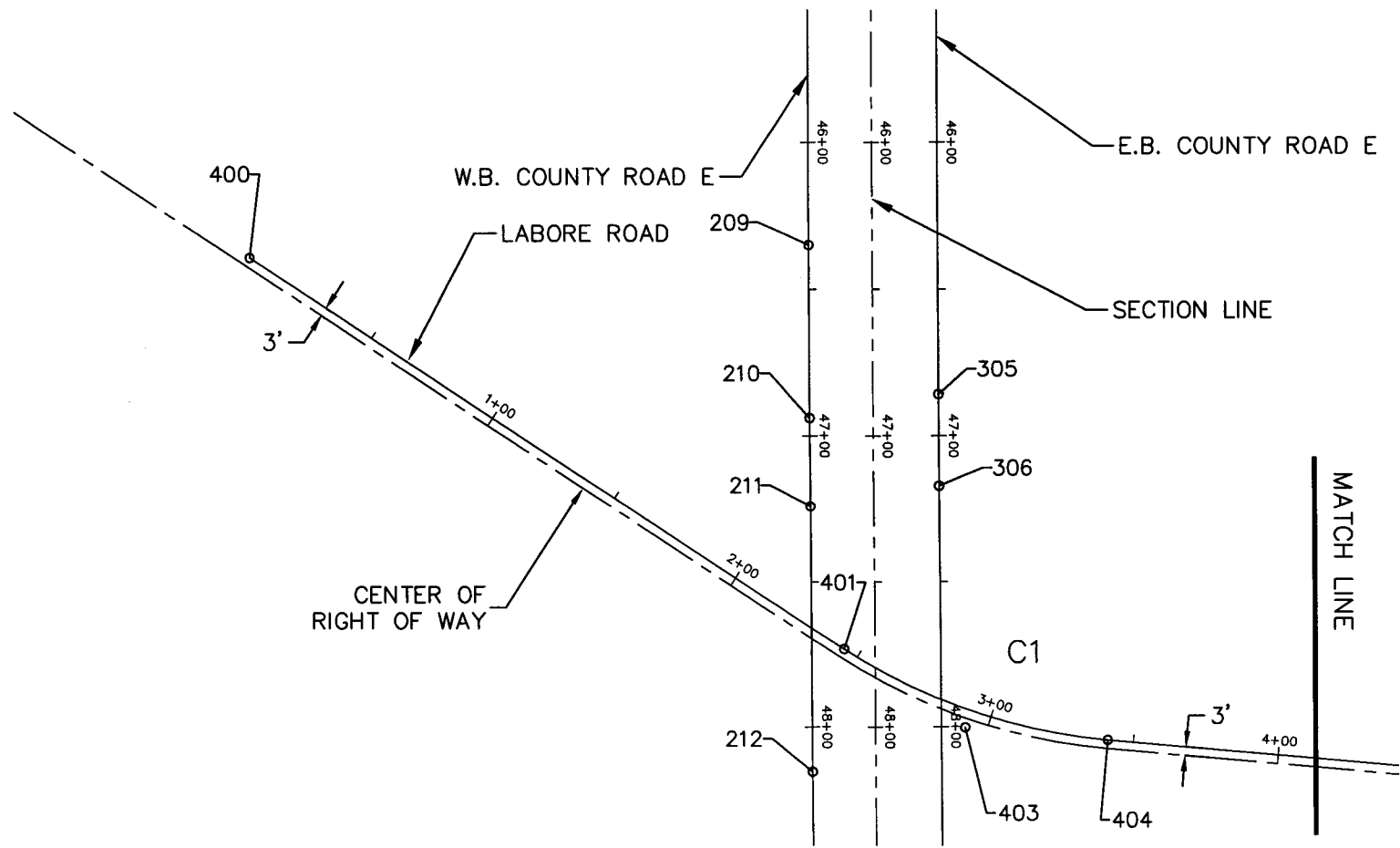
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[Signature]
DAVID L. BETTS, P.E.
Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

ALIGNMENT PLAN
COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106	13
DATE 9/28/01	92



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *R/b*
 DATE: 12-18-08

28-256

S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

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DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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David L. Betts
 DAVID L. BETTS, P.E.
 Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

**ALIGNMENT PLAN
 COUNTY ROAD E & LABORE ROAD**

FILE NO.
 AVADNA0106
 DATE
 9/28/01

**14
 92**

POINT NO.	POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEFLECTION ANGLE
SECTION LINE							
100	PI	35+04.35	194683.612	584539.867	N 89°49'11" E	2659.22	00°01'59"
101	PI	61+63.57	194691.977	587199.070	N 89°46'56" E	2626.81	
E.B. COUNTY ROAD E							
200	PI	36+31.330	194650.205	584666.962	N 88°39'46" E	69.51	
201	PI	37+00.823	194651.827	584736.450	N 88°07'12" E	20.95	00°32'34"
202	PI	37+21.763	194652.514	584757.388	N 88°34'14" E	59.06	-00°27'02"
203	PI	37+80.804	194653.988	584816.425	N 88°19'29" E	123.61	00°14'45"
204	PI	39+03.116	194657.601	584939.980	N 88°23'25" E	57.04	-00°03'56"
205	PI	39+60.160	194659.204	584997.002	N 88°23'12" E	160.26	00°00'12"
206	PI	41+21.712	194663.716	585157.195	N 89°48'49" E	81.84	-01°25'36"
207	PI	42+03.557	194663.982	585239.039	N 89°46'42" E	54.41	00°02'06"
208	PI	42+57.970	194664.192	585293.452	N 89°48'00" E	376.97	-00°01'18"
209	PI	46+34.944	194665.508	585670.424	N 89°48'00" E	58.92	00°00'00"
210	PI	46+93.868	194665.713	585729.347	N 89°48'00" E	30.19	-00°00'00"
211	PI	47+24.065	194665.819	585759.541	N 89°46'55" E	91.31	00°01'05"
212	PI	48+15.373	194666.166	585850.847	N 89°50'17" E	361.93	-00°03'22"
213	PI	51+78.309	194667.189	586212.779	N 88°33'54" E	30.03	01°16'23"
214	PI	52+08.308	194667.941	586242.798	N 88°33'54" E	281.88	-00°00'00"
215	PI	54+89.911	194675.000	586524.592	N 87°49'05" E	101.25	00°44'49"
216	PI	55+90.990	194678.855	586625.765	N 89°46'56" E	59.26	-01°57'51"
217	PI	56+49.792	194679.080	586685.027			
W.B. COUNTY ROAD E							
300	PI	36+31.33	194698.036	584666.802	N 89°48'30" E	191.37	
301	PI	38+22.70	194698.677	584858.173	N 88°43'18" E	59.99	01°05'11"
302	PI	38+82.70	194700.015	584918.152	N 88°06'51" E	233.57	00°36'27"
303	PI	41+16.27	194707.701	585151.597	N 89°48'03" E	308.34	-01°41'12"
304	PI	44+24.61	194708.774	585459.939	N 89°48'00" E	261.19	00°00'03"
305	PI	46+85.80	194709.685	585721.124	N 89°48'00" E	31.28	00°00'00"
306	PI	47+17.08	194709.794	585752.405	N 89°48'19" E	164.66	-00°00'19"
307	PI	48+81.74	194710.353	585917.069	N 89°50'17" E	179.93	-00°01'58"
308	PI	50+61.67	194710.862	586096.999	N 89°50'17" E	115.79	-00°00'00"
309	PI	51+77.46	194711.189	586212.788	S 88°53'19" E	472.33	-01°16'24"
310	PI	56+49.79	194702.028	586685.027			

LABORE ROAD							
POINT NO.	POINT	STATION	NORTHING	EASTING	DIRECTION	DISTANCE	DEFLECTION ANGLE
400	POB	0+00.00	194472.326	585674.688	N 33°11'10" E	244.63	
401	PC	2+44.63	194677.056	585808.589			
402	RADIUS	N/A	194784.886	585643.720			
403	PI	2+93.87	194718.268	585835.543			28°04'10"
404	PT	3+41.14	194767.317	585839.935	N 05°07'00" E	282.98	
405	PI	6+24.12	195049.165	585865.172	N 05°02'05" E	240.64	00°04'55"
406	PI	8+64.76	195288.876	585886.291	N -00°01'00" E	0.00	180°00'00"
407	PC	8+64.76	195288.876	585886.291			
408	RADIUS	N/A	195338.931	585318.325			
409	PI	10+75.29	195498.597	585904.773			40°32'00"
410	PT	12+68.12	195670.003	585782.525	N -00°01'00" E	0.00	
411	PI	12+68.12	195670.003	585782.525	N 35°30'11" W	484.18	180°00'00"
412	EOP	17+52.30	196064.168	585501.339			
SIDEWALK							
500	POB	56+50.00	194643.690	586684.063	N 89°49'11" E	515.17	
501	PI	61+65.17	194645.311	587199.232	N 89°46'56" E	434.83	00°02'15"
502	EOP	66+00.00	194646.962	587634.057			

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DLB*
 DATE: 12-18-08

28-256

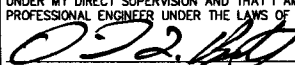
S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

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 TIME: 1:37 pm
 USER: CPU413SP

DRAWN BY: SLP			
DESIGNER: TJP			
CHECKED BY: DLB			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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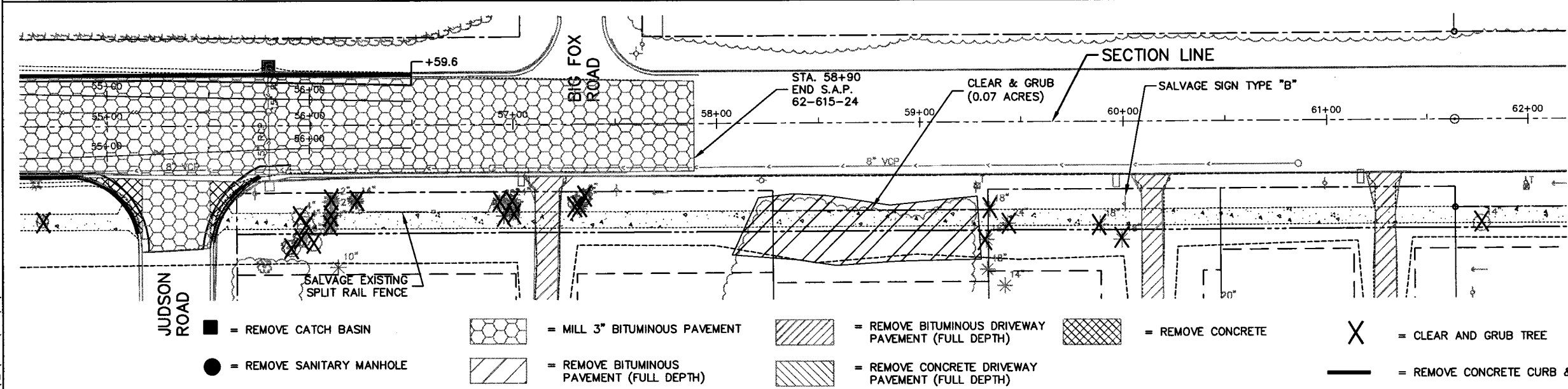
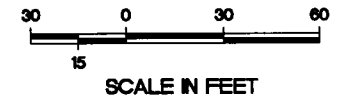
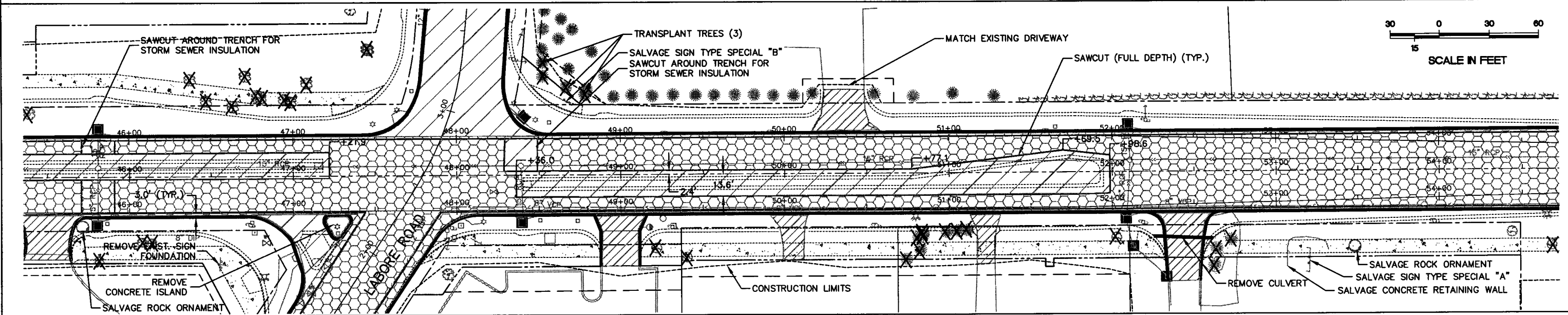
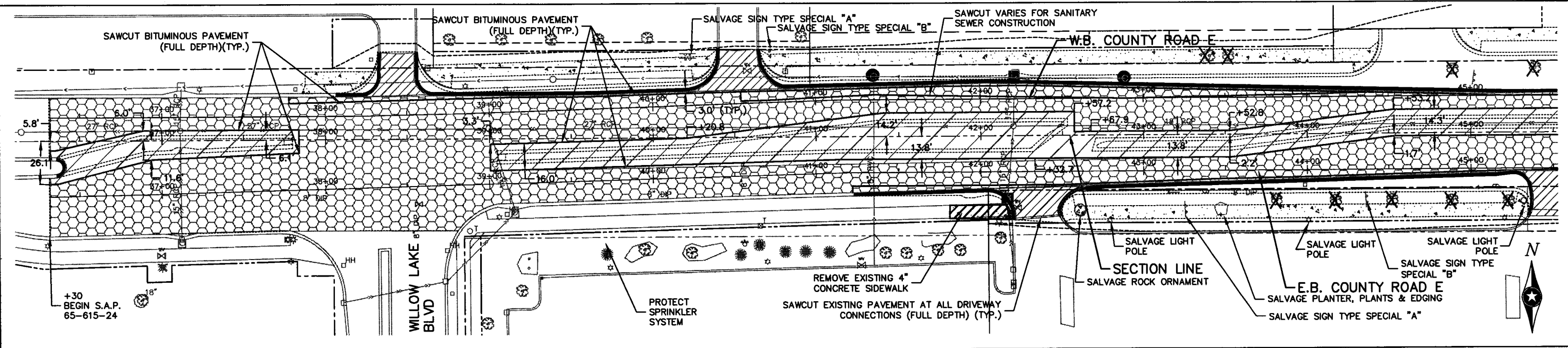

 DAVID L. BETTS, P.E.
 Date: 9/28/01 Lic. No. 26848


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

RAMSEY COUNTY,
MINNESOTA

ALIGNMENT TABULATION
COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106	15
DATE 9/28/01	92



NOTES:

SEE CLEARING AND GRUBBING TABULATION FOR TREE REMOVALS. NO TREES SHALL BE REMOVED UNLESS MARKED BY ENGINEER IN THE FIELD.

SEE PLANS AND UTILITY TABULATIONS FOR WORK TO BE PERFORMED ON EXISTING UTILITIES.

REMOVAL OF ALL CONCRETE CURB AND GUTTER SHALL BE TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

REMOVAL OF BITUMINOUS CURB SHALL BE INCIDENTAL TO BITUMINOUS PAVEMENT REMOVAL.

TEMPORARY FENCE TO BE PLACED AS DIRECTED BY ENGINEER FOR VEGETATION PROTECTION.

WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DLB*
DATE: 12-18-08
CITY PROJ. NO. 2001-4
S.A.P. 62-615-24

G:\CLIENTS\21\VAADNA\0108\VAADNA\0108\VAADNA.DWG USER: CPUBSOP DATE: 06-19-01 TIME: 2:08 PM XREFS: G:\CLIENTS\21\VAADNA\0108\VAADNA.DWG

DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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

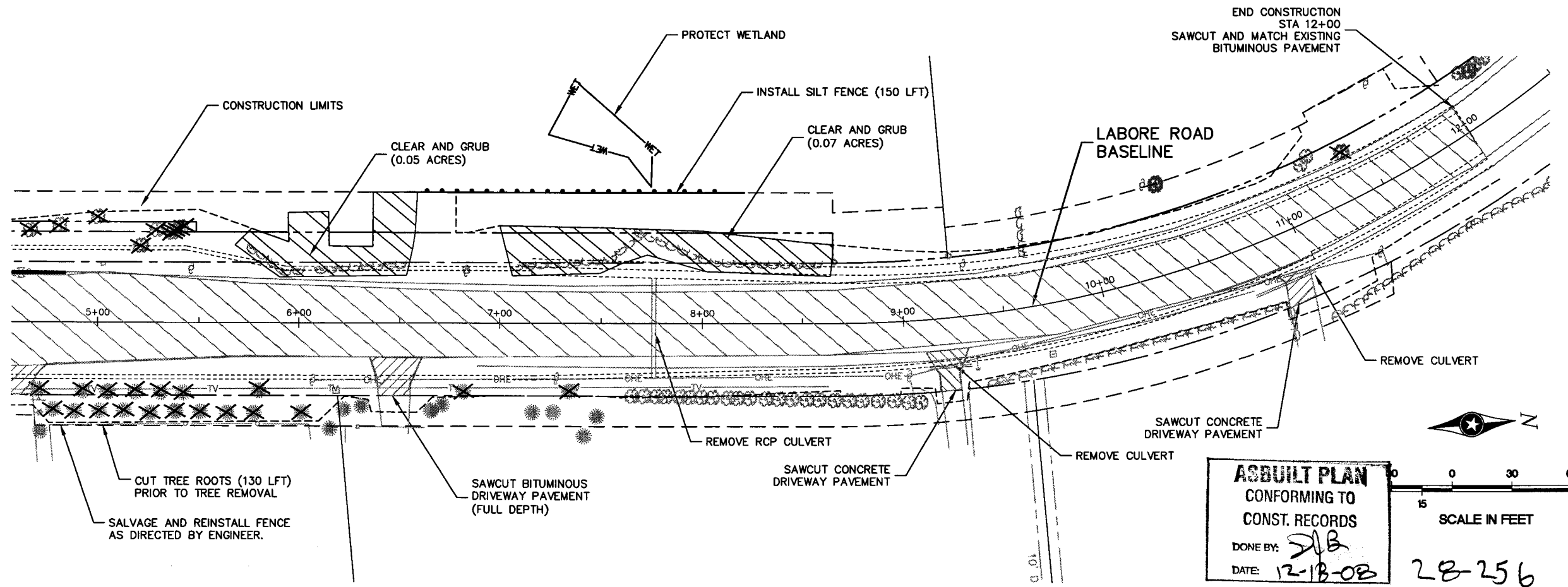
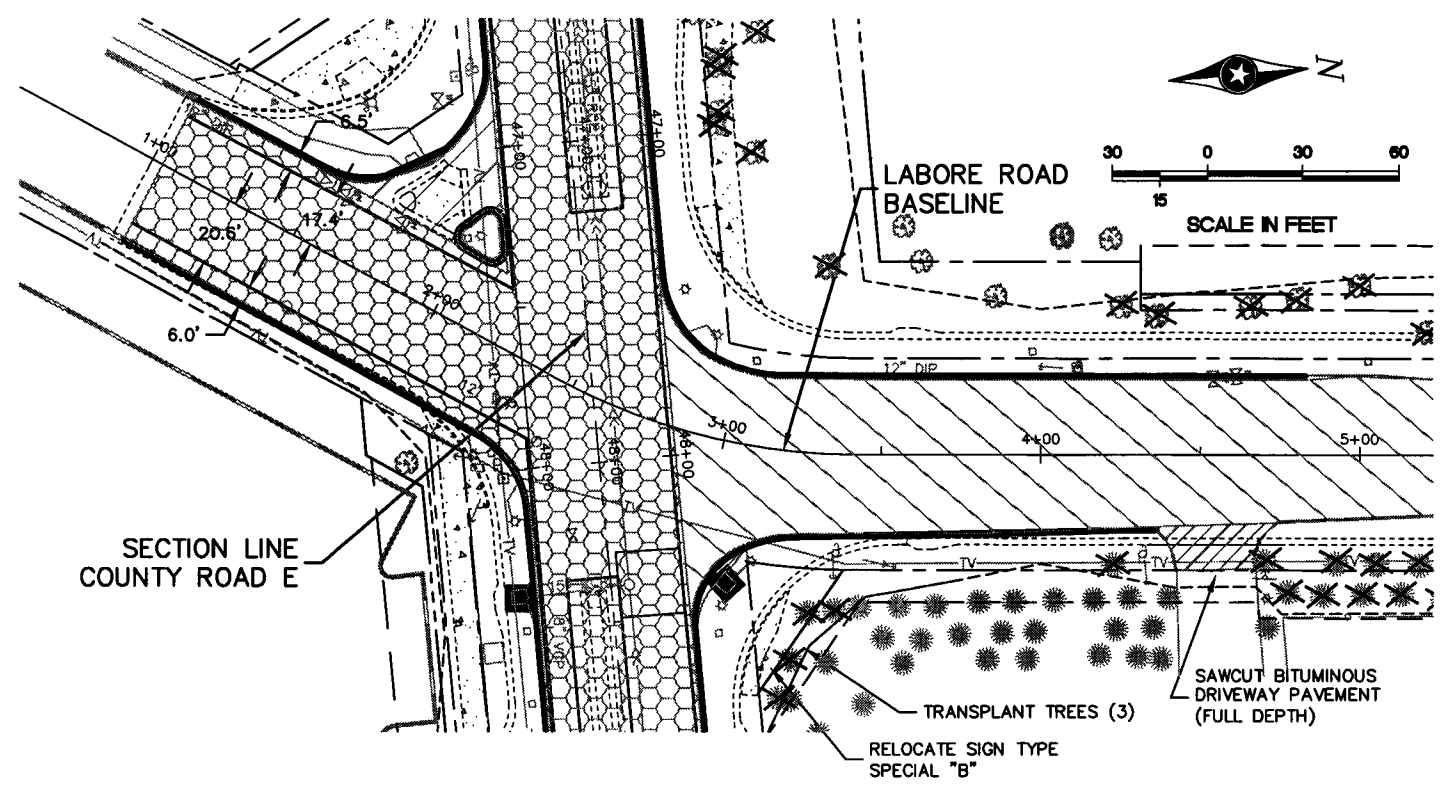
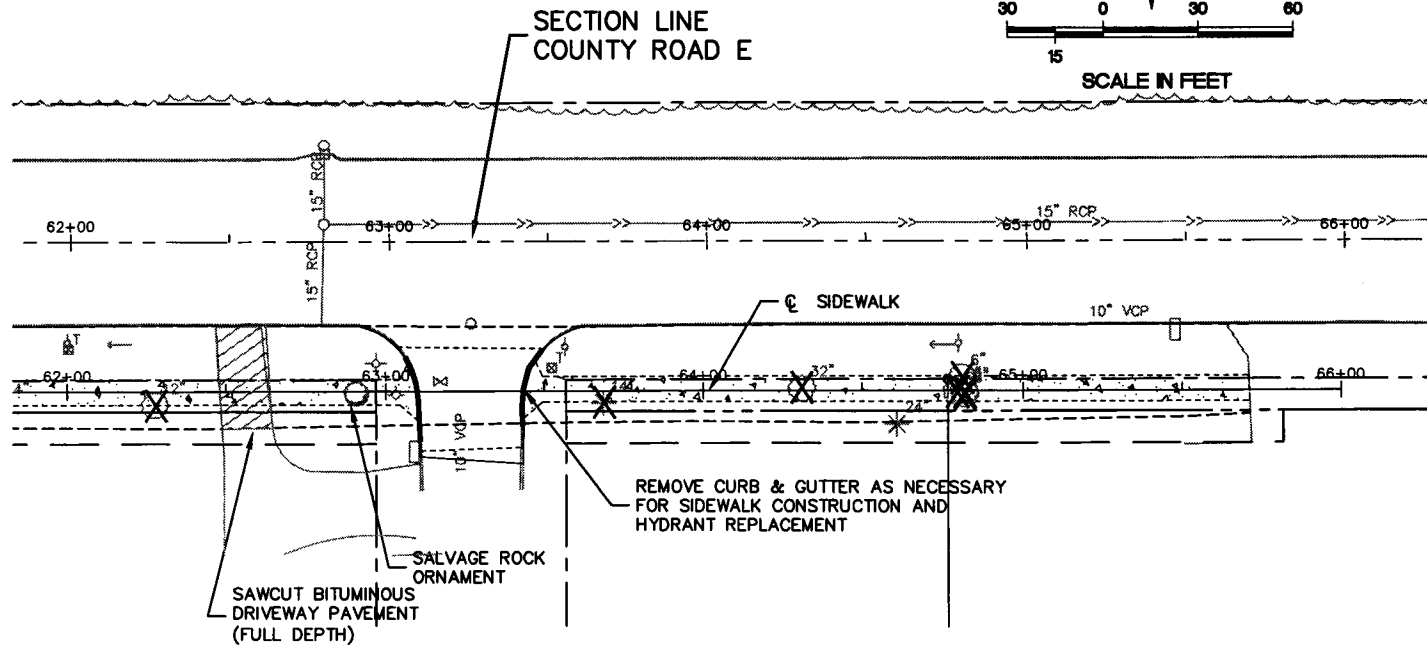
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**REMOVALS - COUNTY ROAD E
COUTNY ROAD E & LABORE ROAD**

FILE NO. AVADNA0108	16
DATE 9/28/01	92



NOTES:

TEMPORARY FENCE TO BE PLACED AS DIRECTED BY ENGINEER FOR VEGETATION PROTECTION.

SEE CLEARING AND GRUBBING TABULATION FOR TREE REMOVALS. NO TREES SHALL BE REMOVED UNLESS MARKED BY ENGINEER IN THE FIELD.

SEE PLANS AND UTILITY TABULATIONS FOR WORK TO BE PERFORMED ON EXISTING UTILITIES.

REMOVAL OF ALL CONCRETE CURB AND GUTTER SHALL BE TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

REMOVAL OF BITUMINOUS CURB SHALL BE INCIDENTAL TO BITUMINOUS PAVEMENT REMOVAL

WATER MAIN REMOVALS SHOWN ON WATER MAIN SHEETS.

- = REMOVE CATCH BASIN
- = MILL 3" BITUMINOUS PAVEMENT
- = REMOVE BITUMINOUS PAVEMENT (FULL DEPTH)
- = REMOVE BITUMINOUS DRIVEWAY PAVEMENT (FULL DEPTH)
- = REMOVE CONCRETE DRIVEWAY PAVEMENT (FULL DEPTH)
- = CLEAR & GRUB TREE
- = REMOVE CONCRETE CURB & GUTTER

AS-BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DLB*
 DATE: 12-18-08 28256

Q:\CLIENTS\12\12\ADNA\0106\ACAD\110602.DWG
 DATE: 08-19-01 TIME: 2:10 pm USER: CPUS60SP
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DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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David L. Betts
 David L. Betts, P.E.
 Date: 9/28/01 Lic. No. 26848

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

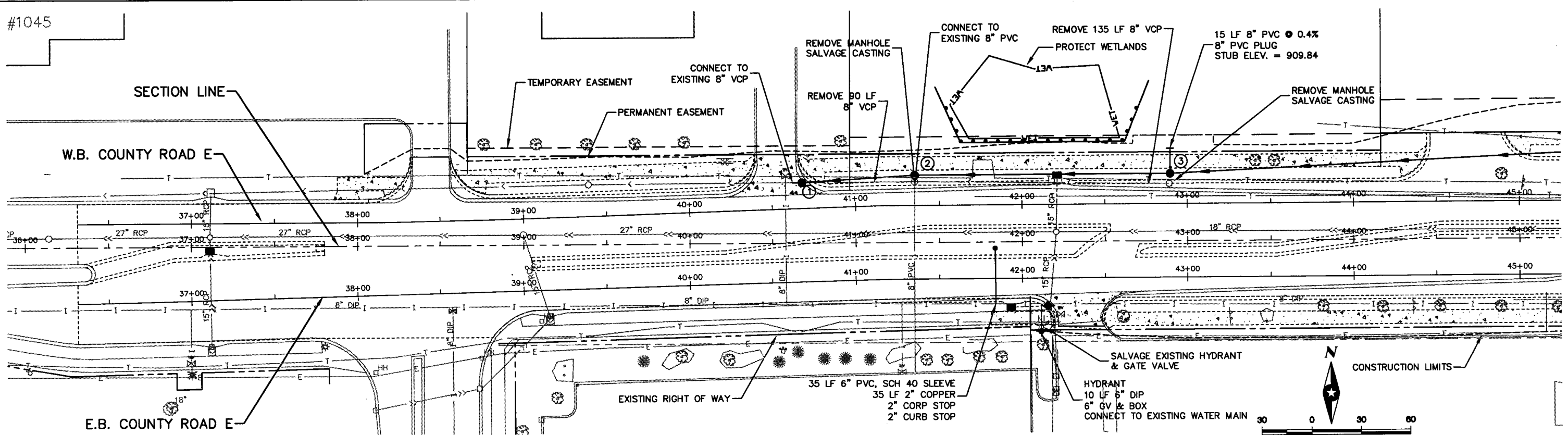
RAMSEY COUNTY, MINNESOTA

REMOVALS - LABORE ROAD COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106
 DATE 9/28/01
17
92

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

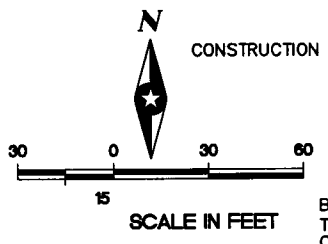
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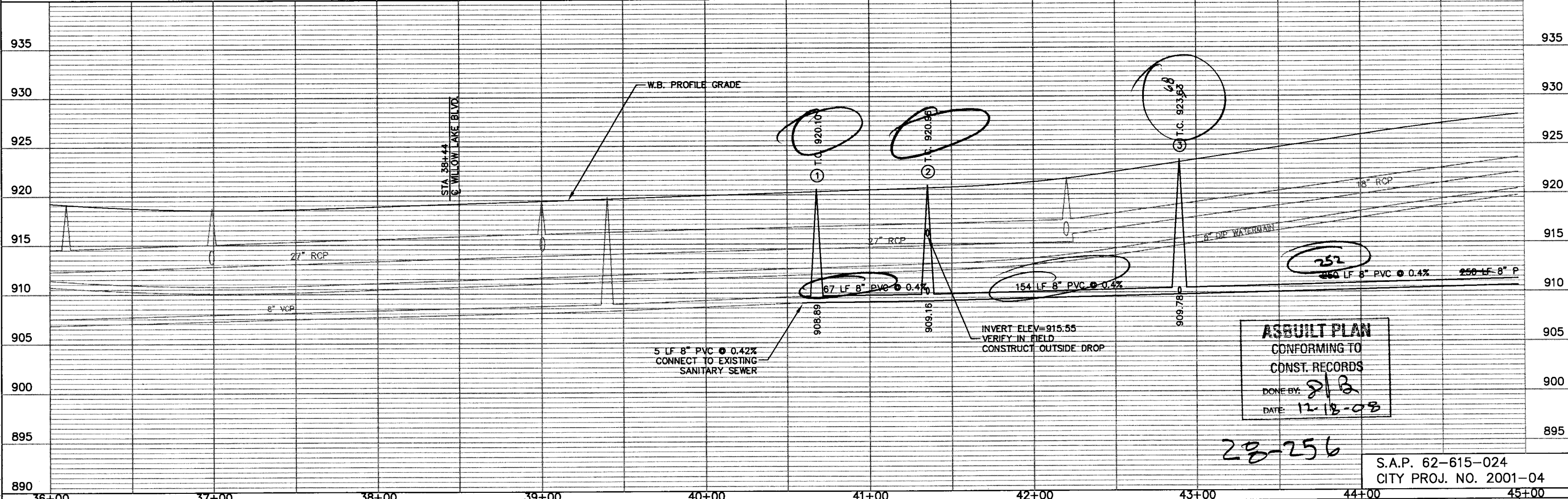
BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

NOTE:
ADJUST EXISTING CASTING AND GATE VALVES
WITHIN CONSTRUCTION LIMITS. (SEE TABULATIONS)

COUNTY ROAD E



BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *SLB*
DATE: *12-18-08*

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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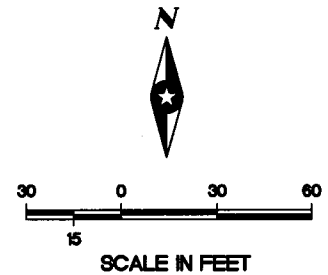
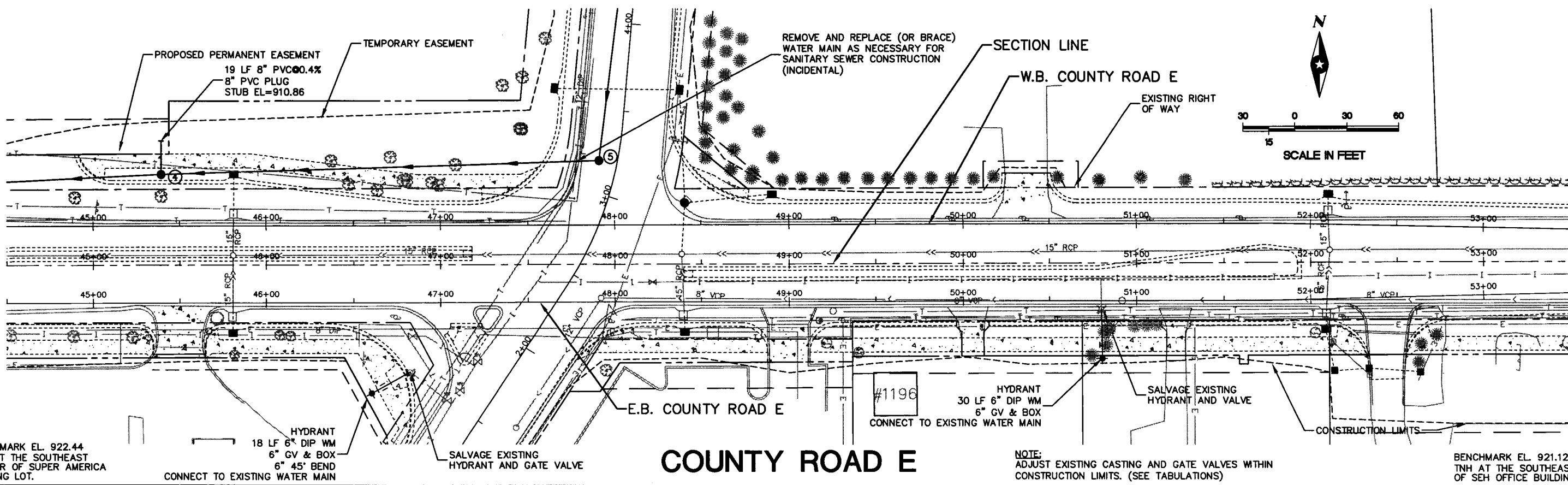
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betta
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
SANITARY SEWER AND WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO.	18
DATE	9/28/01
	92

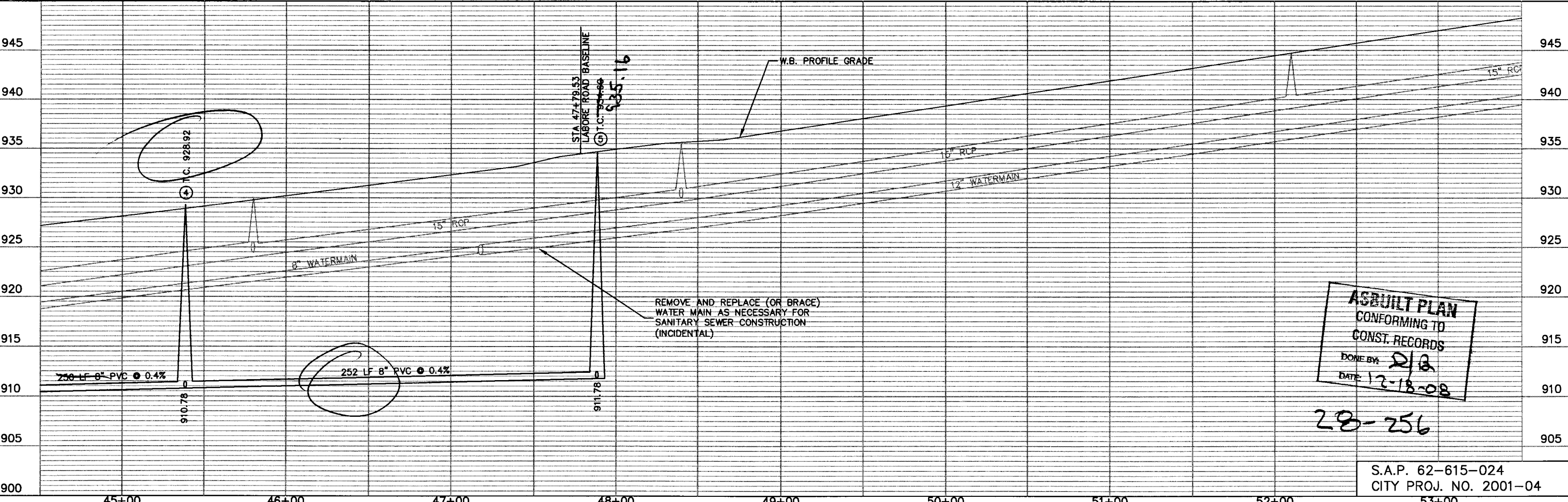


COUNTY ROAD E

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.

NOTE:
ADJUST EXISTING CASTING AND GATE VALVES WITHIN
CONSTRUCTION LIMITS. (SEE TABULATIONS)



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DRAWN BY: SLP	DESIGNER: TJP	CHECKED BY: DLB
DESIGN TEAM	NO.	BY DATE
		REVISIONS

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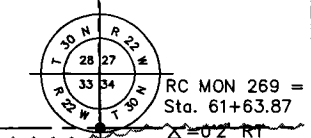
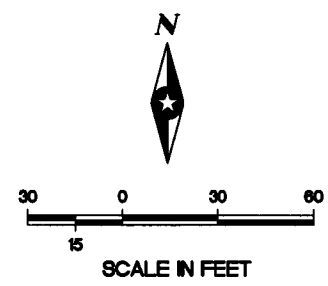
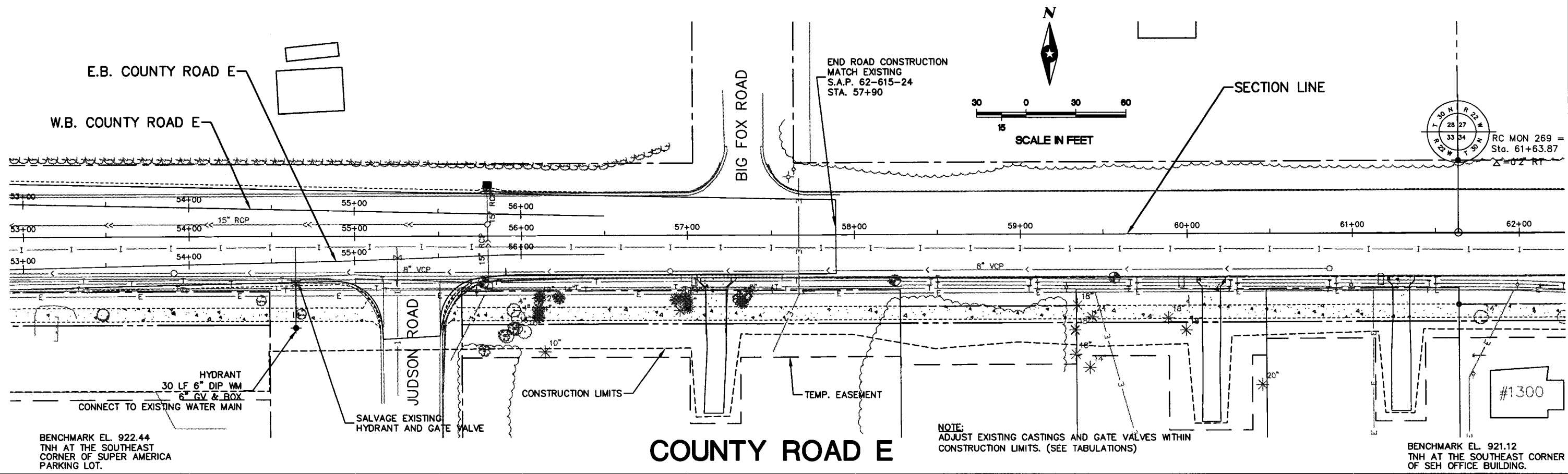
David L. Betts
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
SANITARY SEWER & WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	19
DATE 9/28/01	92

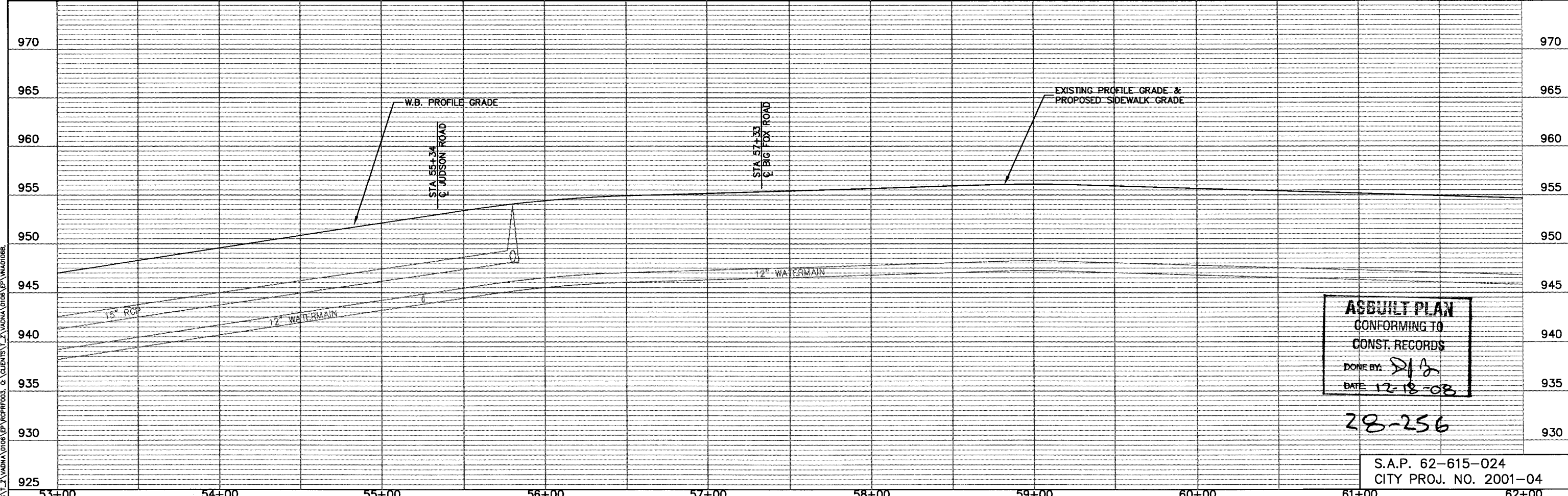


COUNTY ROAD E

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.

NOTE:
ADJUST EXISTING CASTINGS AND GATE VALVES WITHIN
CONSTRUCTION LIMITS. (SEE TABULATIONS)



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

DESIGNED BY: SLP	NO.	BY	DATE	REVISIONS
CHECKED BY: DLB				
DESIGN TEAM				

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[Signature]
Date: 9/28/01 Lic. No. 26848

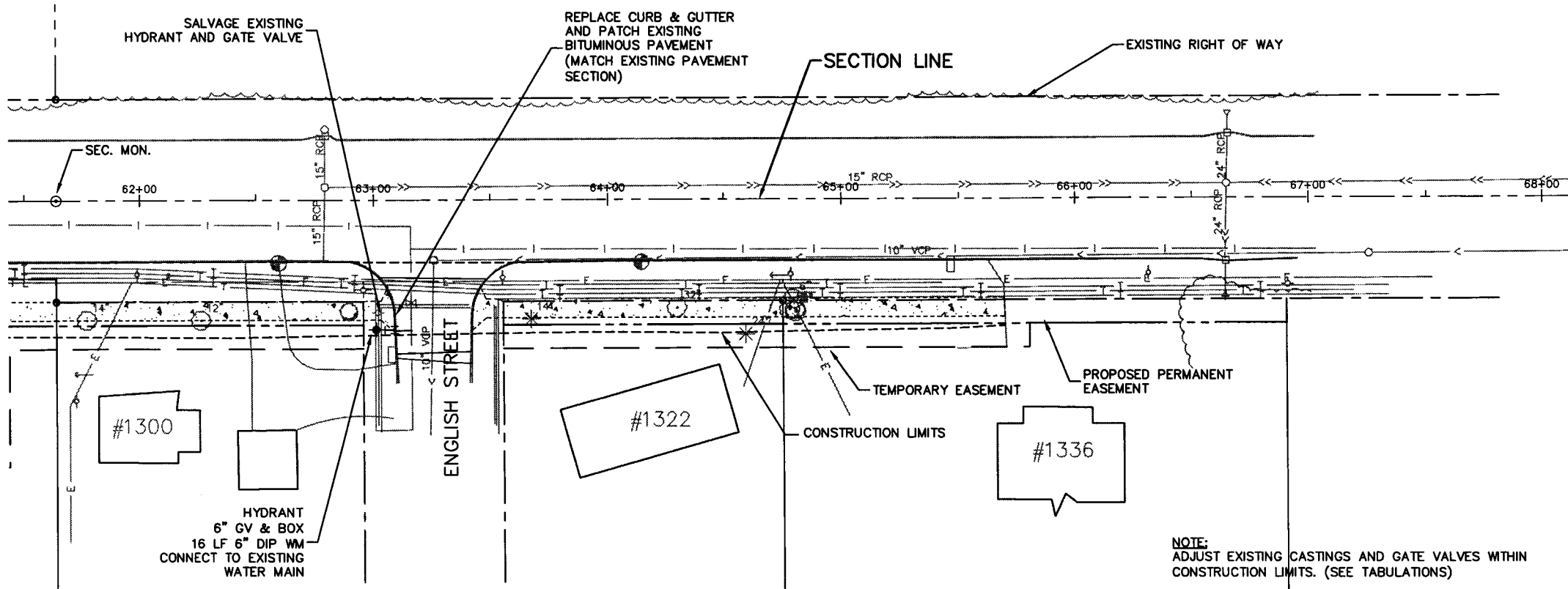
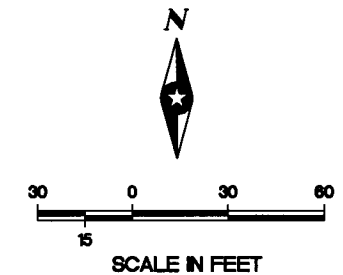
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
SANTARY SEWER AND WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
DATE 9/28/01
20
92

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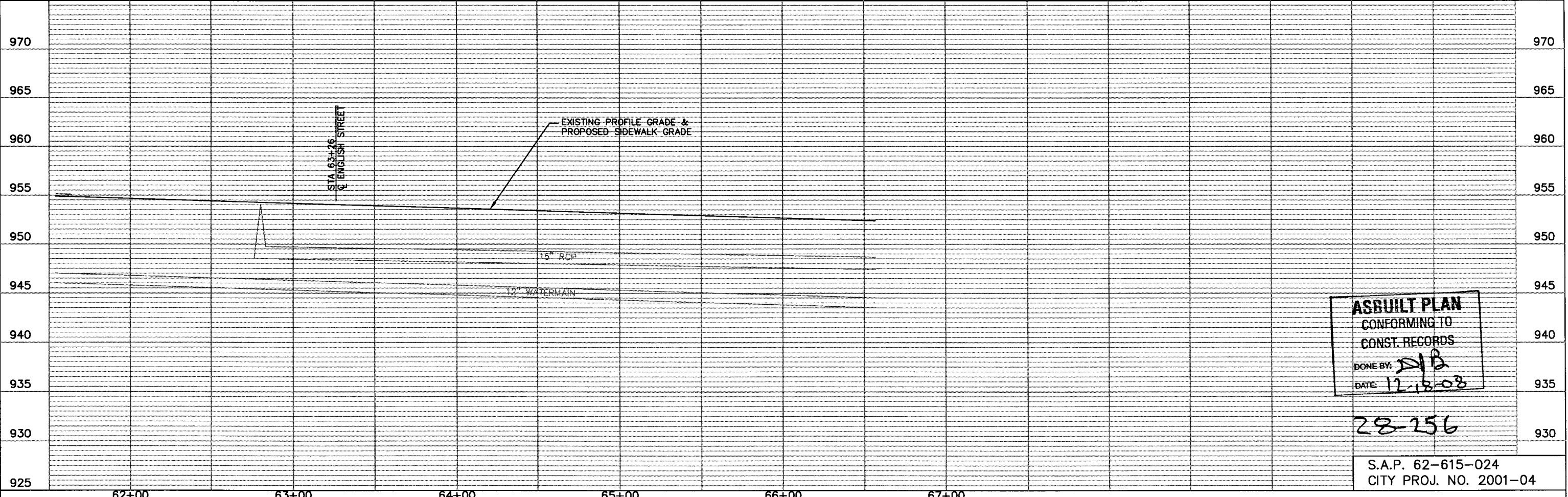


BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

COUNTY ROAD E

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.

NOTE:
ADJUST EXISTING CASTINGS AND GATE VALVES WITHIN
CONSTRUCTION LIMITS. (SEE TABULATIONS)



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: *12-18-08*

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DRAWN BY: SLP	DESIGNER: TJP	CHECKED BY: DLB
DESIGN TEAM	NO.	BY DATE
		REVISIONS

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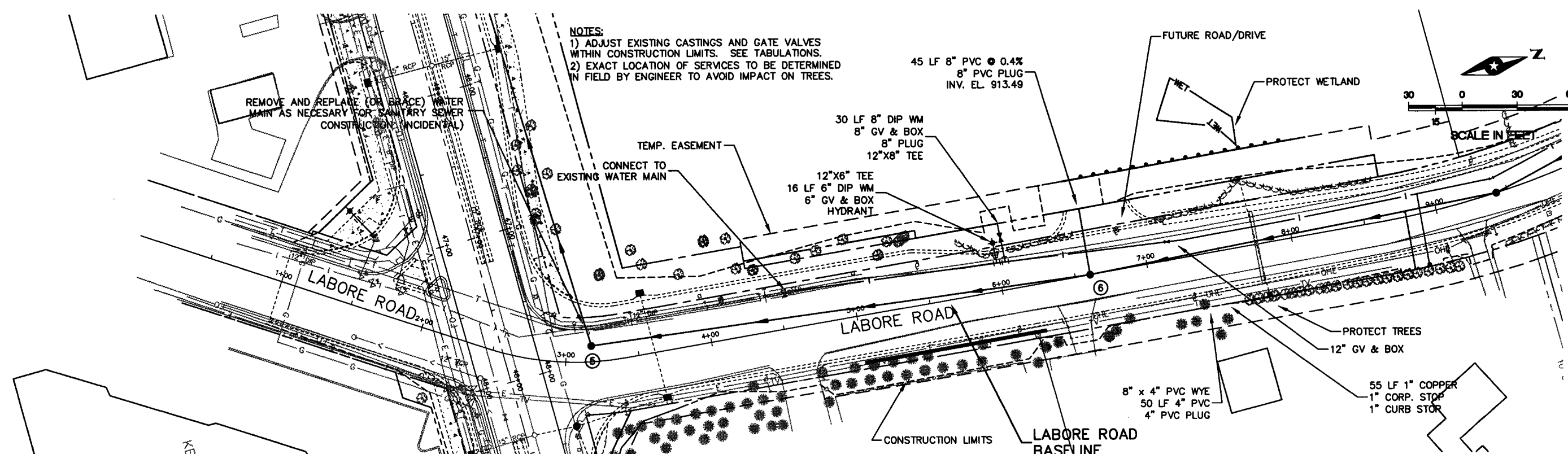
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
Date: 9/28/01 Reg. No. 26848



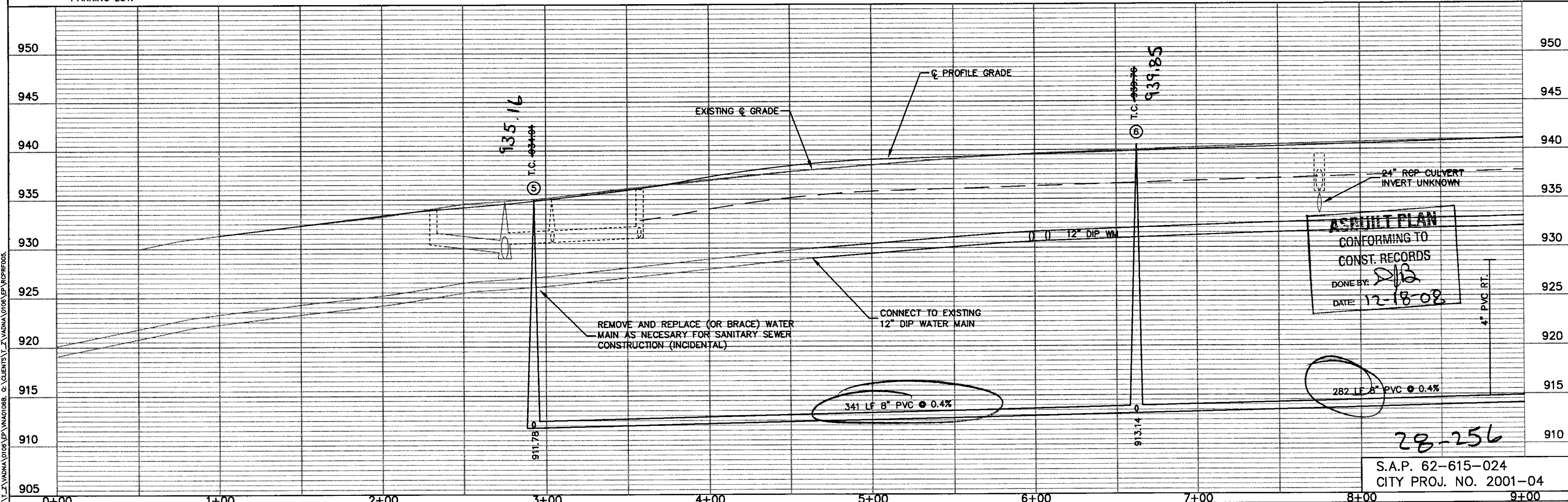
RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
SANTARY SEWER & WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	21
DATE 9/28/01	92



LABORE ROAD



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DRAWN BY:	SLP		
DESIGNER:	TJP		
CHECKED BY:	DLB		
DESIGN TEAM			
NO.	BY	DATE	REVISIONS

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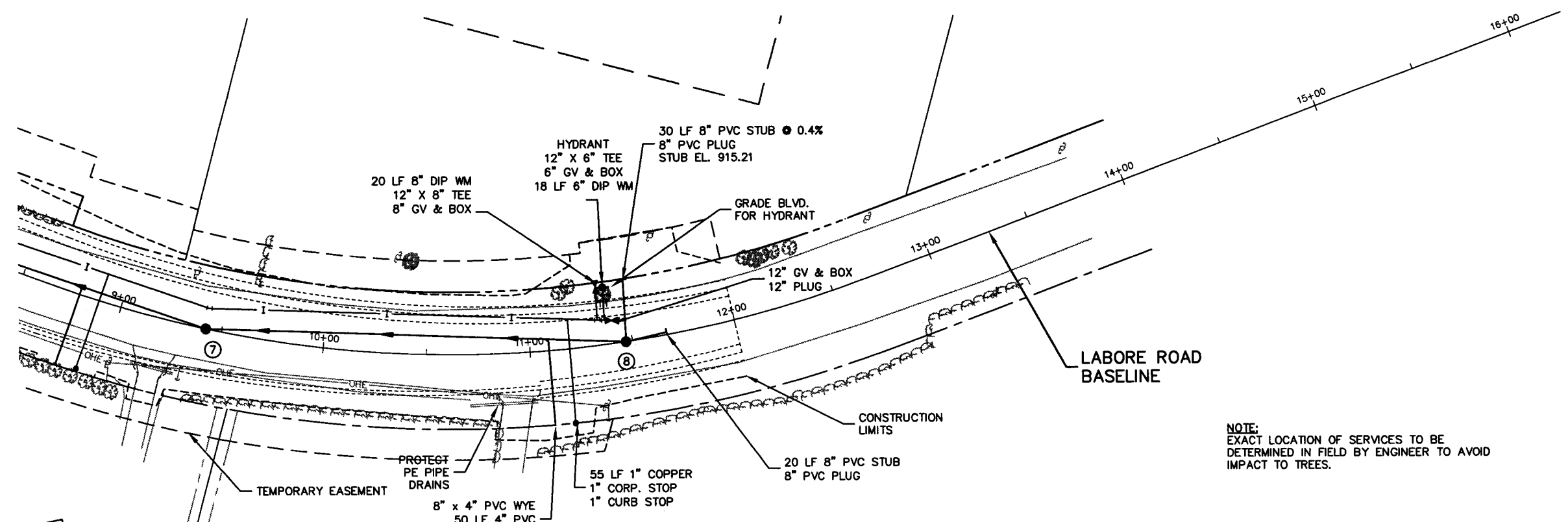
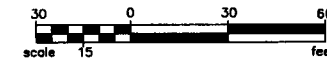
[Signature] David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**LABORE ROAD
SANITARY SEWER & WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	22
DATE 9/28/01	92

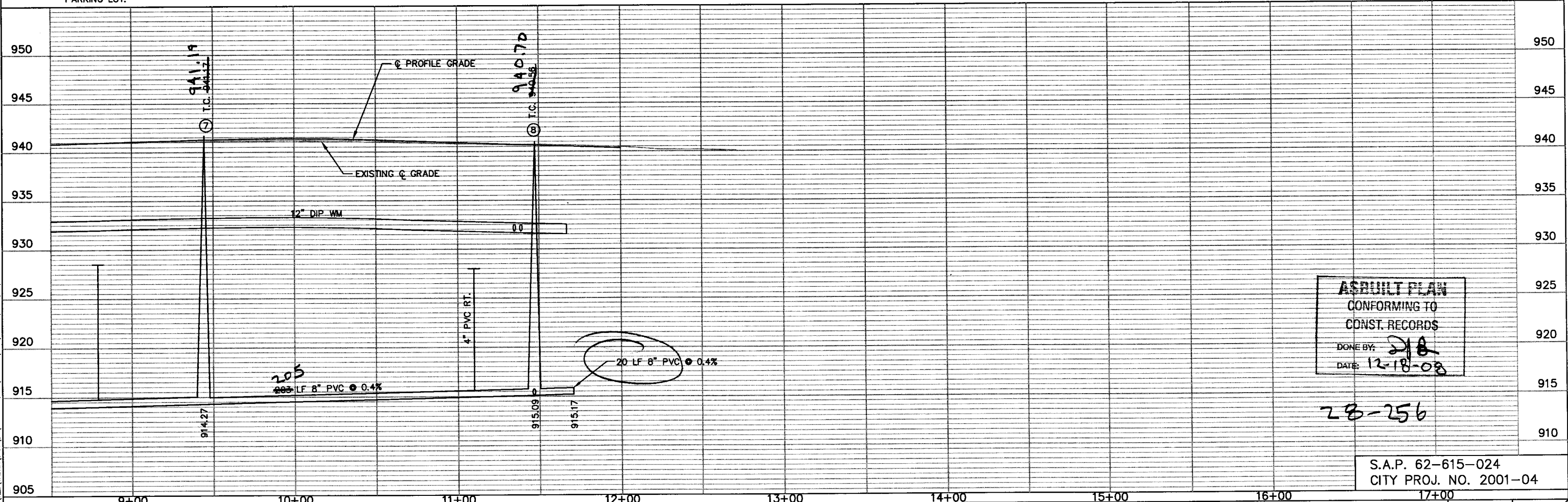


NOTE:
EXACT LOCATION OF SERVICES TO BE DETERMINED IN FIELD BY ENGINEER TO AVOID IMPACT TO TREES.

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

LABORE ROAD

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DRAWN BY:	SLP
DESIGNER:	TJP
CHECKED BY:	DLB
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

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[Signature]
Date: 9/28/01 Lic. No. 26848

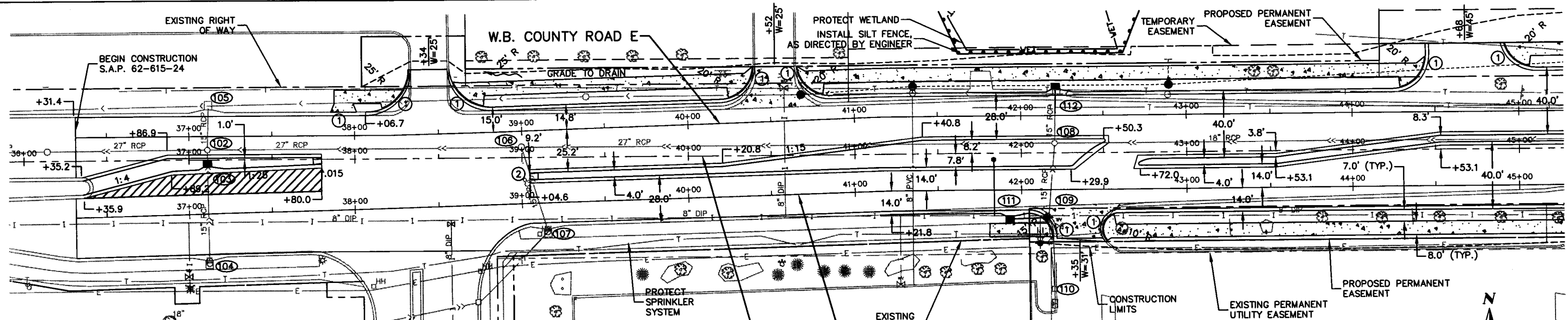
David L. Betts, P.E.
Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

**LABORE ROAD
SANTARY SEWER & WATER MAIN
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	23
DATE 9/28/01	92



- NOTES:**
- ① CONSTRUCT PEDESTRIAN CURB RAMP. SEE MNDOT STD. PLATE 7036.
 - ② CONSTRUCT CONCRETE APPROACH NOSE DETAIL. SEE MNDOT STD. PLATE 7113.

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

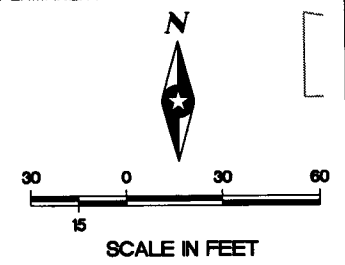
NOTES:
1) ALL STATIONS AND OFFSETS ARE MEASURED TO THE SECTION LINE UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED TO FACE OF CURB.

2) ADJUST ALL EXISTING CASTINGS AND GATE VALVES WITHIN CONSTRUCTION LIMITS. (SEE TABULATIONS)

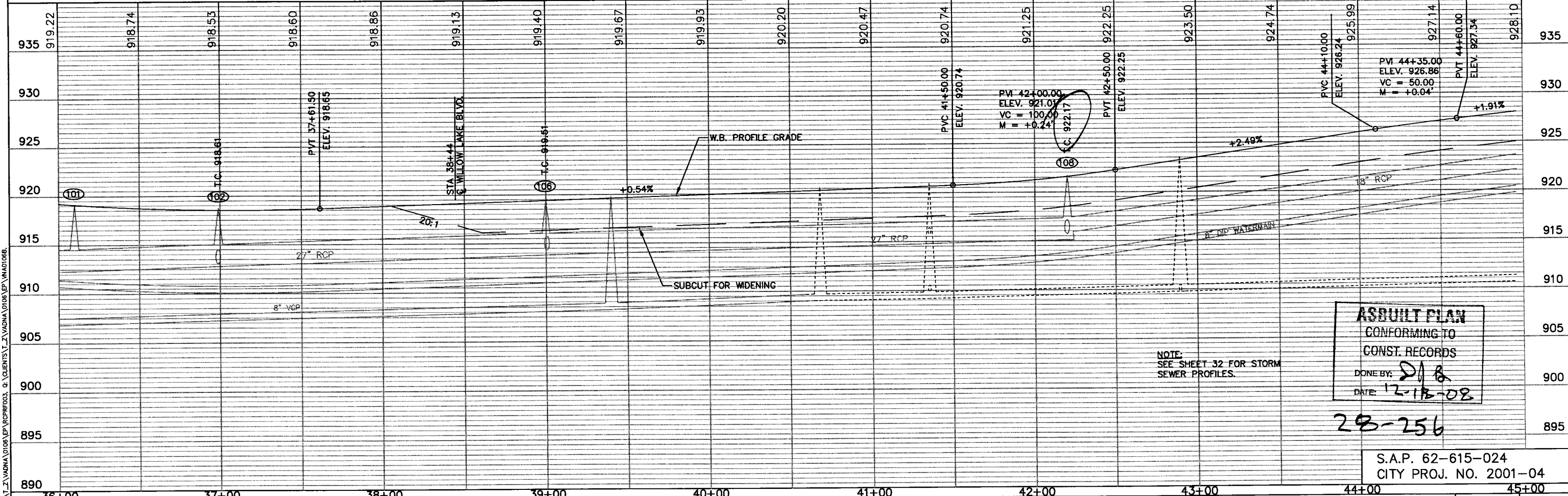
COUNTY ROAD E

RADIUS PT. LOCATION			
RADIUS	ALIGNMENT	STATION	LOCATION
25.0	C.R. E	38+07.7	53.01' LT
25.0	C.R. E	38+81.43	54.05' LT
20.0	C.R. E	40+19.19	49.68' LT
20.0	C.R. E	40+85.13	55.39' LT
15.0	C.R. E	42+04.01	50.82' RT
2.0	C.R. E	42+29.94	5.80' RT
1.0	C.R. E	42+50.09	7.21' LT

RADIUS PT. LOCATION			
RADIUS	ALIGNMENT	STATION	LOCATION
10.0	C.R. E	42+58.9	45.80' RT
1.0	C.R. E	42+72.06	6.79' RT
65.0	C.R. E	42+77.78	52.70' RT
16.8	C.R. E	42+79.76	20.55' RT
20.0	C.R. E	44+24.49	56.27' LT
20.0	C.R. E	45+10.52	68.30' LT



BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST
CORNER OF SEH OFFICE BUILDING.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DRAWN BY: SLP	NO.	BY	DATE
DESIGNER: TJP			
CHECKED BY: DLB			
DESIGN TEAM	REVISIONS		

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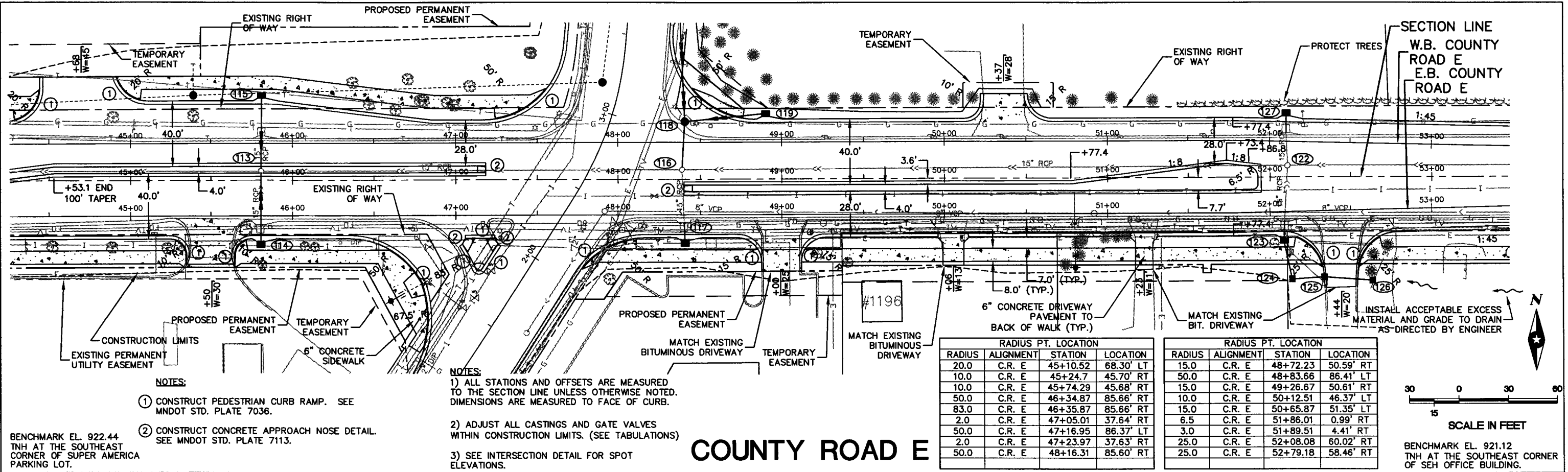
David L. Betts
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
STREET & STORM SEWER
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
DATE 9/28/01
24
92



NOTES:

- ① CONSTRUCT PEDESTRIAN CURB RAMP. SEE MNDOT STD. PLATE 7036.
- ② CONSTRUCT CONCRETE APPROACH NOSE DETAIL. SEE MNDOT STD. PLATE 7113.

NOTES:

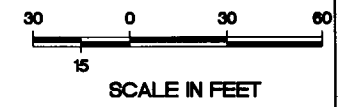
- 1) ALL STATIONS AND OFFSETS ARE MEASURED TO THE SECTION LINE UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED TO FACE OF CURB.
- 2) ADJUST ALL CASTINGS AND GATE VALVES WITHIN CONSTRUCTION LIMITS. (SEE TABULATIONS)
- 3) SEE INTERSECTION DETAIL FOR SPOT ELEVATIONS.

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

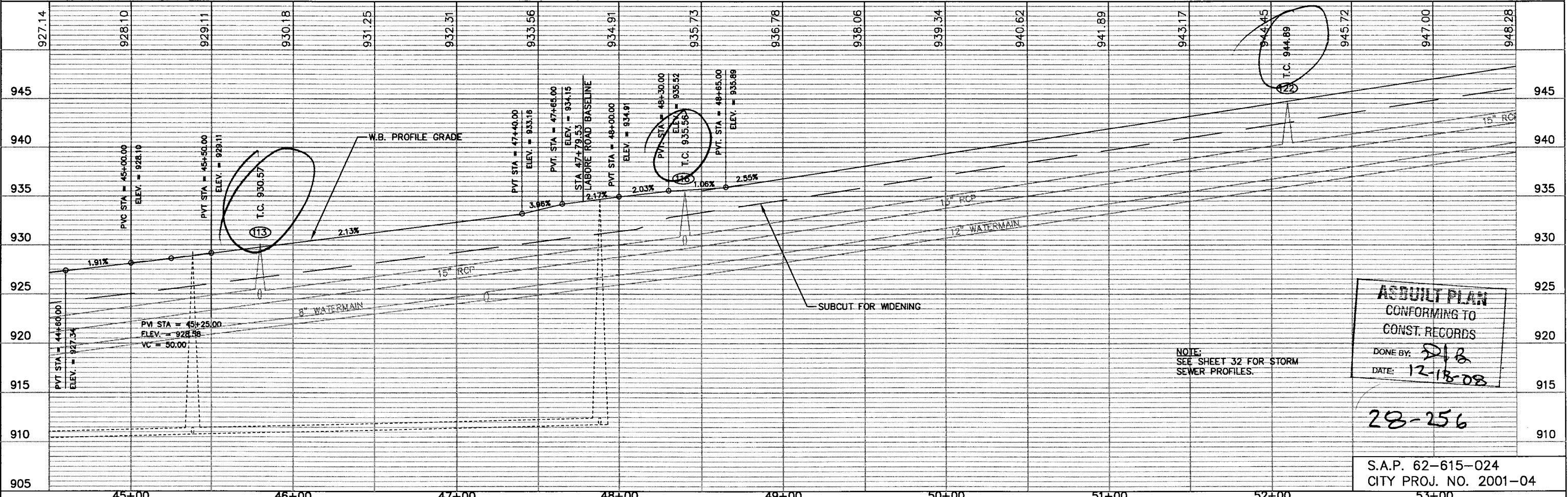
COUNTY ROAD E

RADIUS	ALIGNMENT	STATION	LOCATION
20.0	C.R. E	45+10.52	68.30' LT
10.0	C.R. E	45+24.7	45.70' RT
10.0	C.R. E	45+74.29	45.68' RT
50.0	C.R. E	46+34.87	85.66' RT
83.0	C.R. E	46+35.87	85.66' RT
2.0	C.R. E	47+05.01	37.64' RT
50.0	C.R. E	47+16.95	86.37' LT
2.0	C.R. E	47+23.97	37.63' RT
50.0	C.R. E	48+16.31	85.60' RT

RADIUS	ALIGNMENT	STATION	LOCATION
15.0	C.R. E	48+72.23	50.59' RT
50.0	C.R. E	48+83.66	86.41' LT
15.0	C.R. E	49+26.67	50.61' RT
10.0	C.R. E	50+12.51	46.37' LT
15.0	C.R. E	50+65.87	51.35' LT
6.5	C.R. E	51+86.01	0.99' RT
3.0	C.R. E	51+89.51	4.41' RT
25.0	C.R. E	52+08.08	60.02' RT
25.0	C.R. E	52+79.18	58.46' RT



BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.



AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DESIGNED BY:	SLP
CHECKED BY:	TJP
DATE:	DLB
DESIGN TEAM	

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

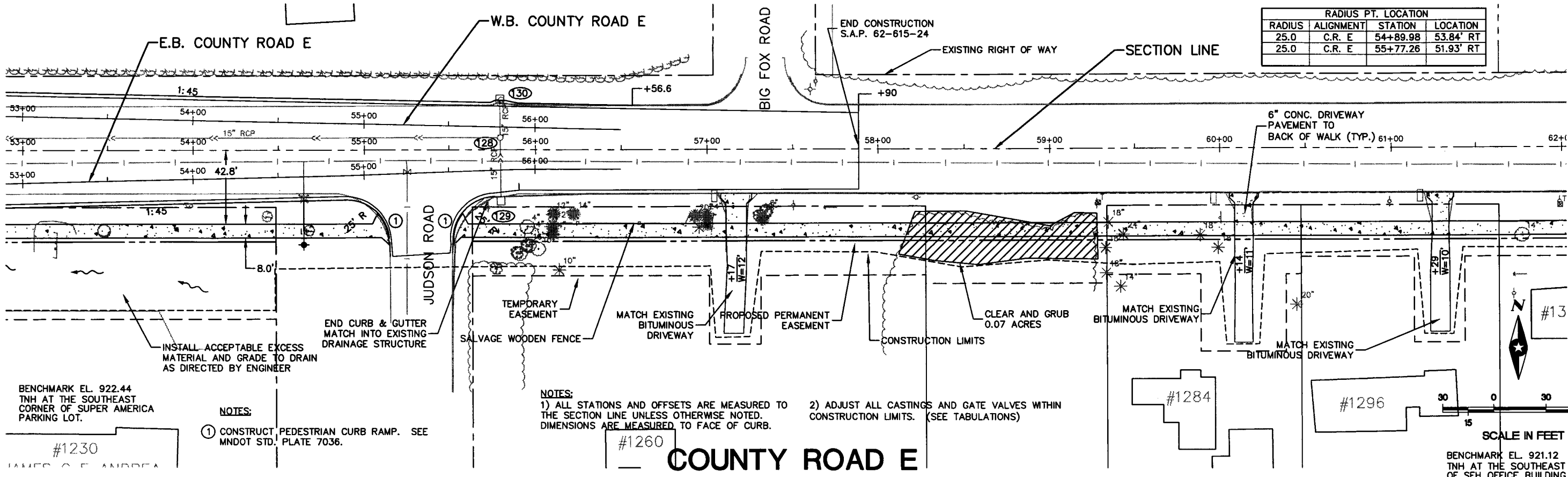
[Signature]
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

COUNTY ROAD E STREET & STORM SEWER COUNTY ROAD E & LABORE ROAD

FILE NO.	AVADNA0106	25
DATE	9/28/01	92



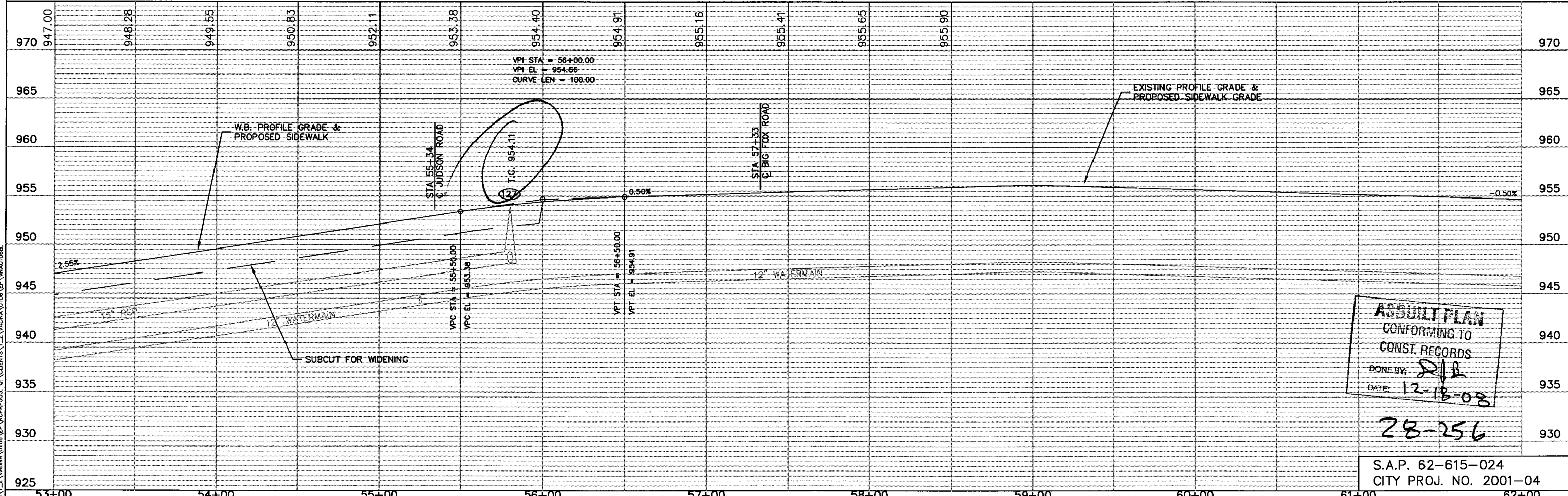
BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

- NOTES:**
- 1) CONSTRUCT PEDESTRIAN CURB RAMP. SEE MNDOT STD. PLATE 7036.

- NOTES:**
- 1) ALL STATIONS AND OFFSETS ARE MEASURED TO THE SECTION LINE UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED TO FACE OF CURB.
 - 2) ADJUST ALL CASTINGS AND GATE VALVES WITHIN CONSTRUCTION LIMITS. (SEE TABULATIONS)

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.

COUNTY ROAD E



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

28-256

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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NO.	BY	DATE	REVISIONS

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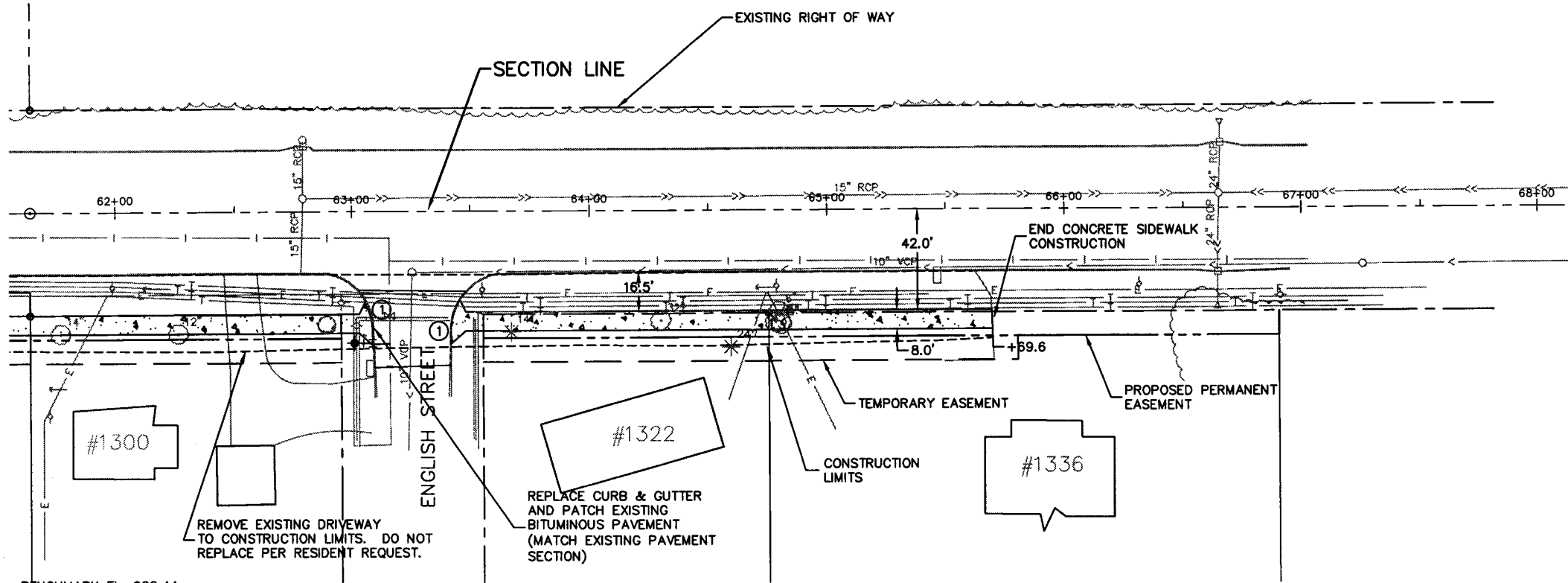
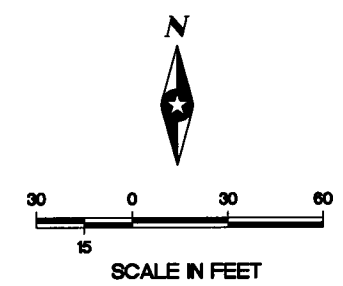
[Signature]
David L. Betts, P.E.
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
STREET & STORM SEWER
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	26
DATE 9/28/01	92



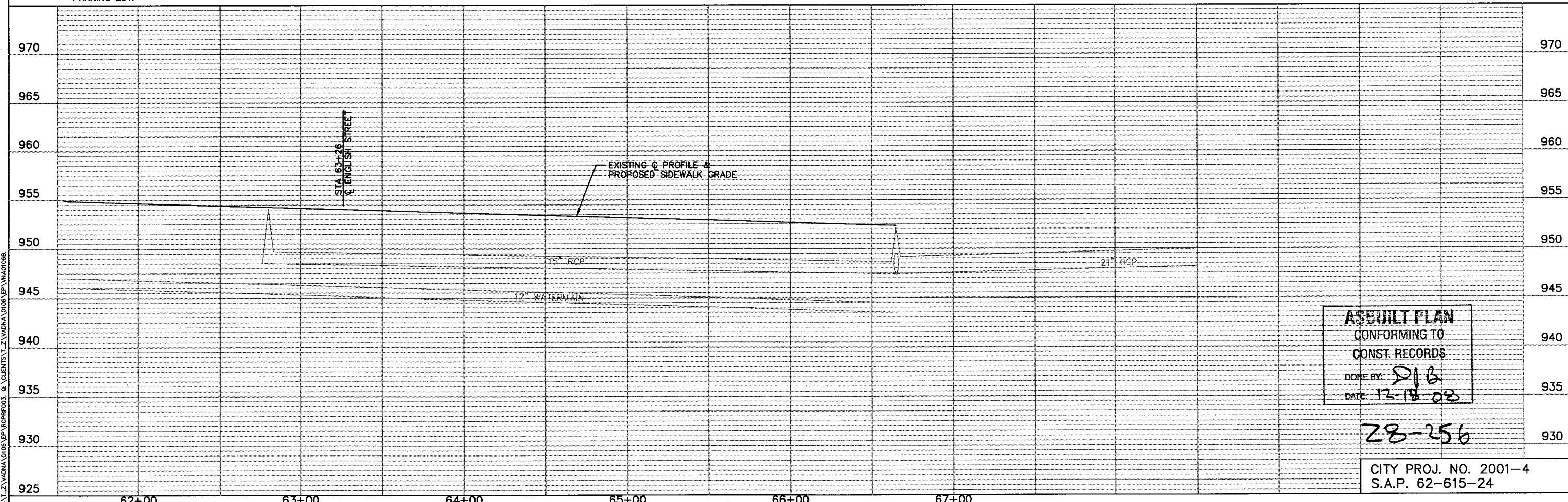
NOTES:
 ① CONSTRUCT PEDESTRIAN CURB RAMP. SEE MNDOT STD. PLATE 7036.

NOTES:
 1) ALL STATIONS AND OFFSETS ARE MEASURED TO THE SECTION LINE UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED TO FACE OF CURB.
 2) ADJUST ALL CASTINGS AND GATE VALVES WITHIN CONSTRUCTION LIMITS. SEE TABULATIONS.

BENCHMARK EL. 922.44
 TNH AT THE SOUTHEAST
 CORNER OF SUPER AMERICA
 PARKING LOT.

BENCHMARK EL. 921.12
 TNH AT THE SOUTHEAST CORNER
 OF SEH OFFICE BUILDING.

COUNTY ROAD E



AS BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DLB*
 DATE: *12-18-08*

28-256

CITY PROJ. NO. 2001-4
 S.A.P. 62-615-24

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DRAWN BY: SLP
 DESIGNER: TJP
 CHECKED BY: DLB

NO.	BY	DATE	REVISIONS

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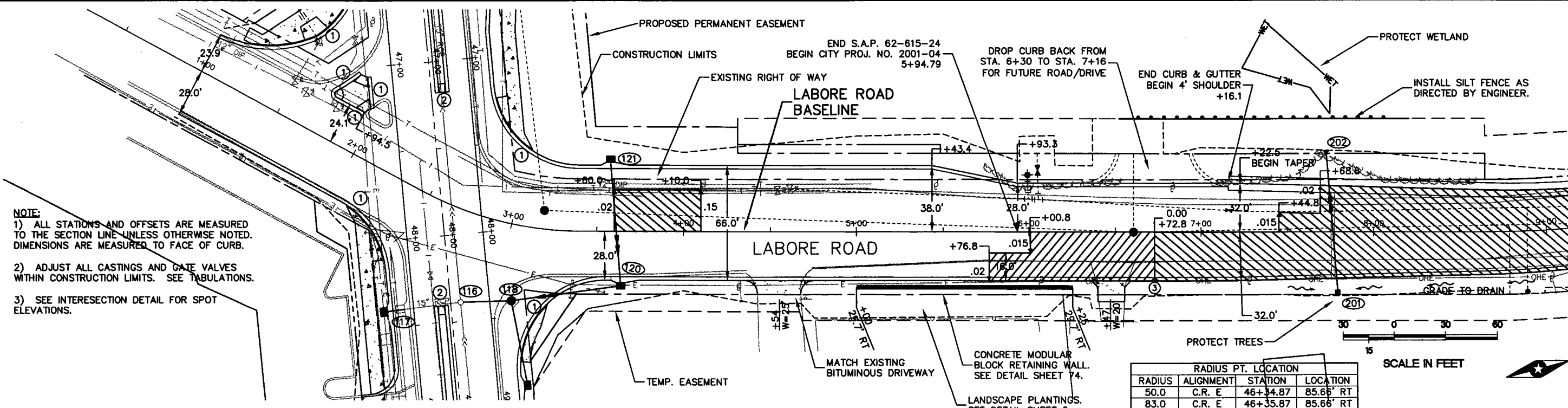
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
 David L. Betts, P.E.
 Date: 9/28/01 Reg. No. 26848

SEH
 PHONE: (651) 480-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E
 STREET AND STORM SEWER
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01
27
92



- NOTE:
- 1) ALL STATIONS AND OFFSETS ARE MEASURED TO THE SECTION LINE UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED TO FACE OF CURB.
 - 2) ADJUST ALL CASTINGS AND GATE VALVES WITHIN CONSTRUCTION LIMITS. SEE TABULATIONS.
 - 3) SEE INTERSECTION DETAIL FOR SPOT ELEVATIONS.

BENCHMARK EL. 922.44
TNH AT THE SOUTHEAST
CORNER OF SUPER AMERICA
PARKING LOT.

- 1) CONSTRUCT PEDESTRIAN CURB RAMP. SEE MNDOT STD. PLATE 7036.
- 2) CONSTRUCT CONCRETE APPROACH NOSE DETAIL. SEE MNDOT STD. PLATE 7113.

③ 0% CROSS SLOPE.
RATE OF SUPER ELEVATION = 1:400,
e = 0.08.

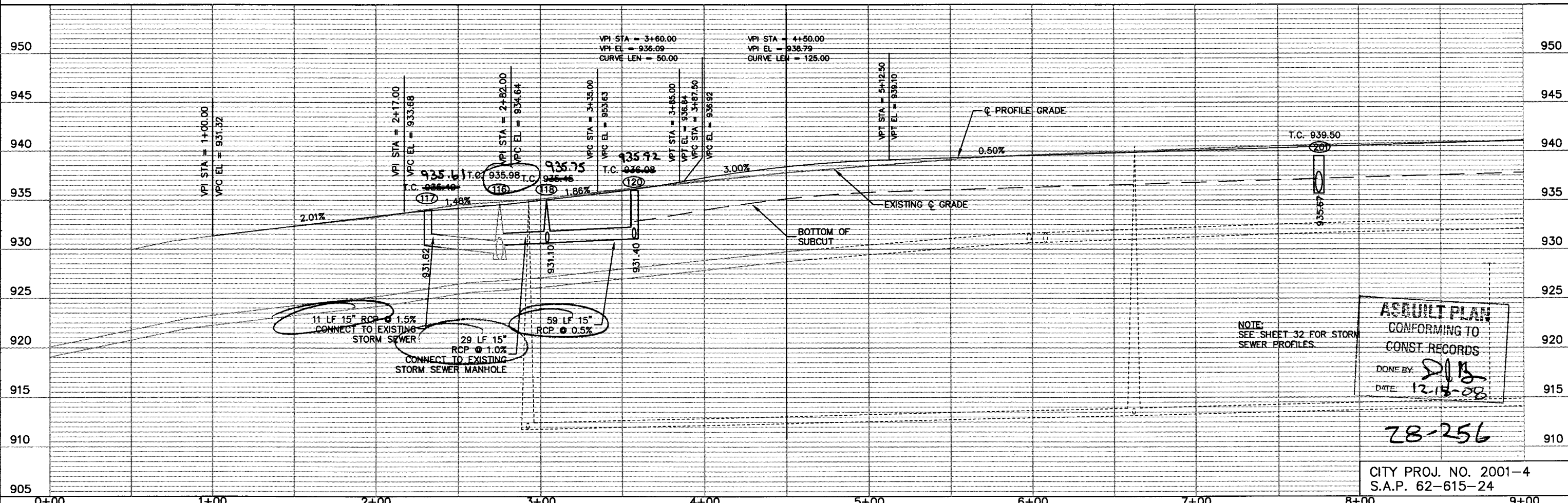
LABORE ROAD

RADIUS	ALIGNMENT	STATION	LOCATION
50.0	C.R. E	46+34.87	85.66' RT
83.0	C.R. E	46+35.87	85.66' RT
50.0	C.R. E	47+16.95	86.37' LT
50.0	C.R. E	48+16.31	85.60' RT
50.0	C.R. E	48+83.66	86.41' LT
67.5	LABORE	0+96.44	94.40' LT
2.0	LABORE	1+76.05	29.09' LT
15.0	LABORE	4+27.11	40.02' RT
15.0	LABORE	4+86.6	40.02' RT

SCALE IN FEET

▨ = CROSS SLOPE TRANSITION

BENCHMARK EL. 921.12
TNH AT THE SOUTHEAST CORNER
OF SEH OFFICE BUILDING.



11 LF 15" RCP @ 1.5%
CONNECT TO EXISTING
STORM SEWER

29 LF 15"
RCP @ 1.0%
CONNECT TO EXISTING
STORM SEWER MANHOLE

59 LF 15"
RCP @ 0.5%

NOTE:
SEE SHEET 32 FOR STORM
SEWER PROFILES.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS

DONE BY: *[Signature]*
DATE: 12.15.08

28-256

CITY PROJ. NO. 2001-4
S.A.P. 62-615-24

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DRAWN BY: SLP	DESIGNER: TJP	CHECKED BY: DLB
DESIGN TEAM	NO. BY DATE	REVISIONS

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

[Signature] David L. Betta, P.E.
Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

LABORE ROAD STREET & STORM SEWER COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106
DATE 9/28/01
28
92



END CITY PROJ. NO. 2001-04
MATCH EXISTING PAVEMENT
STA 12+00 (VERIFY EXISTING
CROSS SLOPE)

CONSTRUCTION LIMITS

NOTES:

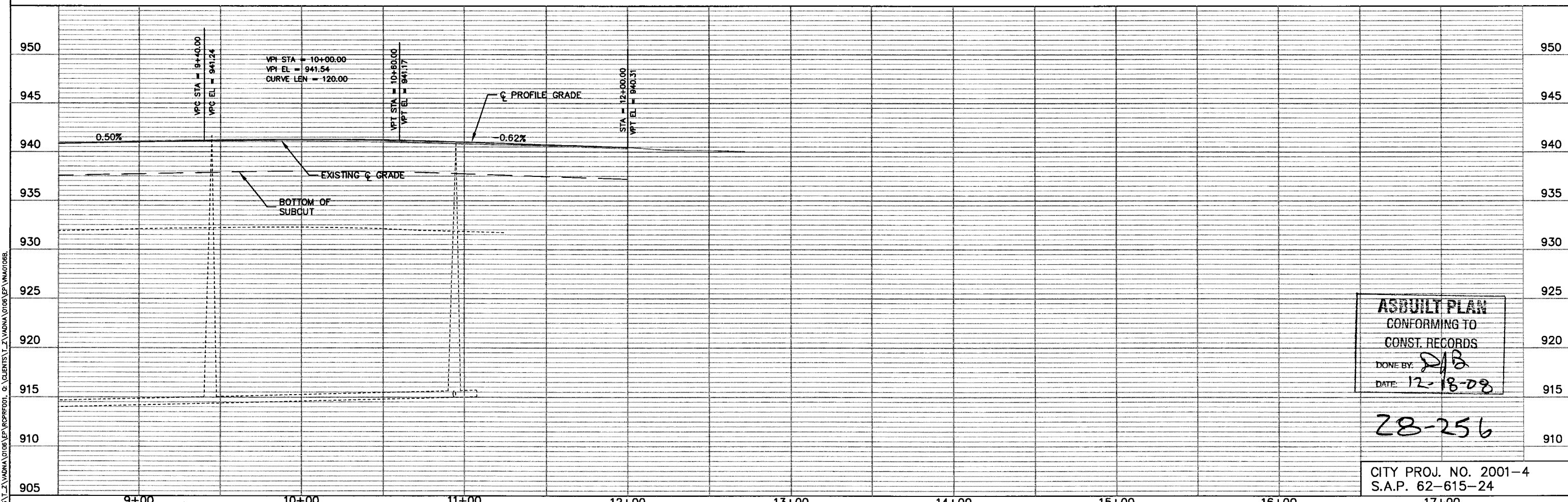
- ① SUPER ELEVATION RATE = 1:400.
e = 0.06.

NOTE:
ALL STATIONS AND OFFSETS ARE MEASURED TO
THE SECTION LINE UNLESS OTHERWISE NOTED.
DIMENSIONS ARE MEASURED TO FACE OF CURB.

= CROSS SLOPE TRANSITION

LABORE ROAD BASELINE

LABORE ROAD



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: *12-18-08*

28-256

CITY PROJ. NO. 2001-4
S.A.P. 62-615-24

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DRAWN BY: SLP	DESIGNER: TJP	CHECKED BY: DLB
DESIGN TEAM	NO.	BY DATE
		REVISIONS

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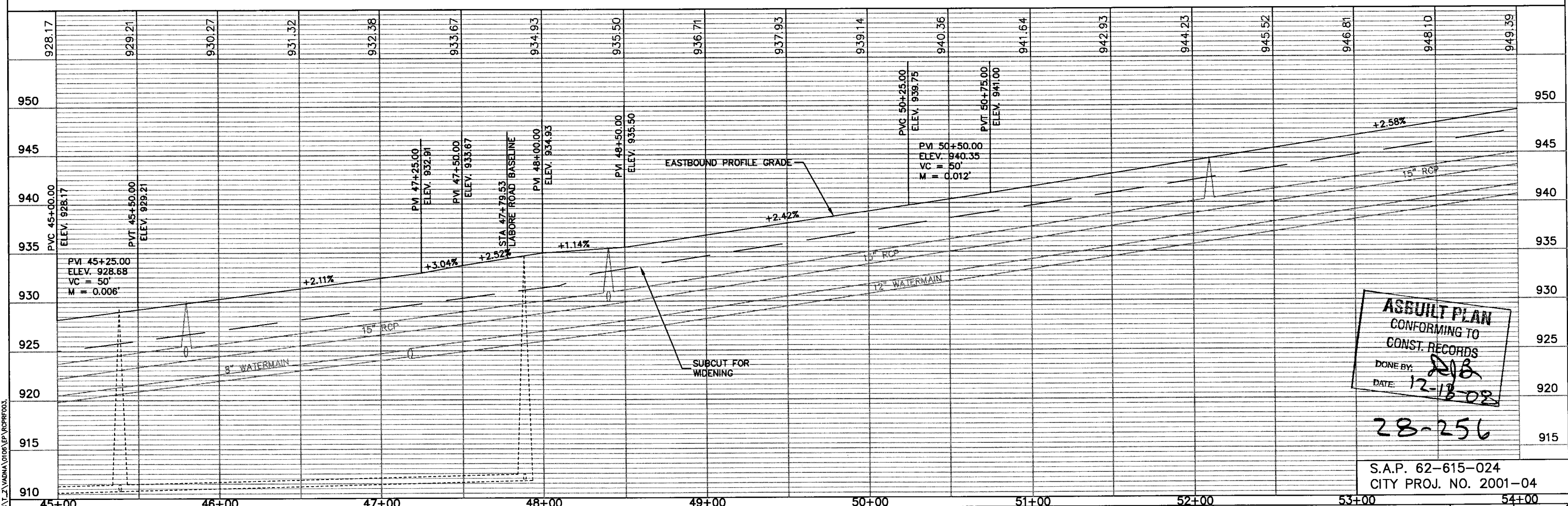
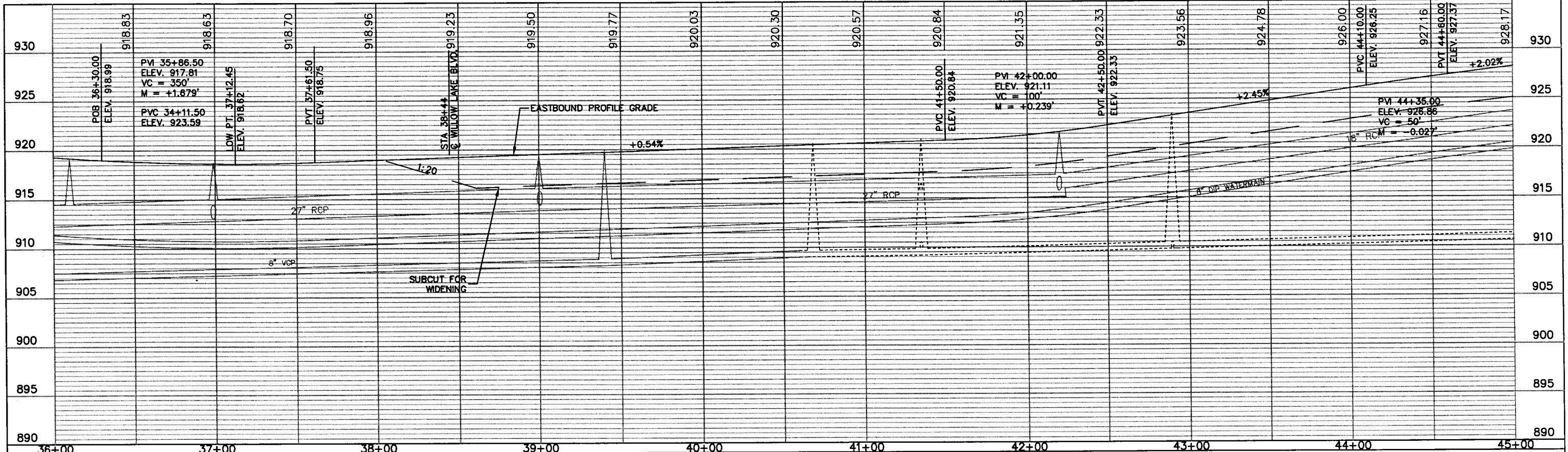
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

LABORE ROAD STREET & STORM SEWER COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106
DATE 9/28/01
29
92



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

28-256

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

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DRAWN BY: SLP
 DESIGNER: TJP
 CHECKED BY: DLB

NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature] David L. Betts, P.E.
 Date: 9/28/01 Lic. No. 26848

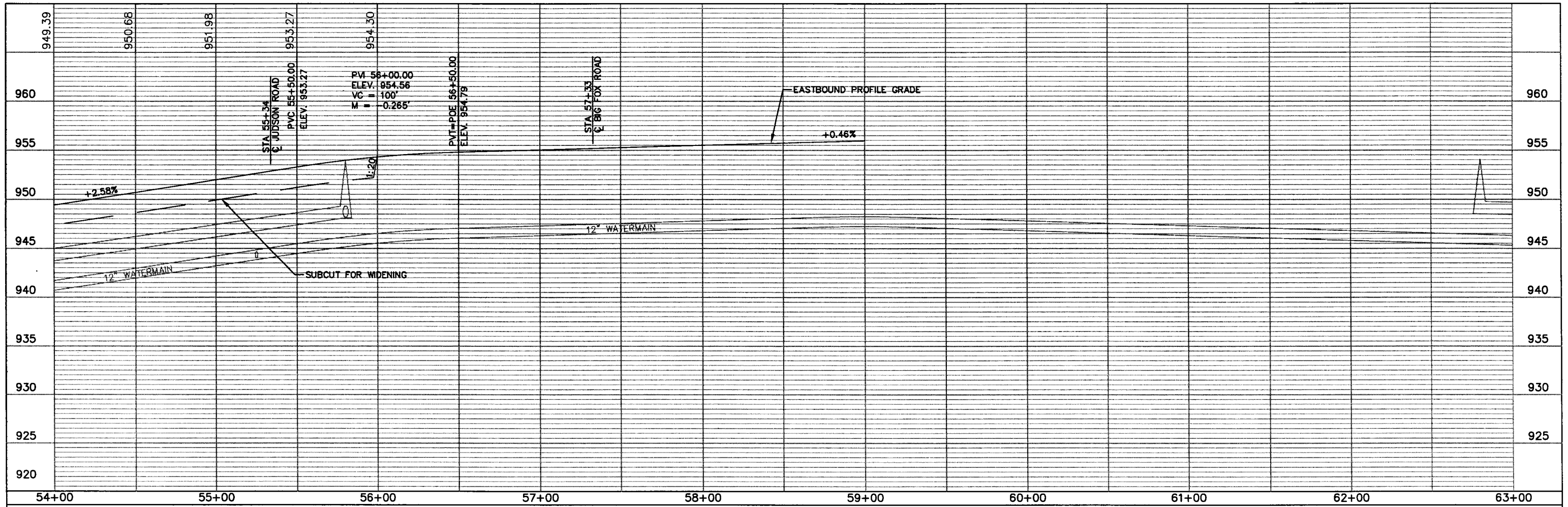
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

**COUNTY ROAD E PROFILE
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01

30
92



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DRAWN BY:	SLP			
DESIGNER:	TJP			
CHECKED BY:	DLB			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David L. Betts
 David L. Betts, P.E.
 Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

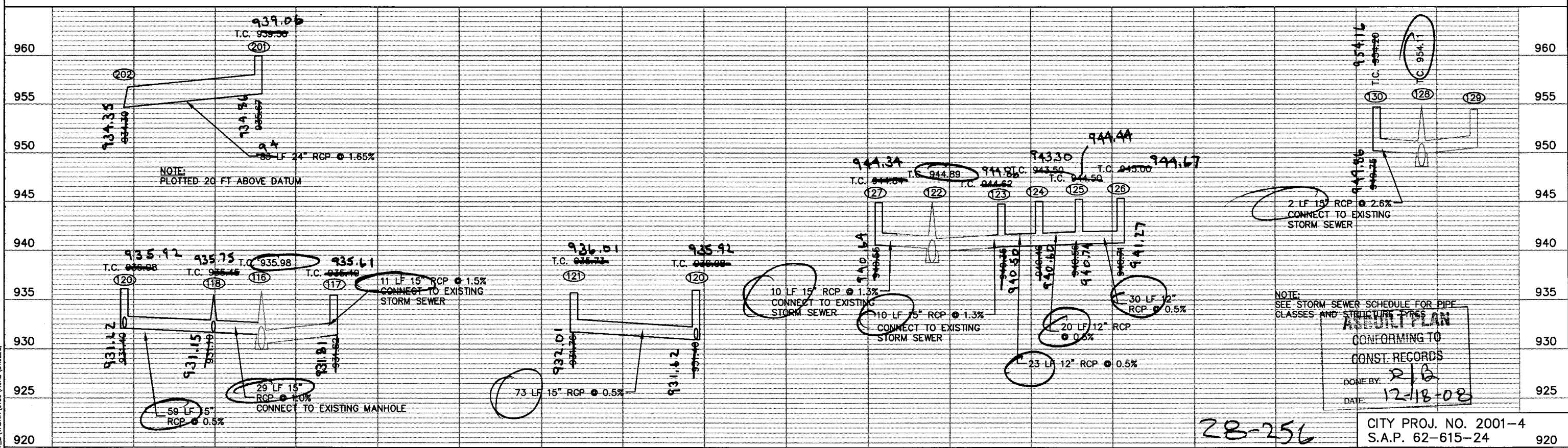
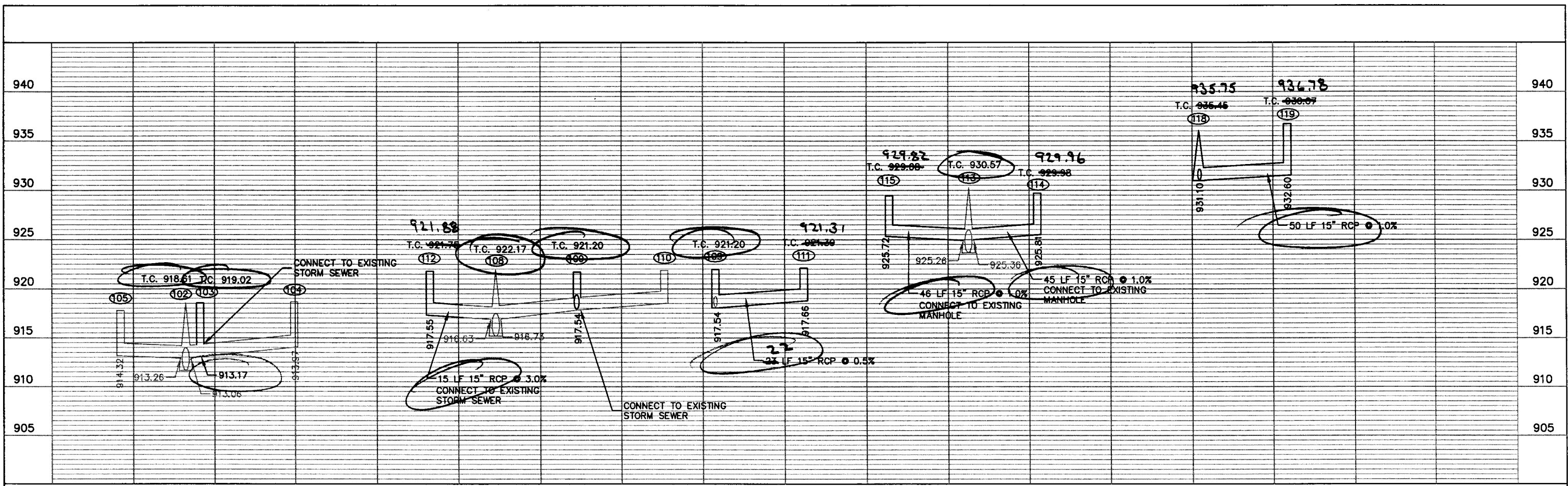
**COUNTY ROAD E PROFILE
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106	31
DATE 9/28/01	

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DLB*
 DATE: 12-18-08

28-256

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04



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DRAWN BY: SLP
 DESIGNER: TJP
 CHECKED BY: DLB

NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 David L. Betts, P.E.
 Date: 9/28/01 Lic. No. 26848



RAMSEY COUNTY, MINNESOTA

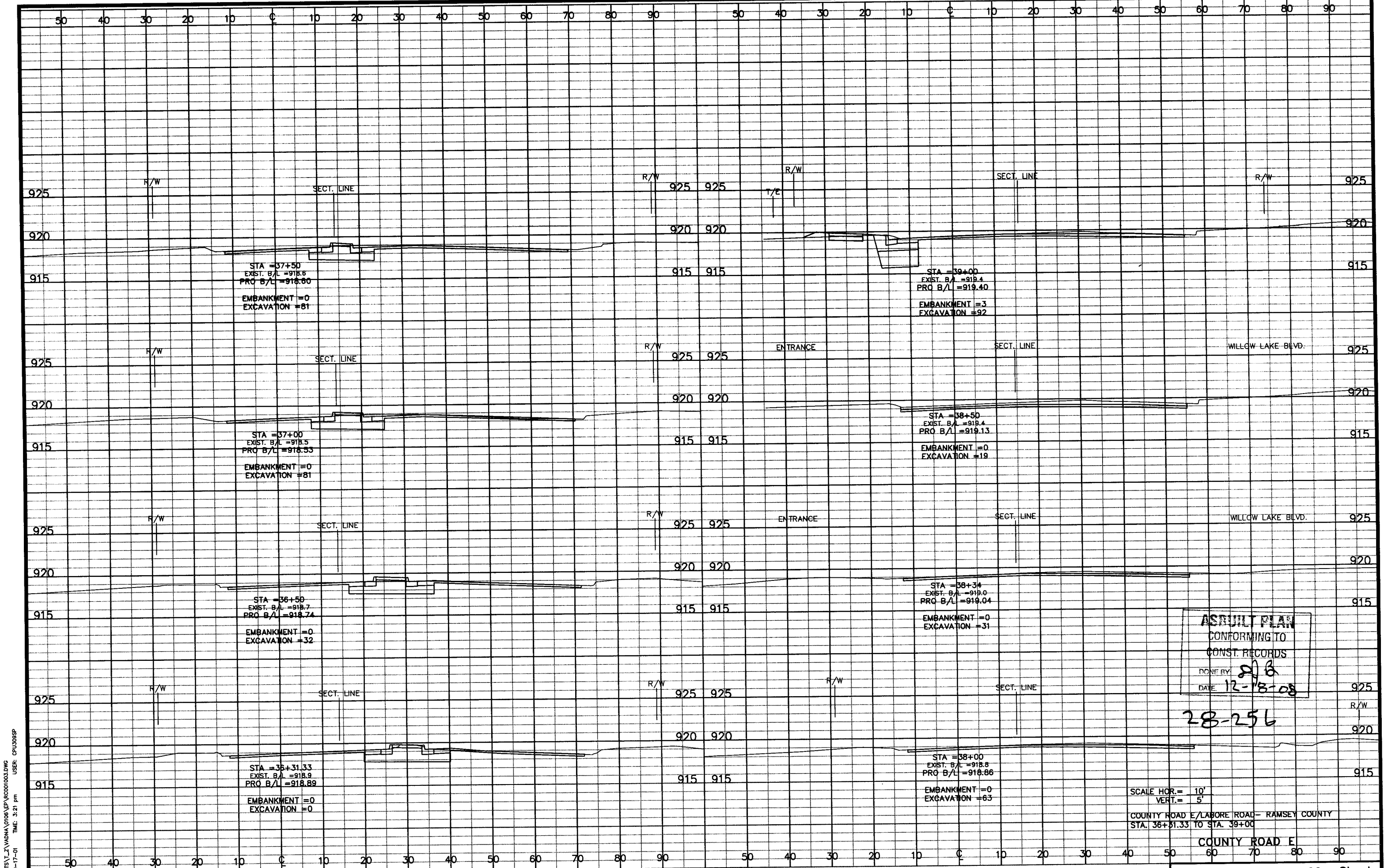
**STORM SEWER PROFILES
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01
32
92

28-256

NOTE:
 SEE STORM SEWER SCHEDULE FOR PIPE CLASSES AND STRUCTURE TYPES
AS-BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: RLB
 DATE: 12-18-08

CITY PROJ. NO. 2001-4
 S.A.P. 62-615-24



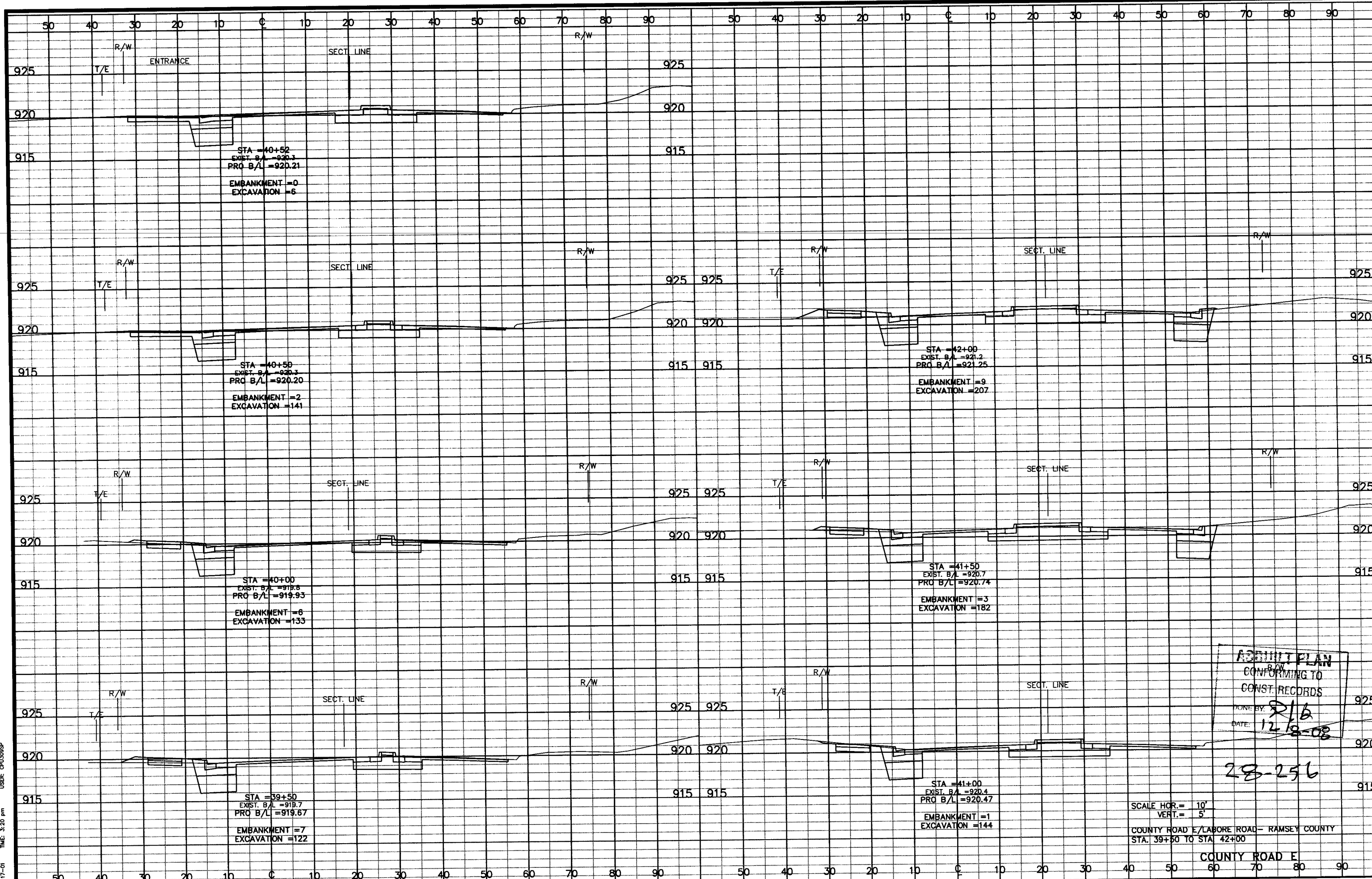
ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *208*
 DATE: *12-18-08*

28-256

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 36+51.33 TO STA. 39+00

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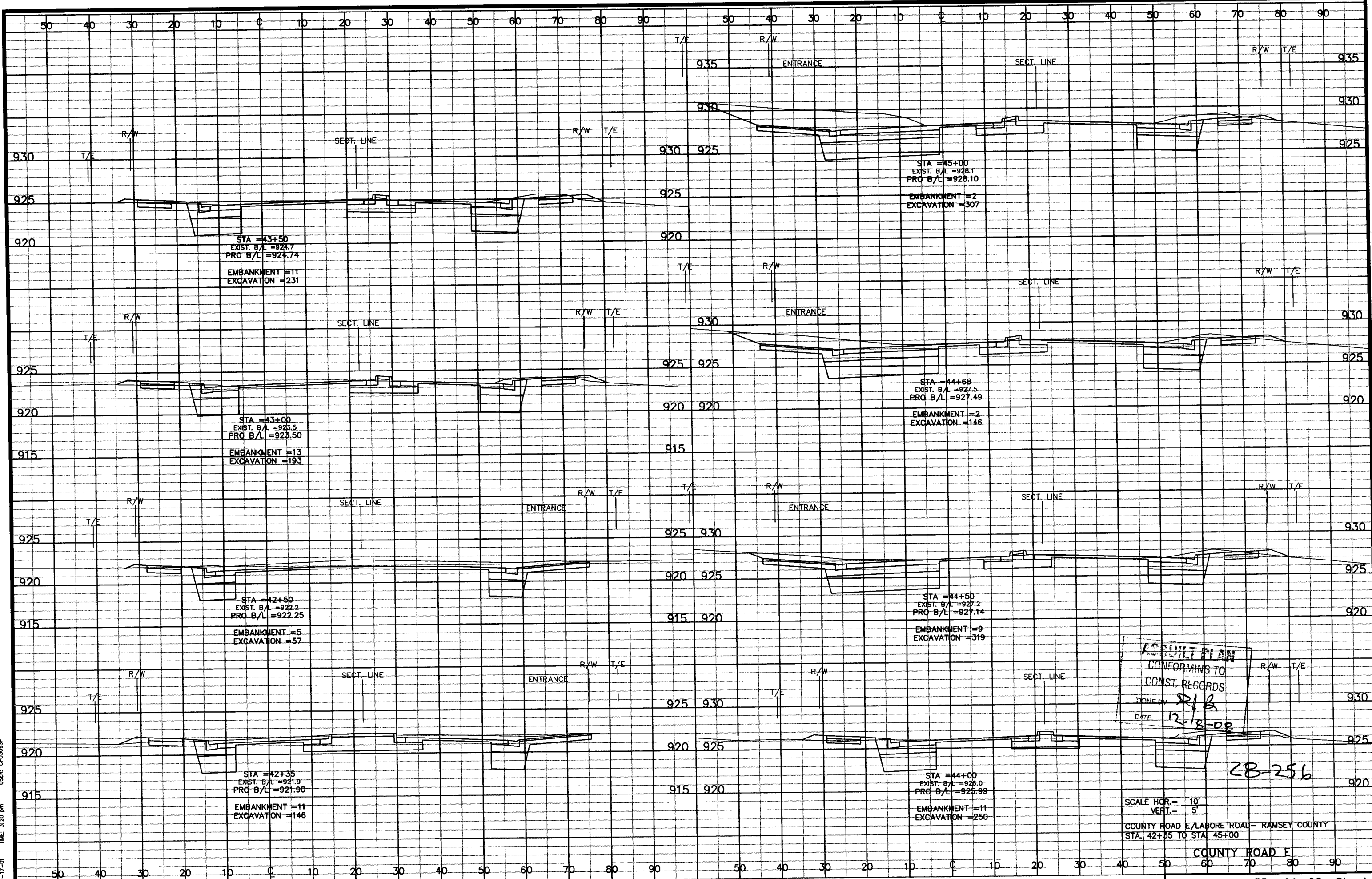


ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *R/B*
DATE: *12/8/08*

28-256

SCALE HOR. = 10'
VERT. = 5'
COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
STA. 39+50 TO STA. 42+00

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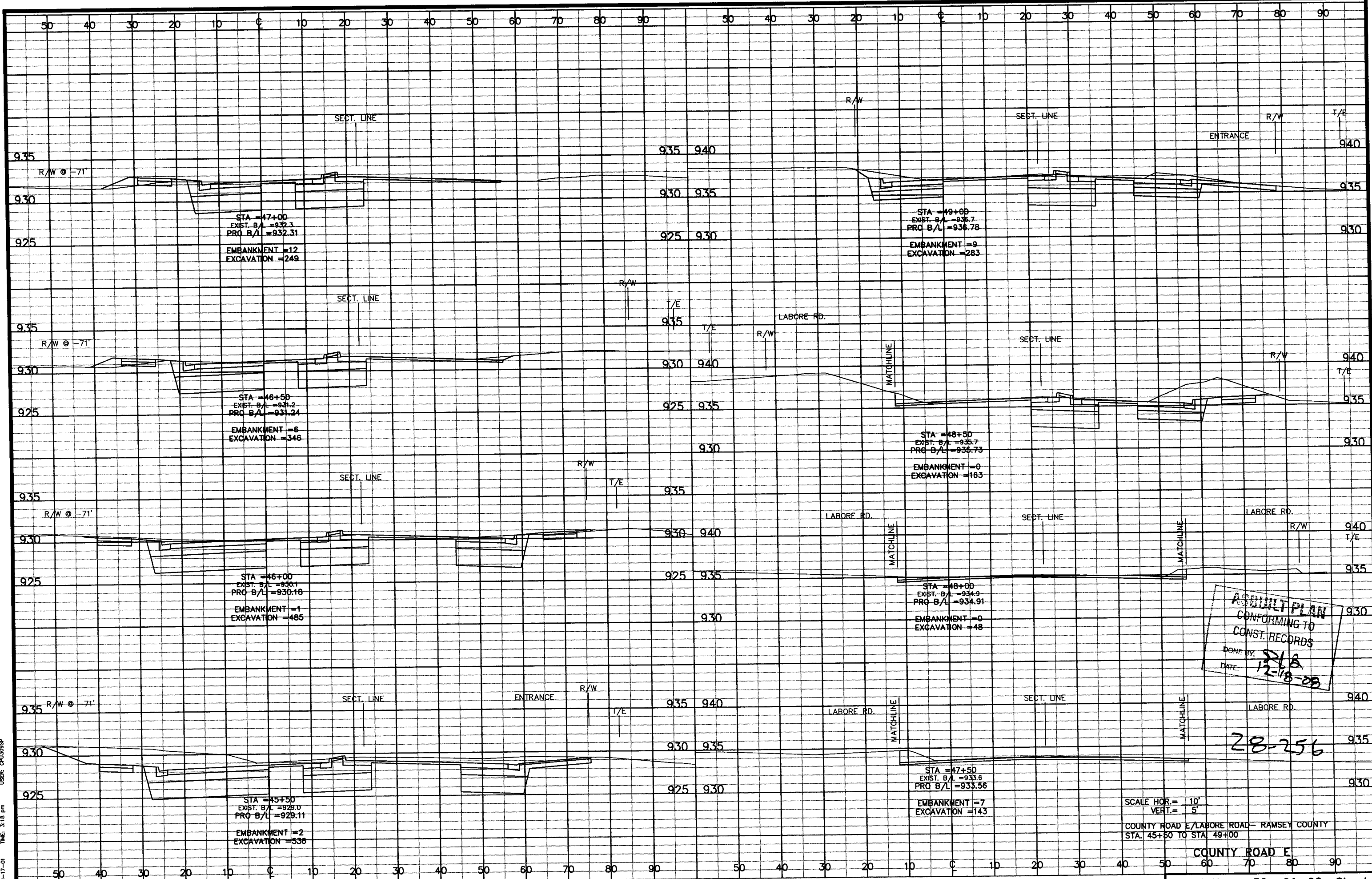


ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY *R/B*
DATE *12-18-02*

28-256

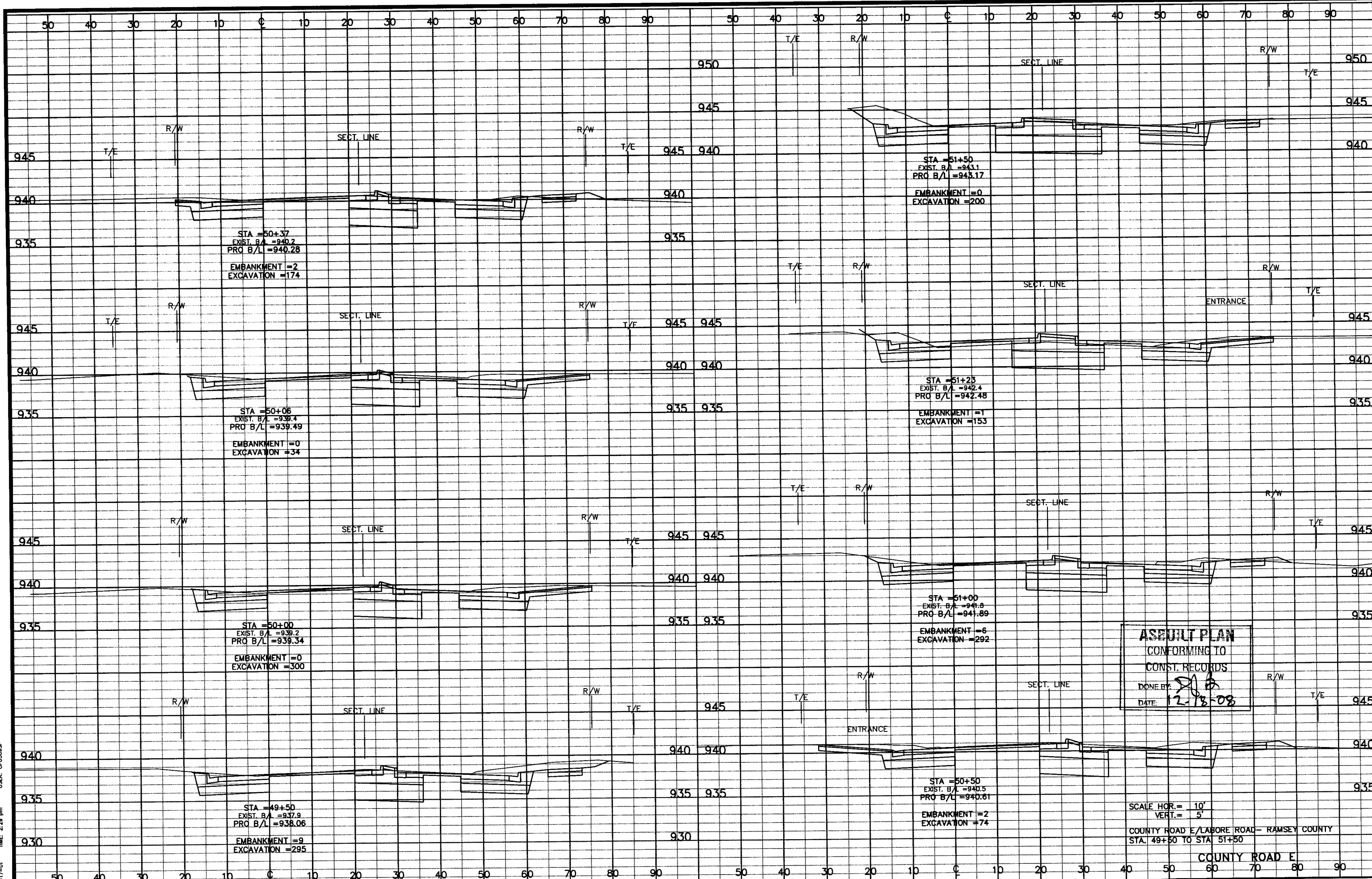
SCALE HOR. = 10'
VERT. = 5'
COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
STA. 42+35 TO STA. 45+00

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DATE: 09-17-01 TIME: 3:18 PM USER: CPU309SP
XREFS:



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *SLB*
DATE: *12-18-08*

28-256

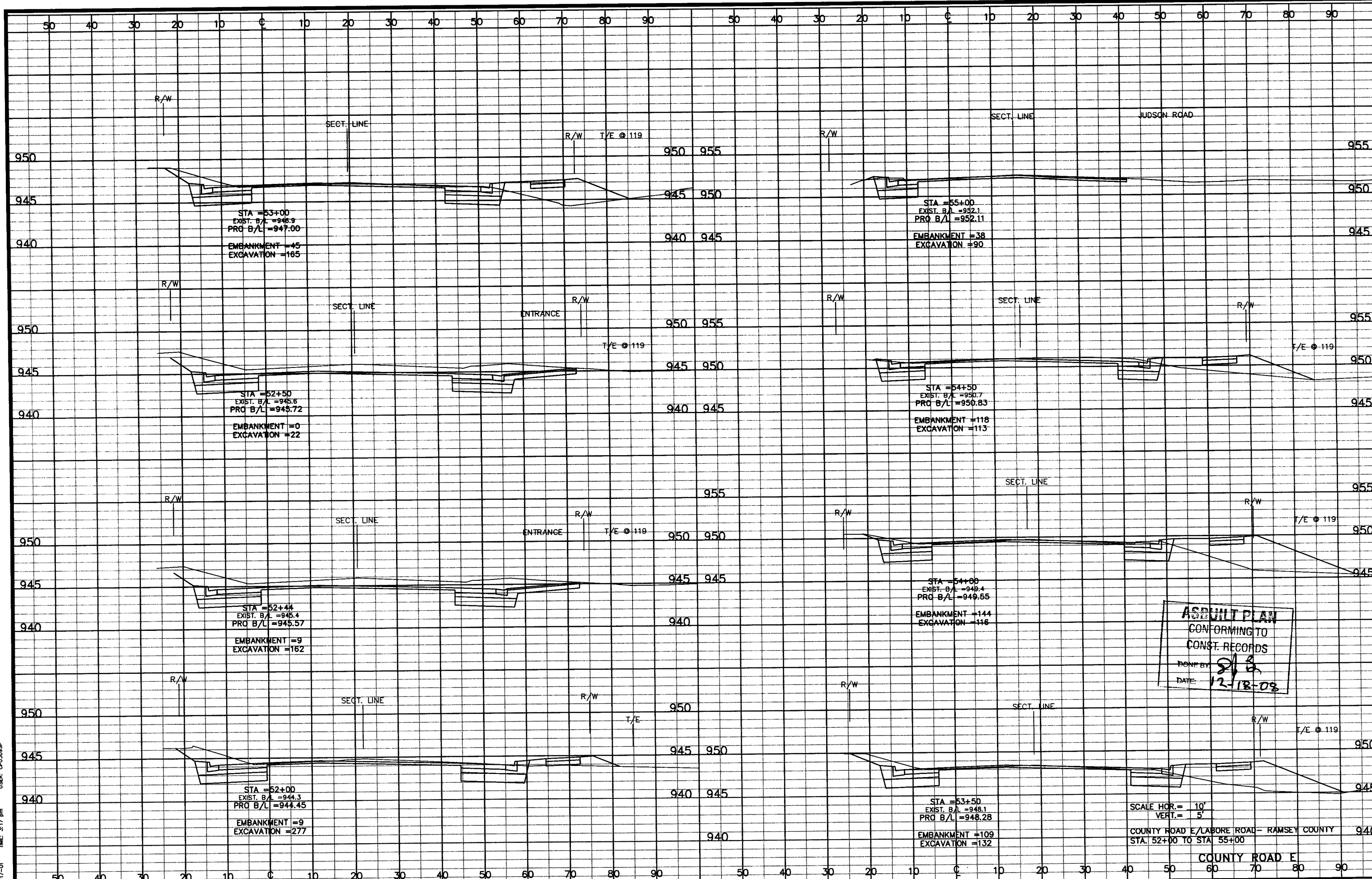


ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 49+50 TO STA. 51+50

28-256

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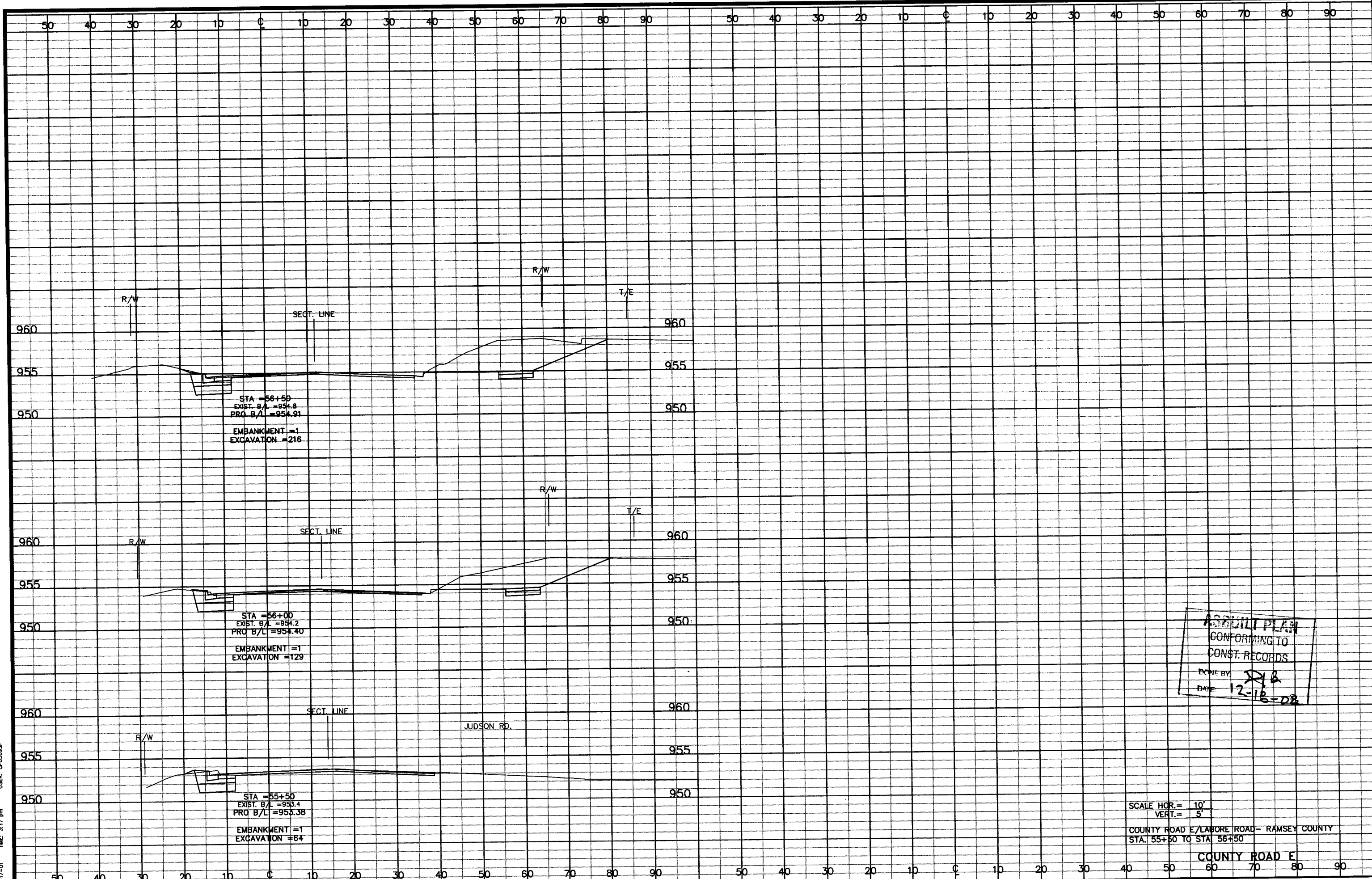


ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 52+00 TO STA. 55+00

28-256

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 DATE: 08-17-01 TIME: 3:17 pm
 USER: CPU309SP
 PLOT:



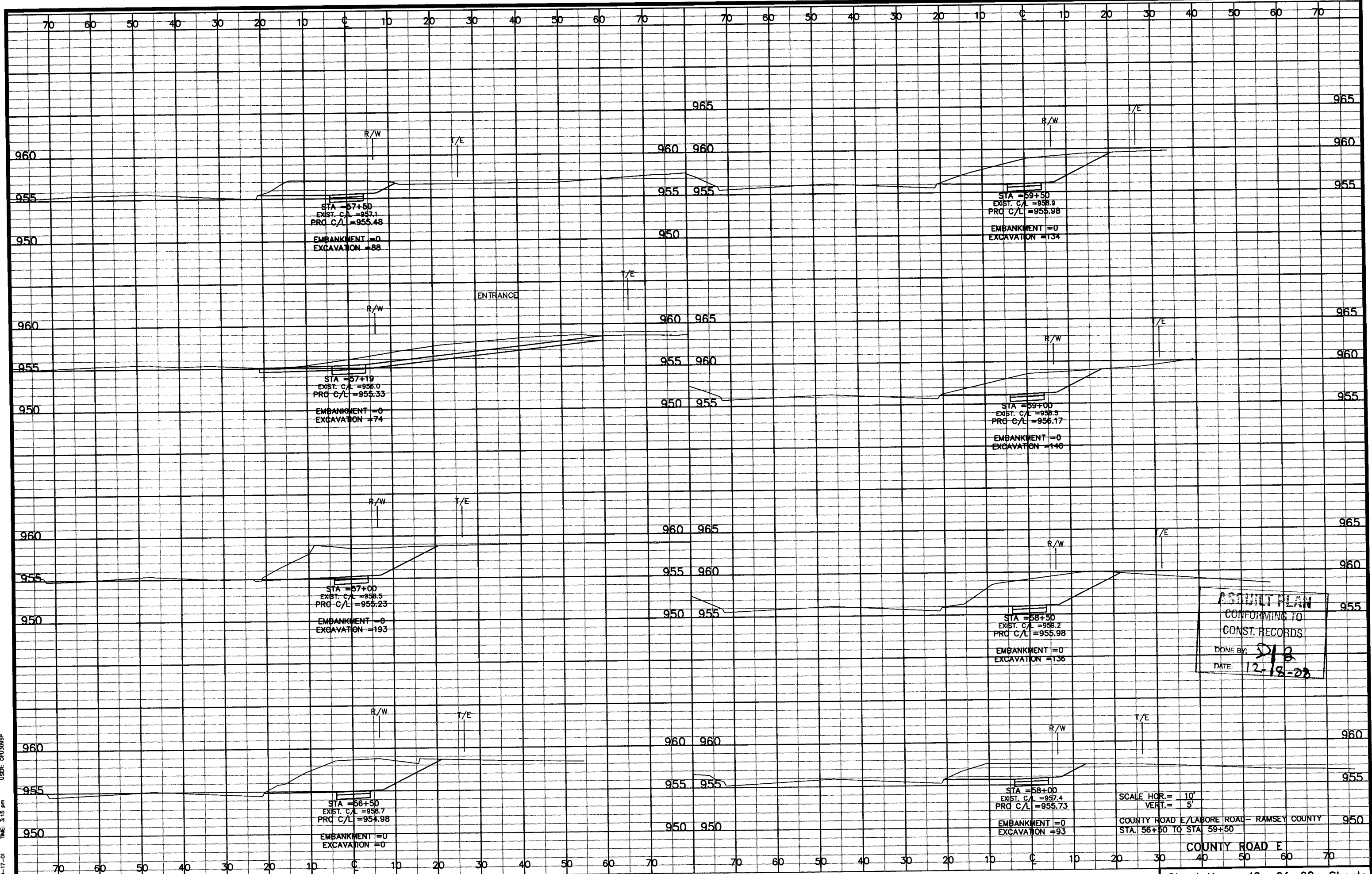
ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: JTB
 DATE: 12-18-08

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LAFORE ROAD - RAMSEY COUNTY
 STA. 55+50 TO STA. 56+50

28-256

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 USER: CPU309SP
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XREFS:

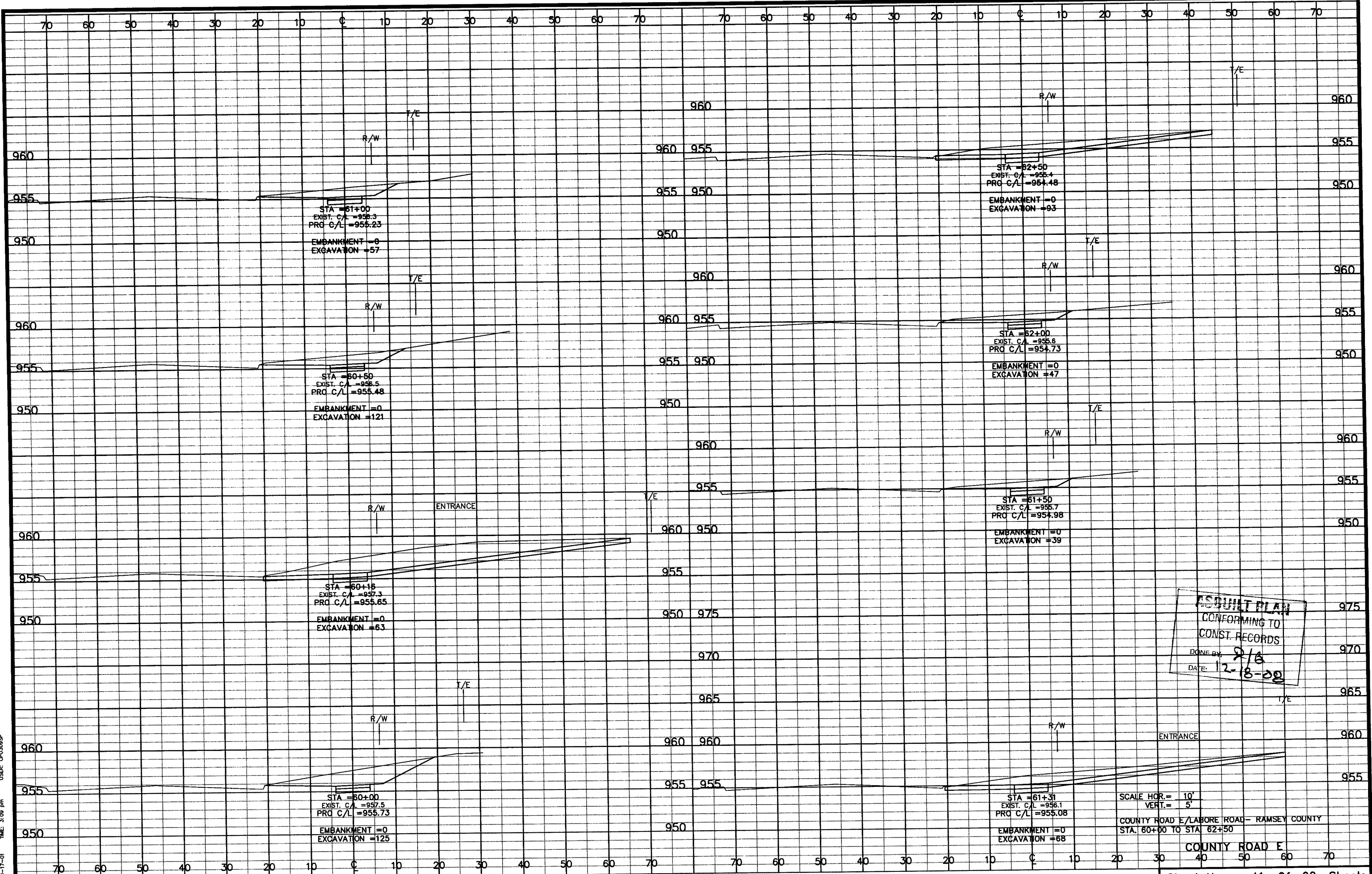


AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: *12-18-28*

SCALE HOR. = 10'
VERT. = 5'
COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
STA. 56+50 TO STA. 59+50

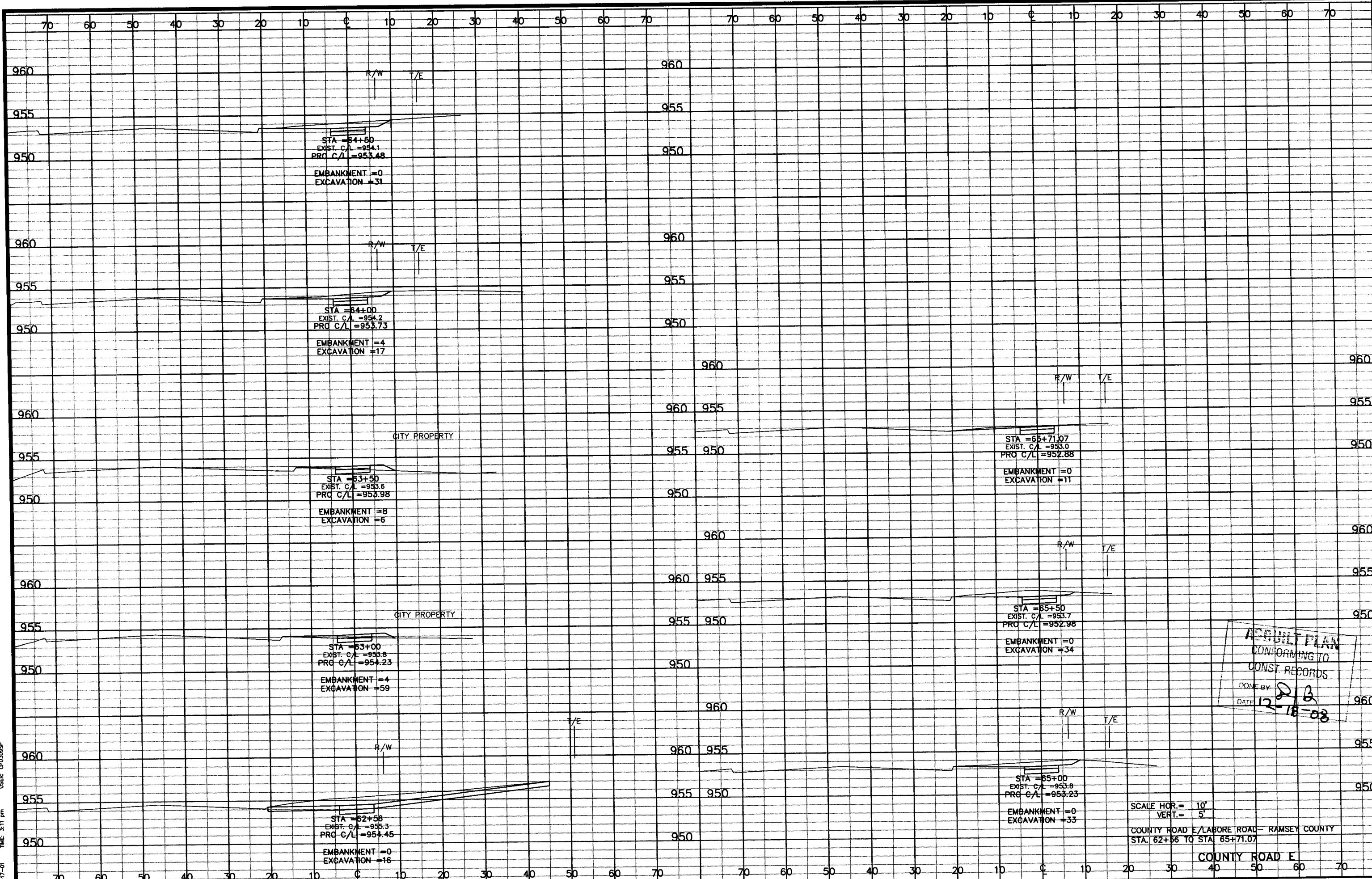
28-256

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XREFS:



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: R/B
DATE: 12-18-02

28-256



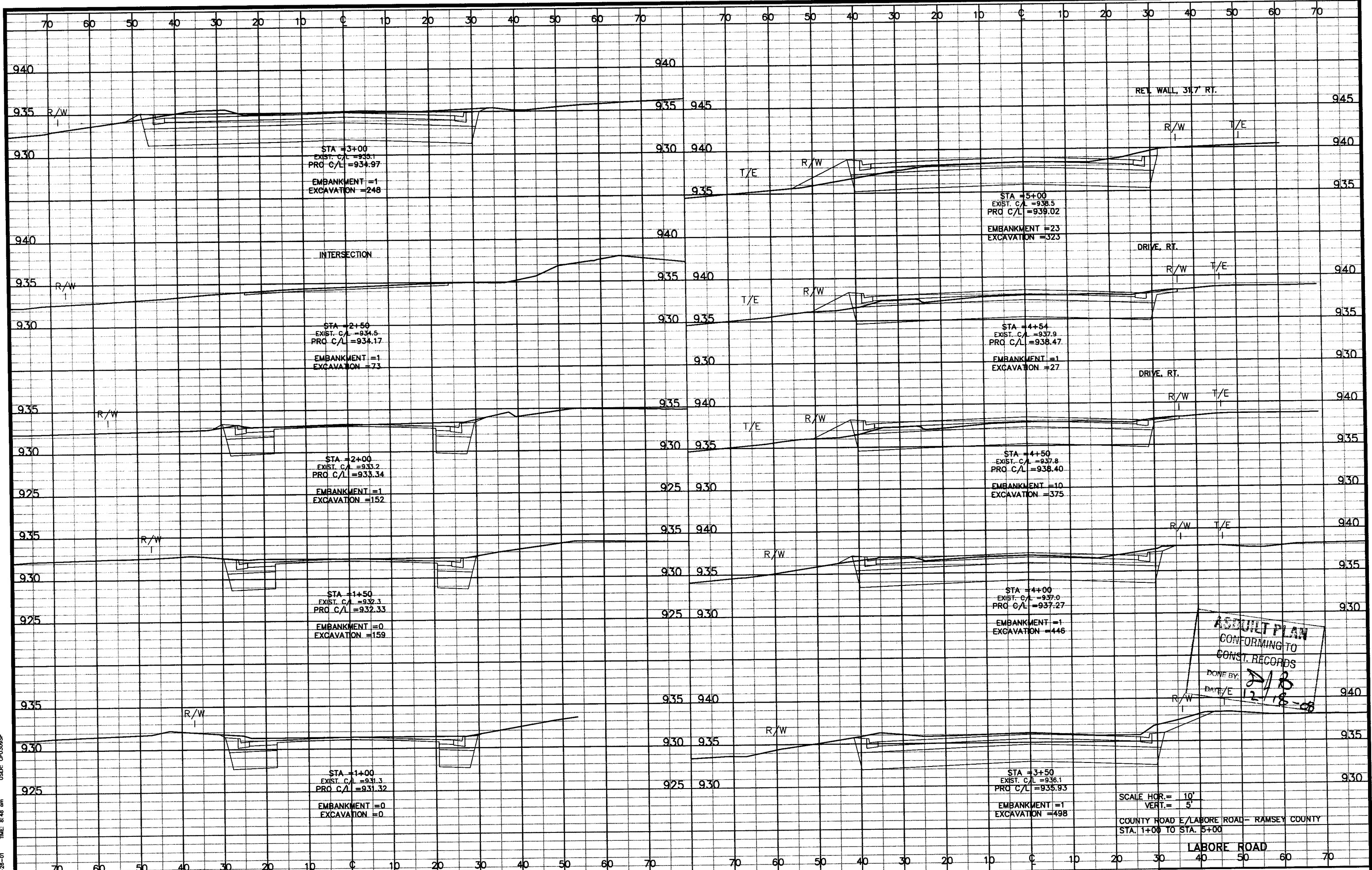
AS-BUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *D.B.*
 DATE: *12-18-08*

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 62+58 TO STA. 65+71.07

28-256

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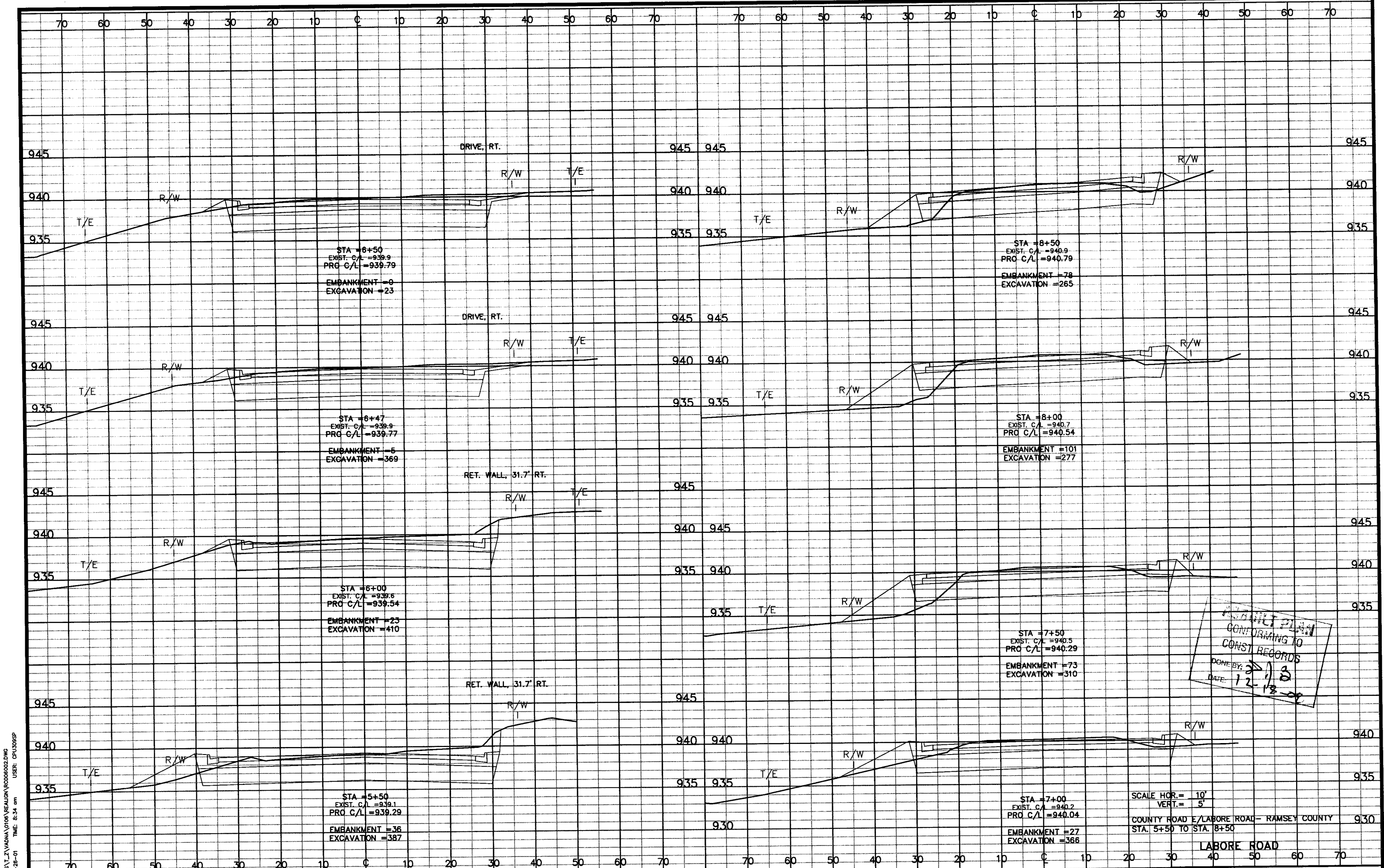
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DATE: 09-26-01 TIME: 8:48 am USER: CPU308SP
XREFS:



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *JLB*
DATE/E: 12/18-08

SCALE HOR. = 10'
VERT. = 5'
COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
STA. 1+00 TO STA. 5+00

28-256



STA = 6+50
 EXIST. C/L = 939.9
 PRO C/L = 939.79
 EMBANKMENT = 0
 EXCAVATION = 23

STA = 8+50
 EXIST. C/L = 940.9
 PRO C/L = 940.79
 EMBANKMENT = 78
 EXCAVATION = 265

STA = 6+47
 EXIST. C/L = 939.9
 PRO C/L = 939.77
 EMBANKMENT = 5
 EXCAVATION = 369

STA = 8+00
 EXIST. C/L = 940.7
 PRO C/L = 940.54
 EMBANKMENT = 101
 EXCAVATION = 277

STA = 6+00
 EXIST. C/L = 939.6
 PRO C/L = 939.54
 EMBANKMENT = 23
 EXCAVATION = 410

STA = 7+50
 EXIST. C/L = 940.5
 PRO C/L = 940.29
 EMBANKMENT = 73
 EXCAVATION = 310

STA = 5+50
 EXIST. C/L = 939.1
 PRO C/L = 939.29
 EMBANKMENT = 36
 EXCAVATION = 387

STA = 7+00
 EXIST. C/L = 940.2
 PRO C/L = 940.04
 EMBANKMENT = 27
 EXCAVATION = 366

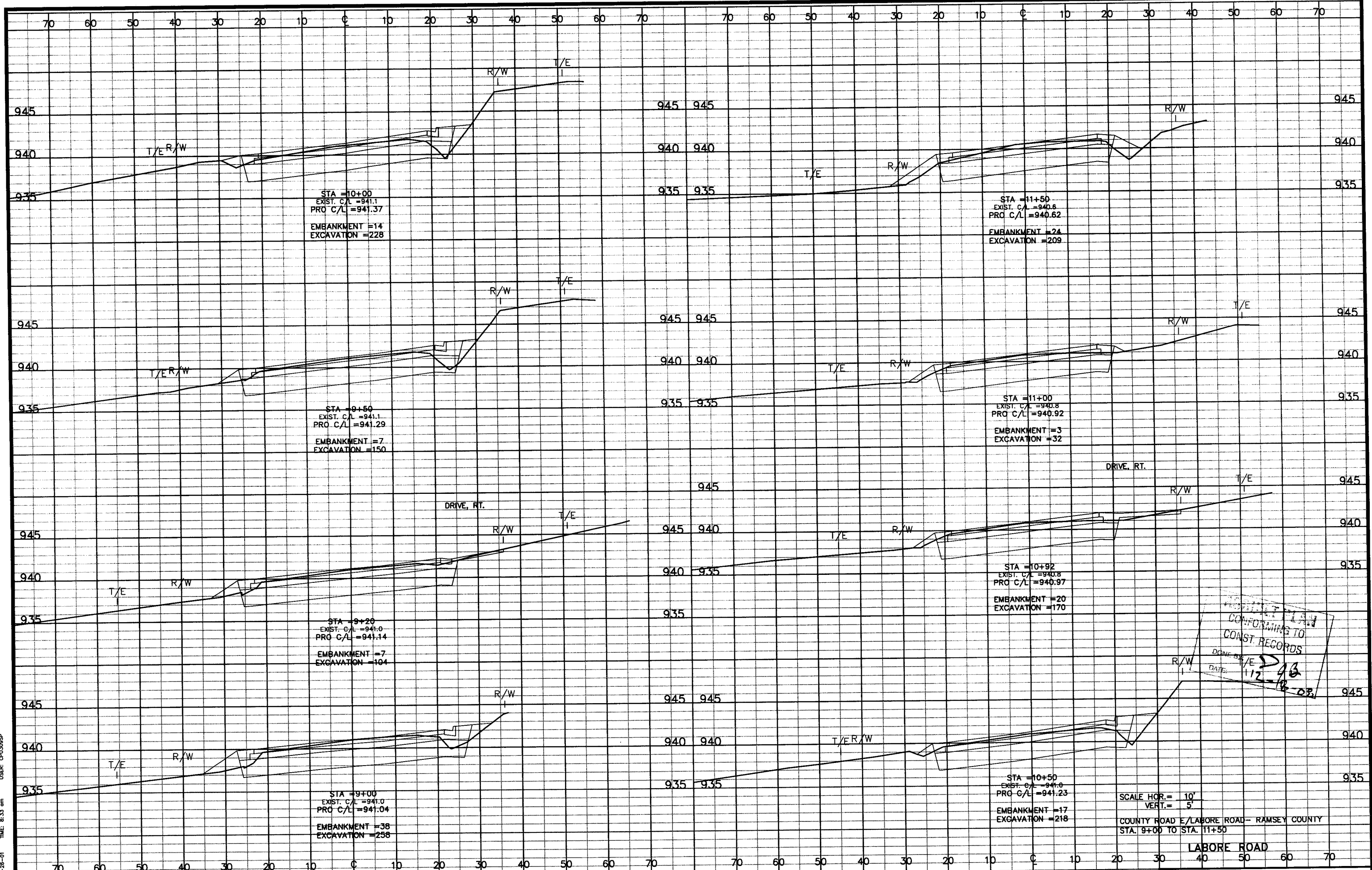
PROFILE PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-01

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 5+50 TO STA. 8+50

LABORE ROAD

C:\CLIENTS\Z\VAUGHN\0106\REALIGN\PC006002.DWG
 DATE: 09-26-01 TIME: 8:34 am USER: CPU309SP
 SHEETS

28-256



PROJECT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: J/E
 DATE: 11-2-03

SCALE HOR. = 10'
 VERT. = 5'
 COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
 STA. 9+00 TO STA. 11+50

28-256

C:\CLIENTS\Z\ADNA\0108\REALIGN\RC007002.DWG
 DATE: 09-26-01 TIME: 8:33 am USER: CPU309SP

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

945
940
935

945
940
935

T/E

R/W

R/W

STA = 12+00
EXIST. C/L = 940.3
PRO. C/L = 940.31
EMBANKMENT = 24
EXCAVATION = 202

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: *12-18-08*

SCALE HOR. = 10'
VERT. = 5'
COUNTY ROAD E/LABORE ROAD - RAMSEY COUNTY
STA. 12+00

LABORE ROAD

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

28-256

G:\CLIENTS\T-2\VAONA 0106\EP\ACRPLD.WG USER: CPU306SP
DATE: 05-03-01 TIME: 10:15 am
XREFS:

SIGN PANELS TYPE "C"											
SIGN NO.	QUANT.	POSTS			MTG. HT. (FT.) (1)	PANEL			CODE NO.	PANEL LEGEND	NOTE
		NO. & TYPE	KNEE BRACES QUANT.	LENGTH		SIZE (IN.)	AREA (SQ FT)	TOTAL AREA (SQ FT)			
C-1	2	1-U	-	13.00	7	30 x 30	6.25	12.50	R1-1	STOP	
C-2	1	1-U	-	16.50	8	30 x 30	6.25	6.25	R1-1	STOP	
						24 x 24	4.00	4.00	R3-2	NO LEFT TURN	
C-3	1	1-U	-	13.50	7	36 x 36 x 36	9.00	9.00	R1-2	YIELD	(2)
C-4	1	1-U	-	13.00	7	24 x 30	5.00	5.00	R2-1	SPEED LIMIT 45	
C-5	1	2-U	-	13.00	7	54 x 30	11.25	11.25	R3-30ACA	LANE DESIGNATION (LEFT, THRU, RIGHT)	
C-6	6	1-U	-	12.00	6	30 x 30	6.25	37.50	R3-X2	LEFT TURN LANE	(2)
						24 x 30	5.00	35.00	R4-7	KEEP RIGHT	(2)
C-7	7	1-U	-	13.50	6	18 x 18	2.25	15.75	X4-2	HAZARD MARKER (YELLOW ON BLACK)	(2)
C-8	1	1-U	-	13.00	7	30 x 30	6.25	6.25	R5-1	DO NOT ENTER	
C-9	1	1-U	-	13.00	7	24 x 30	5.00	5.00	R2-1	SPEED LIMIT 40	
C-10	6	1-U	-	10.50	6	36 x 12	6.00	36.00	R6-1R	ONE WAY (RIGHT)	(2)
C-11	11	1-U	-	12.00	7	18 x 18	2.25	24.75	R8-3a	NO PARKING	
C-12	1	1-U	-	15.50	8	36 x 30	7.50	7.50	R3-30AD	LANE DESIGNATION (LEFT, THRU/RIGHT)	
						18 x 18	2.25	2.25	R8-3a	NO PARKING	
C-13	1	1-U	-	14.00	7	24 x 30	5.00	5.00	R2-1	SPEED LIMIT 45	
						18 x 18	2.25	2.25	R8-3a	NO PARKING	
C-20	1	1-U	-	13.00	7	30 x 30	6.25	6.25	W1-2L	CURVE AHEAD (LEFT)	
C-21	1	-	-	13.50	7	36 x 36	9.00	9.00	W3-3	SIGNAL AHEAD	
C-22	1	-	-	13.50	7	36 x 36	9.00	9.00	W6-1	DIVIDED HIGHWAY	
C-23	1	2-U	-	14.50	7	48 x 60 x 60	10.00	10.00	W14-3	NO PASSING ZONE	
C-24	1	1-U	-	9.50	4	24 x 24	4.00	4.00	W12-1	DOUBLE ARROW	(2)
						24 x 24	4.00	8.00	M1-6	RAMSEY COUNTY 15	
C-30	2	1-U	-	15.00	8	18 x 18	2.25	4.50	R8-3a	NO PARKING	
TOTAL								276.00			

SPECIFIC NOTES:

- (1) Mounting height is minimum, see sheet 49 for typical mounting.
- (2) Mounted in Concrete. See sheet 49.
- (3) Contractor to install contractor-furnished "County Road E" Street name sign panels and city-furnished "Judson Rd" and "English St" Street name signs panels on city furnished square (See special provisions).
- (4) Mounted back to back
- (5) Each installation includes 2 Street Name Sign Panels per Street mounted back to back. (See Special Provisions).
- (6) Salvage Sign Panel, posts and mounting hardware and return to the City of Vadnais Heights.

GENERAL NOTES

1. Location of all signs and pavement markings shown are approximate street name sign post. and shall be located by the Engineer in the field prior to installation.
2. See Mn/DOT Standard Signs Manual for punching code and detailed drawings for Type "C" sign details.
3. Punching codes for Type "C" and "D" sign panels shall be governed by the number of sign posts specified on the plans at each location (Not by what is shown on the detailed drawings in the Standard Signs Manual). Dimensions shall be specified on pages 108-111 of the Standard Signs Manual.
4. Mounting heights of sign panels are minimum, and shall conform to standards set forth in Special Provisions.
5. See detail sheets in plans for details regarding sign structures, sign posts and other applicable details.
6. All traffic control devices shall conform to the Minnesota Manual on Uniform Traffic Control Devices, including the Field Manual for Temporary Traffic Control Zone layouts (Dated January, 2001).
7. Coordinate installation of all posts and pavement markings with sidewalk, road and median construction.
8. Stop bars shall be epoxy pavement marking material. See special provisions.
9. Post lengths are approximate and include embedment, but do not include additional length required for splice.
10. All riser (vertical) "U" posts shall be spliced. Driven stub posts shall be at least 3.5' long.
11. Use 2.00 lbs riser stub posts, risers, stringers and lateral braces. All shown to conform to Mn/DOT 3401.
12. Use stainless steel 5/16" bolts, washers and nylon insert locks as shown for all ground mounted and overhead signs.
13. 2-post Type "C" signs shall be reinforced with at least one lateral brace. Installations where the total panel height is 5' or more shall have two lateral braces located approximately at the quarter points.

SALVAGE SIGNS TYPE "C"							
SIGN NO.	QUANT.	POSTS		PANEL SIZE (IN.)	MMUTCD CODE	PANEL LEGEND	NOTE
		NO. & TYPE	KNEE BRACES QUANT.				
C-100	5	1-U	-	30 x 30	R1-1	STOP	
C-101	1	1-U	-	36 x 36 x 36	R1-2	YIELD	
C-103	2	1-U	-	24 x 30	R2-1	SPEED LIMIT 45	
C-104	1	1-U	-	24 x 24	R3-2	NO LEFT TURN	
				24 x 36	R3-9b	CENTER LEFT TURN LANE	(4)
C-105	1	1-U	-	30 x 30	R3-X2	LEFT TURN LANE	
				18 x 18	X4-2	HAZARD MARKER	
C-106	1	1-U	-	30 x 30	R5-1	DO NOT ENTER	
C-107	1	1-U	-	30 x 30	R3-X1	RIGHT TURN LANE	
C-108	1	1-U	-	24 x 30	R2-1	SPEED LIMIT 40	
C-109	1	1-U	-	24 x 36	R3-9b	CENTER LEFT TURN LANE	
C-110	4	1-U	-	18 x 18	R8-3a	NO PARKING	
				36 x 30	R3-30AD	LANE DESIGNATION (LEFT, THRU/RIGHT)	
C-111	1	1-U	-	18 x 18	R8-3a (MOD.)	NO PARKING ANY TIME	
C-120	1	1-U	-	30 x 30	W1-2L	CURVE AHEAD (LEFT)	
C-121	1	1-U	-	36 x 36	W3-3	SIGNAL AHEAD	
C-122	1	2-U	-	48 x 60 x 60	W14-3	NO PASSING ZONE	
C-123	1	1-U	-	24 x 24	W12-1	DOUBLE ARROW	
C-130	1	1-U	-	24 x 24	M1-6	RAMSEY COUNTY 15	
				24 x 24	M1-6	RAMSEY COUNTY 15	
C-131	1	1-U	-	18x 18	R8-3a	NO PARKING	
TOTAL	25						

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DJB*
 DATE: 12-18-08

S.A.P. NO. 62-615-024
 CITY PROJ. 2001-04

C:\CLIENTS\2\VADNA\0108\TRAFFIC\TABULATION.DWG
 08-18-01 3:58 pm
 CPU:024p
 XREFS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Thomas A. Schewe
 Thomas A. Schewe, P.E.
 Date: 9/28/01 Lic. No. 20943



RAMSEY COUNTY, MINNESOTA

SIGNING AND PAVEMENT MARKING TABULATION COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106.00
 DATE 9/28/01
47
92

28-256

PLOTTED

(K) SIGN PANELS TYPE SPECIAL (STREET NAME SIGNS)

SIGN NO.	QUANT.	NO. OF POSTS & TYPE	PANEL LEGEND
▲	4	1-SQUARE NOTE (3)	COUNTY ROAD E
TOTAL	4		

(L) SALVAGE SIGNS TYPE SPECIAL (STREET NAME SIGNS)

SIGN NO.	QUANT.	NO. OF POSTS & TYPE	PANEL LEGEND
▲	2	1-SQUARE	STREET NAME SIGNS AND POSTS
TOTAL	2		

(M) INSTALL SIGNS TYPE SPECIAL (STREET NAME SIGNS)

SIGN NO.	QUANT.	NO. OF POSTS & TYPE	PANEL LEGEND	NOTES
▲	1	1-SQUARE NOTE (3)	JUDSON RD	(5)
▲	1	1-SQUARE NOTE (3)	ENGLISH ST	(5)
TOTAL	2			

(N) INSTALL SIGNS TYPE "C"

SIGN NO.	QUANT.	NO. OF POSTS & TYPE	SIZE	PANEL LEGEND
C-100	1	1-U	30 x 30	STOP
C-104	1	1-U	24 x 24	NO LEFT TURN
C-106	1	1-U	30 x 30	DO NOT ENTER
TOTAL	3			

(P) SALVAGE SIGNS TYPE "D"

SIGN NO.	QUANT.	POSTS		PANEL SIZE (IN.)	MTG. HT. (FT.) (1)	PANEL LEGEND	NOTE
		NO. & TYPE	KNEE BRACES QUANT.				
D-100	1	2-U	2	48 x 60	-		-
D-101	1	2-WOOD	-	48 x 36	-	Welcome to Vadnais Heights	(6)
TOTAL	2						

(Q) INSTALL SIGNS TYPE "D"

SIGN NO.	QUANT.	POSTS		PANEL SIZE (IN.)	MTG. HT. (FT.) (1)	PANEL LEGEND	NOTE
		NO. & TYPE	KNEE BRACES QUANT.				
D-100	1	2-U	2	48 x 60	-		-
TOTAL	2						

(R) MISCELLANEOUS SIGNS - PERMANENT BARRICADES

CODE NO.	QUANT.	POSTS NO. & TYPE	PANEL		PANEL LEGEND
			LENGHT (FT)	TOTAL LENGHT (FT)	
-	2	2-WOOD	3-8.0	48.0	F & I NEW PERMANENT BARRICADES (PER MNDOT STANDARD PLATE NO. M8002G)
TOTAL	2			48	

(S) PAVEMENT MARKING TABULATION

ITEM	UNIT	QUANT.
4" BROKEN LINE WHITE - EPOXY	FT	1080
4" BROKEN LINE YELLOW - EPOXY	FT	160
4" SOLID LINE WHITE - EPOXY	FT	2830
4" SOLID LINE YELLOW - EPOXY	FT	3660
4" DOUBLE SOLID LINE YELLOW - EPOXY	FT	2550
24" SOLID LINE YELLOW - EPOXY	FT	820
ZEBRA CROSSWALK WHITE - EPOXY	SQ.FT	1950
PAVEMENT MESSAGE WHITE (RIGHT ARROW) - EPOXY	EACH	2
PAVEMENT MESSAGE WHITE (LEFT ARROW) - EPOXY	EACH	15

LEGEND OF SYMBOLS

- SIGN PANEL SUPPORT (SEE TABLE FOR NUMBER OF POSTS.)
- PAVEMENT MESSAGES
- ZEBRA CROSSWALK - WHITE
- PERMANENT BARRICADE (PER Mn/DOT STANDARD PLATE NO. M80026)
- 24" SOLID YELLOW TRANSVERSE LINES AT 45' (20' SPACING)-SURROUNDED BY 4" DOUBLE SOLID YELLOW PAVEMENT MARKINGS.
- ① FURNISH AND INSTALL SIGN OR DELINEATOR
- ② INPLACE TYPE SIGN OR DELINEATOR
- ③ SALVAGE SIGN OR DELINEATOR
- ④ F & I NEW PERMANENT BARRICADE (PER Mn/DOT STANDARD PLATE NO. M80026).
- ▲ CONTRACTOR TO INSTALL CONTRACTOR-FURNISHED "COUNTY ROAD "E" STREET NAME SIGN PANELS AND CITY-FURNISHED "JUDSON RD" AND ENGLISH ST" STREET NAME SIGNS PANELS ON CITY FURNISHED SQUARE STREET NAME SIGN POST. (SEE SPECIAL PROVISIONS).

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DAB*
 DATE: 12-18-08

Q:\CLIENTS\12\VADNA\0106\TRAFFIC\TABULATION.DWG
 08-18-01 3:58 pm
 XREFS:

DRAWN BY: GEN				
DESIGNER: HNK				
CHECKED BY: XXX				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Thomas A. Sohrweide
 Thomas A. Sohrweide, P.E.
 Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY, MINNESOTA

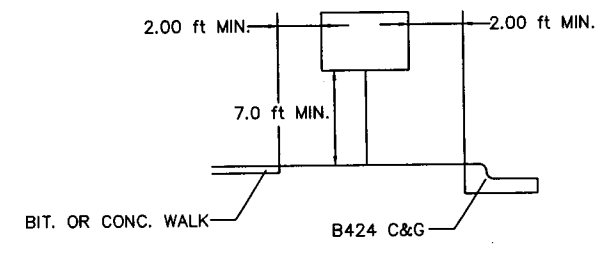
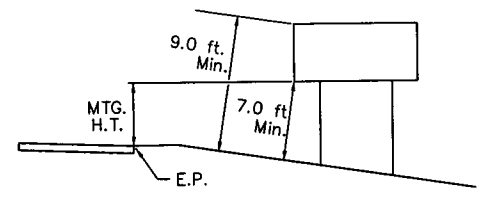
SIGNING AND PAVEMENT MARKING TABULATION
 COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106.00	48
DATE 9/28/01	92

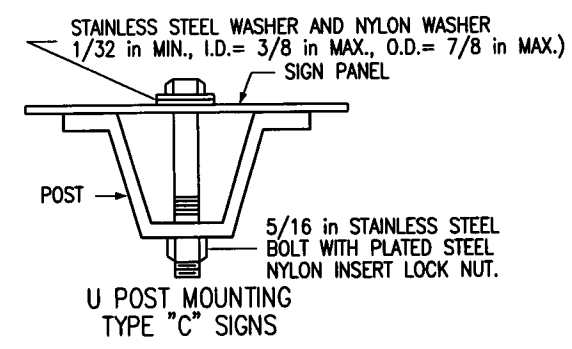
S.A.P. NO. 62-615-024
 CITY PROJ. 2001-04

28-256

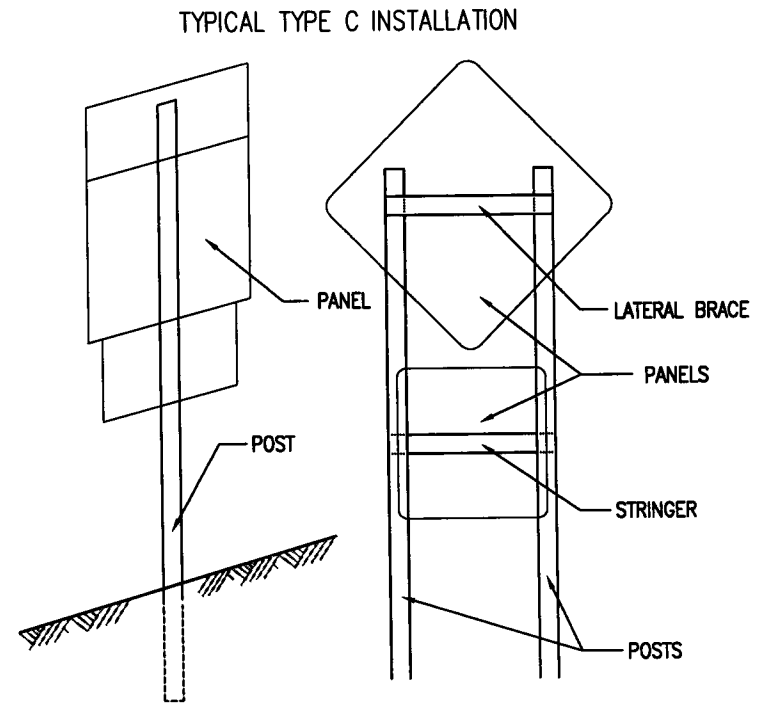
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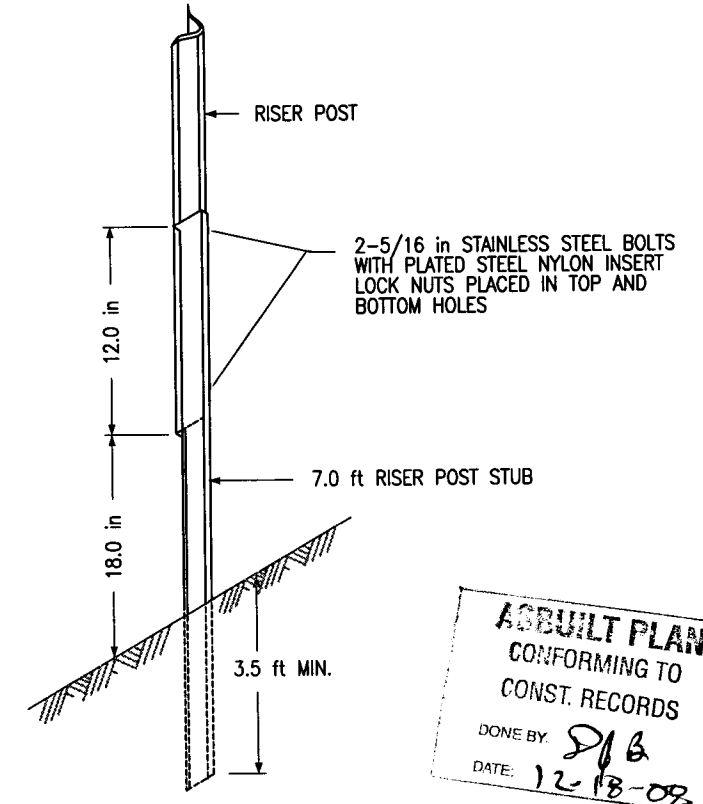
TYPICAL MOUNTING



U POST MOUNTING
TYPE "C" SIGNS

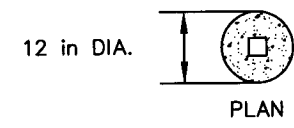


TYPE "C" POST



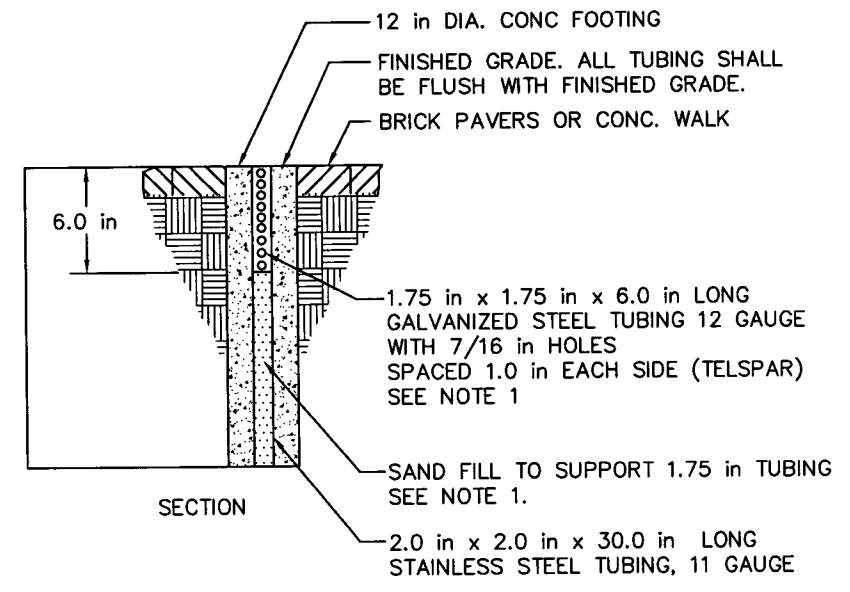
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *SJB*
DATE: 12-18-08

BREAKAWAY SIGN POST FOUNDATION
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)



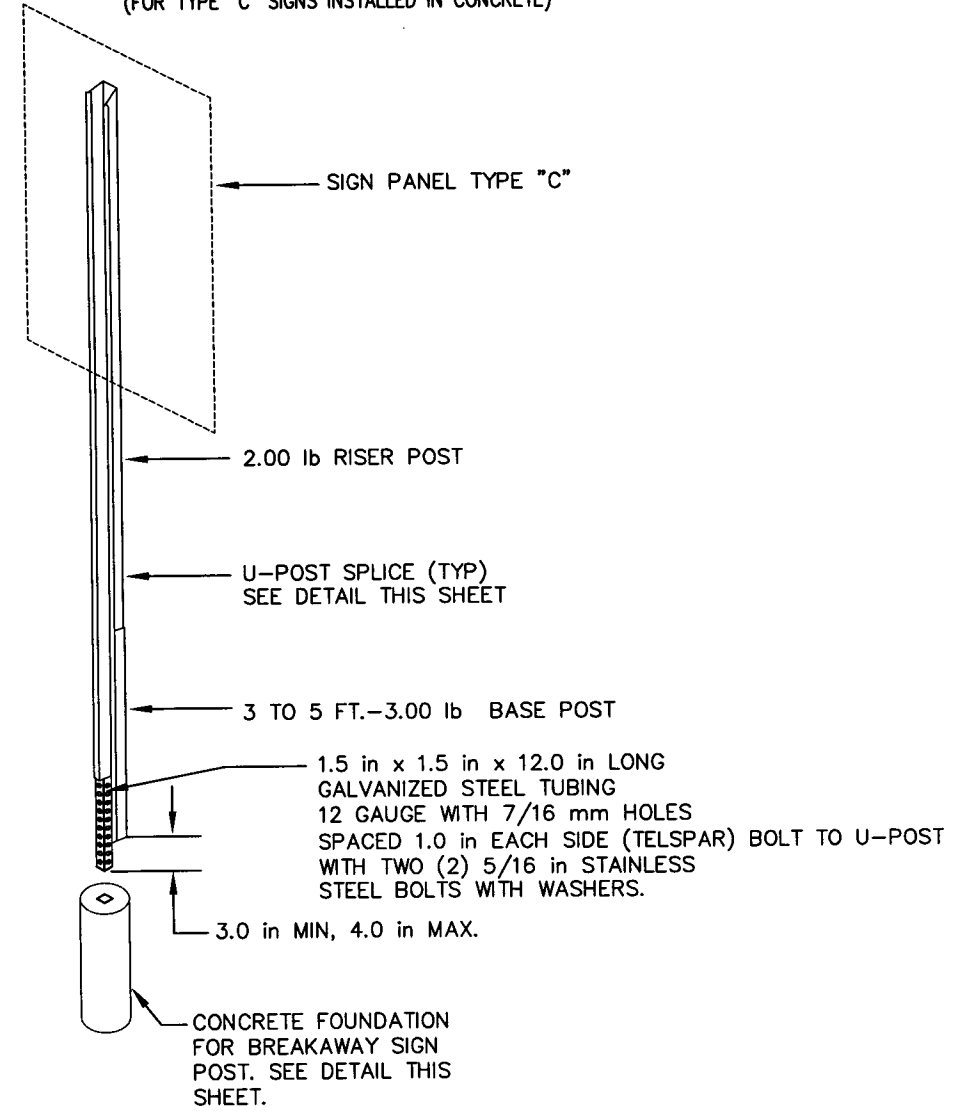
NOTES:

1. THE 1.75 in x 6.0 in TUBING SHALL NOT BE WELDED OR BOLTED TO THE 2.0 in STAINLESS STEEL TUBING.
2. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3. CONCRETE MIX SHALL BE 3A32 OR EQUAL.



SECTION

BREAKAWAY SIGN POST
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)



S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	XXX			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Sohrweide
Thomas A. Sohrweide, P.E.
Date: 9/28/01 Lic. No. 20943

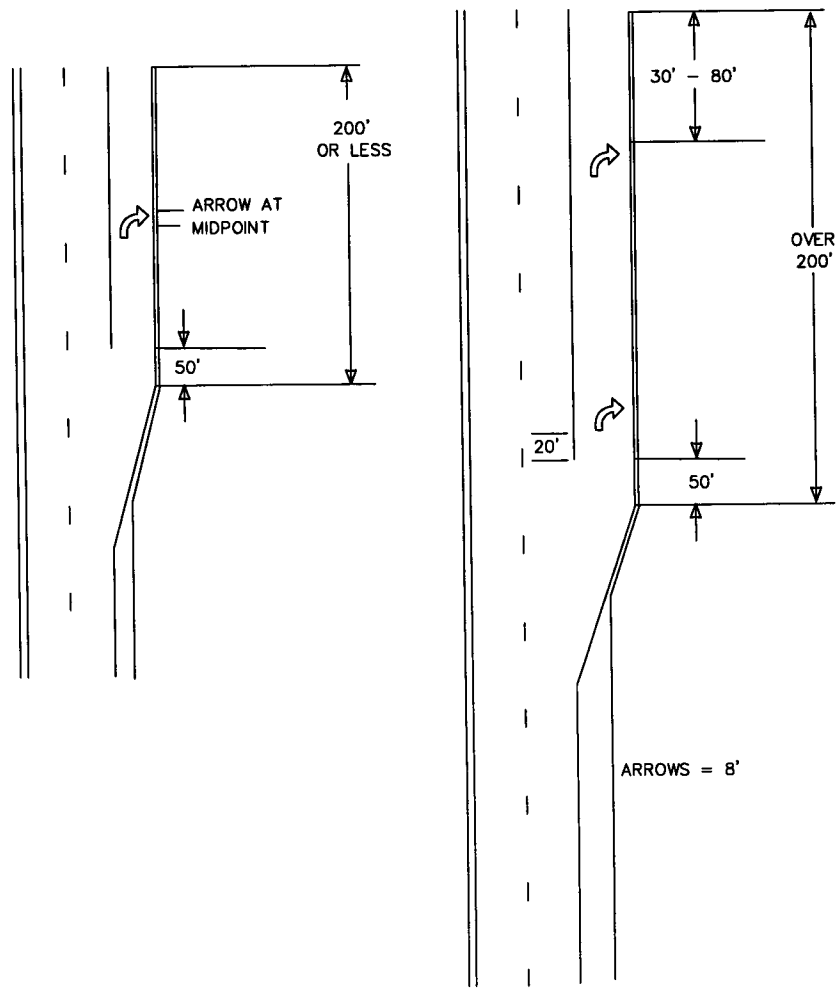
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

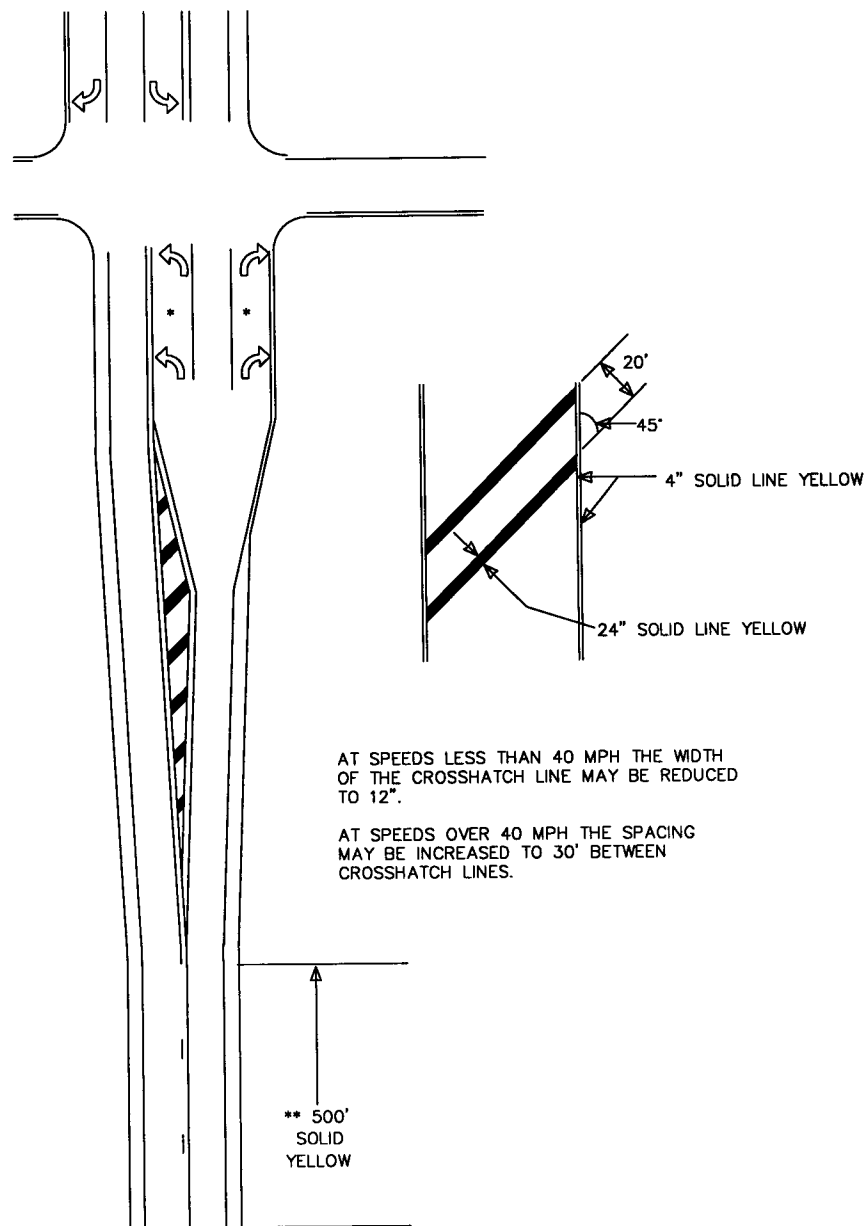
**SIGNING AND PAVEMENT MARKING DETAILS
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106.00
9/28/01
49
92

28-256



TYPICAL MESSAGE PLACEMENT FOR TURN LANES

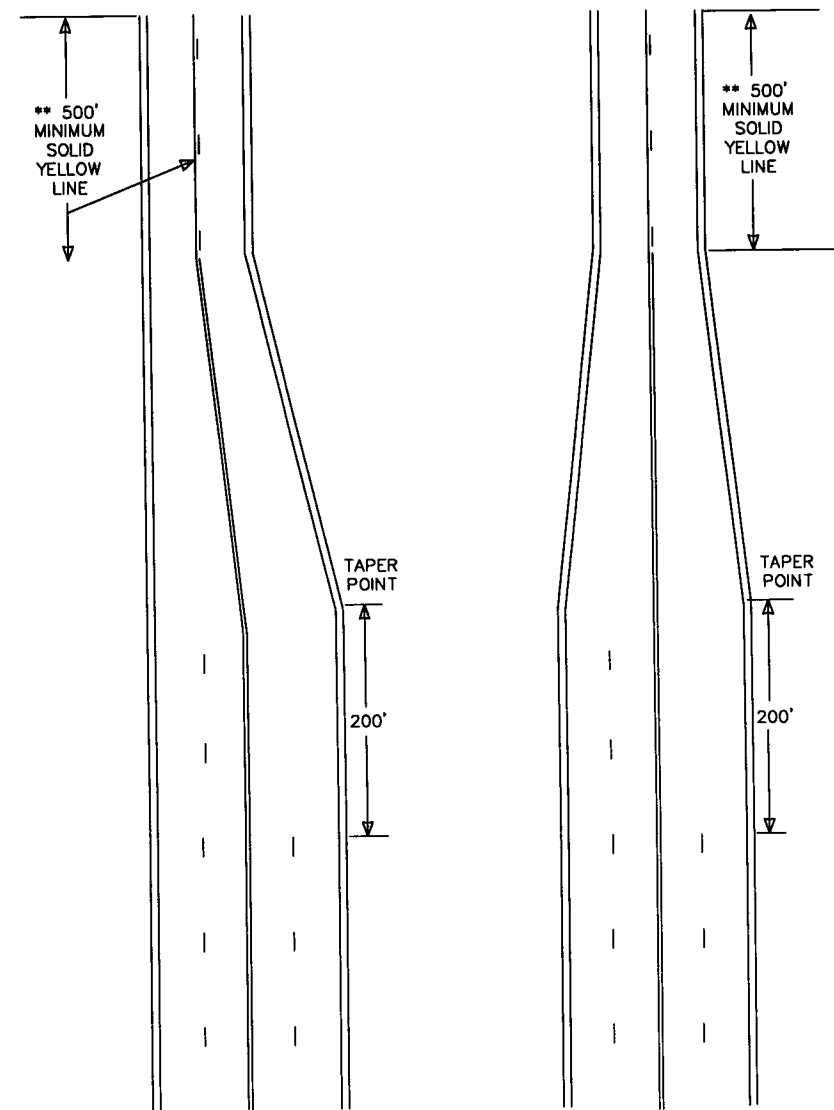


AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12\"/>

AT SPEEDS OVER 40 MPH THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

** 500' SOLID YELLOW

TYPICAL MARKINGS FOR LEFT TURN ISLANDS



* 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.

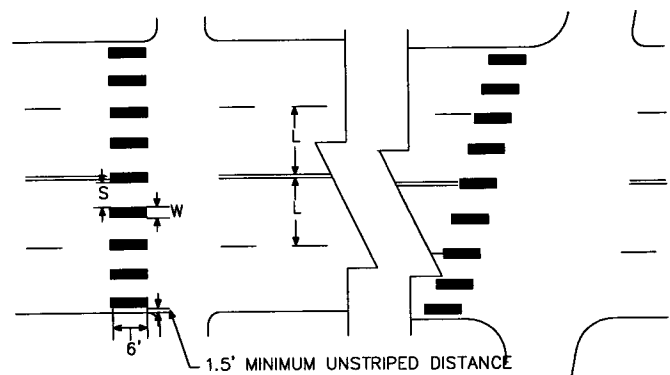
35 MPH SPEED LIMIT OR LESS
40-50 MPH SPEED LIMIT
55 MPH SPEED LIMIT

500' ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

TYPICAL LANE REDUCTION TRANSITION

NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FEET CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FOOT INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.



(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) WIDTH OF SPACE
9'	2.5'	VAR.
10'	2.5'	VAR.
11'	2.5'	VAR.
12'	2.5'	VAR.
13'	2.5'	VAR.

MARKINGS FOR PEDESTRIAN CROSSWALKS

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

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Thomas A. Sahrweide
Thomas A. Sahrweide, P.E.
Date: 9/28/01 Lic. No. 20943

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

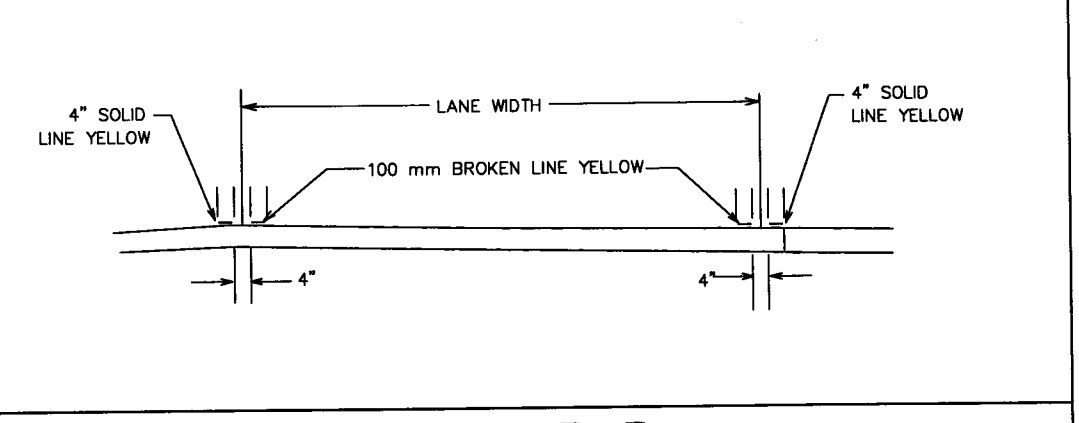
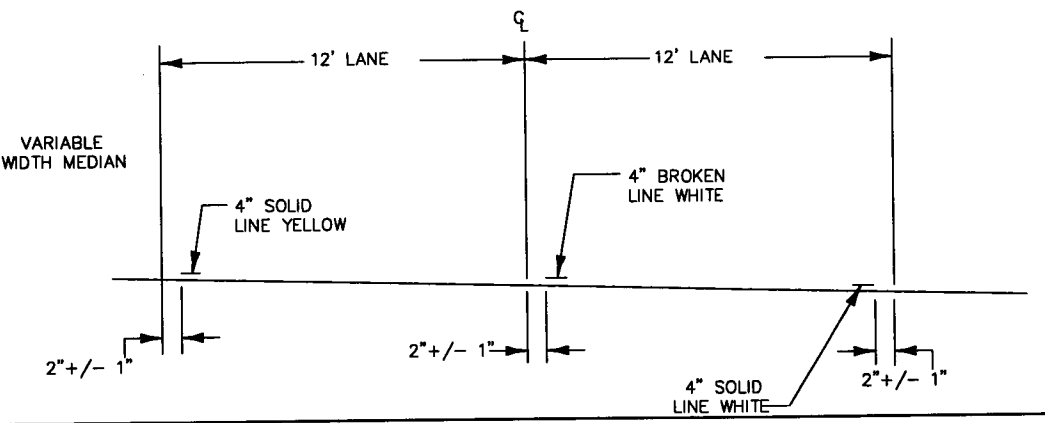
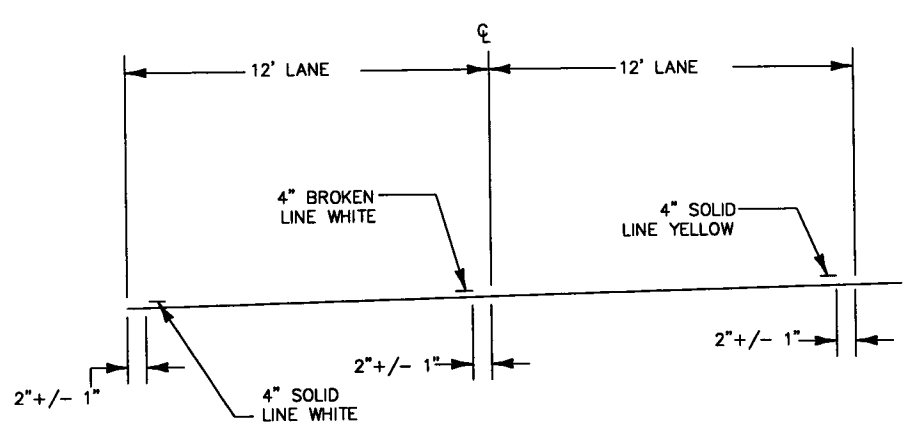
RAMSEY COUNTY,
MINNESOTA

SIGNING AND PAVEMENT MARKING DETAILS
COUNTY ROAD E & LABORE ROAD

FILE NO.
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9/28/01

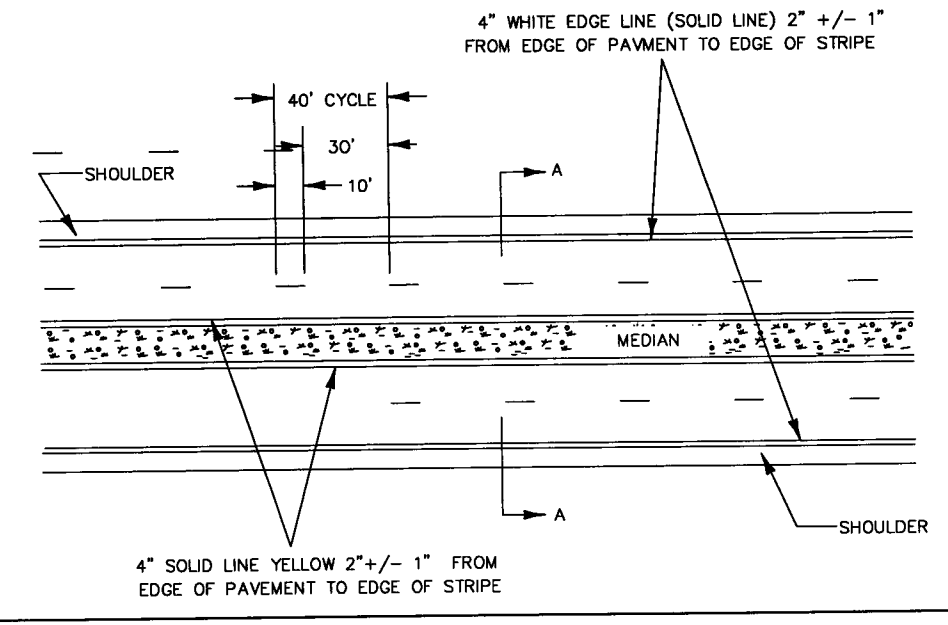
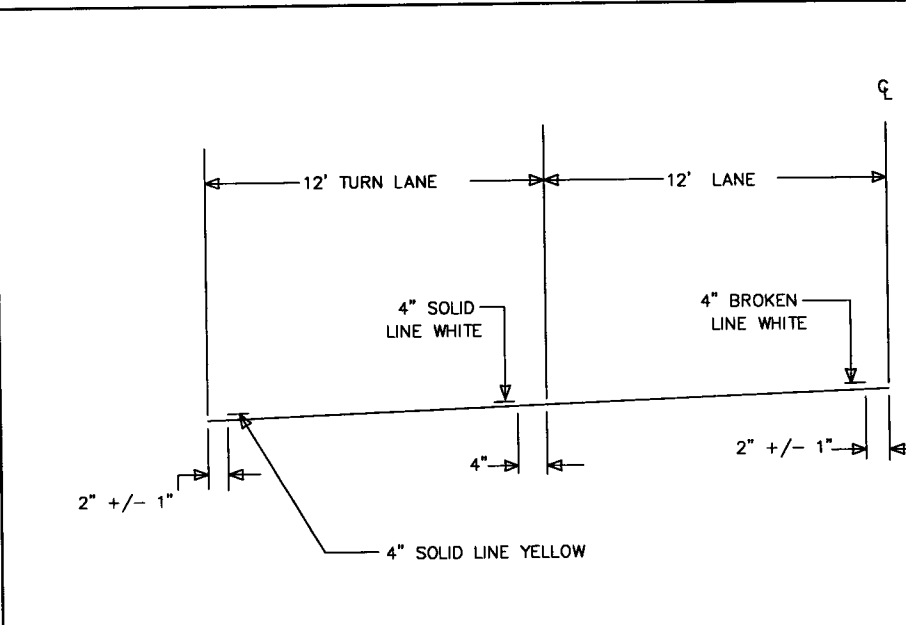
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28-256



SECTION A-A
FOUR LANES

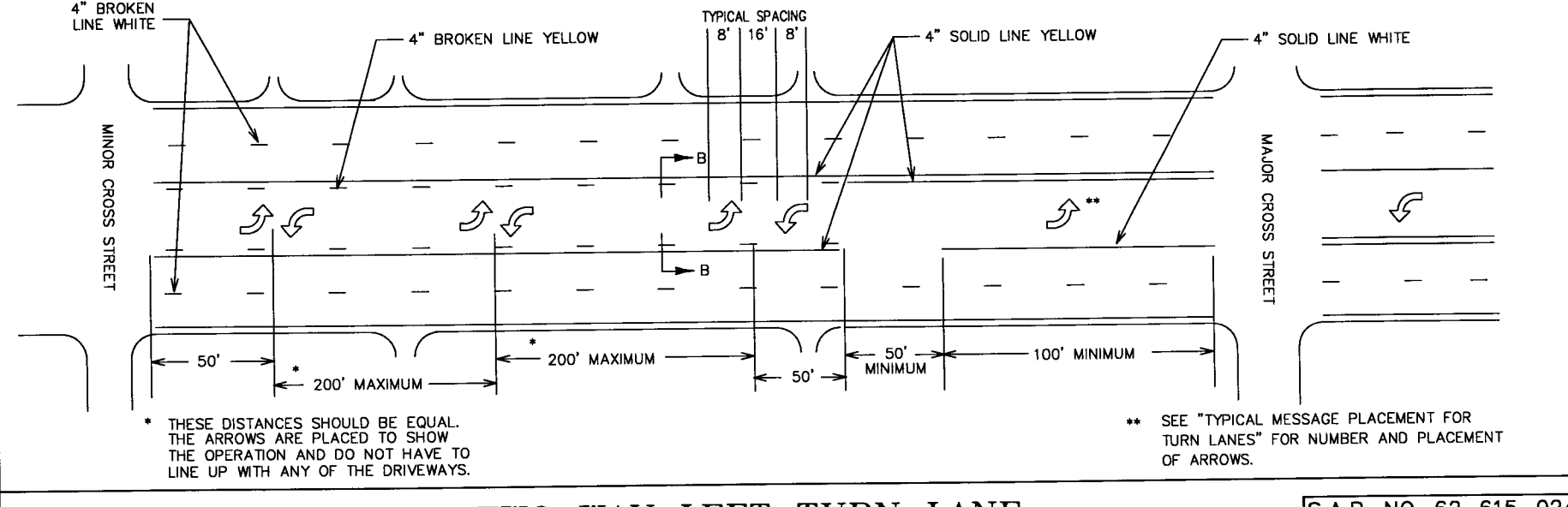
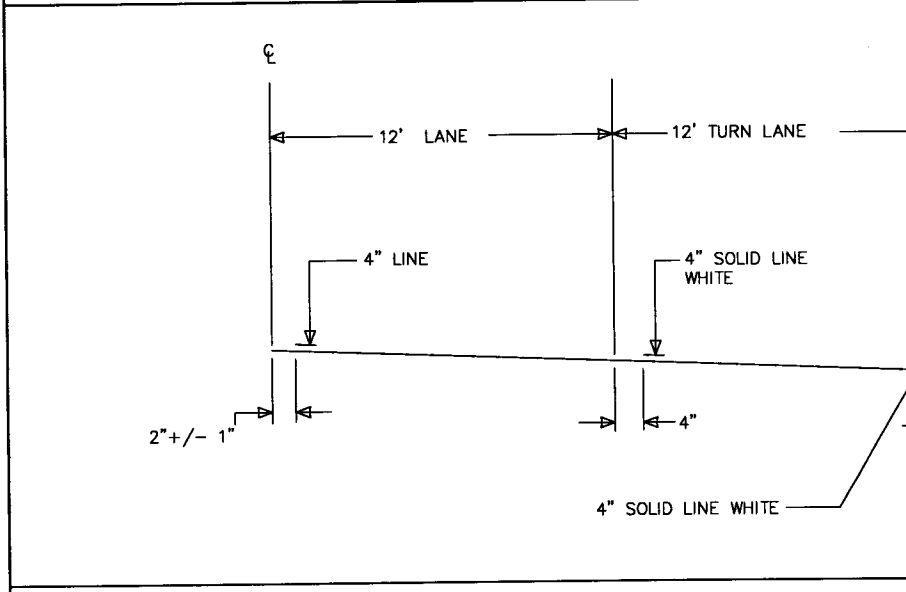
SECTION B-B
TWO WAY LEFT TURN LANE



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

TYPICAL LEFT TURN LANE

TYPICAL 4-LANE DIVIDED LANE MARKINGS



TYPICAL RIGHT TURN LANE

TWO WAY LEFT TURN LANE

S.A.P. NO. 62-615-024
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Thomas A. Schwelbe
Thomas A. Schwelbe, P.E.
Date: 9/28/01 Lic. No. 20943

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ST. PAUL, MN 55110

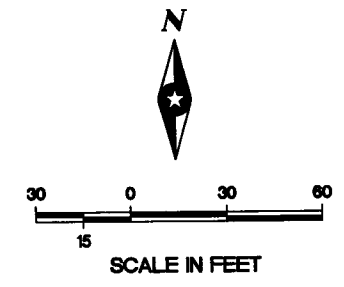
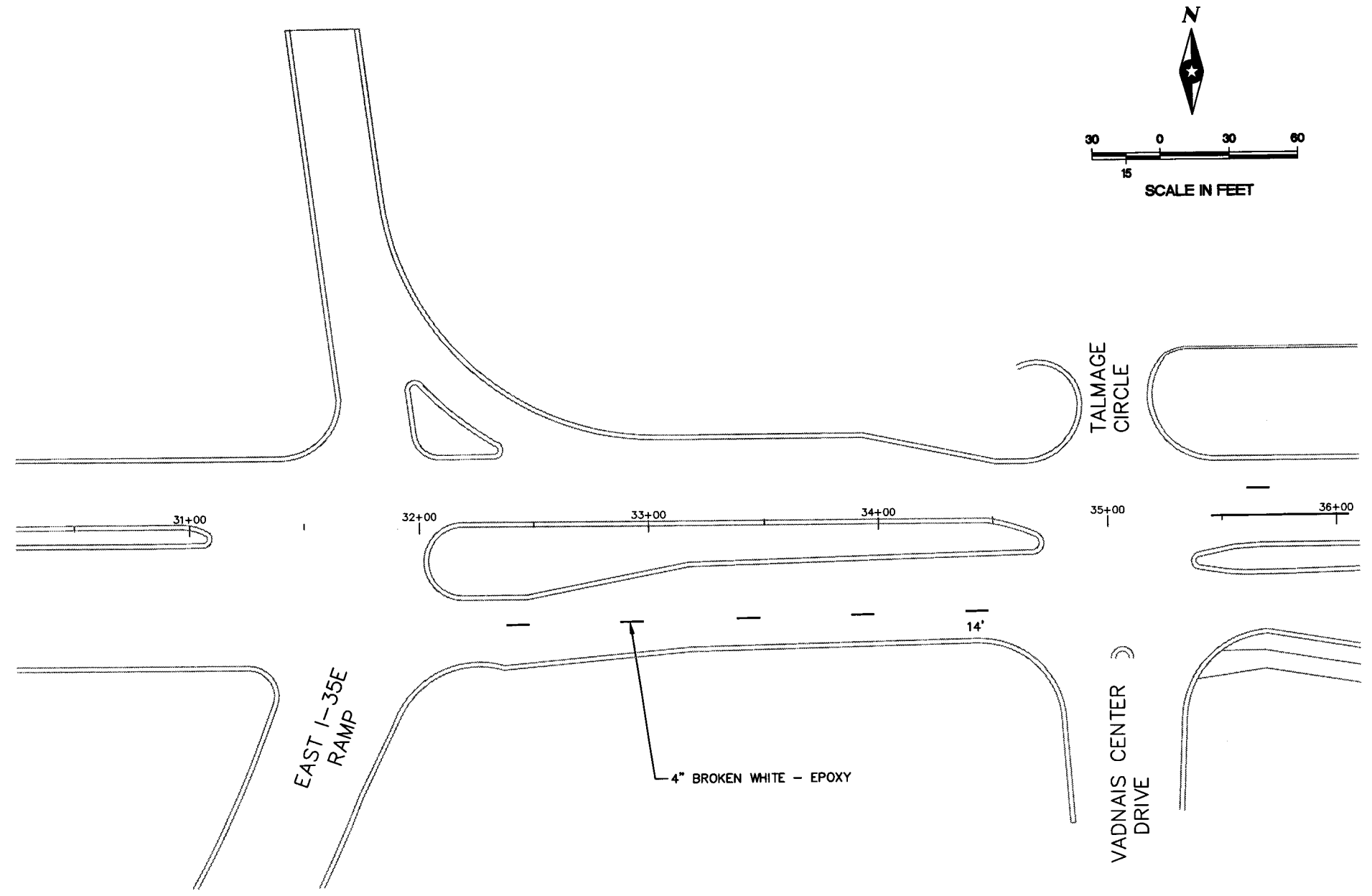
RAMSEY COUNTY, MINNESOTA

SIGNING AND PAVEMENT MARKING DETAILS
COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106	51
DATE 9/28/01	92

28-256

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ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *JFB*
 DATE: 12-18-08

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

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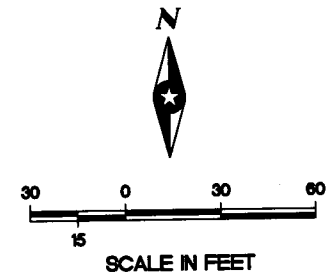
RAMSEY COUNTY, MINNESOTA

SIGNING AND PAVEMENT MARKING
 COUNTY ROAD E & LABORE ROAD

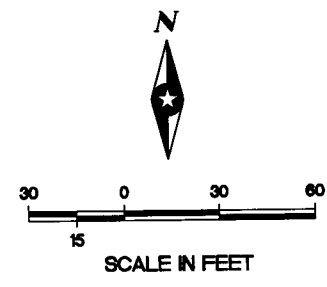
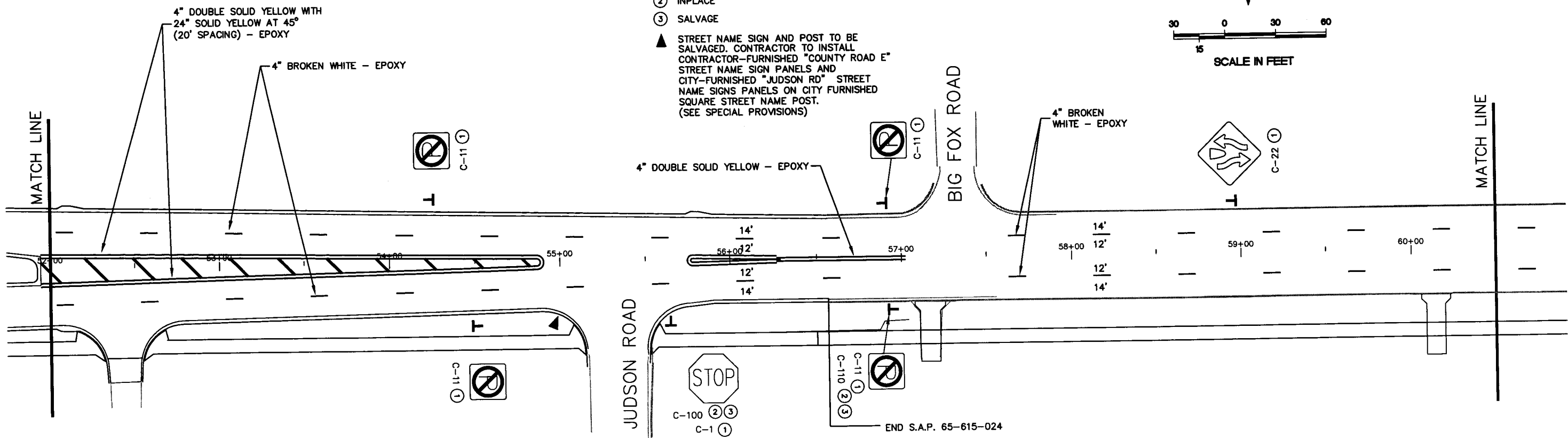
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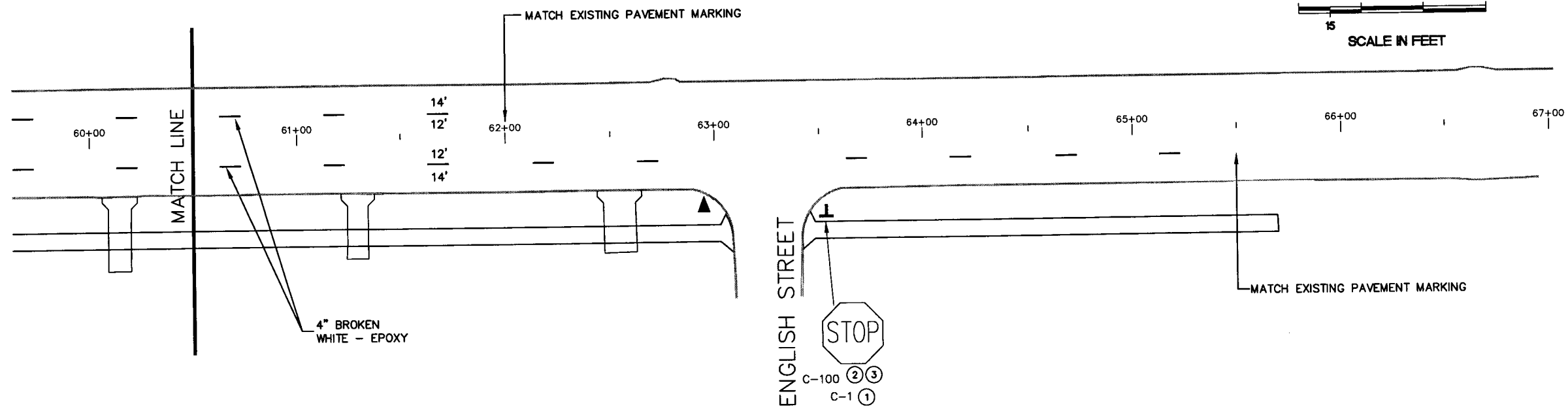
28-256



- NOTES:**
- ① FURNISH AND INSTALL
 - ② INPLACE
 - ③ SALVAGE
 - ▲ STREET NAME SIGN AND POST TO BE SALVAGED. CONTRACTOR TO INSTALL CONTRACTOR-FURNISHED "COUNTY ROAD E" STREET NAME SIGN PANELS AND CITY-FURNISHED "JUDSON RD" STREET NAME SIGN PANELS ON CITY FURNISHED SQUARE STREET NAME POST. (SEE SPECIAL PROVISIONS)



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 - ② INPLACE
 - ③ SALVAGE
 - ▲ STREET NAME SIGN AND POST TO BE SALVAGED. CONTRACTOR TO INSTALL CONTRACTOR-FURNISHED "COUNTY ROAD E" STREET NAME SIGN PANELS AND CITY-FURNISHED "RD" AND "ENGLISH ST" STREET NAME SIGN PANELS ON CITY FURNISHED SQUARE STREET NAME POST. (SEE SPECIAL PROVISIONS)



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DJB*
 DATE: 12-18-08

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

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Thomas A. Schweide
 Thomas A. Schweide, P.E.
 Date: 9/28/01 Lic. No. 20943

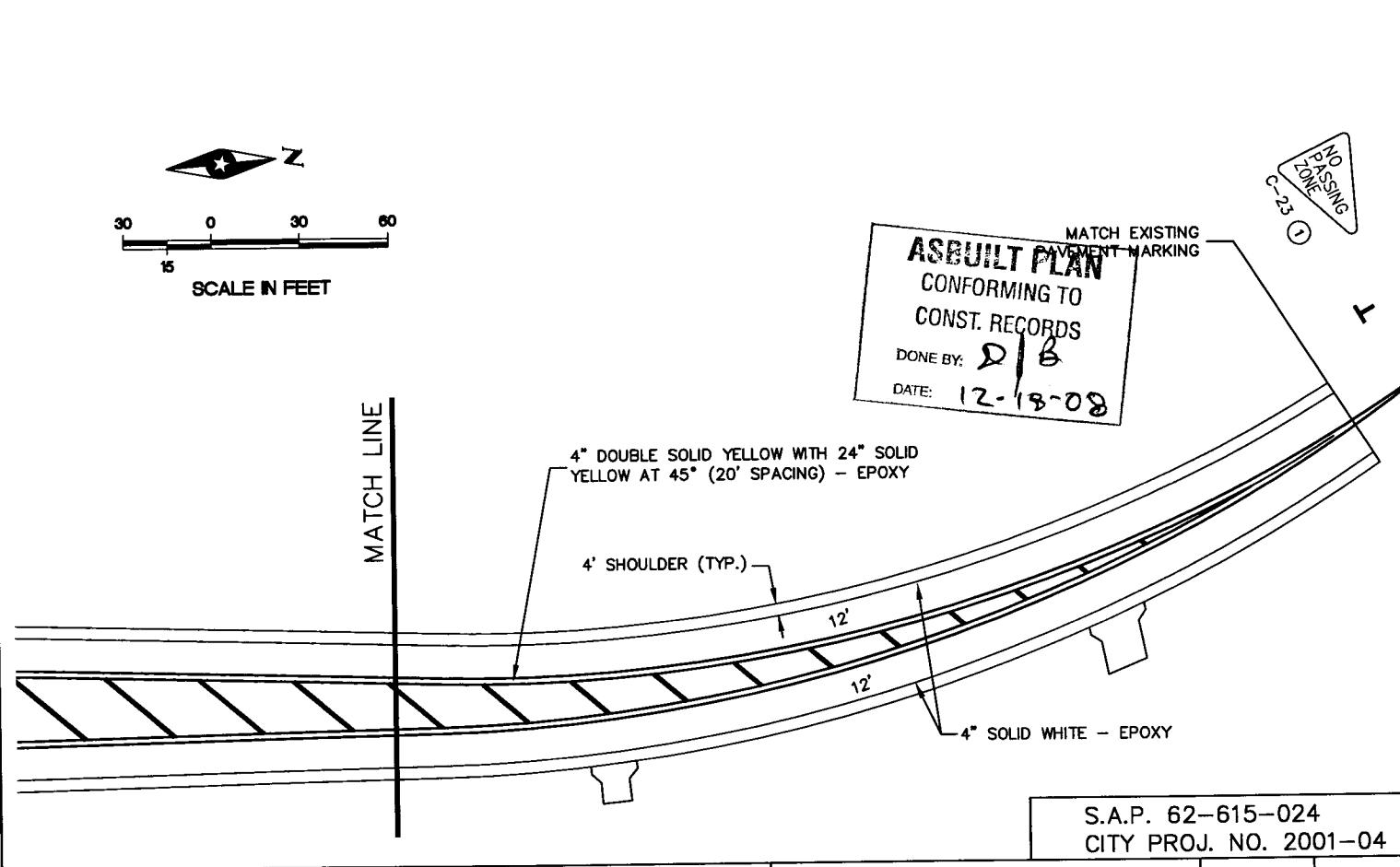
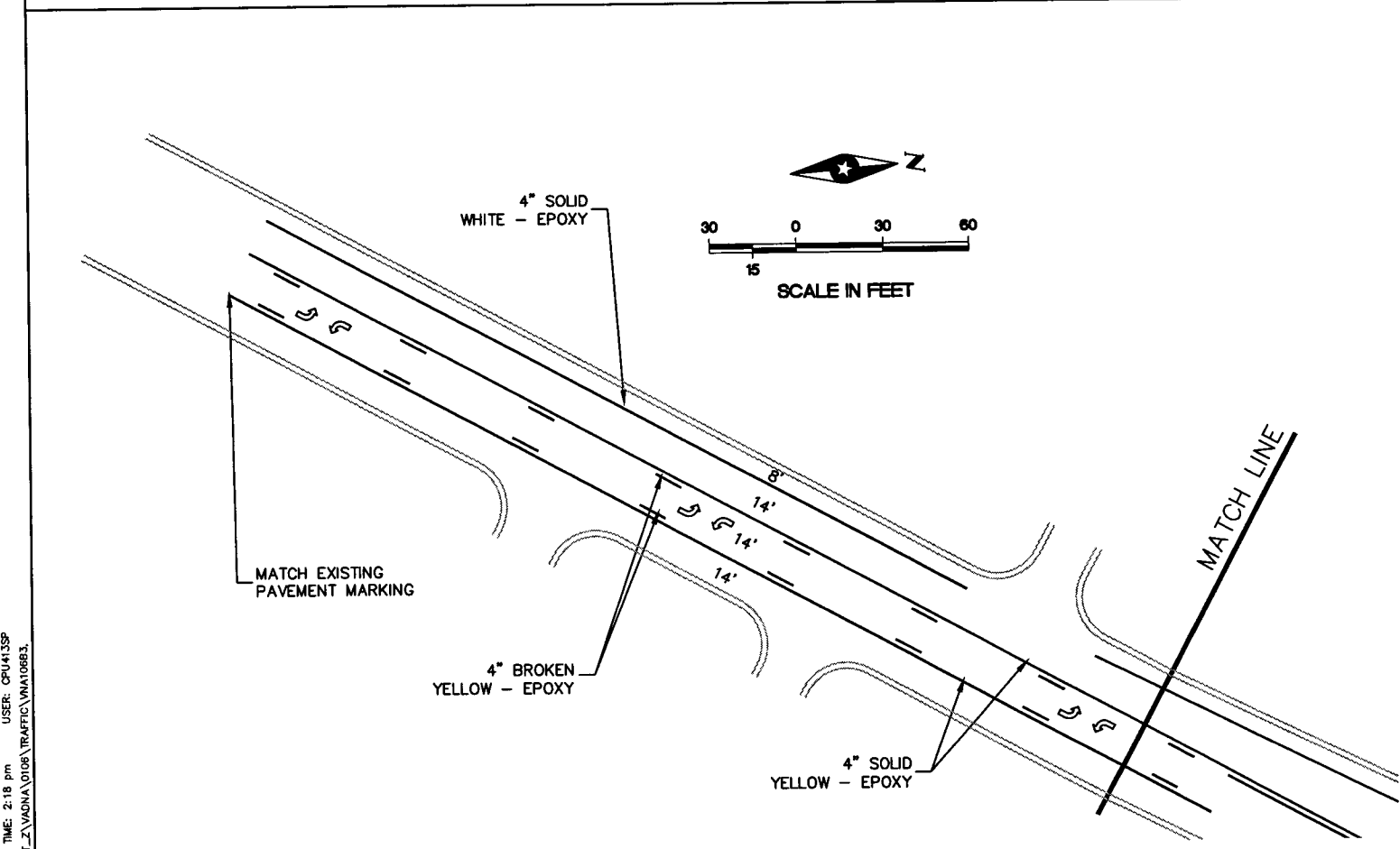
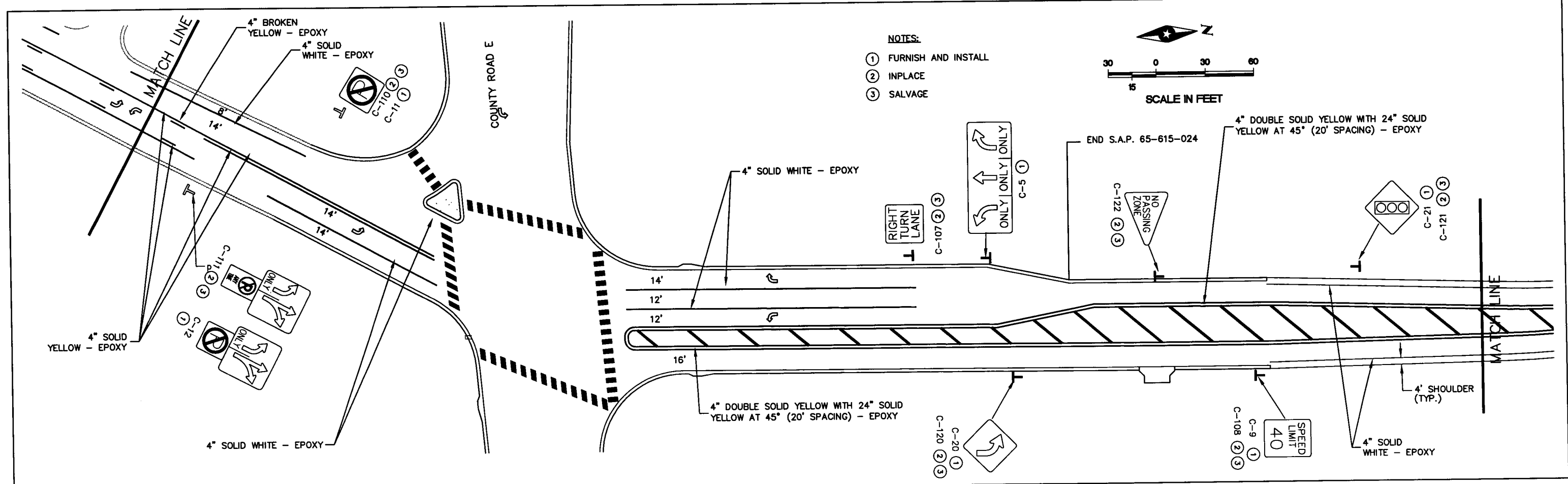
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

SIGNING AND PAVEMENT MARKING COUNTY ROAD E & LABORE ROAD

FILE NO.	54
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DATE	9/28/01
	92

28-256



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RAMSEY COUNTY, MINNESOTA

SIGNING AND PAVEMENT MARKING
 COUNTY ROAD E & LABORE ROAD

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

FILE NO.	55
AVADNA0106	
DATE	9/28/01
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28-25b

TRAFFIC CONTROL NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE DEVICES IN THE TRAFFIC CONTROL PLAN WILL BE FURNISHED, INSTALLED AND MAINTAINED UNLESS OTHERWISE NOTED.
2. ALL DISTANCES ARE APPROXIMATE.
3. ALL WORK AREAS NEAR TRAFFIC WILL BE PROTECTED IN ACCORDANCE WITH THE MMUTCD.
4. CONTRACTOR SHALL PROVIDE CHANNELIZING DEVICES (AND SIGNING IF NECESSARY) AT ALL PRIVATE ENTRANCE LOCATIONS WHERE NEEDED TO SAFELY GUIDE TRAFFIC TO AND FROM THE TRAVEL CORRIDOR TO THE SATISFACTION OF THE ENGINEER.
5. ALL CUTS ADJACENT TO TRAVELED ROADWAY WHICH RESULT IN DROP-OFF OF 6 in. OR MORE SHALL BE BACKFILLED AS SOON AS PRACTICAL AND IN NO EVENT LATER THAN THE END OF THE DAY.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, JANUARY 2001.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MMUTCD.
3. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
4. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN ON PAGES 6K-111 AND 6K-112 OF THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL JANUARY 2001 UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
5. THE REMOVAL OF THE TEMPORARY SIGNS WILL BE COORDINATED TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR TEMPORARY SIGNING WILL BE PROVIDED UNTIL THE FINAL SIGNING IS INSTALLED.
6. PERMANENT SIGNING IN ACCORDANCE WITH THE SIGNING PLANS SHALL BE INSTALLED IN THOSE AREAS WHERE CONSTRUCTION IS SUBSTANTIALLY COMPLETED AT THE DIRECTION OF THE ENGINEER AS THE SIGNS ARE NEEDED TO REGULATE, GUIDE OR WARN TRAFFIC IN THE PROJECT AREA.


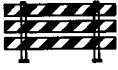
PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS.
2. PAINTS, 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 MANUFACTURER'S SPECIFICATIONS CAN NOT BE MET.

NOTE TO CONTRACTOR

THIS PLAN REPRESENTS ONLY SIGNING TO REMAIN FOR THE DURATION OF CONSTRUCTION. INTERNAL DETOUR ROUTING FOR BLOCK CLOSURES AND TRAFFIC CONTROL WILL REQUIRE THE SUBMITTAL OF AN OVERALL TRAFFIC CONTROL PLAN (SEE SPECIFICATIONS) SUBJECT TO THE ENGINEER'S APPROVAL. CONTRACTOR TO ESTIMATE ADDITIONAL TRAFFIC CONTROL ITEMS NECESSARY FOR TRAFFIC CONTROL TO BE SUBMITTED TO ENGINEER. ALL ITEMS SHOWN, ADDITIONAL TRAFFIC CONTROL AND DETOUR ITEMS SHALL BE INCLUDED IN THE LUMP SUM UNIT FOR TRAFFIC CONTROL.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

- REFLECTORIZED DRUM - LIKE CHANNELIZER 
- ⊥ TYPE III BARRICADE 
- ⊥ TRAFFIC CONTROL DEVICE
- ⦿ TYPE "A" FLASHING WARNING LIGHT
- ← DIRECTION OF TRAFFIC
- PORTABLE CONCRETE MEDIAN BARRIER WITH BARRIER DELINEATOR AT 50' SPACING. (SEE DETAIL)
- ▨ COVER CONFLICTING INPLACE SIGN
- AREA CLOSED TO TRAFFIC/WORK AREA
- * REMOVE CONFLICTING EXISTING PAVEMENT MARKING THRU THIS AREA
- IMPACT ATTENUATOR BARREL END TREATMENT (SEE DETAIL AT 35 MPH)

INDEX

TRAFFIC CONTROL SHEET NO.	DESCRIPTION
56	GENERAL NOTES AND DETAILS
57,58	TABULATIONS
59	PORTABLE CONCRETE BARRIER END TREATMENT DETAIL
60	LABORE ROAD - STAGE 1 AND STAGE 2
61	NB I-35E EXIT RAMP - STAGE 1 AND STAGE 2
62	STAGE 1 - AREA MAP
63-66	STAGE 1
67	STAGE 2 - AREA MAP
68-71	STAGE 2

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

TRAFFIC CONTROL - ESTIMATED QUANTITIES

ITEM	UNIT	STAGE 1	STAGE 2
PORTABLE CONCRETE BARRIER TYPE "F" DESIGN 8337	FT	760	-
4" SOLID WHITE - PAINT	FT	150	150
4" DOUBLE SOLID YELLOW - PAINT	FT	1480	45
4" SOLID YELLOW - PAINT	FT	620	3460
4" SOLID YELLOW - REM. POLY PREFORM	FT	880	420
4" DOUBLE SOLID YELLOW - REM. POLY PREFORM	FT	-	45
4" BROKEN WHITE - PAINT	FT	40	-
MEDIAN BARRIER DELINEATOR YELLOW	EACH	15	-
PAVEMENT MARKING REMOVAL	FT	4900	600
IMPACT ATTENUATOR	ASSEMBLY	1	-

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

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Thomas A. Sohrweide
Thomas A. Sohrweide, P.E.
Date: 9/28/01 Lic. No. 20943

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RAMSEY COUNTY, MINNESOTA

TEMPORARY TRAFFIC CONTROL TABULATION COUNTY ROAD E AND LABORE ROAD

FILE NO. AVADNA0106.00
DATE 9/28/01
56
92

28256

TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITIES	
SIGN OR DEVICE	MMUTCD CODE	COLOR	SIZE (in)	STAGE 1	STAGE 2
	R1-1	WHITE ON RED	36 x 36	7	4
	R1-1	WHITE ON RED	30 x 30	9	3
	R2-1	BLACK ON WHITE	24 x 30	10	7
	R2-1	BLACK ON WHITE	24 x 30	1	1
	R2-1	BLACK ON WHITE	24 x 30	1	1
	R4-7	BLACK ON WHITE	24 x 30	4	1
	R1-4	WHITE ON RED	18 x 6	4	4
	R2-5a	BLACK ON WHITE	36 x 48	2	2
	R3-1	BLACK AND RED ON WHITE	24 x 24	1	-
	R3-2	BLACK AND RED ON WHITE	24 x 24	3	1
	R5-1	BLACK AND RED	30 x 30	1	-
	R6-1R	BLACK ON WHITE	30 x 12	3	5
	R8-3a	BLACK AND RED	24 x 24	1	-
	R11-4	BLACK ON WHITE	60 x 30	1	1
	W1-4L	BLACK ON ORANGE	30 x 30	2	-
	W1-2L	BLACK ON ORANGE	30 x 30	1	1
	W1-6	BLACK ON ORANGE	48 x 24	6	9
	W4-2L	BLACK ON ORANGE	36 x 36	-	2
	W4-2R	BLACK ON ORANGE	36 x 36	1	-
	W3-1A	BLACK AND RED ON ORANGE	36 x 36	4	4

TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITIES	
SIGN OR DEVICE	MMUTCD CODE	COLOR	SIZE (in)	STAGE 1	STAGE 2
	W20-1	BLACK ON ORANGE	48 x 48	15	16
	-	BLACK ON ORANGE	18 x 18	22	-
	-	BLACK ON ORANGE	18 x 18	-	13
	W6-3	BLACK ON ORANGE	30 x 30	5	-
	W21-X5L	BLACK ON ORANGE	48 x 48	-	6
	W21-X5R	BLACK ON ORANGE	48 x 48	5	-
	W14-3	BLACK ON YELLOW	48 x 60 x 60	1	1
	W20-X3L	BLACK ON ORANGE	48 x 48	3	-
	M1-6	WHITE AND YELLOW ON BLUE	24 x 24	2	-
	G20-2A	BLACK ON ORANGE	48 x 24	2	2
	TYPE III	WHITE ON ORANGE	8 FEET	22	28
	TYPE A	-	-	53	48
	REFLECTIVE DRUM-LIKE CHANNELIZER	WHITE ON ORANGE	18 x 36 (MIN.)	285	149
	G20-X2	BLACK ON ORANGE	132 x 108	1	-
	G20-X2	BLACK ON ORANGE	132 x 108	1	-

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DJB*
 DATE: 12-18-08

S.A.P. NO. 62-615-024
 CITY PROJ. 2001-04

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CHECKED BY: TAS			
DESIGN TEAM	NO.	BY	DATE

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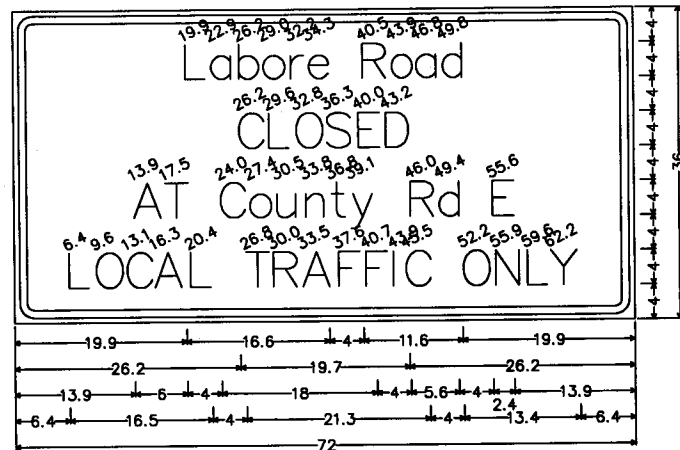
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 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

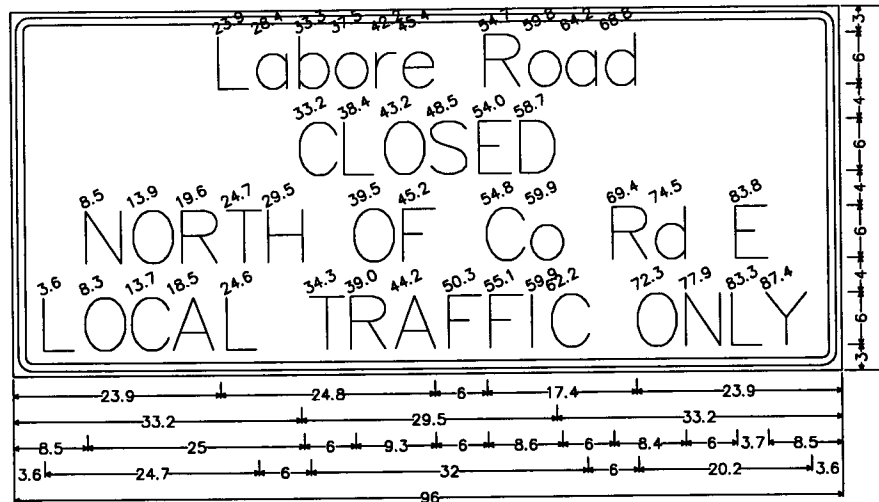
TEMPORARY TRAFFIC CONTROL TABULATION COUNTY ROAD E AND LABORE ROAD

FILE NO. AVADNA0106.00	57
DATE 9/28/01	92

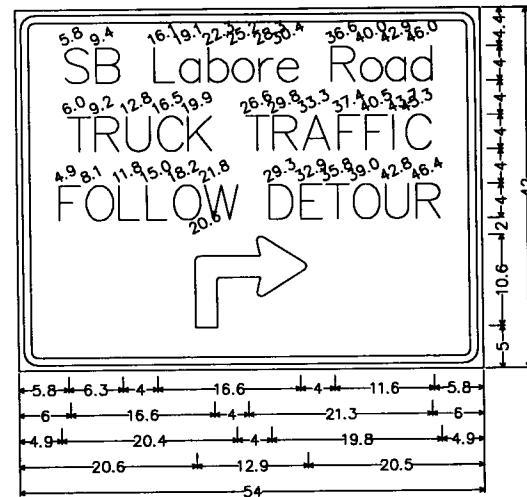
28-256



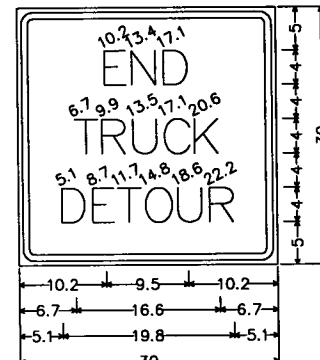
2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange; [Labore Road] D; [CLOSED] White D; [AT County Rd E] D; [LOCAL TRAFFIC ONLY] D;



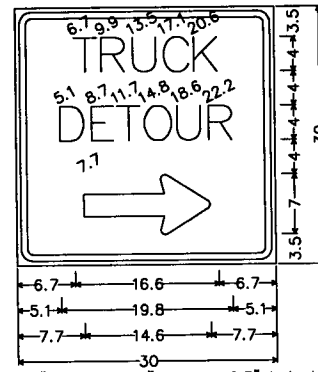
2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange; [Labore Road] D; [CLOSED] White D; [NORTH OF Co Rd E] White D; [LOCAL TRAFFIC ONLY] D;



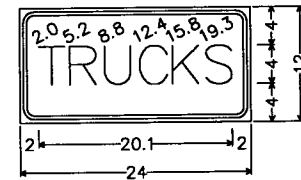
2.3" Radius, 0.9" Border, 0.6" Indent, Black on Orange; [SB Labore Road] D; [TRUCK TRAFFIC] D; [FOLLOW DETOUR] D; 90 Deg Advanced Turn Arrow Custom 12.9" X 10.6";



1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange; [END] D; [TRUCK] D; [DETOUR] D;





1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange; [TRUCK] D; [DETOUR] D; Arrow Custom - 14.6" O;



1.5" Radius, 0.4" Border, 0.4" Indent, Black on Orange; [TRUCKS] D;

ESTIMATED SIGNING QUANTITIES FOR TRAFFIC CONTROL

TRAFFIC CONTROL SIGNS / DEVICES				ESTIMATED QUANTITIES	
SIGN OR DEVICE	MMUTCD CODE	COLOR	SIZE (in)	PHASE 1	PHASE 2 - AREA 1
Labore Road CLOSED AT County Rd E LOCAL TRAFFIC ONLY	-	BLACK ON ORANGE	72 x 36	3	3
Labore Road CLOSED NORTH OF Co Rd E LOCAL TRAFFIC ONLY	-	BLACK ON ORANGE	96 x 42	1	1
SB Labore Road TRUCK TRAFFIC FOLLOW DETOUR 	-	BLACK ON ORANGE	54 x 42	2	-
	-	BLACK ON ORANGE	30 x 30	2	-
END TRUCK DETOUR	-	BLACK ON ORANGE	30 x 30	1	-
TRUCKS	-	BLACK ON ORANGE	24 x 12	1	-

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *JLB*
DATE: 12-18-03

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

G:\CLIENTS\12\12\12\12\TRAFFIC\TABULATION.DWG
DATE: 05-31-01
TIME: 2:32 pm
USER: CPU413P
XREFS:

DRAWN BY:	MJM			
DESIGNER:	MJM			
CHECKED BY:	TAS			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Thomas A. Sohrweide
Thomas A. Sohrweide, P.E.
Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY,
MINNESOTA

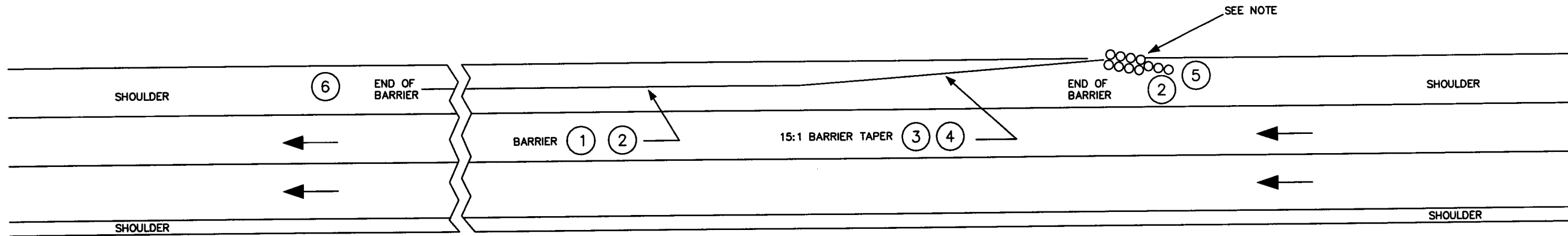
TEMPORARY TRAFFIC CONTROL TABULATION
COUNTY ROAD E AND LABORE ROAD

FILE NO.
AVADNA0106.00
DATE
9/28/01

58
92

28-256

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:

- 65 MPH - 10 FEET
- 60 MPH - 8 FEET
- 50 MPH - 6.5 FEET
- 40 MPH - 5 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 10:1 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

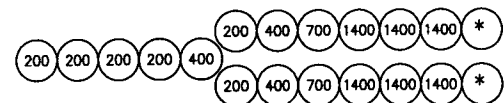
NOTE:

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.

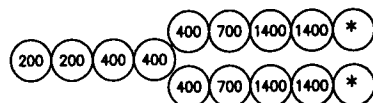
SAND FILLED BARREL ARRANGEMENT

NUMBERS INDICATE STANDARD MODULE WEIGHTS IN POUNDS.

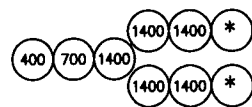
POSTED SPEED: 70 MPH



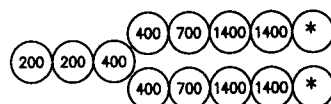
POSTED SPEED: 65 MPH



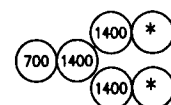
POSTED SPEED: 35-40 MPH



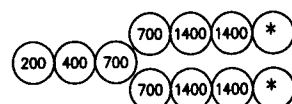
POSTED SPEED: 55-60 MPH



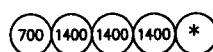
POSTED SPEED: 30 MPH (OPTIONAL)



POSTED SPEED: 45-50 MPH

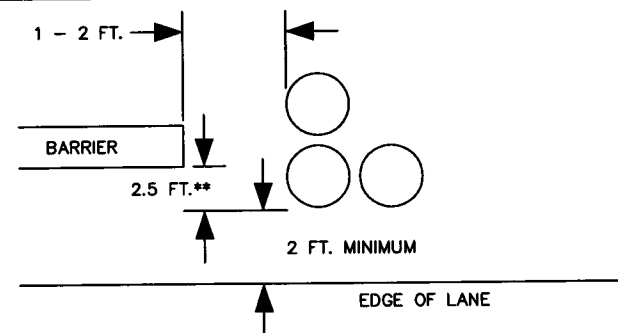


POSTED SPEED: 30 MPH RESTRICTED SPACE ONLY (OPTIONAL)



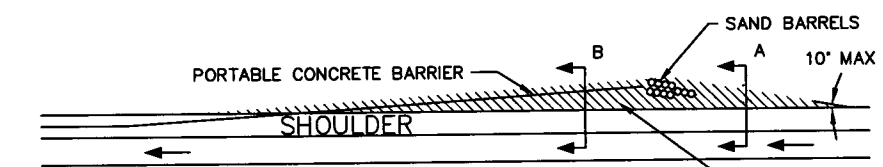
* USE A 2100 POUND DRUM FOR ENERGITE SYSTEM AND A 1400 POUND DRUM FOR A FITCH SYSTEM.

SAND FILLED BARREL OFFSET

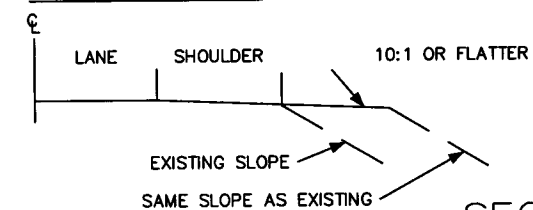


** DISTANCE MAY BE REDUCED TO MINIMUM OF 15 IN. (1.25 FT.). THIS IS ACCEPTABLE ONLY WHERE A GREATER OFFSET WOULD CAUSE UNACCEPTABLE INTERFERENCE WITH TRAFFIC.

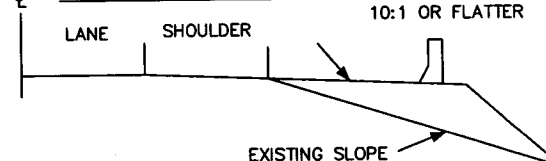
SHOULDER FILL



SECTION A



SECTION B



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: [Signature]
DATE: 12-18-08

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

C:\CLIENTS\2\AVADNA\0108\TRAFFIC\STRIPING\DETAIL.DWG DATE: 06-31-01 TIME: 2:37 pm USER: CPU413SP

DRAWN BY: MJM				
DESIGNER: MJM				
CHECKED BY: TAS				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Schweide
Thomas A. Schweide, P.E.
Date: 9/28/01 Lic. No. 20943

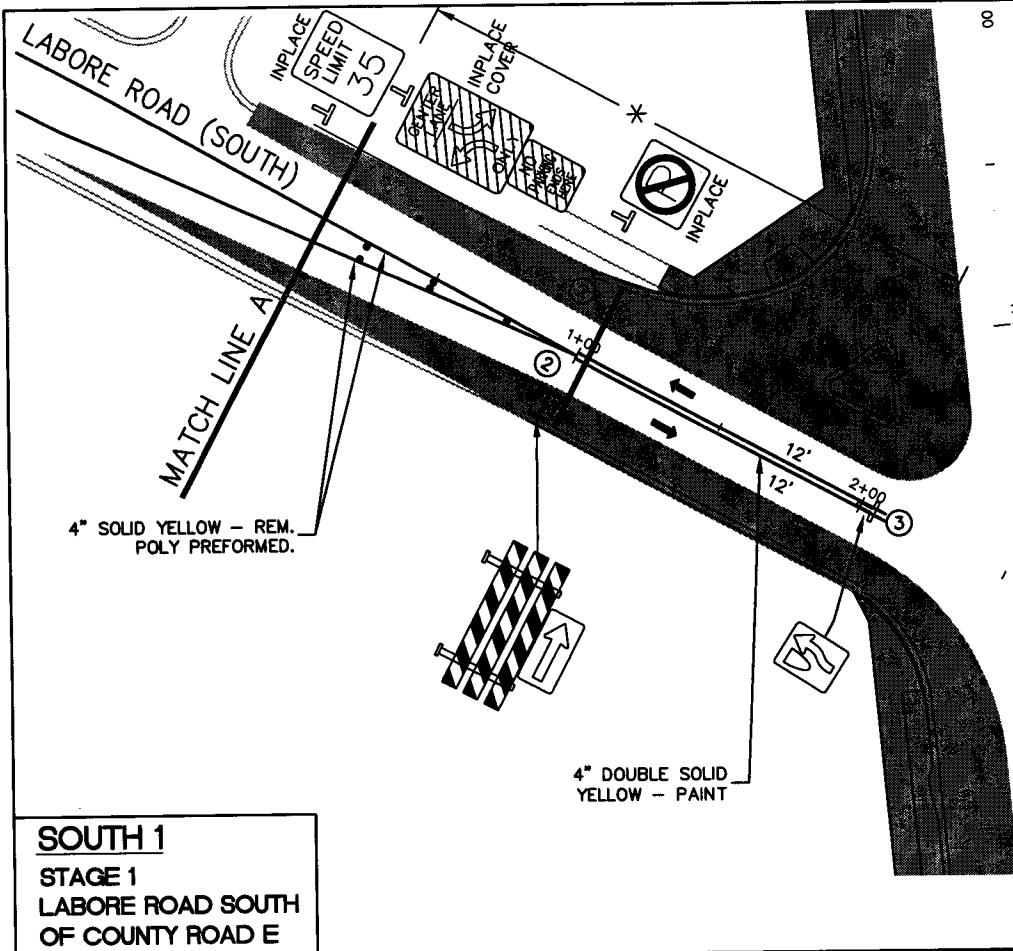
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

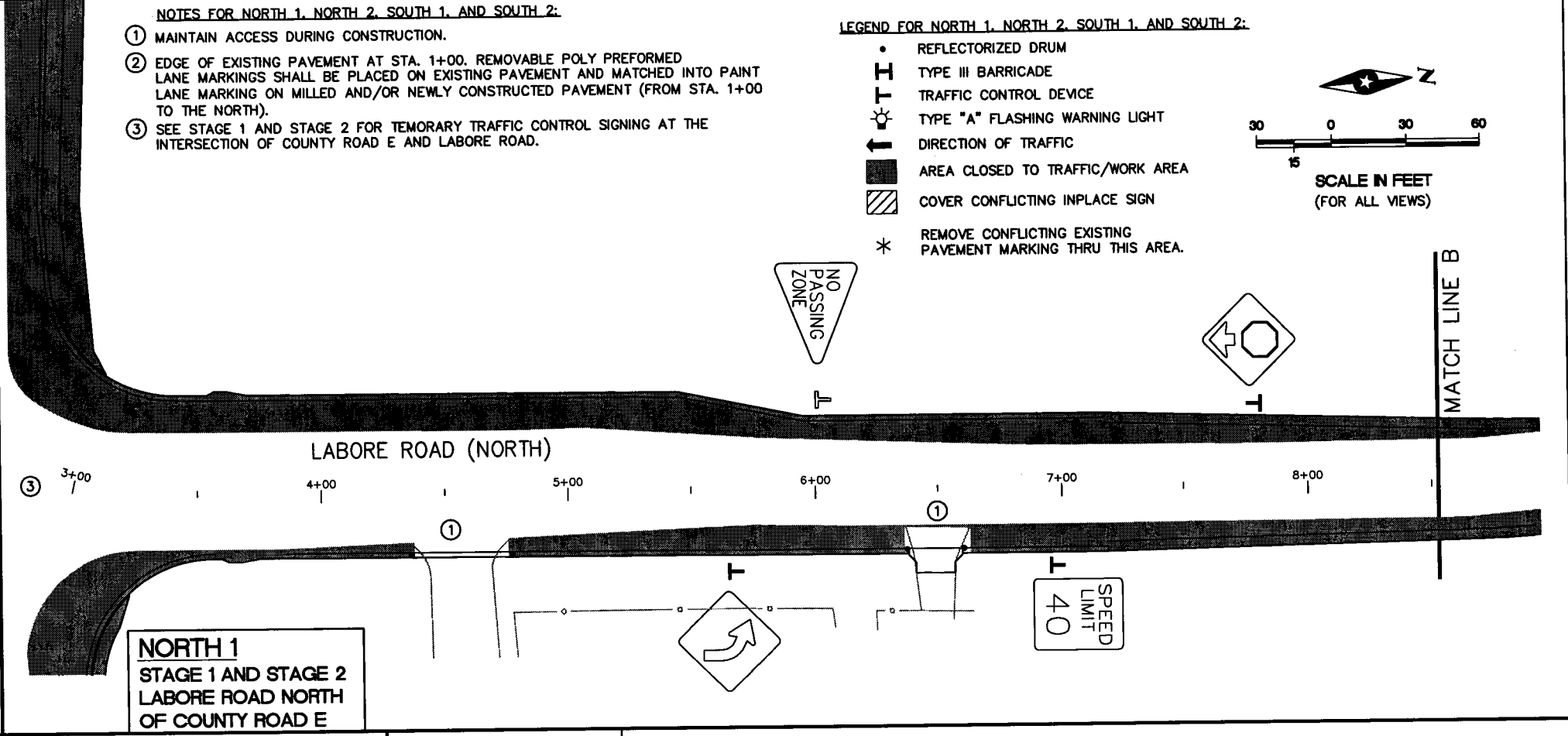
PORTABLE CONCRETE BARRIER END TREATMENT COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106.00	59
DATE 9/28/01	92

28-256



SOUTH 1
STAGE 1
LABORE ROAD SOUTH
OF COUNTY ROAD E



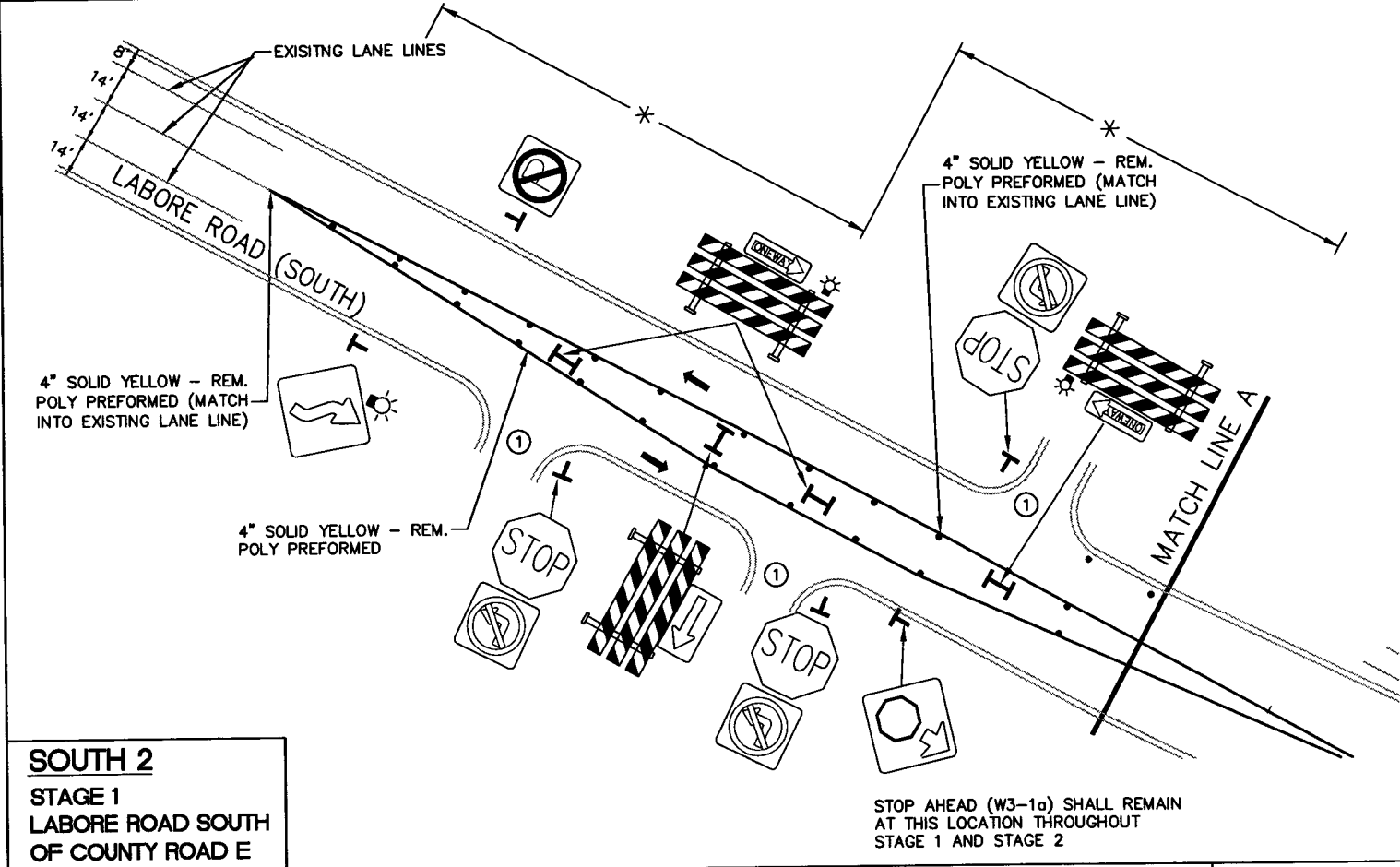
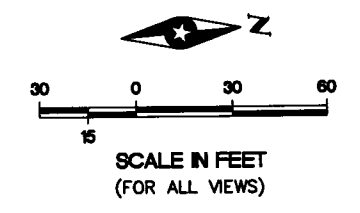
NORTH 1
STAGE 1 AND STAGE 2
LABORE ROAD NORTH
OF COUNTY ROAD E

NOTES FOR NORTH 1, NORTH 2, SOUTH 1, AND SOUTH 2:

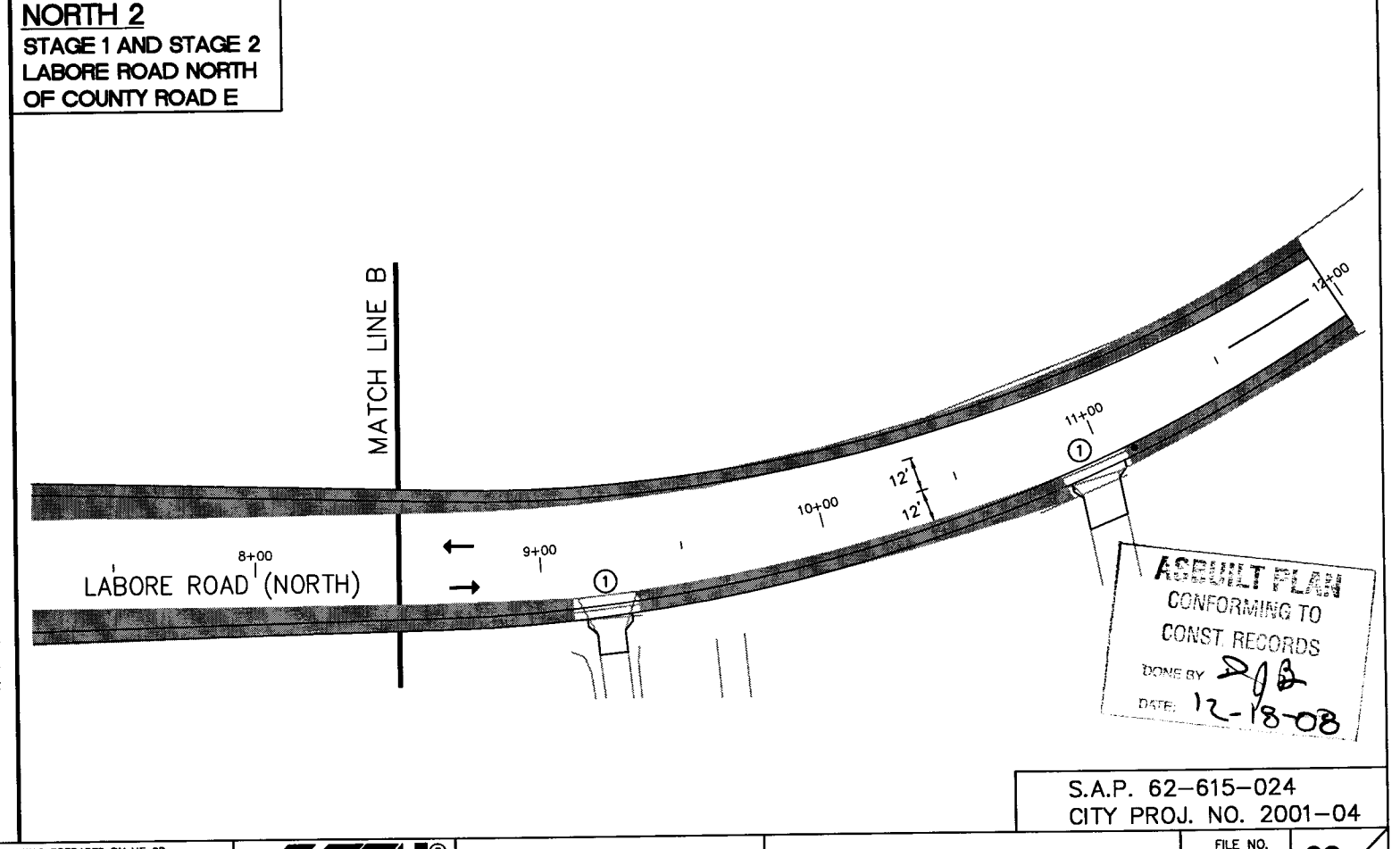
- ① MAINTAIN ACCESS DURING CONSTRUCTION.
- ② EDGE OF EXISTING PAVEMENT AT STA. 1+00. REMOVABLE POLY PREFORMED LANE MARKINGS SHALL BE PLACED ON EXISTING PAVEMENT AND MATCHED INTO PAINT LANE MARKING ON MILLED AND/OR NEWLY CONSTRUCTED PAVEMENT (FROM STA. 1+00 TO THE NORTH).
- ③ SEE STAGE 1 AND STAGE 2 FOR TEMPORARY TRAFFIC CONTROL SIGNING AT THE INTERSECTION OF COUNTY ROAD E AND LABORE ROAD.

LEGEND FOR NORTH 1, NORTH 2, SOUTH 1, AND SOUTH 2:

- REFLECTORIZED DRUM
- ⊥ TYPE III BARRICADE
- ⊥ TRAFFIC CONTROL DEVICE
- ⊥ TYPE "A" FLASHING WARNING LIGHT
- DIRECTION OF TRAFFIC
- AREA CLOSED TO TRAFFIC/WORK AREA
- ▨ COVER CONFLICTING INPLACE SIGN
- * REMOVE CONFLICTING EXISTING PAVEMENT MARKING THRU THIS AREA.



SOUTH 2
STAGE 1
LABORE ROAD SOUTH
OF COUNTY ROAD E



NORTH 2
STAGE 1 AND STAGE 2
LABORE ROAD NORTH
OF COUNTY ROAD E

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

G:\CLIENTS\Z\VANONA\0108\TRAFFIC\NAT08TCST1-7.DWG
DATE: 06-30-01 TIME: 2:39 pm USER: CPU413SP
XREFS: WAT08B1

DRAWN BY: GEN				
DESIGNER: HNK				
CHECKED BY: XXX				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Schwede
Thomas A. Schwede, P.E.
Date: 9/28/01 Lic. No. 20943

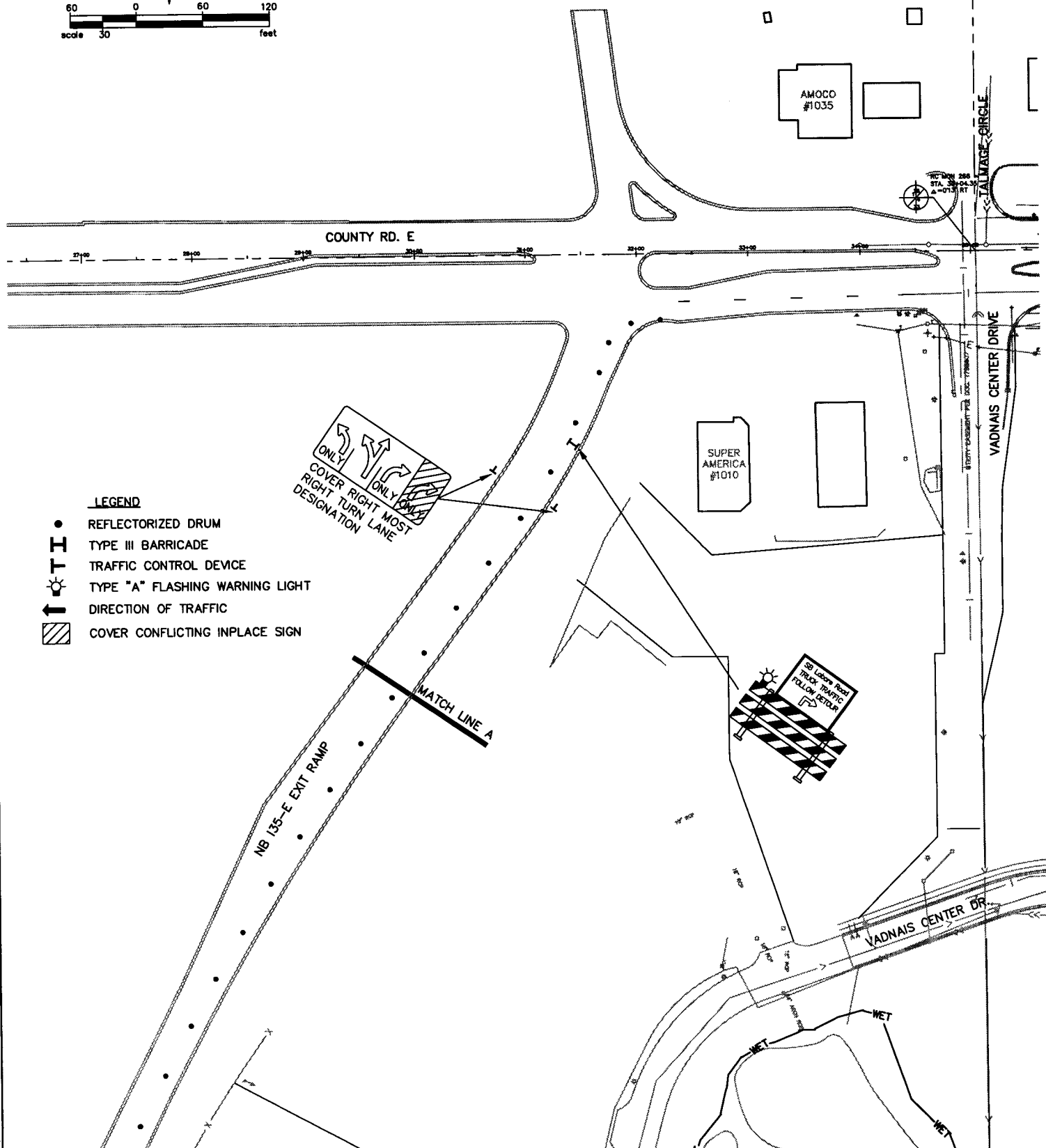
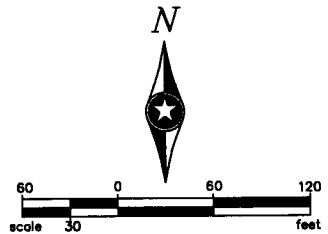
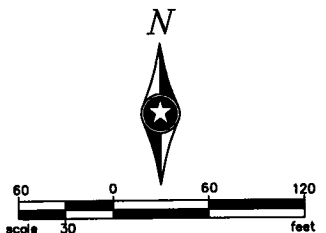
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

TEMPORARY TRAFFIC CONTROL
LABORE ROAD - STAGE 1 AND STAGE 2
COUNTY ROAD E & LABORE ROAD

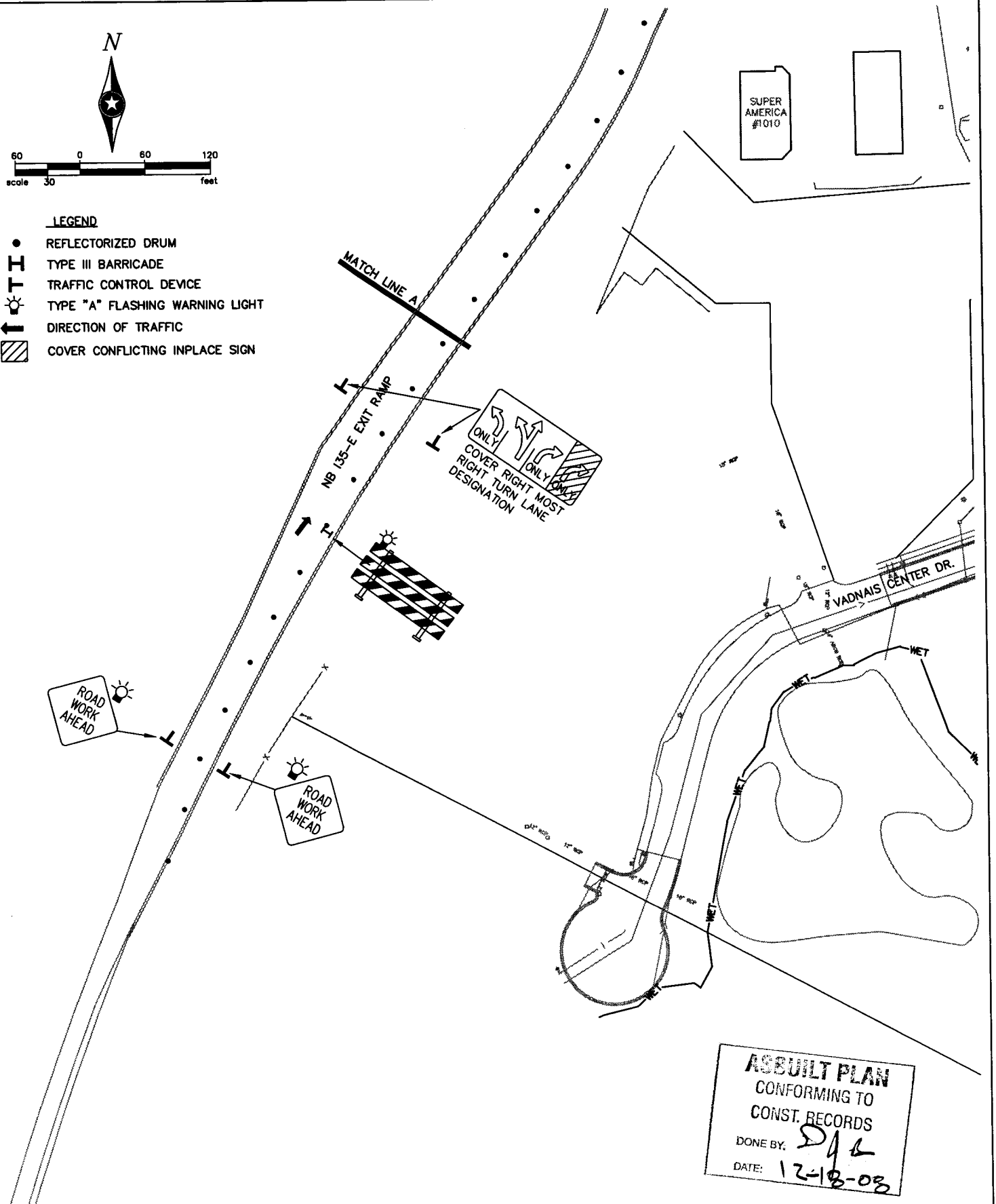
FILE NO. AVADNA0106	60
DATE: 9/28/01	
	92

28-256



- LEGEND**
- REFLECTORIZED DRUM
 - III TYPE III BARRICADE
 - ☀ TYPE "A" FLASHING WARNING LIGHT
 - ↑ DIRECTION OF TRAFFIC
 - ▨ COVER CONFLICTING INPLACE SIGN

- LEGEND**
- REFLECTORIZED DRUM
 - III TYPE III BARRICADE
 - ☀ TRAFFIC CONTROL DEVICE
 - ☀ TYPE "A" FLASHING WARNING LIGHT
 - ↑ DIRECTION OF TRAFFIC
 - ▨ COVER CONFLICTING INPLACE SIGN



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DJK*
 DATE: 12-18-03

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

G:\CLIENTS\Z\VADNAIS\TRAFFIC\WAD06.DWG
 DATE: 09-31-01 TIME: 2:41 PM USER: CPU413SP
 XREFS: G:\CLIENTS\Z\VADNAIS\TRAFFIC\WAD06B3

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

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Thomas A. Sohrweide
 Thomas A. Sohrweide, P.E.
 Date: 9/28/01 Lic. No. 20943

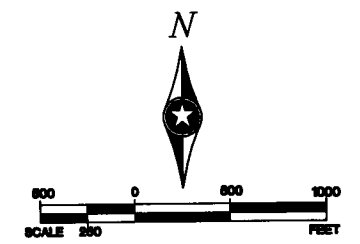
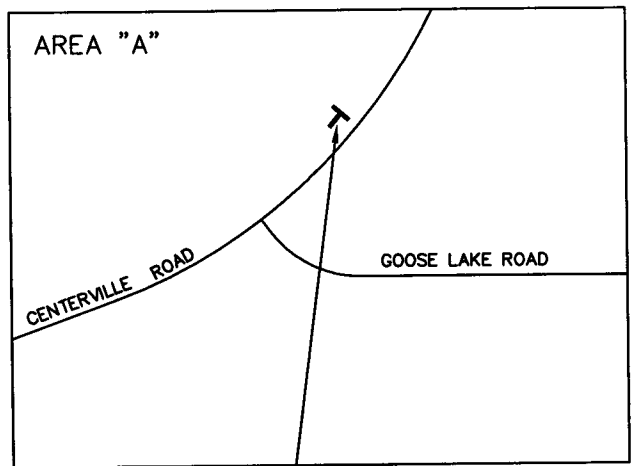
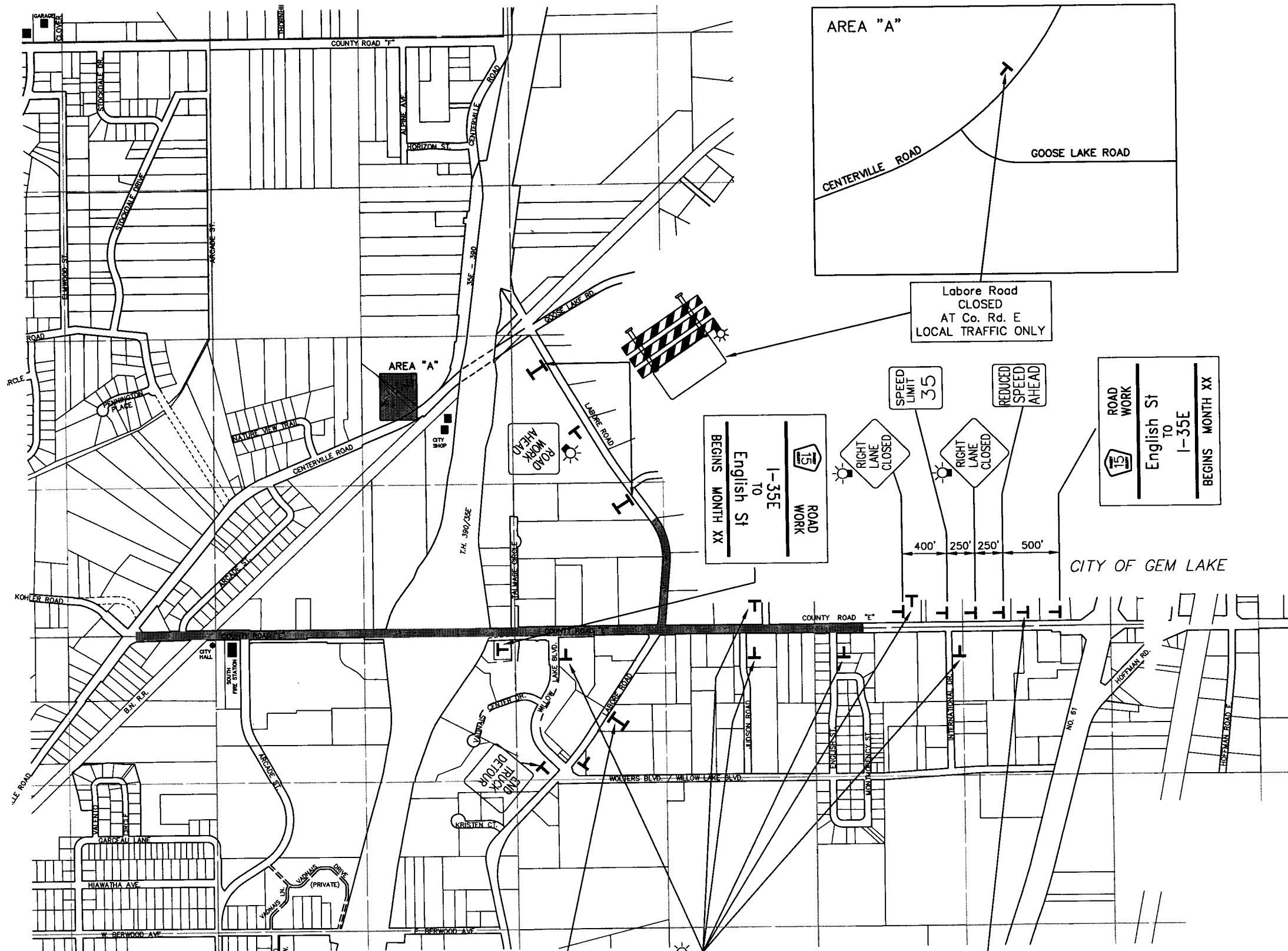
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

TEMPORARY TRAFFIC CONTROL
 N.B. I-35E EXIT RAMP - STAGE 1 & 2
 COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106
 DATE 9/28/01
61
92

28-256



- LEGEND**
- TYPE III BARRICADE
 - TRAFFIC CONTROL DEVICE
 - TYPE "A" FLASHING WARNING LIGHT
 - COVER CONFLICTING INPLACE SIGN
- SEE SHEETS 60 AND 63 THRU 66 FOR TRAFFIC CONTROL THRU THIS AREA.

Labore Road
CLOSED
AT Co. Rd. E
LOCAL TRAFFIC ONLY

ROAD WORK
AHEAD

RIGHT LANE CLOSED

RIGHT LANE CLOSED

REDUCED SPEED AHEAD

SPEED LIMIT 35

ROAD WORK
English St
TO
I-35E
BEGINS MONTH XX

ROAD WORK
English St
TO
I-35E
BEGINS MONTH XX

Labore Road
CLOSED
North of Co. Rd. E
LOCAL TRAFFIC ONLY

ROAD WORK AHEAD

PLACE 250' IN ADVANCE OF INTERSECTION WITH COUNTY ROAD E.

COVER

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

Q:\CLIENTS\12\AVADNA\0105\TRAFFIC\AVADNA0105TST1-6.DWG
 DATE: 09-31-01 TIME: 2:42 pm USER: CPU413P
 XREFS: Q:\MAPS\AVADNA\AVADMAP

DRAWN BY:	GEN		
DESIGNER:	HNK		
CHECKED BY:	TAS		
DESIGN TEAM			
NO.	BY	DATE	REVISIONS

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Thomas A. Schweide
Thomas A. Schweide, P.E.
Date: 9/28/01 Lic. No. 20943

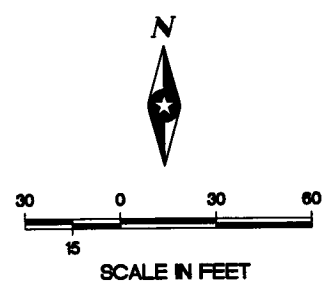
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**RAMSEY COUNTY,
MINNESOTA**

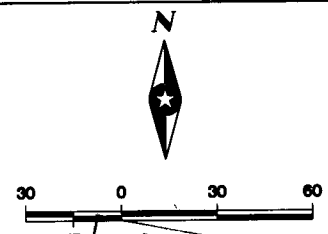
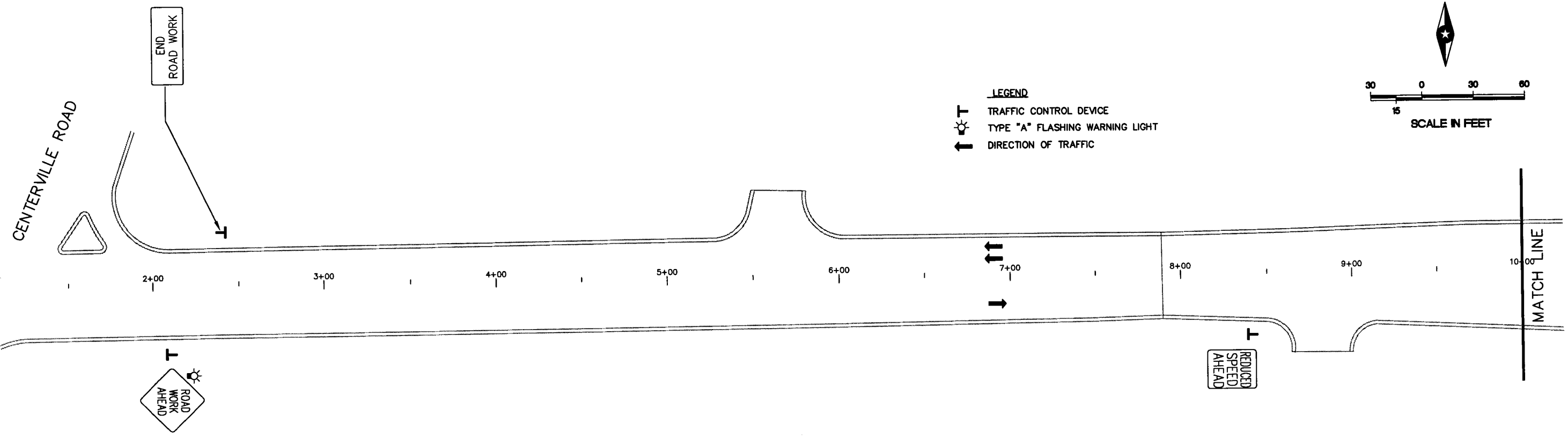
**TEMPORARY TRAFFIC CONTROL
STAGE 1 - AREA MAP
COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0105	62
DATE 9/28/01	92

28-256

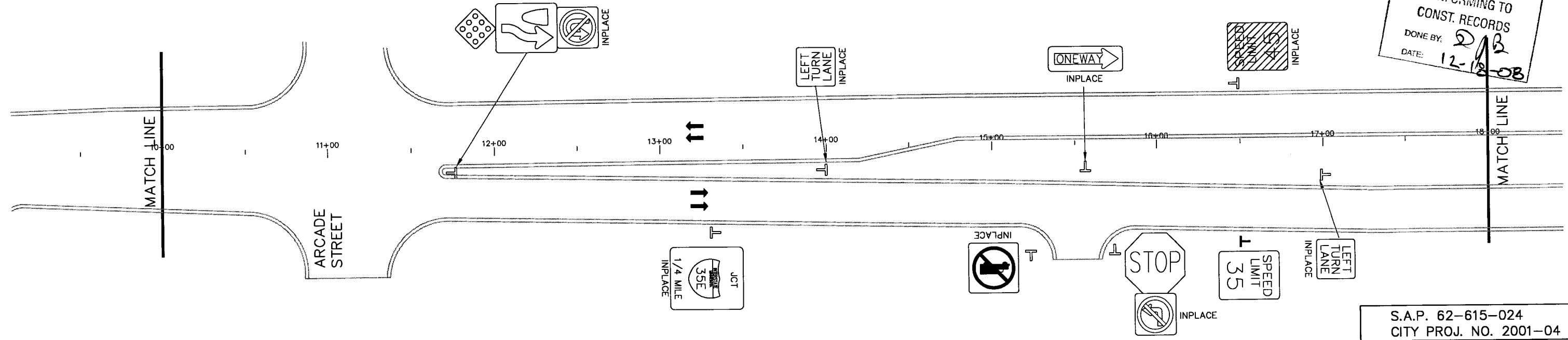


- LEGEND**
- T TRAFFIC CONTROL DEVICE
 - ☀ TYPE "A" FLASHING WARNING LIGHT
 - ↑ DIRECTION OF TRAFFIC



- LEGEND**
- T TRAFFIC CONTROL DEVICE
 - ☀ TYPE "A" FLASHING WARNING LIGHT
 - ↑ DIRECTION OF TRAFFIC
 - ▨ COVER CONFLICTING INPLACE SIGN

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DB*
 DATE: 12-18-08



G:\CLIENTS\2\ADNA\0106\TRAFFIC\WA106TCST1-1.DWG
 DATE: 08-31-01 TIME: 2:44 pm USER: CPU413SP
 PREFERENCES: G:\CLIENTS\2\ADNA\0106\TRAFFIC\WA106DB3

DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	XXX			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Schweide
 Thomas A. Schweide, P.E.
 Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY, MINNESOTA

**TEMPORARY TRAFFIC CONTROL - STAGE 1
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01
63
92

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

28-256

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DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	XXX			
DESIGN TEAM		NO.	BY	DATE

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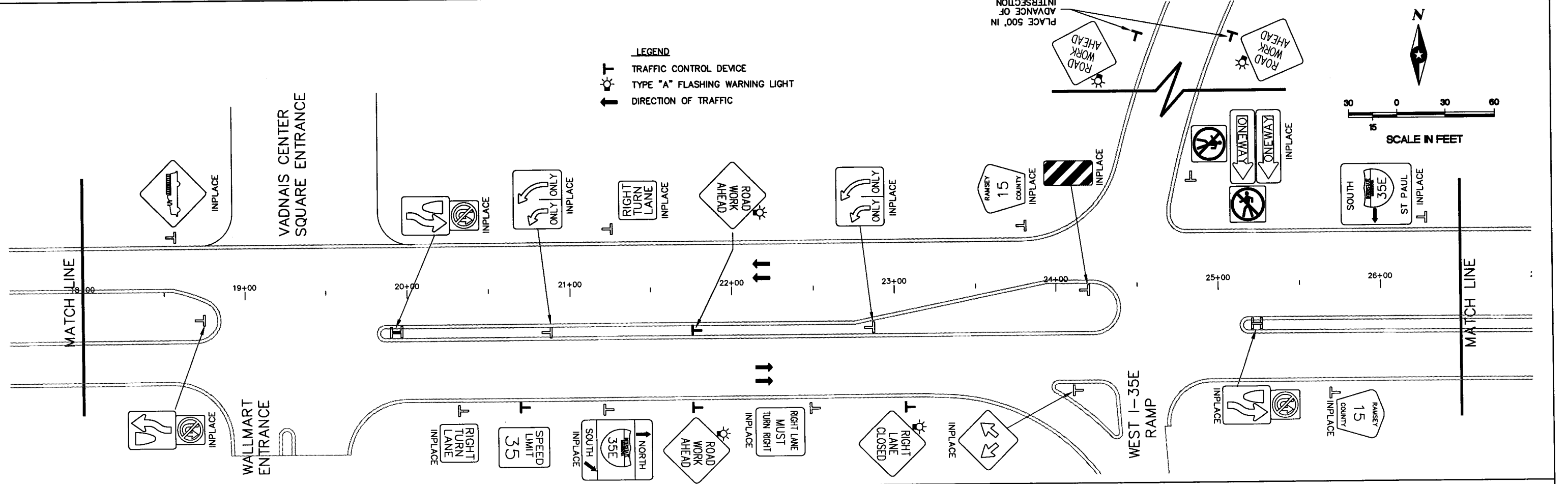
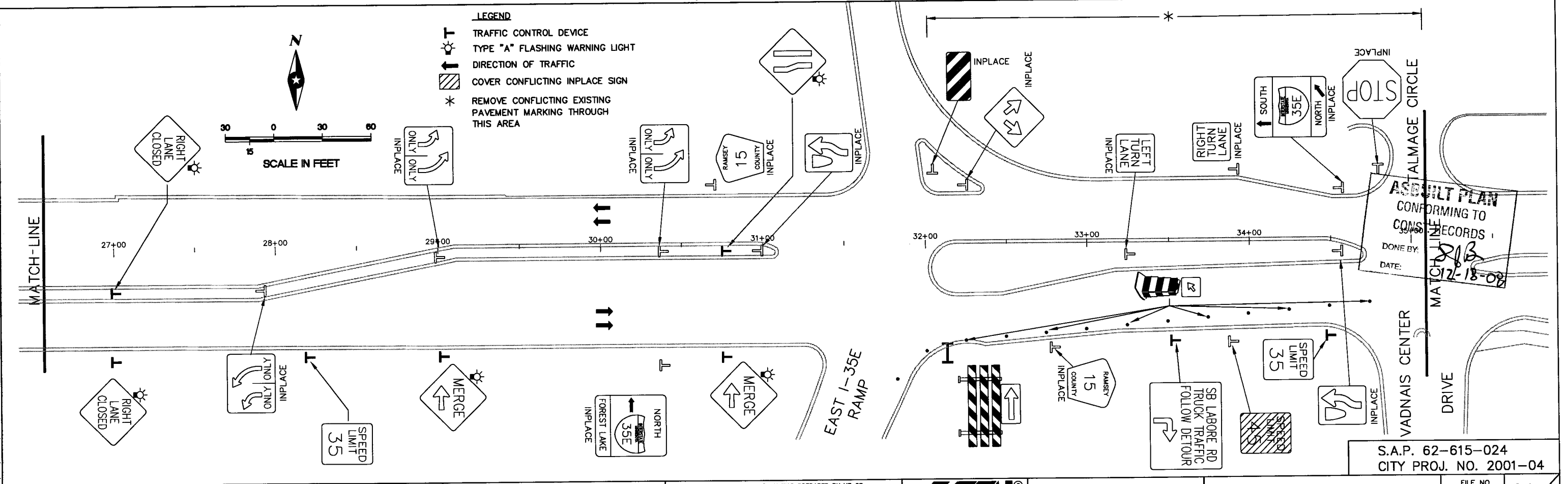
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Thomas A. Sohrweide
 Thomas A. Sohrweide, P.E.
 Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY, MINNESOTA

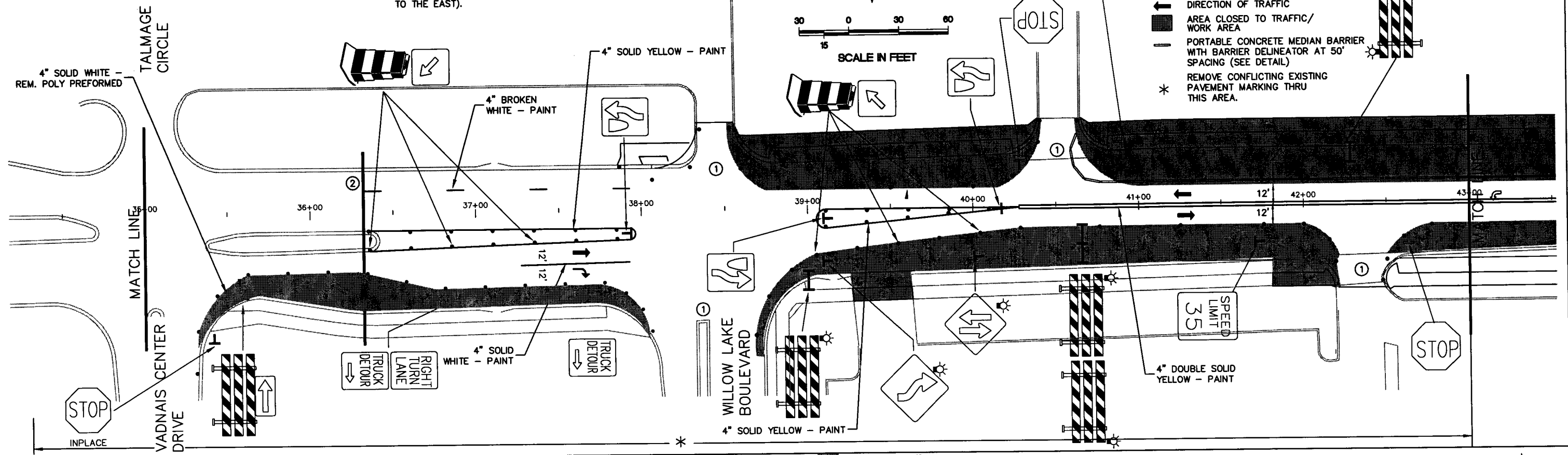
TEMPORARY TRAFFIC CONTROL - STAGE 1
 COUNTY ROAD E & LABORE ROAD

FILE NO.	AVADNA0106	64
DATE	9/28/01	92

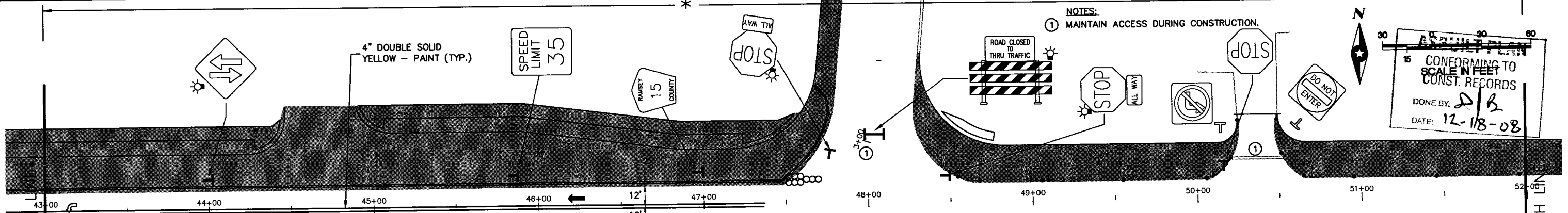


28-256

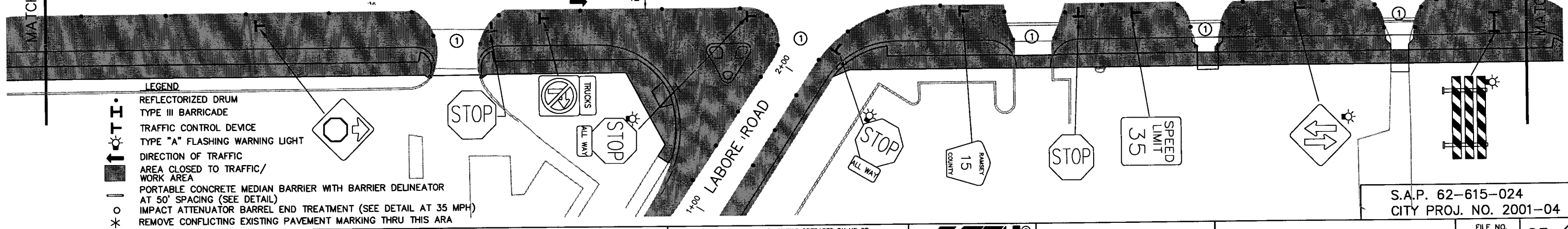
- NOTES:**
- ① MAINTAIN ACCESS DURING CONSTRUCTION.
 - ② EDGE OF EXISTING PAVEMENT AT STA. 36+32. REMOVABLE POLY PREFORMED LANE MARKINGS SHALL BE PLACED ON EXISTING PAVEMENT AND MATCHED INTO PAINT LANE MARKING ON PAVEMENT TO BE RECONSTRUCTED (FROM STA. 36+30 TO THE EAST).



- LEGEND**
- REFLECTORIZED DRUM
 - TYPE III BARRICADE
 - TRAFFIC CONTROL DEVICE
 - TYPE "A" FLASHING WARNING LIGHT
 - DIRECTION OF TRAFFIC
 - AREA CLOSED TO TRAFFIC/ WORK AREA
 - PORTABLE CONCRETE MEDIAN BARRIER WITH BARRIER DELINEATOR AT 50' SPACING (SEE DETAIL)
 - REMOVE CONFLICTING EXISTING PAVEMENT MARKING THRU THIS AREA.



- NOTES:**
- ① MAINTAIN ACCESS DURING CONSTRUCTION.



- LEGEND**
- REFLECTORIZED DRUM
 - TYPE III BARRICADE
 - TRAFFIC CONTROL DEVICE
 - TYPE "A" FLASHING WARNING LIGHT
 - DIRECTION OF TRAFFIC
 - AREA CLOSED TO TRAFFIC/ WORK AREA
 - PORTABLE CONCRETE MEDIAN BARRIER WITH BARRIER DELINEATOR AT 50' SPACING (SEE DETAIL)
 - IMPACT ATTENUATOR BARREL END TREATMENT (SEE DETAIL AT 35 MPH)
 - REMOVE CONFLICTING EXISTING PAVEMENT MARKING THRU THIS AREA

CONFORMING TO SCALE IN FEET CONST. RECORDS
 DONE BY: *D/B*
 DATE: 12-18-08

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

G:\CLIENTS\12\WADNAIS\TRAFFIC\WADNAIS\TCS1-3.DWG
 DATE: 05-31-01 TIME: 2:47 pm USER: CPU413SP
 XREFS: WAD08B.

DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	TAS			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Sohweide
 Thomas A. Sohweide, P.E.
 Date: 9/28/01 Lic. No. 20943

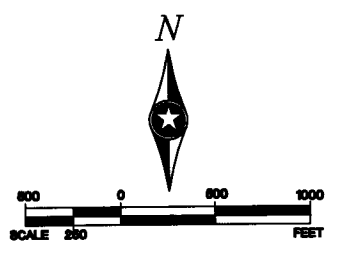
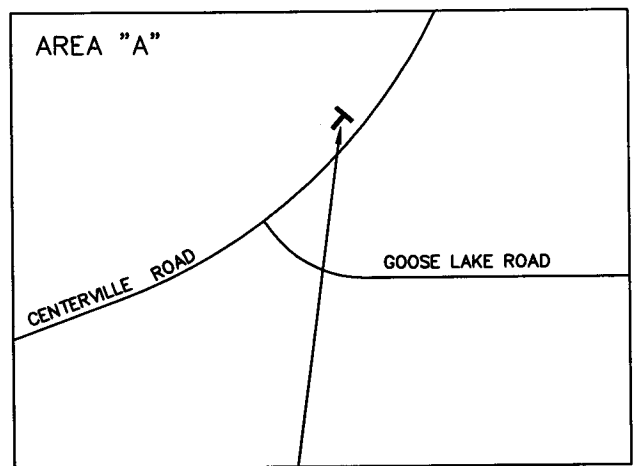
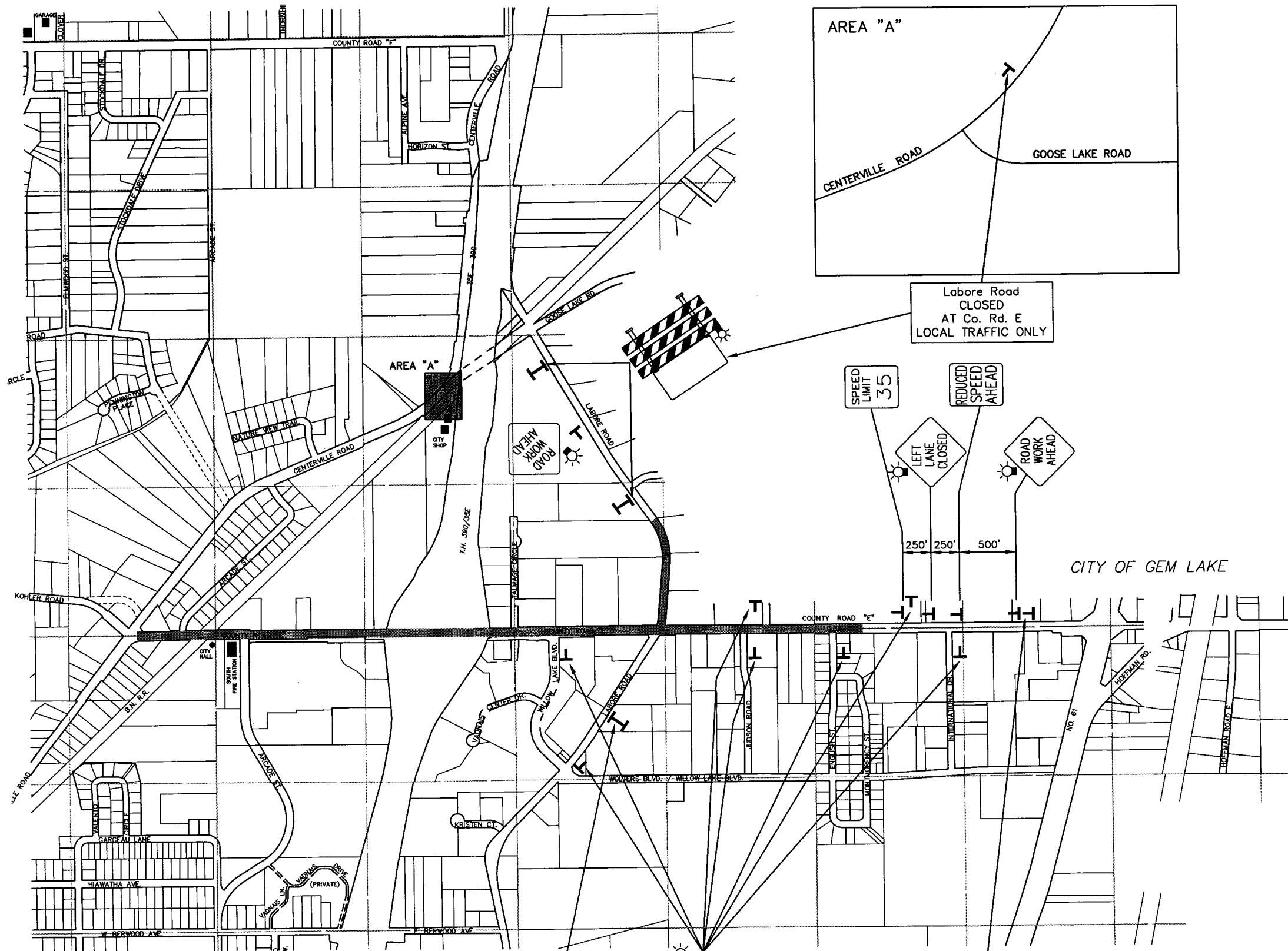
SEH
 PHONE: (651) 490-2000
 3535 WADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

**TEMPORARY TRAFFIC CONTROL - STAGE 1
 COUNTY ROAD E & LABORE ROAD**

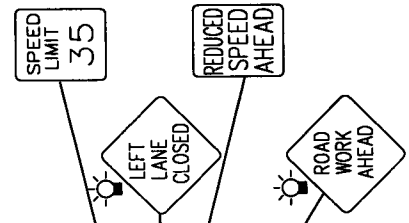
FILE NO.	65
AVADNA0106	
DATE	9/28/01
	92

28-256



- LEGEND**
- TYPE III BARRICADE
 - TRAFFIC CONTROL DEVICE
 - TYPE "A" FLASHING WARNING LIGHT
 - COVER CONFLICTING INPLACE SIGN
- SEE SHEETS 68 THRU 71, AND SHEET 60 FOR TRAFFIC CONTROL THRU THIS AREA.

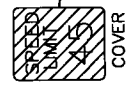
Labore Road
CLOSED
AT Co. Rd. E
LOCAL TRAFFIC ONLY



CITY OF GEM LAKE

Labore Road
CLOSED
North of Co. Rd. E
LOCAL TRAFFIC ONLY

ROAD WORK AHEAD
PLACE 250' IN ADVANCE OF INTERSECTION WITH COUNTY ROAD E.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

S.A.P. NO. 62-615-024
CITY PROJ. 2001-04

G:\CLIENTS\12\ADNA\0106\TRAFFIC\ADNA0106T2-5.DWG
 DATE: 05-31-01 TIME: 2:49 pm USER: CPU413P
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DRAWN BY: GEN	DESIGNER: HNK	CHECKED BY: TAS
DESIGN TEAM	NO. BY DATE	REVISIONS

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Thomas A. Schrweide
 Thomas A. Schrweide, P.E.
 Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY, MINNESOTA

**TEMPORARY TRAFFIC CONTROL
 STAGE 2 - AREA MAP
 COUNTY ROAD E & LABORE ROAD**

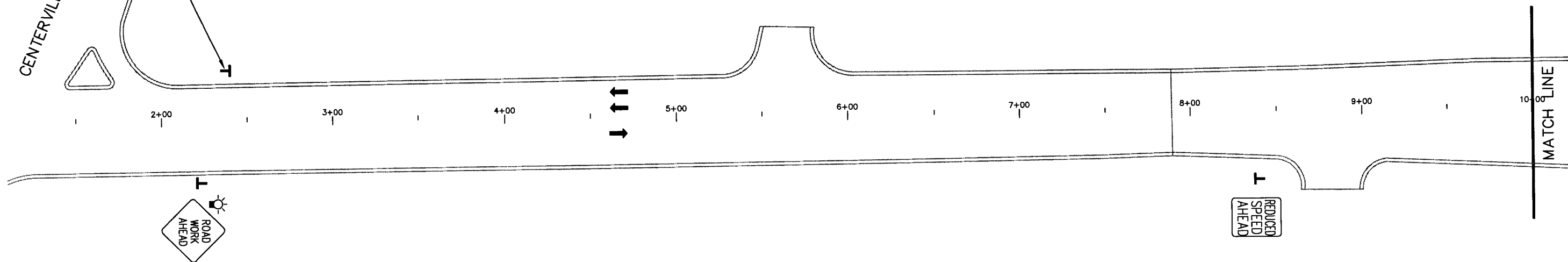
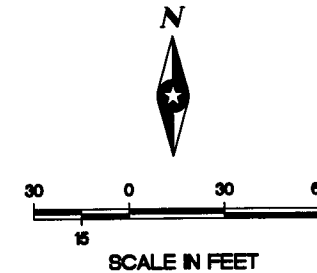
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DATE 9/28/01	92

28-256

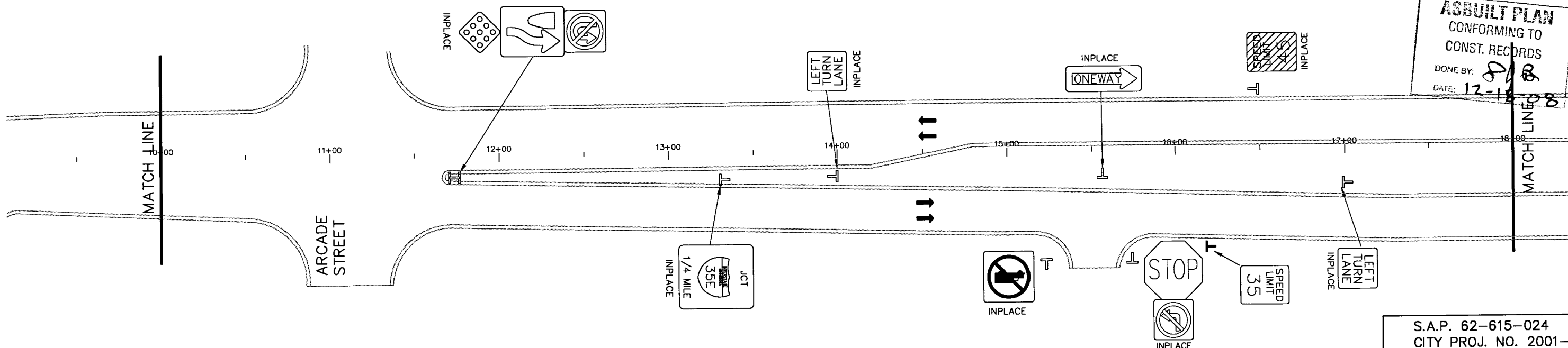
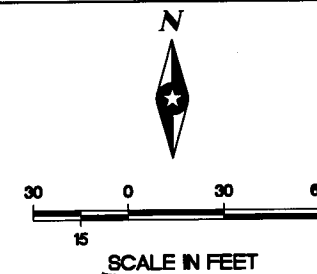
CENTERVILLE ROAD

END ROAD WORK

- LEGEND**
- T TRAFFIC CONTROL DEVICE
 - ☀ TYPE "A" FLASHING WARNING LIGHT
 - ↑ DIRECTION OF TRAFFIC



- LEGEND**
- T TRAFFIC CONTROL DEVICE
 - ↑ DIRECTION OF TRAFFIC
 - ▨ COVER CONFLICTING INPLACE SIGN



S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

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DESIGNER:	HNK			
CHECKED BY:	TAS			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Sohrweide
Thomas A. Sohrweide, P.E.
Date: 9/28/01 Lic. No. 20943

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

RAMSEY COUNTY, MINNESOTA

**TRAFFIC CONTROL - STAGE 2
COUNTY ROAD E & LABORE ROAD**

FILE NO.	68
AVADNA0106	
DATE	9/28/01
	92

28-256

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DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	XXX			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Sohrweide
 Thomas A. Sohrweide, P.E.
 Date: 9/28/01 Lic. No. 20943

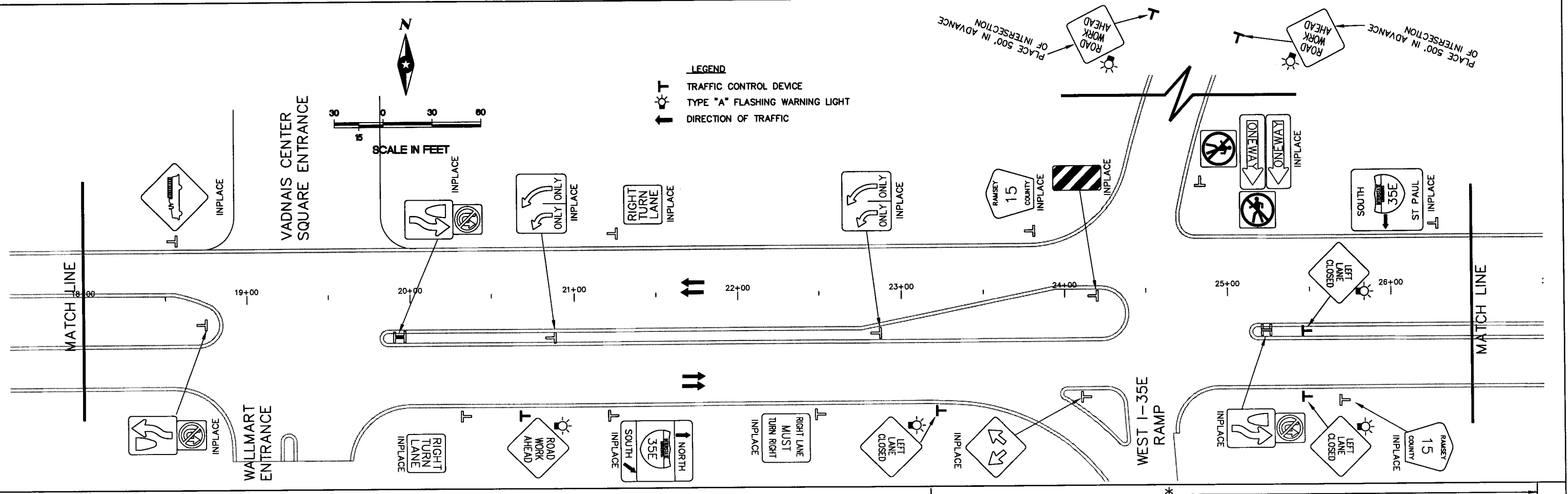
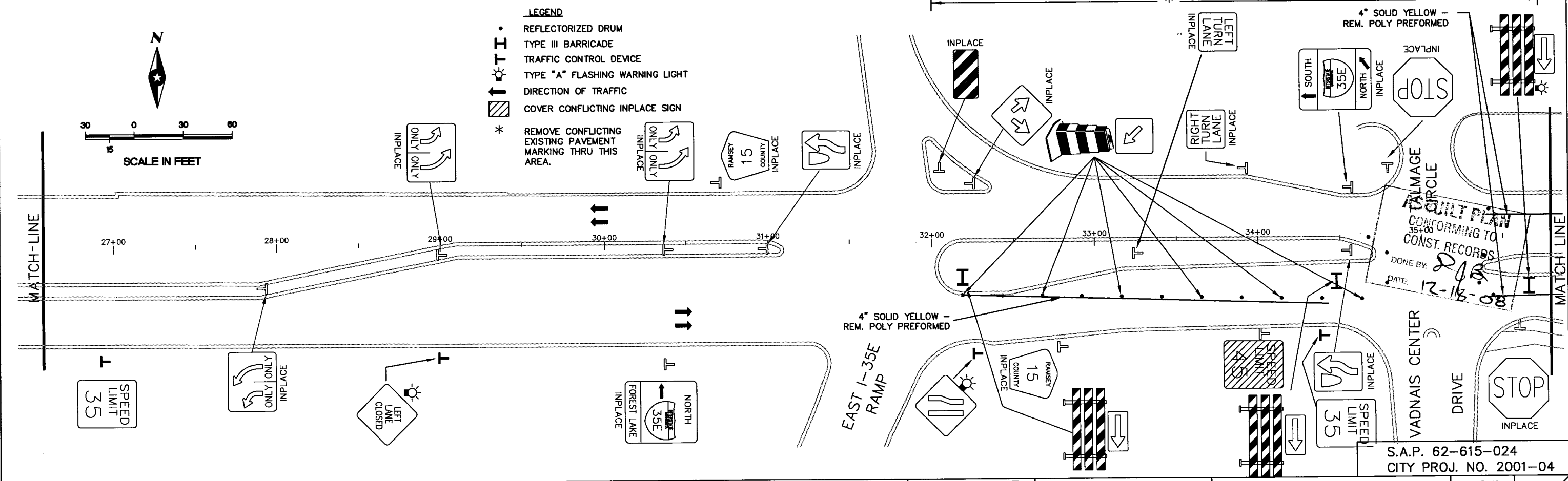
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

**TRAFFIC CONTROL - STAGE 2
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01
69
92

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04



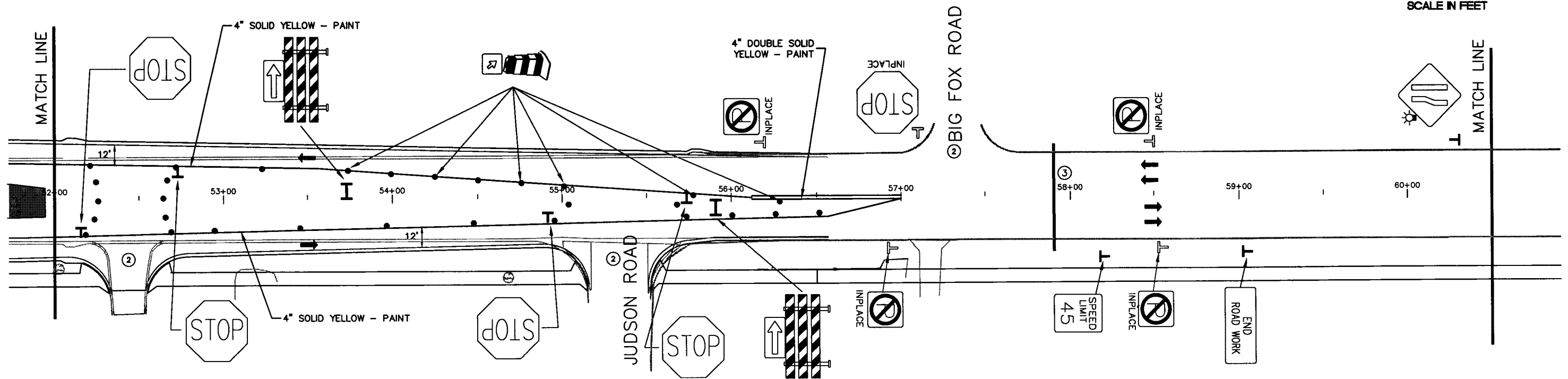
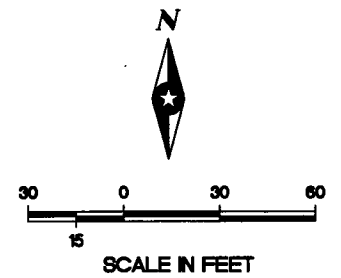
28-256

NOTES:

- ① ALL PERMANENT SIGNING SHALL BE INSTALLED ON COUNTY ROAD E FOR TRAFFIC CONTROL - STAGE 2 AS SHOWN ON THE "SIGNING AND PAVEMENT MARKING" PLANS WITH THE EXCEPTION OF MEDIAN SIGNING, SPEED LIMIT SIGNING AND TURN LANE SIGNS.
- ② MAINTAIN ACCESS DURING CONSTRUCTION.
- ③ EDGE OF PAVEMENT AT STA. 57+90.

LEGEND

- REFLECTORIZED DRUM
- ⊥ TYPE III BARRICADE
- ⊥ TRAFFIC CONTROL DEVICE
- ⊥ TYPE "A" FLASHING WARNING LIGHT
- ← DIRECTION OF TRAFFIC

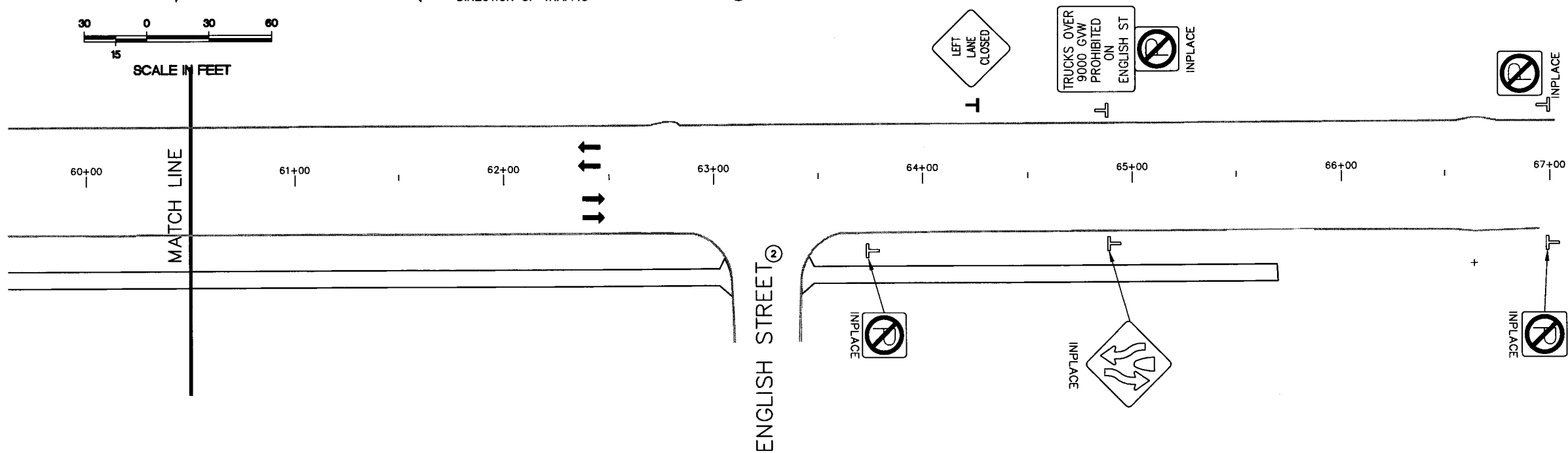
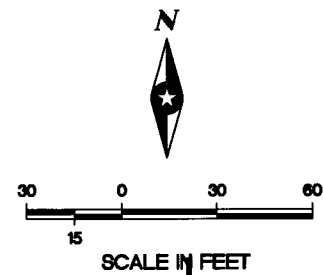


LEGEND

- ⊥ TRAFFIC CONTROL DEVICE
- ⊥ TYPE "A" FLASHING WARNING LIGHT
- ← DIRECTION OF TRAFFIC

NOTES:

- ① ALL PERMANENT SIGNING SHALL BE INSTALLED ON COUNTY ROAD E FOR TRAFFIC CONTROL - STAGE 2 AS SHOWN ON THE "SIGNING AND PAVEMENT MARKING" PLANS WITH THE EXCEPTION OF MEDIAN SIGNING, SPEED LIMIT SIGNING AND TURN LANE SIGNS.
- ② MAINTAIN ACCESS DURING CONSTRUCTION.



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *SJB*
 DATE: 12-18-08

S.A.P. 62-615-024
 CITY PROJ. NO. 2001-04

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DRAWN BY:	GEN			
DESIGNER:	HNK			
CHECKED BY:	XXX			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Thomas A. Schwelbe
 Date: 9/28/01 Lic. No. 20943

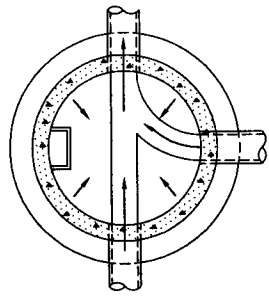
SEH
 Thomas A. Schwelbe, P.E.
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

RAMSEY COUNTY, MINNESOTA

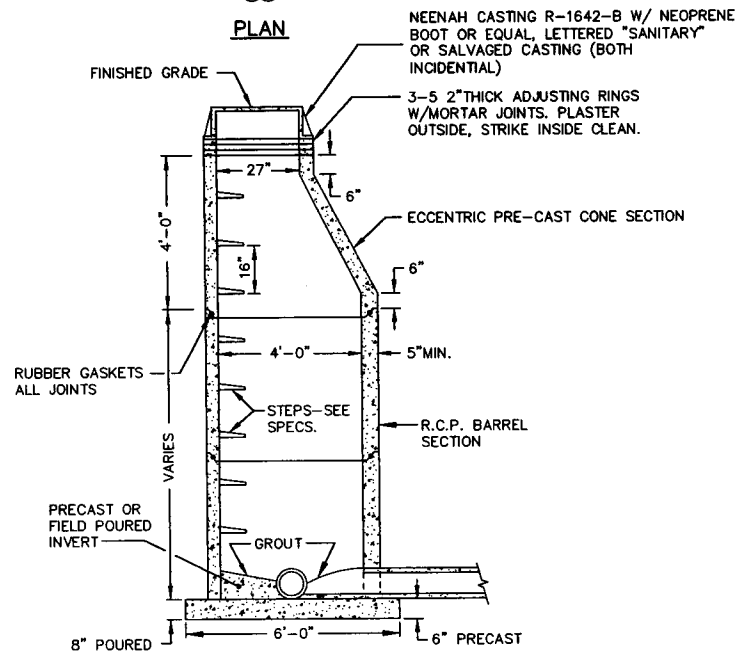
**TRAFFIC CONTROL - STAGE 2
 COUNTY ROAD E & LABORE ROAD**

FILE NO. AVADNA0106
 DATE 9/28/01
71
92

28-256

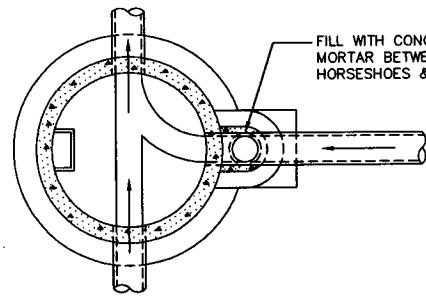


PLAN

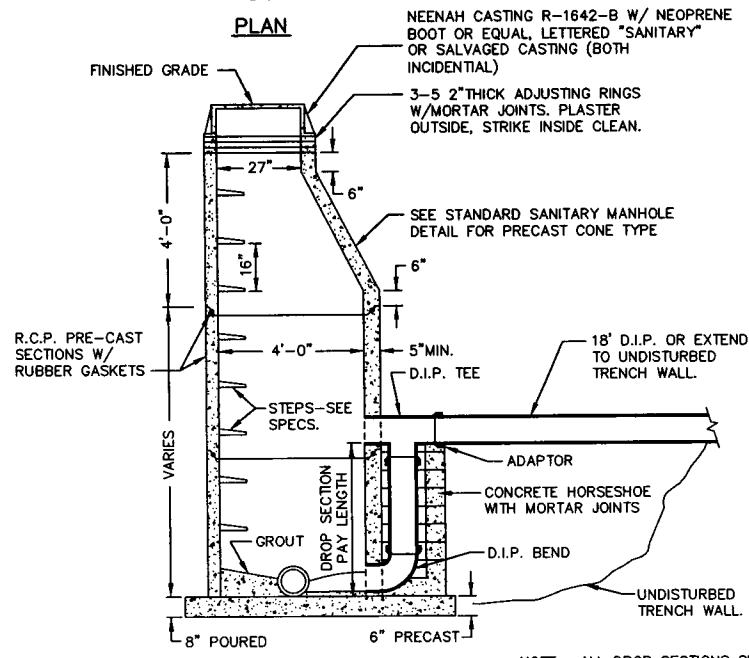


SECTION

SANITARY MANHOLE
(ECCENTRIC)



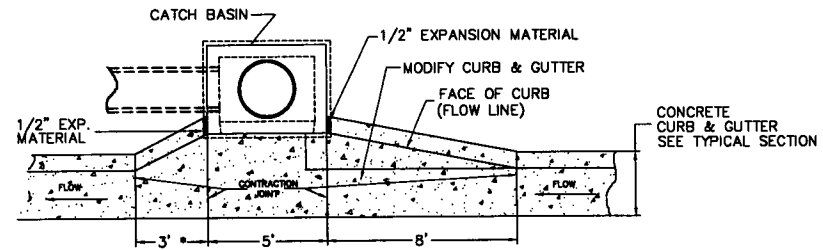
PLAN



SECTION

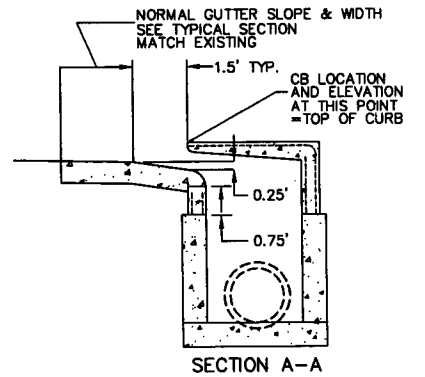
SANITARY DROP MANHOLE
(OUTSIDE)

NOTE: ALL DROP SECTIONS SHALL BE 8" DIAM. DIP UNLESS OTHERWISE NOTED.



ELEVATION
(AT FLOW LINE)

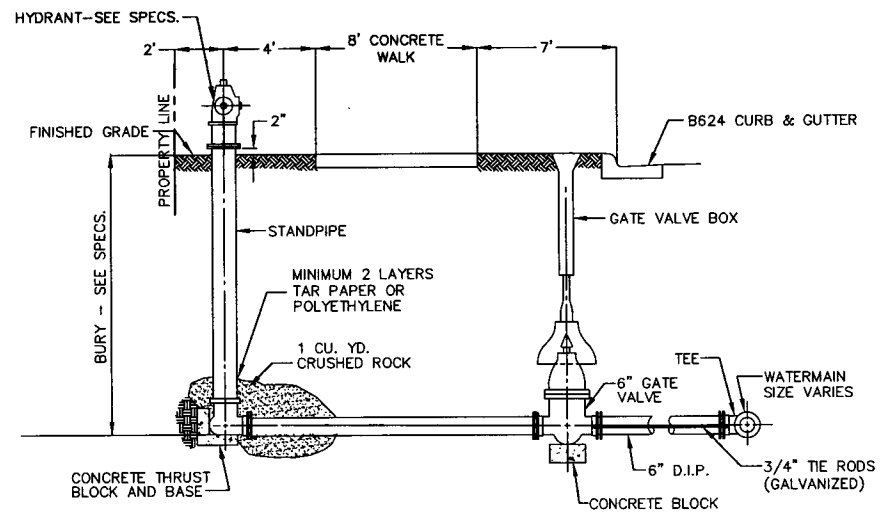
MODIFIED CONCRETE L.P.
CATCH BASIN INSTALLATION
(FOR B6 DESIGN C&G)



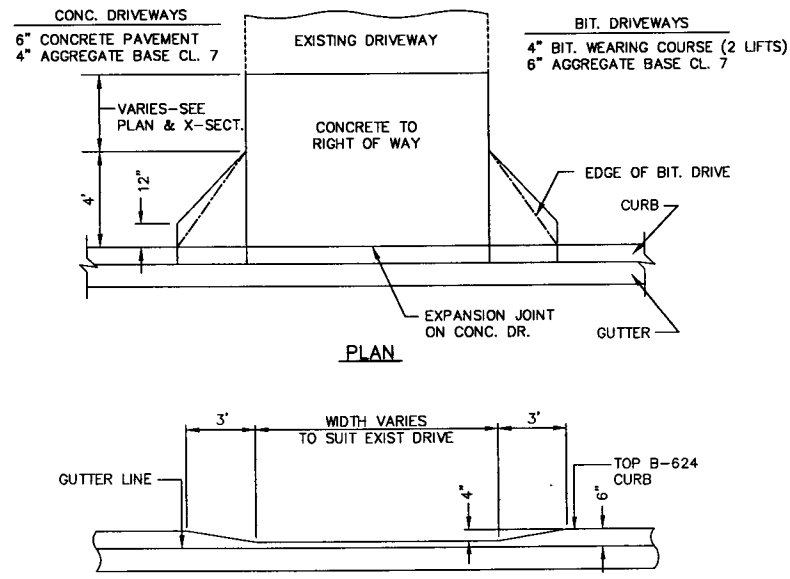
SECTION A-A

NOTES

- * DIMENSION SHALL BE 8' WHEN STRUCTURE IS INSTALLED AT LOW POINT IN GRADE.
- CATCH BASIN - DESIGN LP - SEE MN/DOT STD. PL. NO. 4021.
- TOP OF CATCH BASIN SHALL BE INSTALLED AT SAME SLOPE AS BLVD. GRADES AND TOP OF CURB GRADE EACH SIDE OF STRUCTURE.
- ELEVATION OF STRUCTURE IS COMPUTED AT LOCATION SHOWN IN SEC. A-A AT L OF C.B. OPENING.
- REINFORCEMENT OF PRECAST UNIT SHALL BE AS DIRECTED BY ENGINEER.



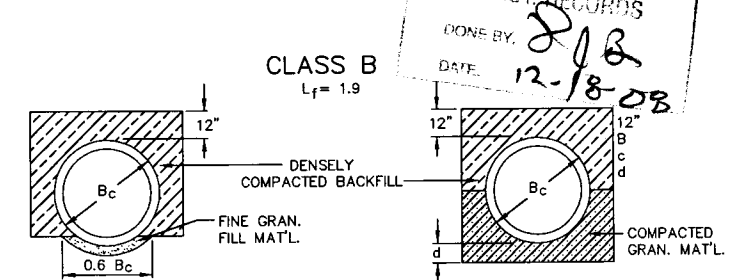
HYDRANT (& GATE VALVE) INSTALLATION



ELEVATION

DRIVEWAY DETAILS

TRENCH BEDDING-CIRCULAR PIPE



SHAPED SUBGRADE WITH GRANULAR FOUNDATION

GRANULAR FOUNDATION

LEGEND

B_c = OUTSIDE DIAMETER
H = BACKFILL COVER OVER TOP OF PIPE
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE
A_g = AREA OF TRAVERSE STEEL IN THE CRADLE OR ARCH EXPRESSED AS A PERCENTAGE OF AREA OF CONCRETE AT INVERT OR CROWN.

DEPTH OF BEDDING MATERIAL BELOW PIPE	d MIN.
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

Q:\CLIENTS\T\ADNA\0106\ACAD\VA106D1.DWG DATE: 06-19-01 USER: CPU580SP TIME: 2:58 pm

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: SLP				
DESIGNER: SLP				
CHECKED BY: DLB				

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DAVID L. BETTS, P.E.
Date: 9/28/01 Lic. No. 26848

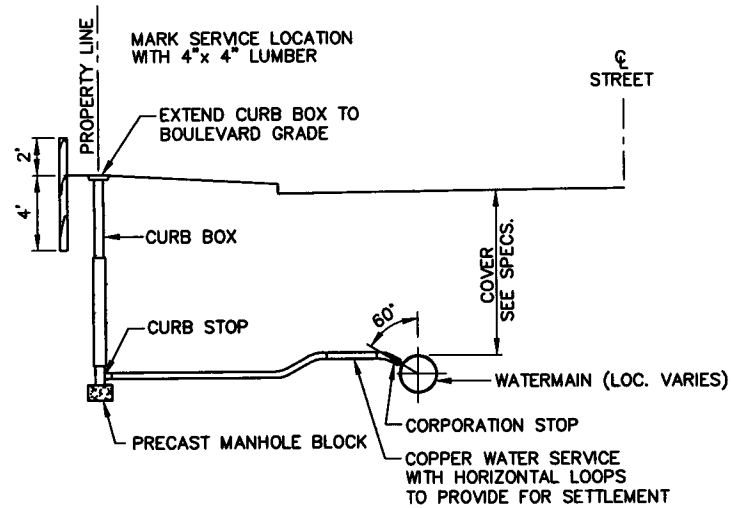
SEH
PHONE: (651) 480-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**RAMSEY COUNTY,
MINNESOTA**

**PROPOSED DETAILS
COUNTY ROAD E & LABORE ROAD**

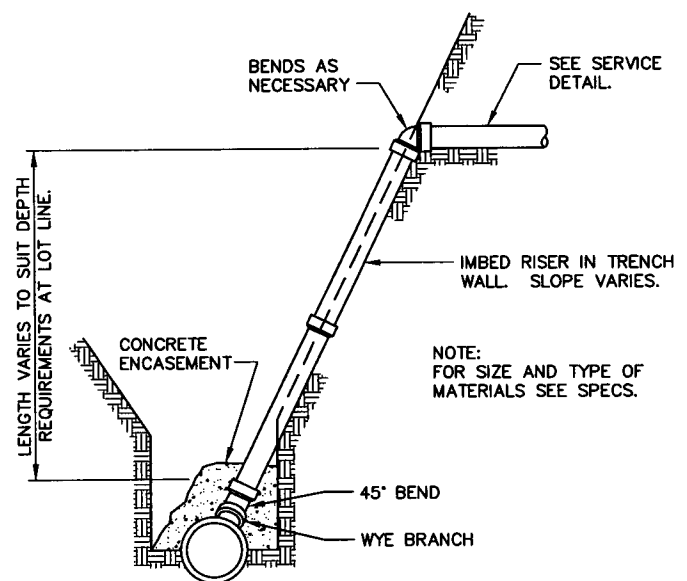
FILE NO. AVADNA0106	72
DATE 9/28/01	92

28-256



- NOTES:
- SEE SPECS FOR SIZE & TYPE OF MATERIALS.
 - MAINTAIN 18" VERTICAL & 24" HORIZONTAL SEPARATION BETWEEN SEWER & WATER SERVICE LINES

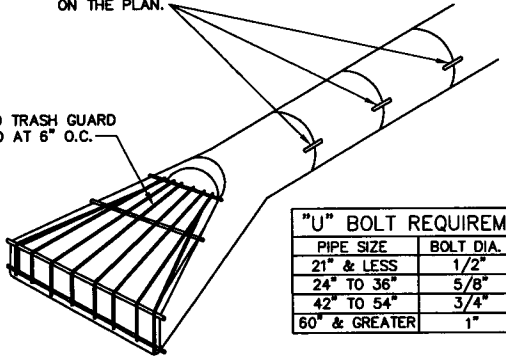
WATER SERVICE CONNECTION



SANITARY SEWER SERVICE RISER

GALVANIZED "U" BOLT FASTENERS - 2 PER JOINT LOCATED ON EACH SIDE OF THE PIPE AT 60" FROM THE TOP OF THE PIPE. TIE THREE JOINTS UNLESS OTHERWISE NOTED ON THE PLAN.

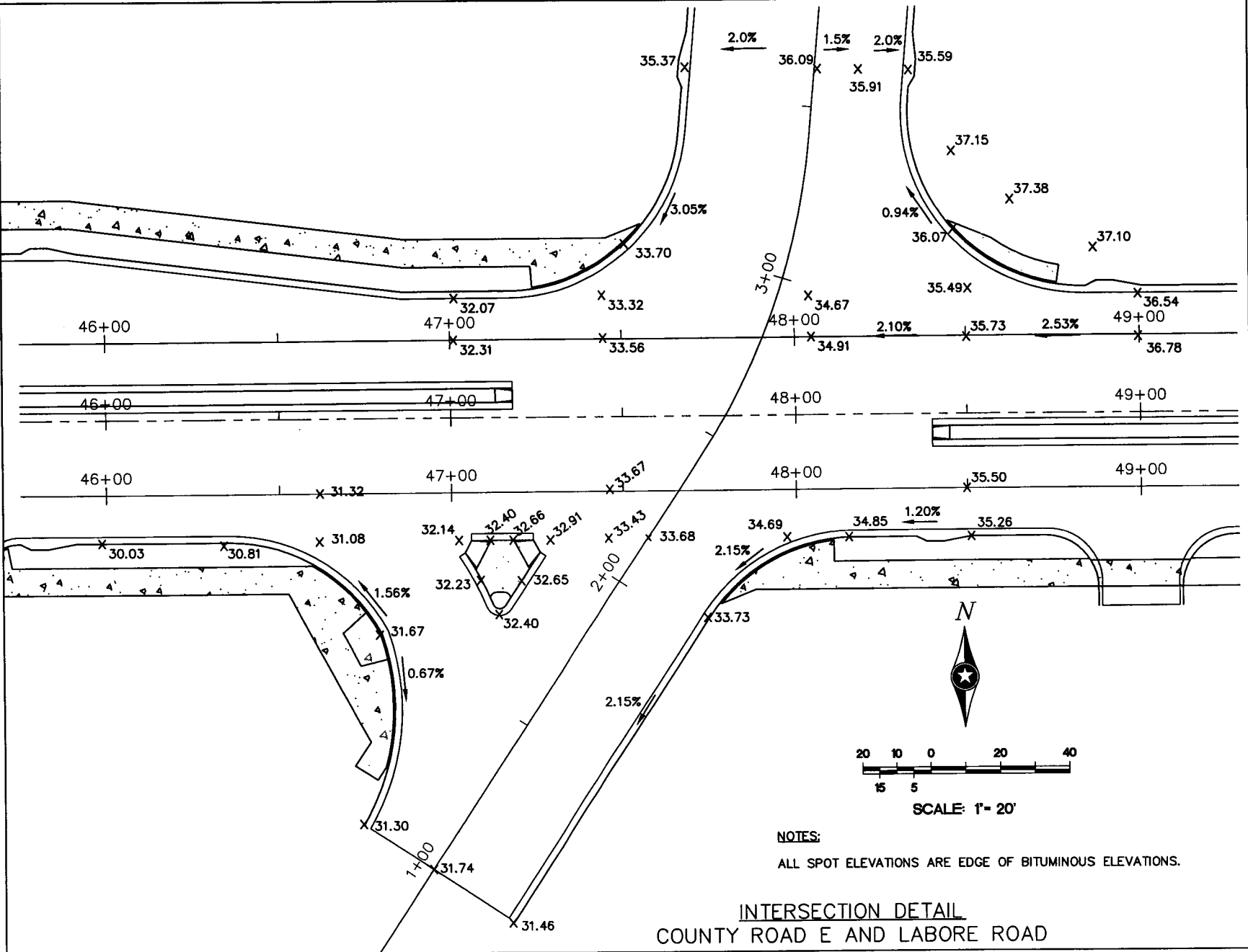
GALVANIZED TRASH GUARD 1/2" O ROD AT 6" O.C.



"U" BOLT REQUIREMENTS		
PIPE SIZE	BOLT DIA.	WIDTH
21" & LESS	1/2"	24"
24" TO 36"	5/8"	24"
42" TO 54"	3/4"	24"
60" & GREATER	1"	24"

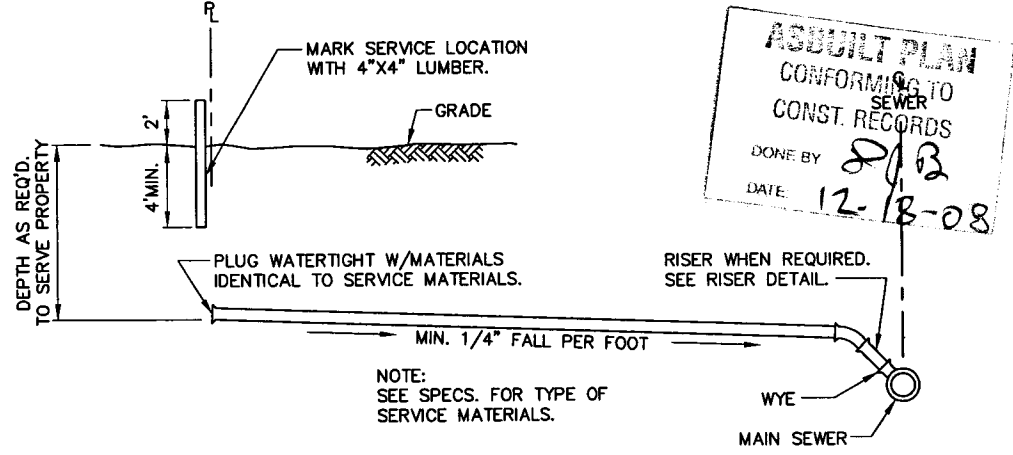
SEE DETAIL FOR RIPRAP AT R.C.P. APRONS.

CONCRETE APRON



INTERSECTION DETAIL COUNTY ROAD E AND LABORE ROAD

NOTES: ALL SPOT ELEVATIONS ARE EDGE OF BITUMINOUS ELEVATIONS.



SANITARY SEWER SERVICE

ASBUILT PLAN
CONFORMING TO
SEWER
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

S.A.P. 62-615-024
CITY PROJ. NO. 2001-04

G:\CLIENTS\T.VADNA\0106\ACAD\VA06D072.DWG DATE: 08-19-01 TIME: 3:01 PM USER: CPU150SP XREFS:

DESIGN TEAM	NO.	BY	DATE	REVISIONS
SLP				
SLP				
DLB				

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

[Signature] DAVID L. BETTS, P.E.
Date: 9/28/01 Lic. No. 26848

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

RAMSEY COUNTY, MINNESOTA

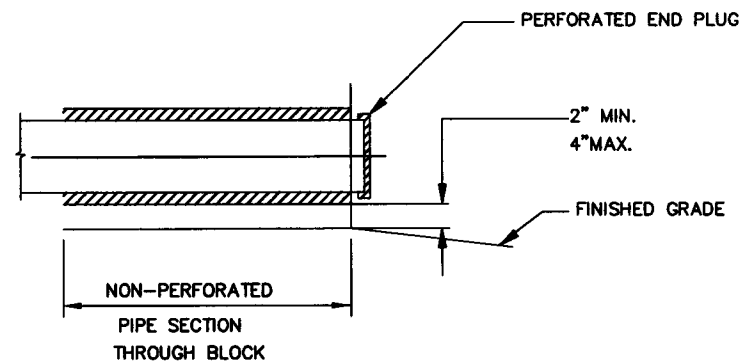
PROPOSED DETAILS COUNTY ROAD E & LABORE ROAD

FILE NO. AVADNA0106	73
DATE 9/28/01	92

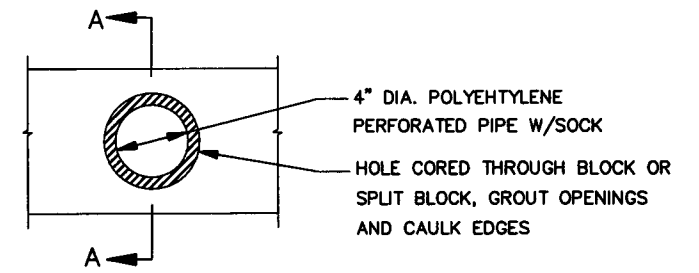
28-256

NOTES:

- 1) MAXIMUM EXPOSED HEIGHT NOT TO EXCEED 3 FEET.
- 2) FILL ALL VOID AREAS IN MODULAR BLOCK UNITS WITH COARSE FILTER AGGREGATE (Mn/DOT SPEC. 3149.2H)
- 3) MODULAR BLOCK UNITS MUST HAVE INTERLOCKING LIP OR PIN CONNECTIONS.
- 4) RETAINING WALL LOCATION SHOWN ON PLANS.
- 5) WALL BATTER MUST EXCEED 7 DEGREES.
- 6) PROVIDE 4" POLYETHYLENE DRAIN WITH GEOTEXTILE SOCK AS DIRECTED BY ENGINEER.
- 7) CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR PROPOSED MODULAR BLOCK UNITS.
- 8) A SPECIFIC ENGINEERED DESIGN IS REQUIRED FOR WALLS OVER 3 FEET.
- 9) BLOCKS SHALL HAVE SPLIT ROCK FACE.
- 10) ELEVATIONS SHOWN ON WALL PROFILE INCLUDE USE OF CAP UNIT.

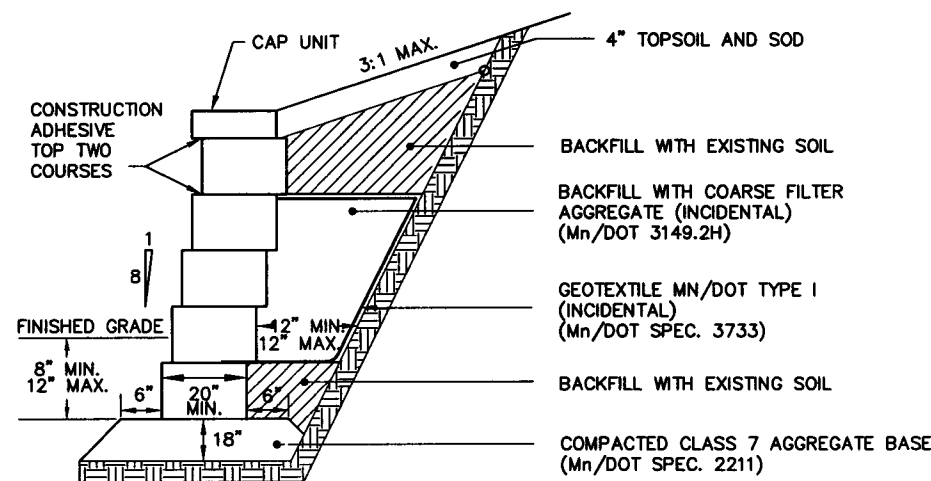


SECTION A-A

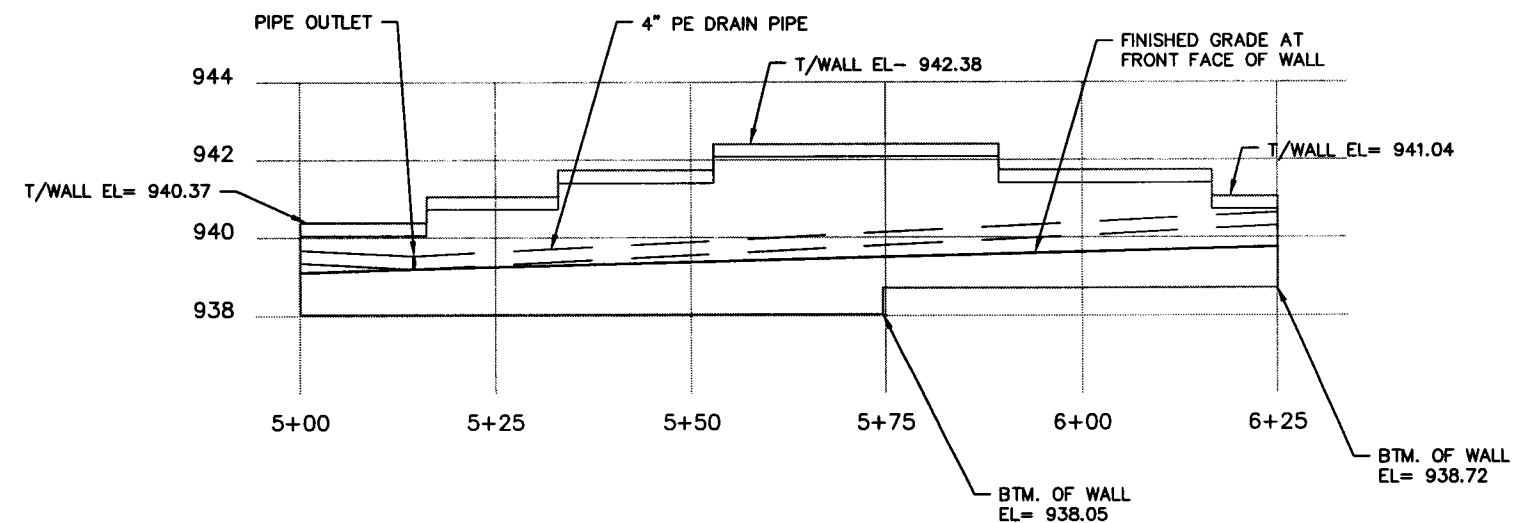


FRONT VIEW

PE PIPE OUTLET
EXIT THROUGH MODULAR WALL



NON-REINFORCED MODULAR BLOCK RETAINING WALL
STA. 5+00 TO STA. 6+25 LABORE ROAD



NON-REINFORCED MODULAR BLOCK
RETAINING WALL ELEVATION

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY *DJB*
DATE: 12-18-08

DRAWN BY:	TJP
DESIGNER:	TJP
CHECKED BY:	WSW

NO.	BY	DATE	REVISIONS

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Wayne Wambold, P.E. *Wayne Wambold*
Date: 9/28/01 Lic. No. 25640

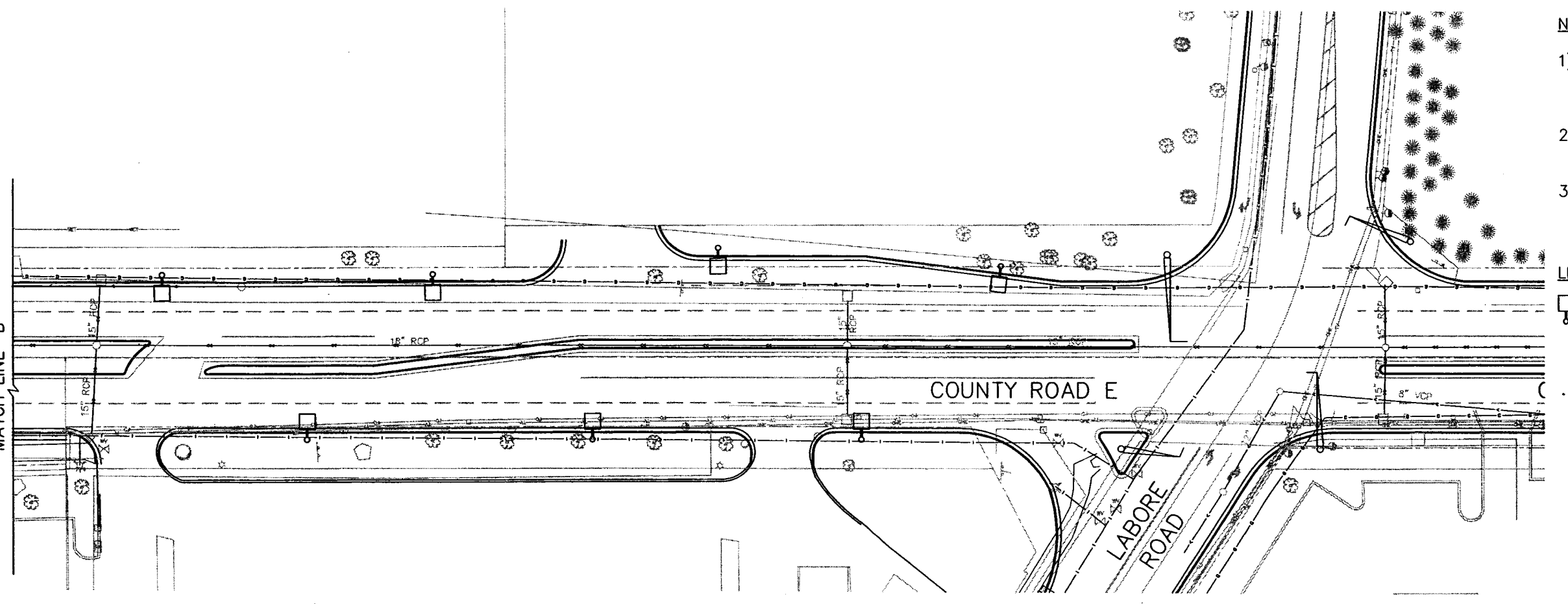
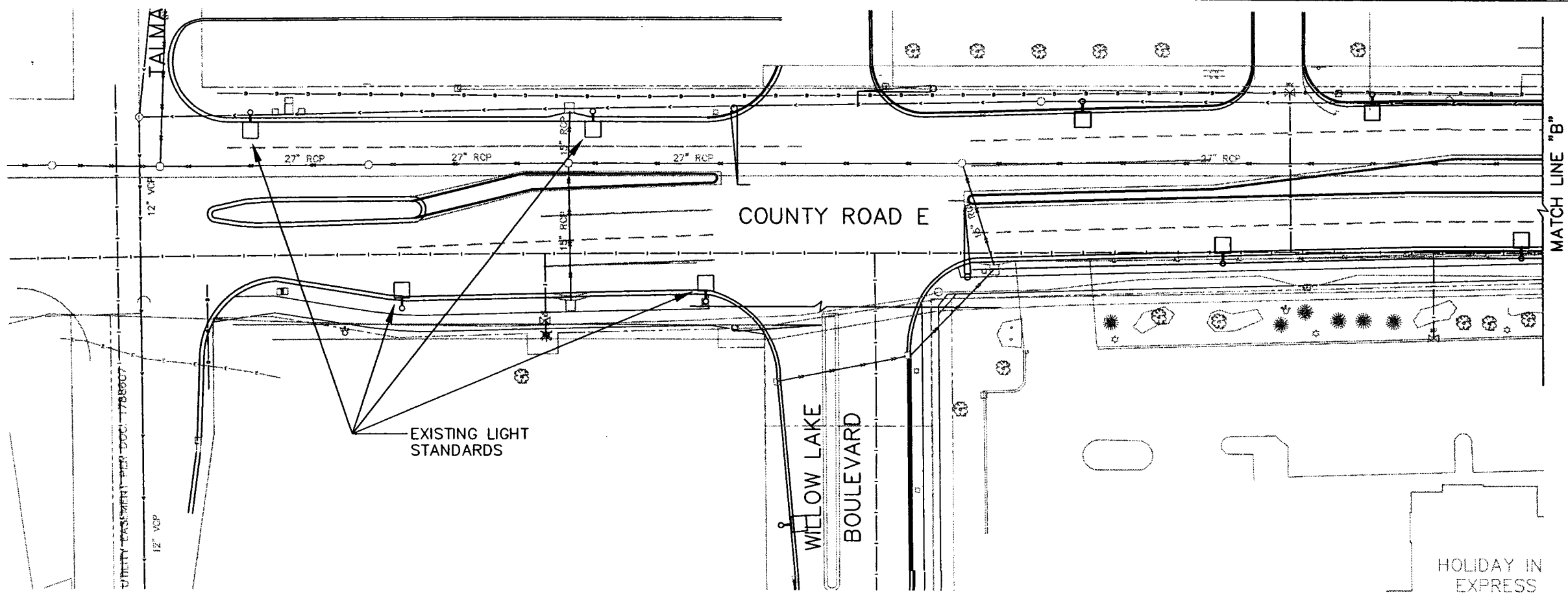
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

RAMSEY COUNTY,
MINNESOTA

RETAINING WALL DETAILS
COUNTY ROAD E & LABORE ROAD

FILE NO.
AVADNA0106.00
DATE
9/28/01

74
92

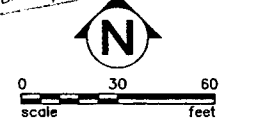


NOTES:

- 1) ALL UNITS ON THIS PLAN SHEET SHALL BE 250W HPS LUMINARIES MOUNTED ON 30 FT. ALUMINUM POLES.
- 2) POLES SHALL BE EQUIPPED WITH BANNER ARMS AND GFCI RECEPTACLES.
- 3) ALL LIGHTING CONSTRUCTION TO BE PERFORMED BY XCEL ENERGY.

LEGEND

PROPOSED LIGHT STANDARD



FOR INFORMATION ONLY

K:\ELECTRICAL\PROJECTS\CITY OF VADNAIS HEIGHTS\DRAWINGS\WHLR01A.DWG
 DATE: 4-30-01 TIME: 9:30AM USER: CPUJ5325P
 XREFS: ROADWAY_BORDER2

DRAWN BY:	LAD			
DESIGNER:	KST/LAD			
CHECKED BY:	KST			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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Glenn R. Eisenbrandt Jr.
 GLENN R. EISENBRANDT JR.
 Date: 4/30/01 Lic. No. 17013

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

RAMSEY COUNTY,
 MINNESOTA

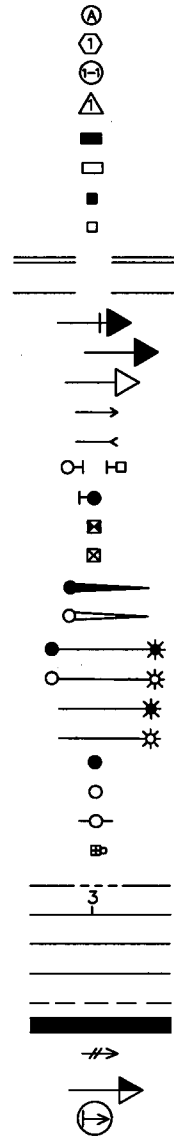
STREET LIGHTING PROJECT
 COUNTY ROAD E

FILE NO.	75
AVADNA0108.01	
DATE	92
4-30-01	

28-256

LEGEND OF SYMBOLS

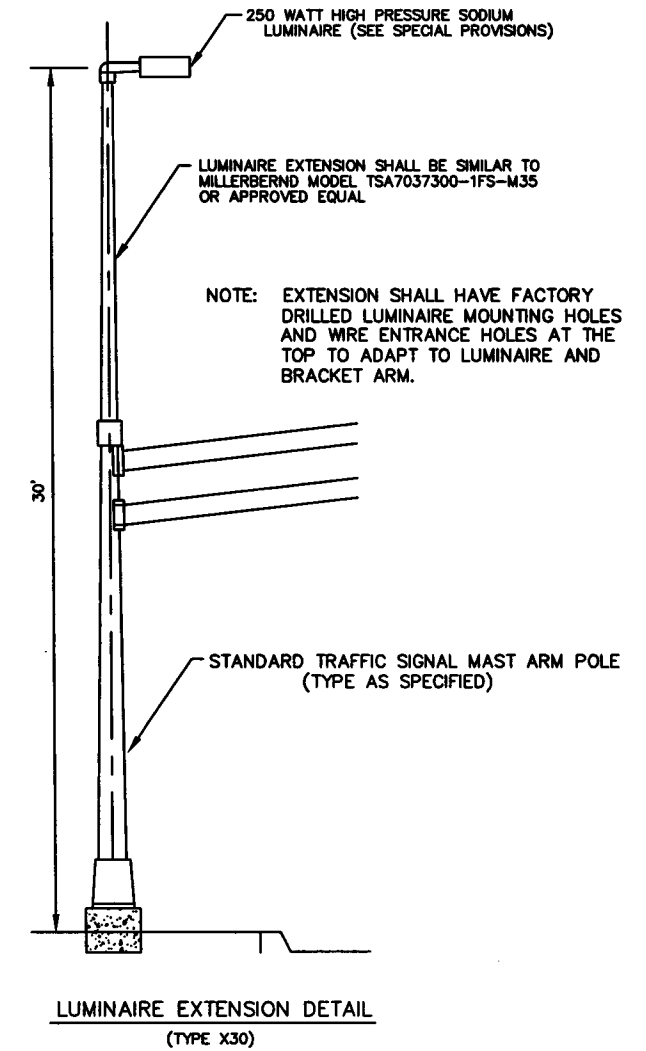
- CONTROLLER AND SERVICE EQPT NO's. _____
- SIGNAL BASE NO. _____
- SIGNAL FACE NO. _____
- LUMINAIRE NO. _____
- CONTROLLER AND CABINET _____
- CONTROLLER AND CABINET IN PLACE _____
- HANDHOLE _____
- HANDHOLE IN PLACE _____
- RIGID STEEL CONDUIT (R.S.C.) _____
- RIGID STEEL CONDUIT (R.S.C.) IN PLACE _____
- 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 IN PLACE _____
- 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 IN PLACE _____
- 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 _____
- ADVANCE WARNING FLASHER _____
- AUTOSCOPE DETECTOR _____



ABBREVIATIONS

EQUIPMENT AND INDICATIONS

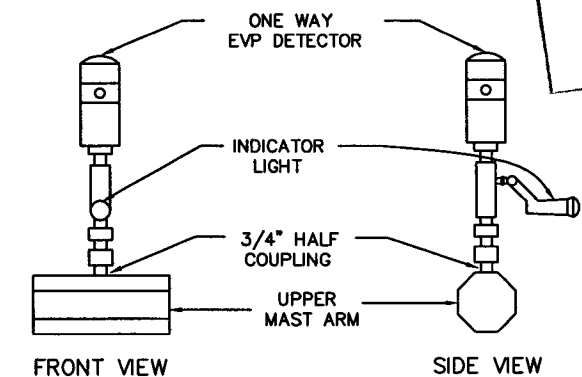
- RED - RED
- YEL - YELLOW
- GRN - GREEN
- WLK - WALK
- NEU - NEUTRAL
- DWK - DON'T WALK
- LUM - LUMINAIRE
- DNL - DOWNLIGHT
- H.H. - HANDHOLE
- EQG - EQUIPMENT GROUND
- R.S.C. - RIGID STEEL CONDUIT
- GLTA - GREEN LEFT TURN ARROW
- YRTA - YELLOW RIGHT TURN ARROW
- D2-1 (eg) - DETECTOR - PHASE "2"
- GR.R - GROUND ROD
- SER - SERVICE
- P2-1 (eg) - PEDESTRIAN INDICATIONS-PHASE "2"
- 2-1 (eg) - SIGNAL HEADS-PHASE "2"
- SPR - SPARE CONDUCTORS
- N.M.C. - NON METALLIC CONDUIT
- E.V.P. - EMERGENCY VEHICLE PRE-EMPTION
- J.B. - JUNCTION BOX
- W.P. - WOOD POLE
- P.E.C. - PHOTOELECTRIC CELL
- GTHA - GREEN THROUGH ARROW
- PB2-2 (eg) - PEDESTRIAN PUSH BUTTON-PHASE "2"
- TDW - TELEPHONE DROP WIRE
- S.O.P. - SOURCE OF POWER
- H.P.S. - HIGH PRESSURE SODIUM
- F & I - FURNISH AND INSTALL
- R & S - REMOVE AND SALVAGE
- S & R - SALVAGE AND REINSTALL
- Br. Gr. - BARE GROUND
- - EQG CONNECTION
- - SPLICE



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



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

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

* The following Standard Plates, approved by the FEDERAL HIGHWAY ADMINISTRATION, shall apply on this project.

S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

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

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[Signature]
 Date: 9/28/01 Lic. No. 22457

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

**VADNAIS HEIGHTS,
 MINNESOTA**

**SIGNAL SYSTEM DETAILS
 COUNTY ROAD E (CSAH 15)
 (LABORE ROAD AND
 WILLOW LAKE BOULEVARD)**

FILE NO. AVADNA0106.02
 DATE 9/28/01

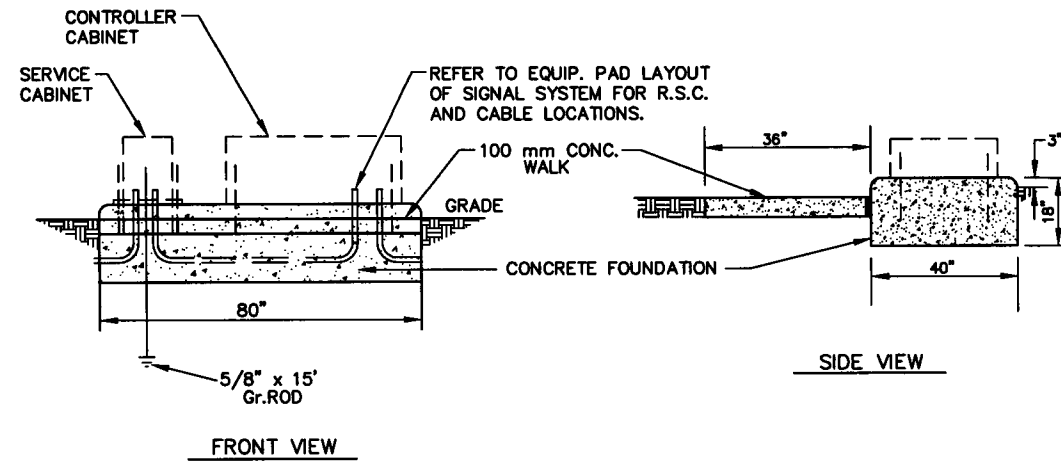
76
 92

28-256

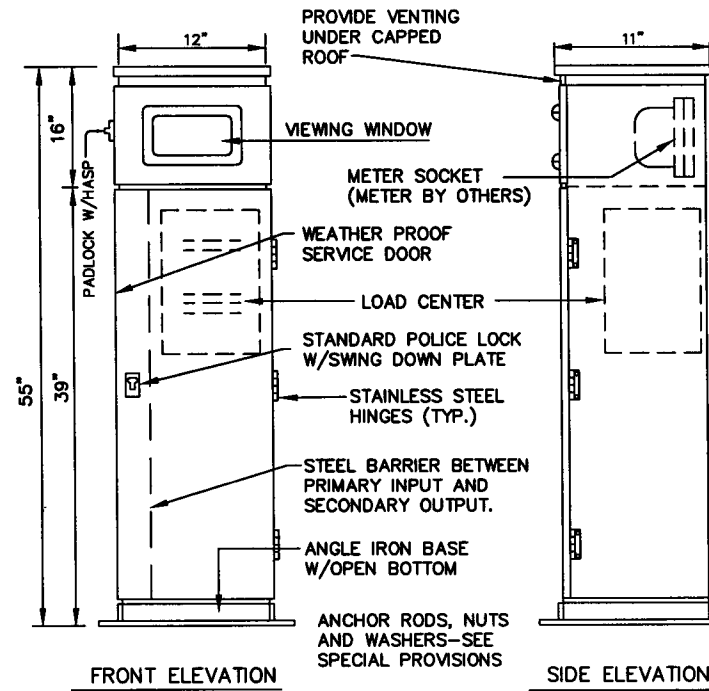
EQUIPMENT PAD FOUNDATION

NOTES:

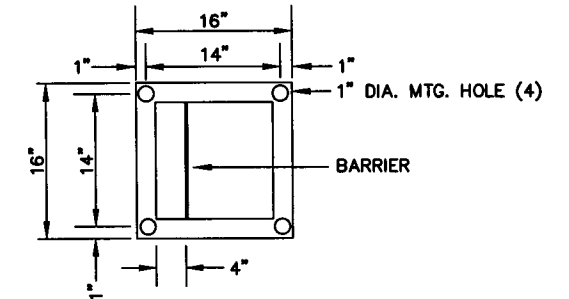
- 1) ANCHOR RODS, NUTS AND WASHERS PER Mn/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER. NUMBER, SIZE AND LENGTH OF ANCHOR RODS SHALL BE AS REQUIRED BY THE CABINET MANUFACTURER.
- 2) UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 3) TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED). CONDUITS SHALL PROJECT A MINIMUM OF 50 mm 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.
- 4) CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
- 5) CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
- 6) EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.
- 7) REFER TO EQUIPMENT PAD LAYOUT OF SIGNAL SYSTEM FOR FOUNDATION SIZE, CONDUIT PLACEMENT AND EQUIPMENT TO BE INSTALLED.
- 8) ANCHOR RODS, NUTS AND WASHERS FOR CONTRACTOR FURNISHED CONTROLLER CABINET SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.



SERVICE CABINET DETAILS



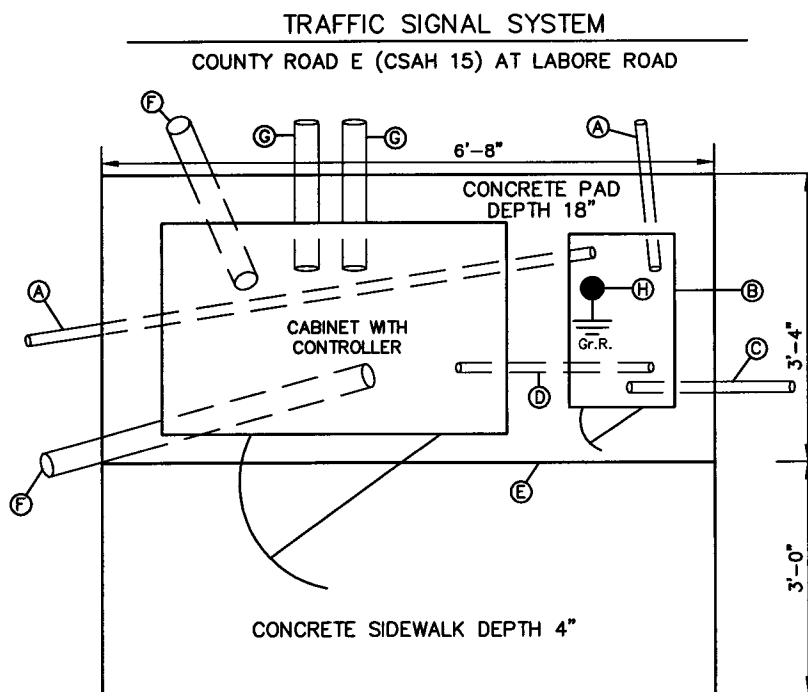
BASE LAYOUT



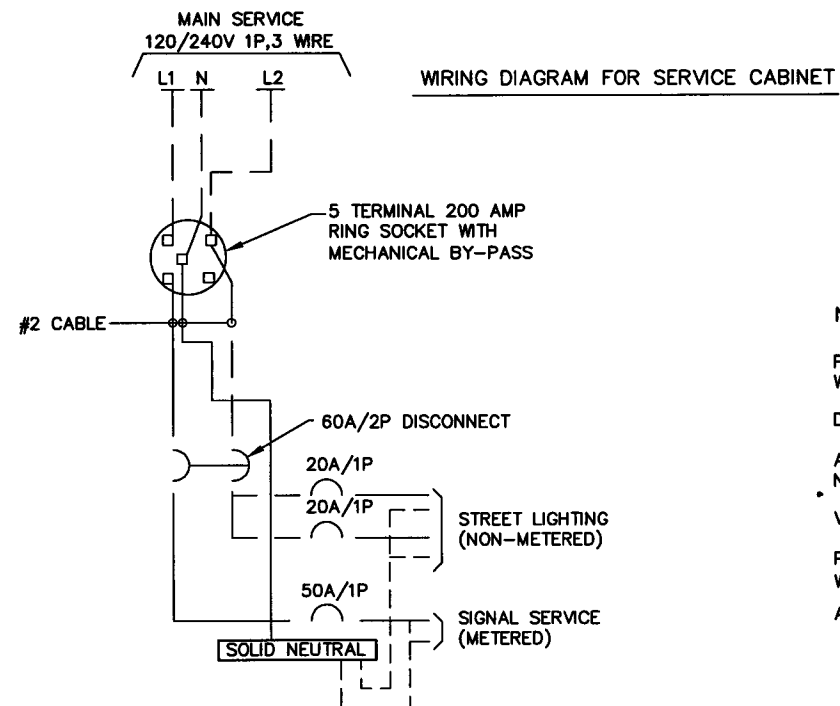
NOTE: REFER TO FIELD WIRING DIAGRAM FOR SIGNAL SYSTEM REGARDING CABLE NUMBERING FOR ALL LUMINAIRES AND SERVICE CABLES.

TYPICAL PAD WITH CABINET, CONTROLLER, SERVICE EQUIPMENT

SEE INTERSECTION LAYOUT FOR CONDUIT AND CABLE INFORMATION



- A) 2" R.S.C. TO H.H.1 & 17 WITH 2-3/c#12 CABLES (LUM.)
- B) SERVICE CABINET
- C) 2" R.S.C. WITH 3-1/c#2 TO SOURCE OF POWER
- D) 2" R.S.C. WITH 2-1/c#6 AND 1-1/c#6 Ins.Gr.
- E) PREFORMED JOINT FILLER
- F) 4" R.S.C. TO H.H.1 AND H.H.17
- G) 3" R.S.C. STUB OUT (THREAD AND CAP BOTH ENDS)
- H) GROUND ROD



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

NOTES:

- PEDESTAL SHALL BE FABRICATED FROM 1/8" ALUMINUM WITH WELDED SEAMS FOR USE AS AN OUTDOOR WEATHERPROOF SERVICE.
- DOOR OPENINGS SHALL BE SEALED WITH NEOPRENE GASKET.
- ALL HINGES, HINGE PINS AND LOCKS SHALL BE MADE FROM NON-CORRODING MATERIALS.
- VIEWING WINDOW SHALL BE LEXAN MATERIAL- 7" x 7" MIN.
- PEDESTAL CABINET SHALL BE PROTECTED INSIDE AND OUT WITH AN ANODIC COATING. SEE SPECIAL PROVISIONS.
- ANCHOR RODS, NUTS AND WASHERS - SEE EQUIPMENT PAD NOTE 1.

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: 9/28/01 Lic. No. 22457

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

VADNAIS HEIGHTS, MINNESOTA

**TRAFFIC SIGNAL SYSTEM
EQUIPMENT PAD DETAILS
COUNTY ROAD E (CSAH 15)
AT LABORE ROAD**

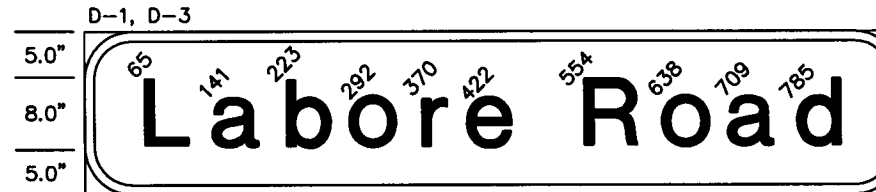
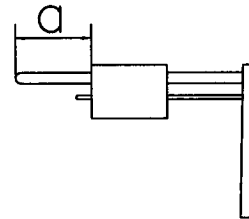
FILE NO. AVADNA0106.02
DATE 9/28/01

77
92

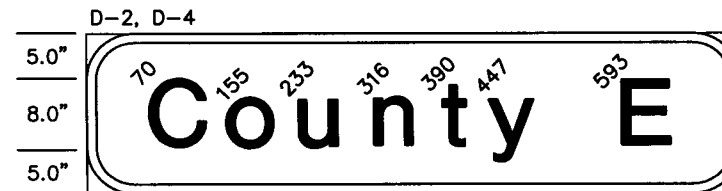
28-256

TYPE D SIGNS - F & I							
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (in.)	SQ. FT. PER SIGN	POLE NO.	a
D-1	90x18	1	2	54"	11.25	1	18'
D-2	72x18	1	2	42"	9.00	2	8'
D-3	90x18	1	2	54"	11.25	3	18'
D-4	72x18	1	2	42"	9.00	4	8'
TOTAL					40.50		

TYPE C SIGNS - F & I					
MMUTCD CODE	SIZE (in.)	NO. REQ.	NO. POSTS PER SIGN	SQ. FT. PER SIGN	PANEL LEGEND
R10-12	36x48	4	①	12.00	LEFT TURN YIELD ON GREEN
TOTAL				48.00	



D-1, D-3
90" x 18", 3"R, 1.0"B.
Line 1 77.2: 8"-6" E MOD.



D-2, D-4
72" x 18", 3"R, 1.0"B.
Line 1 58.2: 8"-6" E MOD.

NOTES:

- COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS, TYPE C AND D SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A AND B.
- FOR TYPE D STRINGER AND PANEL-JOINT DETAIL, SEE STANDARD SIGNS MANUAL.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING VIP SHEETING. SEE SPECIAL PROVISIONS.
- FURNISHING AND INSTALLING TYPE D SIGNS SHALL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.511 FOR THE TRAFFIC SIGNAL SYSTEM AT LABORE ROAD. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- FURNISHING AND INSTALLING TYPE C SIGNS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565.511 FOR THE SIGNAL SYSTEM AT LABORE ROAD. SEE SPECIAL PROVISIONS.
- ①= INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARMS 1, 2, 3 AND 4 (2 FEET FROM END OF MAST ARM - USE 2 POSTS SPACED 24" APART).

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *RJA*
DATE: 12-18-08

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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[Signature]
Date: 9/28/01 Lic. No. 22457

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

VADNAIS HEIGHTS,
MINNESOTA

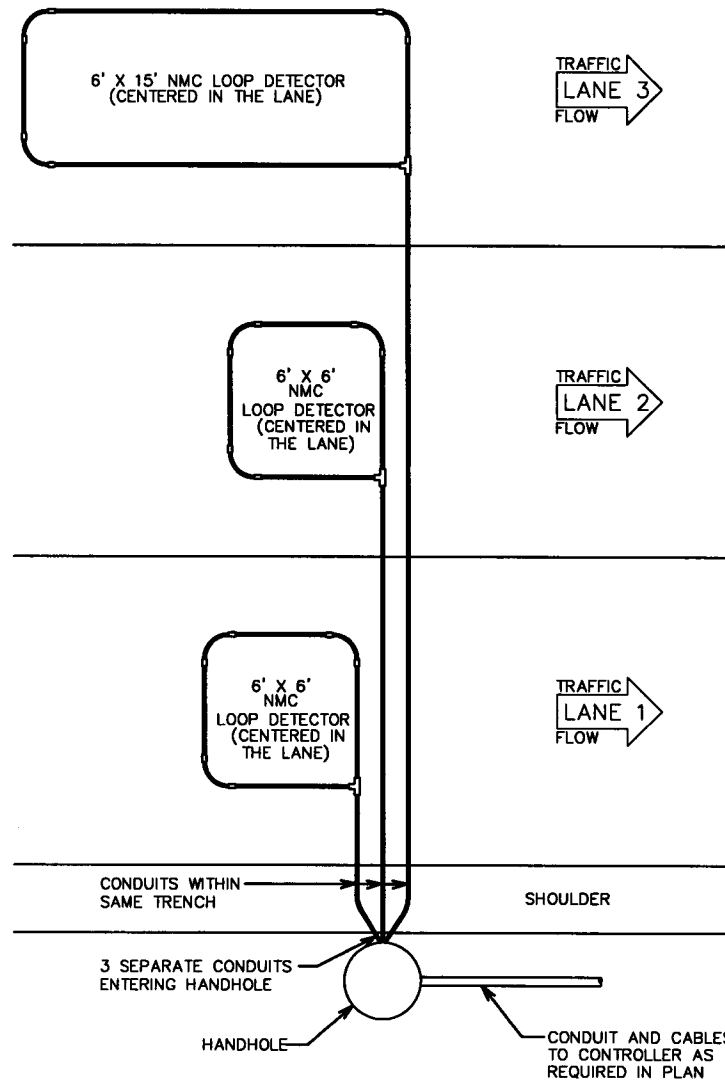
TRAFFIC SIGNAL SYSTEM
SIGNAL SIGNING DETAILS
COUNTY ROAD E (CSAH 15)
AT LABORE ROAD

FILE NO.
AVADNA0106.02
DATE
9/28/01

78
92

28-256

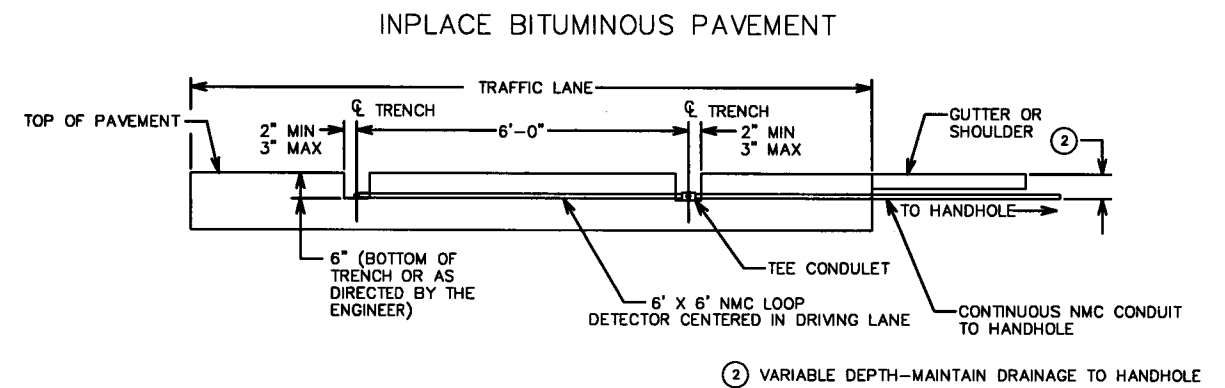
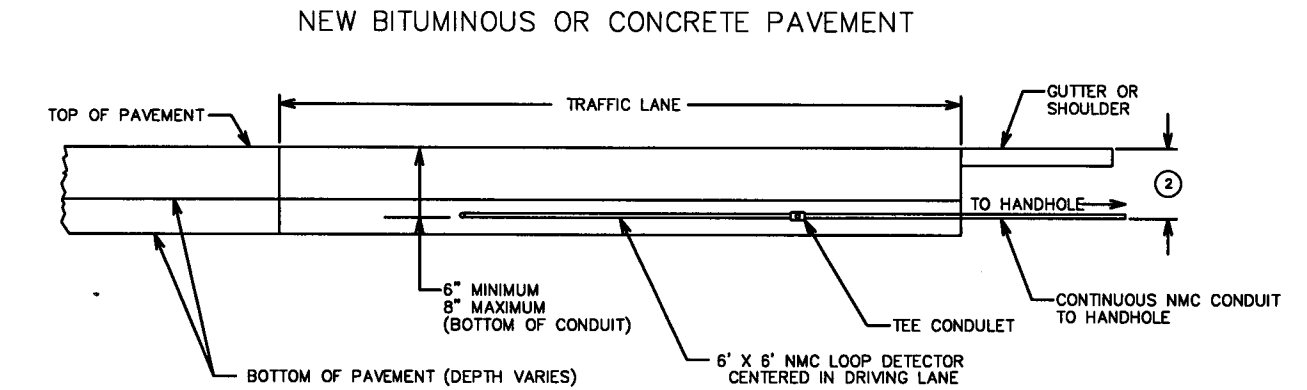
TYPICAL NMC LOOP DETECTOR LAYOUT



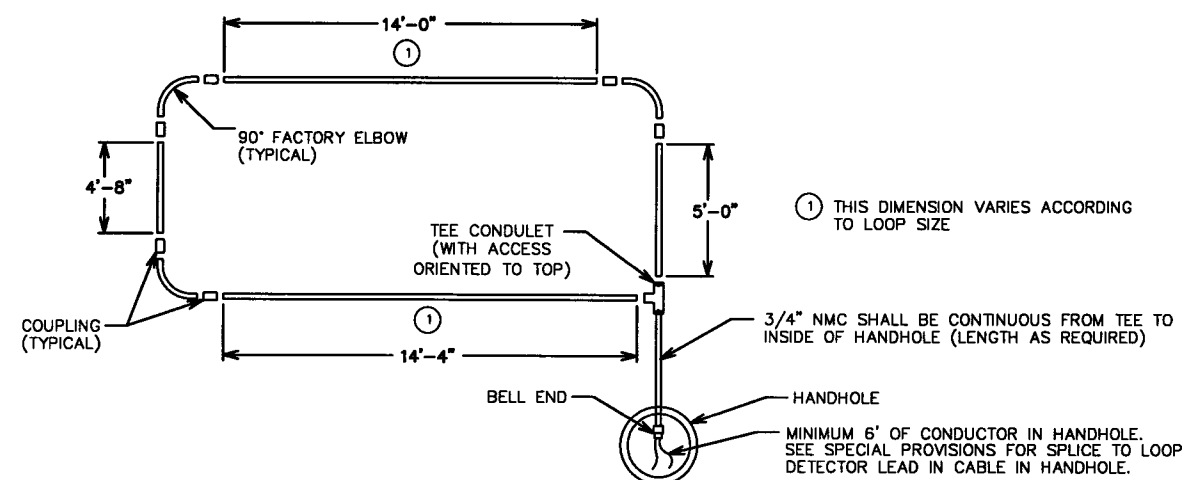
GENERAL NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTORS AND SPLICE KITS.
2. THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE 3803.
3. THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS). THE FOURTH SHALL BE A NMC TEE CONDULET.
4. APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
5. ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
6. THE LOOP DETECTOR CONDUCTORS (1/C#14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
7. ATTACH A FERROUS METAL ITEM TO THE INTERIOR OF THE TEE CONDULET COVER.
8. EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
9. LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
10. THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL END IN THE HANDHOLE.
11. NO SPLICES ALLOWED IN CONDUIT TO TEE CONDULET.
12. ALL LOOP DETECTORS SHALL HAVE FOUR (4) TURNS OF CONDUCTORS.
13. THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
14. 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 ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE.)
15. TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6', 6' x 10', 6' x 15', AND 6' x 20'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.

TYPICAL NMC LOOP DETECTOR INSTALLATION



TYPICAL NMC LOOP DETECTOR DETAIL- (6' X 15' LOOP)



NOTES:

1. USE THE ACTUAL LOOP DETECTOR TO BE PLACED FOR MARKING THE PAVEMENT FOR MILLING LOCATION.
2. MILL PAST THE CENTER OF THE CONDUIT TO BE PLACED.
3. ACHIEVE A MINIMUM 2" VERTICAL EDGE ON ALL CUTS.
4. AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK APPLICATION.
5. 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.
6. USE MIXTURE TYPE 41 WEARING COURSE (TYPE 41WEA50055) TO BACKFILL THE TRENCH. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY ENGINEER. (AGGREGATE SIZE "A" IS REQUIRED.)
7. 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.
8. COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTING 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.
9. THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

DRAWN BY: JMG	REVISED BY:	REVISED BY:	AS BUILT BY:
CKD BY: JMG	CKD BY:	CKD BY:	CKD BY:
CHECKED BY: JMG	DATE:	DATE:	DATE:

PREFORMED NON-METALLIC CONDUIT
LOOP DETECTOR DETAILS

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
Date: 9/28/01 Lic. No. 22457

SEH
PHONE: (651) 480-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**VADNAIS HEIGHTS,
MINNESOTA**

**SIGNAL SYSTEM DETAILS
COUNTY ROAD E (CSAH 15)
(LABORE ROAD AND
WILLOW LAKE BOULEVARD)**

FILE NO.
AVADNA0106.02
DATE
9/28/01

79
92

28-256

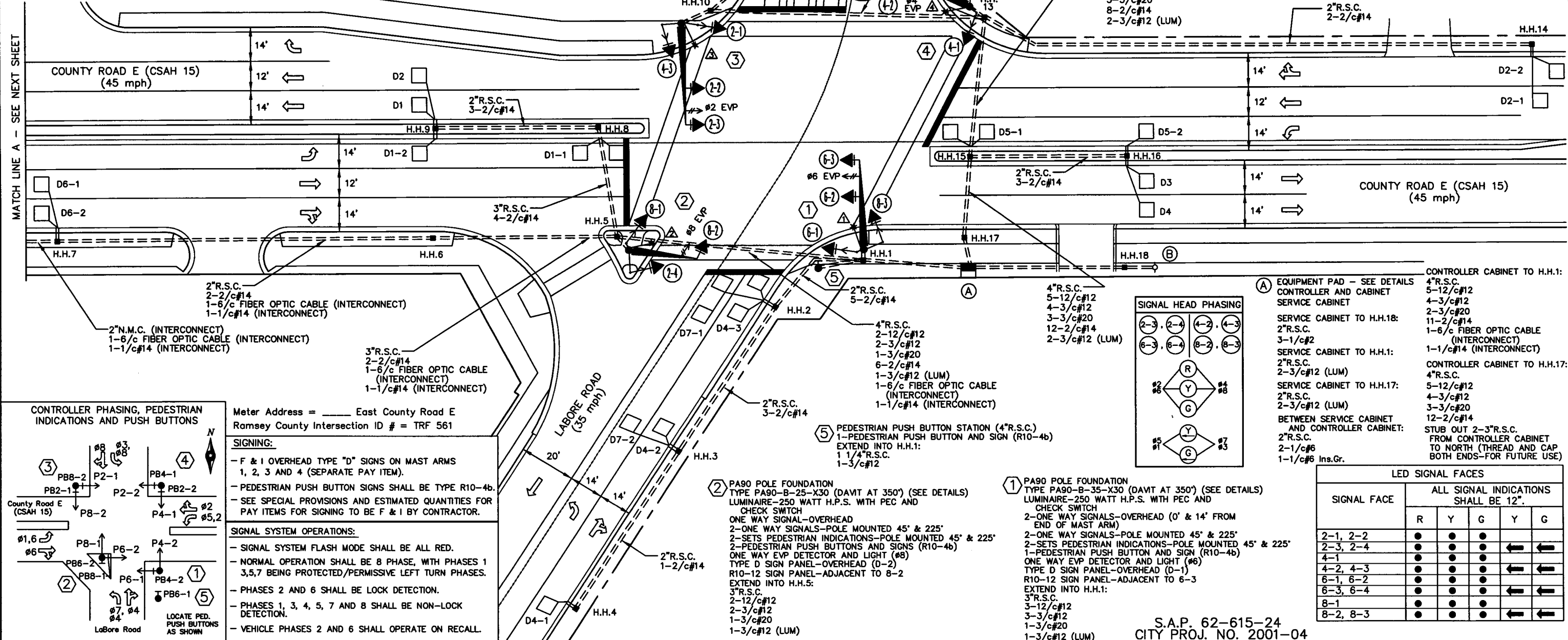
NOTES:

- 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.
- 4) ALL VEHICULAR AND PEDESTRIAN INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
- 5) A 3/4" HALF COUPLING SHALL BE FURNISHED AT 6' FROM THE END OF THE MAST ARM ON EACH POLE PER MN/DOT 3831.2C.
- 6) ALL POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
- 7) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.511. SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
- 8) CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND MAKING OPERATIONAL THE TRAFFIC SIGNAL CONTROLLER AND CABINET. SEE SPECIAL PROVISIONS.
- 9) ALL LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
- 10) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565.511).
- 11) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY AND VADNAIS HEIGHTS.
- 12) SEE SPECIAL PROVISIONS REGARDING REMOVAL AND SALVAGING OF INPLACE SIGNAL SYSTEM.
- 13) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE FABRICATED WITH POLYCARBONATE MATERIALS, INCLUDING BACKGROUND SHIELDS AND VISORS. SEE SPECIAL PROVISIONS.
- 14) PEDESTRIAN PUSH BUTTONS SHALL BE LARGE RED 2-INCH PUSH BUTTONS (TEECO 71083 OR APPROVED EQUAL).

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	0' & 15'	C & E (TD)
D1-2	6x6	80'	C & E
D2-1	6x6	260'	C & E
D2-2	6x6	260'	C & E
D3-1	2-6x6	0' & 15'	C & E (TD)
D3-2	6x6	80'	C & E
D4-1	6x6	155'	E
D4-2	6x6	80'	E
D4-3	2-6x6	0' & 15'	C & E (TD)
D5-1	2-6x6	0' & 15'	C & E (TD)
D5-2	6x6	80'	C & E
D6-1	6x6	260'	C & E
D6-2	6x6	260'	C & E
D7-1	2-6x6	0' & 15'	C & E (TD)
D7-2	6x6	80'	C & E
D8-1	6x6	155'	E
D8-2	6x6	80'	E
D8-3	2-6x6	0' & 15'	C & E
D8-4	2-6x6	0' & 15'	C & E (TD)
D1	6x6	80'	COUNT
D2	6x6	80'	COUNT
D3	6x6	80'	COUNT
D4	6x6	80'	COUNT

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

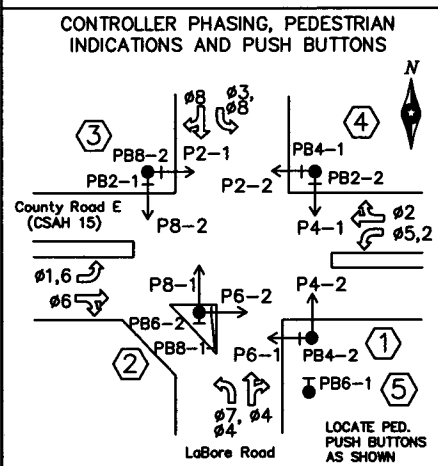
FUNCTIONS:
C & E = CALL AND EXTEND
(TD) = TIME DELAYED
E = EXTEND ONLY



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-02

(B) GROUND MOUNTED TRANSFORMER (S.O.P.)
(TO BE F & I BY XCEL ENERGY)
EXTEND INTO H.H.18:
2" R.S.C.
3-1/c#2

MATCH LINE A - SEE NEXT SHEET



Meter Address = _____ East County Road E
Ramsey County Intersection ID # = TRF 561

SIGNING:

- F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, 3 AND 4 (SEPARATE PAY ITEM).
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE TYPE R10-4b.
- SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES FOR PAY ITEMS FOR SIGNING TO BE F & I BY CONTRACTOR.

SIGNAL SYSTEM OPERATIONS:

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

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

NO.	BY	DATE	REVISIONS

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Date: 9/28/01 Lic. No. 22457

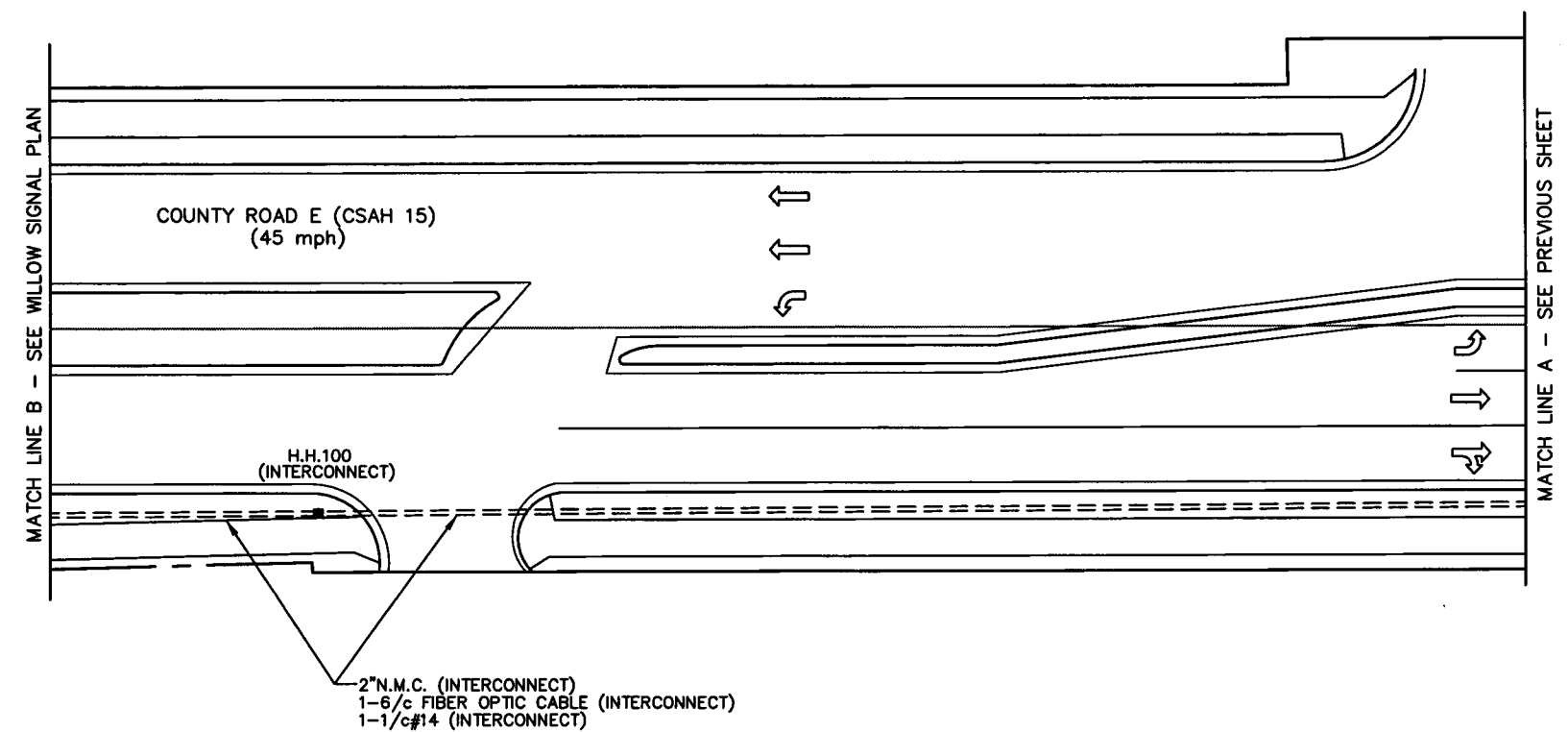
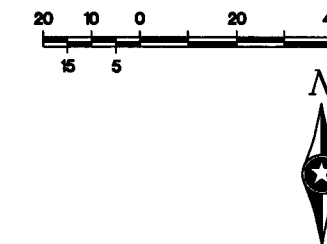


VADNAIS HEIGHTS, MINNESOTA

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT
COUNTY ROAD E (CSAH 15) AT LABORE ROAD

FILE NO. AVADNA0106.02	80
DATE 9/28/01	92

28-256



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *DJB*
 DATE: *12-18-08*

S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

DRAWN BY: <u>JMG</u>			
DESIGNER: <u>JMG</u>			
CHECKED BY: <u>JMG</u>			
DESIGN TEAM	NO.	BY	DATE
			REVISIONS

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[Signature]
 Date: 9/28/01 Lic. No. 22457

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

**VADNAIS HEIGHTS,
 MINNESOTA**

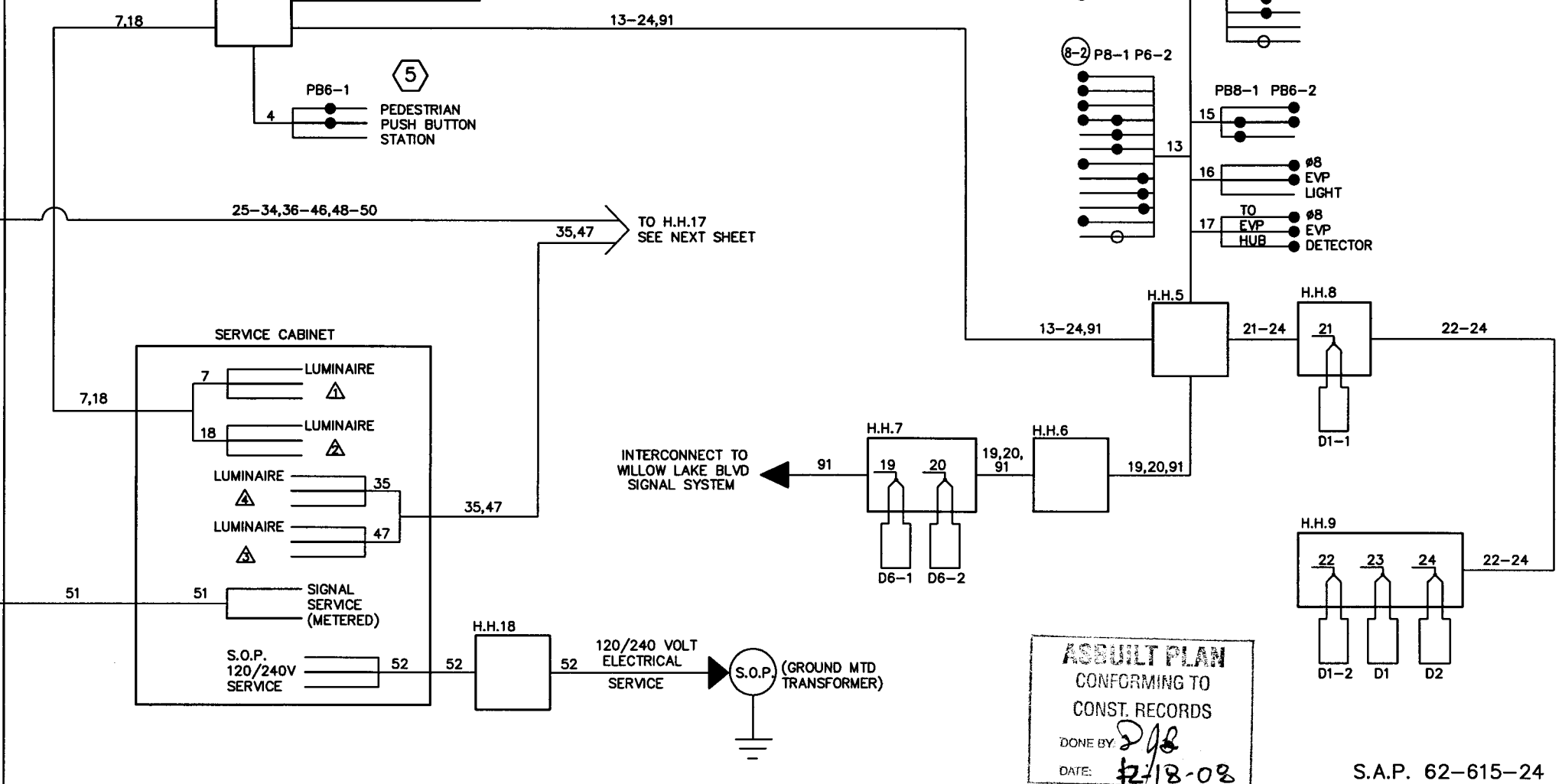
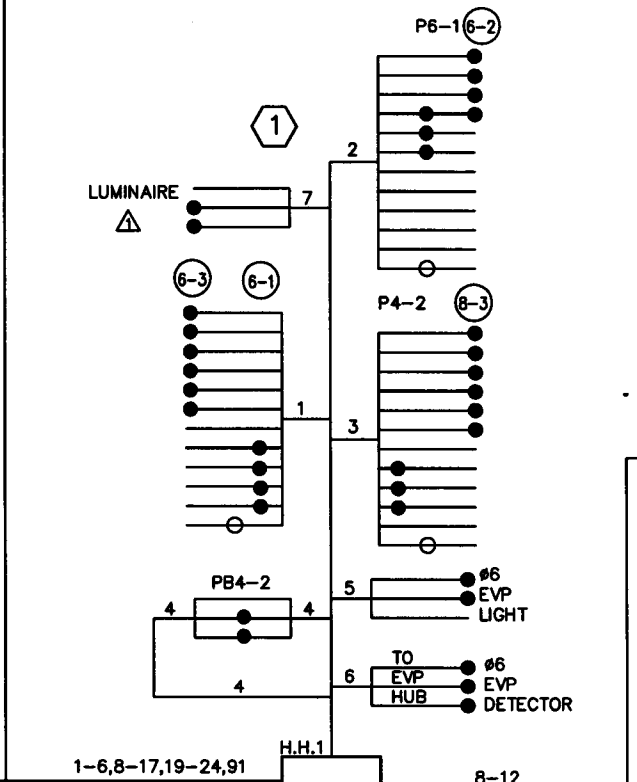
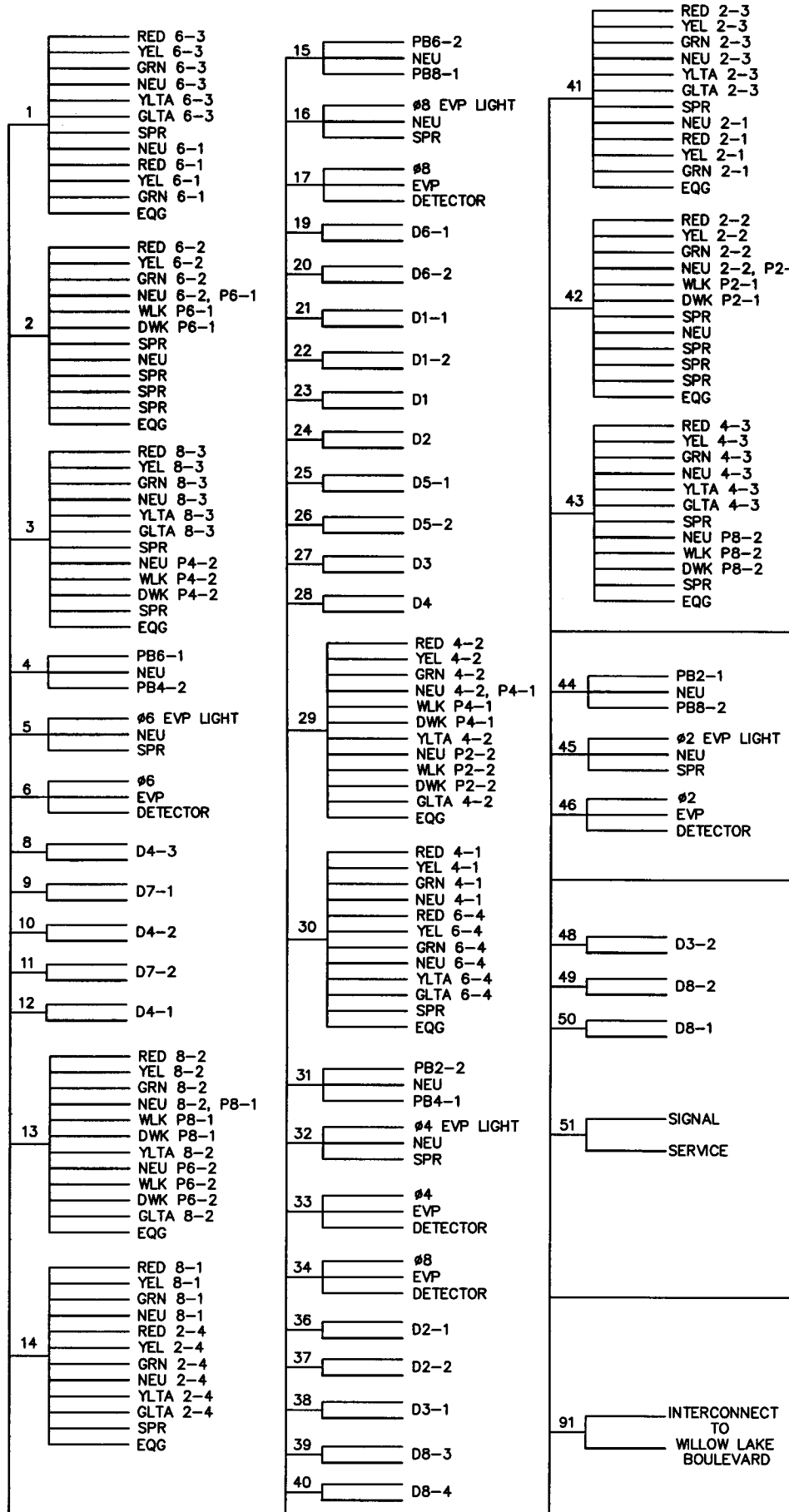
**INTERCONNECT LAYOUT
 COUNTY ROAD E (CSAH 15)
 (LABORE ROAD TO
 WILLOW LAKE BOULEVARD)**

FILE NO.
 AVADNA0106.02
 DATE
 9/28/01

**81
 92**

28-256

CONTROLLER AND CABINET



CONDUCTOR COLOR CODING

R	WH	3/c#12
O	BLK	
BL	BLK	2/c#14
WH	CLEAR	
R/BLK		
O/BLK		
BL/BLK		
WH/BLK		
BLK	R OR O	
BLK/WH	WH OR YEL	3/c#20
G/BLK	BLK OR BL	
G		

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

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12/18-08

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: 9/28/01 Lic. No. 22457

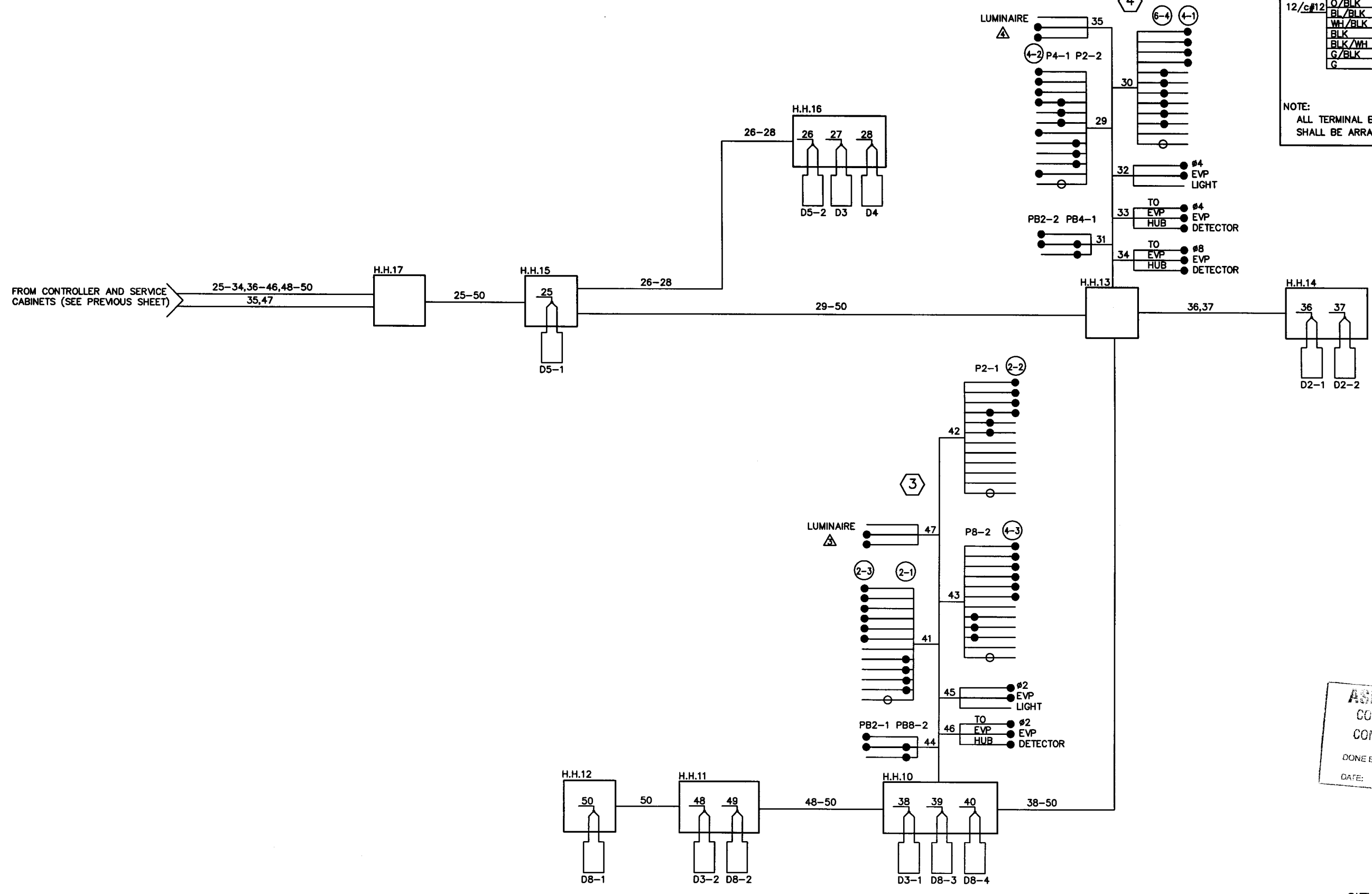
SEH
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ST. PAUL, MN 55110

VADNAIS HEIGHTS, MINNESOTA

TRAFFIC SIGNAL SYSTEM FIELD WIRING DIAGRAM
COUNTY ROAD E (CSAH 15) AT LABORE ROAD

FILE NO. AVADNA0106.02	82
DATE 9/28/01	92

28-256



CONDUCTOR COLOR CODING

R	R
O	WH
BL	BLK
WH	
R/BLK	BLK
O/BLK	CLEAR
BL/BLK	
WH/BLK	R OR O
BLK	WH OR YEL
BLK/WH	BLK OR BL
G/BLK	
G	

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

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-02

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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DESIGNER: JMG			
CHECKED BY: JMG			
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Date: 9/28/01 Lic. No. 22457

SEH
PHONE: (651) 480-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**VADNAIS HEIGHTS,
MINNESOTA**

**TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
COUNTY ROAD E (CSAH 15)
AT LABORE ROAD**

FILE NO. AVADNA0106.02	83
DATE 9/28/01	92

28-256

- NOTES:**
- 1) LOCATION OF NEW LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.604. SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES
 - 3) NEW LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
 - 4) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF RAMSEY COUNTY AND THE CITY OF VADNAIS HEIGHTS.
 - 5) ALL POLES, VEHICLE SIGNAL FACES AND PEDESTRIAN INDICATIONS ARE INPLACE AND SHALL BE PROTECTED, REUSED AND MAINTAINED TO THE SATISFACTION OF THE ENGINEER.
 - 6) NEW HANDHOLES 3A, 4A, 18, 19, 20 AND 21 SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - 7) CONTRACTOR SHALL MAINTAIN OPERATION OF THE INPLACE SIGNAL SYSTEM, EXCEPT AS APPROVED BY ENGINEER.
 - 8) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF THE REVISE SIGNAL SYSTEM.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
** D1-1	2-6x6	0' & 15'	C & E (TD)
** D1-2	6x6	70'	C & E
** D2-1	6x6	260'	C & E
** D2-2	6x6	260'	C & E
** D4-1	2-6x6	155'	E
** D4-2	2-6x6	80'	E
** D4-3	4-6x6	0' & 15'	C & E
** D4-4	2-6x6	0' & 15'	C & E (TD)
** D5-1	2-6x6	0' & 15'	C & E (TD)
** D5-2	6x6	80'	C & E
** D6-1	6x6	235'	C & E
** D6-2	6x6	235'	C & E
** D8-4	2-6x6	0' & 15'	C & E (TD)
** D1	6x6	70'	COUNT
** D2	6x6	70'	COUNT
** D3	6x6	80'	COUNT
** D4	6x6	80'	COUNT

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

FUNCTIONS:
 C & E = CALL AND EXTEND (TD) = TIME DELAYED
 E = EXTEND ONLY

** = F & I NEW LOOP DETECTOR (ALL OTHERS INPLACE)

F & I (REMOVE EXISTING CABLES)

4" R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 6-2/c#14
 2-3/c#12 (LUM)
 1-6/c FIBER OPTIC CABLE (INTERCONNECT)
 1-1/c#14 (INTERCONNECT)

(A) INPLACE (MAINTAIN INPLACE)

EQUIPMENT PAD
 CONTROLLER AND CABINET
 SERVICE CABINET
 SERVICE CABINET TO H.H.16:
 2" R.S.C.
 3-1/c#4
 SERVICE CABINET TO H.H.1:
 2" R.S.C.
 2-3/c#12 (LUM)
 -2-3/c#12 (LUM)

INPLACE (MAINTAIN INPLACE)

BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
 2" R.S.C.
 2-1/c#6
 1-1/c#6 Ins.Gr.
 STUB OUT 2-3" R.S.C. FROM CONTROLLER CABINET TO SOUTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

INPLACE (MAINTAIN INPLACE)

CONTROLLER CABINET TO H.H.1:
 4" R.S.C.
 1-2/c#14

F & I (REMOVE EXISTING CABLES)

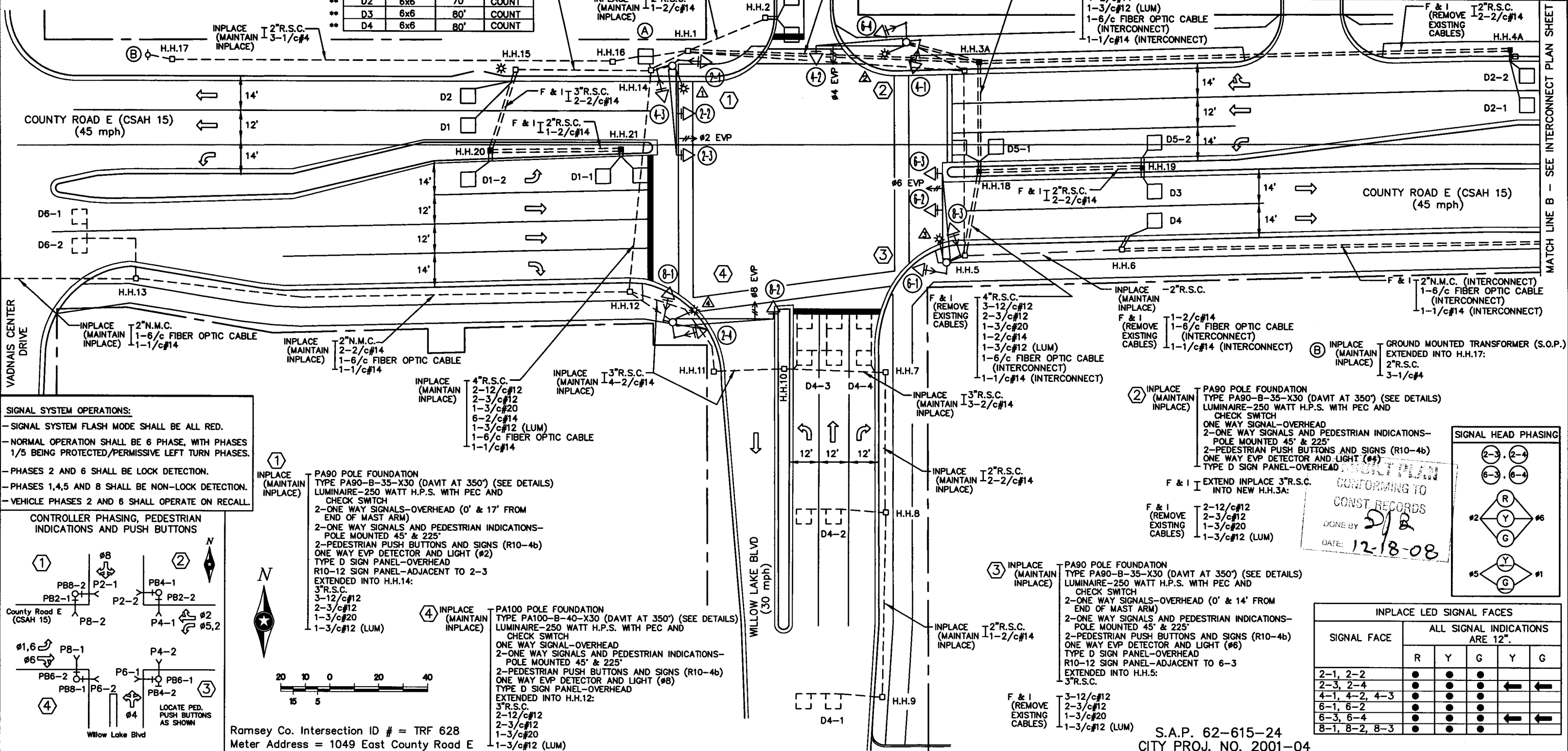
5-12/c#12
 4-3/c#12
 2-3/c#20
 6-2/c#14
 1-6/c FIBER OPTIC CABLE (INTERCONNECT)
 1-1/c#14 (INTERCONNECT)

INPLACE (MAINTAIN INPLACE)

CONTROLLER CABINET TO H.H.14:
 4" R.S.C.
 5-12/c#12
 4-3/c#12
 2-3/c#20
 8-2/c#14
 1-6/c FIBER OPTIC CABLE
 1-1/c#14

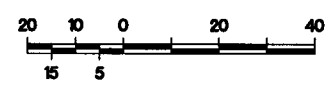
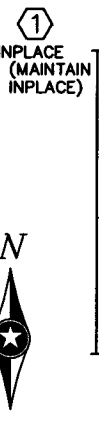
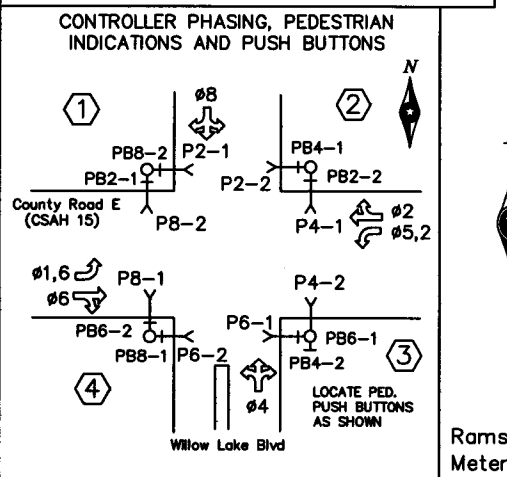
F & I (REMOVE EXISTING CABLES)

2" R.S.C.
 1-2/c#14



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1/5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE LOCK DETECTION.
- PHASES 1,4,5 AND 8 SHALL BE NON-LOCK DETECTION.
- VEHICLE PHASES 2 AND 6 SHALL OPERATE ON RECALL.



Ramsey Co. Intersection ID # = TRF 628
 Meter Address = 1049 East County Road E

(1) INPLACE (MAINTAIN INPLACE)

PA90 POLE FOUNDATION
 TYPE PA90-B-35-X30 (DAVIT AT 350") (SEE DETAILS)
 LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
 2-ONE WAY SIGNALS-OVERHEAD (0' & 17' FROM END OF MAST ARM)
 2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45" & 225"
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (#2)
 TYPE D SIGN PANEL-OVERHEAD
 R10-12 SIGN PANEL-ADJACENT TO 2-3
 EXTENDED INTO H.H.14:
 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)

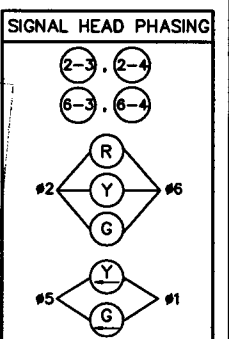
PA100 POLE FOUNDATION
 TYPE PA100-B-40-X30 (DAVIT AT 350") (SEE DETAILS)
 LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
 ONE WAY SIGNAL-OVERHEAD
 2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45" & 225"
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (#8)
 TYPE D SIGN PANEL-OVERHEAD
 EXTENDED INTO H.H.12:
 3" R.S.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

(2) INPLACE (MAINTAIN INPLACE)

PA90 POLE FOUNDATION
 TYPE PA90-B-35-X30 (DAVIT AT 350") (SEE DETAILS)
 LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
 ONE WAY SIGNAL-OVERHEAD
 2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45" & 225"
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (#4)
 TYPE D SIGN PANEL-OVERHEAD
 EXTENDED INTO H.H.5:
 3" R.S.C.

(3) INPLACE (MAINTAIN INPLACE)

PA90 POLE FOUNDATION
 TYPE PA90-B-35-X30 (DAVIT AT 350") (SEE DETAILS)
 LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
 2-ONE WAY SIGNALS-OVERHEAD (0' & 14' FROM END OF MAST ARM)
 2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45" & 225"
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 ONE WAY EVP DETECTOR AND LIGHT (#6)
 TYPE D SIGN PANEL-OVERHEAD
 EXTENDED INTO H.H.9:
 3" R.S.C.



INPLACE LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL INDICATIONS ARE 12"				
	R	Y	G	Y	G
2-1, 2-2	●	●	●	●	●
2-3, 2-4	●	●	●	←	←
4-1, 4-2, 4-3	●	●	●	●	●
6-1, 6-2	●	●	●	●	●
6-3, 6-4	●	●	●	←	←
8-1, 8-2, 8-3	●	●	●	●	●

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG
 DESIGN TEAM

NO.	BY	DATE	REVISIONS

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

Date: 9/28/01 Lic. No. 22457

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

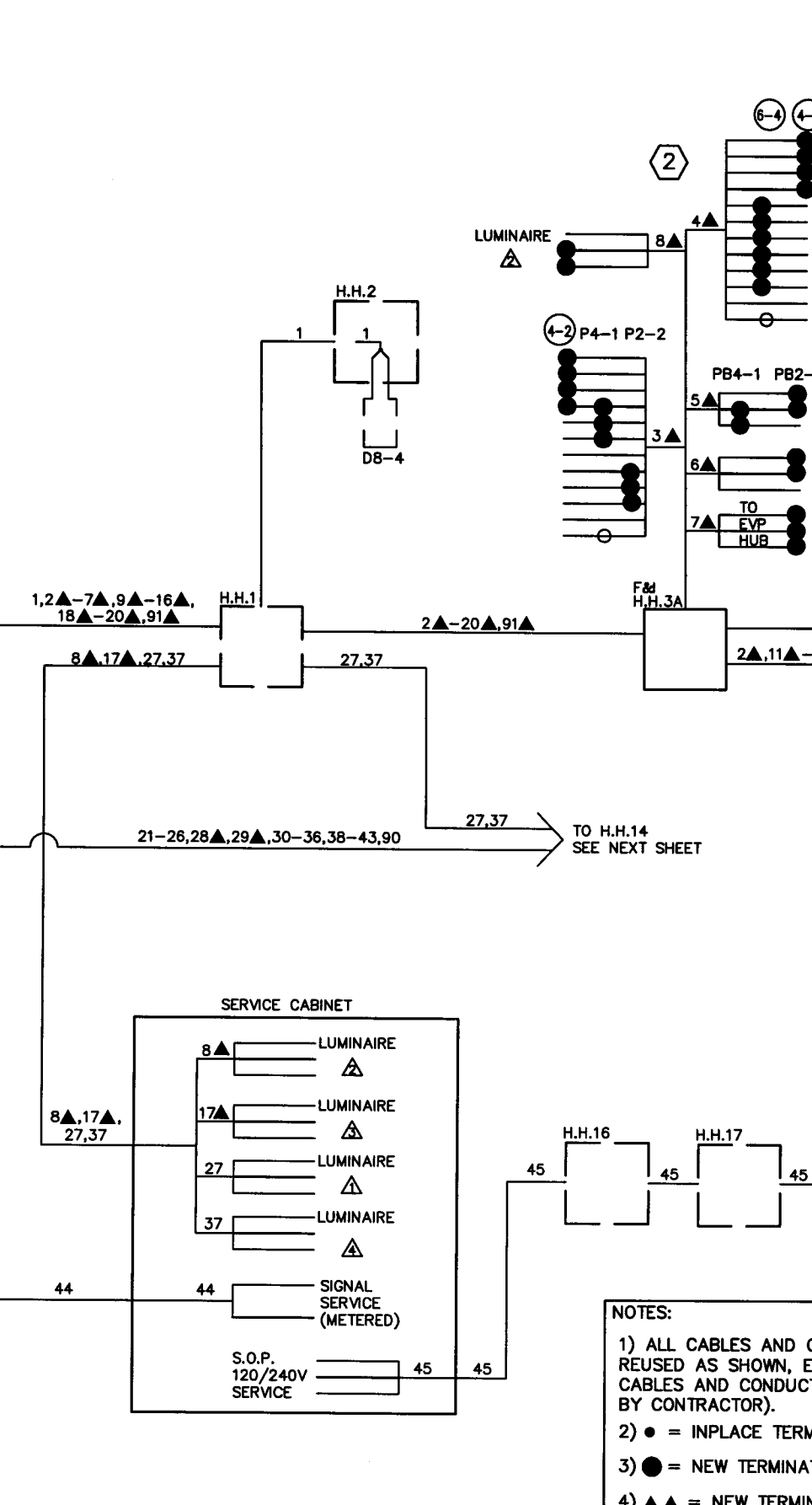
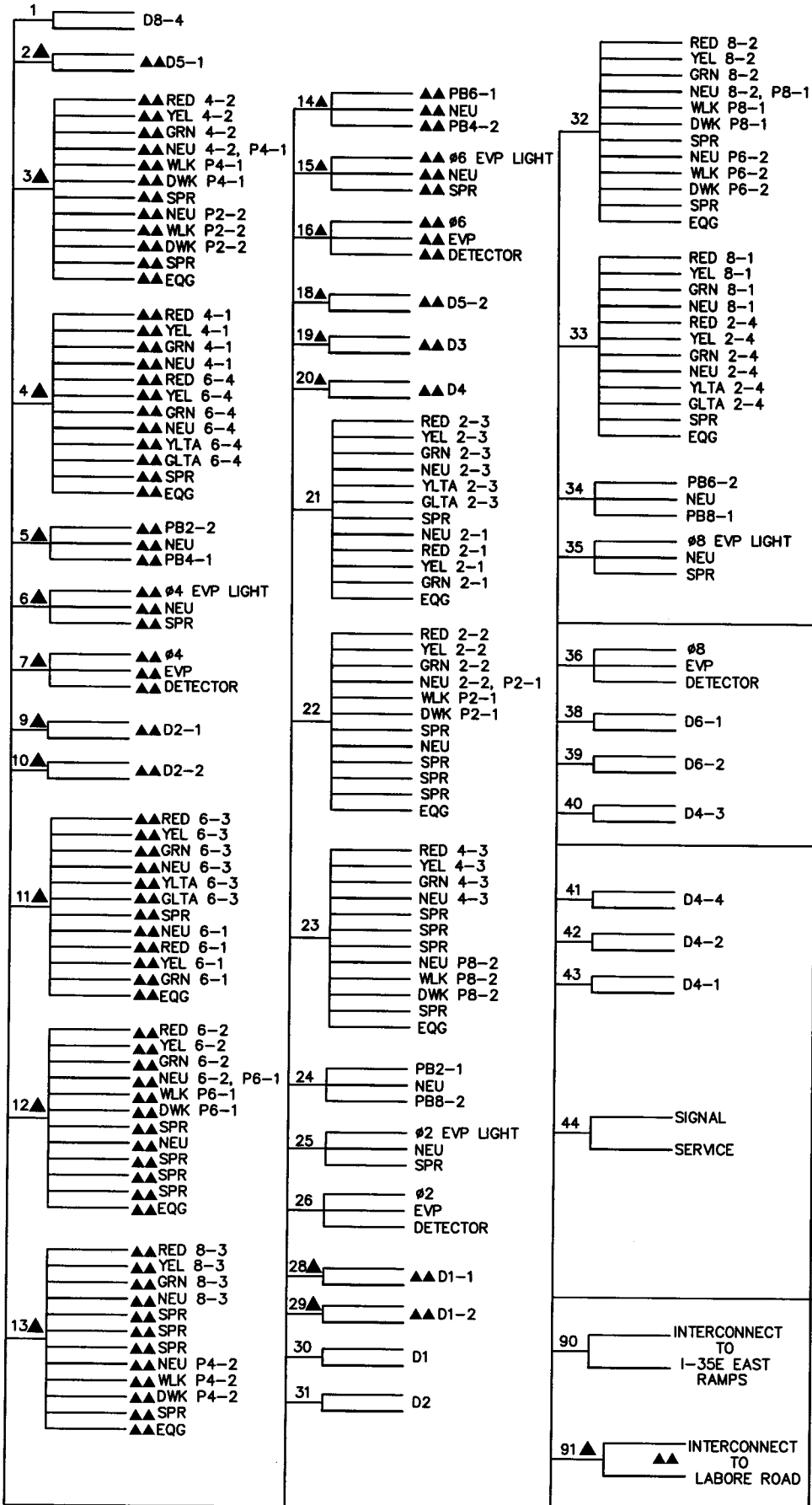
VADNAIS HEIGHTS, MINNESOTA

REVISE SIGNAL SYSTEM INTERSECTION LAYOUT COUNTY ROAD E (CSAH 15) AT WILLOW LAKE BOULEVARD

FILE NO. AVADNA0106.02
 DATE 9/28/01
84
92

28-256

CONTROLLER AND CABINET



CONDUCTOR COLOR CODING

R	R
O	WH 3/c#12
BL	BLK
WH	BLK CLEAR 2/c#14
R/BLK	
O/BLK	
BL/BLK	
WH/BLK	
BLK	R OR O 3/c#20
BLK/WH	WH OR YEL
G/BLK	BLK OR BL
G	

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

- NOTES:
- 1) ALL CABLES AND CONDUCTORS ARE INPLACE AND 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) ▲▲ = NEW TERMINATION IN CONTROLLER CABINET.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJB*
DATE: 12-18-08

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

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Date: 9/28/01 Lic. No. 22457



VADNAIS HEIGHTS, MINNESOTA

REVISE SIGNAL SYSTEM
FIELD WIRING DIAGRAM
COUNTY ROAD E (CSAH 15) AT
WILLOW LAKE BOULEVARD

FILE NO. AVADNA0106.02	85
DATE 9/28/01	92

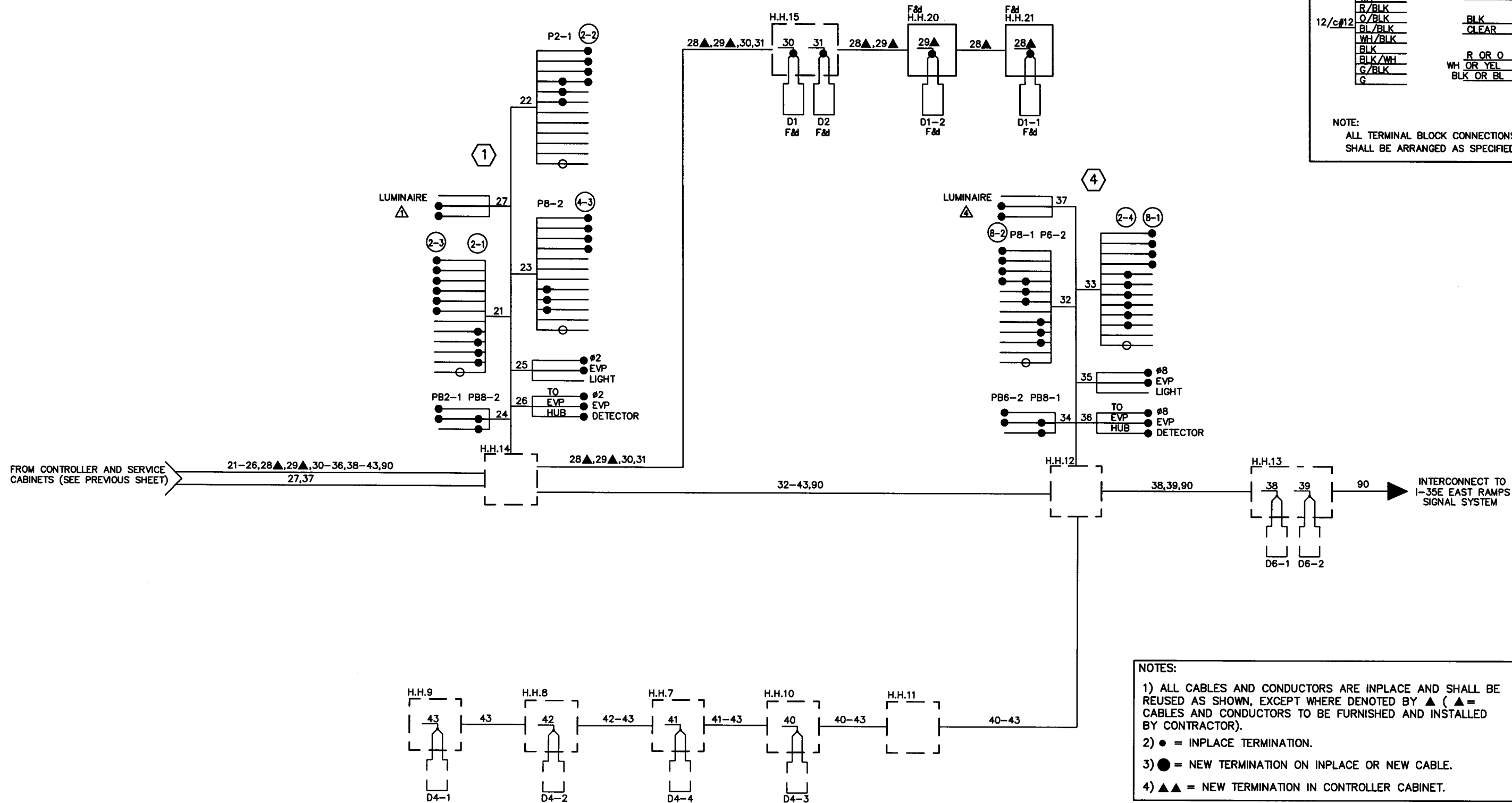
S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

28-256

CONDUCTOR COLOR CODING

R	R
O	WH 3/c#12
BL	BLK
WH	
R/BLK	
O/BLK	BLK 2/c#14
BL/BLK	CLEAR
WH/BLK	
BLK	
BLK/WH	R OR O 3/c#20
G/BLK	WH OR YEL
G	BLK OR BL

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



NOTES:
1) ALL CABLES AND CONDUCTORS ARE INPLACE AND 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) ▲▲ = NEW TERMINATION IN CONTROLLER CABINET.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12/18/01
S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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[Signature]
Date: 9/28/01 Lic. No. 22457

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

**VADNAIS HEIGHTS,
MINNESOTA**

REVISE SIGNAL SYSTEM
FIELD WIRING DIAGRAM
COUNTY ROAD E (CSAH 15) AT
WILLOW LAKE BOULEVARD

FILE NO. AVADNA0106.02
DATE 9/28/01
86
92

LEGEND OF SYMBOLS

SIGNAL BASE NO.	③
SIGNAL FACE NO.	④
CONTROLLER AND CABINET	□
CONTROLLER AND CABINET - INPLACE	□
HANDHOLE - INPLACE	○
RIGID STEEL CONDUIT (R.S.C.)	—
RIGID STEEL CONDUIT (R.S.C.) - INPLACE	—
SIGNAL FACE	—
SIGNAL FACE WITH BACKGROUND SHIELD	—
SIGNAL FACE - INPLACE	—
PEDESTRIAN INDICATIONS - INPLACE	—
PEDESTRIAN PUSH BUTTON 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 - INPLACE	—
MAST ARM AND LUMINAIRE	—
MAST ARM AND LUMINAIRE - INPLACE	—
WOOD POLE	—
WOOD POLE - INPLACE	—
SOURCE OF POWER	—
EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION	—

VEHICLE DETECTION

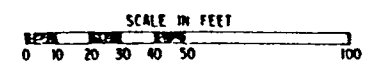
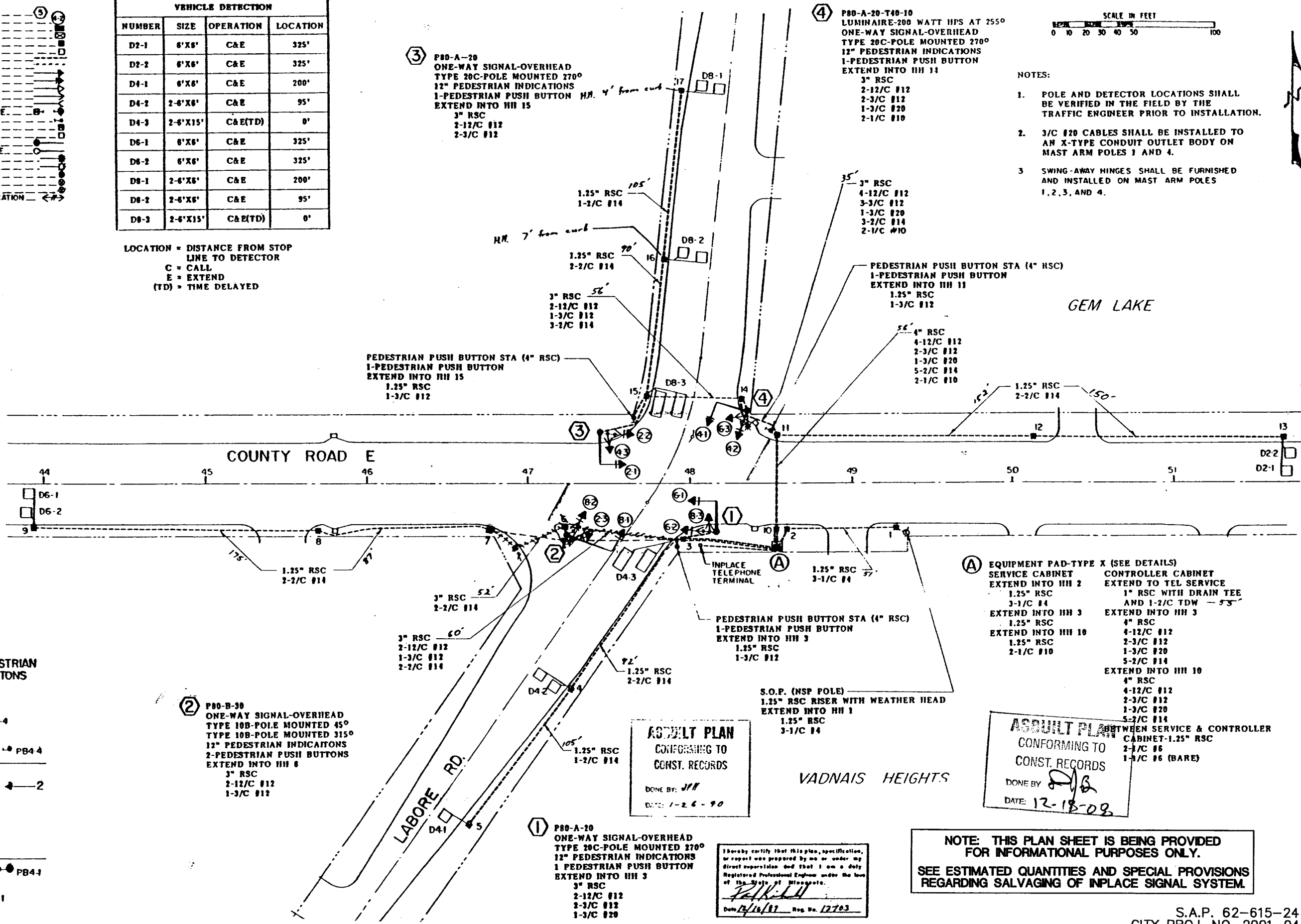
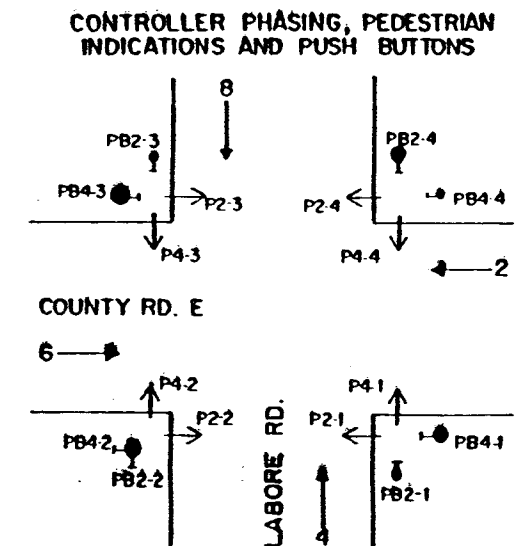
NUMBER	SIZE	OPERATION	LOCATION
D2-1	6'X6'	C&E	325'
D2-2	6'X6'	C&E	325'
D4-1	6'X6'	C&E	200'
D4-2	2-6'X6'	C&E	95'
D4-3	2-6'X15'	C&E(TD)	0'
D6-1	6'X6'	C&E	325'
D6-2	6'X6'	C&E	325'
D8-1	2-6'X6'	C&E	200'
D8-2	2-6'X6'	C&E	95'
D8-3	2-6'X15'	C&E(TD)	0'

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE		
		R	Y	G
2-1	2	12"	12"	12"
2-2	2	12"	12"	12"
2-3	2	12"	12"	12"
4-1	4	12"	12"	12"
4-2	4	12"	12"	12"
4-3	4	12"	12"	12"
6-1	6	12"	12"	12"
6-2	6	12"	12"	12"
6-3	6	12"	12"	12"
8-1	8	12"	12"	12"
8-2	8	12"	12"	12"
8-3	8	12"	12"	12"

FLASH MODE - ALL RED

LOCATION = DISTANCE FROM STOP LINE TO DETECTOR
 C = CALL
 E = EXTEND
 (TD) = TIME DELAYED



- NOTES:
- POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
 - 3/C #20 CABLES SHALL BE INSTALLED TO AN X-TYPE CONDUIT OUTLET BODY ON MAST ARM POLES 1 AND 4.
 - SWING-AWAY HINGES SHALL BE FURNISHED AND INSTALLED ON MAST ARM POLES 1, 2, 3, AND 4.

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: JMH
 DATE: 1-26-90

ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 BETWEEN SERVICE & CONTROLLER CABINET-1.25" RSC
 2-1/C #6
 1-1/C #6 (BARE)
 DONE BY: JMB
 DATE: 12-18-08

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS REGARDING SALVAGING OF INPLACE SIGNAL SYSTEM.

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
 Date: 12/16/01 Reg. No. 12703

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 Date: 9/28/01 Lic. No. 22457

SEH
 PHONE: (651) 480-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

VADNAIS HEIGHTS, MINNESOTA

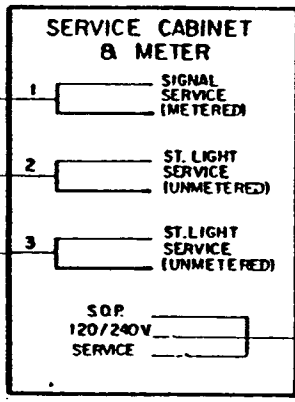
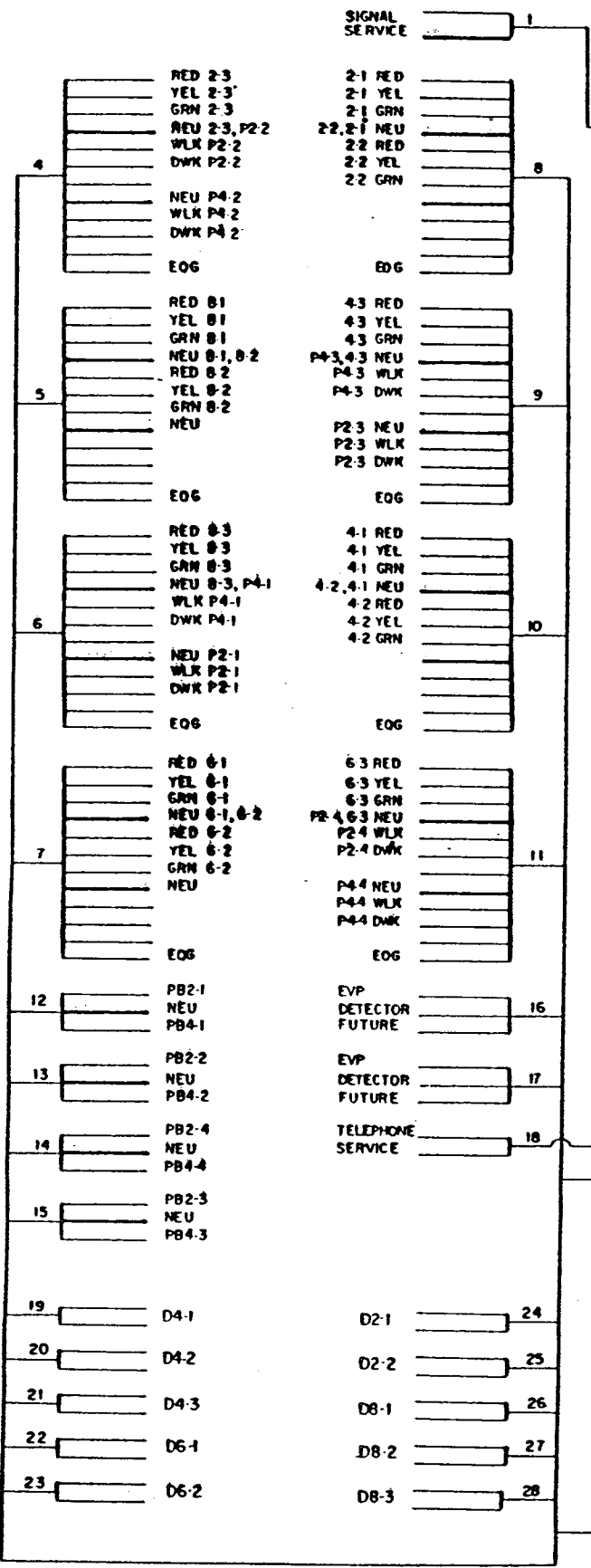
INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY
 COUNTY ROAD E (CSAH 15) AT LABORE ROAD

FILE NO.	87
AVADNA0106.02	
DATE	9/28/01
	92

S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

28-256

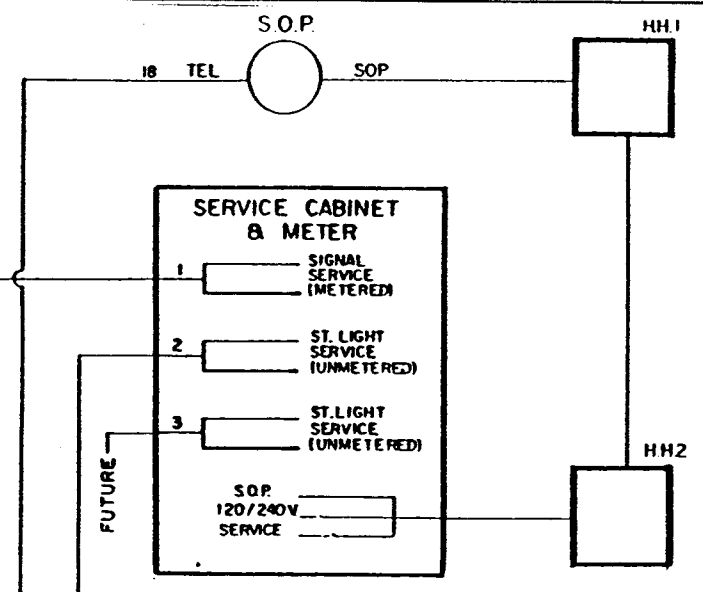
CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/C #6
O		2-1/C #10
B	R	3/C #12
WH	WH	BLK
R/B/K	BLK	2/C #14
O/BLK	BLK CLEAR	
BL/BLK	R OR O	3/C #20
WH/BLK	WH OR YEL	
BLK	BL OR BLK	
BLK/WH		
G/BLK		
G		

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



TO H.H. 10 SEE NEXT SHEET

TO H.H. 10 SEE NEXT SHEET

②

REVISIONS
DATE: 1-26-90

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *DJA*
DATE: 12-18-08

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
D. J. Anderson
Date: 12/18/08 Reg. No. 12703

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS REGARDING SALVAGING OF INPLACE SIGNAL SYSTEM.

DESIGN TEAM	NO.	BY	DATE	REVISIONS
JMG				
JMG				
JMG				

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Carl M. Johnson
Date: 9/28/01 Lic. No. 22457

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

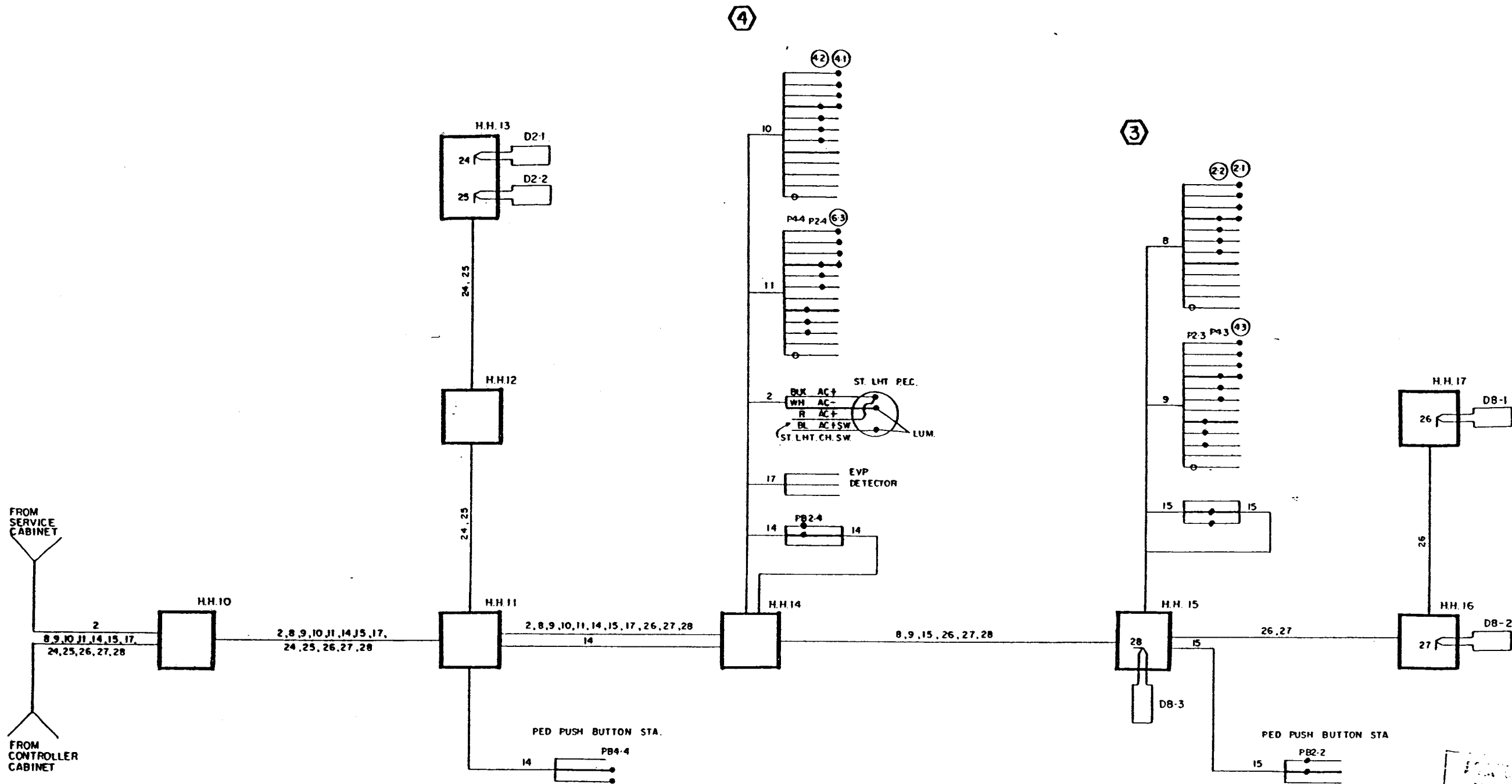
VADNAIS HEIGHTS,
MINNESOTA

INPLACE SIGNAL SYSTEM
FOR INFORMATION ONLY
COUNTY ROAD E (CSAH 15)
AT LABORE ROAD

FILE NO. AVADNA0106.02
DATE 9/28/01
88
92

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

28-256



ASBUILT PLAN
 CONFORMING TO
 CONST. RECORDS
 DONE BY: *[Signature]*
 DATE: 12-18-08

NOTE: THIS PLAN SHEET IS BEING PROVIDED
 FOR INFORMATIONAL PURPOSES ONLY.
 SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS
 REGARDING SALVAGING OF INPLACE SIGNAL SYSTEM.

S.A.P. 62-615-24
 CITY PROJ. NO. 2001-04

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

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 ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM
 A DULY LICENSED PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF MINNESOTA.
[Signature]
 Date: 9/28/01 Lic. No. 22457

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

**VADNAIS HEIGHTS,
 MINNESOTA**

**INPLACE SIGNAL SYSTEM
 FOR INFORMATION ONLY
 COUNTY ROAD E (CSAH 15)
 AT LABORE ROAD**

FILE NO.
 AVADNA0106.02
 DATE
 9/28/01

28-256

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.
- 4) ALL VEHICULAR AND PEDESTRIAN INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
- 5) A 3/4" HALF COUPLING SHALL BE FURNISHED AT 6' FROM THE END OF THE MAST ARM ON EACH POLE 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 SEPARATELY FROM ITEM NO. 2565.511. SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
- 8) CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND MAKING OPERATIONAL THE TRAFFIC SIGNAL CONTROLLER AND CABINET. SEE SPECIAL PROVISIONS.
- 9) ALL LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
- 10) CONTRACTOR SHALL VERIFY GROUNDWATER LEVELS WHEN INSTALLING POLE FOUNDATIONS AND SHALL DE-WATER AS NECESSARY DURING FOUNDATION INSTALLATION (INCIDENTAL TO ITEM NO. 2565.511).
- 11) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH WILLOW LAKE BLVD CONSTRUCTION WORK TO BE COMPLETED BY OTHERS ON BEHALF OF THE CITY OF VADNAIS HEIGHTS.
- 12) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNING, STRIPING AND SIDEWALK TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 13) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE FABRICATED WITH POLYCARBONATE MATERIALS, INCLUDING BACKGROUND SHIELDS AND VISORS. SEE SPECIAL PROVISIONS.

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	0' & 15'	C & E (TD)
D1-2	6x6	70'	C & E
D2-1	6x6	260'	C & E
D2-2	6x6	260'	C & E
D4-1	2-6x6	155'	E
D4-2	2-6x6	80'	E
D4-3	4-6x6	0' & 15'	C & E
D4-4	2-6x6	0' & 15'	C & E (TD)
D5-1	2-6x6	0' & 15'	C & E (TD)
D5-2	6x6	80'	C & E
D6-1	6x6	235'	C & E
D6-2	6x6	235'	C & E
D8-4	2-6x6	0' & 15'	C & E (TD)
D1	6x6	70'	COUNT
D2	6x6	70'	COUNT
D3	6x6	80'	COUNT
D4	6x6	80'	COUNT

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

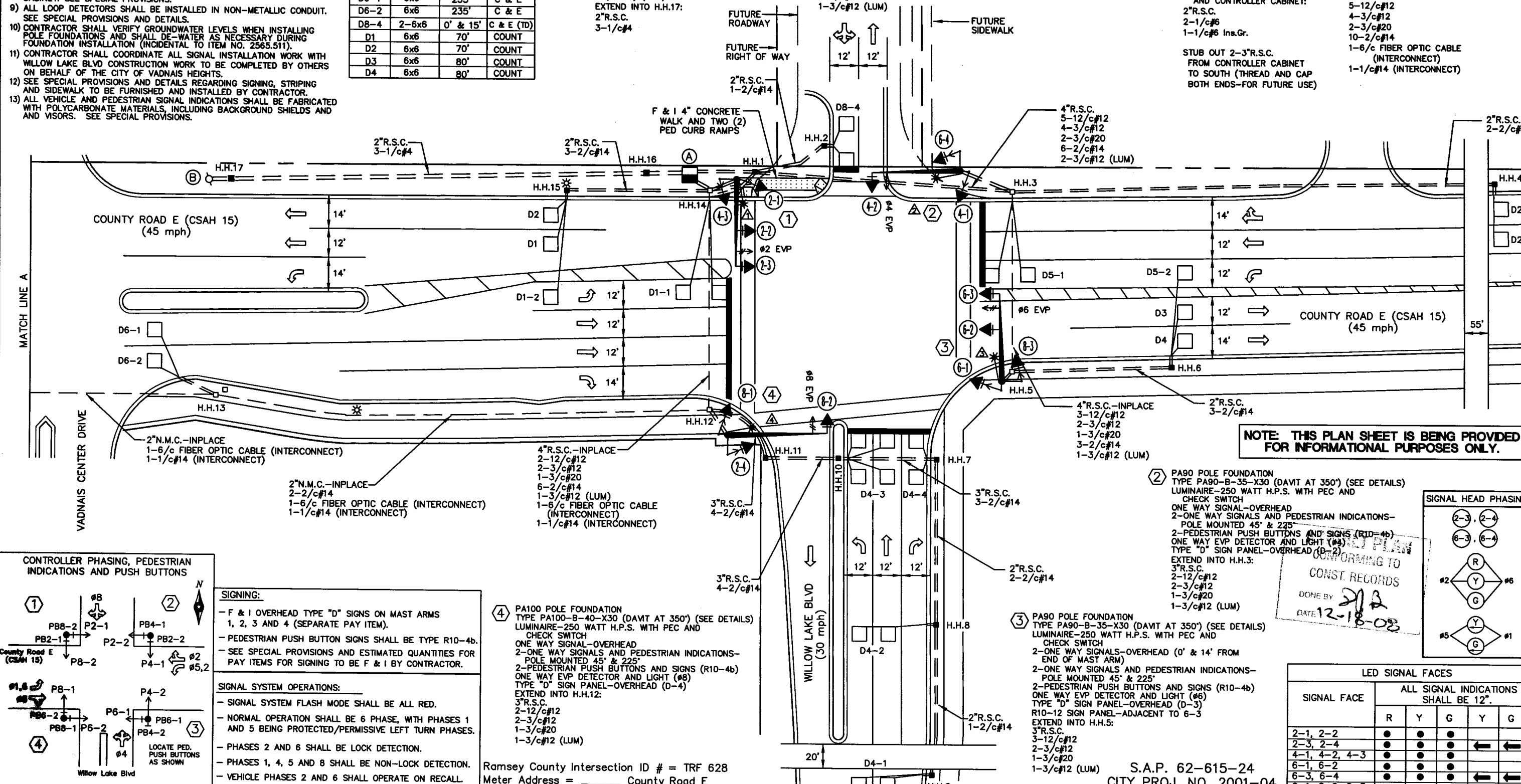
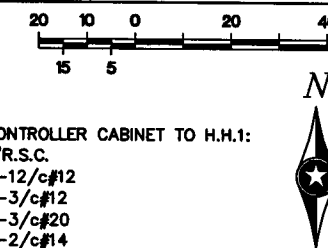
FUNCTIONS:
C & E = CALL AND EXTEND
(TD) = TIME DELAYED
E = EXTEND ONLY

(B) INPLACE GROUND MOUNTED TRANSFORMER (S.O.P.) (NSP) EXTEND INTO H.H.17:
2" R.S.C.
3-1/c#4

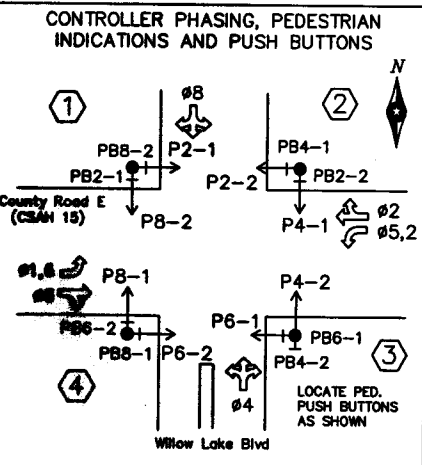
(1) PA90 POLE FOUNDATION TYPE PA90-B-35-X30 (DAVT AT 350') (SEE DETAILS) LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0' & 14' FROM END OF MAST ARM)
2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45' & 225'
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE WAY EVP DETECTOR AND LIGHT (#2)
TYPE "D" SIGN PANEL-OVERHEAD (D-1)
R10-12 SIGN PANEL-ADJACENT TO 2-3
EXTEND INTO H.H.14:
3" R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(A) EQUIPMENT PAD - SEE DETAILS CONTROLLER AND CABINET SERVICE CABINET
SERVICE CABINET TO H.H.16:
2" R.S.C.
3-1/c#4
EXTEND INTO H.H.1:
2" R.S.C.
4-3/c#12 (LUM)
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
2" R.S.C.
2-1/c#6
1-1/c#6 Ins.Gr.
STUB OUT 2-3" R.S.C. FROM CONTROLLER CABINET TO SOUTH (THREAD AND CAP BOTH ENDS-FOR FUTURE USE)

CONTROLLER CABINET TO H.H.1:
4" R.S.C.
5-12/c#12
4-3/c#12
2-3/c#20
7-2/c#14
CONTROLLER CABINET TO H.H.14:
4" R.S.C.
5-12/c#12
4-3/c#12
2-3/c#20
10-2/c#14
1-6/c FIBER OPTIC CABLE (INTERCONNECT)
1-1/c#14 (INTERCONNECT)



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.



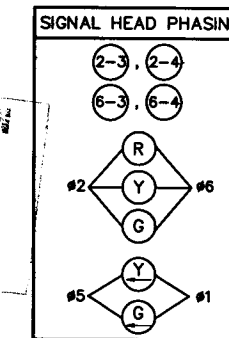
SIGNING:
- F & I OVERHEAD TYPE "D" SIGNS ON MAST ARMS 1, 2, 3 AND 4 (SEPARATE PAY ITEM).
- PEDESTRIAN PUSH BUTTON SIGNS SHALL BE TYPE R10-4b.
- SEE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES FOR PAY ITEMS FOR SIGNING TO BE F & I BY CONTRACTOR.

SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE LOCK DETECTION.
- PHASES 1, 4, 5 AND 8 SHALL BE NON-LOCK DETECTION.
- VEHICLE PHASES 2 AND 6 SHALL OPERATE ON RECALL.

(4) PA100 POLE FOUNDATION TYPE PA100-B-40-X30 (DAVT AT 350') (SEE DETAILS) LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
ONE WAY SIGNAL-OVERHEAD
2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45' & 225'
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE WAY EVP DETECTOR AND LIGHT (#8)
TYPE "D" SIGN PANEL-OVERHEAD (D-4)
EXTEND INTO H.H.12:
3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(2) PA90 POLE FOUNDATION TYPE PA90-B-35-X30 (DAVT AT 350') (SEE DETAILS) LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
ONE WAY SIGNAL-OVERHEAD
2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45' & 225'
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE WAY EVP DETECTOR AND LIGHT (#2)
TYPE "D" SIGN PANEL-OVERHEAD (D-2)
EXTEND INTO H.H.3:
3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)

(3) PA90 POLE FOUNDATION TYPE PA90-B-35-X30 (DAVT AT 350') (SEE DETAILS) LUMINAIRE-250 WATT H.P.S. WITH PEC AND CHECK SWITCH
2-ONE WAY SIGNALS-OVERHEAD (0' & 14' FROM END OF MAST ARM)
2-ONE WAY SIGNALS AND PEDESTRIAN INDICATIONS-POLE MOUNTED 45' & 225'
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
ONE WAY EVP DETECTOR AND LIGHT (#6)
TYPE "D" SIGN PANEL-OVERHEAD (D-3)
R10-12 SIGN PANEL-ADJACENT TO 6-3
EXTEND INTO H.H.5:
3" R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
1-3/c#12 (LUM)



SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"				
	R	Y	G	Y	G
2-1, 2-2	●	●	●	●	●
2-3, 2-4	●	●	●	●	●
4-1, 4-2, 4-3	●	●	●	←	←
6-1, 6-2	●	●	●	●	●
6-3, 6-4	●	●	●	←	←
8-1, 8-2, 8-3	●	●	●	●	●

Ramsey County Intersection ID # = TRF 628
Meter Address = _____ County Road E

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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Date: 9/28/01 Lic. No. 22457



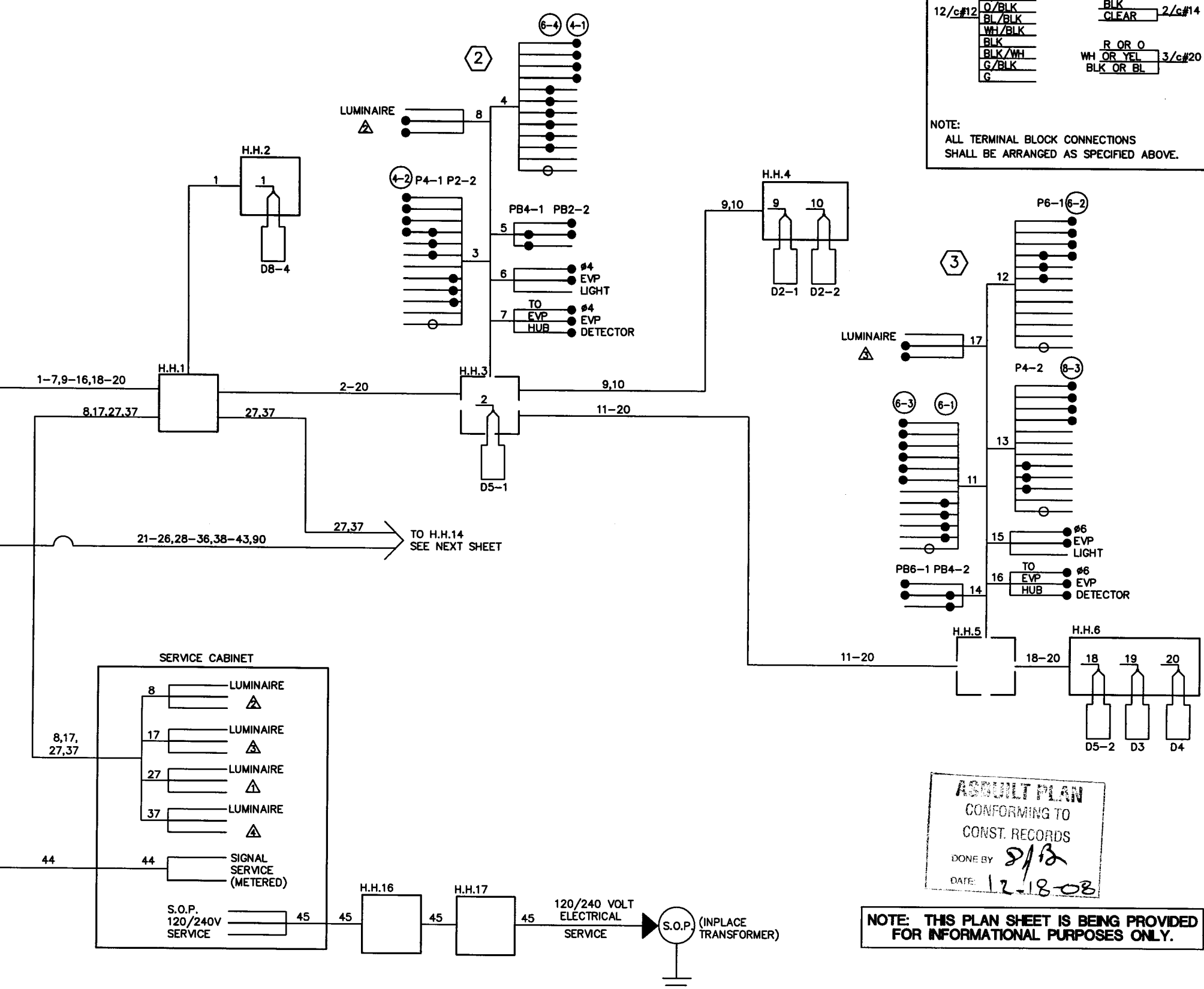
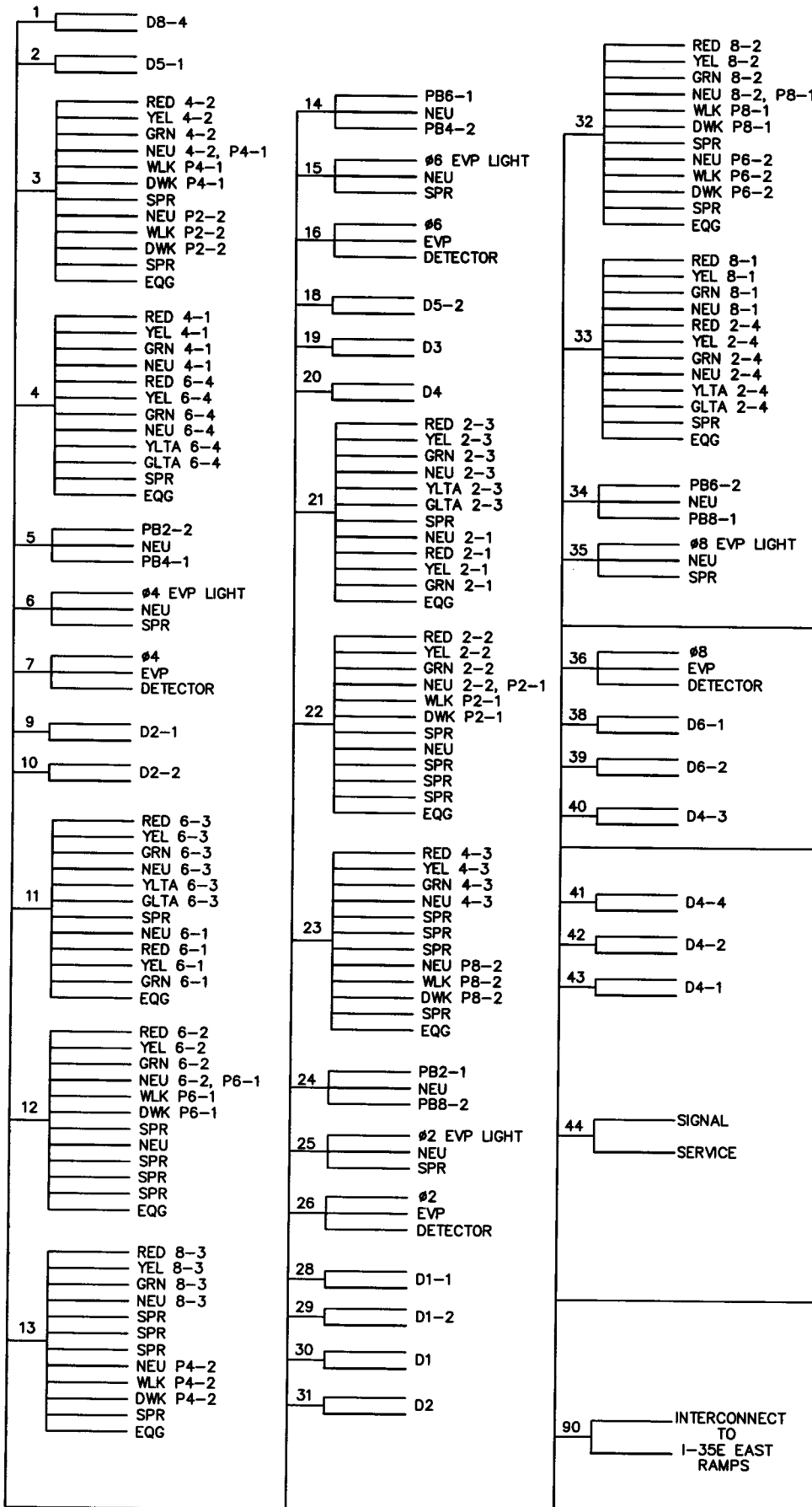
VADNAIS HEIGHTS, MINNESOTA

INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY
COUNTY ROAD E (CSAH 15) AT WILLOW LAKE BOULEVARD

FILE NO. AVADNA0106.02
DATE 9/28/01
90
92

28-256

CONTROLLER AND CABINET



CONDUCTOR COLOR CODING

R	R
O	WH 3/c#12
BL	BLK
WH	
R/BLK	BLK 2/c#14
O/BLK	CLEAR
BL/BLK	
WH/BLK	
BLK	R OR O
BLK/WH	WH OR YEL 3/c#20
G/BLK	BLK OR BL
G	

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

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY *S/P*
DATE: 12-18-08

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

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

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Date: 9/28/01 Lic. No. 22457



VADNAIS HEIGHTS, MINNESOTA

INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY
COUNTY ROAD E (CSAH 15) AT WILLOW LAKE BOULEVARD

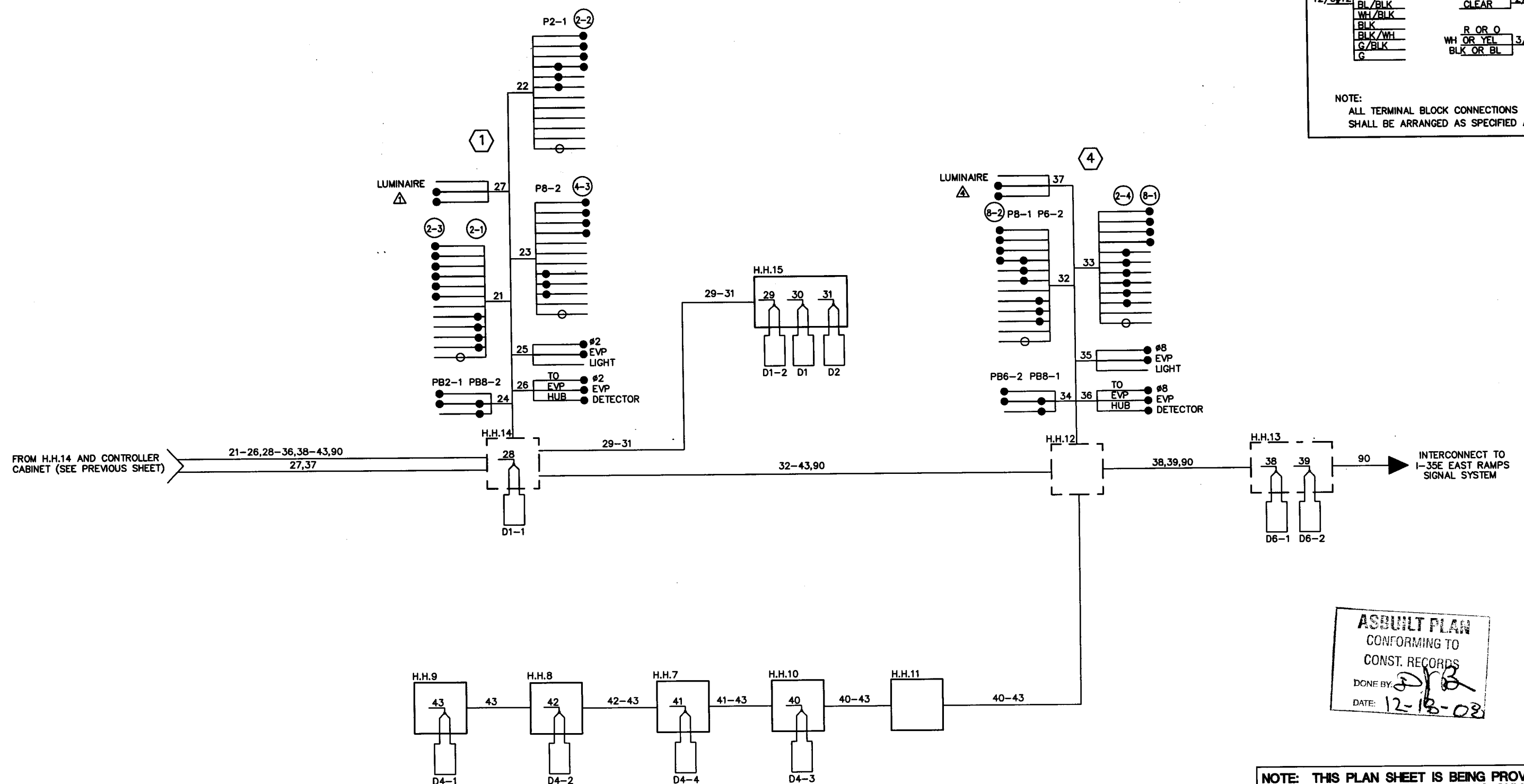
FILE NO. AVADNA0106.02	91
DATE 9/28/01	92

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

28-256

CONDUCTOR COLOR CODING	
R	R
O	WH 3/c#12
BL	BLK
WH	
R/BLK	BLK 2/c#14
O/BLK	CLEAR
BL/BLK	
WH/BLK	
BLK	R OR O
BLK/WH	WH OR YEL 3/c#20
G/BLK	BLK OR BL
G	

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



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12-18-08

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 62-615-24
CITY PROJ. NO. 2001-04

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

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Date: 9/28/01 Lic. No. 22457

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

VADNAIS HEIGHTS, MINNESOTA

INPLACE SIGNAL SYSTEM FOR INFORMATION ONLY
COUNTY ROAD E (CSAH 15) AT WILLOW LAKE BOULEVARD

FILE NO. AVADNA0106.02	92
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