

PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- EXISTING RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- MURSEY

- CATTLE GUARD
- OVERPASS (HIGHWAY OVER)
- UNDERPASS (HIGHWAY UNDER)
- BRIDGE

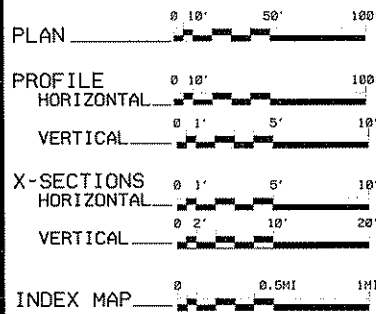
- BUILDING (ONE STORY FRAME)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO

- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (CABLE TERMINAL)
- GAS MAIN
- WATERMAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (SANITARY OR STORM)
- SEWER MANHOLE

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

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

LOCATED ON C.S.A.H. 51 BETWEEN C.S.A.H. 10 AND T.H. 610

STATE PROJ. NO. 02-651-06
STATE PROJ. NO. 106-020-27
STATE PROJ. NO. 114-020-23

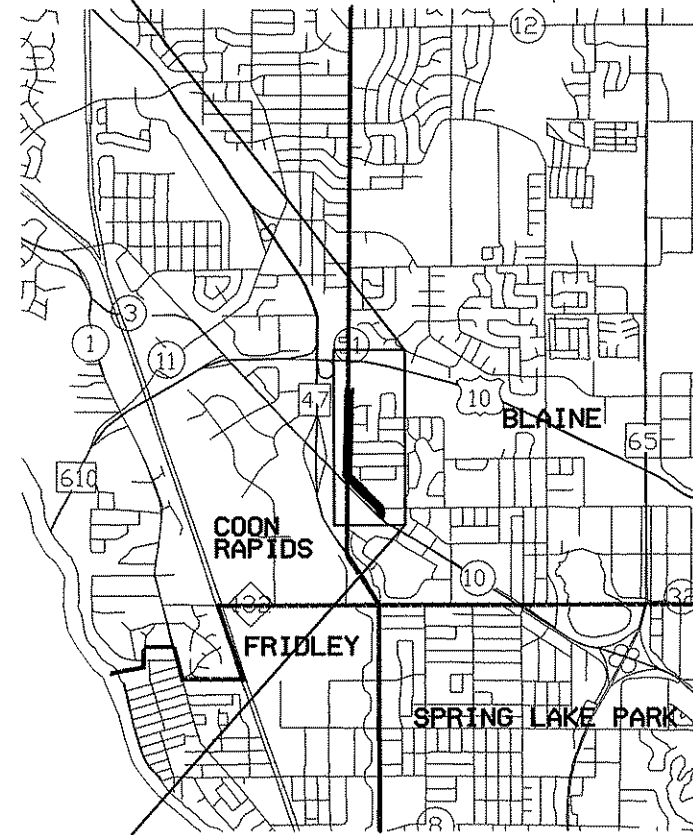
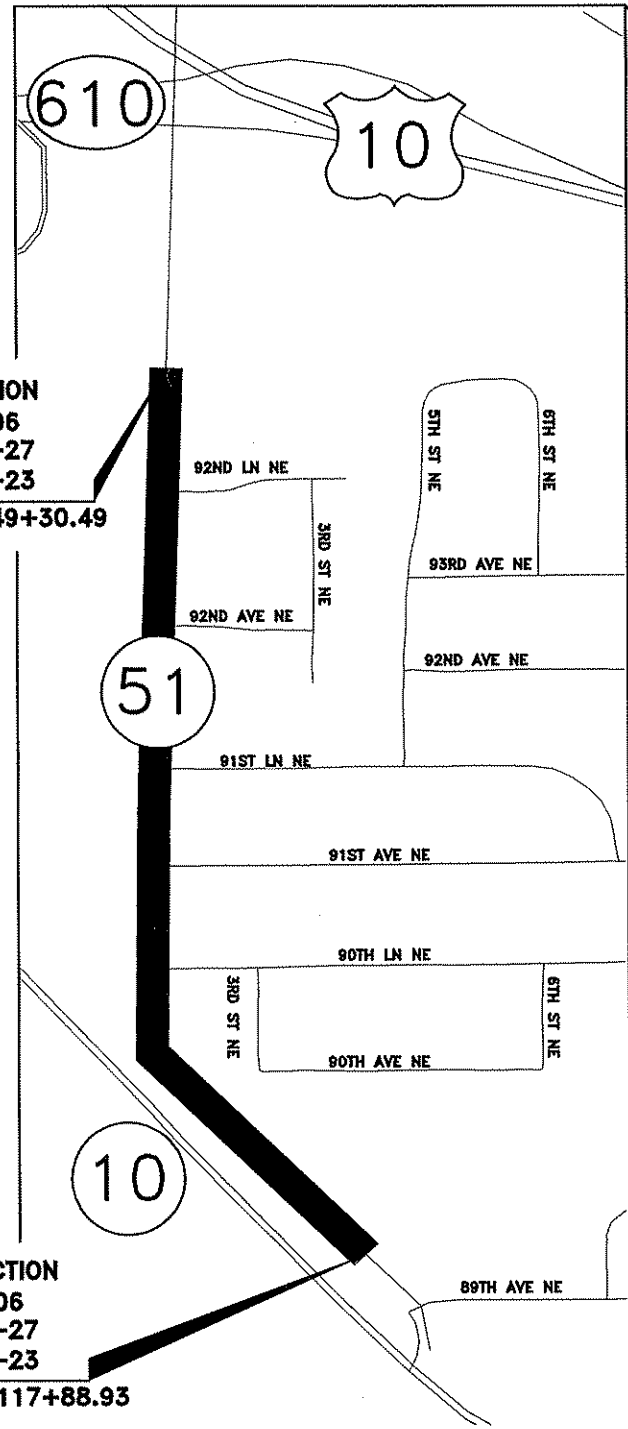
C.S.A.H. 51 (UNIVERSITY AVE.)

GROSS LENGTH 3141.56 FEET 0.595 MILES
BRIDGES-LENGTH 0.00 FEET 0.00 MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.00 MILES
NET LENGTH 3141.56 FEET 0.595 MILES

LENGTH AND DESCRIPTION BASED ON N.B. ALIGNMENT

END CONSTRUCTION
S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23
NB CSAH 51 STA. 149+30.49

BEGIN CONSTRUCTION
S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23
NB CSAH 51 STA. 117+88.93



PROJECT LOCATION
COUNTY: ANOKA

DESIGN DESIGNATION - BIKE PATH	
DESIGN SPEED (MPH)	20
BASED ON:	
4.5 FT HEIGHT OF EYE	
0.0 FT HEIGHT OF OBJECT	
FUNCTIONAL CLASSIFICATION - A MINOR ARTERIAL	
NO. OF TRAFFIC LANES	4
NO. OF PARKING LANES	0
DESIGN SPEED 40 MPH SOUTH OF 91ST AVE NE	
DESIGN SPEED 50 MPH NORTH OF 91ST AVE NE	
BASED ON SIGHT DISTANCE	STOPPING
HEIGHT OF EYE 3.5' HEIGHT OF OBJECT	2.0'
DESIGN SPEED NOT ACHIEVED AT:	N/A

CSAH 51 DESIGN DESIGNATION (URBAN)	
ESAL 20	1,991,393
R VALUE	69
ADT (2007)	14856
Proj. ADT (2027)	23,664
	10 TON DESIGN

FED. PROJ. NO. STPX 0208 (094)

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", SHALL GOVERN.
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

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

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THIS PLAN CONTAINS 159 SHEETS

APPROVED 4/25/08 ANOKA COUNTY ENGINEER

APPROVED 3/26/08 CITY OF COON RAPIDS ENGINEER

APPROVED 3/26/08 CITY OF BLAINE ENGINEER

6/6 .20 08
METRO DISTRICT STATE AID ENGINEER, REVIEW FOR COMPLIANCE WITH STATE FEDERAL AID RULES/POLICY

6/6 .20 08
APPROVED FOR STATE AID AND FEDERAL FUNDING, STATE AID ENGINEER

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

PRINT NAME: CURT A. KOSTIARCSIK
SIGNATURE:
DATE: 6-7-08 LICENSE NO. 24756

DRAWN BY NJD DATE 8-15-07
DESIGN BY JED DATE 8-15-07
CHECKED BY CAK DATE 8-15-07

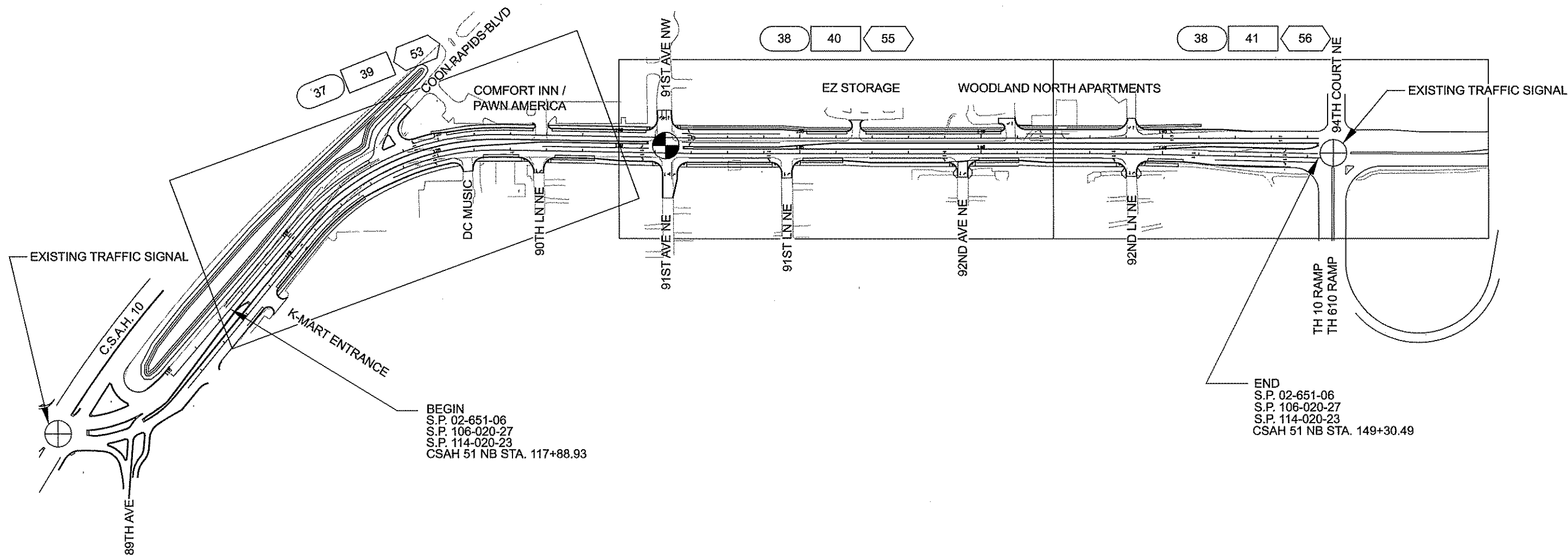


ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

TITLE SHEET

Sheet 1 of 159 Sheets



BEGIN
 S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23
 CSAH 51 NB STA. 117+88.93

END
 S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23
 CSAH 51 NB STA. 149+30.49

LEGEND	
	INPLACE TOPOGRAPHY AND REMOVAL PLAN
	CONSTRUCTION PLAN
	STORM DRAINAGE PLAN
	TRAFFIC SIGNALS



1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_L01.DGN 04/22/2008 2:48:24 PM

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

PRINT NAME: CURT A. KOBIARCSIK
 SIGNATURE: *Curt A. Kobiarczik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JED DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CSAH 51
 RECONSTRUCTION
 GENERAL LAYOUT

Sheet 2 of 159 Sheets

TAB / NOTE	ITEM NO.	SP 02-651-06, 106-020-27 EXHIBIT A UNIVERSITY AVENUE RECONSTRUCTION ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITY	PARTICIPATING - FEDERAL FUNDS				NON-PARTICIPATING - LOCAL FUNDS		
					SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED	STORM SEWER QUANTITIES ESTIMATED	SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	0.69	0.20	0.11				
	2031.501	FIELD OFFICE TYPE D-MODIFIED	EACH	1	0.69	0.20	0.11				
	2041.610	TRAINEES	HOURLY								
A	2101.502	CLEARING	TREE	103	103						
A	2101.507	GRUBBING	TREE	103	103						
	2102.501	PAVEMENT MARKING REMOVAL	SF	174	174						
	2102.502	PAVEMENT MARKING REMOVAL	LF	20,880	20,880						
G	2104.501	REMOVE PIPE CULVERTS	LIN FT	131	131						
G	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	2,235	2,235						
C	2104.501	REMOVE CURB AND GUTTER	LIN FT	3,118	3,118						
D	2104.501	REMOVE BITUMINOUS CURB	LIN FT	1,203	1,203						
H	2104.501	REMOVE FENCE	LIN FT	989	989						
J	2104.503	REMOVE RETAINING WALL	SQ FT	222	222						
V	2104.503	REMOVE BITUMINOUS WALK	SQ FT	3,230	3,230						
P	2104.503	REMOVE CONCRETE SIDEWALK	SQ FT	13,154	13,154						
E	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	5,580	5,580						
F	2104.503	REMOVE BITUMINOUS MEDIAN	SQ FT	4,718	4,718						
B, [16]	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	21,768	21,768						
G	2104.509	REMOVE PIPE APRON	EACH	4	4						
[8]	2104.509	REMOVE WOOD POST	EACH	3	3						
JJ	2104.509	REMOVE CURB BOX	EACH	1		1					
G	2104.509	REMOVE DRAINAGE STRUCTURE	EACH	26	26						
I	2104.509	REMOVE CONCRETE FLUME	EACH	1	1						
B	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	32	32						
B	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	936	936						
JJ	2104.523	SALVAGE HYDRANT	EACH	3		3					
W	2104.523	SALVAGE SIGN TYPE C	EACH	72	72						
W	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	7	7						
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1						
W	2104.618	SALVAGE SIGN PANELS TYPE D	SQ FT	39	39						
[6]	2105.501	COMMON EXCAVATION (EV) (P)	CU YD	17,090	17,090						
[6]	2105.507	SUBGRADE EXCAVATION (EV) (P)	CU YD	9,601	9,601						
	2123.509	DOZER	HOURLY	10	10						
	2130.501	WATER	M GALLONS	122	122						
CC, [1]	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	4,754	4,754						
O	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	2,581	2,581						
L, S, [10]	2350.501	TYPE LV 4 WEARING COURSE MIXTURE (B) (2" THICK)	SQ YD	3,351		3,351					
[12]	2350.503	TYPE LV 4 WEARING COURSE MIXTURE (B) 3.0" THICK	SQ YD	350	350						
S	2350.505	TYPE LV 4 BIT MIXTURE FOR PATCHING	TON	134	134						
S	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	2,470	2,470						
S	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,E)	TON	5,702	5,702						
S	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	2,851	2,851						
[2]	2411.618	MODULAR BLOCK RETAINING WALL	SQ FT	3,464	3,464						

- [1] CLASS 5 AGGREGATE SHOULDERING BASED ON LENGTH OF SHOULDER ALONG PROPOSED POND, DEPTH OF AGGREGATE SHOULDER, AND 1.5' AGGREGATE SHOULDER WIDTH.
- [2] SEE MODULAR BLOCK RETAINING WALL DETAIL SHEETS 128 - 131
- [3] SEE COON RAPIDS UTILITY DETAIL SHEET 64
- [4] SEE EROSION CONTROL SHEET 70
- [5] SEE SIGNAL PLAN SHEETS 107 - 122
- [6] SEE EARTHWORK BALANCE SHEET 11
- [7] SEE PERMANENT SIGNING TAB SHEET 98 (STREET SIGNS PAID FOR AS ITEM 2564.537)

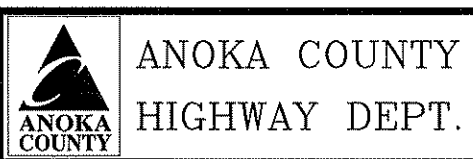
- [8] SEE REMOVAL PLAN SHEETS 37 - 38
- [9] DRAINAGE COST SPLIT - 78% ANOKA COUNTY, 13.3% CITY OF BLAINE, 8.7% CITY OF COON RAPIDS
- [10] QUANTITY INCLUDES DRIVEWAY PAVEMENT
- [11] QUANTITY FOR GEOTEXTILE FABRIC UNDERNEATH RIPRAP AT TWO OUTLET APRONS. SEE STD. PLATE 3133C
- [12] SEE STAGING PLAN SHEET 27 AND TYPICAL SECTION SHEET 23
- [13] SEE INTERSECTION DETAIL SHEET 49
- [14] SEE STAGING QUANTITY SHEETS 81 - 82
- [15] SEE LANDSCAPE PLAN SHEETS 132 - 133
- [16] CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID

NO	DATE	BY	CHKD	APPR	REVISION

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarcsik*
DATE: 6-12-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JEO DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
STATEMENT OF ESTIMATED QUANTITIES
Sheet 3 of 159 Sheets

TAB / NOTE	ITEM NO.	SP 02-651-06, 106-020-27 EXHIBIT A UNIVERSITY AVENUE RECONSTRUCTION ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITY	PARTICIPATING - FEDERAL FUNDS				NON-PARTICIPATING - LOCAL FUNDS		
					SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED	STORM SEWER QUANTITIES ESTIMATED	SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED
					X [9]	2501.515	36" RC PIPE APRON	EACH	2	2	
JJ	2502.521	10" PVC PIPE DRAIN	LIN FT	17						17	
[3]	2503.511	6" PVC PIPE SEWER	LIN FT	88							88
X [9]	2503.541	15" RC PIPE SEWER DES 3006	LIN FT	1,524				1,524			
X [9]	2503.541	18" RC PIPE SEWER DES 3006	LIN FT	607				607			
X [9]	2503.541	21" RC PIPE SEWER DES 3006	LIN FT	386				386			
X [9]	2503.541	24" RC PIPE SEWER DES 3006	LIN FT	111				111			
X [9]	2503.541	27" RC PIPE SEWER DES 3006	LIN FT	89				89			
X [9]	2503.541	30" RC PIPE SEWER DES 3006	LIN FT	286				286			
X [9]	2503.541	33" RC PIPE SEWER DES 3006	LIN FT	461				461			
X [9]	2503.541	36" RC PIPE SEWER DES 3006	LIN FT	1,031				1,031			
[3]	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH	1							1
X [9]	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	2				2			
[3]	2503.602	6" PLUG - DUCTILE IRON	EACH	1							1
JJ	2503.608	DUCTILE IRON FITTINGS	LB	316		316					
	2504.601	IRRIGATION SYSTEM	LS	1							
JJ	2504.602	INSTALL WATER SERVICE SYSTEM	EACH	1						1	
[3]	2504.602	6" PIPE PLUG	EACH	1							1
JJ	2504.602	WATERMAIN OFFSET	EACH	2		2					
[3], LL	2504.602	RELOCATE HYDRANT & VALVE	EACH	1			1				
JJ	2504.602	INSTALL HYDRANT & VALVE	EACH	3		3					
JJ	2504.602	VALVE BOX	EACH	1		1					
[3], KK, LL	2504.602	ADJUST GATE VALVE	EACH	9		7	2				
JJ	2504.602	12" GATE VALVE AND BOX	EACH	1						1	
[3]	2504.602	6" GATE VALVE	EACH	1							1
JJ	2504.602	6"X6" WET TAP	EACH	2		2					
[3]	2504.602	10" X 6" WET TAP	EACH	1							1
	2504.602	INSTALL FORD TYPE 1-A CASTING	EACH	1						1	
[3], JJ	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	139		41					98
X	2504.604	4" POLYSTYRENE INSULATION	SQ YD	15	15						
JJ	2505.602	EXTEND SERVICE	EACH	8		8					
JJ	2505.602	REPAIR SERVICE	EACH	2						2	
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN G	LIN FT	92.7				92.7			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H	LIN FT	5.5				5.5			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	97.3				97.3			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	30.0				30.0			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	32.8				32.8			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	29.5				29.5			
X [9]	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	22.5				22.5			
X [9]	2506.516	CASTING ASSEMBLY	EACH	64				64			
M	2506.522	ADJUST FRAME AND RING CASTING	EACH	9				9			
X [4]	2511.501	RANDOM RIPRAP CLASS II	CU YD	26				26			
[11]	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	49				49			
N	2521.501	4" CONCRETE WALK	SQ FT	10,946	6,071		4,875				
N	2521.501	4" CONCRETE WALK SPECIAL 1	SQ FT	28,181	8,671					11,505	8,005
N	2521.501	4" CONCRETE WALK SPECIAL 2	SQ FT	514						514	
N	2531.501	CONCRETE CURB & GUTTER DESIGN B418 (MOD)	LIN FT	6,213	6,213						

[1] CLASS 5 AGGREGATE SHOULDERING BASED ON LENGTH OF SHOULDER ALONG PROPOSED POND, DEPTH OF AGGREGATE SHOULDER, AND 1.5' AGGREGATE SHOULDER WIDTH.
 [2] SEE MODULAR BLOCK RETAINING WALL DETAIL SHEETS 128 - 131
 [3] SEE COON RAPIDS UTILITY DETAIL SHEET 64
 [4] SEE EROSION CONTROL SHEET 70

[5] SEE SIGNAL PLAN SHEETS 107 - 122
 [6] SEE EARTHWORK BALANCE SHEET 11
 [7] SEE PERMANENT SIGNING TAB SHEET 98 (STREET SIGNS PAID FOR AS ITEM 2564.537)
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 [9] DRAINAGE COST SPLIT - 78% ANOKA COUNTY, 13.3% CITY OF BLAINE, 8.7% CITY OF COON RAPIDS

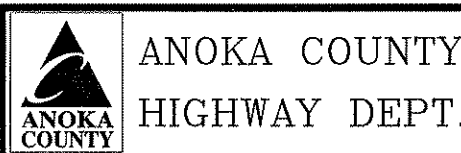
[10] QUANTITY INCLUDES DRIVEWAY PAVEMENT
 [11] QUANTITY FOR GEOTEXTILE FABRIC UNDERNEATH RIPRAP AT TWO OUTLET APRONS. SEE STD. PLATE 3133C
 [12] SEE STAGING PLAN SHEET 27 AND TYPICAL SECTION SHEET 23
 [13] SEE INTERSECTION DETAIL SHEET 49
 [14] SEE STAGING QUANTITY SHEETS 81 - 82
 [15] SEE LANDSCAPE PLAN SHEETS 132 - 133
 [16] CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SEQ.DGN 06/04/2009 10:35:18 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 6-12-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 6-15-07
 DESIGN BY: JEO DATE: 8-19-07
 CHECKED BY: CAK DATE: 9-15-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

C.S.A.H. 51
 STATEMENT OF ESTIMATED QUANTITIES
 Sheet 4 of 159 Sheets

TAB / NOTE	ITEM NO.	SP 02-651-06, 106-020-27 EXHIBIT A UNIVERSITY AVENUE RECONSTRUCTION ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITY	PARTICIPATING - FEDERAL FUNDS				NON-PARTICIPATING - LOCAL FUNDS		
					SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED	STORM SEWER QUANTITIES ESTIMATED	SP 02-651-06 ANOKA COUNTY ROADWAY QUANTITIES ESTIMATED	SP 106-020-27 CITY OF BLAINE ROADWAY QUANTITIES ESTIMATED	SP 114-020-23 CITY OF COON RAPIDS ROADWAY QUANTITIES ESTIMATED
					N	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	5,857	3,032	1,564
N	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	30			30				
[13]	2531.604	8" CONCRETE VALLEY GUTTER	SQ YD	53	53						
T	2531.618	TRUNCATED DOMES	SQ FT	96	96						
BB	2531.618	PEDESTRIAN CURB RAMP	SQ FT	1,227	1,227						
K	2540.602	RELOCATE MAIL BOX SUPPORT	EACH	9	9						
H	2557.501	WIRE FENCE DESIGN SPECIAL VINYL COATED	LIN FT	725	725						
U, [14]	2563.601	TRAFFIC CONTROL (STAGE 1)	LUMP SUM	1	0.69	0.20	0.11				
U, [14]	2563.601	TRAFFIC CONTROL (STAGE 2)	LUMP SUM	1	0.69	0.20	0.11				
U, [14]	2563.601	TRAFFIC CONTROL (STAGE 3)	LUMP SUM	1	0.69	0.20	0.11				
U, [14]	2563.601	TRAFFIC CONTROL (STAGE 4)	LUMP SUM	1	0.69	0.20	0.11				
U	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	1,168	934	152	82				
	2563.610	POLICE OFFICER	HOURL	100	80	13	7				
[7]	2564.531	SIGN PANELS TYPE C	SQ FT	561	561						
W	2564.537	INSTALL SIGN TYPE SPECIAL	EACH	7	7						
	2565.511	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1	0.25	0.375	0.375				
	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1	1	1	1				
[5]	2565.602	PVC HANDHOLE (METAL FRAME WITH COVER)	EACH	12	4	4	4				
[5]	2565.602	NMC LOOP DETECTOR 6' X 6'	EACH	4	1	2	1				
[5]	2565.603	2-INCH RIGID STEEL CONDUIT-INTERCONNECT	LIN FT	3,000	750	1,125	1,125				
[15]	2571.501	CONIFEROUS TREE 3' HT CONT	TREE	116					116		
[15]	2571.505	DECIDUOUS SHRUB NO 5 CONT	SHRB	16					16		
[15]	2571.507	PERENNIAL NO 1 CONT	PLT	665					665		
Q	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	4,069	4,069						
Q	2573.530	STORM DRAIN INLET PROTECTION	EACH	68	68						
	2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1						
Q	2575.501	SEEDING	ACRE	2	2						
Q	2575.502	SEED MIXTURE 310	POUND	155	155						
Q	2575.505	SODDING TYPE SALT RESISTANT	SQ YD	6,110	6,110						
[15]	2575.513	MULCH MATERIAL TYPE 6	CY	150					150		
Q	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	8,968	8,968						
U	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	6,200	4,960	806	434				
AA	2581.602	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	6	6						
AA	2581.602	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	5	5						
U	2582.502	4" SOLID LINE WHITE - PAINT	LIN FT	18,662	13,838	1,562	3,262				
U	2582.502	4" SOLID LINE YELLOW - PAINT	LIN FT	18,662	13,838	1,562	3,262				
AA	2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	10,853	10,853						
AA	2582.502	4" BROKEN LINE WHITE - EPOXY	LIN FT	1,677	1,677						
AA	2582.502	4" SOLID LINE YELLOW - EPOXY	LIN FT	9,280	9,280						
AA	2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	75	75						
AA	2582.503	ZEBRA CROSSWALK - WHITE PREFORMED THERMOPLASTIC	SQ FT	1,458	1,458						
AA	2582.618	24" STOP LINE WHITE - PREFORMED THERMOPLASTIC	SQ FT	314.20	314.20						

[1] AGGREGATE SHOULDERING BASED ON LENGTH OF SHOULDER ALONG PROPOSED POND, DEPTH OF AGGREGATE SHOULDER, AND 1.5' AGGREGATE SHOULDER WIDTH.
[2] SEE MODULAR BLOCK RETAINING WALL DETAIL SHEETS 128 - 131
[3] SEE COON RAPIDS UTILITY DETAIL SHEET 64

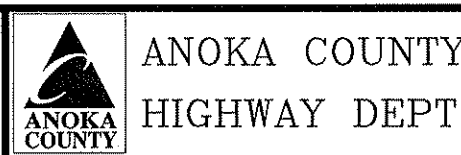
[4] SEE EROSION CONTROL SHEET 70
[5] SEE SIGNAL PLAN SHEETS 107 - 122
[6] SEE EARTHWORK BALANCE SHEET 11
[7] SEE PERMANENT SIGNING TAB SHEET 98 (STREET SIGNS PAID FOR AS ITEM 2564.537)
[8] SEE REMOVAL PLAN SHEETS 37 - 38
[9] DRAINAGE COST SPLIT - 78% ANOKA COUNTY, 13.3% CITY OF BLAINE, 8.7% CITY OF COON RAPIDS

[10] QUANTITY INCLUDES DRIVEWAY PAVEMENT
[11] QUANTITY FOR GEOTEXTILE FABRIC UNDERNEATH RIPRAP AT TWO OUTLET APRONS. SEE STD. PLATE 3133C
[12] SEE STAGING PLAN SHEET 27 AND TYPICAL SECTION SHEET 23
[13] SEE INTERSECTION DETAIL SHEET 49
[14] SEE STAGING QUANTITY SHEETS 81 - 82
[15] SEE LANDSCAPE PLAN SHEETS 132 - 133
[16] CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_SEQ.DGN					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCIK
SIGNATURE: *Curt Kobilarcik*
DATE: 6-8-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 9-15-07
DESIGN BY: JED DATE: 9-15-07
CHECKED BY: CAK DATE: 9-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
STATEMENT OF ESTIMATED QUANTITIES
Sheet 5 of 159 Sheets

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

BASIS FOR ESTIMATED QUANTITIES	
CLASS 7BC SHOULDER MATERIAL 1 CU YD (CV) = 1.8 TONS	
BITUMINOUS MIXTURES (ROADWAY AND TRAIL); 115 LB / SY / IN	
BITUMINOUS MATERIAL FOR TACK COAT; .05 GAL / SY	
SEED MIXTURE #310 82 LB / ACRE	
TYPE I MULCH 2 TONS / ACRE	
COMMERCIAL FERTILIZER 22-5-10 350 LB / ACRE	

STANDARD PLATES	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
3145F	CONCRETE PIPE TIES
4005L	MANHOLE OR CATCH BASIN
4006L	MANHOLE OR CATCH BASIN
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4018A	MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020J	MANHOLE OR CATCH BASIN COVER
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4125D	CATCH BASIN FRAME CASTING
4134A	CURB BOX CASTING FOR CATCH BASIN
4143E	STOOL GRATE AND CONCRETE FRAME
4154B	CATCH BASIN GRATE CASTING
4180J	MANHOLE OR CATCH BASIN STEP
7035M	CONCRETE WALK AND CURB RETURNS AND ENTRANCES
7036F	TRUNCATED DOMES
7065C	BITUMINOUS CURB
7100H	CONCRETE CURB AND GUTTER
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8114A	PVC HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121E	TRANSFORMER BASE AND POLE BASE PLATE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126G	POLE FOUNDATION (PA90 AND PA100)
8150C	INSTALLATION OF CULVERT MARKERS
8337B	TEMPORARY PRECAST PORTABLE BARRIERS (TYPE F)
9102D	TURF ESTABLISHMENT AREAS
9322J	CHAIN LINK FENCE
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

INDEX OF TABULATION CHARTS		
CHART	SHEET	DESCRIPTION
A	12	CLEAR AND GRUB
B	12	REMOVE BITUMINOUS PAVEMENT
C	12	REMOVE CURB AND GUTTER
D	12	REMOVE BITUMINOUS CURB
E	12	REMOVE CONCRETE MEDIAN
F	12	REMOVE BITUMINOUS MEDIAN
G	13	REMOVE EXISTING STORM SEWER & CULVERTS
H	13	FENCING
I	13	REMOVE CONCRETE FLUME
J	13	REMOVE RETAINING WALL
K	14	RELOCATE MAIL BOX SUPPORT
L	14	CONSTRUCT BITUMINOUS PATH
M	14	SANITARY SEWER ADJUSTMENTS/RECONSTRUCTION
N	14	CONCRETE CURB AND GUTTER, CONCRETE MEDIAN
O	14	MILL BIT. SURFACE (1.5")
P	14	REMOVE CONCRETE WALK
Q	16	TURF ESTABLISHMENT AND EROSION CONTROL
S	16	BITUMINOUS SUMMARY
T	16	TRUNCATED DOMES
U	81 - 82	CONSTRUCTION STAGING ITEMS SUMMARY
V	17	REMOVE BITUMINOUS WALK
W	17	SALVAGE SIGNS
X	61	DRAINAGE TABULATION
Y	8	EARTHWORK SUMMARY
Z	11	POND EARTHWORK SUMMARY
AA	99	PERMANENT PAVEMENT MARKINGS
BB	13	PEDESTRIAN CURB RAMPS
CC	15	AGGREGATE SUMMARY
DD	18	PRIVATE UTILITY OWNERS
EE	18	GAS - CENTER POINT ENERGY
FF	18	GAS - NORTHERN NATURAL GAS
GG	18	OVERHEAD POWER - CONNEXUS ENERGY
HH	18	TELEPHONE - QWEST
II	18	CABLE TV - COMCAST
JJ	19	WATER & SEWER (CITY OF BLAINE)
KK	19	EXISTING GATE VALVES (CITY OF BLAINE)
LL	64	WATER & SEWER (CITY OF COON RAPIDS)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SEQ.DGN 06/04/2008 10:35:27 AM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 6-12-08 LICENSE NO. 24756

DRAWN BY: NLD DATE: 8-15-07
 DESIGN BY: JEO DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

C.S.A.H. 51
STANDARD PLATES
INDEX OF TABS

SOILS AND CONSTRUCTION NOTES:

1. TOP OF THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.
2. BOTTOM OF SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE 1' SUBGRADE EXCAVATION
3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL.
4. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B1 OR AS DIRECTED BY ENGINEER.
5. NOTE 5 NOT USED
6. AGGREGATE INCIDENTAL TO TRAIL, DRIVEWAY, AND SIDEWALK SHALL EXTEND 6" BEYOND EITHER SIDE OF FINISHED SURFACE.
7. TOPSOIL BORROW - MN/DOT SPECIFICATION 3877 IS DEFINED AS EXISTING SOILS WHICH MEET THE SPECIFICATION WOULD BE SUITABLE FOR REUSE.
8. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.
9. REGULAR EMBANKMENT SHALL BE DEFINED AS ALL GRADING MATERIALS THAT ARE APPROPRIATE FOR REUSE ON THE PROJECT BUT THAT MAY NOT MEET THE REQUIREMENTS OF SUITABLE GRADING MATERIALS. REGULAR EMBANKMENT MAY CONSIST OF GRADING SOILS NOT MEETING GRANULAR SPECIFICATIONS AND THEREFORE NOT SUITABLE FOR REUSE UNDER ROAD CORE. REGULAR EMBANKMENT MAY CONSIST OF TOPSOIL AND ORGANIC SOILS, UNLESS THE ENGINEER DETERMINES THESE SOILS ARE NOT REUSABLE, IN WHICH CASE THE CONTRACTOR SHALL REMOVE THEM FROM THE PROJECT LIMITS. REGULAR EMBANKMENT SHALL NOT CONSIST OF DEBRIS.
10. AGGREGATE SHOULDERING MATERIAL FOR THIS PROJECT SHALL BE CLASS 5 GRADATION IN ACCORDANCE WITH MNDOT 2221 AND 3138.
11. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
12. UNLESS OTHERWISE REQUIRED, IN ANY NEW ROADWAY CORE EMBANKMENT CONSTRUCTION, THE UPPER 48" OF THE SUBGRADE SHALL BE CONSTRUCTED WITH GRANULAR MATERIAL OF WHICH THE UPPER 12" SHALL BE GRANULAR MATERIAL AS SPECIFIED IN THE PLANS. THE REMAINDER OF THE SUBGRADE SHALL BE CONSTRUCTED WITH SUITABLE GRADING MATERIAL. EXCEPTIONS INCLUDE FILLING IN SENSITIVE BOTTOM OR STANDING WATER CONDITIONS.
13. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.
14. OBTAIN COMPACTION ON THE GRADING PORTIONS OF PERMANENT CONSTRUCTION, INCLUDING GRANULAR, IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS, MN/DOT SPECIFICATION 2105.3F1.
15. COMPACTION OF THE AGGREGATE BASE LAYER SHALL BE OBTAINED IN ACCORDANCE WITH THE "PENETRATION INDEX METHOD". THE TEST SHALL BE PERFORMED IN ACCORDANCE WITH SECTION C4 AND C4A OF THE TECH MEMO NO. 99-08-MRR-04. THIS WOULD INCLUDE ANY AREAS WHERE CRUSHED CONCRETE OR SALVAGED ASPHALT MAY BE USED FOR AGGREGATE BASE.
16. OBTAIN COMPACTION ON GRADING PORTIONS OF TEMPORARY CONSTRUCTION IN ACCORDANCE WITH THE "QUALITY COMPACTION METHOD" REQUIREMENTS. TEMPORARY GRADING AND AGGREGATE BASE PORTIONS PLACED BY THE "QUALITY COMPACTION METHOD" SHOULD BE REMOVED AFTER CONSTRUCTION IS COMPLETE.
17. NOTE 17 NOT USED
18. NOTE 18 NOT USED
19. UNLESS OTHERWISE REQUIRED, IN ALL TREATMENTS, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5.0 FEET OF THE ROADWAY.
20. UNLESS OTHERWISE REQUIRED, ADD 1:20 TAPERS TO THE FULL DEPTH STATION LIMITS OF ALL SUBGRADE EXCAVATIONS. PROVIDE 1:20 TRANSITION TAPERS BETWEEN CHANGES IN SUBGRADE EXCAVATION DEPTHS LONGITUDINALLY. THE 1:20 TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT PLASTIC SOIL BACKFILL.
21. WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 1:2 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
22. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

23. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:4 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
24. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON THE EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS/SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GALLONS/SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.
25. THE BITUMINOUS MIXTURE SHALL MEET THE MOST CURRENT REQUIREMENTS OF MNDOT SPECIFICATION 2360. COMPACTION OF ALL BITUMINOUS MIXTURES SHALL BE BY THE "MAXIMUM DENSITY METHOD".
26. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING.
27. QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE AGGREGATE AND BITUMINOUS SUMMARY TABS.
28. FOR ALL ROADWAYS, UNLESS OTHERWISE REQUIRED, PROVIDE FOR A 12" SUBCUT BELOW THE TOP OF THE GRADING GRADE TO ASSURE UNIFORMITY AND COMPACTION. THE BOTTOM OF THE SUBCUT SHALL BE SHAPED AND COMPACTED BY THE QUALITY COMPACTION METHOD WITH A MINIMUM OF 4 PASSES OF AN APPROVED ROLLER. REPLACEMENT FILL SHALL BE GRANULAR MATERIAL.
29. EXISTING UNPAVED AREAS SHALL BE CORRECTED, CORRECTION SHALL INCLUDE SUBCUTTING OF VEGETATION, SOILS CONTAINING SOD/ROOTS AND SIGNIFICANTLY ORGANIC SOILS WHEN CONSTRUCTING AN EMBANKMENT. ON GRADING SLOPES STEEPER THAN 1:4, CONSTRUCT STEPS IN SLOPE PER MN/DOT SPECIFICATION 2105.3B WHEN CONSTRUCTING AN EMBANKMENT.
30. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING 1:2 OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
31. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
32. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
33. NOTE 33 NOT USED
34. EXCESS UNSUITABLE SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.
35. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPECIFICATION 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SUITABLE GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
36. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATION 2105.3D.
37. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
38. NOTE 38 NOT USED
39. INPLACE BITUMINOUS PAVEMENT RANGES FROM 5" TO 9" THICK. (AVERAGE 7"). FOR INFORMATION ONLY, CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID
40. NOTE 40 NOT USED
41. NOTE 41 NOT USED
42. AGGREGATE BASE MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MNDOT SPEC. 3138, CLASS 5.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_N01.DGN					
05/16/2008 2:03:26 PM					

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 6-2-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JEO DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

SOILS AND CONSTRUCTION
 GENERAL NOTES

EARTHWORK SUMMARY							Y
STATION	AVERAGE	EXCAVATION			REGULAR EMBANKMENT		
		TOPSOIL STRIPPING	SUBCUT	COMMON	TOPSOIL	SUIT GRADING	FILL
		CY	CY	CY	CY	CY	CY
118+00.00							
118+70.00	70.00	3	241	107	6	273	2
119+24.25	54.25	9	178	79	7	203	1
119+50.00	25.75	8	80	43	4	94	1
120+00.00	50.00	15	141	57	6	182	3
120+50.00	50.00	15	129	33	5	181	4
121+00.00	50.00	14	128	29	5	180	5
121+50.00	50.00	16	142	44	4	179	8
122+00.00	50.00	20	156	102	5	180	7
122+50.00	50.00	26	155	177	6	180	2
123+00.00	50.00	32	156	240	7	182	1
123+24.19	24.19	17	78	138	4	89	0
123+50.00	25.81	19	95	154	3	106	1
124+00.00	50.00	35	189	265	5	213	2
124+50.00	50.00	31	172	227	4	198	2
125+00.00	50.00	32	173	202	7	198	14
125+33.97	33.97	22	115	111	6	132	19
125+75.00	41.03	22	131	97	5	159	15
126+00.00	25.00	14	81	49	2	103	2
126+25.00	25.00	16	78	48	2	102	1
126+50.00	25.00	14	73	41	1	96	1
126+75.00	25.00	13	74	38	1	95	1
127+00.00	25.00	12	76	37	0	94	0
127+25.00	25.00	12	78	36	1	92	1
127+50.00	25.00	12	79	31	1	90	0
127+61.00	11.00	5	34	12	0	39	0
127+80.00	19.00	4	54	13	0	90	0
127+86.00	6.00	0	16	2	0	35	0
128+25.00	39.00	14	110	48	3	183	1
128+50.00	25.00	19	75	55	4	89	2
128+75.00	25.00	20	72	60	5	88	2
129+00.00	25.00	20	69	62	5	86	3
129+25.00	25.00	20	63	53	5	86	3
129+50.00	25.00	19	56	42	4	86	2
129+75.00	25.00	18	50	29	3	88	2
130+00.00	25.00	18	47	24	2	89	2
130+25.00	25.00	19	45	31	2	90	2
130+50.00	25.00	20	46	32	2	90	2
130+75.00	25.00	20	54	31	2	90	3
131+24.00	49.00	20	102	41	2	171	3
131+40.00	16.00	0	31	7	0	54	0
132+00.00	60.00	23	155	70	3	207	3
132+50.00	50.00	39	163	119	6	177	5
SUBTOTAL (A)		728	4239	3116	147	5442	129

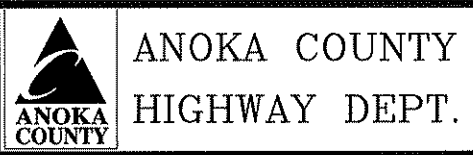
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_EW_TAB.DGN 04/22/2008 2:40:20 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JEO DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
EARTHWORK
TABULATIONS
Sheet 8 of 159 Sheets

EARTHWORK SUMMARY							Y
STATION	AVERAGE	EXCAVATION			REGULAR EMBANKMENT		
		TOPSOIL STRIPPING	SUBCUT	COMMON	TOPSOIL	SUIT GRADING	FILL
		CY	CY	CY	CY	CY	CY
133+00.00	50.00	39	171	144	6	177	5
133+50.00	50.00	37	174	143	5	177	13
134+00.00	50.00	44	176	190	13	177	13
134+18.76	18.76	20	66	96	7	66	2
134+63.00	44.24	36	171	224	12	171	5
135+08.81	45.81	32	169	199	11	174	4
135+50.00	41.19	30	131	161	8	144	3
136+00.00	50.00	34	159	177	8	183	3
136+55.00	55.00	31	167	174	9	202	2
137+00.00	45.00	29	128	162	8	167	1
137+50.00	50.00	43	128	188	9	189	3
138+00.00	50.00	40	110	154	7	189	3
138+50.00	50.00	41	96	195	9	193	2
139+00.00	50.00	45	87	297	13	193	2
139+47.00	47.00	39	73	383	15	174	2
139+71.00	24.00	19	39	214	7	92	14
140+00.00	29.00	25	50	238	7	111	44
140+25.00	25.00	21	42	206	5	90	54
140+75.00	50.00	29	102	309	9	182	106
141+30.00	55.00	30	154	232	12	206	53
141+50.00	20.00	14	67	96	5	77	1
142+00.00	50.00	32	175	252	11	196	2
142+50.00	50.00	30	177	255	10	198	2
143+00.00	50.00	35	177	257	10	198	2
143+50.00	50.00	42	178	265	11	199	2
143+69.75	19.75	16	70	105	4	79	1
144+14.00	44.25	17	168	189	4	187	1
144+55.08	41.08	9	153	143	3	172	1
145+00.00	44.92	20	155	167	8	175	3
145+50.00	50.00	20	174	179	10	192	4
146+00.00	50.00	18	178	154	9	286	4
146+50.00	50.00	12	187	130	5	662	4
147+00.00	50.00	6	141	86	2	523	3
147+50.00	50.00	2	57	42	2	69	1
148+00.00	50.00	0	24	35	2	36	0
148+50.00	50.00	0	25	36	2	38	0
148+65.72	15.72	0	8	12	1	12	0
SUBTOTAL (B)		937	4506	6488	278	6557	365

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_EW_TAB.DGN 04/22/2008 2:40:21 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JED DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
EARTHWORK
TABULATIONS

91ST AVE E		EXCAVATION			REGULAR EMBANKMENT		
		TOPSOIL STRIPPING	SUBCUT	COMMON	TOPSOIL	SUIT GRADING	FILL
STATION	AVERAGE	CY	CY	CY	CY	CY	CY
10+40							
10+60	20.00	5	34	14	1	37	1
10+80	20.00	4	34	18	1	33	1
11+00	20.00	4	31	20	2	30	1
11+20	20.00	3	27	15	2	27	1
SUBTOTAL (C)		17	126	67	7	127	5

COON RAPIDS BLVD		EXCAVATION			REGULAR EMBANKMENT		
		TOPSOIL STRIPPING	SUBCUT	COMMON	TOPSOIL	SUIT GRADING	FILL
STATION	AVERAGE	CY	CY	CY	CY	CY	CY
101+40							
101+60	20.00	2	21	8	2	21	1
101+80	20.00	2	22	5	3	22	7
102+00	20.00	3	24	6	5	43	16
102+20	20.00	4	34	11	5	72	19
SUBTOTAL (D)		11	102	31	15	158	43

SIDE ROAD	EXCAVATION			REGULAR EMBANKMENT		
	TOPSOIL STRIPPING	SUBCUT	COMMON	TOPSOIL	SUIT GRADING	FILL
	CY	CY	CY	CY	CY	CY
91ST AVE. WEST	4	99	50	4	99	4
91ST LN NE	3	64	32	3	64	5
EZ STORAGE	2	33	17	2	33	3
92ND AVE NE	2	59	29	2	59	2
WOODLAND 1	2	57	28	2	57	3
92ND LANE NE	3	58	29	3	58	4
WOODLAND 2	3	41	21	3	41	3
90TH LN NE	3	63	32	3	63	5
PAWN AMERICA	0	51	25	0	51	1
DC MUSIC	2	44	22	2	44	3
K MART	3	58	29	3	58	3
SUBTOTAL (E)	26	627	314	26	627	37

	EXCAVATION			REGULAR EMBANKMENT		
	TOPSOIL STRIPPING	SUBCUT	SUIT COMMON	TOPSOIL	SUIT GRADING	FILL
	CY	CY	CY	CY	CY	CY
GRAND TOTAL (A+B+C+D+E)	1719	9601	10015	473	12911	579

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_EW_TAB.DGN 04/22/2008 2:40:21 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JED DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
HIGHWAY DEPT.

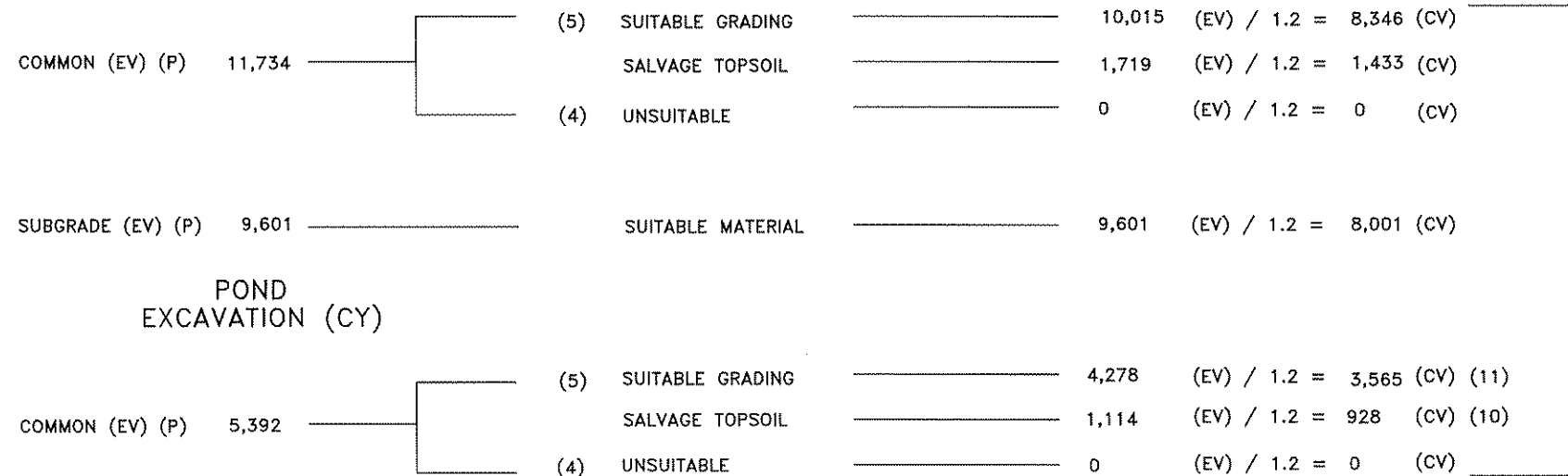
STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
EARTHWORK
TABULATIONS

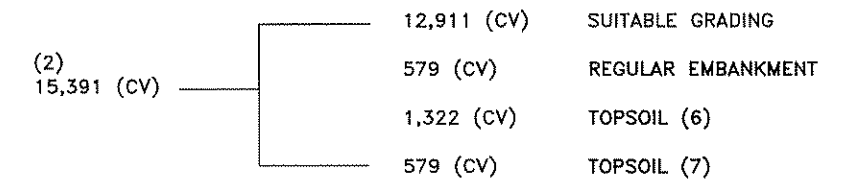
POND EARTHWORK SUMMARY					Z	
ELEVATION	PROPOSED POND CONTOURS		EXISTING GROUND CONTOURS		EXCAVATION	EXCAVATION
	AREA	VOLUME	AREA	VOLUME		
	SF	CF	SF	CF	CF	CY
886	14993	14993	0	0	14993	555
887	24169	24169	127	127	24042	890
888	33465	33465	2149	2149	31316	1160
889	43065	43065	18974	18974	24091	892
890	52713	52713	35378	35378	17335	642
891	62554	62554	51315	51315	11239	416
892	70030	70030	62814	62814	7216	267
893	76508	76508	70963	70963	5545	205
894	81403	81403	77026	77026	4377	162
895	84551	84551	83418	83418	1133	42
896	86869	86869	85342	85342	1527	57
897	88563	88563	87174	87174	1389	51
898	90207	90207	88814	88814	1393	52
899	90207	90207	90207	90207	0	0
TOTAL		899297		753701	145596	5392

EARTHWORK BALANCE

EXCAVATION (CY)



EMBANKMENT (CY)



TOTALS (CV)

SUITABLE GRADING 19,912 (CV)
 UNSUITABLE 0 (CV)
 TOPSOIL 2,361 (CV)

NOTES:

- TOTAL EXCAVATION (EV) REQUIRED FOR THIS PROJECT (INCLUDES SUBGRADE EXC.)
- TOTAL EMBANKMENT (CV) REQUIRED FOR THIS PROJECT
- TOTAL EXCESS (CV) FOR THIS PROJECT
- INCLUDES PEAT EXCAVATED ABOVE GRADING GRADE
- INCLUDES SOME SILTY MATERIAL THAT MAY BE UNSUITABLE FOR USE IN THE UPPER 4' OF EMBANKMENT BELOW GRADING GRADE (SUITABILITY OF EXCAVATED SOILS FOR EMBANKMENT AREAS TO BE DETERMINED BY THE SOILS ENGINEER IN THE FIELD)
- RESTORATION OUTSIDE ROADWAY (REGULAR EMBANKMENT + POND) = 473 (EV)/1.2 + 928 (CV) = 1,322 (CV)
- MEDIAN (PLANTING BEDS IF NECESSARY)
- TOPSOIL EXCESS = 2,361 (CV) EXCAVATED TOPSOIL - [1,322 (CV) + 579 (CV)] NEEDED TOPSOIL = 460 (CV)
- EMBANKMENT EXCESS = 19,882 (CV) EXCAVATED SUITABLE - 12,911 (CV) NEEDED SUITABLE - 579 (CV) NEEDED REGULAR EMBANKMENT = 6,422 (CV)
- POND TOPSOIL = TOP ELEVATION AREA X TOPSOIL DEPTH (4") = 90207 SF X (4/12) F = 30069 CF = 1114 CY
- POND SUIT GRADING = POND EXCAVATION TOTAL - POND TOPSOIL EXCAVATION = 5392 (EV) - 1,114 (EV) = 4278 CY (EV)
- DISTRIBUTE EXCESS TOPSOIL (IF ANY) OUTSIDE ROADWAY ALONG LENGTH OF PROJECT.

EXCESS (CY)

REGULAR EMBANKMENT 6,422 (CV) (9)

EXCESS (CY) (12)

TOPSOIL 460 (CV) (8)
 460 X 1.4 = 644 CY (LV)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_EW1.DGN 04/22/2008 2:47:06 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE 10-4-07
 DESIGN BY: JED DATE 10-4-07
 CHECKED BY: CRK DATE 10-4-07



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

EARTHWORK BALANCE

Sheet 11 of 159 Sheets

CLEAR AND GRUB					A				REMOVE BITUMINOUS PAVEMENT					B			REMOVE CURB AND GUTTER					C			
STATION	LOCATION		CLEAR EACH	GRUB EACH	STATION	LOCATION		CLEAR EACH	GRUB EACH	STATION		LOCATION [2]	DESCRIPTION	[5]	[1], [3]	[1], [3]	STATION		LOCATION [2]			DESCRIPTION	CONC LIN FT		
	START	END				REMOVE BIT SQ YD	SAW BIT LIN FT			SAW CONC LIN FT	START			END	26	54	RT LNB								
120+94	27	RT LNB	1	1	138+74	37	RT LNB	1	1	118+46	118+19	RT NB	KMART ENTRANCE	157	69		117+89	118+55	26	54	RT LNB	SHOULDER/E. KMART	89		
121+04	28	RT LNB	1	1	138+75	26	LT LSB	1	1	123+39	124+39	LT NB	C.R. BLVD.	500	26		117+89	118+26	14	14	LT LNB	MEDIAN	37		
121+14	29	RT LNB	1	1	138+84	30	LT LSB	1	1	125+42	125+93	RT NB	DC MUSIC	118	29		117+51	117+89	16	27	RT LSB	MEDIAN	46		
121+43	40	RT LNB	1	1	138+96	36	RT LNB	1	1	127+53	128+09	RT NB	GAS PLUS	159	28		119+07	121+33	54	9	RT LNB	W. KMART/ SHOULDER	272		
121+64	58	RT LNB	1	1	139+02	36	LT LSB	1	1	127+54	128+09	LT NB	COMFORT	265	85		119+28	123+49	14	49	LT LNB	MEDIAN	439		
125+23	15	LT LSB	1	1	139+20	51	LT LSB	1	1	117+89	130+00		MAINLINE	8506	73	22	118+90	123+29	24RT	10LT	LSB	MEDIAN	451		
125+85	28	LT LSB	1	1	139+28	33	LT LSB	1	1	131+07	131+62	RT NB	91 AVE NE	385	30		124+16	124+54	64	102	LT LSB	COON RAPIDS BLVD.	59		
125+66	24	LT LSB	1	1	139+29	30	LT LSB	1	1	130+86	131+59	LT NB	91 AVE NW	399	41		125+45	125+61	14	53	RT LNB	DC MUSIC	50		
127+17	25	LT LSB	1	1	139+34	26	LT LSB	1	1	134+30	134+83	LT NB	91 LN NE	190	30		125+92		33	54	RT LNB	DC MUSIC	21		
127+57	21	LT LSB	1	1	139+48	18	LT LSB	1	1	136+30	136+77	RT NB	EZ STORAGE	160	36		127+60	127+69	32	19	LT LSB	PAWN AMERICA	18		
128+74	27	LT LSB	1	1	139+78	9	LT LSB	1	1	139+16	139+77	RT NB	92 AVE NE	195	30		128+01		6	34	LT LSB	PAWN AMERICA	28		
128+85	44	RT LNB	1	1	140+35	40	RT LNB	1	1	130+00	140+00		MAINLINE	5098			131+06		7	75	LT LSB	91ST AVE N.E.	69		
129+14	27	LT LSB	1	1	141+02	51	RT LNB	1	1	140+61	141+35	LT NB	WOODLAND 1	275	60		131+47		2	76	LT LSB	91ST AVE N.E.	74		
129+54	28	LT LSB	1	1	141+02	57	LT LSB	1	1	141+88	142+39	LT NB	JAM	426	125		131+19		25	124	RT LNB	91ST AVE N.W.	99		
129+94	29	LT LSB	1	1	141+13	43	RT LNB	1	1	143+92	144+45	LT NB	WOODLAND 2	145	25		131+49		22	124	RT LNB	91ST AVE N.W.	102		
130+33	29	LT LSB	1	1	141+15	30	LT LSB	1	1	143+77	144+53	RT NB	92 ND LN	171	26		134+48		20	68	RT LNB	91ST LN N.E.	47		
130+34	45	RT LNB	1	1	141+35	37	LT LSB	1	1	140+00	147+46		MAINLINE	4620	214		134+78		20	67	LT LSB	91ST LN N.E.	47		
130+93	62	LT LSB	1	1	141+46	51	RT LNB	1	1	145+44		RT NB	END NE PATH		8		136+43		34	51	LT LSB	EZ STORAGE	20		
131+81	42	RT LNB	1	1	141+53	13	LT LSB	1	1	124+97		LT SB	BEGIN NW WALK			5	144+02		32	50	LT LSB	EZ STORAGE	25		
131+90	5	LT LSB	1	1	141+67	21	LT LSB	1	1	131+56		LT SB	TIE NW WALK			5	144+02		38	55	LT LSB	WOODLAND NORTH	17		
132+28	34	RT LNB	1	1	141+89	14	RT LNB	1	1	139+23		RT NB	10 92ND AVE	12	10		144+26		48	55	LT LSB	WOODLAND NORTH	7		
132+72	90	LT LSB	1	1	142+12	43	RT LNB	1	1	139+75		RT NB	11 92ND AVE	19	16		144+29	146+65	84	76	RT LNB	SHOULDER	249		
133+28	42	LT LSB	1	1	142+28	11	LT LSB	1	1	143+87		RT NB	10 92ND LN	17	11		144+76	149+27	22	34	LT LNB	MEDIAN	460		
133+42	30	LT LSB	1	1	142+57	12	LT LSB	1	1	144+42		RT NB	11 92ND LN	18	12		147+51	149+28	14	15	RT LSB	MEDIAN	182		
133+47	38	LT LSB	1	1	142+72	27	LT LSB	1	1	121+59	124+72	RT NB	STAGE EXPANSION				146+64	148+53	26	28	RT LNB	NORTH TIE IN	210		
133+48	32	RT LNB	1	1	142+85	22	LT LSB	1	1	TOTALS			21768	936	32	TOTALS						3118			
133+69	40	LT LSB	1	1	143+07	39	LT LSB	1	1	REMOVE BITUMINOUS CURB					D		REMOVE CONCRETE MEDIAN					E			
133+84	26	RT LNB	1	1	143+08	16	LT LSB	1	1	STATION	LOCATION [2]		DESCRIPTION	BIT	STATION		LOCATION [2]			DESCRIPTION	[7]				
134+05	24	RT LNB	1	1	143+26	29	LT LSB	1	1	START	END		LIN FT	START	END						SQ FT				
134+12	24	RT LNB	1	1	143+28	30	LT LSB	1	1	124+35	125+09	35	20	LT LNB	Median	77	117+89	118+26	14	14	LT LNB	MEDIAN LT	515		
134+20	23	RT LNB	1	1	143+32	32	LT LSB	1	1	124+22	124+98	1	23	RT LSB	Median	80	119+28	123+50	14	50	LT LNB	MEDIAN LT	2546		
134+22	37	LT LSB	1	1	143+34	43	RT LNB	1	1	141+37	142+05	7	15	LT LSB	SHOULDER & RADIUS	80	124+25	124+35	41	35	LT LNB	MEDIAN LT	74		
134+35	56	RT LNB	1	1	143+42	12	LT LSB	1	1	142+22	144+02	16	38	LT LSB	SHOULDER & RADIUS	217	147+52	149+27	21	34	LT LNB	MEDIAN LT	2445		
134+37	30	LT LSB	1	1	143+46	27	LT LSB	1	1	142+81	143+99	12	28	RT LNB	SHOULDER & RADIUS	125	TOTALS			5580					
134+60	30	LT LSB	1	1	143+51	25	LT LSB	1	1	144+25	147+46	48	20	LT LSB	SHOULDER & RADIUS	348	REMOVE BITUMINOUS MEDIAN					F			
134+75	22	LT LSB	1	1	143+55	43	RT LNB	1	1	144+76	147+51	23	14	RT LSB	MEDIAN RT	276	STATION	LOCATION [2]		DESCRIPTION					
135+26	25	LT LSB	1	1	143+57	14	LT LSB	1	1	TOTALS					1203	START	END					SQ FT			
135+29	32	LT LSB	1	1	143+63	15	LT LSB	1	1							124+35	125+09	35	20	LT LNB	MEDIAN LT	385			
135+49	18	LT LSB	1	1	143+73	29	LT LSB	1	1							144+76	147+52	16	21	LT LNB	MEDIAN LT	4333			
136+59	41	RT LNB	1	1	143+75	17	LT LSB	1	1							TOTALS			4718						
136+59	44	RT LNB	1	1	143+79	55	LT LSB	1	1																
136+79	49	RT LNB	1	1	143+79	30	LT LSB	1	1																
136+85	55	RT LNB	1	1	143+79	16	LT LSB	1	1																
136+90	43	RT LNB	1	1	144+33	49	LT LSB	1	1																
136+97	44	RT LNB	1	1	144+81	35	LT LSB	1	1																
137+11	27	LT LSB	1	1	145+00	34	LT LSB	1	1																
137+74	2	LT LSB	1	1	SUBTOTAL (B)					46	46														
137+95	34	RT LNB	1	1	GRAND TOTAL (A) + (B)					103	103														
138+06	27	LT LSB	1	1																					
138+19	36	RT LNB	1	1																					
138+29	43	LT LSB	1	1																					
138+34	39	RT LNB	1	1																					
138+44	29	LT LSB	1	1																					
138+54	39	RT LNB	1	1																					
138+65	45	LT LSB	1	1																					
138+68	28	LT LSB	1	1																					
138+70	24	LT LSB	1	1																					
SUBTOTAL (A)					57	57																			

NOTES:
- TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER
- REMOVAL OF MISCELLANEOUS SHRUBS, LANDSCAPING, AND TREES LESS THEN 4" IN DIAMETER SHALL BE CONSIDERED INCIDENTAL.
[1] ALL BITUMINOUS PAVEMENT & CONCRETE PAVEMENT SAWING IS FULL DEPTH.
[2] REFER TO CONSTRUCTION PLANS, REMOVAL PLANS, & INTERSECTION DETAILS FOR EXACT LOCATIONS.
[3] SAWCUTS TO REMOVE EXISTING PAVEMENT AT CONSTRUCTION TERMINUS.
[5] ROADWAY - DEPTH OF BITUMINOUS VARIES (6" TO 9") AVERAGE (7") (FOR INFORMATION ONLY)
[7] INCLUDES MEDIAN NOSES

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JED DATE: 8-15-07
CHECKED BY: DAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
TAB SHEETS
Sheet 12 of 159 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:24 PM

REMOVE EXISTING STORM SEWER & CULVERTS										G	
STATION		OFFSET				ALIGNMENT	DRAINAGE STRUCTURE	PIPE APRON	SEWER PIPE STORM	PIPE CULVERT	REMARKS
START	END	START	END	START	END						
122+55	122+43	2	RT	107	LT	LNB		2	106		
124+02	124+30	46	LT	65	LT	LNB	1		120	MH-3	
124+00	124+26	123	LT	67	LT	LSB	1	1	62	MH-1	
124+26	123+88	67	LT	48	LT	LSB	1		45	MH-2	
123+88	124+17	48	LT	21	LT	LSB			39		
124+17	125+34	21	LT	7	LT	LSB	1		121	MH-4	
125+34	126+15	7	LT	13	LT	LSB	1		83	MH-5	
126+15	129+46	13	RT	14	RT	LSB	1		331	MH-6	
129+46	131+43	14	RT	14	RT	LSB	1		197	MH-7	
131+43	131+43	14	RT	19	RT	LNB	1		47	CB-8	
131+43	131+13	14	RT	14	RT	LNB	1		30	CB-9	
131+43	133+48	14	RT	14	RT	LNB	1		205	MH-10	
133+48	133+54	14	RT	7	RT	LSB	1		10	CB-11	
133+48	133+55	14	RT	11	RT	LNB	1		41	CB-12	
133+55	133+91	11	RT	12	RT	LSB	1		36	CB-13	
133+46	133+63	64	LT	46	LT	LNB		1	25		
143+64		47	LT	12	RT	LNB	1		58	CB-37	
143+64	143+93	12	RT	13	RT	LNB	1		29	CB-36	
143+93	143+95	13	RT	36	RT	LNB	1		23	MH-33	
143+95	144+22	36	RT	41	RT	LNB	1		27	CB-34	
144+22		41	RT				1			CB-35	
143+93	144+50	13	RT	18	RT	LNB			57		
144+30	144+50	60	LT	18	RT	LNB			79	CB-32	
144+50	145+41	18	RT	18	RT	LNB	1		91	CB-31	
145+41	145+78	18	RT	18	RT	LNB	1		37	CB-30	
145+78		63	LT	19	RT	LNB			82	CB-29	
145+78	146+61	18	RT	25	RT	LNB	1		83	CB-28	
146+61	147+21	25	RT	25	RT	LNB	1		60	CB-27	
146+97	147+21	71	LT	25	RT	LNB	1		99	CB-26	
147+21		25	RT			LNB	1			CB-25	
143+30	143+30	11	RT	11	RT	LNB	1		33	CB-38	
147+27	148+37	28	RT	28	RT	LNB	1		110	CB	
TOTALS						26	4	2235	131		


FENCING										H
ADDRESS	STATION		LANE	LOCATION	DESCRIPTION	REMOVE LIN FT	FURNISH AND INSTALL [1]			
	START	END					LIN FT			
PAWN AMERICA	125+69	127+62	LSB	29 TO 29 LT	CHAIN LINK (VINYL COATED)		188			
COMFORT INN	128+07	130+85	LSB	29 TO 29 LT	CHAIN LINK (VINYL COATED)		278			
#1 90TH LANE NE	128+43		LNB	51 TO 77 RT	CHAIN LINK	26				
	128+43	129+53	LNB	51 TO 21 RT	CHAIN LINK	111				
	129+53		LNB	29 TO 51 RT	CHAIN LINK	22				
#2 91ST LANE NE	135+53	153+55	LSB	16 TO 48 LT	CHAIN LINK	32				
9154 EZ STORAGE	153+55	154+37	LSB	15 TO 16 LT	CHAIN LINK	81				
	136+60	138+92	LSB	16 TO 16 LT	CHAINLINK	231				
	136+60		LSB	16 TO 48 LT	CHAINLINK	32				
HOUSE #9107	137+21		LNB	44 TO 72 RT	CHAINLINK	28				
	137+21	137+79	LNB	37 TO 44 RT	WOOD	59				
	137+79		LNB	28 TO 72 RT	CHAINLINK	44				
#10 92ND AVE NE	137+79		LNB	28 TO 29 RT	CHAINLINK	140				
WOODLAND N.	139+00	140+47	LSB	35 TO 34 LT	CHAIN LINK (VINYL COATED)		150			
#9200 JAM ADVERTISING	140+96		LSB	17 TO 62 LT	WOOD	45				
#9203 UNIVERSITY	139+71	140+80	LNB	34 TO 37 RT	CHAIN LINK (VINYL COATED)		109			
#10 92ND LANE NE	142+12	143+50	LNB	38 TO 39 RT	WOOD	138				
TOTAL						989	725			

REMOVE RETAINING WALL						J
STATION		LOCATION	DESCRIPTION	LENGTH FEET	HEIGHT FEET	BLOCK SQ FT
START	END					
130+45	130+80	30 TO 35 LT LSB	BLOCK	36	2	72
139+75	140+49	27 TO 21 RT LNB	BLOCK	75	2	150
TOTAL						222

PEDESTRIAN CURB RAMPS			BB
STATION	OFFSET NB	DESCRIPTION	SQ FT [2]
127+36.55	23.79	90TH LN S	93
128+06.32	27.16	90TH LN N	73
131+00.67	28.66	91ST AVE NE (S)	112
131+79.96	29.79	91ST AVE NE (N)	112
130+82.53	-65.93	91ST AVE NW (S)	82
131+63.74	-71.61	91ST AVE NW (N)	78
134+30.95	29.33	92ND LN NE (S)	111
134+90.75	27.98	92ND LN NE (N)	110
139+17.83	29.32	92ND AVE NE (S)	115
139+76.23	27.87	92ND AVE NE (N)	115
143+80.56	28.85	92ND LN NE (S)	116
144+42.60	27.23	92ND LN NE (N)	110
TOTAL			1227

REMOVE CONCRETE FLUME			I
STATION	OFFSET		CONC. EACH
133+62.67	46	LT LNB	1
TOTALS			1

NOTES:
 [1] FENCE POST ANCHORAGE TO BE INCIDENTAL TO WIRE FENCE DESIGN TYPE SPECIAL VINYL COATED.
 [2] QUANTITY FOR 4" CONCRETE PEDESTRIAN CURB RAMP. 4" AGGREGATE BASE TO BE INCIDENTAL TO PEDESTRIAN CURB RAMP.
 SEE PAGE 16 FOR TRUNCATED DOME INFORMATION

REVISION NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:25 PM	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBILARCSIK SIGNATURE: <i>Curt Kobilarsik</i> DATE: 4-23-08 LICENSE NO. 24756	DRAWN BY: NJD DATE: 8-15-07 DESIGN BY: JEO DATE: 8-15-07 CHECKED BY: CAK DATE: 8-15-07	 ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. 02-651-06 STATE PROJECT NO. 106-020-27 STATE PROJECT NO. 114-020-23	C.S.A.H. 51 TAB SHEETS Sheet 13 of 159 Sheets
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REMOVE CONCRETE SIDEWALK					P
STATION		ALIGNMENT	LOCATION	DESCRIPTION	SQ FT [4]
START	END				
124+97.85	127+68.02	NB	-73.8 TO -53.3	PAWN AMERICA	1416
128+02.03	131+03.94	NB	-64.3 TO -69.6	COMFORT INN	1419
127+90.00	131+16.95	NB	26.5 TO 20.9	90TH LN TO 91ST AVE	1625
131+50.42	134+43.90	NB	43.4 TO 19.2	91ST AVE TO 91ST LN	1302
131+46.34	136+45.52	NB	-60.6 TO -56.8	WEST PRIOR TO JAM ADVERTISING	2473
134+79.19	139+34.23	NB	27.1 TO 28.3	91ST LN TO 92ND AVE NE	2139
139+63.11	143+98.86	NB	27.6 TO 36.5	92ND AVE TO 92ND LN NE	2018
136+64.51	138+31.31	NB	-56.4 TO -56.6	JAM ADVERTISING	715
144+33.04			31.8	CONCRETE ENTRANCE	47
TOTAL					13154

SANITARY SEWER ADJUSTMENTS/RECONSTRUCTION													M
STATION	LNB OFFSET	EXISTING TOC	PROPOSED TOC	HEIGHT FT	CONE FT	BARREL FT	INVERT	CHANGE FT	ADJUST EACH	RECONSTRUCT LIN FT	MANHOLE IS LOCATED AT	REMARKS	
127+80	41.9	896.68	896.70				886.18	0.02	1		90TH LN		
131+34	5.5	897.54	898.48	1.50	4.00	6.00	887.56	0.94	1		91ST AVE		
131+38	35.4	897.03	897.72	1.80	4.50	5.00	887.56	0.69	1		91ST AVE		
134+63	5.5	896.80	897.07	1.70	4.50	4.00	888.68	0.27	1		91ST LANE		
136+53	3.6	899.40	900.01	0.90	4.50	4.00	890.99	0.61	1		3.6' RT LNB		
139+49	4.5	901.20	902.87	0.25	4.50	7.00	890.05	1.67	1		92ND AVE		
141+77	1.2	900.48	900.67	1.30	4.50	7.00	889.23	0.19	1		1.2' RT LNB		
144+15	0.9	898.18	897.98	1.20	4.50	7.00	889.23	-0.20	1		92ND LANE		
147+10	-6.2	897.57	897.39	0.30	4.00	6.00	887.36	-0.18	1		6.2' LT LNB		
TOTAL									9				

CONCRETE CURB AND GUTTER, CONCRETE MEDIAN								N
STATION		LOCATION	CONCRETE CURB & GUTTER DESIGN B-424	CONCRETE CURB & GUTTER DESIGN B-418 (MOD)	4" [3] CONCRETE WALK SQ FT	4" [6] CONCRETE WALK SPECIAL 1 SQ FT	4" [10] CONCRETE WALK SPECIAL 2 SQ FT	[2], [8] SQ FT
BEGIN	END							
118+88	118+45	25' - 54' RT LNB	94					
119+07	125+61	54' - 53' RT LNB	702					
125+92	127+65	54' - 61' RT LNB	214					
127+94	131+22	61' - 124' RT LNB	441					
131+52	134+49	124' - 68' RT LNB	403					
134+79	139+34	67' - 64' RT LNB	518					
139+64	144+00	64' - 62' RT LNB	491					
144+31	148+53	61' - 28' RT LNB	473					
124+54	127+60	103' - 32' LT LSB	477					
128+05	131+03	33' - 75' LT LSB	351					
131+44	136+36	76' - 49' LT LSB	562					
136+74	140+47	49' - 39' LT LSB	448					
140+94	144+02	55' - 55' LT LSB	343					
144+26	147+47	55' - 20' LT LSB	340					
117+88	130+78	14' - 25' LT LNB		1295				
131+77	149+29	14' - 25' LT LNB		1758				
117+50	130+78	14' - 25' RT LSB		1302				
131+80	149+30	14' - 25' RT LSB		1750				
123+25	123+84	24' - 62' LT LSB		108				
123+49	123+86	28' - 27' LT LSB			701			
124+87	127+67	31' - 28' LT LSB			2104			
128+05	130+94	28' - 28' LT LSB			2137			
131+54	136+42	33' - 29' LT LSB			2423			
136+69	140+63	29' - 29' LT LSB			1963			
141+02	143+93	34' - 34' LT LSB			1428			
144+35	146+06	35' - 38' LT LSB			843			
117+89	126+64	14' - 29' LT LNB				3500 [7]		
117+89	126+64	14' - 29' LT LNB					514.26 [11]	
126+64	130+78	14' - 29' LT LNB					1701	
131+80	149+30	14' - 29' LT LNB					22279	
130+80		25' LT LNB			14 [3]			
131+77		14' LT LNB			14 [3]			
142+12	142+38	66' LT LNB						30
149+33		25' LT LNB			20 [3]			
TOTAL			5857	6213	10946	28181	514	30

CONSTRUCT BITUMINOUS PATH					L
STATION		LOCATION	DESCRIPTION	SQ YD [1]	
START	END				
119+00	125+54	EAST SIDE	K MART TO GAS PLUS	608	
126+03	127+49	EAST SIDE	GAS PLUS	140	
127+99	131+12	EAST SIDE	90TH LANE TO 91ST AVE	315	
131+70	134+41	EAST SIDE	91ST AVE TO 91ST LN	287	
134+85	139+26	EAST SIDE	91ST LN TO 92ND AVE	521	
139+69	143+91	EAST SIDE	92ND AVE TO 92ND LN	462	
144+36	145+44	EAST SIDE	92ND LN NORTH	92	
TOTAL				2425	

RELOCATE MAIL BOX SUPPORT				K
STATION	LOCATION	ADDRESS	RELOCATE MAILBOX SUPPORT	REMARKS
			EACH	
129+70	12' RT LNB	#9075	1	
131+30	100' RT LNB	#19 91ST AVE	1	
131+30	100' RT LNB	#34 91ST AVE	1	
137+05	15' RT LNB	#9107	1	
139+20	65' RT LNB	#10 92ND AVE	1	
139+20	65' RT LNB	#11 92ND AVE	1	
141+65	7' RT LNB	#9203	1	
144+25	67' RT LNB	#10 92ND LANE	1	
144+25	67' RT LNB	#11 92ND LANE	1	
TOTAL			9	

MILL BIT. SURFACE (1.5")				O
STATION	LOCATION	DESCRIPTION	MILL BIT SURFACE SQ YD	
CSAH 51 - LNB				
117+39 TO 117+89	12' LT TO 24' RT	SEE REM PLAN	200	
146+65 TO 149+32	12' LT TO 55' RT	SEE REM PLAN	1510	
CSAH 51 - LSB				
117+39 TO 117+89	20' LT TO 12' RT	SEE REM PLAN	181	
147+47 TO 149+30	20' LT TO 17' RT	SEE REM PLAN	690	
TOTAL			2581	

NOTES:

- [1] 2" BITUMINOUS PATH TYPE LV 4 WEARING COURSE MIXTURE (B). 4" AGGREGATE BASE SHALL BE INCIDENTAL TO BITUMINOUS PATH.
 - [2] SEE CONCRETE WALK LOCATION ON INTERSECTION DETAIL SHEET 50
 - [3] QUANTITY FOR 4" CONCRETE APPROACH NOSES ON MEDIANS (SEE STD PLATE 7113)
 - [4] DEPTH OF EXISTING CONCRETE WALK IS ESTIMATED TO BE 4" TO 6" (FOR INFORMATION ONLY)
 - [6] QUANTITY FOR MEDIAN CONSTRUCTION PAID FOR AS ITEM NUMBER 2521.501 - 4" CONCRETE WALK SPECIAL 1
 - [7] QUANTITY FOR 2" CONCRETE MAINTENANCE STRIP. SEE LANDSCAPE PLAN PAGE 132 - 133
 - [8] QUANTITY FOR 8" CONCRETE COMMERCIAL ENTRANCE (9240 UNIVERSITY AVENUE)
 - [9] SEE MISCELLANEOUS DETAILS SHEET 26 FOR CONCRETE CURB MODIFICATION DETAIL
- [10] QUANTITY FOR GEOMETRIC SHAPES ALONG 2' MAINTENANCE STRIP TO BE PAID FOR AS ITEM NUMBER 2521.501 - 4" CONCRETE WALK SPECIAL 2. SEE LANDSCAPE PLAN PAGE 132 - 133
- [11] QUANTITY FOR GEOMETRIC SHAPES ALONG 2' MAINTENANCE STRIP BASED ON (INDIVIDUAL AREA OF SHAPE) X (NUMBER OF SHAPES) = (57.14 SF) X (9) = 514.26 SF

NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN
 REVISION: 04/23/2008
 8:05:18 AM

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

PRINT NAME: CURT A. KOBIARCSIK
 SIGNATURE: *Curt A. Kobiarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JED DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

C.S.A.H. 51
 TAB SHEETS

AGGREGATE SUMMARY		CC
STATION	AVERAGE	AGGREGATE BASE (SPEC 2211)
		CLASS 5
		CY
122+50.00		
123+00.00	50.00	104
123+24.19	24.19	78
123+50.00	25.81	36
124+00.00	50.00	68
124+50.00	50.00	67
125+00.00	50.00	67
125+33.97	33.97	68
125+75.00	41.03	68
126+00.00	25.00	68
126+25.00	25.00	68
126+50.00	25.00	34
126+75.00	25.00	42
127+00.00	25.00	83
127+25.00	25.00	75
127+50.00	25.00	77
127+61.00	11.00	53
127+80.00	19.00	65
127+86.00	6.00	37
128+25.00	39.00	33
128+50.00	25.00	33
128+75.00	25.00	33
129+00.00	25.00	34
129+25.00	25.00	35
129+50.00	25.00	28
129+75.00	25.00	9
130+00.00	25.00	28
130+25.00	25.00	13
130+50.00	25.00	71
130+75.00	25.00	38
131+24.00	49.00	39
131+40.00	16.00	39
132+00.00	60.00	39
132+50.00	50.00	40
133+00.00	50.00	40
133+50.00	50.00	40
134+00.00	50.00	42
134+18.76	18.76	42
134+63.00	44.24	41
135+08.81	45.81	80
135+50.00	41.19	27
136+00.00	50.00	102
136+55.00	55.00	85
SUBTOTAL (A)		2170

AGGREGATE SUMMARY		CC
STATION	AVERAGE	AGGREGATE BASE (SPEC 2211)
		CLASS 5
		CY
133+00.00	50.00	85
133+50.00	50.00	85
134+00.00	50.00	85
134+18.76	18.76	32
134+63.00	44.24	82
135+08.81	45.81	79
135+50.00	41.19	57
136+00.00	50.00	66
136+55.00	55.00	72
137+00.00	45.00	62
137+50.00	50.00	72
138+00.00	50.00	72
138+50.00	50.00	72
139+00.00	50.00	72
139+47.00	47.00	65
139+71.00	24.00	34
140+00.00	29.00	40
140+25.00	25.00	33
140+75.00	50.00	66
141+30.00	55.00	76
141+50.00	20.00	29
142+00.00	50.00	73
142+50.00	50.00	74
143+00.00	50.00	74
143+50.00	50.00	74
143+69.75	19.75	29
144+14.00	44.25	71
144+55.08	41.08	64
145+00.00	44.92	64
145+50.00	50.00	74
146+00.00	50.00	78
146+50.00	50.00	84
147+00.00	50.00	63
147+50.00	50.00	25
148+00.00	50.00	10
148+50.00	50.00	11
148+65.72	15.72	3
SUBTOTAL (B)		2212

AGGREGATE SUMMARY		CC
STATION	AVERAGE	AGGREGATE BASE (SPEC 2211)
		CLASS 5
		CY
91ST AVE E		
10+40		
10+60	20	18
10+80	20	16
11+00	20	15
11+20	20	13
SUBTOTAL (C)		62
COON RAPIDS BLVD		
101+40		
101+60	20	11
101+80	20	12
102+00	20	17
102+20	20	28
SUBTOTAL (D)		68
91ST AVE. WEST		50
91ST LN NE		32
92ND AVE NE		29
92ND LANE NE		29
90TH LN NE		32
SHOULDERING		50
SUBTOTAL (E)		222
9075 UNIVERSITY AVE (F)		21
GRAND TOTAL (A+B+C+D+E+F)		4754

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:30 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-3-08
DESIGN BY: JEO DATE: 3-3-08
CHECKED BY: CAK DATE: 3-3-08



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

TURF ESTABLISHMENT AND EROSION CONTROL								Q
LOCATION		SILT FENCE [1]	SEEDING	SEED MIXTURE 310	COMM. FERT. ANALYSIS 22-5-10	INLET PROTECTION	EROSION CONTROL BLANKET (CAT. 3)	SODDING SALT RESISTANT
STATION	OFFSET LNB	LIN FT	ACRE	LB	LB	TYPE C	SQ YD	SQ YD
117+65 - 118+56	RT	26 - 38	50					130
118+94 - 126+14	RT	32 - 29	417			11		986
127+14 - 131+22	RT	41 - 124	398			4		434
131+56 - 134+49	RT	124 - 79	212			9		326
134+90 - 139+34	RT	79 - 50				4		563
139+65 - 143+99	RT	46 - 48				4		492
144+32 - 146+66	RT	47 - 28				9		157
RT LNB SUB-TOTAL		1,077	0.00	0	0.00	41	0	3,088
115+52 - 124+47	LT	132 - 184	1546	1.90	155	655.00	4	8,968
124+23 - 127+66	LT	91 - 71	167				4	538
128+04 - 131+01	LT	76 - 81	254				1	313
131+41 - 136+42	LT	91 - 78	515				7	807
136+68 - 140+64	LT	78 - 72	297				2	557
140+94 - 144+00	LT	94 - 104	133				5	308
144+23 - 149+35	LT	104 - 76	80				8	499
LT LSB SUB-TOTAL		2,992	1.90	155	655.00	27.00	8,968	3,022
PROJECT TOTAL		4,069	1.9	155	655.00	68	8,968	6,110

BITUMINOUS SUMMARY [7]							S
ROADWAY	LOCATION	AREA	[2]	[3]	[4]	[8], [9]	[5]
		SY	TYPE SP 12.5 WEAR (3,E) TON	TYPE SP 12.5 NON - WEAR (3,B) TON	BIT. TACK COAT GAL	TYPE LV4 WEAR SY	TYPE LV BIT MIXTURE FOR PATCHING TON
S.P. 02-651-06							
K MART	RIGHT					168	
DC MUSIC	RIGHT					129	
90TH LN NE	RIGHT	185	43	21	9		
91ST AVE NE	RIGHT	444	102	51	44		
91ST AVE NW	LEFT	273	63	31	27		
C R BLVD	LEFT	565	130	65	57		
COMFORT INN	LEFT					154	
91ST LN NE	RIGHT	185	43	21	18		
EZ STORAGE	LEFT					94	
92ND AVE	RIGHT	170	39	20	17		
WOODLAND S	LEFT					166	
WOODLAND N	LEFT					120	
92ND LN NE	RIGHT	167	38	19	17		
10 92ND AVE	RIGHT					20	
11 92ND AVE	RIGHT					28	
10 92ND LN	RIGHT					23	
11 92ND LN	RIGHT					24	
MAIN 117+88 - 130+00	L AND R	9201	2116	1058	920		
MAIN 130+00 - 140+00	L AND R	8116	1867	933	812		
MAIN 140+00 - 149+30	L AND R	5487	1262	631	549		
MEDIAN PATCHING	117+89	57					7
MEDIAN PATCHING	119+28	283					33
MEDIAN PATCHING	124+25	51					6
MEDIAN PATCHING	144+76	777					89
PROJECT TOTALS		24792	5702	2851	2470	927	134

TRUNCATED DOMES			T
STATION	OFFSET NB	DESCRIPTION	SQ FT [6]
127+36.55	23.79	90TH LN S	8
128+06.32	27.16	90TH LN N	8
131+00.67	28.66	91ST AVE NE (S)	8
131+79.96	29.79	91ST AVE NE (N)	8
130+82.53	-65.93	91ST AVE NW (S)	8
131+63.74	-71.61	91ST AVE NW (N)	8
134+30.95	29.33	92ND LN NE (S)	8
134+90.75	27.98	92ND LN NE (N)	8
139+17.83	29.32	92ND AVE NE (S)	8
139+76.23	27.87	92ND AVE NE (N)	8
143+80.56	28.85	92ND LN NE (S)	8
144+42.60	27.23	92ND LN NE (N)	8
TOTAL			96

- NOTES:
- [1] SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ONE THIRD OF SILT FENCE HEIGHT (INCIDENTAL)
 - [2] WEAR COURSE QUANTITY FOR 2 - 2" LIFTS
 - [3] NON WEAR COURSE QUANTITY FOR 2" (ONE 2" LIFT)
 - [4] BIT TACK COAT QUANTITY BETWEEN LIFTS.
 - [5] QUANTITY FOR TEMPORARY PATCHING AFTER MEDIAN REMOVAL IN STAGE 1.
 - [6] FURNISH AND INSTALL TRUNCATED DOMES (PER STD. PLT. 7036)
 - [7] SEE TAB L FOR BITUMINOUS PATH SUMMARY
 - [8] DRIVEWAYS TO BE 2" THICK AND PLACED IN ONE LIFT
 - [9] 4" AGGREGATE BASE TO BE INCIDENTAL TO DRIVEWAY PAVING AND SHALL EXTEND 6" WIDER THAN TOP SURFACE ON BOTH SIDES OF DRIVEWAY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBILARCSIK SIGNATURE: <i>Curt A. Kobilarsik</i> DATE: 4-23-08 LICENSE NO. 24756				DRAWN BY: NJD DATE: 8-15-07 DESIGN BY: JED DATE: 8-15-07 CHECKED BY: CAK DATE: 8-15-07	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. 02-651-06 STATE PROJECT NO. 106-020-27 STATE PROJECT NO. 114-020-23	C.S.A.H. 51 TAB SHEETS Sheet 16 of 159 Sheets
NO. DATE BY CKD APPR REVISION NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:27 PM							

SALVAGE SIGNS							W
STATION	LOCATION	ADDRESS / DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL	Sign No.	Notes
			EACH	SQ FT	EACH		
114+80	RT LSB		1			R3-X1	
115+80	LT LSB		1			R5-1	
116+10	LT LSB		1			R6-1R	
116+30	RT LSB		2			R1-1/R6-1	
117+10	LT LSB		1			X4-4	
117+10	RT LSB		1			R3-X1	
118+30	LT LSB		2			R4-7/R3-4	
118+30	LT LSB		1			W3-3	
118+80	LT LSB		1			R6-1R	
119+20	LT LSB		1			R4-7	
119+20	RT LSB		1			X4-4	
119+20	RT LSB		2			R1-1/R6-1	
119+65	RT LSB		2			W1-1R/W13-1	
119+55	LT LSB		1			W1-8	
120+05	LT LSB		1			R2-1	
120+80	LT LSB		1			W1-8	
120+80	RT LSB		1			R8-3a	
121+80	LT LSB		1			W1-8	
121+80	RT LSB		1			Adopt	
122+30	LT LSB		1			R3-X2	
123+30	LT LSB		2			W1-6L/W13-1	
123+30	LT LSB		1			R4-7	
123+50	LT LSB	Coon Rapids Blvd			1	Street Sign	1
123+50	LT LSB	Coon Rapids Blvd	2			R1-1/R6-1	
123+50	LT LSB	Coon Rapids Blvd				Delineator	
123+65	RT LSB		1			R6-1R	
123+95	LT LSB		1			R4-7	
124+00	LT LSB		1			W12-1	
124+00	LT LSB		1			R4-7	
124+05	LT LSB		1			R5-1	
124+30	RT LSB		1			W6-2	
125+00	LT LSB		1			R4-7	
126+40	RT LSB		2			R1-1/R6-1	
126+50	RT LSB		1			R2-1	
SUBTOTAL (A)			39	0	1		

SALVAGE SIGNS							W
STATION	LOCATION	ADDRESS / DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL	Sign No.	Notes
			EACH	SQ FT	EACH		
127+60	LT LSB		1			R5-1	
128+00	RT LSB	90th Ln			1	Street Sign	1
128+00	RT LSB	90th Ln	1			R1-1	
128+00	RT LSB	90th Ln				Delineator	
128+10	RT LSB		1			X4-4	
130+60	LT LSB		2			W1-1L/W13-1	
131+00	LT LSB	91st Ave			1	Street Sign	1
131+80	RT LSB	91st Av			1	Street Sign	1
132+90	RT LSB		2			R8-3a/Bus Stop	
133+65	RT LSB		1			R8-3a	
134+40	LT LSB		1			W6-1	
134+91	RT LSB	91st Ln			1	Street Sign	1
134+91	RT LSB	91st Ln	1			R1-1	
134+91	RT LSB	91st Ln				Delineator	
135+55	RT LSB		1			Bus Stop	
136+40	LT LSB	Self Storage	1			R1-1	
136+40	LT LSB	Self Storage				Delineator	
138+50	LT LSB		2			R2-1/R2-1	
138+50	RT LSB		1			R2-1	
139+05	RT LSB		1			Bus Stop	
139+55	RT LSB	92nd Av			1	Street Sign	1
139+80	RT LSB	92nd Av	1			R1-1	
139+80	RT LSB	92nd Av				Delineator	
139+95	RT LSB		1			W6-2	
140+45	LT LSB	Apartment	1			R1-1	
140+45	LT LSB	Apartment				Delineator	
141+90	RT LSB			39		Route Markers	
141+90	RT LSB		1			W6-3	
142+30	RT LSB		1			X4-5	
143+95	LT LSB	Apartment	1			R1-1	
143+95	LT LSB	Apartment				Delineator	
144+25	RT LSB	92nd Ln			1	Street Sign	1
144+55	RT LSB	92nd Ln	2			R1-1/R6-1R	
144+55	RT LSB	92nd Ln				Delineator	
145+00	LT LSB		1			R4-7	
145+00	LT LSB		1			R5-1	
145+30	LT LSB		1			R3-X2	
145+55	LT LSB		1			R2-1	
146+55	LT LSB		1			R3-X1	
147+00	RT LSB		1			R3-X1	
147+55	LT LSB		1			W6-1	
148+55	LT LSB		1			R5-1	
149+15	LT LSB		1			R4-7	
SUBTOTAL (B)			33	39	6		
TOTAL (A+B)			72	39	7		

REMOVE BITUMINOUS WALK				V
STATION	LOCATION	DESCRIPTION	SQ FT	
START	END		[2]	
124+32.18		-82.49	COON RAPIDS BLVD PATCH	58
125+42.08	125+91.21	12.05 TO 18.20	DC MUSIC PATCH	525
131+01.11		-48.50	COMFORT INN LANDING	113
131+53.70		-42.55	NORTHTOWN HOMES LANDING	138
138+31.59	139+27.20	-52.44 TO -103.23	WALK BEHIND WALL WOODLAND	604
144+30.01	146+04.11	-66.69 TO -85.77	WOODLAND HOMES 2 NW	993
144+45.29	145+43.60	25.83 TO 23.69	NORTH WEST END	799
TOTAL			3230	

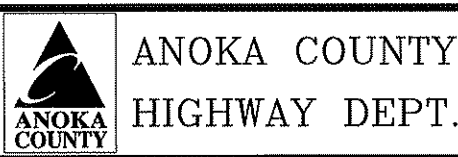
GENERAL NOTES:
SALVAGED SIGNS SHALL BE HAULED TO COUNTY HIGHWAY DEPARTMENT OR AS DIRECTED BY ENGINEER.
CITY STREET SIGNS SHALL BE SALVAGED AND TEMPORARILY RELOCATED AS DIRECTED BY THE ENGINEER AS NEEDED FOR STAGED CONSTRUCTION. TEMPORARY RELOCATION SHALL BE INCIDENTAL TO SALVAGE SIGN TYPE SPECIAL.
FINAL PLACEMENT OF CITY STREET SIGN SHALL BE PAID FOR AS INSTALL SIGN TYPE SPECIAL.
NOTES:
[1] TO BE PAID FOR AS SIGN TYPE SPECIAL AND SHALL BE INSTALLED AS DIRECTED BY ENGINEER IN ACCORDANCE TO SPEC. 2564
[2] DEPTH OF BITUMINOUS WALK IS ESTIMATED TO BE 2" (FOR INFORMATION ONLY)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:28 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JED DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
TAB SHEETS
Sheet 17 of 159 Sheets

PRIVATE UTILITY OWNERS		DD
CITY OF COON RAPIDS 11155 ROBINSON DR NW COON RAPIDS, MN 55433 CONTACT DOUG VIERZBA CITY ENGINEER TEL: 763-767-6465	XCEL ENERGY CONTACT CATHY RONNING TEL 651-462-6201	
CITY OF BLAINE 10801 TOWN SQUARE DRIVE NE BLAINE, MN 55449 CONTACT JEAN KEELY CITY ENGINEER 763-785-6171	CENTERPOINT ENERGY 700 WEST LINDEN AVE P.O. BOX 1165 MINNAPOLIS, MN 55440-1165 CONTACT STEVE GUHANICK TEL 612-321-5426	
CONNEXUS ENERGY 14601 RAMSEY BLVD RAMSEY, MN 55303 CONTACT BARB CARLSON TEL. 763-323-2693	QWEST 425 MONROE ANOKA, MN 55303 CONTACT BILL BYERS TEL. 763-712-5002	
COMCAST CABLE 3050 ECHO LAKE AVE MAHTOMEDI, MN 55115 CONTACT DOUG ZAHN TEL 651-493-5316	NORTHERN NATURAL GAS 6579 420TH ST HARRIS, MN 55032 CONTACT MARK PETERSON TEL. 612-270-8509	

OVERHEAD POWER - CONNEXUS ENERGY					GG
STATION	OFFSET	INPLACE ITEM	NOTES		
124+33	21	RT LNB	POWER POLE	3	
124+39	1	RT LSB	POWER POLE	3	
124+33	55	LT LSB	POWER POLE	3	
125+94	19	RT LNB	POWER POLE	3	
125+94	1	LT LSB	POWER POLE	3	
128+02	21	RT LSB	POWER POLE	3	
129+50	22	RT LSB	POWER POLE	3	
131+57	22	RT LSB	POWER POLE	3	
132+92	6	RT LSB	POWER POLE	3	
134+28	21	RT LNB	POWER POLE	3	
135+80	20	LT LSB	POWER POLE	3	
135+75	53	RT LNB	POWER POLE	3	
135+82	22	RT LNB	POWER POLE	3	
139+15	22	RT LNB	POWER POLE	3	
140+59	21	RT LNB	POWER POLE	3	
142+15	23	RT LNB	POWER POLE	3	
142+79	23	RT LNB	POWER POLE	3	
143+79	28	RT LNB	POWER POLE	3	
144+90	36	RT LNB	POWER POLE	3	
146+02	41	LT LSB	POWER POLE	3	
146+08	39	RT LNB	POWER POLE	3	
146+08	57	RT LNB	POWER POLE	3	
146+89	47	RT LNB	POWER POLE	3	

TELEPHONE - QWEST					HH
STATION		OFFSET FROM LNB	INPLACE ITEM	NOTES	REMARKS
BEGIN	END				
120+67		27 RT	MANHOLE TELEPHONE	2	
120+67	124+41	27 RT - 66 LT	4 FIBER OPTIC CABLES	2	IN 4 DUCTS
124+41		66 LT	MANHOLE TELEPHONE	2	
124+41	127+75	66 LT - 726 LT	2 FIBER OPTIC CABLES	2	IN 2 DUCTS
127+75		726 LT	MANHOLE TELEPHONE	2	
124+41	128+06	66 LT - 34 LT	BURIED CABLE	3	2 900 PAIR
128+06	135+59	34 LT - 43 LT	BURIED CABLE	3	2 900 PAIR
135+59	139+29	43 LT 44 LT	BURIED CABLE	3	2 900 PAIR
139+29	141+08	44 LT 43 LT	BURIED CABLE	3	2 900 PAIR
141+08	141+57	43LT - 50 LT	BURIED CABLE	3	2 900 PAIR
141+57	143+88	50 LT - 64 LT	BURIED CABLE	3	2 900 PAIR
143+88	144+66	64 LT - 87' LT	BURIED CABLE	3	2 900 PAIR
144+66	152+33	86' LT - 94' LT	BURIED CABLE	3	3 900 PAIR
152+33	156+84	94 LT - 94 LT	BURIED CABLE	3	3 900 PAIR

CABLE TV - COMCAST				II
STATION	OFFSET FROM LNB	INPLACE ITEM	NOTES	
124+45	8' RT	27 RT	AERIAL	3
124+45	8' RT	100' RT	BURIED	3
125+93	27 RT	28 RT	AERIAL	3
128+09	28' RT	28' RT	AERIAL	3
131+03	28' RT	23' RT	AERIAL	3
131+03	23' RT	100' RT	BURIED	3
131+64	23' RT	22' RT	AERIAL	3
132+99	22' RT	23' RT	AERIAL	3
132+99	22' RT	100' LT	BURIED	3
134+34	22' RT	23' RT	AERIAL	3
135+88	23' RT	21' RT	AERIAL	3
138+01	21' RT	23' RT	AERIAL	3
139+20	23' RT	21' RT	AERIAL	3
140+65	21' RT	22' RT	AERIAL	3
140+65	21' RT	90' LT	BURIED	3
142+21	22' RT	23' RT	AERIAL	3
142+85	23' RT	23' RT	AERIAL	3
144+97	23' RT	37' RT	AERIAL	3
146+17	37' RT	39' RT	AERIAL	3
146+17	39' RT	39' RT	BURIED	3

GAS - NORTHERN NATURAL GAS					FF
STATION		OFFSET FROM LNB	NOTES	SIZE & ITEM	
BEGIN	END				
122+23	125+13	68 LT TO 0 LT	3	4" ST	
125+13	133+00	0 RT TO 15 LT	3	4" ST	
133+00	140+00	15 RT TO 28 RT	3	4" ST	
140+00	146+00	28 RT TO 25 RT	3	4" ST	

GAS - CENTER POINT ENERGY				EE
STATION		OFFSET FROM LNB	NOTES	SIZE & ITEM
BEGIN	END			
125+63	123+95	184 LT TO 49 LT	3	2" ST
123+95	128+57	92 LT TO 49 LT	3	2" ST
127+57	140+00	6 LT TO 83 RT	3	2" ST
140+00	146+00	28 RT TO 25 RT	3	4" ST
127+02	127+02	49 LT TO 197 LT	3	2" PE
127+45	127+45	49 LT TO 101 RT	3	2" PE
130+80	131+41	45 LT TO 45 LT	3	2" ST
127+58	127+58	50 LT TO 144 RT	3	2" ST
130+79	130+95	47 LT TO 44 RT	3	2" ST
130+79	130+46	47 LT TO 45 LT	3	2" ST
130+42	130+42	45 LT TO 213 LT	3	2" ST
130+98	131+00	19 RT TO 44 RT	3	2" ST
131+00	131+08	44 RT TO 44 RT	3	2" ST
131+08	131+08	38 RT TO 125 RT	3	2" ST
131+08	134+89	38 RT TO 32 RT	3	2" ST
134+89	134+89	32 RT TO 133 RT	3	2" ST
133+90	134+78	60 RT TO 60 RT	3	2" ST
134+78	136+49	20 RT TO 14 RT	3	2" ST
136+49	136+49	14 RT TO 138 LT	3	2" ST
136+49	137+08	14 RT TO 14 RT	3	2" ST
137+08	137+08	14 RT TO 138 RT	3	2" ST
137+08	139+64	14 RT TO 12 RT	3	2" ST
139+64	139+64	12 RT TO 137 RT	3	2" ST
139+64	142+92	12 RT TO 12 RT	3	2" ST
142+92	142+92	12 RT TO 36 RT	3	2" ST
142+92	143+81	36 RT TO 37 RT	3	2" ST
143+81	143+81	36 RT TO 46 RT	3	2" ST
143+81	144+33	46 RT TO 46 RT	3	2" ST
142+92	144+33	12 RT TO 12 RT	3	2" ST
144+33	144+33	12 RT TO 46 RT	3	2" ST
144+33	147+80	12 RT TO 58 RT	3	2" ST
147+80	147+80	58 RT TO 47 LT	3	2" ST
147+80	147+74	47 LT TO 47 LT	3	2" ST
147+74	147+74	16 LT TO 200 LT	3	2" ST
147+74	152+96	16 LT TO 16 LT	3	2" ST

GENERAL NOTES:

THE "LEAVE AS IS", "ADJUST", AND "RELOCATE" NOTES ARE BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATION WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DOEN BY OTHERS UNLESS NOTED.

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

- [1] LEAVE AS IS
- [2] ADJUST
- [3] RELOCATE
- [4] LEAVE IN PLACE / OUT OF SERVICE

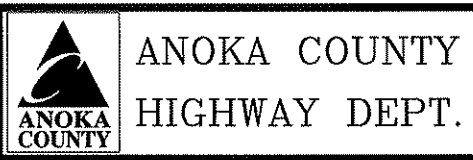
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_GEN_TAB.DGN 04/22/2008 2:40:29 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JEO DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
TAB SHEETS
Sheet 18 of 159 Sheets

WATER & SEWER (CITY OF BLAINE)			JJ
STATION	LOCATION	ITEM	NOTES
121+85	RT	HYDRANT	REMOVE & SALVAGE EXISTING HYDRANT
121+85	RT	HYDRANT	INSTALL NEW HYDRANT
122+15	RT	IRRIGATION SERVICE	INSTALL SERVICE
122+23	RT	12" GATE VALVE	INSTALL
126+70	RT	EXIST. WATER SERVICE	INSTALL CASTING
128+28	RT	EXIST. SANITARY SERVICE	REPAIR SERVICE
129+08	RT	EXIST. WATER SERVICE	EXTEND SERVICE
130+11	RT	EXIST. WATER SERVICE	EXTEND SERVICE
130+48	RT	EXIST. SANITARY SERVICE	REPAIR SERVICE
131+57	RT	HYDRANT	REMOVE & SALVAGE EXISTING HYDRANT
131+57	RT	WET TAP	6"X6" WET TAP
131+73	RT	HYDRANT	INSTALL NEW HYDRANT
132+31	RT	EXIST. WATER SERVICE	REMOVE CURB BOX
135+35	RT	EXIST. WATER SERVICE	EXTEND SERVICE
136+80	RT	EXIST. SANITARY SERVICE	EXTEND SERVICE
136+90	RT	EXIST. WATER SERVICE	EXTEND SERVICE
137+20	RT	EXIST. WATER SERVICE	EXTEND SERVICE
137+40	RT	EXIST. WATER SERVICE	EXTEND SERVICE
138+10	RT	HYDRANT	REMOVE & SALVAGE EXISTING HYDRANT
139+25	RT	HYDRANT	INSTALL NEW HYDRANT
139+38	RT	WET TAP	6"X6" WET TAP
141+72	RT	EXIST. WATER SERVICE	EXTEND SERVICE
144+44	RT	VALVE BOX	REMOVE & REPLACE VALVE BOX
146+17	RT	EXIST. 10" WATER MAIN	RELOCATE 15LF

EXISTING GATE VALVES (CITY OF BLAINE)					KK
STATION	OFFSET			ADJUST	NOTES
	[10]			GATE VALVE EACH	
121+89	22	RT	LNB	1	GATE VALVE
131+58	21	RT	LNB	1	GATE VALVE
131+70	11	RT	LNB	1	GATE VALVE
134+42	26	RT	LNB	1	GATE VALVE
134+89	18	RT	LNB	1	GATE VALVE
139+39	39	RT	LNB	1	GATE VALVE
144+04	37	RT	LNB	1	GATE VALVE
144+43	9	RT	LNB		REMOVE AND REPLACE (SEE W&S - CITY OF BLAINE)
TOTALS:				7	

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ENGINEERING DEPARTMENT

9150 Central Ave., N.E. Blaine, Minnesota 55434

Phone (612) 784-6700

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.
Daniel S. Schlusener
 Daniel S. Schlusener
 Date 4-23-08 Reg. No. 26771

DATE

REVISION

PROJECT NO. 05-11

DESIGN BY: DSS

DRAWN BY: NJD

CHECKED BY: DSS

APPROVED BY: DSS

AS BUILT BY:

xxx

UNIVERSITY AVENUE
 CITY OF BLAINE UTILITY TAB

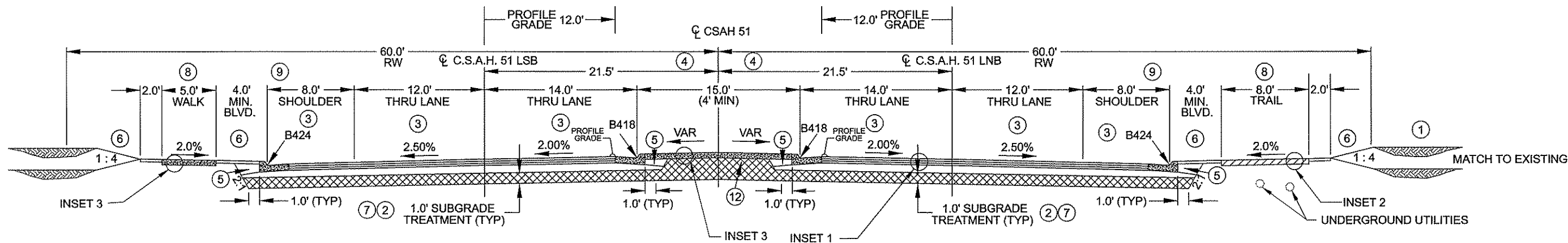
S.A.P. 106-020-27 SHEET NO. 19 OF 159 SHEETS

CSAH 51 (UNIVERSITY AVE)

STA 118+70.95 - STA. 123+62.44
 STA 125+33.97 - STA. 127+89.70
 STA 134+43.98 - STA. 136+93.81
 STA 139+06.45 - STA. 141+25.85

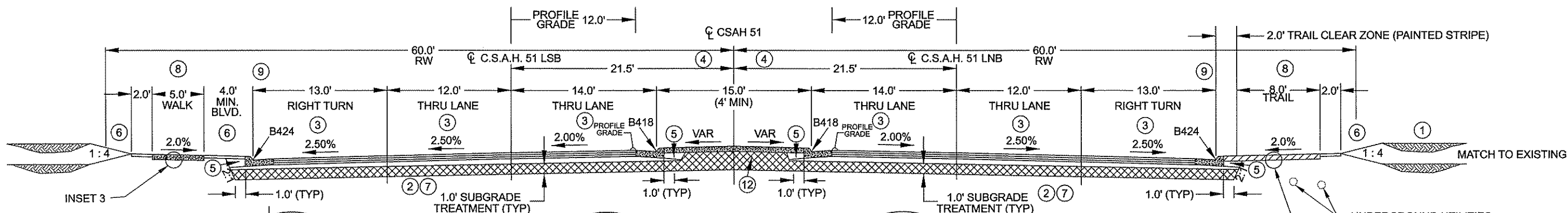
CONSTRUCTION NOTES

SEE LANDSCAPING PLAN SHEETS 132 - 133 FOR MEDIAN PLANTING BED DETAILS
 SEE MISCELLANEOUS DETAIL SHEET 26 FOR CONCRETE MAINTENANCE STRIP DETAILS

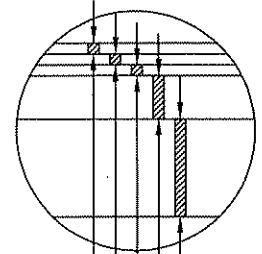


CSAH 51 (UNIVERSITY AVE)

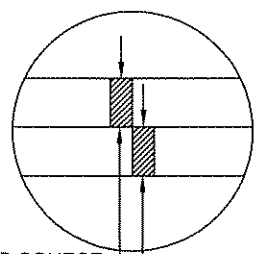
STA 124+44.82 - STA. 125+33.97
 STA. 141+25.85 - STA. 143.69.75



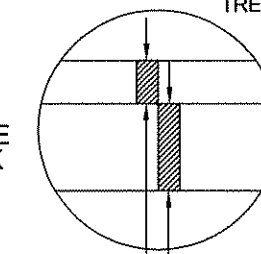
INSET 1
ROADWAY



INSET 2
BITUMINOUS TRAIL



INSET 3
CONCRETE SIDEWALK



2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) SPWEB340E

2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) SPWEB340E

2.0" TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B) SPNWB330B

6.0" CL 5 AGGREGATE BASE (SPEC 2211) (100% CRUSHED)

12" SUBGRADE TREATMENT (TYP)

2.0" TYPE LV4 WEARING COURSE MIXTURE MN/DOT SPEC. 2350 (LVWE45030B)

4" AGGREGATE BASE CL 5 INCIDENTAL TO LV4 WEARING COURSE (SPEC 2211) (100% CRUSHED)
 AGGREGATE SHALL EXTEND 6" ON EITHER SIDE OF SIDEWALK

4" CONCRETE
 4" AGGREGATE BASE CL 5 (INCIDENTAL TO 4" CONC. WALK) (SPEC 2211) (100% CRUSHED)

10 AGGREGATE SHOULDERING, CLASS 5 MNDOT SPEC. 2221

11 SEE PLAN SHEET 134 AND CROSS SECTION SHEETS 135 TO 140 FOR POND CONSTRUCTION

12 THERE WILL BE NO CLASS 5 AGGREGATE UNDERNEATH WIDE MEDIAN (SEE MISC. DETAILS)

GENERAL NOTES

- 1 SEE TURF ESTABLISHMENT PLAN
- 2 GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISHED GRADE UNLESS OTHERWISE SPECIFIED
- 3 ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.
- 4 SEE CONSTRUCTION PLANS AND STRIPING PLANS FOR LANE WIDTHS AND LOCATIONS.
- 5 BACKFILL WITH SUITABLE GRADING MATERIAL
- 6 4" TOPSOIL & SOD ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED
- 7 MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 1 FOOT, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
- 8 ROADWAY, CONCRETE WALK, AND BITUMINOUS PATH DESIGNS APPLICABLE TO ALL MAINLINE ROAD SURFACES.
- 9 CLEARANCE OF 1.5' FROM THE FACE OF THE CURB TO A FIXED OBJECT SHALL BE PROVIDED WHERE THE POSTED SPEED IS 45 M.P.H. CLEARANCE OF 2.0' FROM THE EDGE OF TRAIL SHALL BE PROVIDED FOR THE ENTIRE LENGTH OF THE PROJECT.

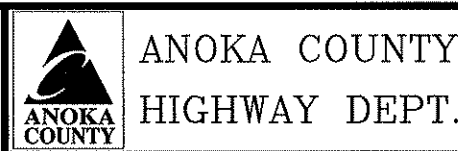
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TS.DGN
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-9-08
 DESIGN BY: JEO DATE: 3-3-08
 CHECKED BY: CAK DATE: 3-3-08



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

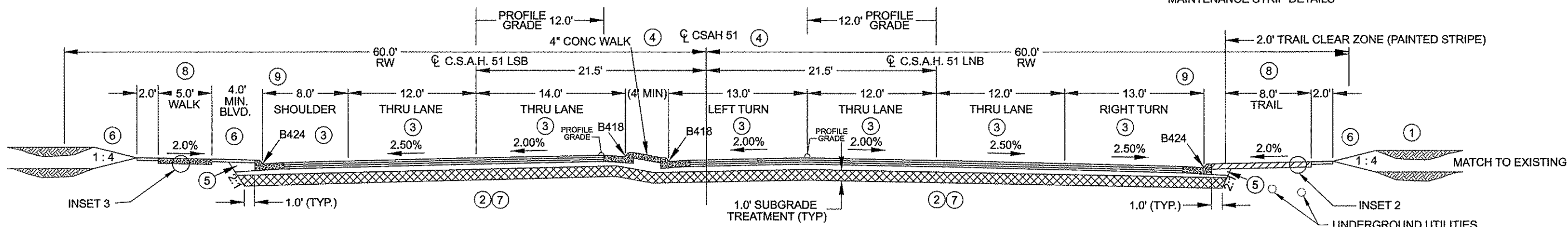
PROPOSED
 TYPICAL SECTIONS
 Sheet 20 of 159 Sheets

CSAH 51 (UNIVERSITY AVE) TURN LANES

STA 130+08.46 - STA. 131+30.59
STA 145+84.32 - STA. 149+30.49

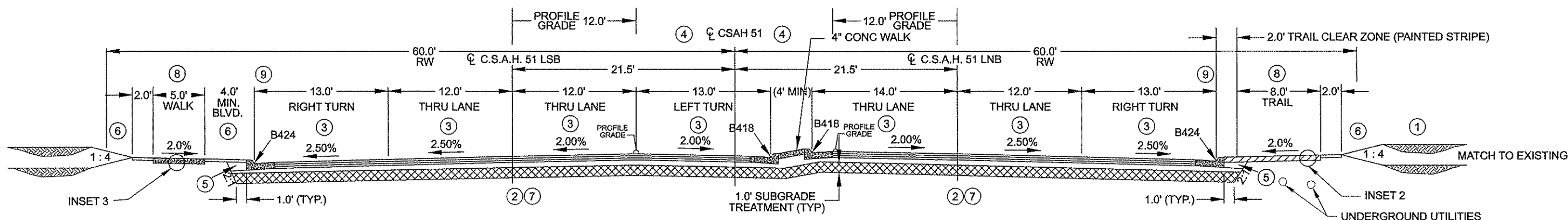
CONSTRUCTION NOTES

SEE LANDSCAPING PLAN SHEETS 132 - 133 FOR MEDIAN PLANTING BED DETAILS
SEE MISCELLANEOUS DETAIL SHEET 26 FOR CONCRETE MAINTENANCE STRIP DETAILS



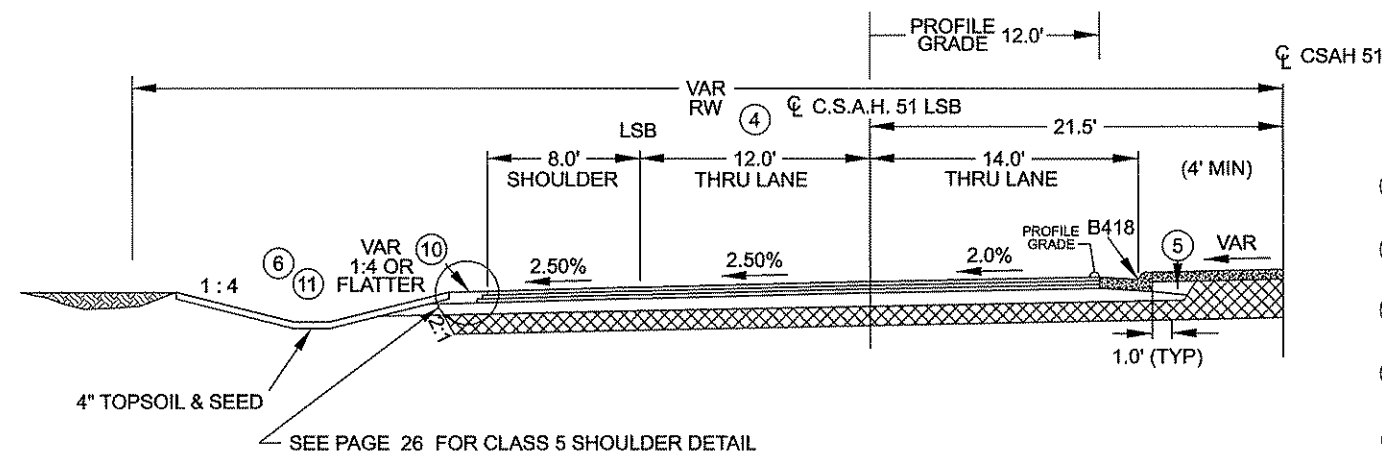
CSAH 51 (UNIVERSITY AVE) TURN LANES

STA 131+30.59 - STA. 134+43.98



CSAH 51 (UNIVERSITY AVE) PROPOSED POND SECTIONS

STA 117+88.93 TO STA 124+00 (SOUTH BOUND LANES)



GENERAL NOTES

- ① SEE TURF ESTABLISHMENT PLAN
- ② GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISHED GRADE UNLESS OTHERWISE SPECIFIED
- ③ ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.
- ④ SEE CONSTRUCTION PLANS AND STRIPING PLANS FOR LANE WIDTHS AND LOCATIONS.
- ⑤ BACKFILL WITH SUITABLE GRADING MATERIAL
- ⑥ 4" TOPSOIL & SOD ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED
- ⑦ MN/DOT SPEC 2112 MODIFIED TO A DEPTH OF 1 FOOT, PAID FOR AS "SUBGRADE EXCAVATION" (CUT SECTION ONLY). SEE PROFILES AND CROSS SECTIONS FOR LOCATIONS AND DEPTH OF SUBGRADE EXCAVATION REQUIRED.
- ⑧ ROADWAY, CONCRETE WALK, AND BITUMINOUS PATH DESIGNS APPLICABLE TO ALL MAINLINE ROAD SURFACES.
- ⑨ CLEARANCE OF 1.5' FROM THE FACE OF THE CURB TO A FIXED OBJECT SHALL BE PROVIDED WHERE THE POSTED SPEED IS 45 M.P.H. CLEARANCE OF 2.0' FROM THE EDGE OF TRAIL SHALL BE PROVIDED FOR THE ENTIRE LENGTH OF THE PROJECT.
- ⑩ AGGREGATE SHOULDERING, CLASS 5 MNDOT SPEC. 2221
- ⑪ SEE PLAN SHEET 134 AND CROSS SECTION SHEETS 135 TO 140 FOR POND CONSTRUCTION
- ⑫ THERE WILL BE NO CLASS 5 AGGREGATE UNDERNEATH WIDE MEDIAN (SEE MISC. DETAILS)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TS.DGN 04/23/2008 8:09:43 AM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarcsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-3-08
DESIGN BY: JEO DATE: 3-3-08
CHECKED BY: CRK DATE: 3-3-08



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

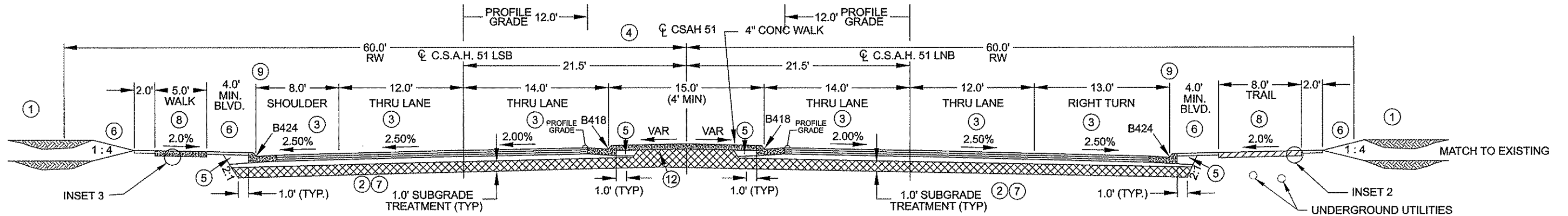
PROPOSED
TYPICAL SECTIONS

CSAH 51 (UNIVERSITY AVE) NB TURN LANE

STA. 117+88.93 - STA. 118.70.95
 STA. 123+62.44 - STA. 124+44.82
 STA. 136+93.81 - STA. 139+06.45

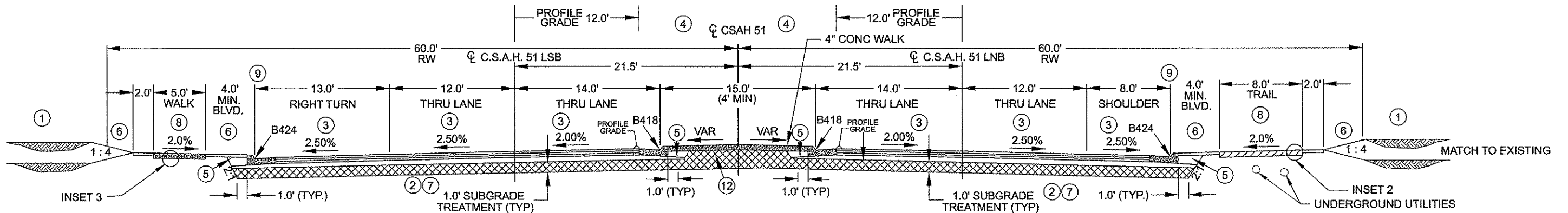
CONSTRUCTION NOTES

SEE LANDSCAPING PLAN SHEETS 132 - 133 FOR MEDIAN PLANTING BED DETAILS
 SEE MISCELLANEOUS DETAIL SHEET 26 FOR CONCRETE MAINTENANCE STRIP DETAILS



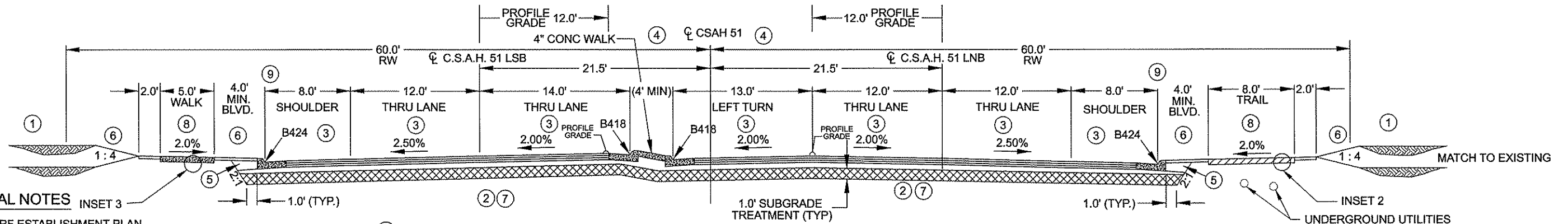
CSAH 51 (UNIVERSITY AVE) SB TURN LANE

TYPICAL SECTION
 STA. 143+69.75 - STA. 145+84.32



CSAH 51 (UNIVERSITY AVE) TURN LANES

STA. 127+89.70 - STA. 130+08.46



GENERAL NOTES

- ① SEE TURF ESTABLISHMENT PLAN
- ② GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISHED GRADE UNLESS OTHERWISE SPECIFIED
- ③ ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPE. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLAN.
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- ⑩ AGGREGATE SHOULDERING, CLASS 5 MNDOT SPEC. 2221
- ⑪ SEE PLAN SHEET 134 AND CROSS SECTION SHEETS 135 TO 140 FOR POND CONSTRUCTION
- ⑫ THERE WILL BE NO CLASS 5 AGGREGATE UNDERNEATH WIDE MEDIAN (SEE MISC. DETAILS)

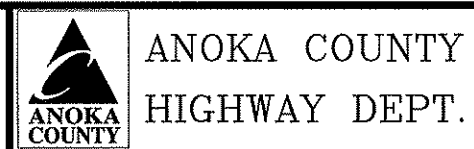
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106-TS.DGN 04/23/2008 8:10:03 AM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DESIGNED BY: NJD DATE: 3-3-08
 CHECKED BY: CAK DATE: 3-3-08



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

PROPOSED TYPICAL SECTIONS
 Sheet 22 of 159 Sheets

CSAH 51 (UNIVERSITY AVE)

EXPANSION LANE

SB STA. 121+28.14 TO SB STA. 124+56.34

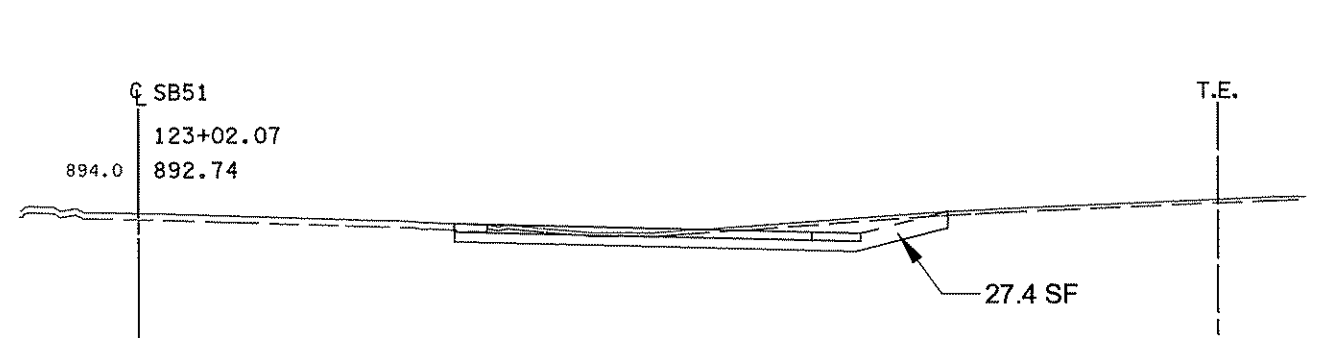
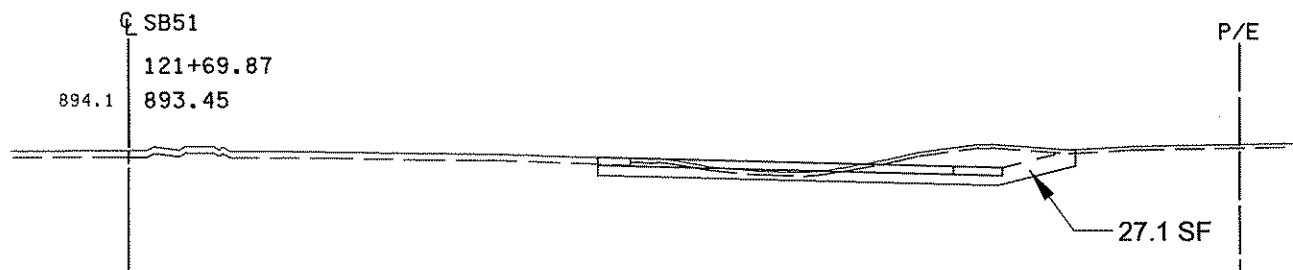
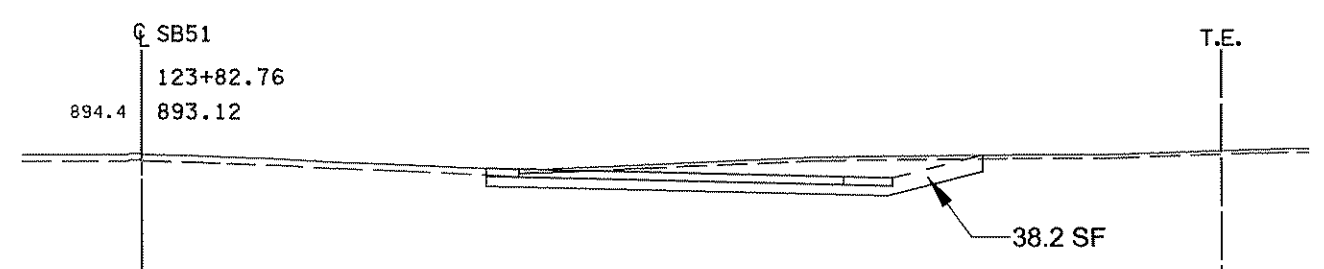
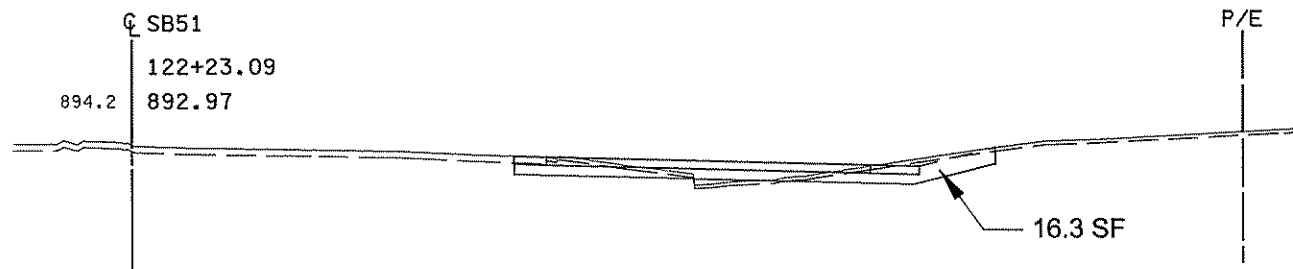
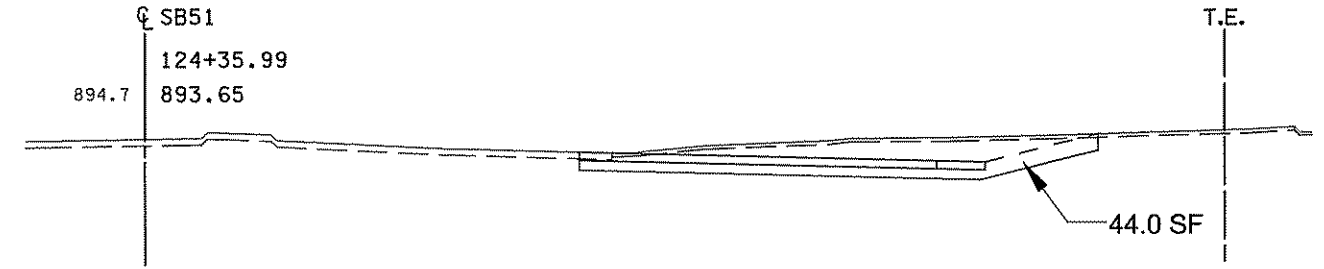
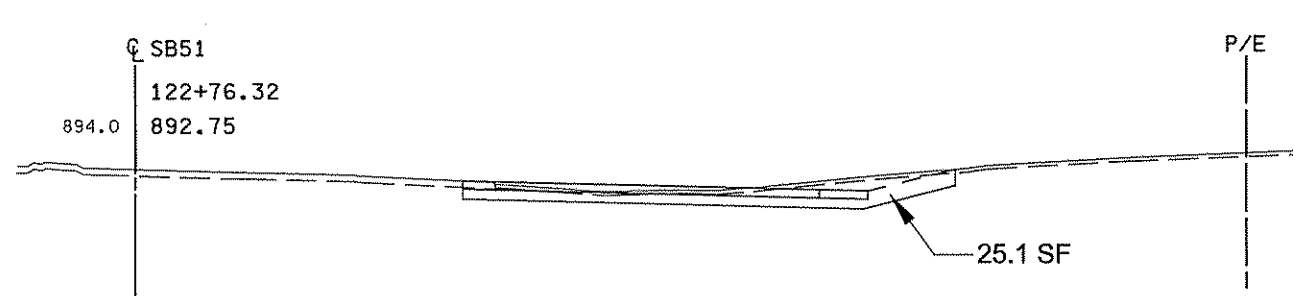
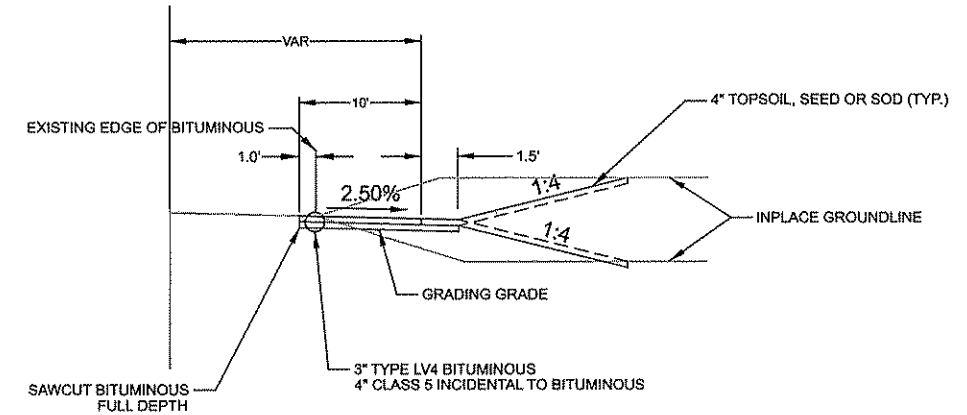
GENERAL NOTES:

CONSTRUCTION OF TEMPORARY EXPANSION LANE SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"

SEE PAGE 6K-XVII OF THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL - JANUARY 2007 FOR LONGITUDINAL DROP-OFF GUIDELINES

ESTIMATED EXCAVATION VOLUME OF 350 CY TO BE INCIDENTAL TO BITUMINOUS (FOR INFORMATION ONLY)

CL STRIPING ALIGNMENT



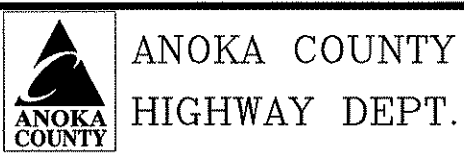
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TS.DGN 04/23/2008 8:37:20 AM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-25-08
 DESIGN BY: JED DATE: 3-25-08
 CHECKED BY: CAK DATE: 3-25-08

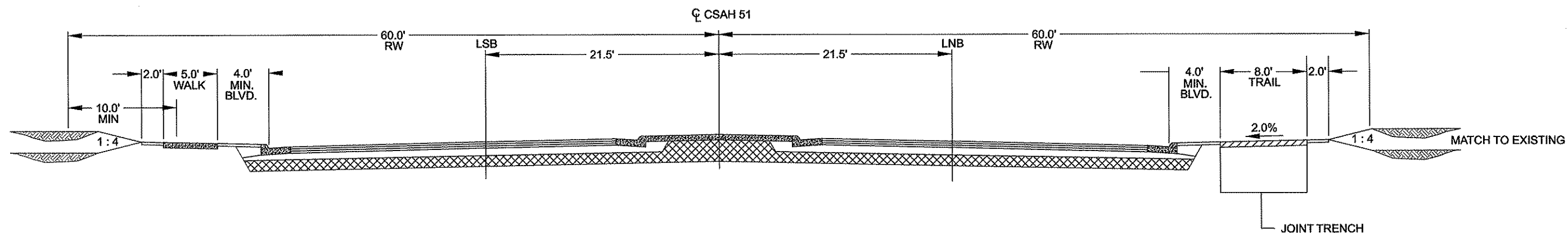


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

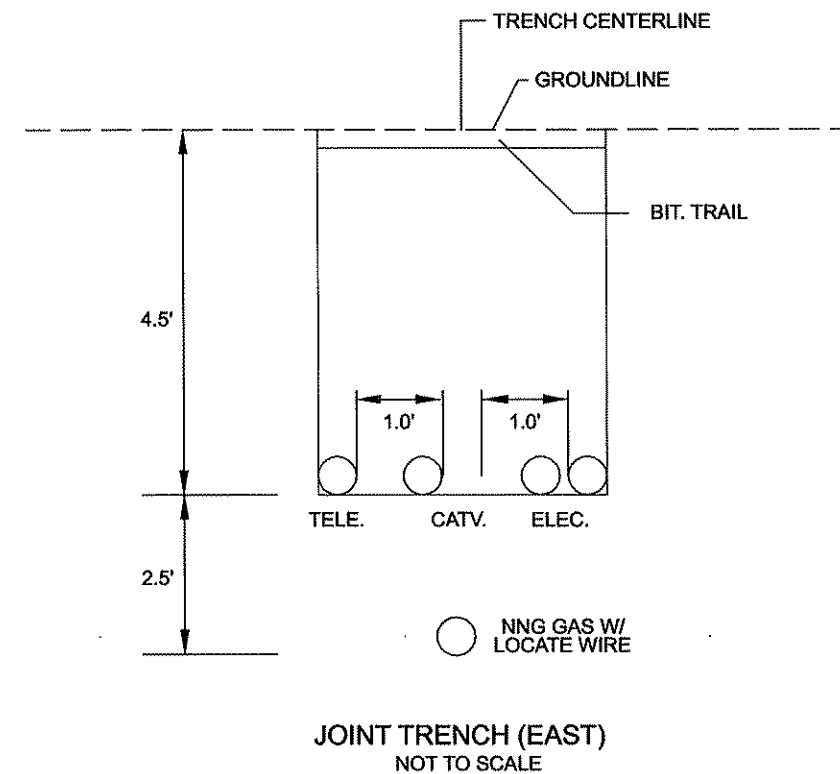
EXPANSION LANE DETAILS
 Sheet 23 of 159 Sheets

CSAH 51 (UNIVERSITY AVE)

JOINT TRENCH DETAIL



PRIVATE UTILITY OWNERS		DD
<p>CITY OF COON RAPIDS 11155 ROBINSON DR NW COON RAPIDS, MN 55433 CONTACT DOUG VIERZBA CITY ENGINEER TEL: 763-767-6465</p> <p>CITY OF BLAINE 10801 TOWN SQUARE DRIVE NE BLAINE, MN 55449 CONTACT JEAN KEELY CITY ENGINEER</p> <p>CONNEXUS ENERGY 14601 RAMSEY BLVD RAMSEY, MN 55303 CONTACT BARB CARLSON TEL: 763-323-2693</p> <p>COMCAST CABLE 3050 ECHO LAKE AVE MAHTOMEDI, MN 55115 CONTACT DOUG ZAHN TEL 651-493-5316</p>	<p>XCEL ENERGY CONTACT CATHY RONNING TEL 651-462-6201</p> <p>CENTERPOINT ENERGY 700 WEST LINDEN AVE P.O. BOX 1165 MINNAPOLIS, MN 55440-1165 CONTACT STEVE GUHANICK TEL 612-321-5426</p> <p>QWEST 425 MONROE ANOKA, MN 55303 CONTACT BILL BYERS TEL. 763-712-5002</p> <p>NORTHERN NATURAL GAS 6579 420TH ST HARRIS, MN 55032 CONTACT MARK PETERSON TEL. 612-270-8509</p>	



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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 10-11-07
DESIGN BY: JED DATE: 10-11-07
CHECKED BY: CAK DATE: 10-11-07

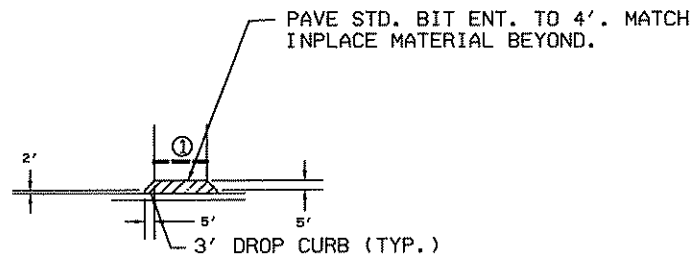


**ANOKA COUNTY
HIGHWAY DEPT.**

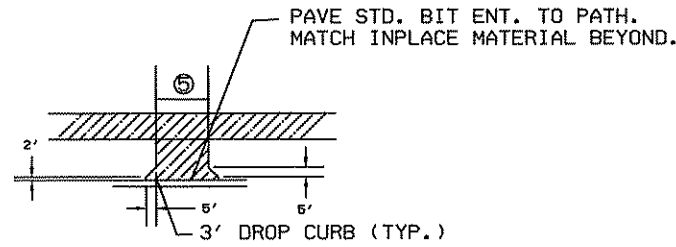
STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

JOINT TRENCH
DETAILS

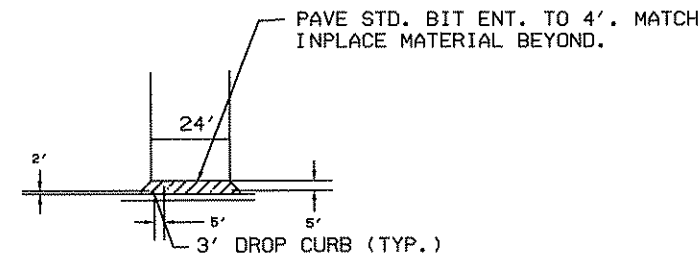
Sheet 24 of 159 Sheets



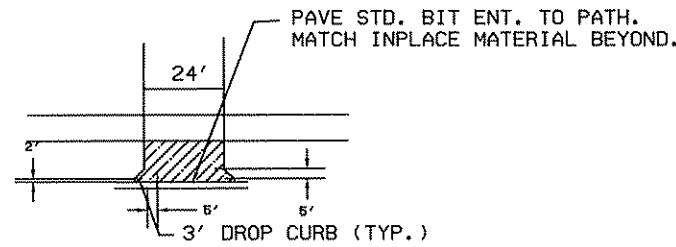
URBAN RESIDENTIAL ENTRANCE WITHOUT BITUMINOUS PATH



URBAN RESIDENTIAL ENTRANCE WITH BITUMINOUS PATH

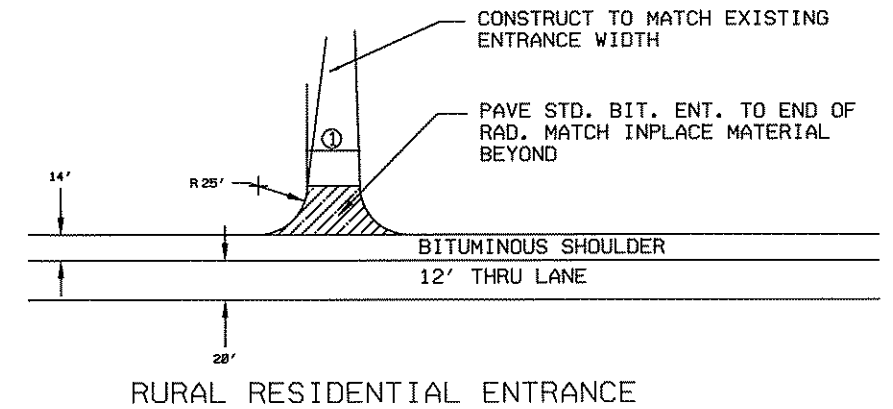


URBAN FIELD ENTRANCE WITHOUT BITUMINOUS PATH

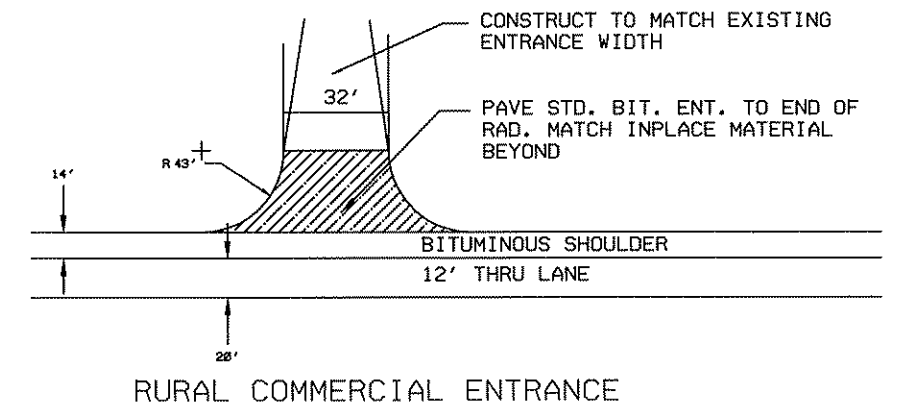


URBAN FIELD ENTRANCE WITH BITUMINOUS PATH

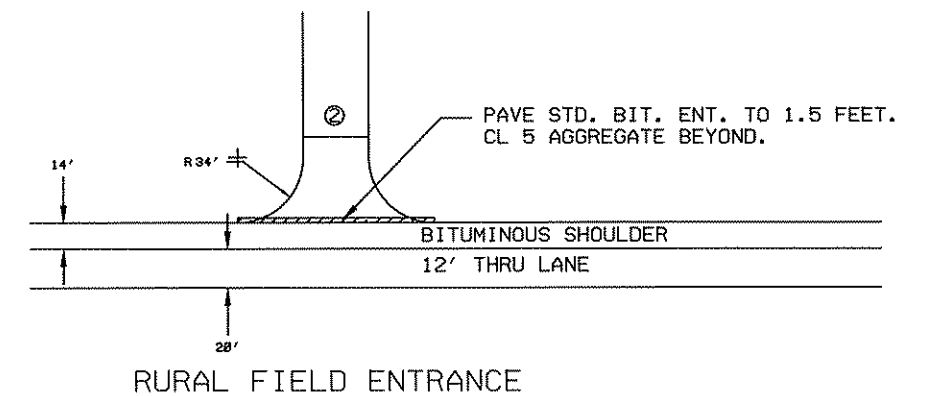
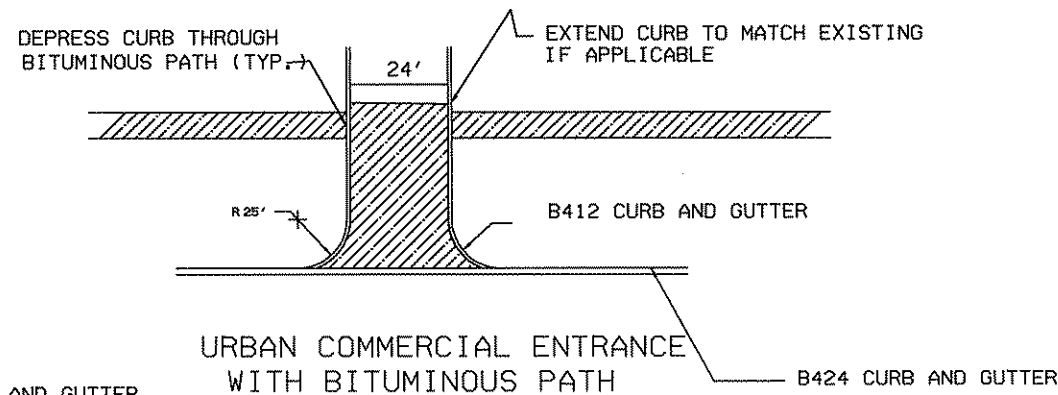
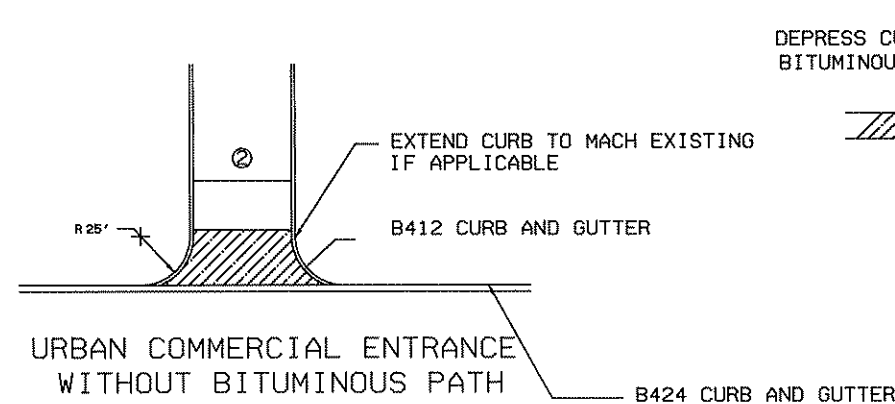
- 1) EXISTING WIDTH (16' MIN / 24' MAX) TO R/W LINE.
- 2) EXISTING WIDTH (32' MIN / 50' MAX) TO END OF RADII.
- 3) EXISTING WIDTH (20' MIN / 32' MAX).
- 4) FOR EXISTING CONCRETE DRIVEWAYS AND ENTRANCES. REPLACE IN KIND USING BITUMINOUS DRIVEWAY DIMENSIONS. FOR EXISTING CONCRETE APRONS, REPLACE IN KIND USING STANDARD PLATE 7035.
- 5) EXISTING WIDTH (16' MIN / 24' MAX) TO BACK OF PATH.



RURAL RESIDENTIAL ENTRANCE



RURAL COMMERCIAL ENTRANCE



RURAL FIELD ENTRANCE

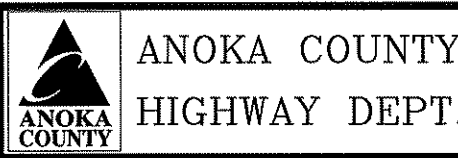
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_DT.DGN 04/22/2008 2:40:45 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

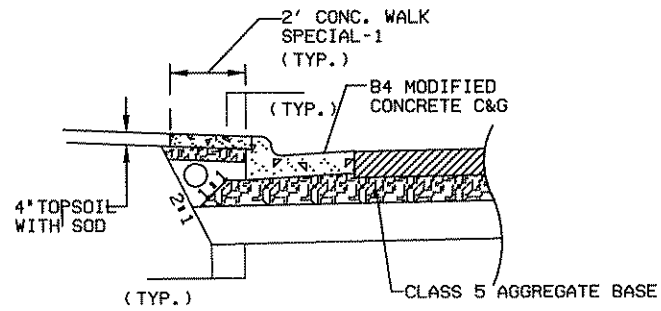
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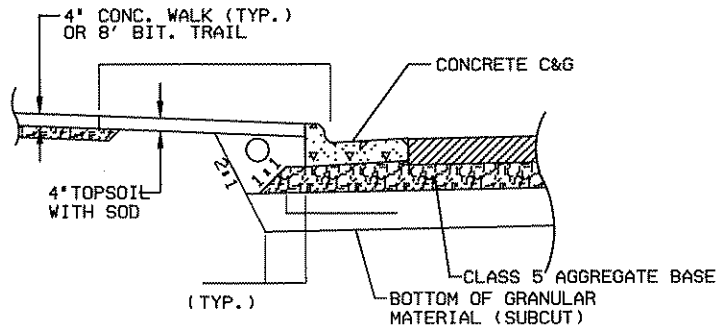
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

MISCELLANEOUS DETAILS
 Sheet 25 of 159 Sheets

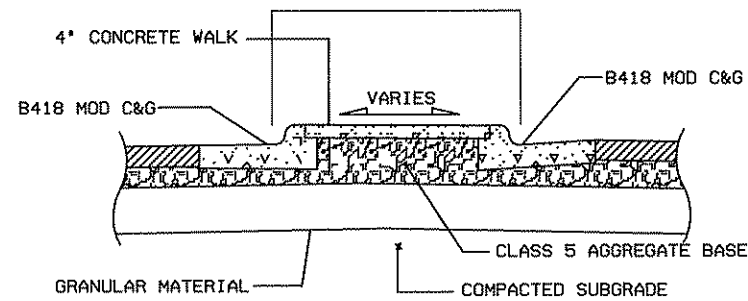
DETAIL A
B4 CURB & GUTTER AT
CONCRETE MAINTENANCE STRIP



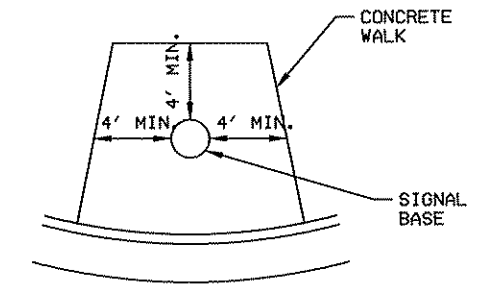
B4 CURB & GUTTER AT
GRASS BOULEVARD - CSAH 51



NARROW MEDIAN



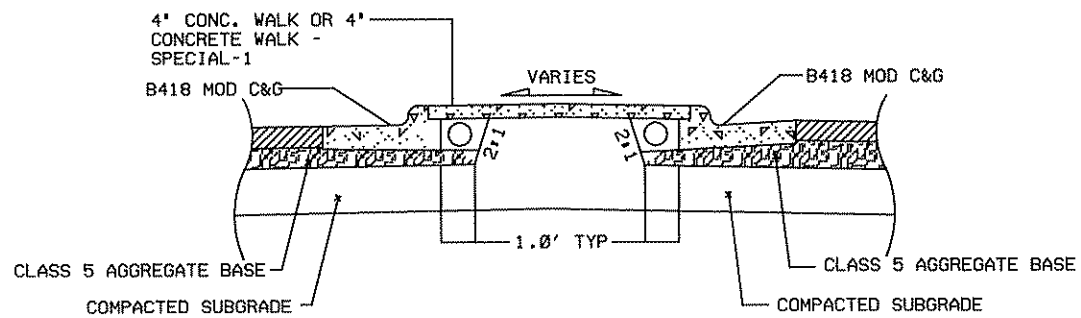
CONCRETE WALK AT SIGNAL BASES



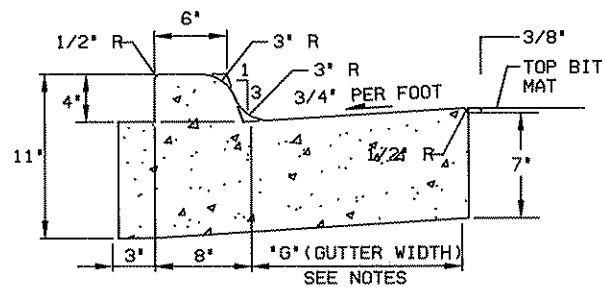
PROVIDE MINIMUM 4' CONCRETE WALK ADJACENT TO ALL SIGNAL POLES.

WIDE MEDIAN

B418 (MOD.) CURB & GUTTER AT
4' CONCRETE MEDIAN

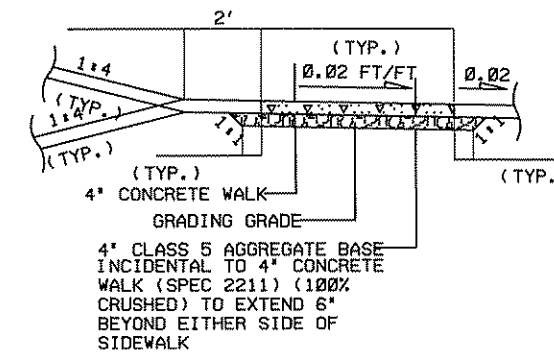


B4 MODIFIED CURB & GUTTER
N.T.S.



1. 'G'-12' FOR B412 MODIFIED CONCRETE CURB & GUTTER.
2. 'G'-18' FOR B418 MODIFIED CONCRETE CURB & GUTTER.
3. 'G'-24' FOR B424 MODIFIED CONCRETE CURB & GUTTER.

4' CONCRETE SIDEWALK



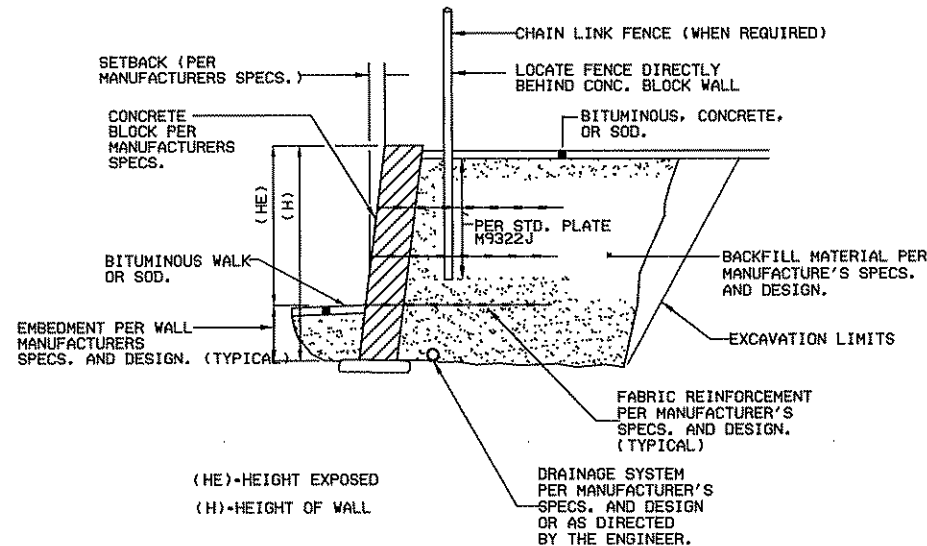
NOTES:

- WALK PANEL SHALL BE 5 FEET SQUARE WITH CONTRACTION JOINTS ON EACH SIDE.
- EXPANSION JOINTS ON EACH SIDE OF DRIVEWAY, BETWEEN WALK AND CURB SECTIONS, AND MAXIMUM SPACING OF 60 FT.
- WALK SHOULD HAVE A BRUSHED FINISH.

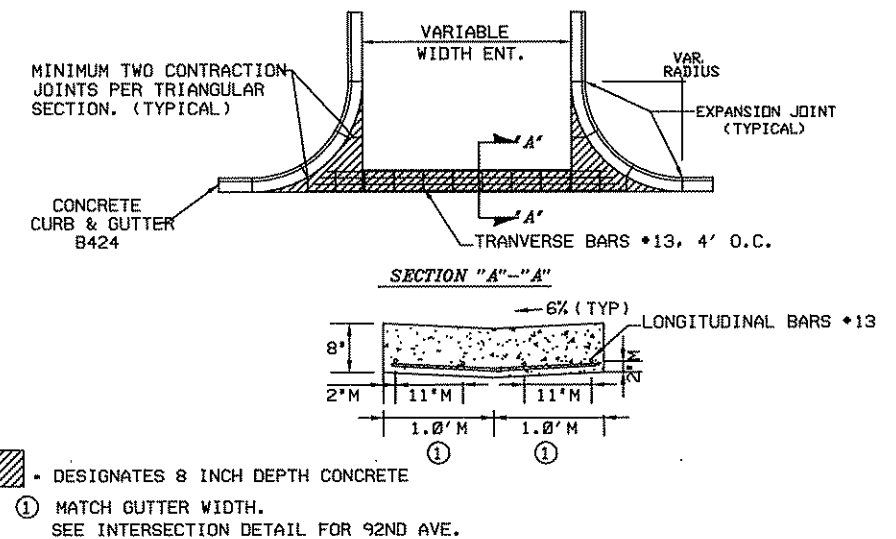
NOTES

○ BACK FILL WITH SUITABLE GRADING MATERIAL.

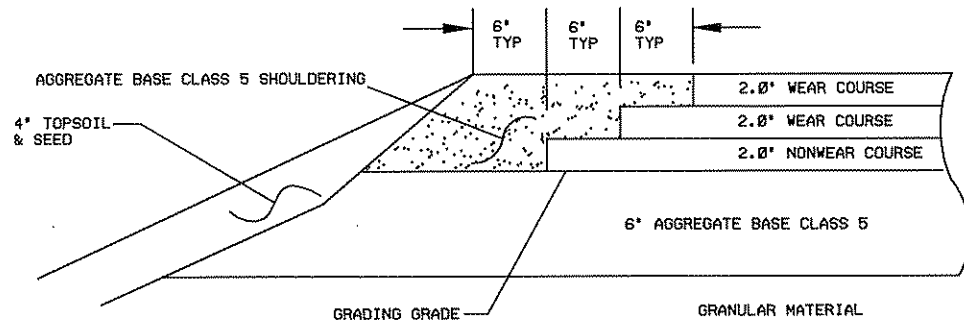
CONCRETE BLOCK RETAINING WALL DETAIL
SEE CONCRETE BLOCK RETAINING WALL SHEETS FOR LOCATIONS



CROSS GUTTER DETAIL
PAID FOR AS 8" VALLEY GUTTER



CLASS 5 SHOULDER



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBIARCSIK
SIGNATURE: *Curt A. Kobiarcsik*
DATE: 4-23-08 LICENSE NO. 24766

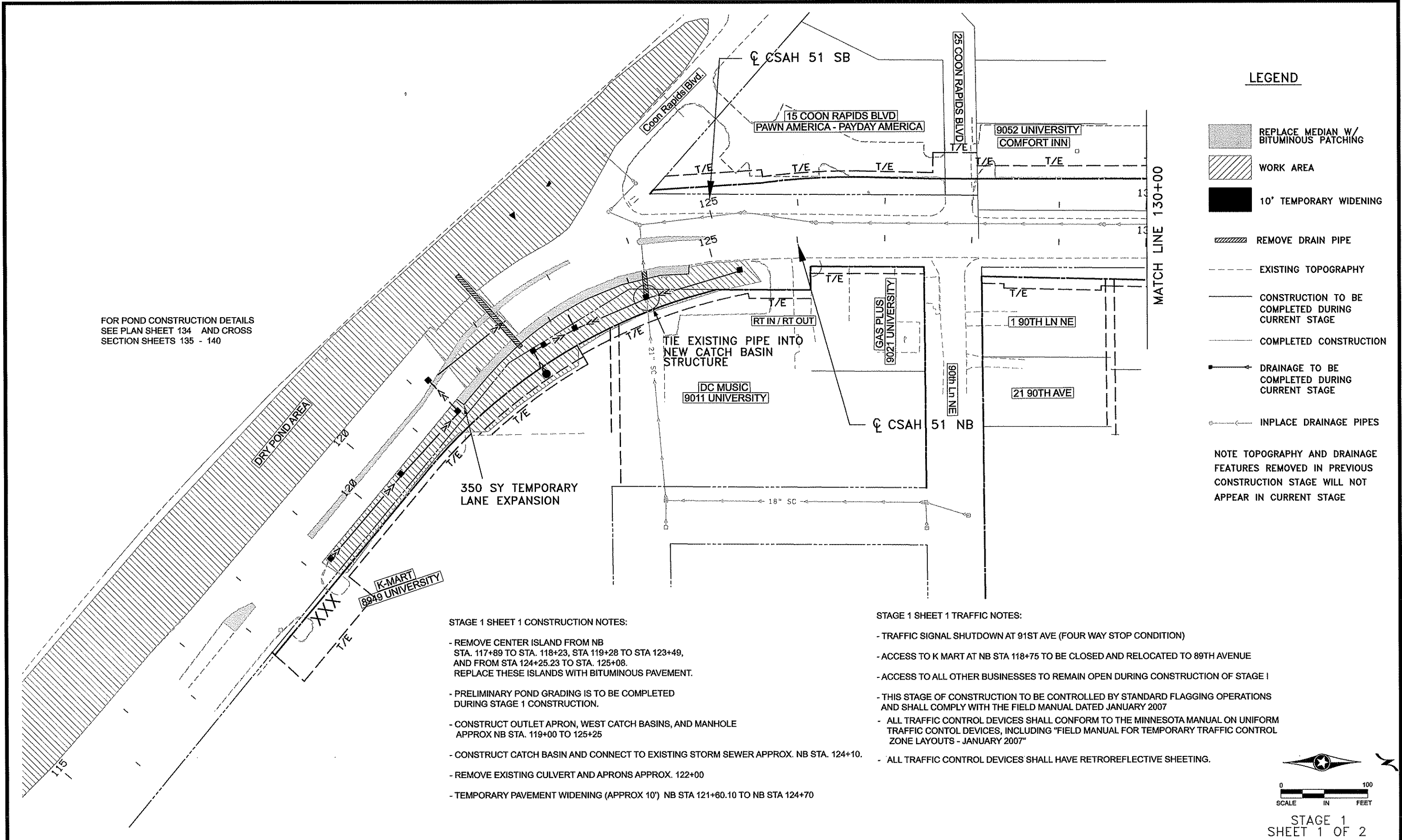
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







ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

MISCELLANEOUS
DETAILS



LEGEND

-  REPLACE MEDIAN W/ BITUMINOUS PATCHING
-  WORK AREA
-  10' TEMPORARY WIDENING
-  REMOVE DRAIN PIPE
-  EXISTING TOPOGRAPHY
-  CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
-  COMPLETED CONSTRUCTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES

NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

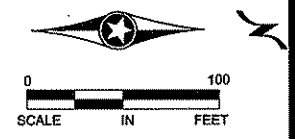
FOR POND CONSTRUCTION DETAILS SEE PLAN SHEET 134 AND CROSS SECTION SHEETS 135 - 140

STAGE 1 SHEET 1 CONSTRUCTION NOTES:

- REMOVE CENTER ISLAND FROM NB STA. 117+89 TO STA. 118+23, STA 119+28 TO STA 123+49, AND FROM STA 124+25.23 TO STA. 125+08. REPLACE THESE ISLANDS WITH BITUMINOUS PAVEMENT.
- PRELIMINARY POND GRADING IS TO BE COMPLETED DURING STAGE 1 CONSTRUCTION.
- CONSTRUCT OUTLET APRON, WEST CATCH BASINS, AND MANHOLE APPROX NB STA. 119+00 TO 125+25
- CONSTRUCT CATCH BASIN AND CONNECT TO EXISTING STORM SEWER APPROX. NB STA. 124+10.
- REMOVE EXISTING CULVERT AND APRONS APPROX. 122+00
- TEMPORARY PAVEMENT WIDENING (APPROX 10') NB STA 121+60.10 TO NB STA 124+70

STAGE 1 SHEET 1 TRAFFIC NOTES:

- TRAFFIC SIGNAL SHUTDOWN AT 91ST AVE (FOUR WAY STOP CONDITION)
- ACCESS TO K MART AT NB STA 118+75 TO BE CLOSED AND RELOCATED TO 89TH AVENUE
- ACCESS TO ALL OTHER BUSINESSES TO REMAIN OPEN DURING CONSTRUCTION OF STAGE I
- THIS STAGE OF CONSTRUCTION TO BE CONTROLLED BY STANDARD FLAGGING OPERATIONS AND SHALL COMPLY WITH THE FIELD MANUAL DATED JANUARY 2007
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



STAGE 1 SHEET 1 OF 2

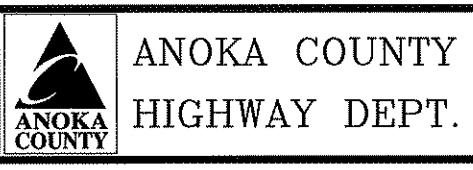
NO	DATE	BY	CKD	APPR	REVISION

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

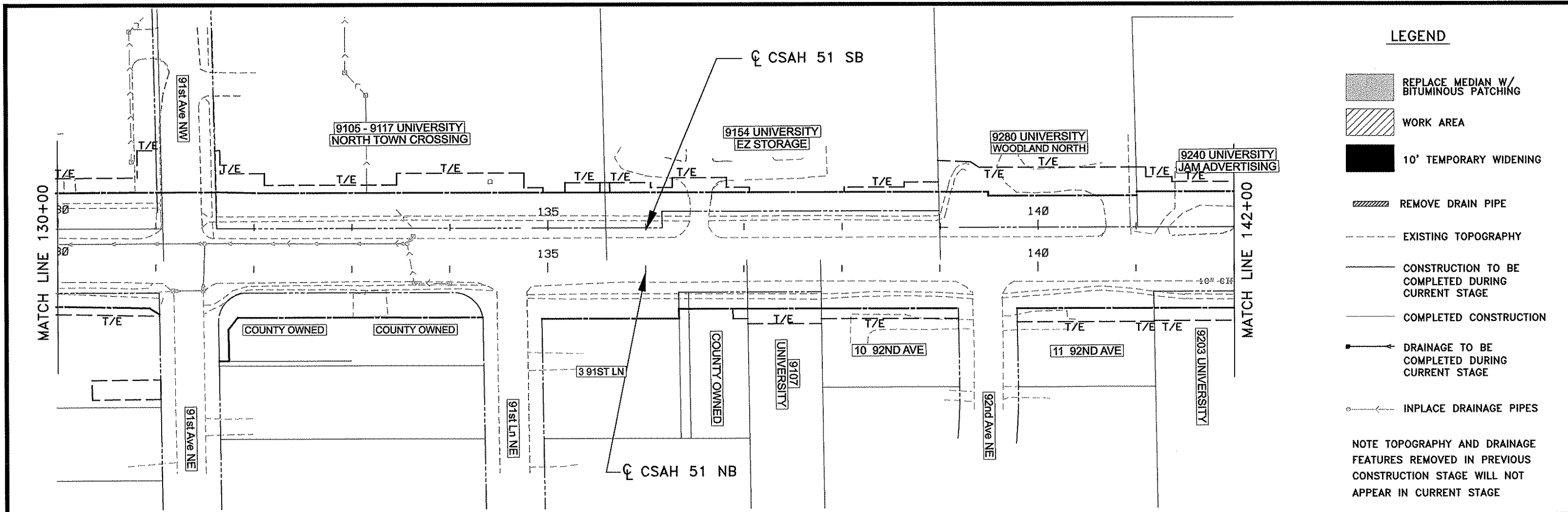
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JED DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07












STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

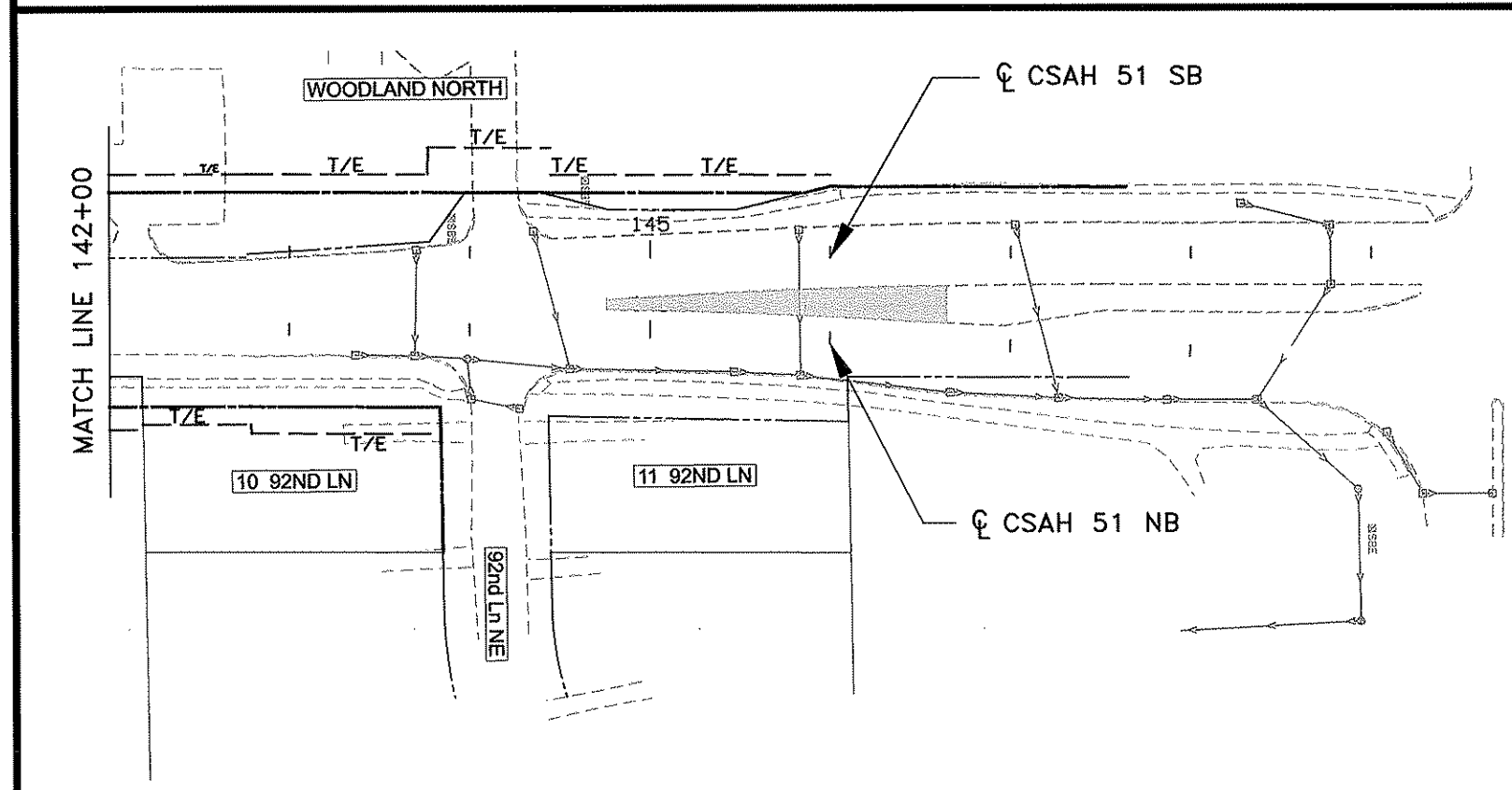
CONSTRUCTION STAGING PLAN
 STA 115+00 to STA 130+00
 Sheet 27 of 159 Sheets



LEGEND

-  REPLACE MEDIAN W/ BITUMINOUS PATCHING
-  WORK AREA
-  10' TEMPORARY WIDENING
-  REMOVE DRAIN PIPE
-  EXISTING TOPOGRAPHY
-  CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
-  COMPLETED CONSTRUCTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES

NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

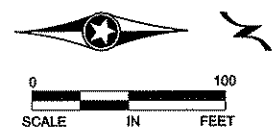


STAGE 1 SHEET 2 CONSTRUCTION NOTES:

- REMOVE CENTER MEDIAN BETWEEN NB STA. 144+75.84 AND NB STA. 146+64.60. REPLACE THIS ISLAND WITH BITUMINOUS PAVEMENT.

STAGE 1 SHEET 2 TRAFFIC NOTES:

- THIS STAGE OF CONSTRUCTION TO BE CONTROLLED BY STANDARD FLAGGING OPERATIONS AND SHALL COMPLY WITH THE FIELD MANUAL DATED JANUARY 2007
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



STAGE 1
SHEET 2 OF 2

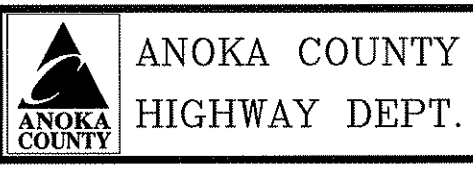
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NAME: P:\02-651-04\PLAN\COPY OF 0265106_STGAB.DGN 04/22/2008 2:41:47 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756








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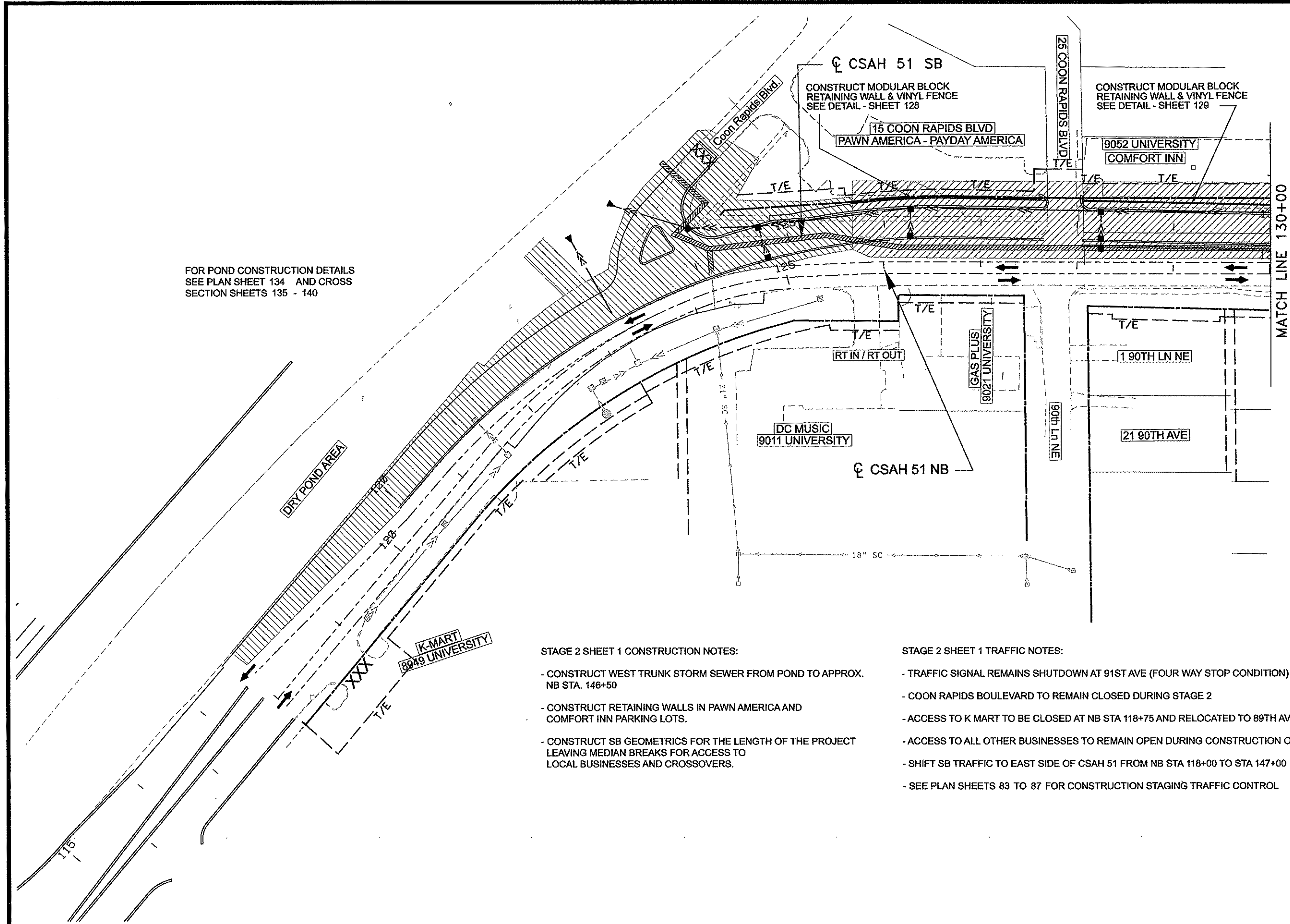
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CONSTRUCTION STAGING PLAN
 STA 130+00 to STA 150+00
 Sheet 28 of 159 Sheets

LEGEND

-  WORK AREA
-  REMOVE DRAIN PIPE
-  EXISTING TOPOGRAPHY
-  CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
-  COMPLETED CONSTRUCTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES

NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE



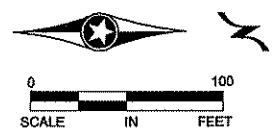
FOR POND CONSTRUCTION DETAILS SEE PLAN SHEET 134 AND CROSS SECTION SHEETS 135 - 140

STAGE 2 SHEET 1 CONSTRUCTION NOTES:

- CONSTRUCT WEST TRUNK STORM SEWER FROM POND TO APPROX. NB STA. 146+50
- CONSTRUCT RETAINING WALLS IN PAWN AMERICA AND COMFORT INN PARKING LOTS.
- CONSTRUCT SB GEOMETRICS FOR THE LENGTH OF THE PROJECT LEAVING MEDIAN BREAKS FOR ACCESS TO LOCAL BUSINESSES AND CROSSOVERS.

STAGE 2 SHEET 1 TRAFFIC NOTES:

- TRAFFIC SIGNAL REMAINS SHUTDOWN AT 91ST AVE (FOUR WAY STOP CONDITION)
- COON RAPIDS BOULEVARD TO REMAIN CLOSED DURING STAGE 2
- ACCESS TO K MART TO BE CLOSED AT NB STA 118+75 AND RELOCATED TO 89TH AVENUE
- ACCESS TO ALL OTHER BUSINESSES TO REMAIN OPEN DURING CONSTRUCTION OF STAGE 2
- SHIFT SB TRAFFIC TO EAST SIDE OF CSAH 51 FROM NB STA 118+00 TO STA 147+00
- SEE PLAN SHEETS 83 TO 87 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



STAGE 2 SHEET 1 OF 2

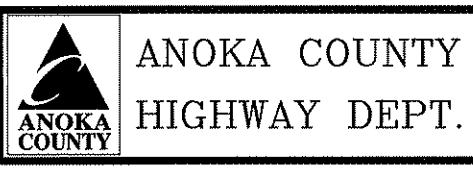
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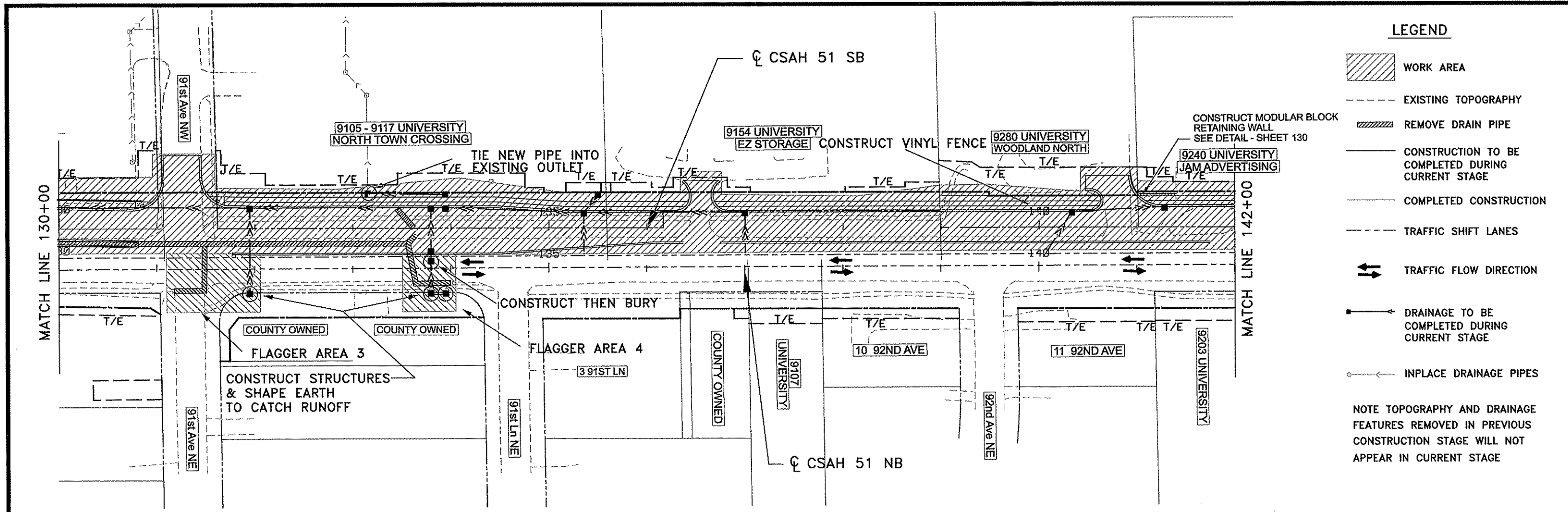
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JED DATE: 8-15-07
 CHECKED BY: CAK DATE: 8-15-07

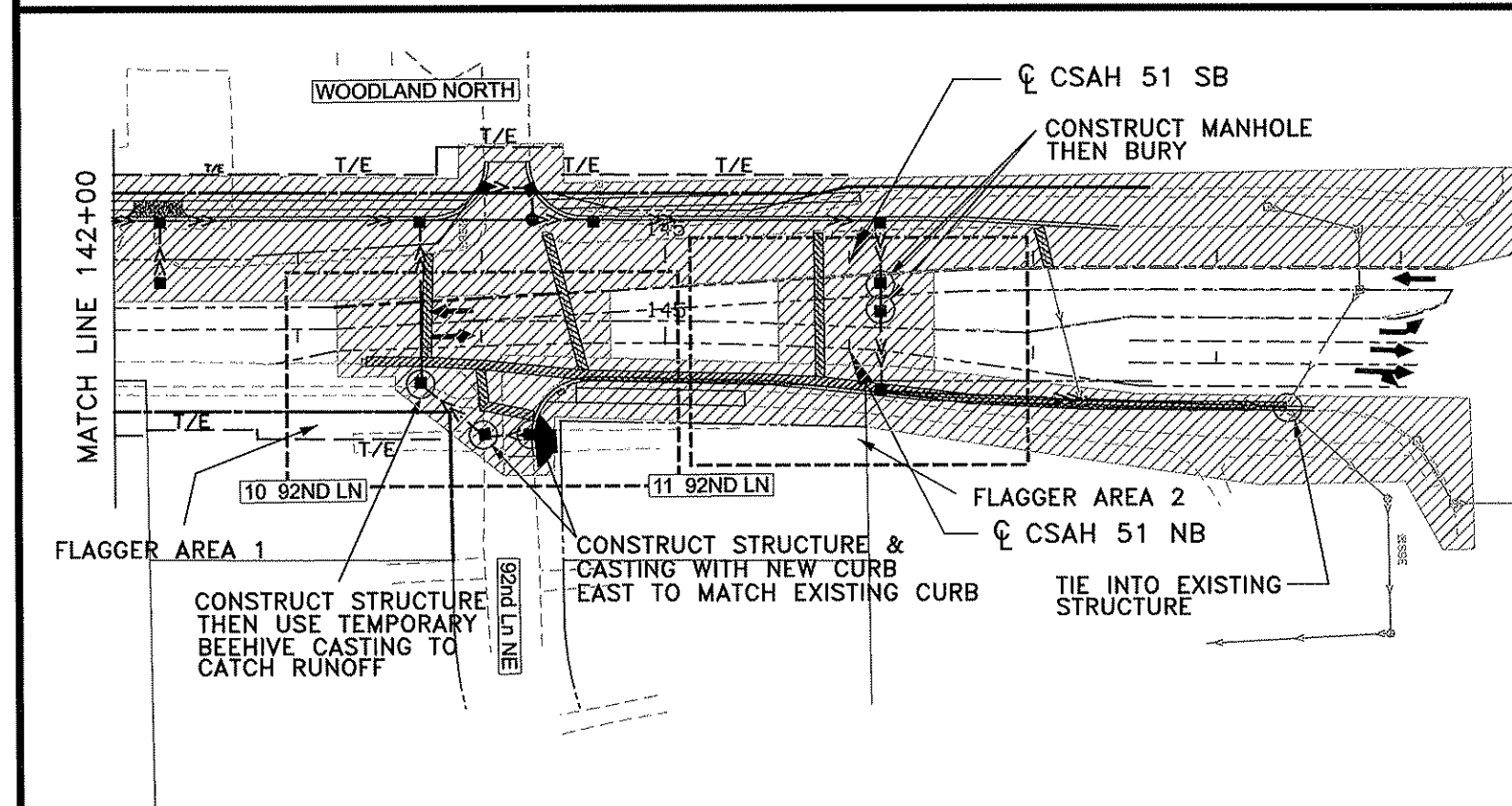


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

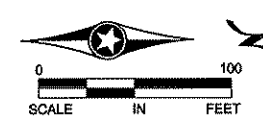
CONSTRUCTION STAGING PLAN
 STA 115+00 to STA 130+00
 Sheet 29 of 159 Sheets



- LEGEND**
- WORK AREA
 - EXISTING TOPOGRAPHY
 - REMOVE DRAIN PIPE
 - CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
 - COMPLETED CONSTRUCTION
 - TRAFFIC SHIFT LANES
 - TRAFFIC FLOW DIRECTION
 - DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
 - INPLACE DRAINAGE PIPES
- NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE



- STAGE 2 SHEET 2 CONSTRUCTION NOTES:**
- CONSTRUCT TRUNK STORM SEWER FROM POND TO APPROX. NB STA. 145+50
 - CONSTRUCT SB GEOMETRICS FOR THE LENGTH OF THE PROJECT LEAVING MEDIAN BREAKS FOR CROSSOVERS AND ACCESS TO LOCAL BUSINESSES.
 - NB CURB, GUTTER, AND TRAIL TO BE RECONSTRUCTED FROM 92ND LANE NE TO CATCH BASIN AT APPROX. NB STA. 148+50
 - CONSTRUCT VINYL FENCE IN FRONT OF WOODLAND NORTH
 - CONSTRUCT MEDIAN MANHOLE STRUCTURES AT NB STA 146+00 AND PIPE TO MAINTAIN SB TRUNK STORM SEWER FLOW. BURY THESE MANHOLES UNTIL STAGE 4 WHERE THESE STRUCTURES WILL BE COMPLETED.
 - COMPLETE DRAINAGE STRUCTURES AND SHAPE EARTH AT 91ST AVE AND 91ST LN TO CATCH RUNOFF FROM 91ST AVE AND 91ST LN.
 - CONSTRUCT DRAINAGE STRUCTURE APPROX 143+70. TOP WITH TEMPORARY BEEHIVE AND GRADE ACCORINGLY TO CATCH NB WATER RUNOFF AFTER EXISTING STORM SEWER IS REMOVED.
 - CONNECT NEW STORM PIPE ACROSS CSAH 51 TO MAINTAIN STORM WATER FLOW FROM 92ND LN NE TO SB TRUNK.
 - AT LEAST ONE LANE MUST REMAIN OPEN AT ALL TIMES. A FLAGGER MAY BE REQUIRED DURING THIS STAGE OF CONSTRUCTION.
 - CONNECT DRAIN PIPE INTO EXISTING STRUCTURE NB STA. 148+30
 - CONNECT TO EXISTING DRAINAGE STRUCTURE NB STA. 133+00
- STAGE 2 SHEET 2 TRAFFIC NOTES:**
- SOUTH ACCESS TO WOODLAND NORTH APARTMENTS TO BE CLOSED DURING CONSTRUCTION
 - ACCESS TO ALL OTHER BUSINESSES TO REMAIN OPEN DURING CONSTRUCTION
 - TRAFFIC SIGNAL AT U.S. HIGHWAY 10 TO REMAIN OPERATIONAL DURING CONSTRUCTION
 - SHIFT SB TRAFFIC TO EAST SIDE OF CSAH 51 FROM STA 120+00 TO STA 147+00
 - A FLAGGER MAY BE REQUIRED WHEN CONSTRUCTING NEW DRAINAGE STRUCTURES ACROSS CSAH 51 AT APPROX NB STA 131+50 AND NB STA 134+00
 - A FLAGGER MAY BE REQUIRED WHEN CONSTRUCTING NEW DRAINAGE STRUCTURES FROM 92ND LN NE ACROSS CSAH 51
 - A FLAGGER MAY BE REQUIRED WHEN CONSTRUCTING NEW DRAINAGE STRUCTURES ACROSS CSAH 51 AT APPROX NB STA 146+25.
 - SEE PLAN SHEETS 83 TO 87 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



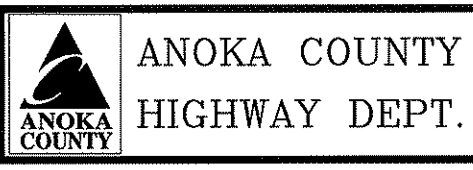
STAGE 2
SHEET 2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
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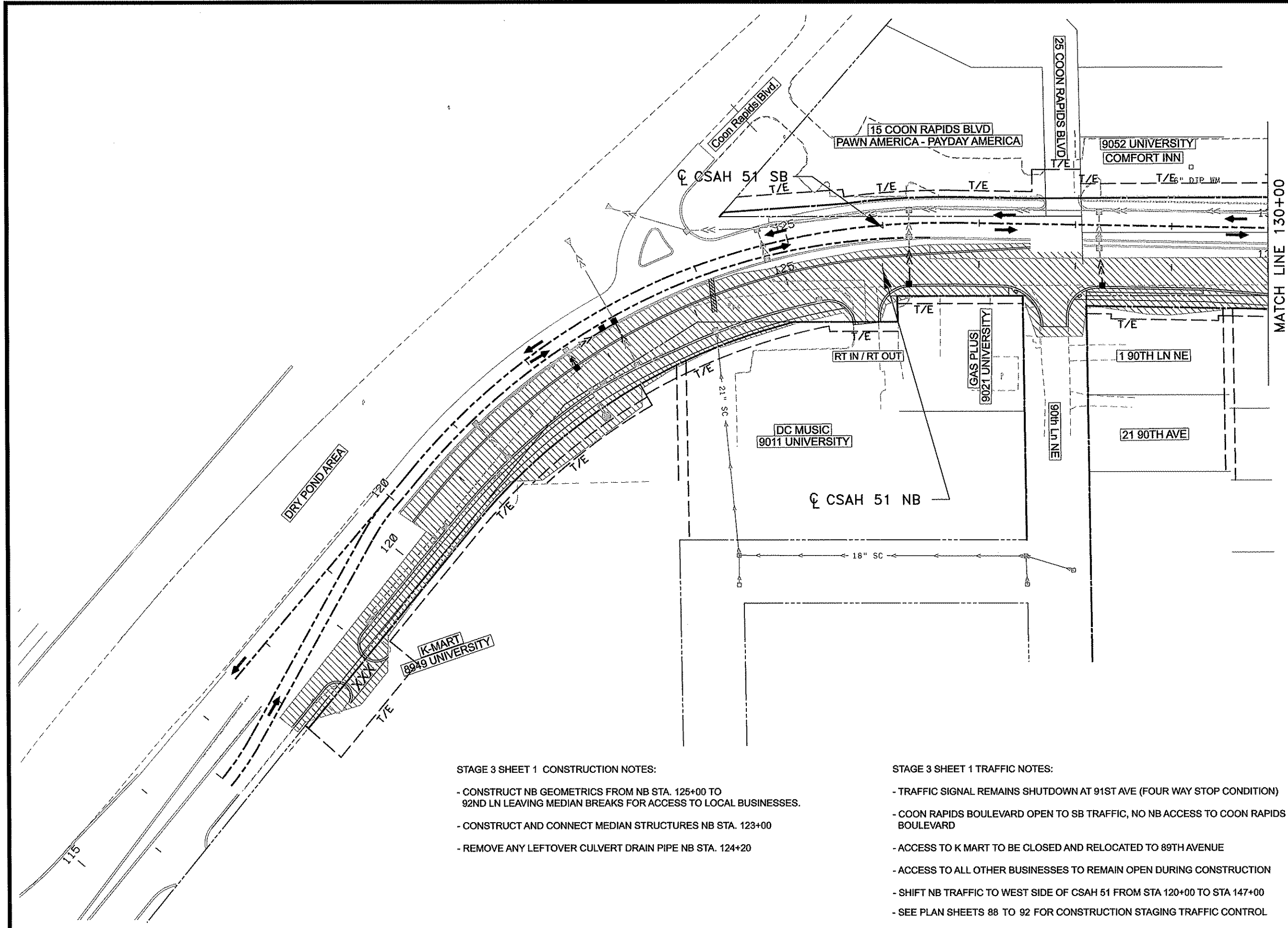
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JEO DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

CONSTRUCTION STAGING PLAN
STA 130+00 to STA 150+00
Sheet 30 of 159 Sheets



LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
- COMPLETED CONSTRUCTION
- TRAFFIC SHIFT LANES
- TRAFFIC FLOW DIRECTION
- DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
- INPLACE DRAINAGE PIPES

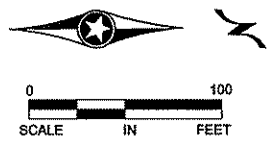
NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

STAGE 3 SHEET 1 CONSTRUCTION NOTES:

- CONSTRUCT NB GEOMETRICS FROM NB STA. 125+00 TO 92ND LN LEAVING MEDIAN BREAKS FOR ACCESS TO LOCAL BUSINESSES.
- CONSTRUCT AND CONNECT MEDIAN STRUCTURES NB STA. 123+00
- REMOVE ANY LEFTOVER CULVERT DRAIN PIPE NB STA. 124+20

STAGE 3 SHEET 1 TRAFFIC NOTES:

- TRAFFIC SIGNAL REMAINS SHUTDOWN AT 91ST AVE (FOUR WAY STOP CONDITION)
- COON RAPIDS BOULEVARD OPEN TO SB TRAFFIC, NO NB ACCESS TO COON RAPIDS BOULEVARD
- ACCESS TO K MART TO BE CLOSED AND RELOCATED TO 89TH AVENUE
- ACCESS TO ALL OTHER BUSINESSES TO REMAIN OPEN DURING CONSTRUCTION
- SHIFT NB TRAFFIC TO WEST SIDE OF CSAH 51 FROM STA 120+00 TO STA 147+00
- SEE PLAN SHEETS 88 TO 92 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



STAGE 3
SHEET 1 OF 2

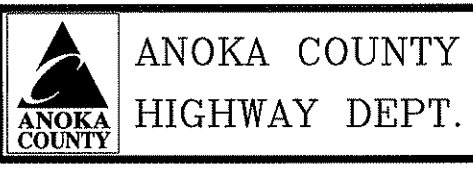
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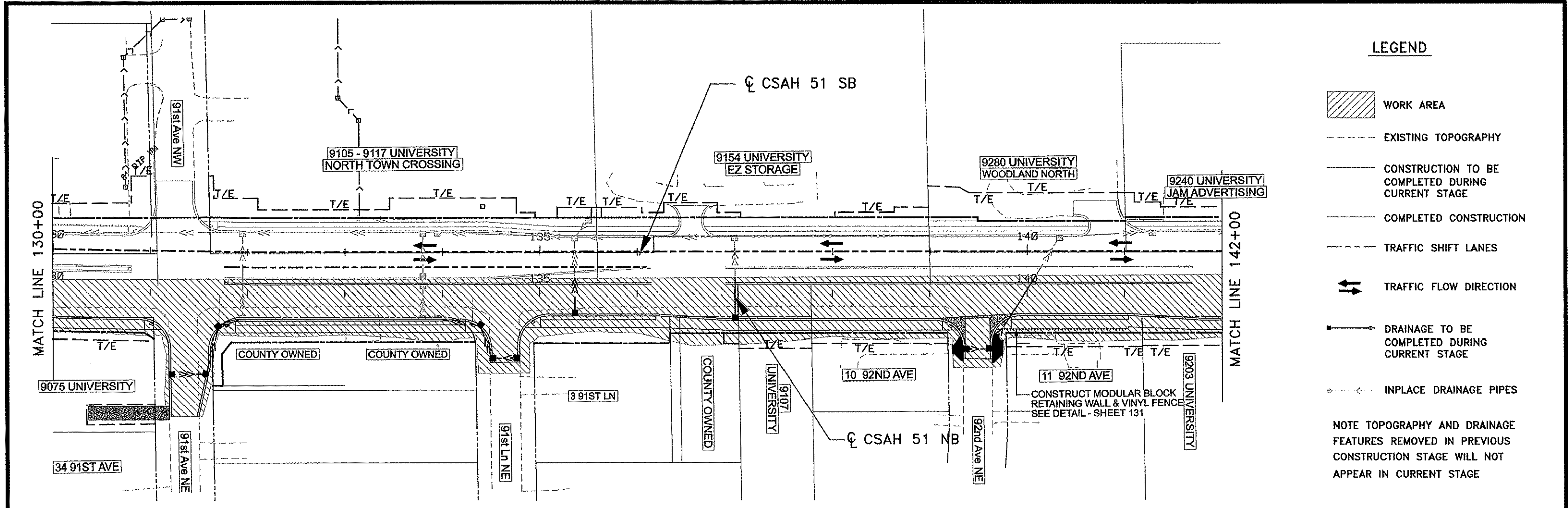
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
 DESIGN BY: JEO DATE: 8-15-07
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

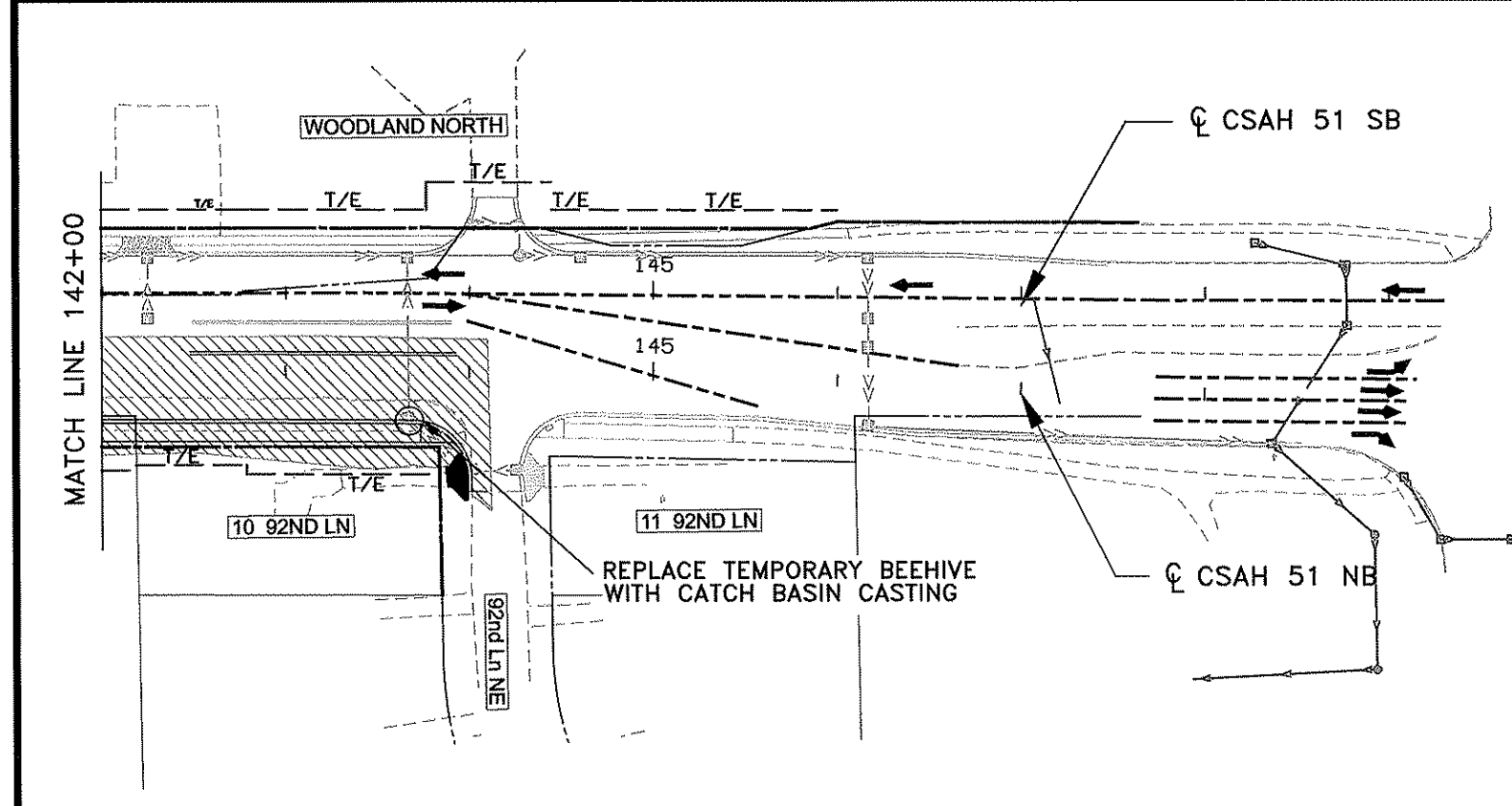
CONSTRUCTION STAGING PLAN
 STA 115+00 to STA 130+00
 Sheet 31 of 159 Sheets



LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
- COMPLETED CONSTRUCTION
- TRAFFIC SHIFT LANES
- TRAFFIC FLOW DIRECTION
- DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
- INPLACE DRAINAGE PIPES

NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

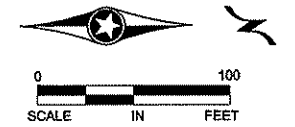


STAGE 3 SHEET 2 CONSTRUCTION NOTES:

- CONSTRUCT RETAINING WALL NORTH OF 92 AVE NE
- CONSTRUCT NB GEOMETRICS FROM NB STA. 125+00 TO 92ND LN LEAVING MEDIAN BREAKS FOR ACCESS TO LOCAL BUSINESSES.
- REPLACE TEMPORARY BEEHIVE INSTALLED IN STAGE 2 NB STA. 143+75 AND INSTALL DRAINAGE CASTING.
- CONSTRUCT AGGREGATE DRIVEWAY FOR 9075 UNIVERSITY AVE

STAGE 3 SHEET 2 TRAFFIC NOTES:

- ACCESS TO 91ST LANE NORTHEAST TO BE CLOSED DURING STAGE 3 CONSTRUCTION
- ACCESS TO 92ND AVENUE NORTHEAST TO BE CLOSED DURING STAGE 3 CONSTRUCTION
- ACCESS TO ALL OTHER BUSINESSES TO REMAIN OPEN DURING CONSTRUCTION
- TRAFFIC SIGNAL AT U.S. HIGHWAY 10 TO REMAIN OPERATIONAL DURING CONSTRUCTION
- SHIFT NB TRAFFIC TO WEST SIDE OF CSAH 51 FROM STA 120+00 TO STA 147+00
- SEE PLAN SHEETS 88 TO 92 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



STAGE 3
SHEET 2 OF 2

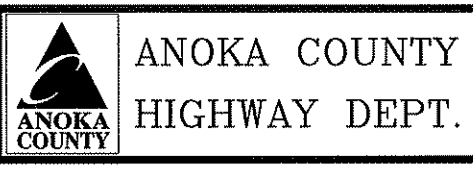
NO	DATE	BY	CKD	APPR	REVISION

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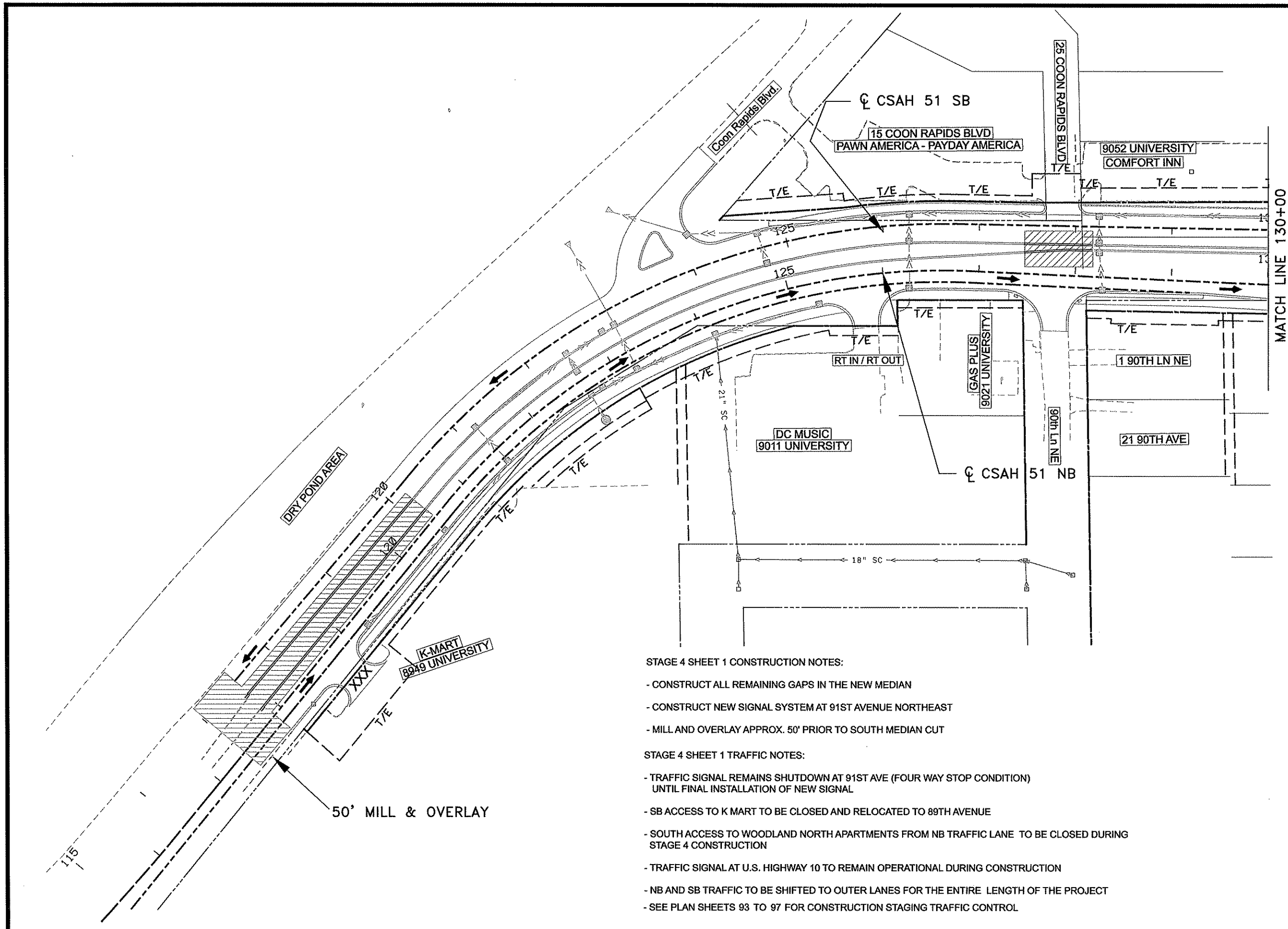
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-15-07
DESIGN BY: JED DATE: 8-15-07
CHECKED BY: CAK DATE: 8-15-07











STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

CONSTRUCTION STAGING PLAN
STA 130+00 to STA 150+00
Sheet 32 of 159 Sheets



LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
-  COMPLETED CONSTRUCTION
-  TRAFFIC SHIFT LANES
-  TRAFFIC FLOW DIRECTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES

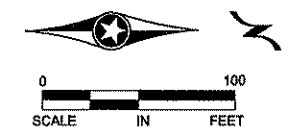
NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

STAGE 4 SHEET 1 CONSTRUCTION NOTES:

- CONSTRUCT ALL REMAINING GAPS IN THE NEW MEDIAN
- CONSTRUCT NEW SIGNAL SYSTEM AT 91ST AVENUE NORTHEAST
- MILL AND OVERLAY APPROX. 50' PRIOR TO SOUTH MEDIAN CUT

STAGE 4 SHEET 1 TRAFFIC NOTES:

- TRAFFIC SIGNAL REMAINS SHUTDOWN AT 91ST AVE (FOUR WAY STOP CONDITION) UNTIL FINAL INSTALLATION OF NEW SIGNAL
- SB ACCESS TO K MART TO BE CLOSED AND RELOCATED TO 89TH AVENUE
- SOUTH ACCESS TO WOODLAND NORTH APARTMENTS FROM NB TRAFFIC LANE TO BE CLOSED DURING STAGE 4 CONSTRUCTION
- TRAFFIC SIGNAL AT U.S. HIGHWAY 10 TO REMAIN OPERATIONAL DURING CONSTRUCTION
- NB AND SB TRAFFIC TO BE SHIFTED TO OUTER LANES FOR THE ENTIRE LENGTH OF THE PROJECT
- SEE PLAN SHEETS 93 TO 97 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



STAGE 4 SHEET 1 OF 2

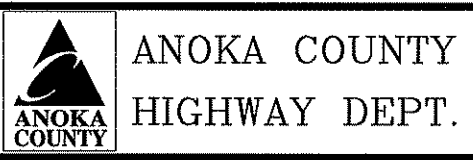
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NAME: P:\02-651-04\PLAN\0265106_STG4A.DGN 04/22/2008 2:43:14 PM

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

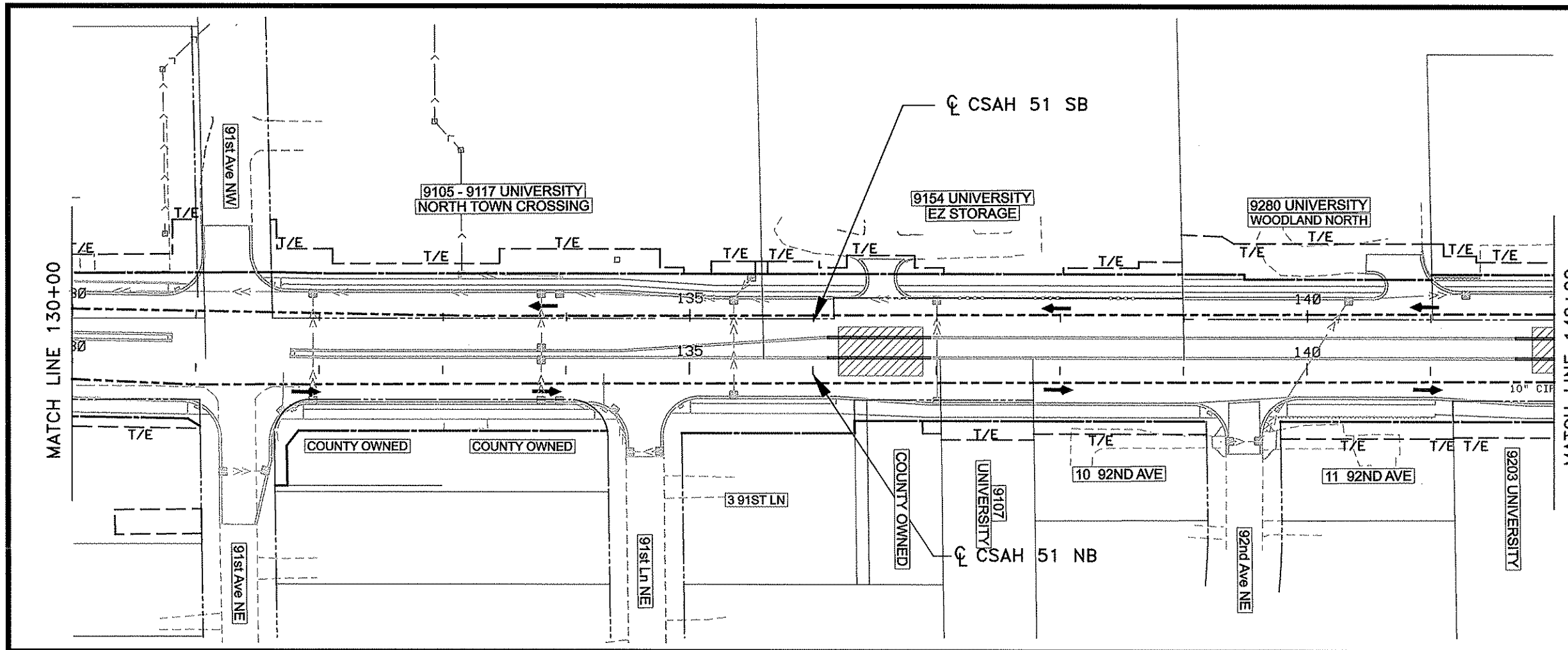
PRINT NAME: CURT A. KOBLARCSIK
 SIGNATURE: *Curt A. Koblarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JED DATE: 8-16-07
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







STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

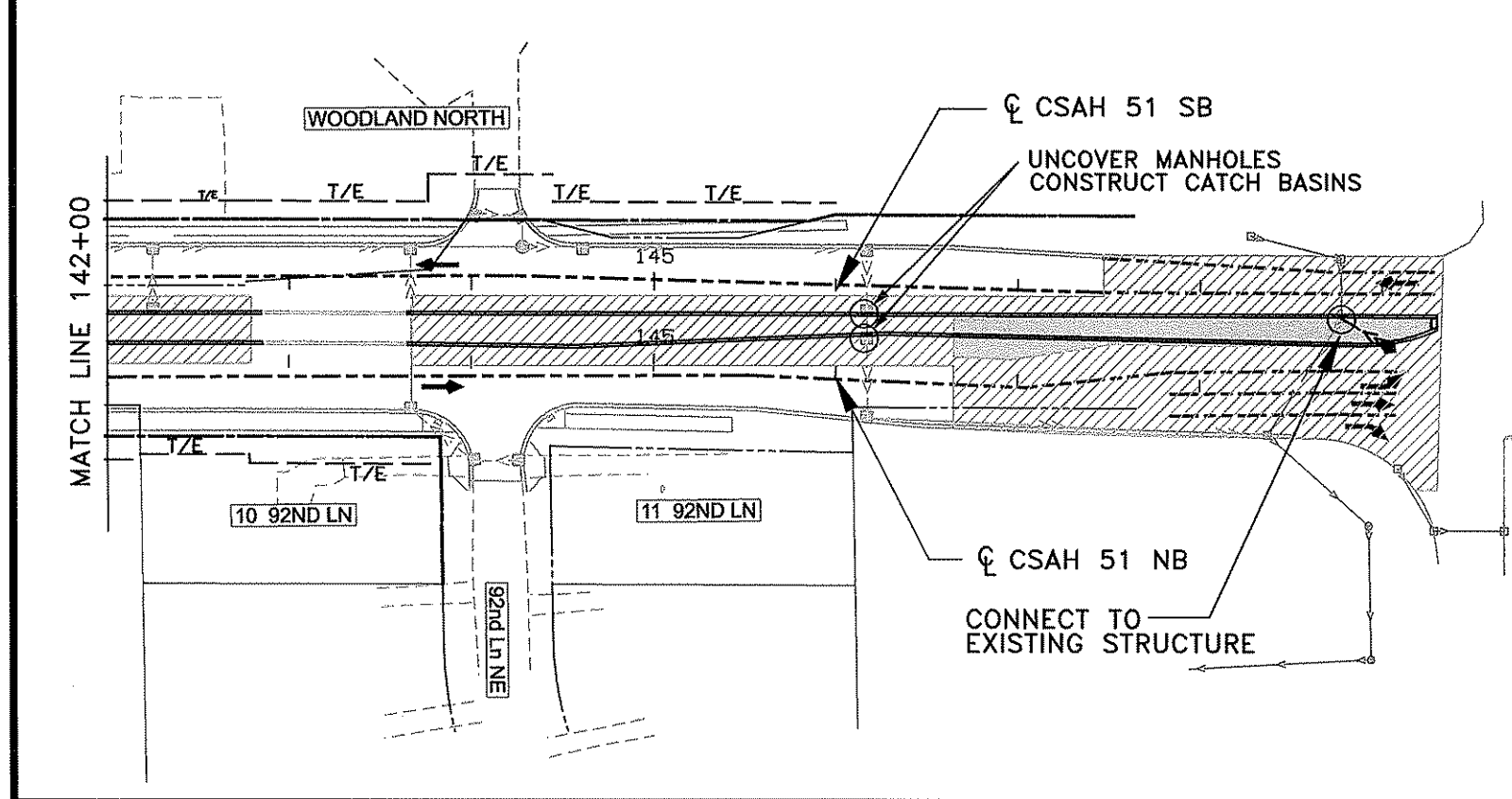
CONSTRUCTION STAGING PLAN
 STA 115+00 to STA 130+00
 Sheet 33 of 159 Sheets



LEGEND

-  WORK AREA
-  REMOVE MEDIAN
-  EXISTING TOPOGRAPHY
-  CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
-  COMPLETED CONSTRUCTION
-  TRAFFIC SHIFT LANES
-  TRAFFIC FLOW DIRECTION
-  DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
-  INPLACE DRAINAGE PIPES

NOTE TOPOGRAPHY AND DRAINAGE FEATURES REMOVED IN PREVIOUS CONSTRUCTION STAGE WILL NOT APPEAR IN CURRENT STAGE

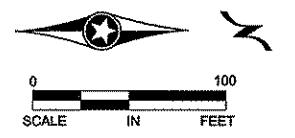


STAGE 4 SHEET 2 CONSTRUCTION NOTES:

- CONSTRUCT ALL REMAINING GAPS IN THE NEW MEDIAN
- CONSTRUCT NEW SIGNAL SYSTEM AT 91ST AVENUE NORTHEAST
- UNCOVER MANHOLES BUILT IN STAGE 2 AND INSTALL DRAINAGE CASTINGS.
- CONNECT TO EXISTING STRUCTURE NB STA. 148+70

STAGE 4 SHEET 2 TRAFFIC NOTES:

- SOUTH ACCESS TO WOODLAND NORTH APARTMENTS FROM NORTH BOUND TRAFFIC LANES TO BE CLOSED DURING STAGE 4 CONSTRUCTION
- TRAFFIC SIGNAL AT U.S. HIGHWAY 10 TO REMAIN OPERATIONAL DURING CONSTRUCTION
- NB AND SB TRAFFIC TO BE SHIFTED TO OUTER LANES FOR THE ENTIRE LENGTH OF THE PROJECT
- SEE PLAN SHEETS 93 TO 97 FOR CONSTRUCTION STAGING TRAFFIC CONTROL



STAGE 4
SHEET 2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_ST04B.DGN 04/22/2008 2:43:23 PM

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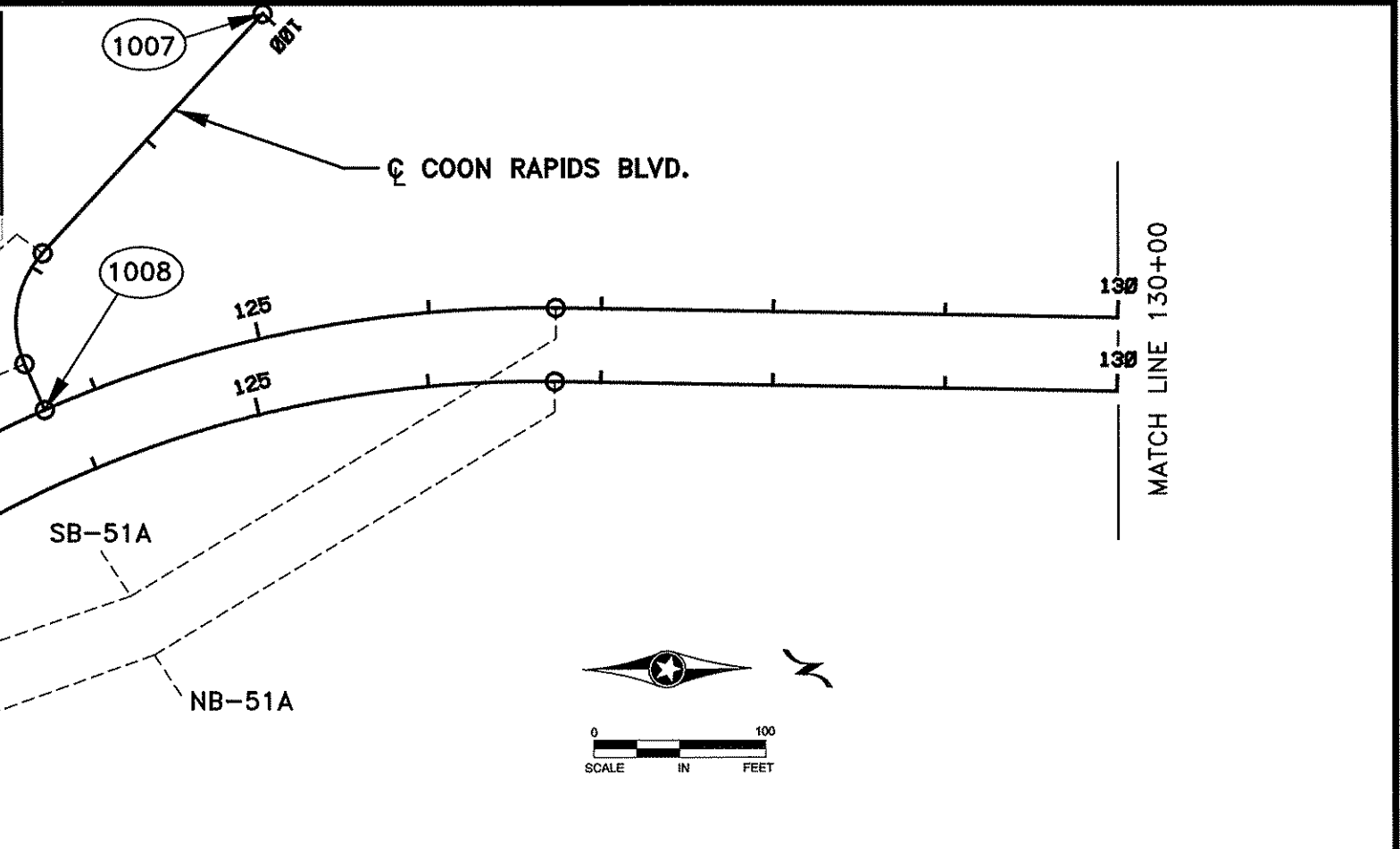
DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JED DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

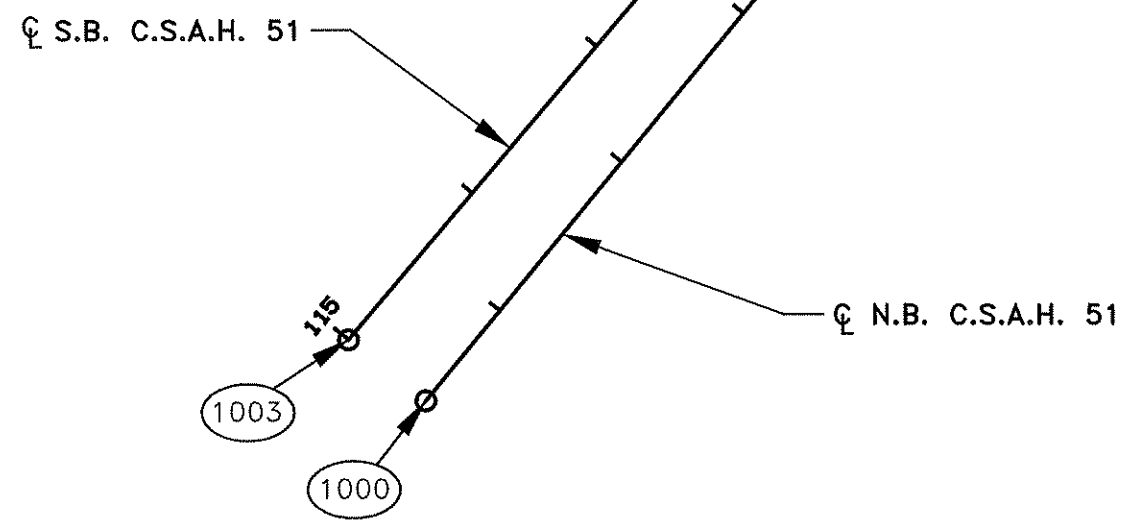
CONSTRUCTION STAGING PLAN
 STA 130+00 to STA 150+00
 Sheet 34 of 159 Sheets

NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N	E	AZIMUTH
COON RAPIDS BLVD										
1007	POT	100+00						136,057.30	499,744.84	S 47° 04' 23.91" E
	PC	101+89.85						135,928.00	499,883.85	
C-RB	PI	102+28.87	66° 04' 22.77"	95° 29' 34.68"	60	39.02	69.19	135,901.43	499,912.42	
	PT	102+59.04						135,916.76	499,948.30	N 63° 66' 13.33" E
1008	POT	102+88.42						135,928.31	499,975.31	



POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N	E	
CSAH 51 NB										
1000	POT	115+39.26						135,354.09	500,610.06	N 50° 10' 57.47" W
	PC	120+71.77						135,695.08	500,201.05	
NB-51A	PI	123+94.65	51° 39' 41.86"	8° 35' 24.26"	667	322.8831	601.4109	135,901.84	499,953.04	
	PT	126+73.18						136,224.61	499,961.38	N 1° 28' 44.39" E
	CC							136,207.40	500,628.16	
1001	POT	132+04.96						136,756.22	499,975.10	N 0° 28' 33.56" E
	PC	142+43.11						137,794.33	499,983.73	
NB-51B	PI	143+72.76	1° 17' 47.08"	0° 30' 00.02"	11,459	129.6448	259.2784	137,923.97	499,984.80	
	PT	145+02.39						138,053.55	499,988.81	N 1° 46' 20.63" E
	CC							137,699.14	511,442.33	
1002	POT	150+29.45						138,580.36	500,005.12	

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N	E	
CSAH 51 SB										
1003	POT	115+00						135,314.24	500,577.88	N 49° 17' 58.10" W
	PC	120+44.39						135,669.23	500,165.16	
SB-51A	PI	123+81.36	50° 46' 45.05"	8° 04' 11.38"	710	336.9747	629.2473	135,888.98	499,909.69	
	PT	126+73.63						136,225.84	499,918.39	N 1° 28' 46.95" E
	CC							136,207.51	500,628.16	
1004	POT	132+04.92						136,756.95	499,932.11	N 0° 28' 32.29" E
1005	POT	142+77.18						137,829.17	499,941.02	N 0° 36' 38.38" E
1006	POT	149+29.97						138,481.92	499,947.97	



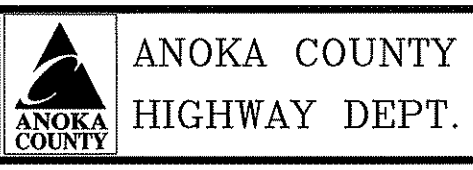
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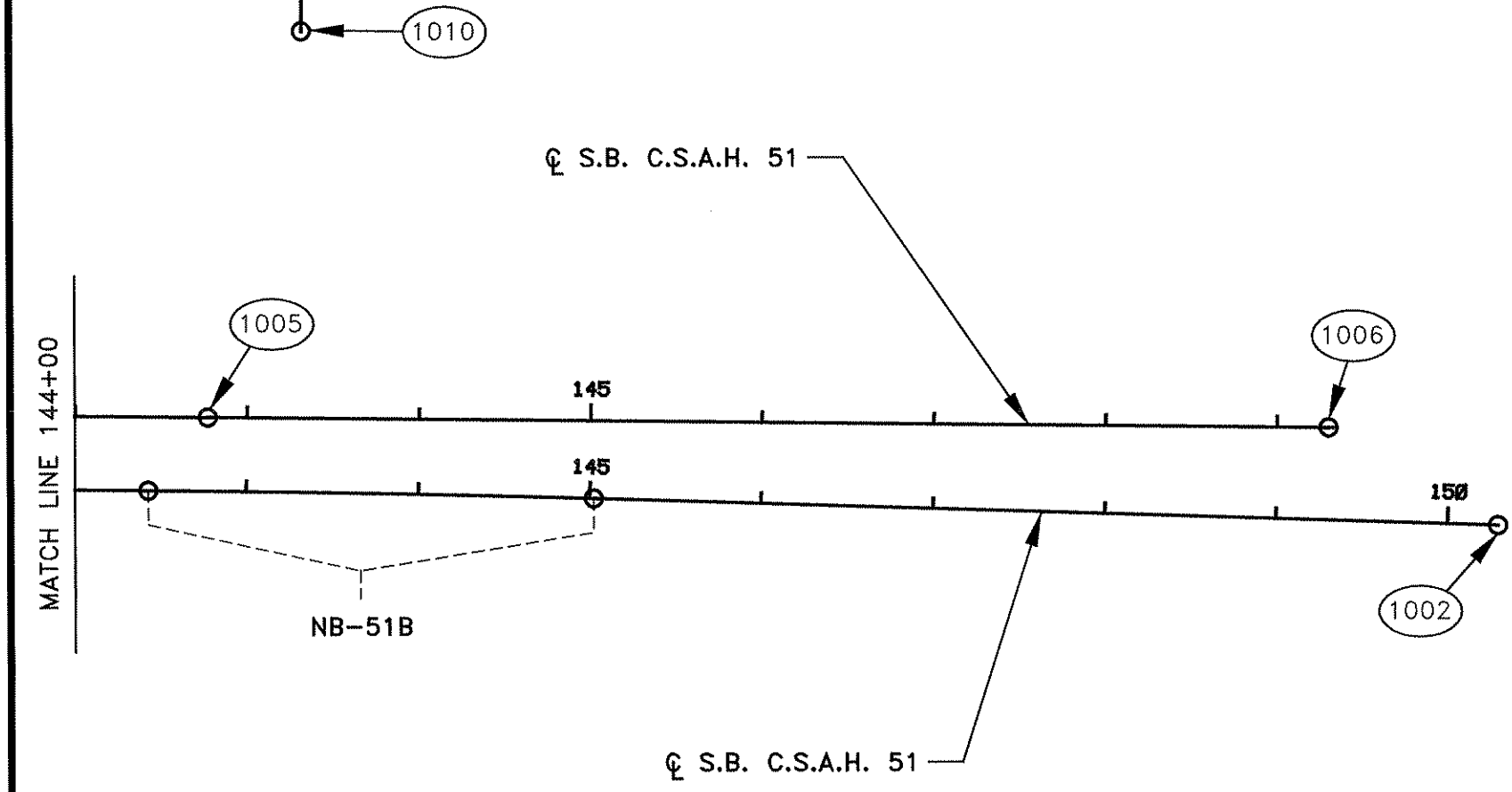
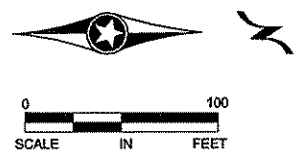
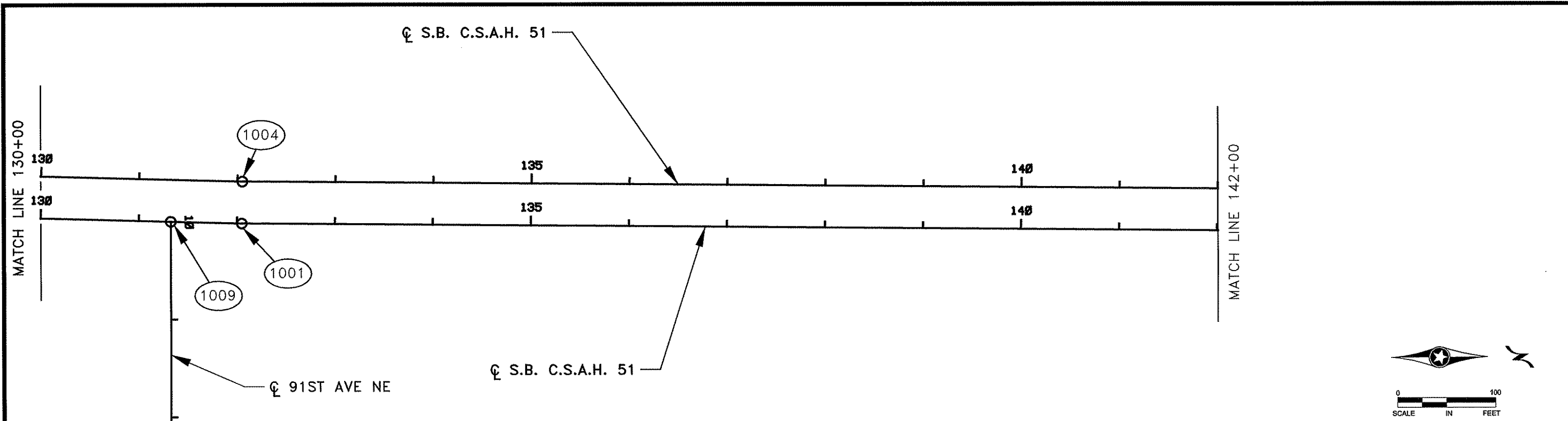
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-18-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-18-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

ALIGNMENT PLAN
 STA 115+00 to STA 130+00
 Sheet 35 of 159 Sheets



POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA				COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N		E
CSAH 51 NB										
1000	POT	115+39.26						135,354.09	500,610.06	N 50° 10' 57.47" W
	PC	120+71.77						135,695.08	500,201.05	
NB-51A	PI	123+94.65	51° 39' 41.86"	8° 35' 24.26"	667	322.8831	601.4109	135,901.84	499,953.04	
	PT	126+73.18						136,224.61	499,961.38	N 1° 28' 44.39" E
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CSAH 51 SB										
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1004	POT	132+04.92						136,756.95	499,932.11	N 0° 28' 32.29" E
1005	POT	142+77.18						137,829.17	499,941.02	N 0° 36' 38.38" E
1006	POT	149+29.97						138,481.92	499,947.97	

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA				COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	N		E
91ST AVE NE										
1009	POT	10+00.00						136,683.85	499,973.23	S 90° 00' 00" E
1010	PC	12+43.43						136,683.85	500,216.66	

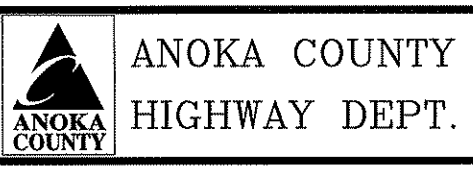
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 SIGNATURE: *Curt Kobilarsik*
 DATE: 4.23-08 LICENSE NO. 24756

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 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

ALIGNMENT PLAN
 STA 130+00 to STA 149+30.01
 Sheet 36 of 159 Sheets

NOTES:

- (A) REMOVE PIPE CULVERTS
- (B) CONNECT TO EXISTING STRUCTURE
- (C) REMOVE DRAINAGE STRUCTURE
- (D) ADJUST FRAME RING AND CASTING
- (E) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (F) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
- (G) REMOVE PIPE APRON
- (H) ADJUST GATE VALVE
- (I) REMOVE FENCE
- (J) REMOVE WOOD RETAINING WALL
- (K) REMOVE RETAINING WALL

REMOVAL LEGEND

- REMOVE BITUMINOUS PAVEMENT
- MILL BITUMINOUS SURFACE (2.0')
- REMOVE CONCRETE SIDEWALK OR MEDIAN
- REMOVE BITUMINOUS WALK OR BITUMINOUS MEDIAN
- OR TREE REMOVAL
- REMOVE CURB AND GUTTER
- REMOVE BITUMINOUS CURB
- CONSTRUCTION LIMITS
- PROPOSED CURB AND/OR EDGE OF PAVEMENT (FOR REFERENCE ONLY)
- REMOVE SEWER PIPE (STORM)
- SOIL BORINGS

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

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

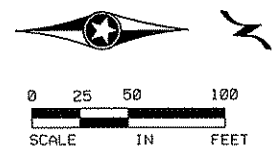
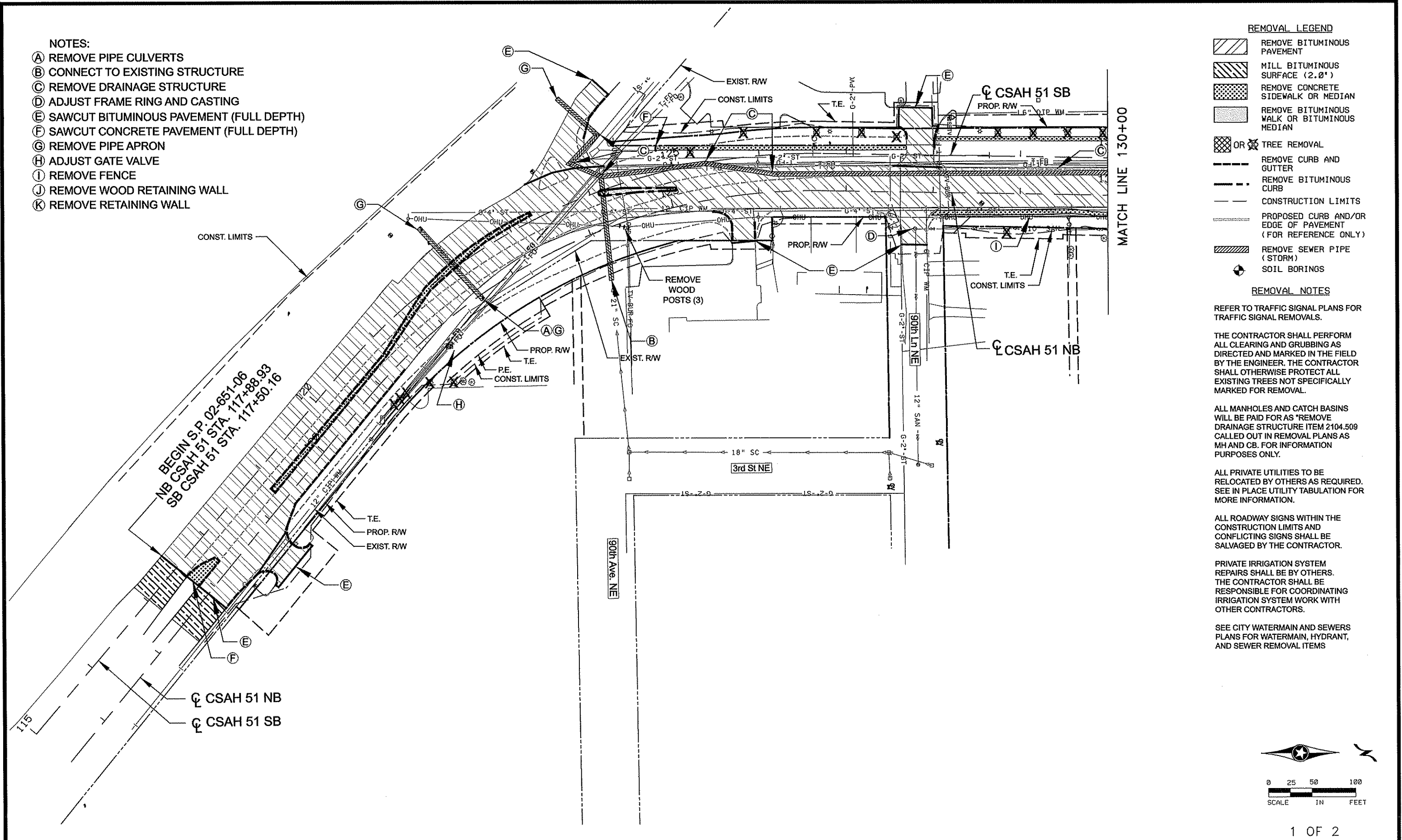
ALL MANHOLES AND CATCH BASINS WILL BE PAID FOR AS "REMOVE DRAINAGE STRUCTURE ITEM 2104.509 CALLED OUT IN REMOVAL PLANS AS MH AND CB. FOR INFORMATION PURPOSES ONLY.

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

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.

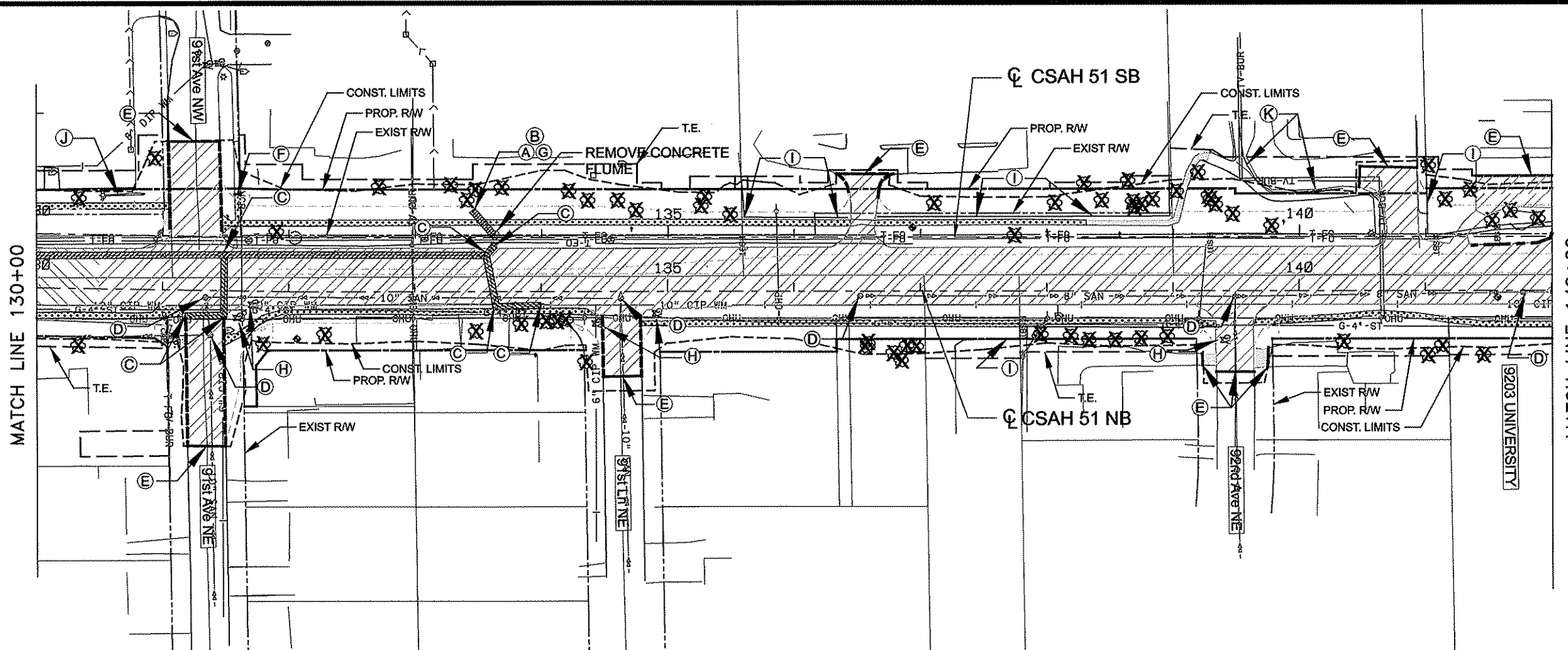
PRIVATE IRRIGATION SYSTEM REPAIRS SHALL BE BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING IRRIGATION SYSTEM WORK WITH OTHER CONTRACTORS.

SEE CITY WATERMAIN AND SEWERS PLANS FOR WATERMAIN, HYDRANT, AND SEWER REMOVAL ITEMS



<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO	DATE	BY	CHKD	APPR	REVISION													<p>I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p>PRINT NAME: CURT A. KOBILARCSIK SIGNATURE: <i>Curt Kobilarcsik</i> DATE: 9-23-08 LICENSE NO. 24756</p>	<p>DRAWN BY: NJD DATE: 8-16-07 DESIGN BY: JED DATE: 8-16-07 CHECKED BY: CAK DATE: 8-16-07</p>	<p>ANOKA COUNTY HIGHWAY DEPT.</p>	<p>STATE PROJECT NO. 02-651-06 STATE PROJECT NO. 106-020-27 STATE PROJECT NO. 114-020-23</p>	<p>REMOVAL PLAN</p> <p>STA 115+00 to STA 131+00</p> <p>Sheet 37 of 159 Sheets</p>
NO	DATE	BY	CHKD	APPR	REVISION																		

NAME: P:\02-651-04\PLAN\0265106_RM1.DGN



- REMOVAL LEGEND**
- REMOVE BITUMINOUS PAVEMENT
 - MILL BITUMINOUS SURFACE (2.0")
 - REMOVE CONCRETE SIDEWALK OR MEDIAN
 - REMOVE BITUMINOUS WALK OR BITUMINOUS MEDIAN
 - OR TREE REMOVAL
 - REMOVE CURB AND GUTTER
 - REMOVE BITUMINOUS CURB
 - CONSTRUCTION LIMITS
 - PROPOSED CURB AND/OR EDGE OF PAVEMENT (FOR REFERENCE ONLY)
 - REMOVE SEWER PIPE (STORM)
 - SOIL BORINGS

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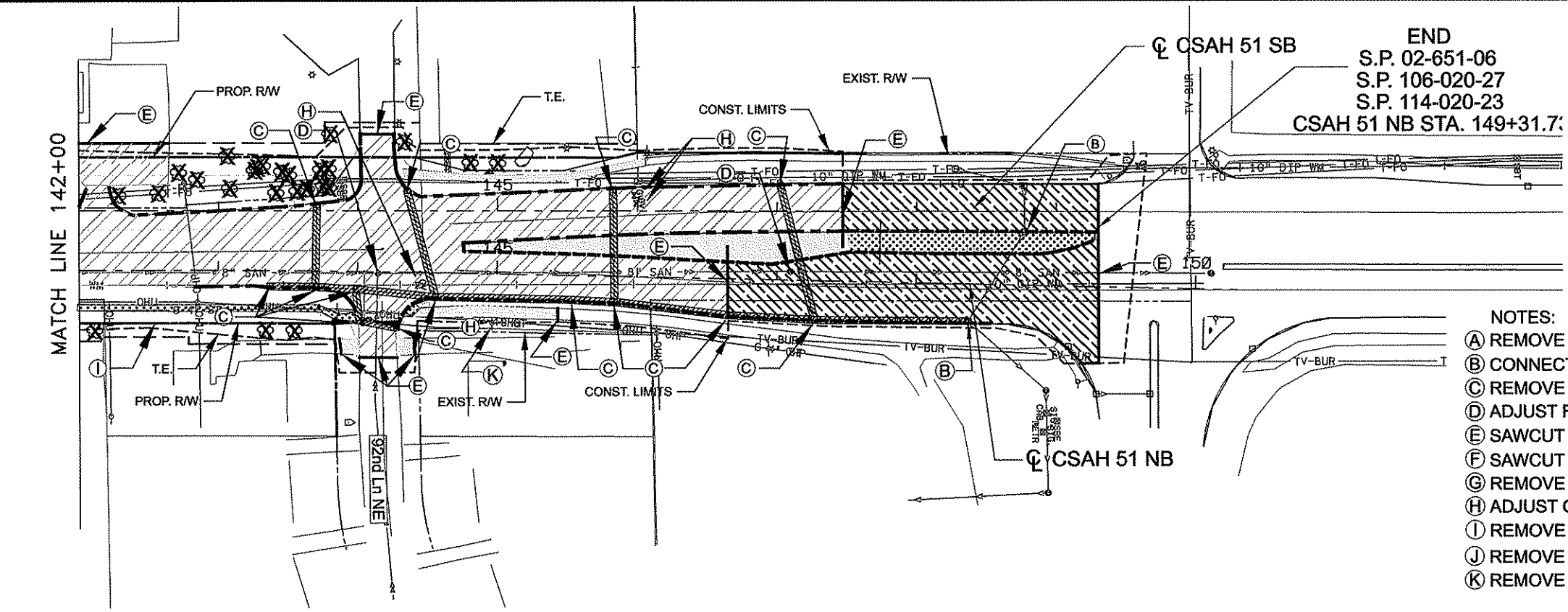
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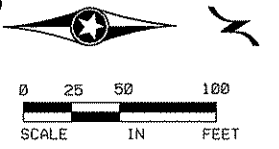
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SEE CITY WATERMAIN PLANS FOR WATERMAIN AND HYDRANT REMOVAL ITEMS



END
 S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23
 CSAH 51 NB STA. 149+31.7

- NOTES:**
- (A) REMOVE PIPE CULVERTS
 - (B) CONNECT TO EXISTING STRUCTURE
 - (C) REMOVE DRAINAGE STRUCTURE
 - (D) ADJUST FRAME RING AND CASTING
 - (E) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (F) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
 - (G) REMOVE PIPE APRON
 - (H) ADJUST GATE VALVE
 - (I) REMOVE FENCE
 - (J) REMOVE WOOD RETAINING WALL
 - (K) REMOVE RETAINING WALL



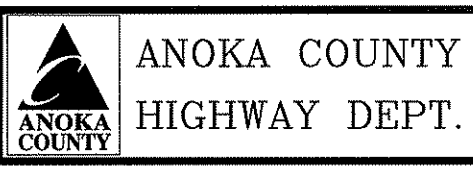
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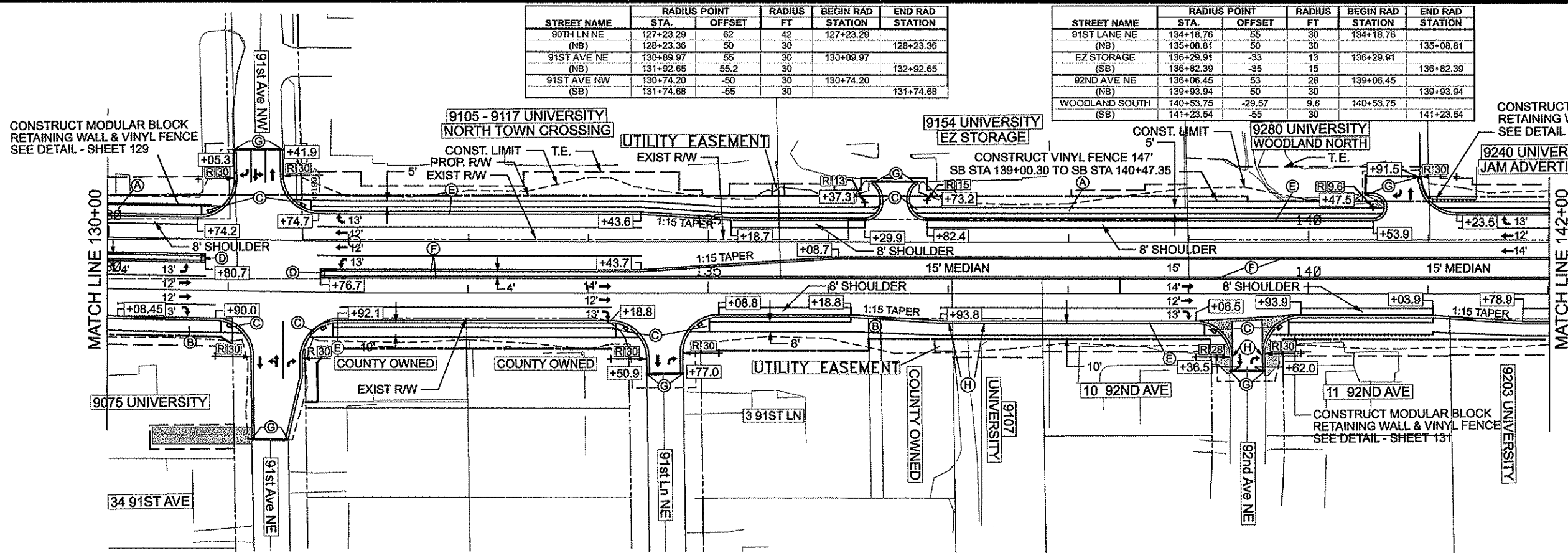
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STATE PROJECT NO. 02-651-06
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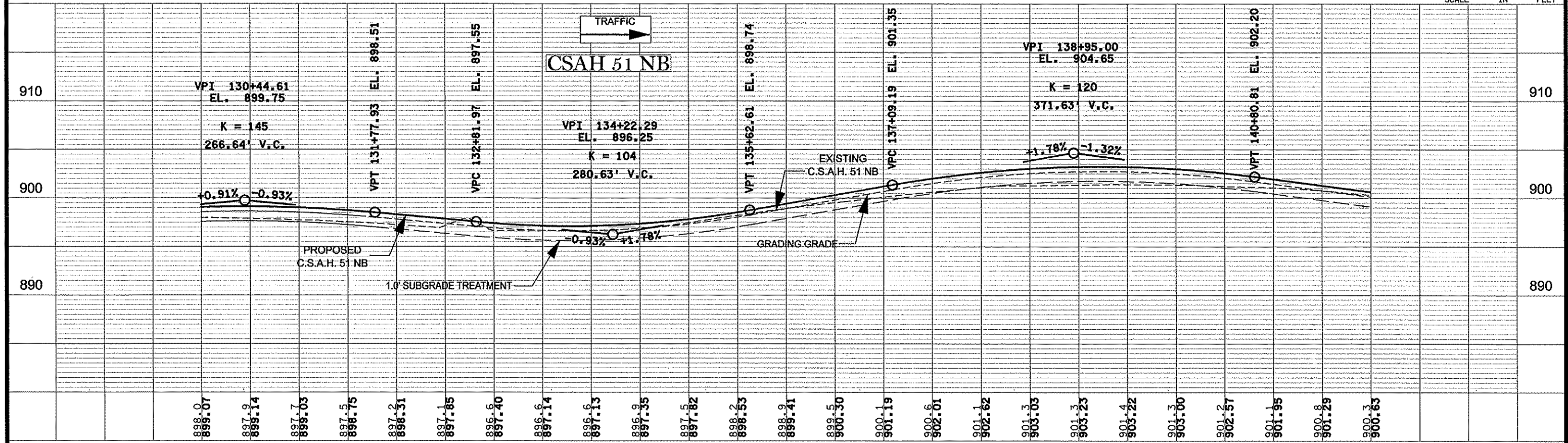
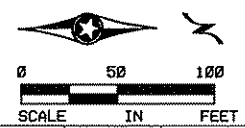
REMOVAL PLAN
 STA 130+00 to STA 140+31
 Sheet 38 of 159 Sheets



STREET NAME	RADIUS POINT		RADIUS FT	BEGIN RAD STATION	END RAD STATION
	STA.	OFFSET			
90TH LN NE (NB)	127+23.29	62	42	127+23.29	
91ST AVE NE (NB)	128+23.36	50	30	128+23.36	128+23.36
91ST AVE NE (NB)	130+89.97	55	30	130+89.97	
91ST AVE NE (NB)	131+92.65	55.2	30	132+92.65	
91ST AVE NW (SB)	130+74.20	-50	30	130+74.20	
91ST AVE NW (SB)	131+74.68	-55	30	131+74.68	

STREET NAME	RADIUS POINT		RADIUS FT	BEGIN RAD STATION	END RAD STATION
	STA.	OFFSET			
91ST LANE NE (NB)	134+18.76	55	30	134+18.76	
EZ STORAGE (SB)	136+29.91	-33	13	136+29.91	
92ND AVE NE (NB)	136+06.45	53	28	139+06.45	
WOODLAND SOUTH (SB)	139+93.94	50	30	139+93.94	
WOODLAND SOUTH (SB)	140+53.75	-29.57	9.6	140+53.75	
WOODLAND SOUTH (SB)	141+23.54	-55	30	141+23.54	

- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - (E) B424 CURB & GUTTER
 - (F) B418 CURB & GUTTER
 - (G) 10' CURB TRANSITION
 - (H) CURB DROP
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED
- SEE INTERSECTION DETAILS FOR MORE INFORMATION



898.0	899.07	897.9	899.14	897.7	899.03	897.5	898.75	897.2	898.31	897.1	897.85	896.6	897.40	896.6	897.14	896.6	897.13	896.9	897.35	897.5	897.82	898.2	898.53	898.9	899.41	899.5	900.30	900.1	901.19	900.6	902.01	901.1	902.62	901.3	903.03	901.3	903.23	901.4	903.22	901.3	903.00	901.2	902.57	901.1	901.95	900.8	901.29	900.3	900.63
130+00	131+00	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00	142+00																																					

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_PP2.DGN 04/22/2008 2:50:04 PM

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

PRINT NAME: CURT A. KOBILARCSIK

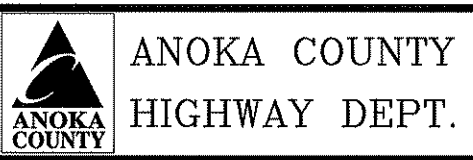
SIGNATURE: *Curt Kobilarcsik*

DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07

DESIGN BY: JED DATE: 8-16-07

CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06

STATE PROJECT NO. 106-020-27

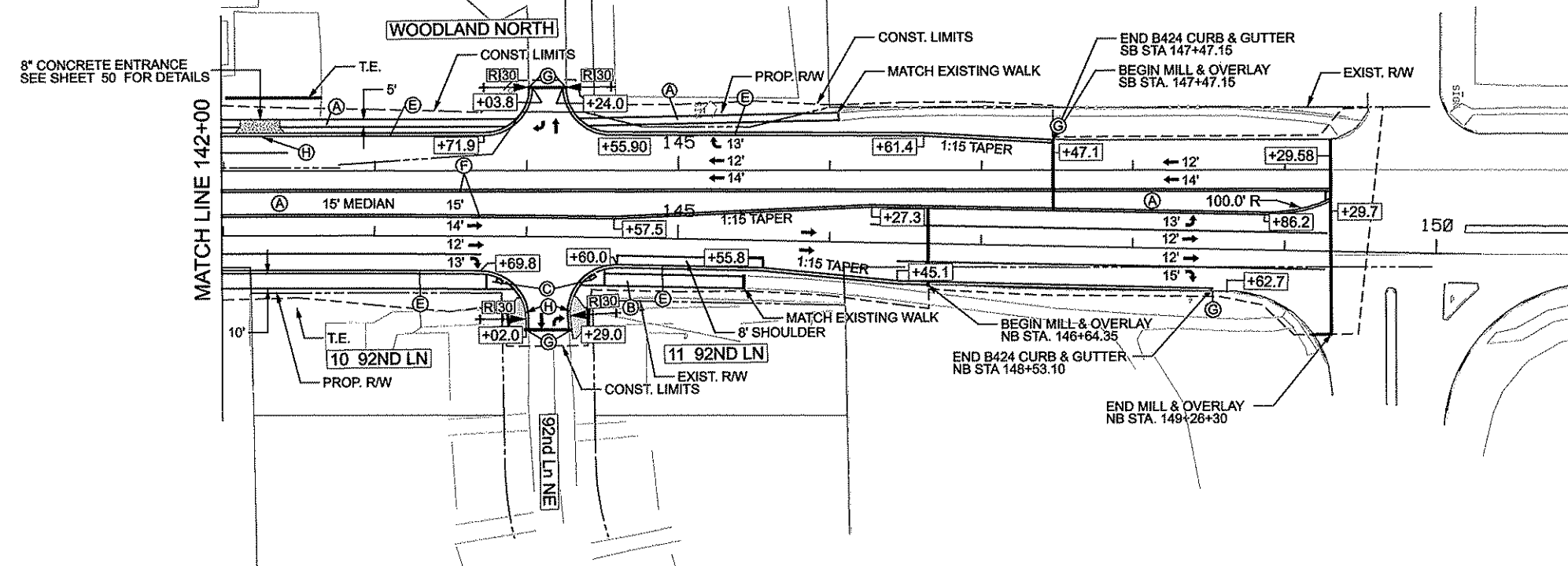
STATE PROJECT NO. 114-020-23

CONSTRUCTION PLAN

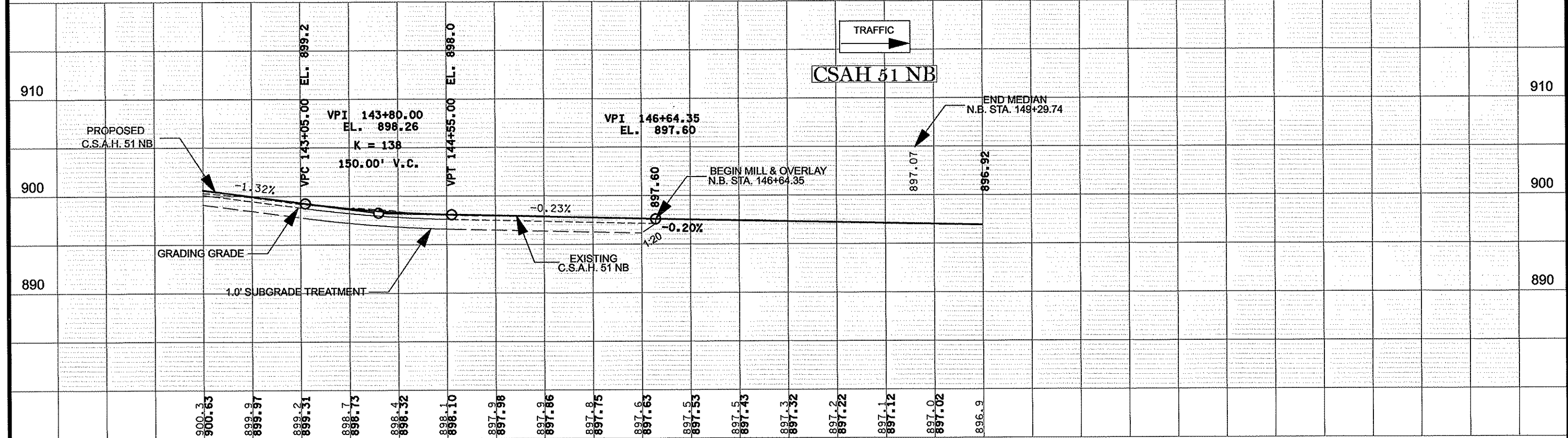
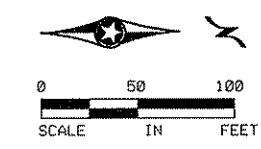
STA 130+00 to STA 142+00

Sheet 40 of 159 Sheets

STREET NAME	RADIUS POINT		RADIUS FT	BEGIN RAD STATION	END RAD STATION
	STA.	OFFSET			
92ND LANE NE (NB)	143+69.75	55	30	143+69.75	
	144+59.88	49.9	30		144+59.88
WOODLAND NORTH (SB)	143+71.81	-55.22	30	143+71.81	
	144+55.99	-55.48	30		144+55.99



- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - (E) B424 CURB & GUTTER
 - (F) B418 CURB & GUTTER
 - (G) 10' CURB TRANSITION
 - (H) CURB DROP
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
SEE INTERSECTION DETAILS FOR MORE INFORMATION



142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_PP3.DGN 04/23/2008 8:52:00 AM

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

PRINT NAME: CURT A. KOBILARCSIK

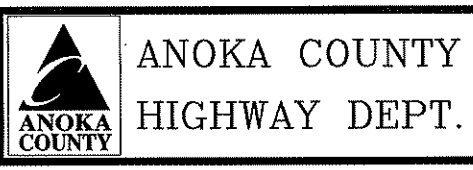
SIGNATURE: *Curt Kobilarsik*

DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07

DESIGN BY: JED DATE: 8-16-07

CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06

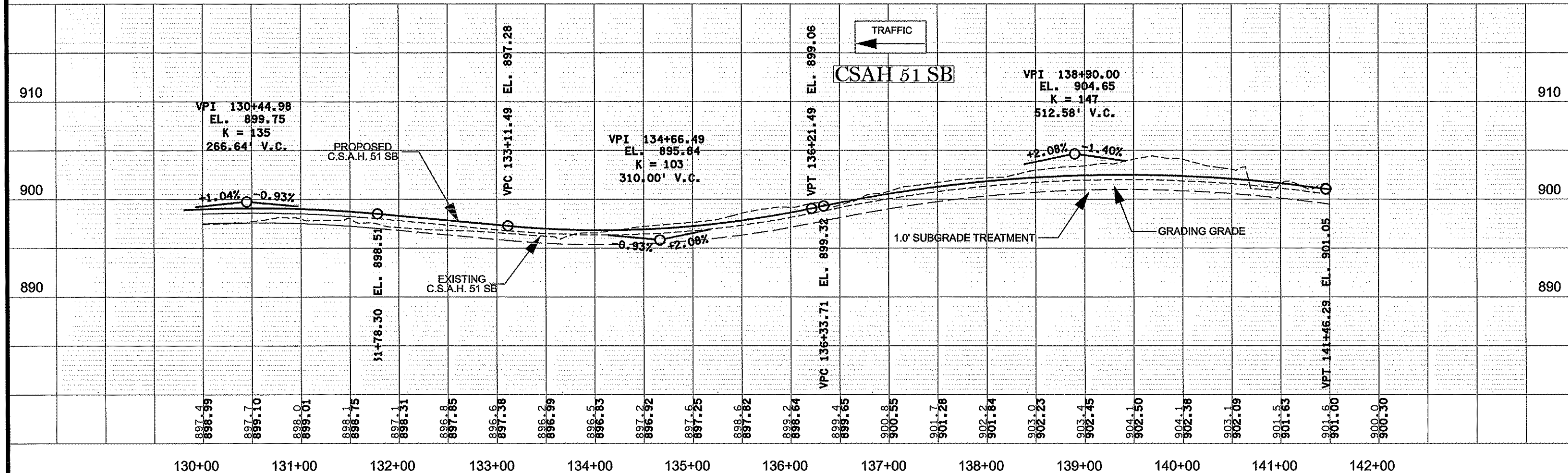
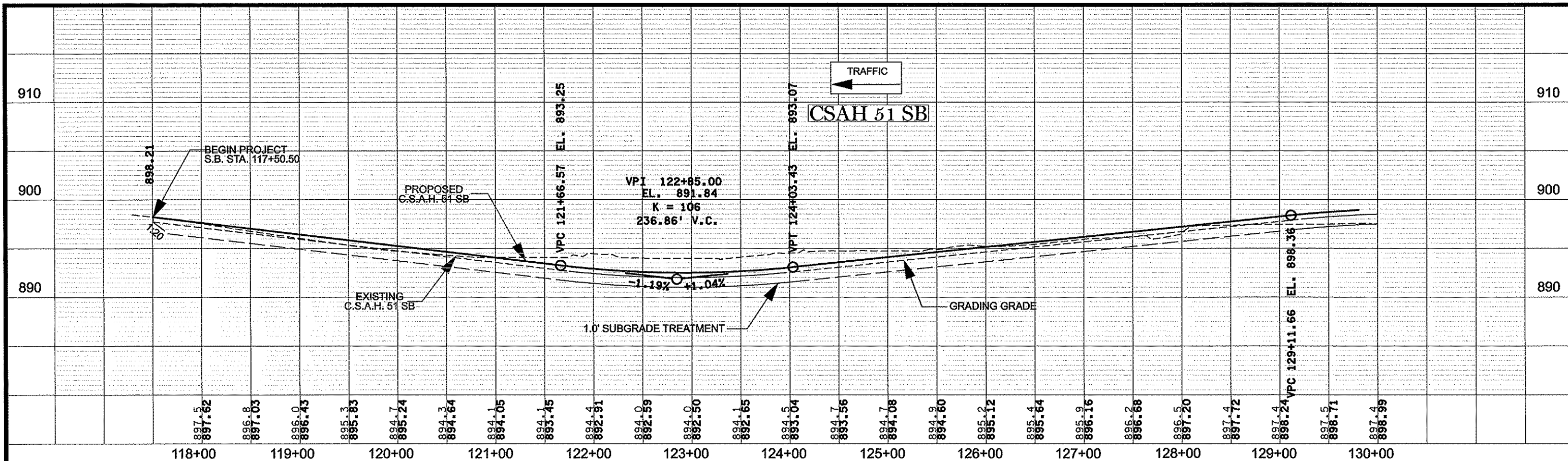
STATE PROJECT NO. 106-020-27

STATE PROJECT NO. 114-020-23

CONSTRUCTION PLAN

STA 142+00 to STA 149+25

Sheet 41 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106.PR_SB.DGN 04/22/2008 2:50:11 PM

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

PRINT NAME: CURT A. KOBILARCSIK

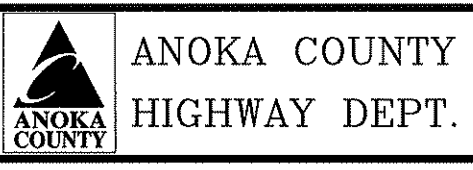
SIGNATURE: *Curt A. Kobilarsik*

DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07

DESIGN BY: JEO DATE: 8-16-07

CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06

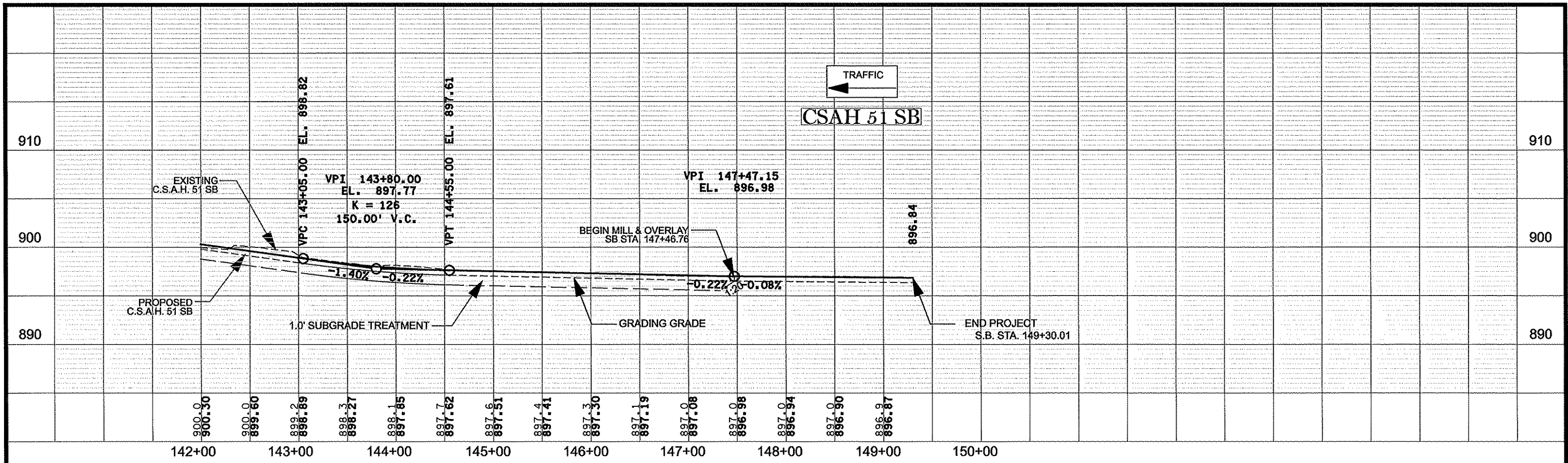
STATE PROJECT NO. 106-020-27

STATE PROJECT NO. 114-020-23

SB PROFILE

STA 117+75 to STA 142+00

Sheet 42 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106.PR_SB.DGN					
04/22/2008					
2:50:12 PM					

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

PRINT NAME: CURT A. KOBILARCSIK

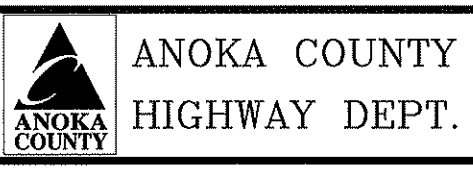
SIGNATURE: *Curt Kobilarsik*

DATE: 9-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07

DESIGN BY: JEO DATE: 8-16-07

CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06

STATE PROJECT NO. 106-020-27

STATE PROJECT NO. 114-020-23

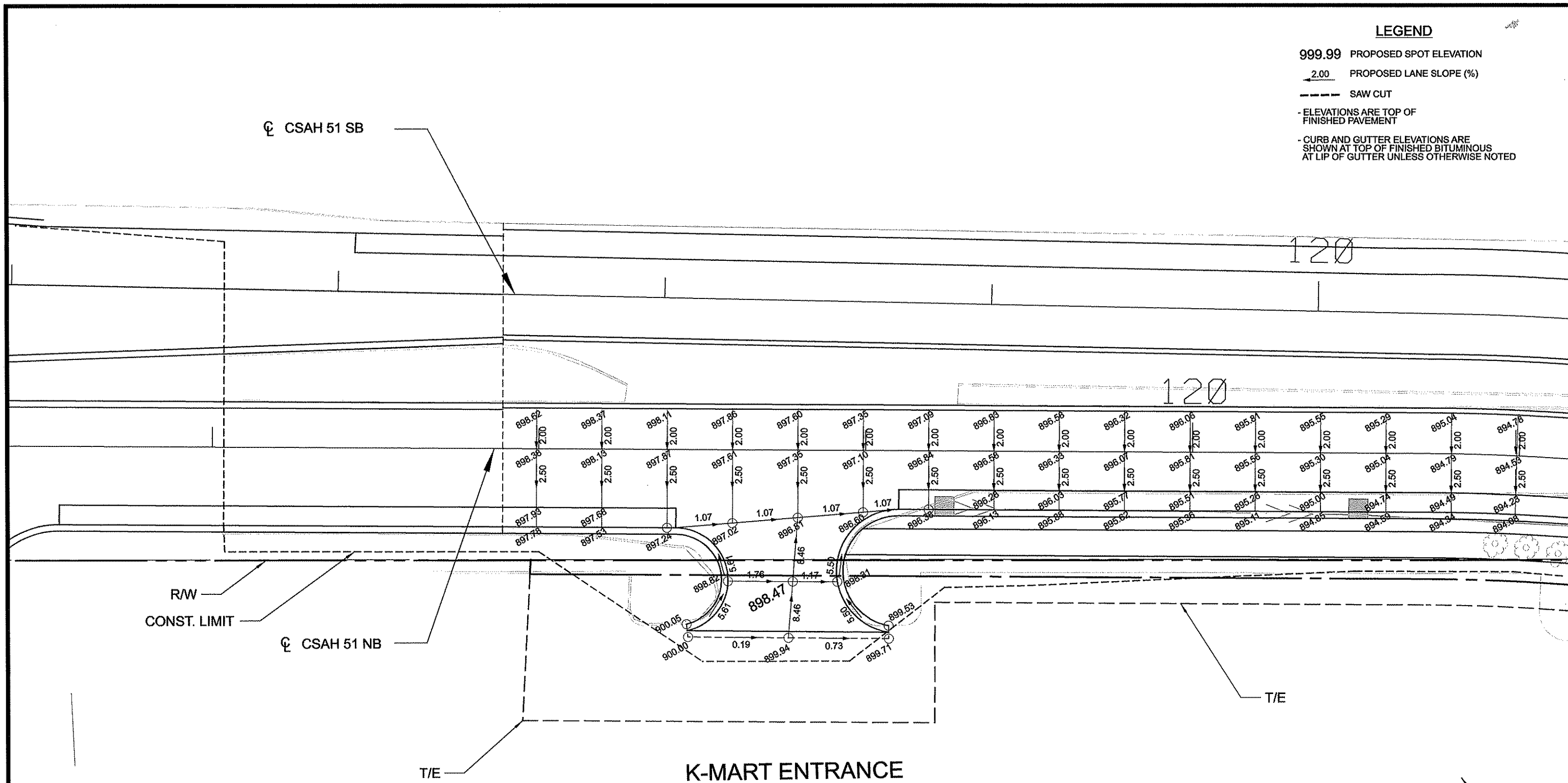
SB PROFILE

STA 142+00 to STA 152+00

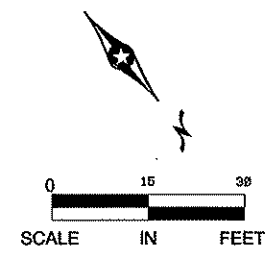
Sheet 43 of 159 Sheets

LEGEND

- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- SAW CUT
- ELEVATIONS ARE TOP OF FINISHED PAVEMENT
- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



K-MART ENTRANCE



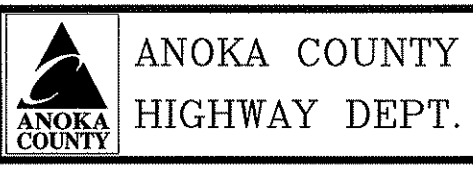
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NAME: P:\02-651-04\PLAN\0265104_IN4P.DGN 04/22/2008 2:50:16 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-3-08
 DESIGN BY: JEO DATE: 3-3-08
 CHECKED BY: CAK DATE: 3-3-08



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

INTERSECTION DETAIL
 K MART ENTRANCE

Sheet 44 of 159 Sheets

LEGEND

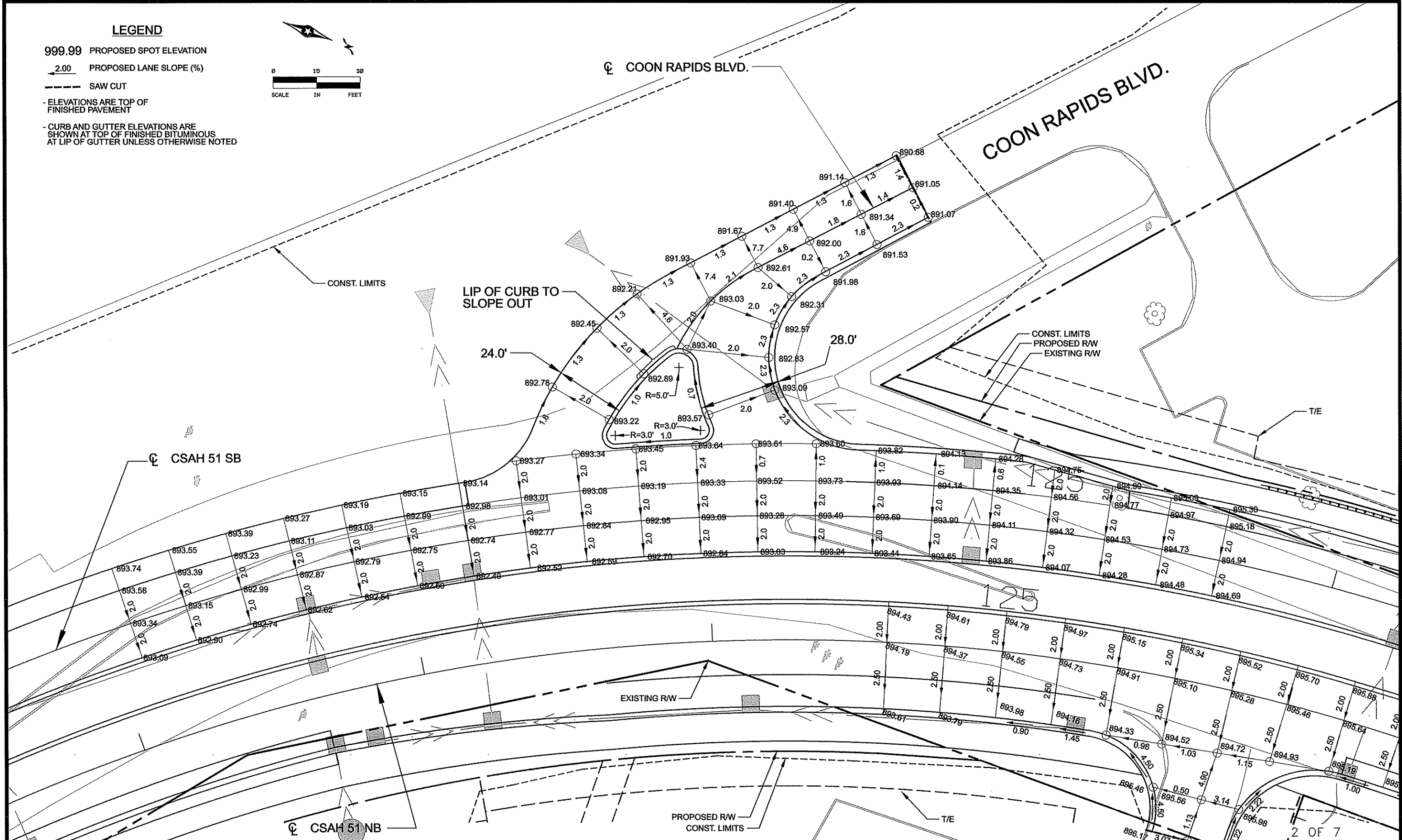
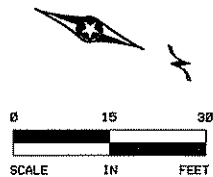
999.99 PROPOSED SPOT ELEVATION

2.00 PROPOSED LANE SLOPE (%)

--- SAW CUT

- ELEVATIONS ARE TOP OF FINISHED PAVEMENT

- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



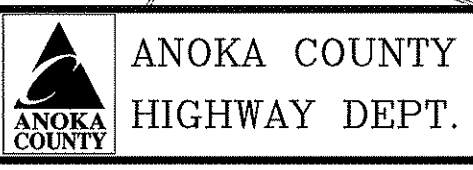
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NAME: P:\02-651-04\PLAN\0265104_INP_CRBV.DGN 04/22/2008 2:50:24 PM

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

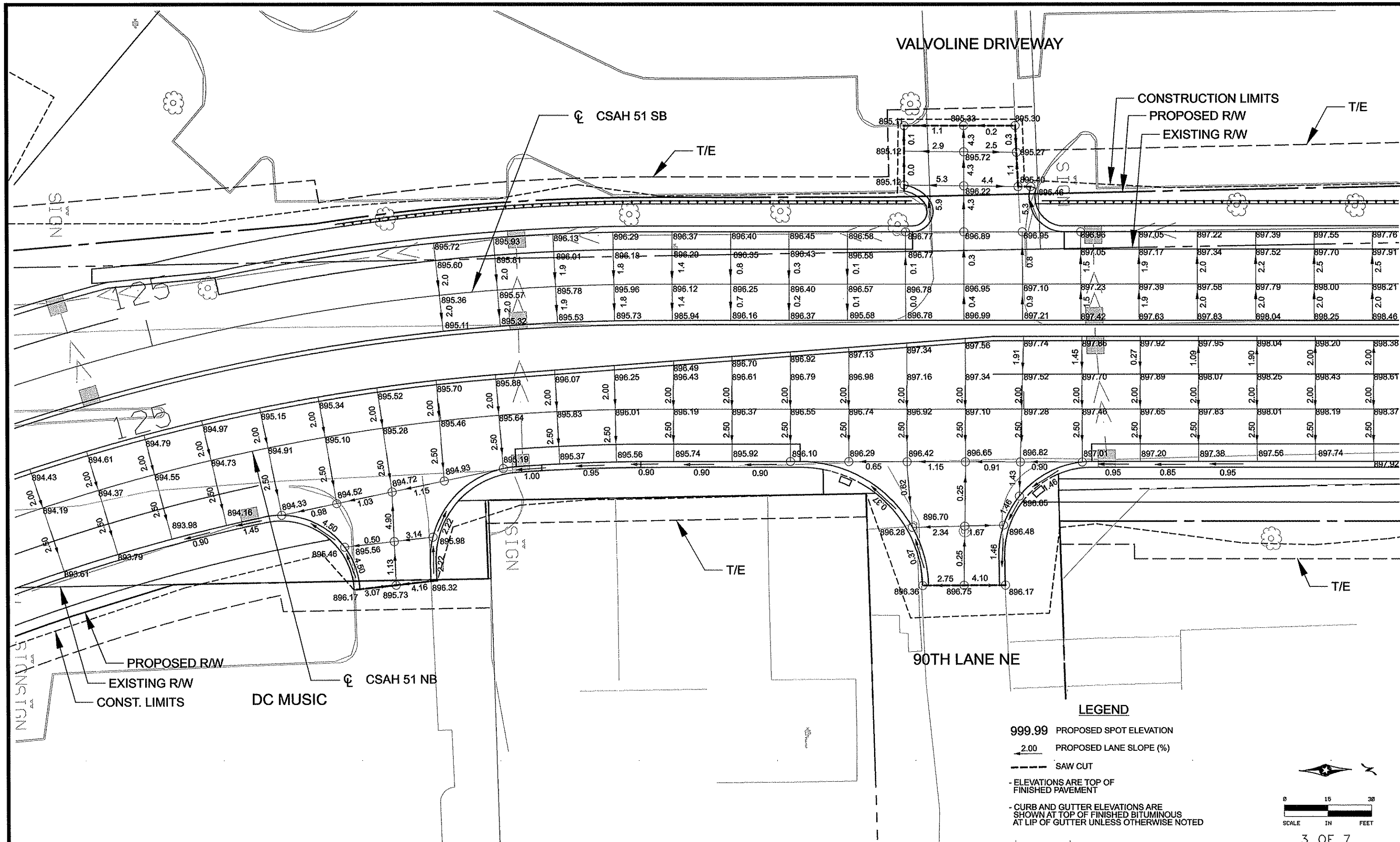
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

INTERSECTION DETAIL
 COON RAPIDS BOULEVARD
 Sheet 45 of 159 Sheets



LEGEND

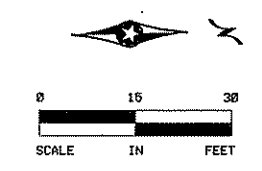
999.99 PROPOSED SPOT ELEVATION

2.00 PROPOSED LANE SLOPE (%)

--- SAW CUT

- ELEVATIONS ARE TOP OF FINISHED PAVEMENT

- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265104_IN2P.DGN 04/22/2008 2:50:32 PM

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

PRINT NAME: CURT A. KOBILARCSIK

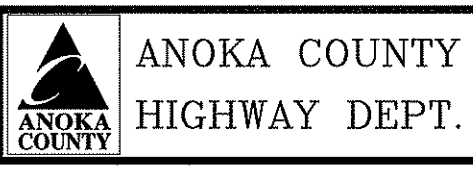
SIGNATURE: *Curt Kobilarsik*

DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07

DESIGN BY: JED DATE: 8-16-07

CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06

STATE PROJECT NO. 106-020-27

STATE PROJECT NO. 114-020-23

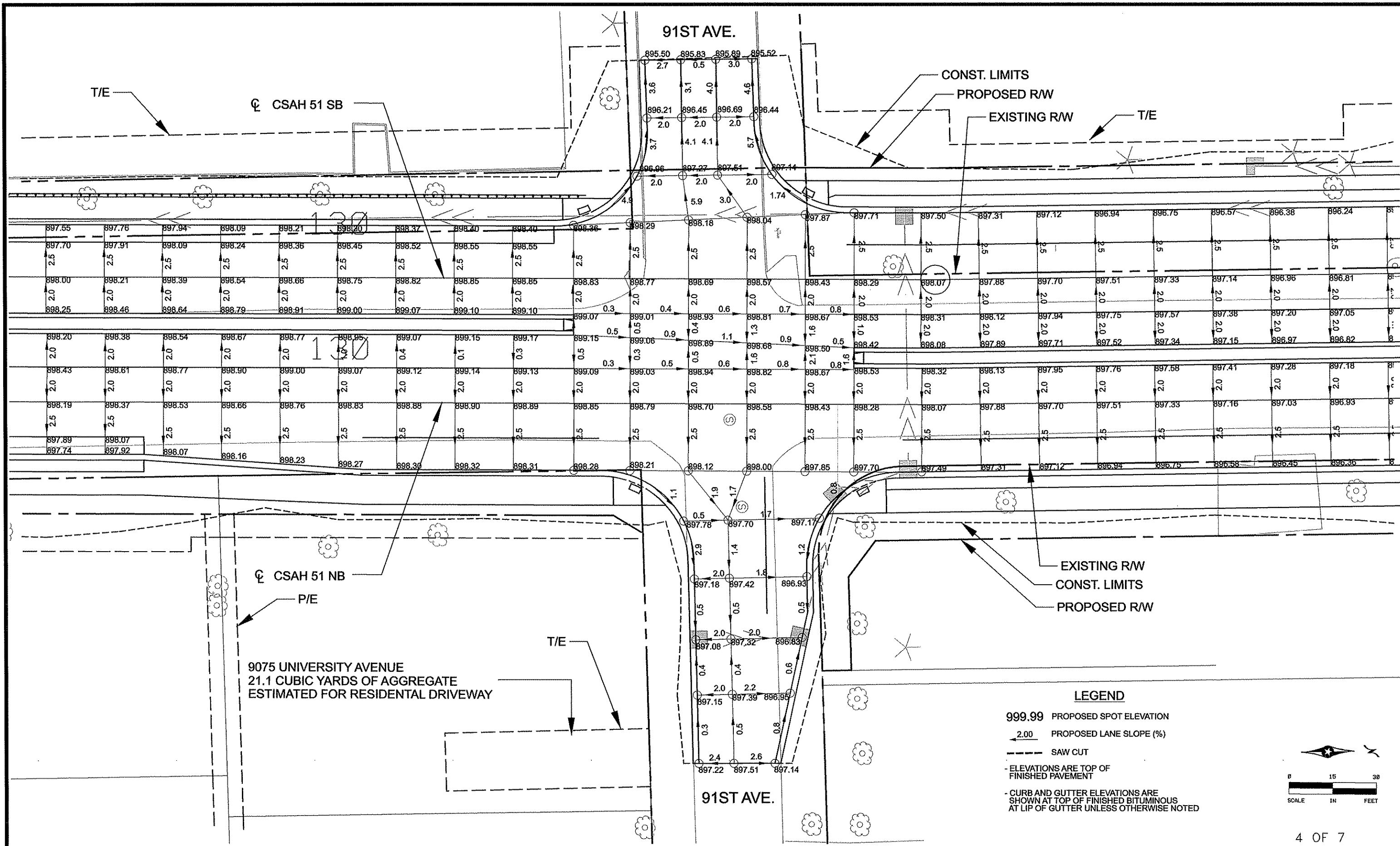
INTERSECTION DETAIL

DC MUSIC ENTRANCE

90TH LANE NORTHEAST

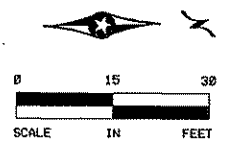
PAWN AMERICA ENTRANCE

Sheet 46 of 159 Sheets



LEGEND

- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- SAW CUT
- ELEVATIONS ARE TOP OF FINISHED PAVEMENT
- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



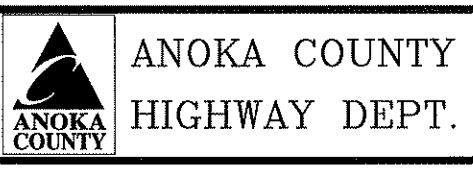
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NAME: P:\02-651-04\PLAN\0265104_INSP.DGN 04/22/2008 2:50:39 PM

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

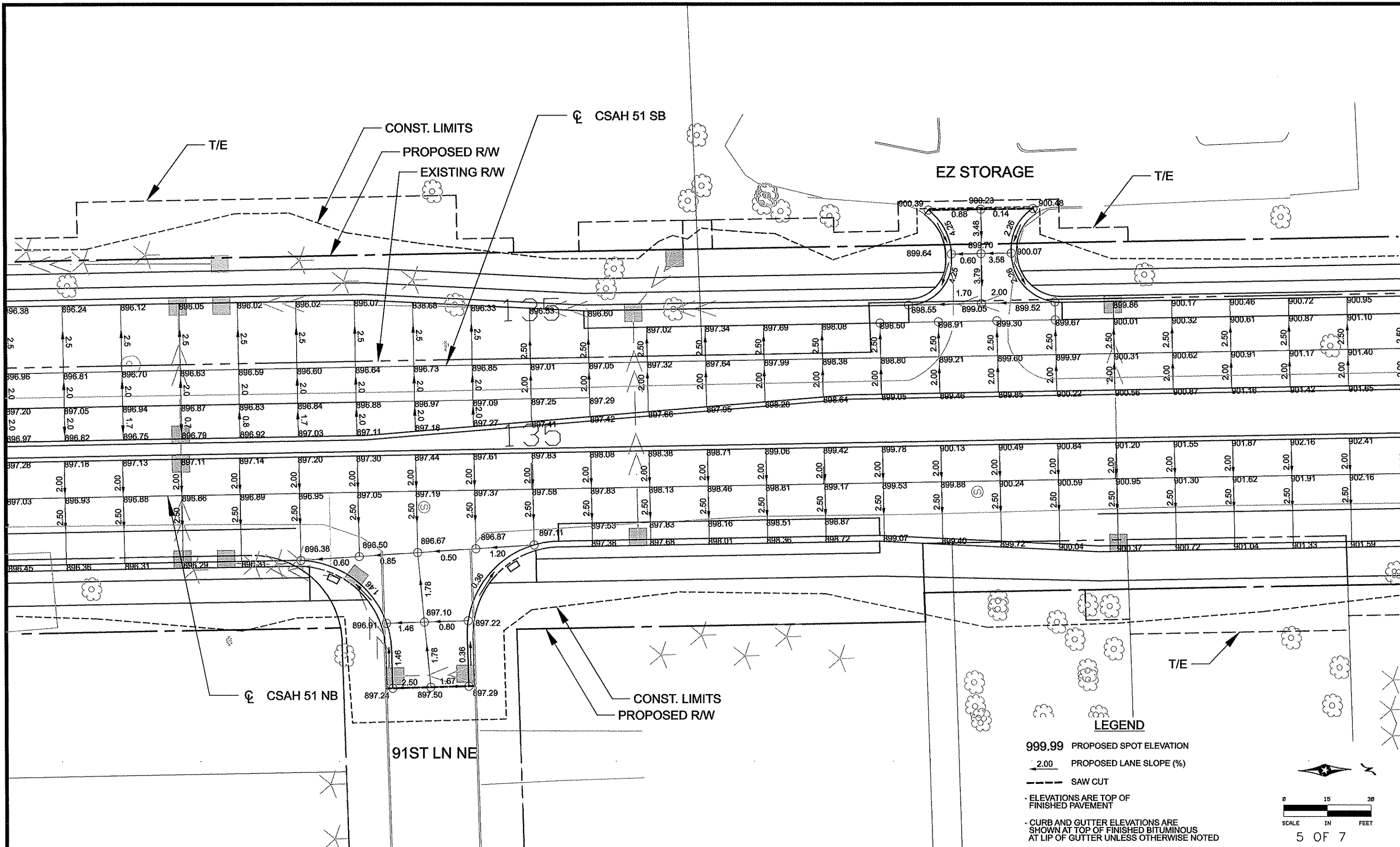
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

INTERSECTION DETAIL
 91ST AVENUE NORTHEAST
 91ST AVENUE NORTHWEST
 Sheet 47 of 159 Sheets

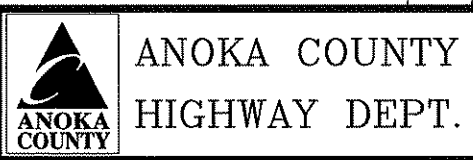


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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

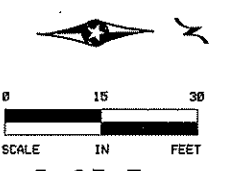
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *[Signature]*
 DATE: 4-23-08 LICENSE NO. 24756

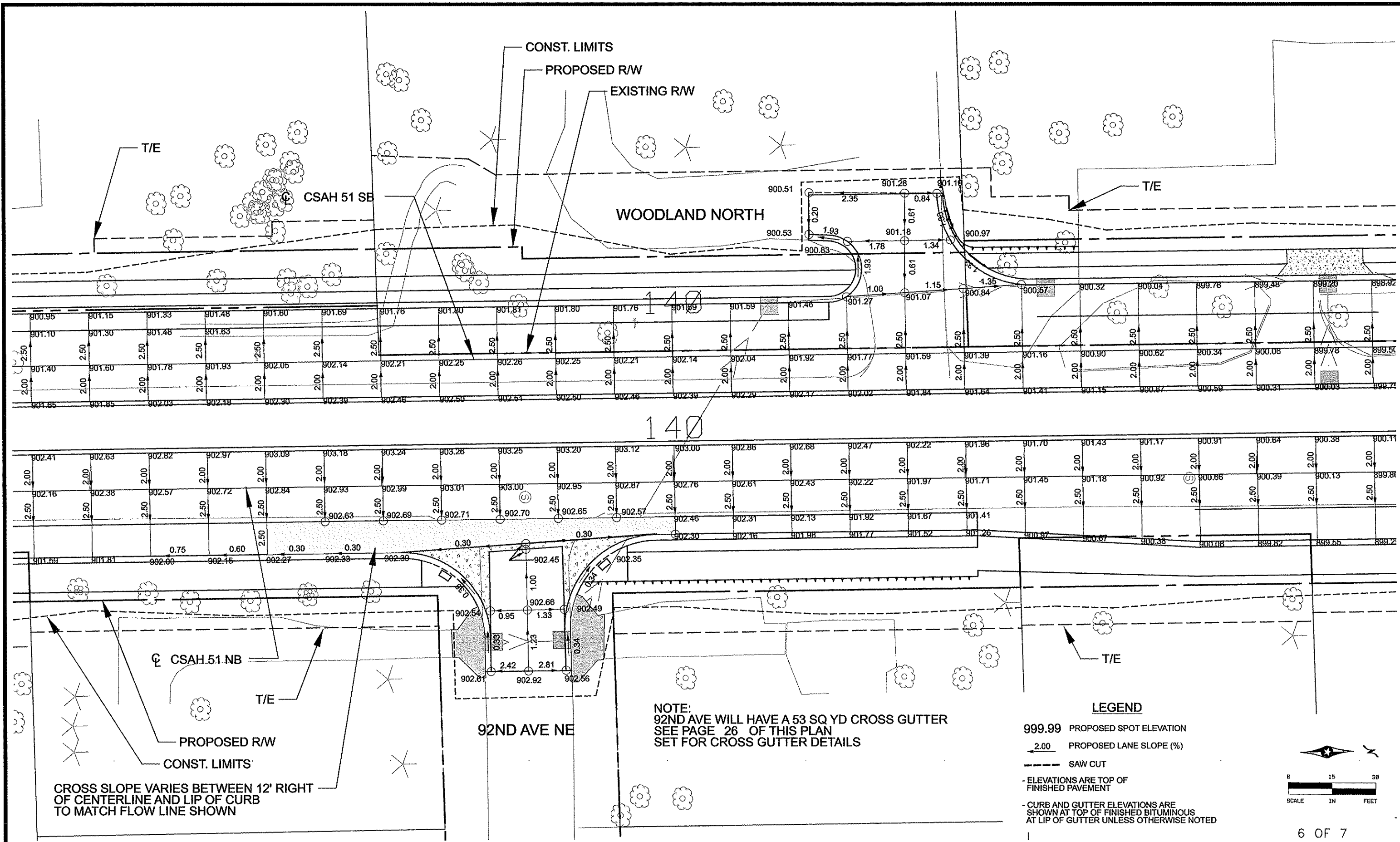
DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

INTERSECTION DETAIL
 91ST LANE NORTHEAST
 EZ STORAGE ENTRANCE
 Sheet 48 of 159 Sheets



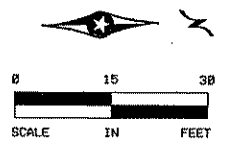


140

NOTE:
92ND AVE WILL HAVE A 53 SQ YD CROSS GUTTER
SEE PAGE 26 OF THIS PLAN
SET FOR CROSS GUTTER DETAILS

LEGEND

- 999.99 PROPOSED SPOT ELEVATION
- 2.00 PROPOSED LANE SLOPE (%)
- SAW CUT
- ELEVATIONS ARE TOP OF FINISHED PAVEMENT
- CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED



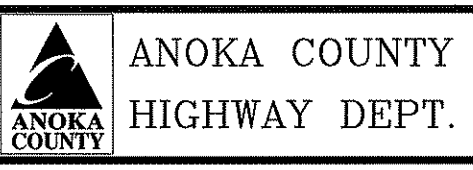
CROSS SLOPE VARIES BETWEEN 12' RIGHT OF CENTERLINE AND LIP OF CURB TO MATCH FLOW LINE SHOWN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265104-1NSP.DGN					

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

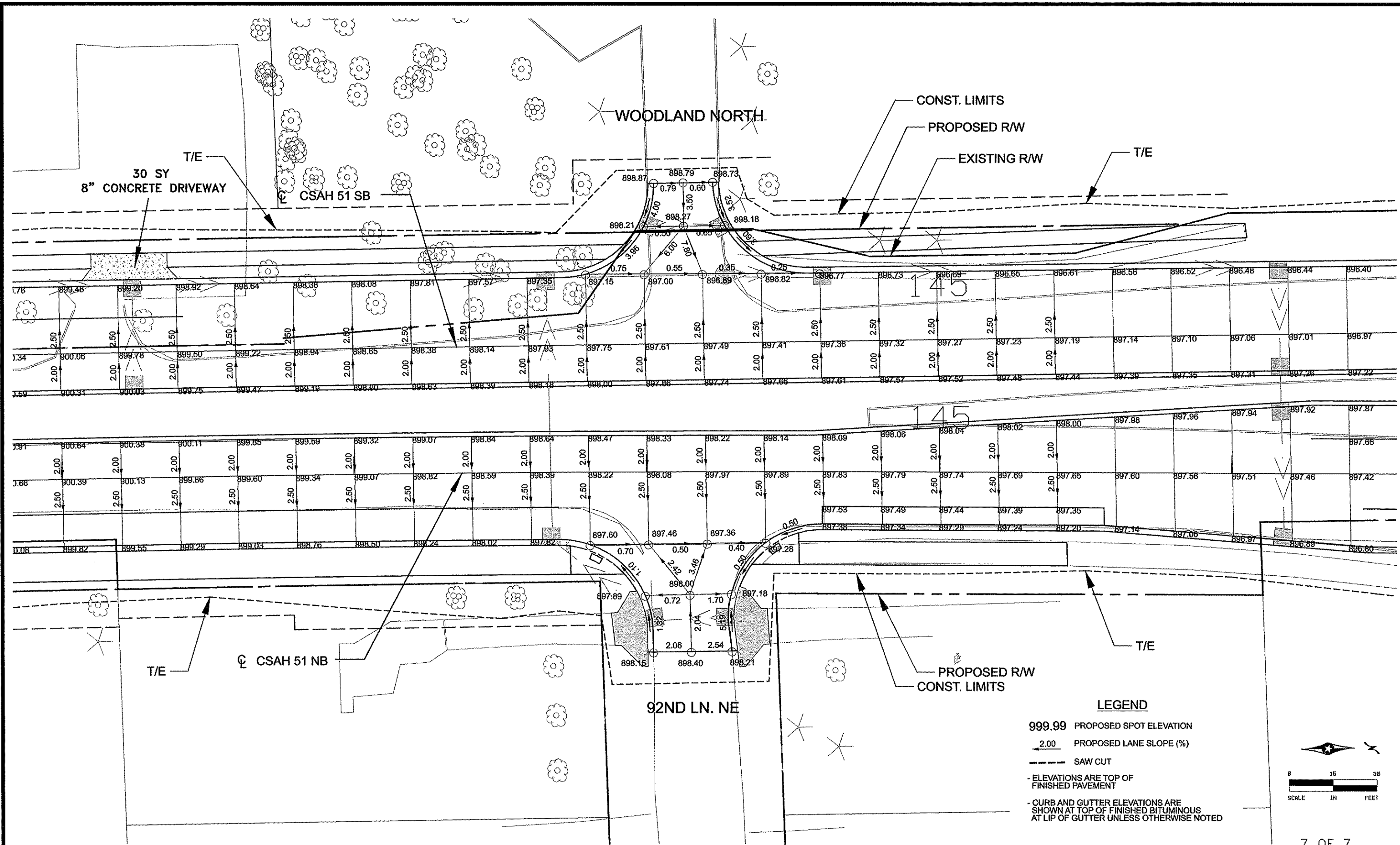
PRINT NAME: CURT A. KOSILARCSIK
SIGNATURE: *Curt Kosilarscik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
DESIGN BY: JEO DATE: 8-16-07
CHECKED BY: CAK DATE: 8-18-07



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

INTERSECTION DETAIL
92ND AVENUE NORTHEAST
WOODLAND SOUTH ENTRANCE
Sheet 49 of 159 Sheets



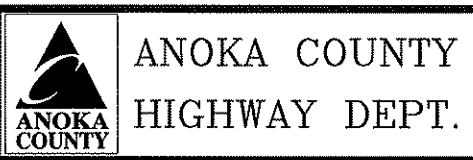
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

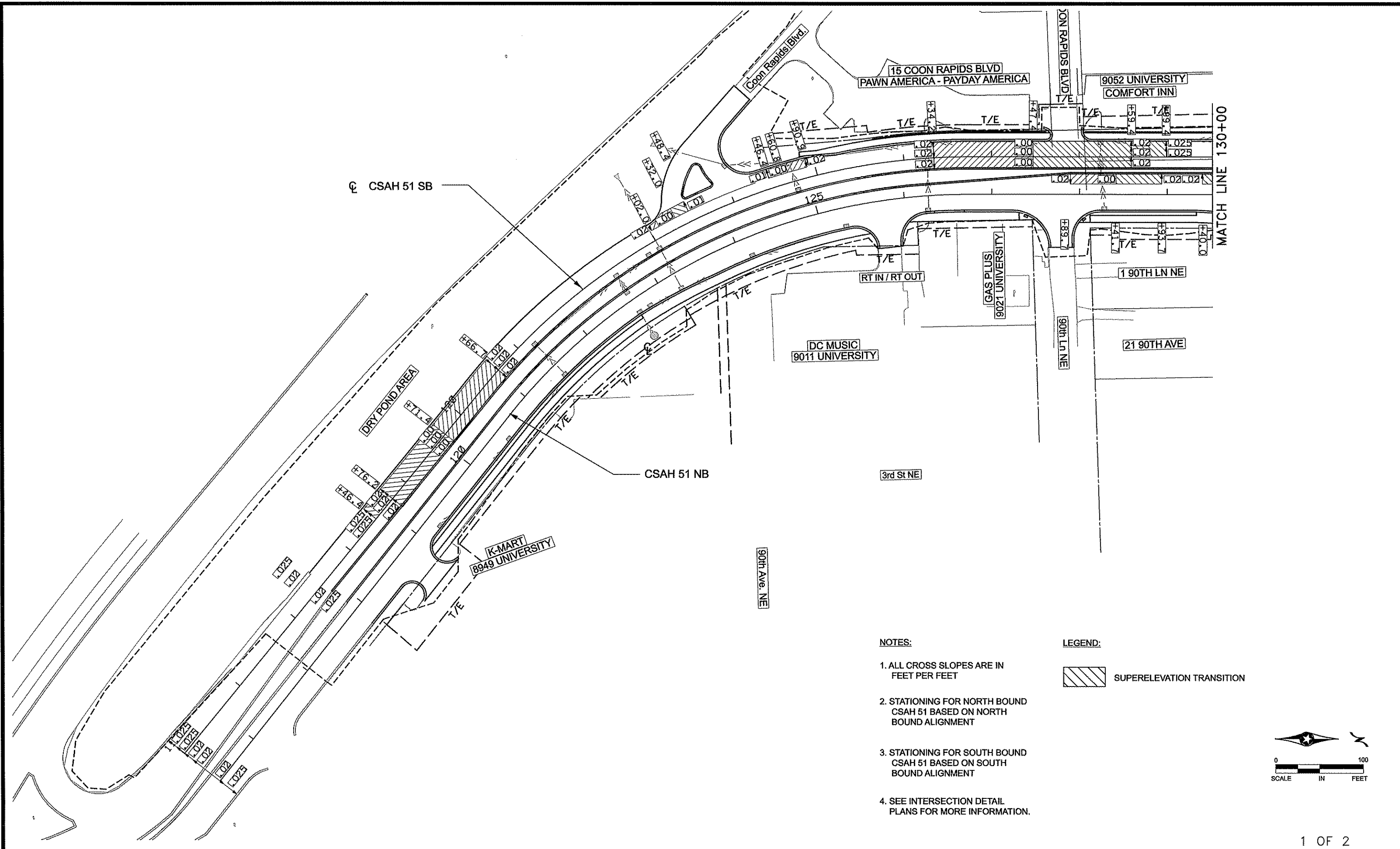
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

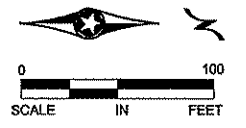
INTERSECTION DETAIL
 92ND LANE NORTHEAST
 WOODLAND NORTH ENTRANCE
 Sheet 50 of 159 Sheets



- NOTES:**
1. ALL CROSS SLOPES ARE IN FEET PER FEET
 2. STATIONING FOR NORTH BOUND CSAH 51 BASED ON NORTH BOUND ALIGNMENT
 3. STATIONING FOR SOUTH BOUND CSAH 51 BASED ON SOUTH BOUND ALIGNMENT
 4. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

LEGEND:

 SUPERELEVATION TRANSITION



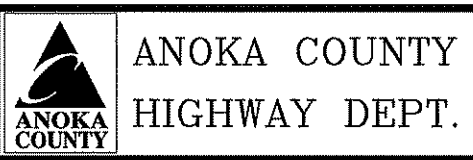
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SE1.DGN 04/22/2008 2:55:58 PM

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

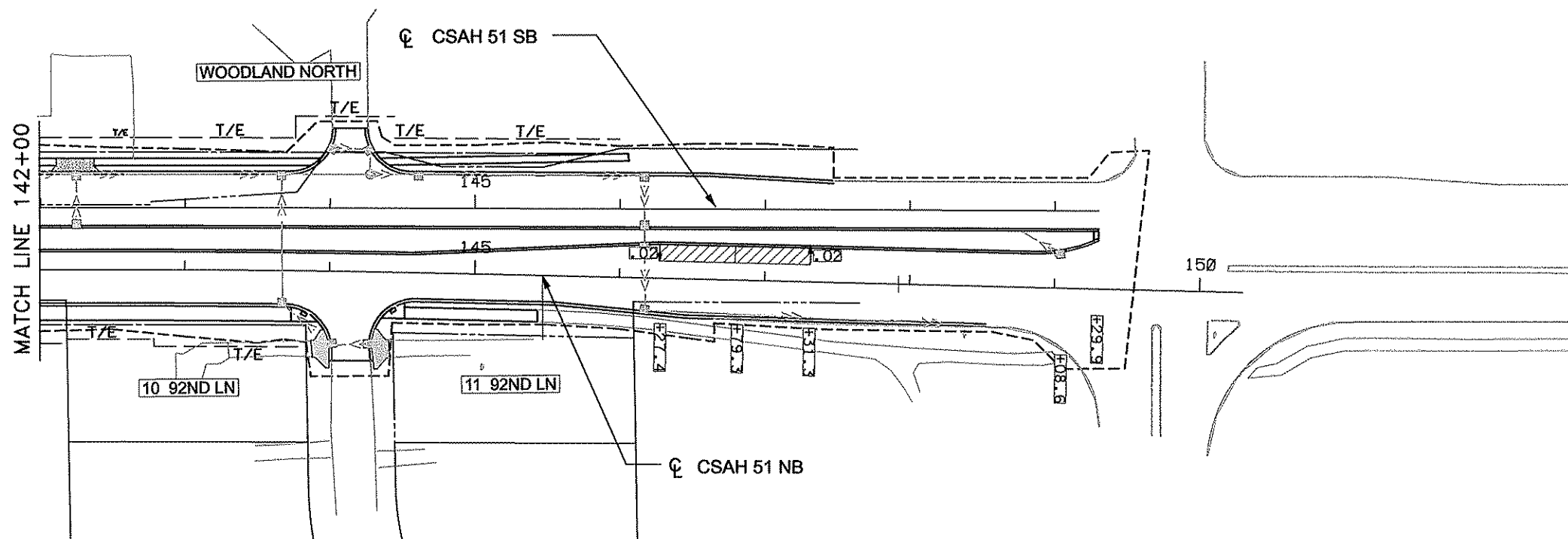
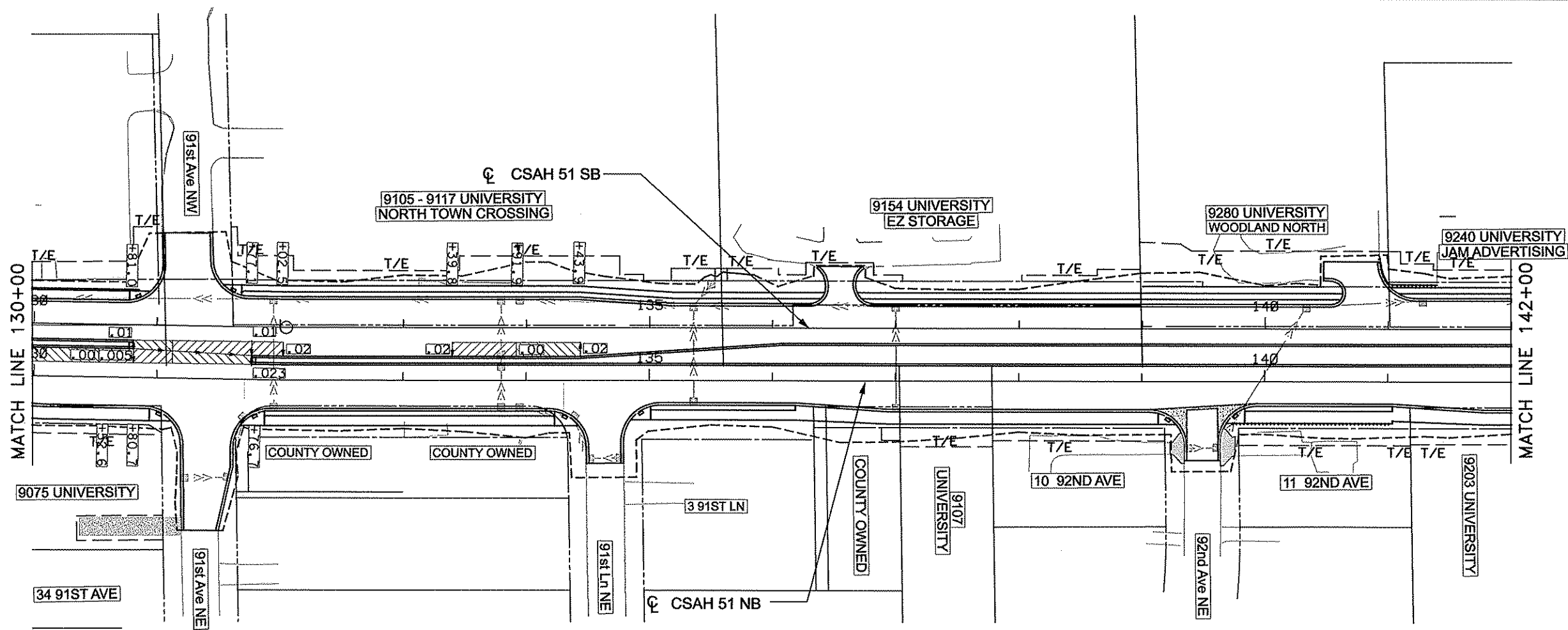
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CRK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

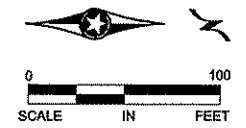
SUPERELEVATION
 STA 115+00 to STA 130+00
 Sheet 51 of 159 Sheets



- NOTES:**
1. ALL CROSS SLOPES ARE IN FEET PER FEET
 2. STATIONING FOR NORTH BOUND CSAH 51 BASED ON NORTH BOUND ALIGNMENT
 3. STATIONING FOR SOUTH BOUND CSAH 51 BASED ON SOUTH BOUND ALIGNMENT
 4. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

LEGEND:

 SUPERELEVATION TRANSITION



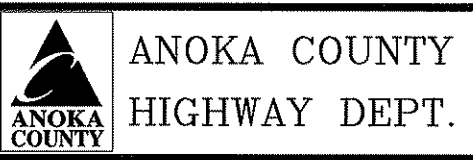
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265104_SE2A.DGN 04/22/2008 2:56:03 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

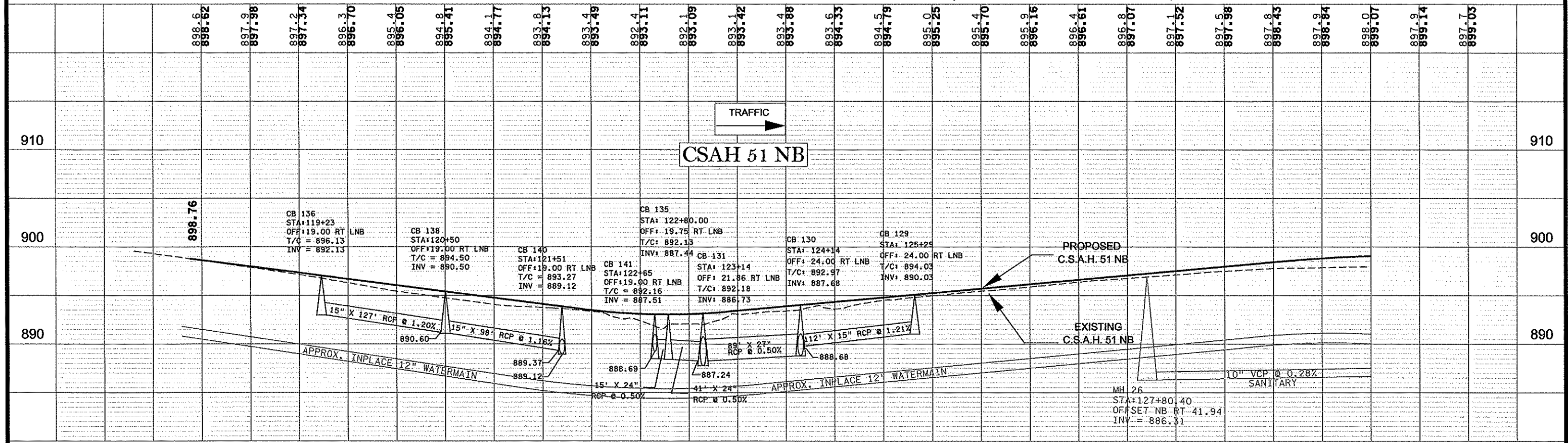
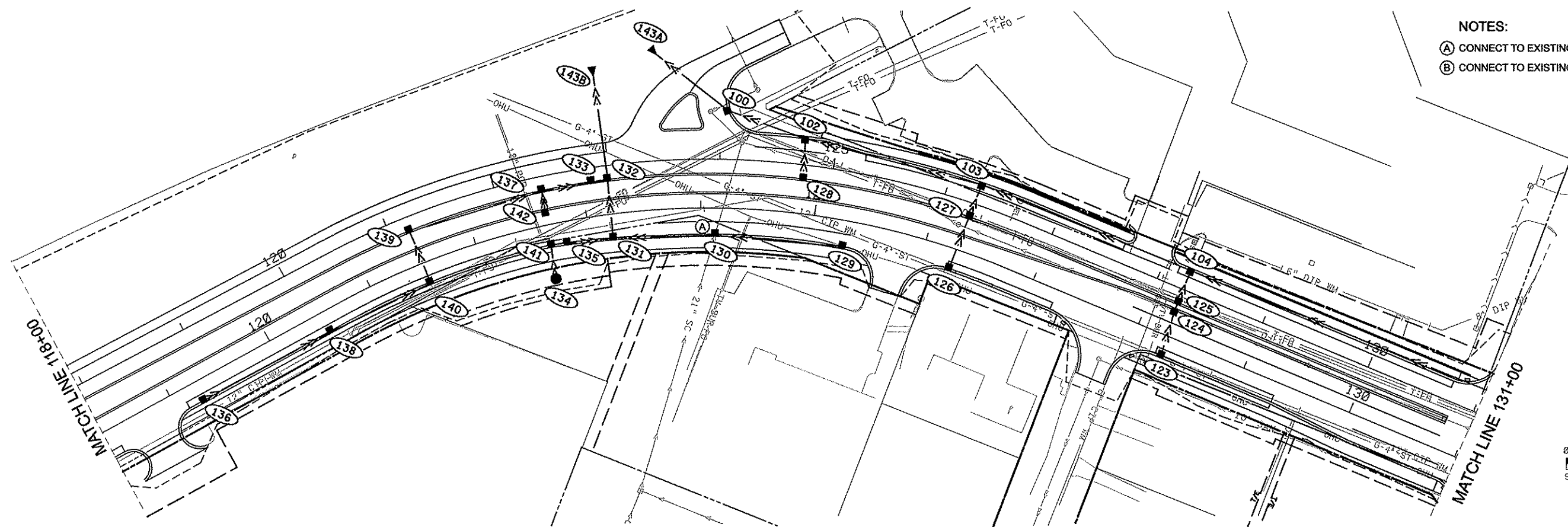
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 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CAK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

SUPERELEVATION
 STA 130+00 to STA 150+00
 Sheet 52 of 159 Sheets

- NOTES:
 (A) CONNECT TO EXISTING STORM SEWER
 (B) CONNECT TO EXISTING DRAINAGE STRUCTURE

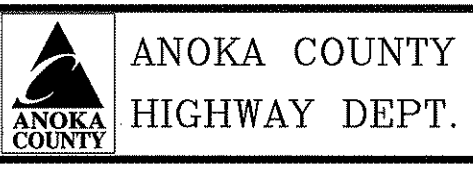


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NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_DR1.DGN					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

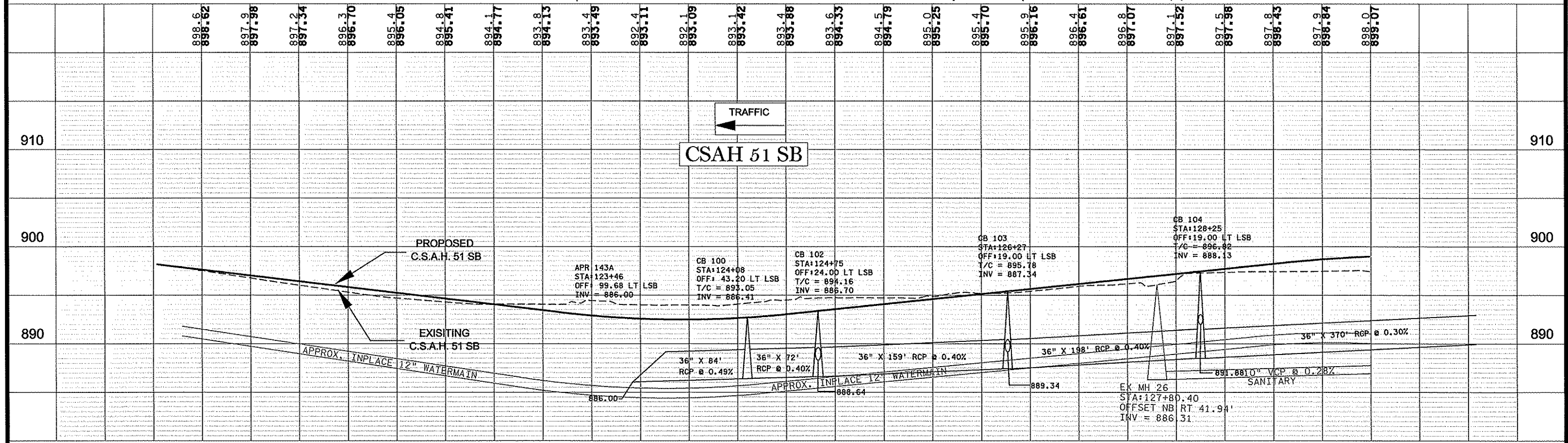
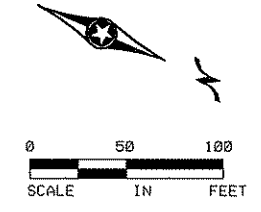
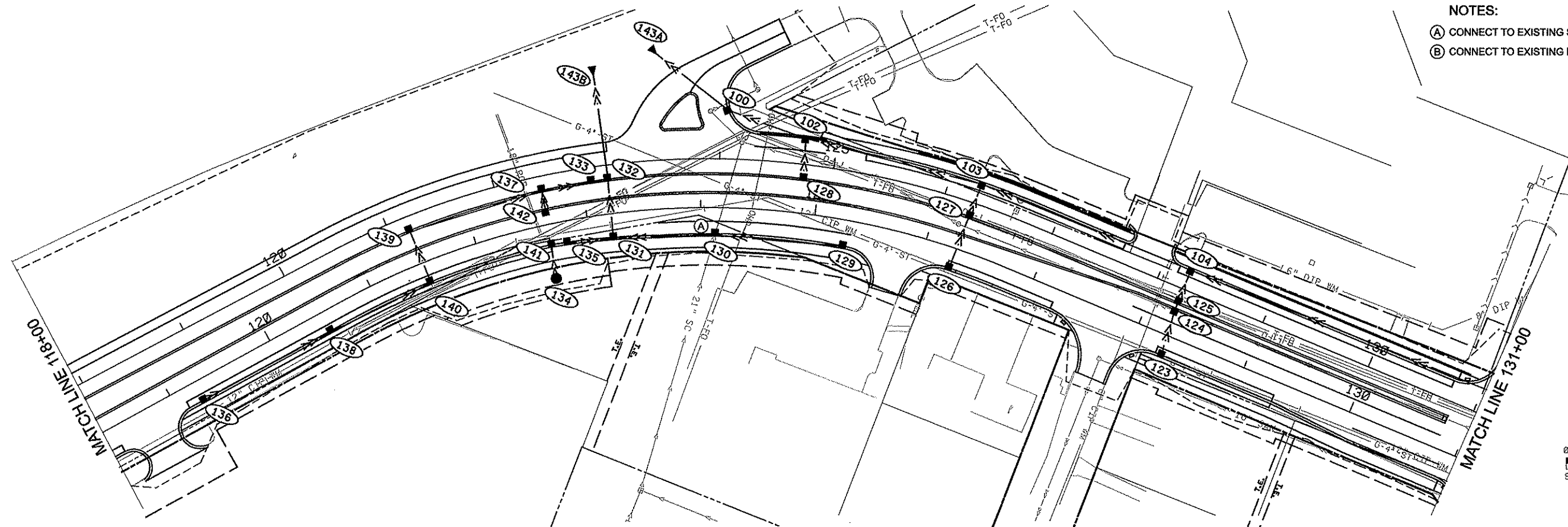
DRAWN BY: BAY DATE: 9-17-07
 DESIGN BY: JEO DATE: 9-17-07
 CHECKED BY: CAK DATE: 9-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

1 OF 4
 DRAINAGE PLAN PROFILE
 STA 118+00 to STA 130+00
 Sheet 53 of 159 Sheets

- NOTES:
- (A) CONNECT TO EXISTING STORM SEWER
 - (B) CONNECT TO EXISTING DRAINAGE STRUCTURE



118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_DR2.DGN 04/22/2008 2:56:16 PM

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

PRINT NAME: CURT A. KOBILARCSIK

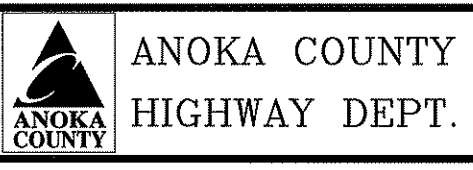
SIGNATURE: *Curt Kobilarcsik*

DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: BAY DATE: 8-17-07

DESIGN BY: JEO DATE: 8-17-07

CHECKED BY: CAK DATE: 8-17-07



STATE PROJECT NO. 02-651-06

STATE PROJECT NO. 106-020-27

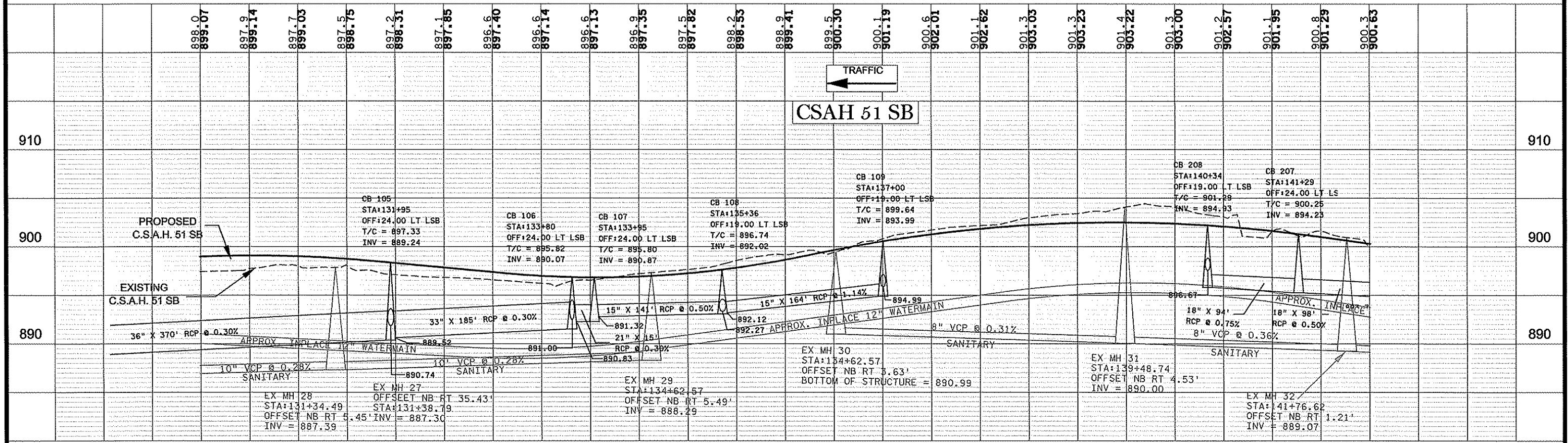
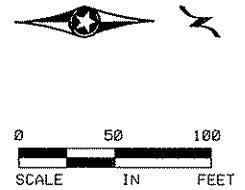
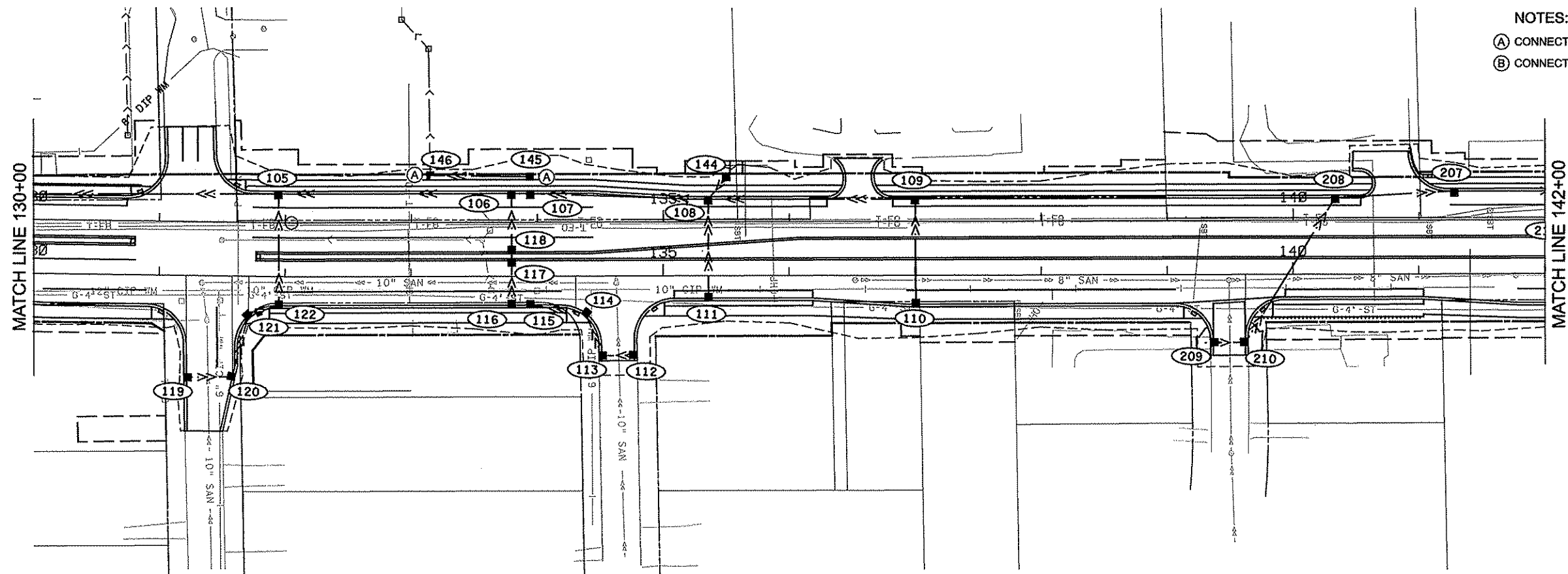
STATE PROJECT NO. 114-020-23

DRAINAGE PLAN PROFILE

STA 118+00 to STA 130+00

Sheet 54 of 159 Sheets

- NOTES:
 (A) CONNECT TO EXISTING STORM SEWER
 (B) CONNECT TO EXISTING DRAINAGE STRUCTURE



130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00

3 OF 4

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_DR3.DGN					
DATE: 04/22/2008					
2:56:22 PM					

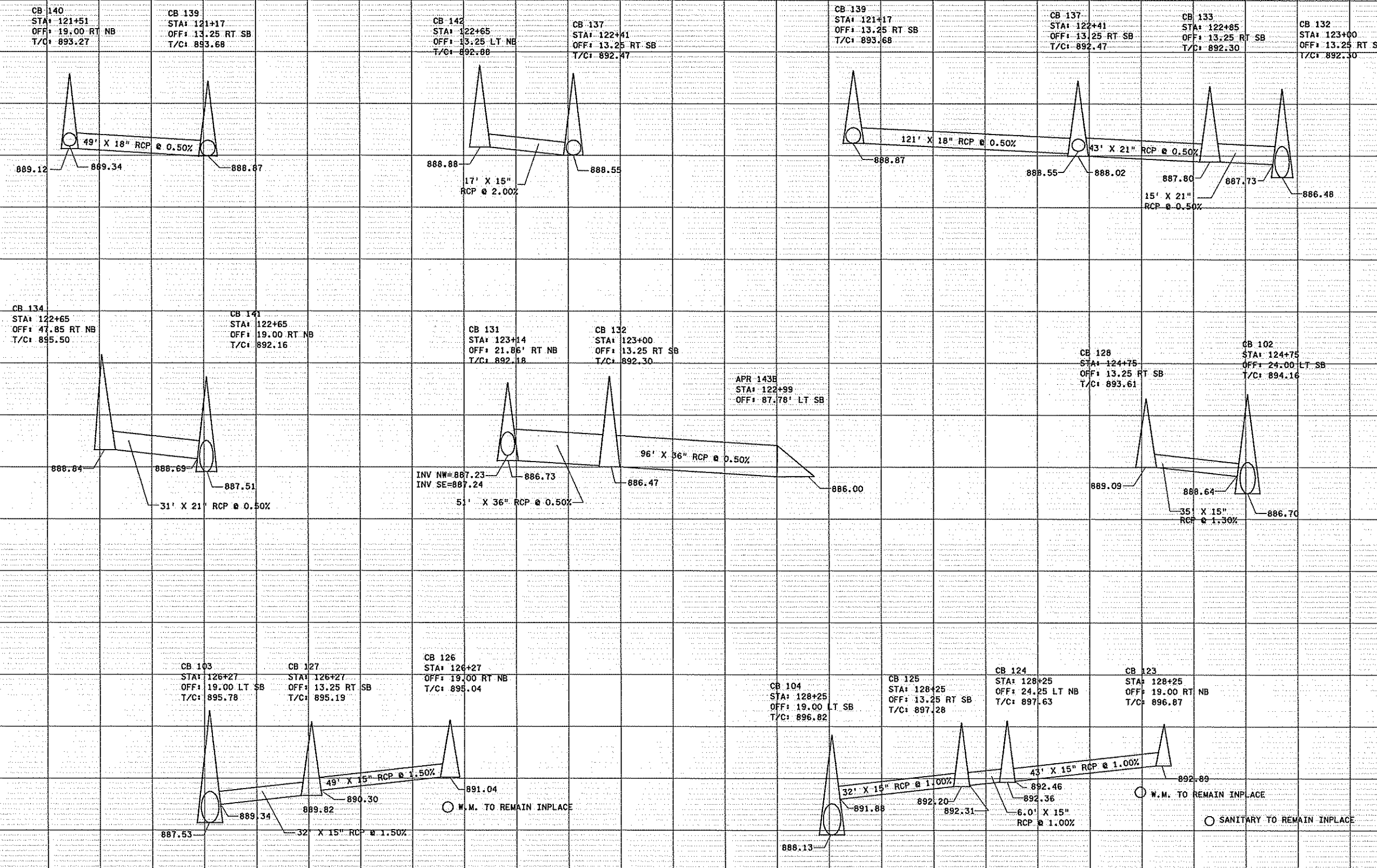
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: BAY DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

DRAINAGE
PLAN PROFILE
 STA 130+00 to STA 142+00
 Sheet 55 of 159 Sheets



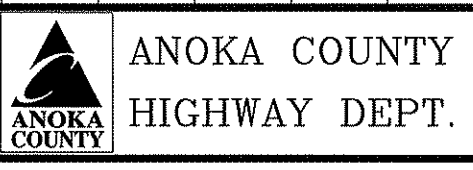
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_DR5.DGN 04/22/2008 2:56:32 PM

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

PRINT NAME: CURT A. KOBIARCSIK
 SIGNATURE: *Curt A. Kobiarcsik*
 DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: BAY DATE: 8-17-07
 DESIGN BY: JEO DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

STORM LEADS
 Sheet 57 of 159 Sheets

CB 119
STA: 131+22
OFF: 81.11 RT NB
T/C: 896.88

CB 120
STA: 131+60
OFF: 80.22 RT NB
T/C: 896.63

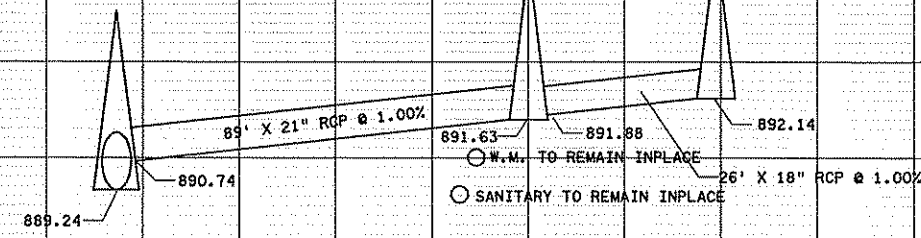
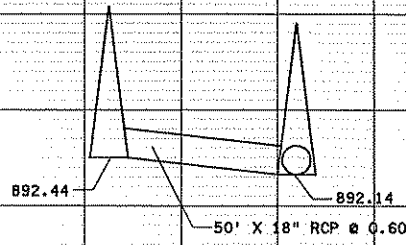
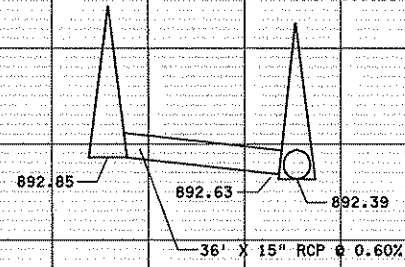
CB 120
STA: 131+60
OFF: 80.22 RT NB
T/C: 896.63

CB 121
STA: 131+71
OFF: 32.40 RT NB
T/C: 897.09

CB 105
STA: 131+95
OFF: 24.00 LT SB
T/C: 897.33

CB 122
STA: 131+95
OFF: 24.00 RT NB
T/C: 897.32

CB 121
STA: 131+71
OFF: 32.40 RT NB
T/C: 897.09



CB 116
STA: 133+80
OFF: 24.00 RT NB
T/C: 896.07

CB 115
STA: 133+95
OFF: 24.00 RT NB
T/C: 896.09

CB 114
STA: 134+38
OFF: 30.67 RT NB
T/C: 896.44

CB 113
STA: 134+50
OFF: 63.53 RT NB
T/C: 896.98

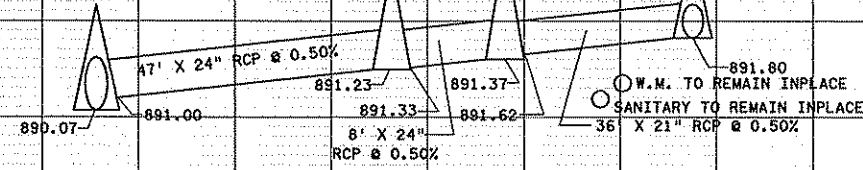
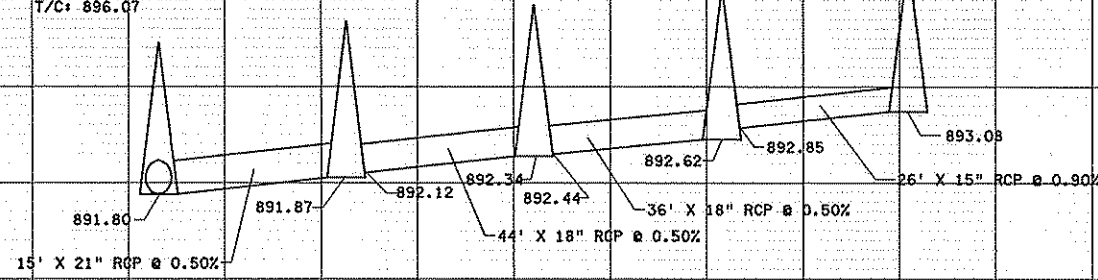
CB 112
STA: 134+78
OFF: 63.26 RT NB
T/C: 897.08

CB 106
STA: 133+80
OFF: 24.00 LT SB
T/C: 895.82

CB 118
STA: 133+80
OFF: 24.25 RT SB
T/C: 896.67

CB 117
STA: 133+80
OFF: 13.25 LT NB
T/C: 896.93

CB 116
STA: 133+80
OFF: 24.00 RT NB
T/C: 896.07



CB 145
STA: 133+94
OFF: 36.40 LT SB
T/C: 896.45

CB 146
STA: 133+15
OFF: 38.07 LT SB
T/C: 896.89

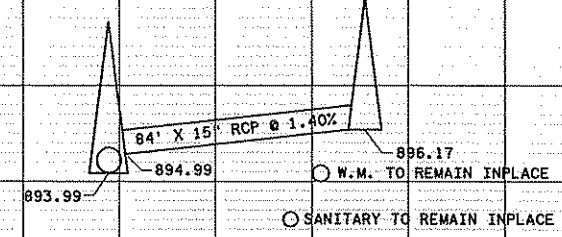
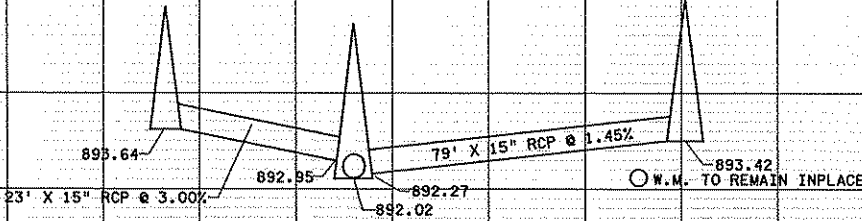
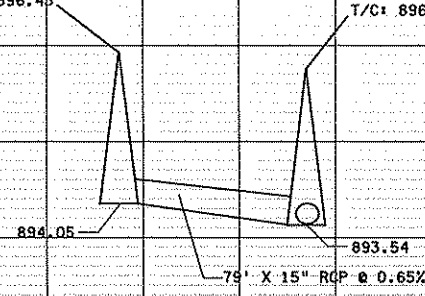
CB 144
STA: 135+50
OFF: 35.66 LT SB
T/C: 897.64

CB 108
STA: 135+36
OFF: 19.00 LT SB
T/C: 896.74

CB 111
STA: 135+36
OFF: 19.00 RT NB
T/C: 897.40

CB 109
STA: 137+00
OFF: 19.00 LT SB
T/C: 899.64

CB 110
STA: 137+00
OFF: 24.00 RT NB
T/C: 900.15



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

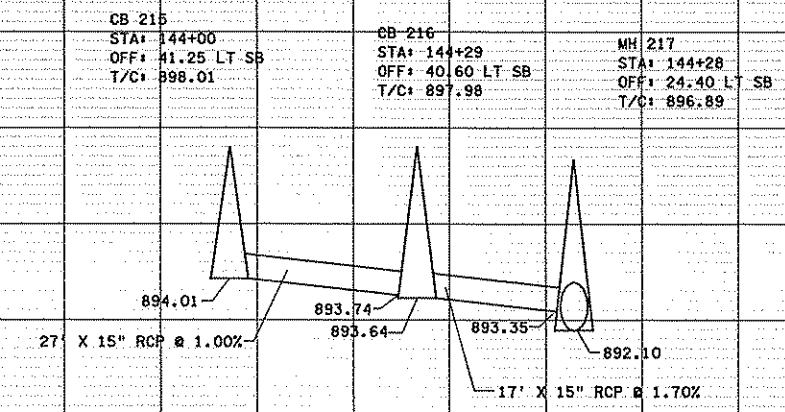
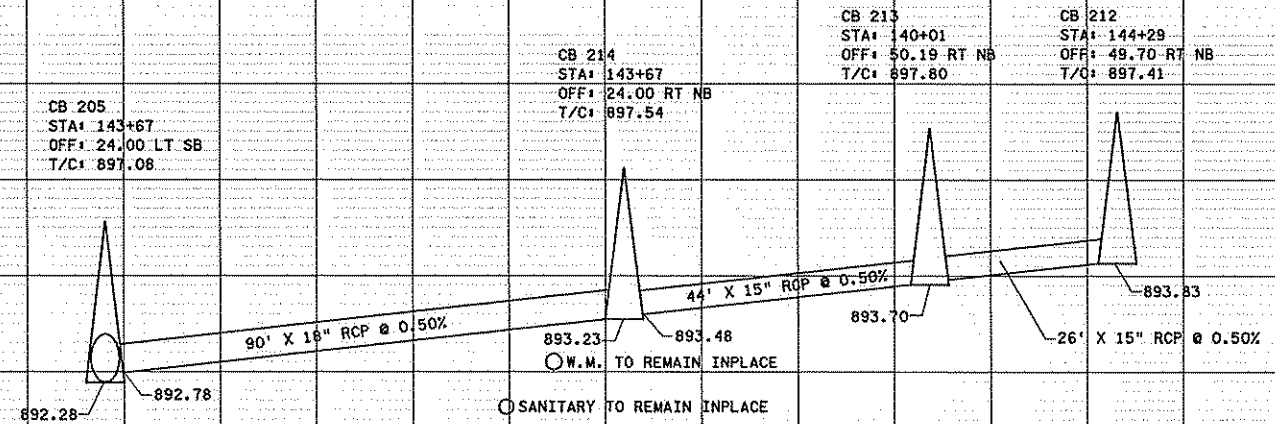
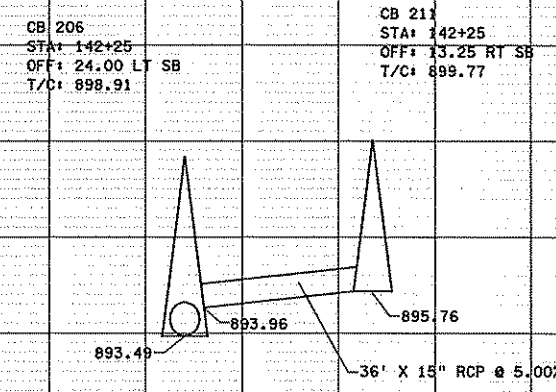
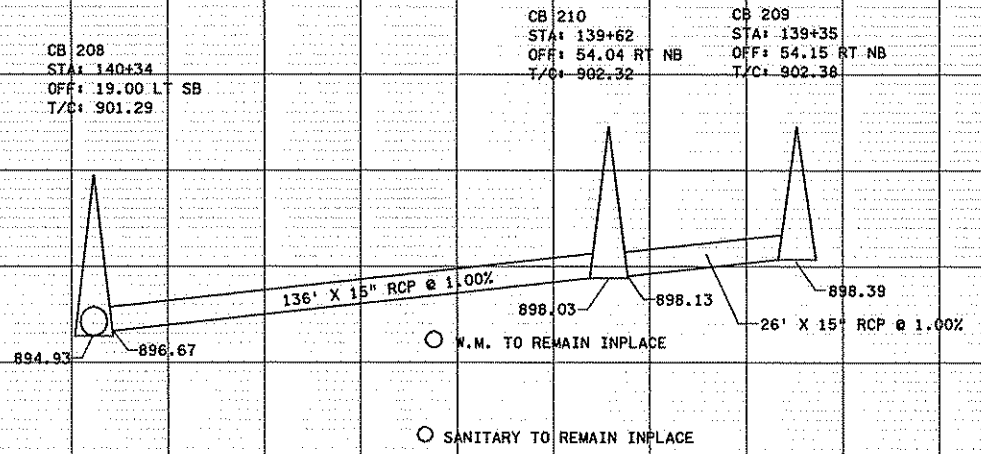
DRAWN BY: BAY DATE: 8-17-07
DESIGN BY: JED DATE: 8-17-07
CHECKED BY: CRK DATE: 8-17-07



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

STORM LEADS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: BAY DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

STORM LEADS
 Sheet 59 of 159 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_DR5.DGN 04/22/2008 2:56:35 PM

CB 203
STA: 146+17
OFF: 24.00 LT SB
T/C: 896.23

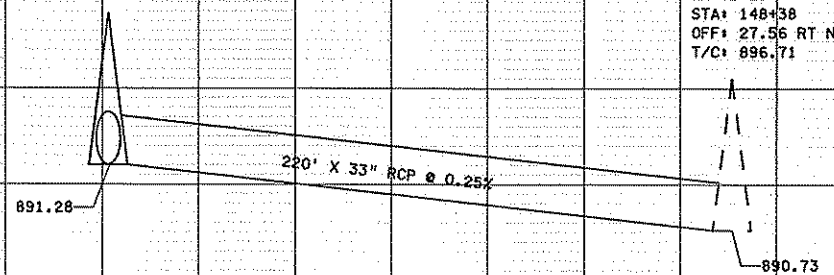
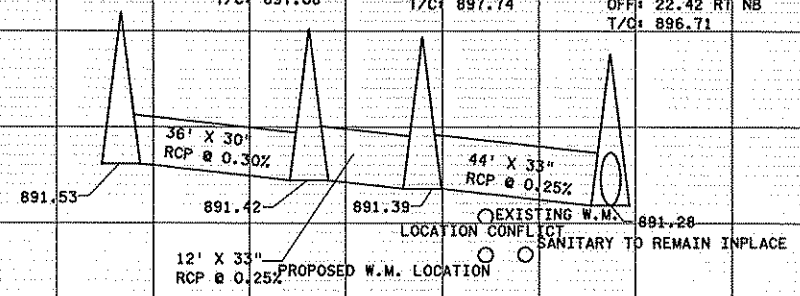
CB 202
STA: 146+17
OFF: 13.25 RT SB
T/C: 897.08

CB 201
STA: 146+17
OFF: 23.11 LT NB
T/C: 897.74

CB 200
STA: 146+17
OFF: 22.42 RT NB
T/C: 896.71

CB 200
STA: 146+17
OFF: 22.42 RT NB
T/C: 896.71

EX-CB-23
STA: 148+38
OFF: 27.56 RT NB
T/C: 896.71

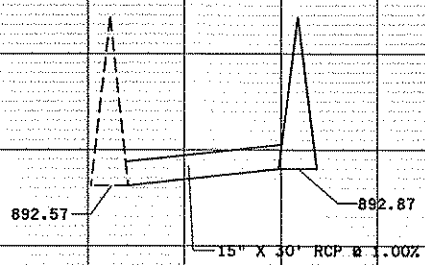
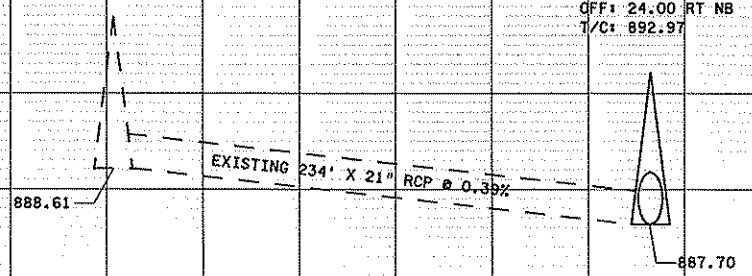


EX CB
STA: SW CORNER 3RD ST
OFF: 894.43

CB 130
STA: 124+14
OFF: 24.00 RT NB
T/C: 892.97

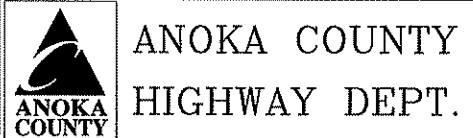
EX CB 40
STA: 148+77
OFF: 19.00 RT SB
T/C: 897.15

CB 218
STA: 149+04
OFF: 25.85 LT NB
T/C: 896.66



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: BAY DATE: 8-17-07
DESIGN BY: JED DATE: 8-17-07
CHECKED BY: GAK DATE: 8-17-07

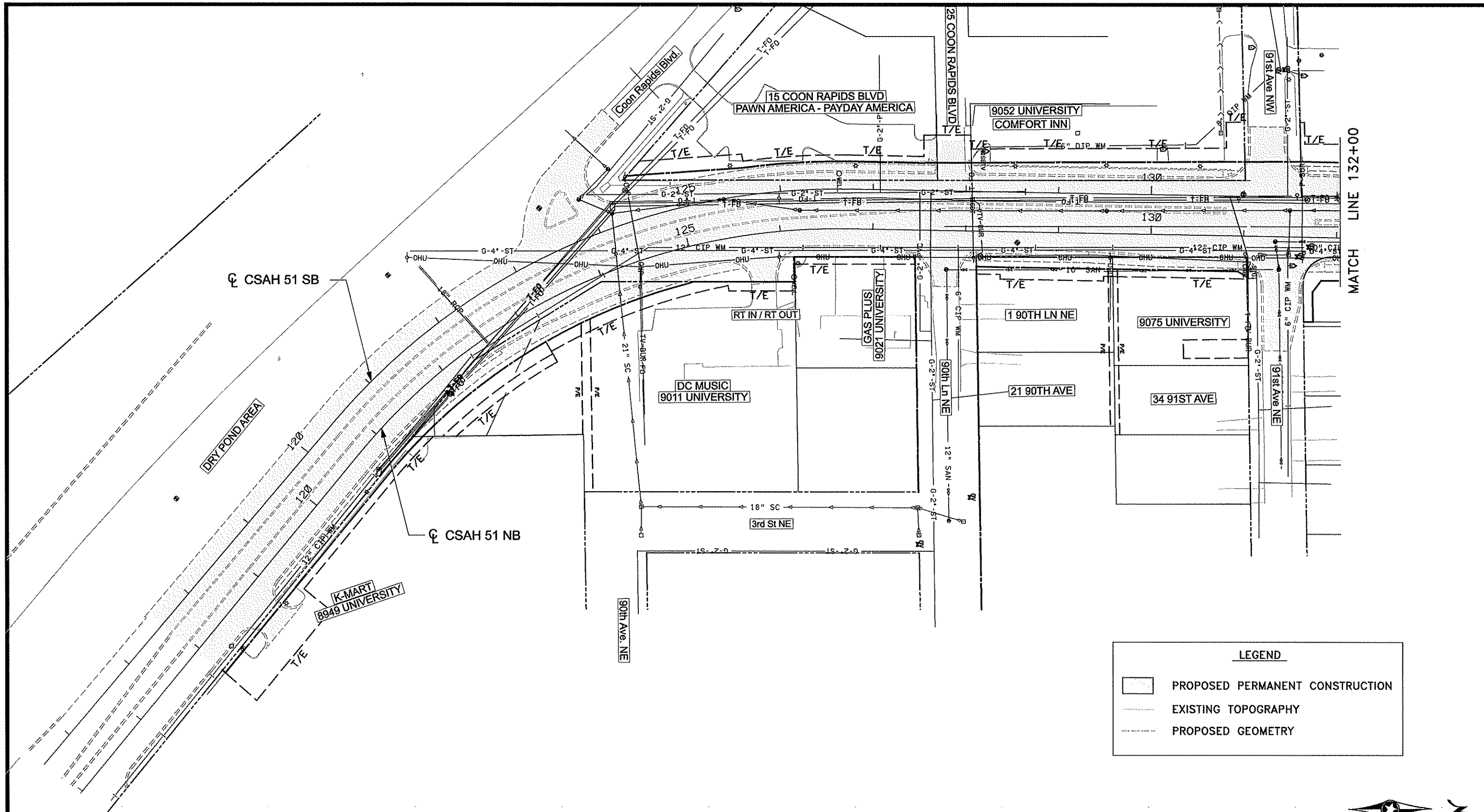


STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

STORM LEADS

NO	DATE	BY	CKD	APPR	REVISION

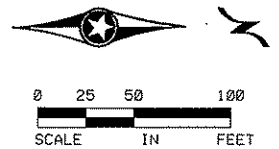
NAME: P:\02-651-04\PLAN\0265106_DR5.DGN 04/22/2008 2:56:35 PM



MATCH LINE 132+00

LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- EXISTING TOPOGRAPHY
- PROPOSED GEOMETRY



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_UT1.DGN 04/22/2008 2:56:41 PM					

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07

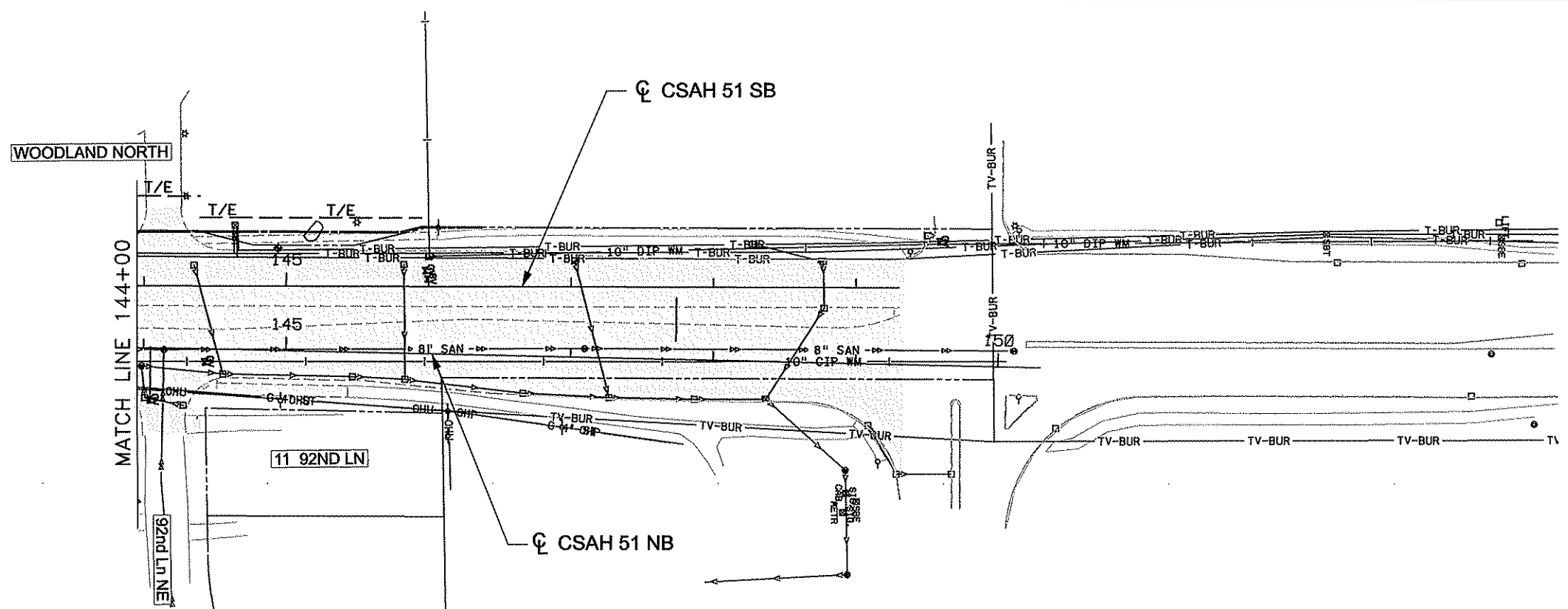
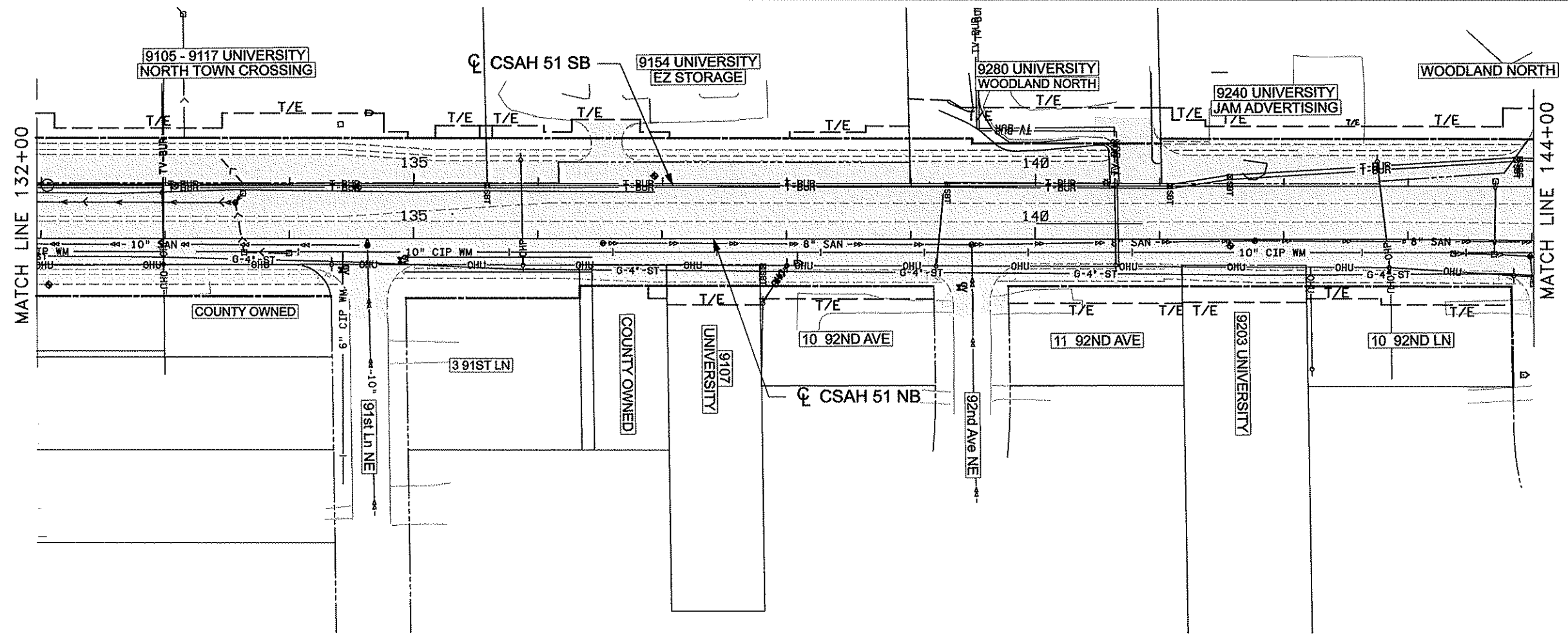
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

UTILITY PLAN

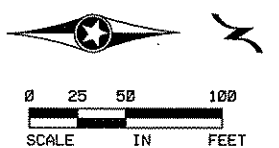
STA 116+00 to STA 132+00

Sheet 62 of 159 Sheets



LEGEND

- PROPOSED PERMANENT CONSTRUCTION
- EXISTING TOPOGRAPHY
- PROPOSED GEOMETRY



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_UT2.DGN					

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JEO DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07

**ANOKA COUNTY
HIGHWAY DEPT.**

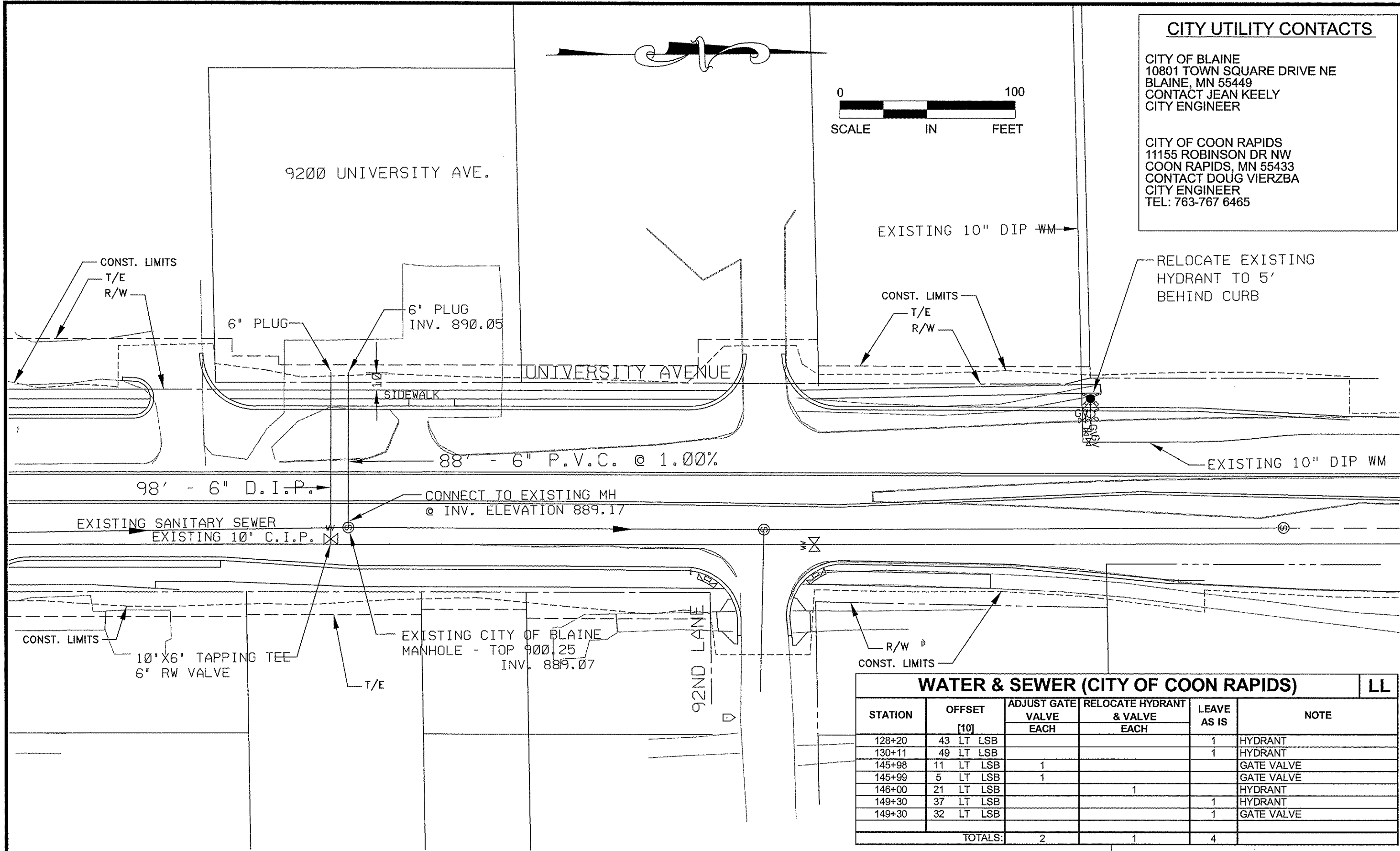
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

UTILITY PLAN
 STA 132+00 to STA 151+00
 Sheet 63 of 159 Sheets

CITY UTILITY CONTACTS

CITY OF BLAINE
10801 TOWN SQUARE DRIVE NE
BLAINE, MN 55449
CONTACT JEAN KEELY
CITY ENGINEER

CITY OF COON RAPIDS
11155 ROBINSON DR NW
COON RAPIDS, MN 55433
CONTACT DOUG VIERZBA
CITY ENGINEER
TEL: 763-767 6465



WATER & SEWER (CITY OF COON RAPIDS)						LL
STATION	OFFSET [10]	ADJUST GATE VALVE EACH	RELOCATE HYDRANT & VALVE EACH	LEAVE AS IS	NOTE	
128+20	43 LT LSB			1	HYDRANT	
130+11	49 LT LSB			1	HYDRANT	
145+98	11 LT LSB	1			GATE VALVE	
145+99	5 LT LSB	1			GATE VALVE	
146+00	21 LT LSB		1		HYDRANT	
149+30	37 LT LSB			1	HYDRANT	
149+30	32 LT LSB			1	GATE VALVE	
TOTALS:		2	1	4		

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_JAM_DET.DGN 04/23/2008 7:43:31 AM

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

PRINT NAME: Douglas J. Vierzba
SIGNATURE: Douglas J. Vierzba
DATE: 3-26-08 LICENSE NO. 13895

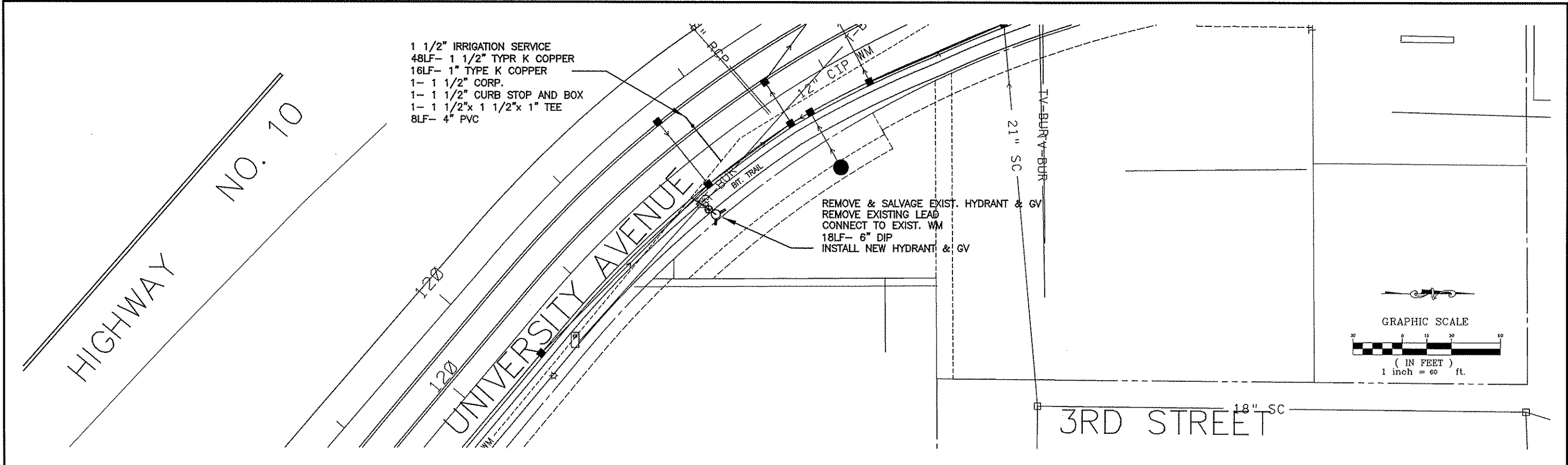
DRAWN BY: TH DATE: 2-7-08
DESIGN BY: TH DATE: 2-7-08
CHECKED BY: DV DATE: 2-7-08



STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

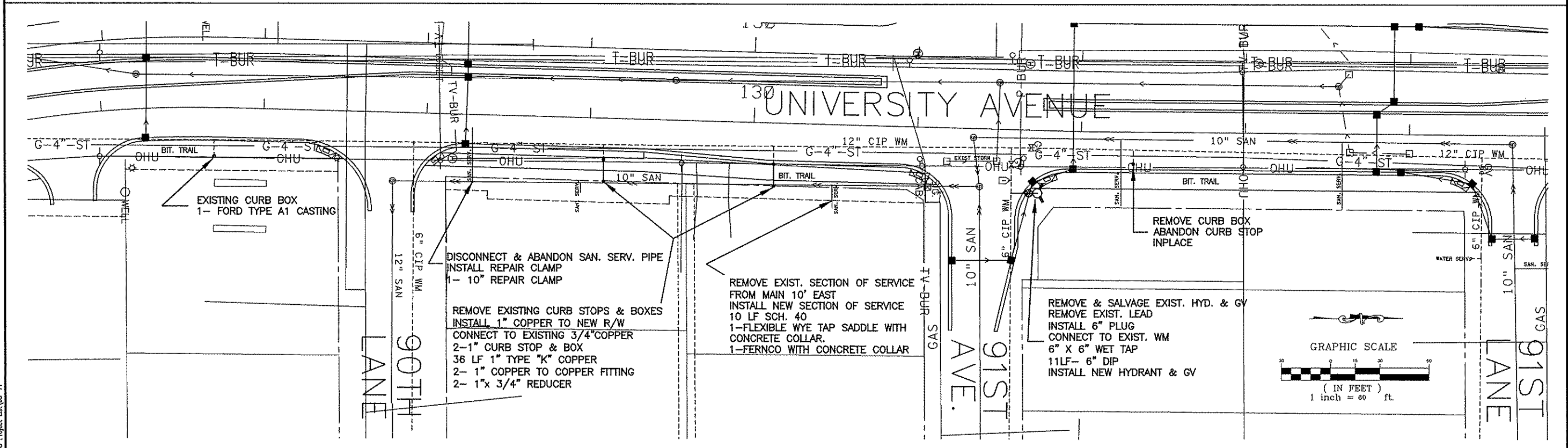
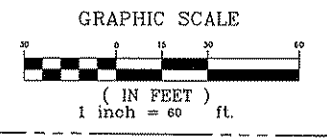
UTILITY DETAIL
CITY OF COON RAPIDS

Sheet 64 of 159 Sheets



- 1 1/2" IRRIGATION SERVICE
- 48LF- 1 1/2" TYPR K COPPER
- 16LF- 1" TYPE K COPPER
- 1- 1 1/2" CORP.
- 1- 1 1/2" CURB STOP AND BOX
- 1- 1 1/2"x 1 1/2"x 1" TEE
- 8LF- 4" PVC

REMOVE & SALVAGE EXIST. HYDRANT & GV
 REMOVE EXISTING LEAD
 CONNECT TO EXIST. WM
 18LF- 6" DIP
 INSTALL NEW HYDRANT & GV



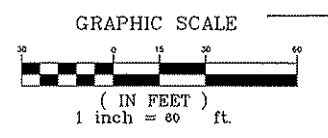
EXISTING CURB BOX
 1- FORD TYPE A1 CASTING

DISCONNECT & ABANDON SAN. SERV. PIPE
 INSTALL REPAIR CLAMP
 1- 10" REPAIR CLAMP

REMOVE EXISTING CURB STOPS & BOXES
 INSTALL 1" COPPER TO NEW R/W
 CONNECT TO EXISTING 3/4" COPPER
 2- 1" CURB STOP & BOX
 36 LF 1" TYPE "K" COPPER
 2- 1" COPPER TO COPPER FITTING
 2- 1"x 3/4" REDUCER

REMOVE EXIST. SECTION OF SERVICE
 FROM MAIN 10' EAST
 INSTALL NEW SECTION OF SERVICE
 10 LF SCH. 40
 1- FLEXIBLE WYE TAP SADDLE WITH
 CONCRETE COLLAR.
 1- FERNCO WITH CONCRETE COLLAR

REMOVE & SALVAGE EXIST. HYD. & GV
 REMOVE EXIST. LEAD
 INSTALL 6" PLUG
 CONNECT TO EXIST. WM
 6" X 6" WET TAP
 11LF- 6" DIP
 INSTALL NEW HYDRANT & GV



H:\Team\GIS\Public Projects\2005 Project List\05-11



ENGINEERING DEPARTMENT
 9150 Central Ave., N.E. Blaine, Minnesota 55434
 Phone (612) 784-6700

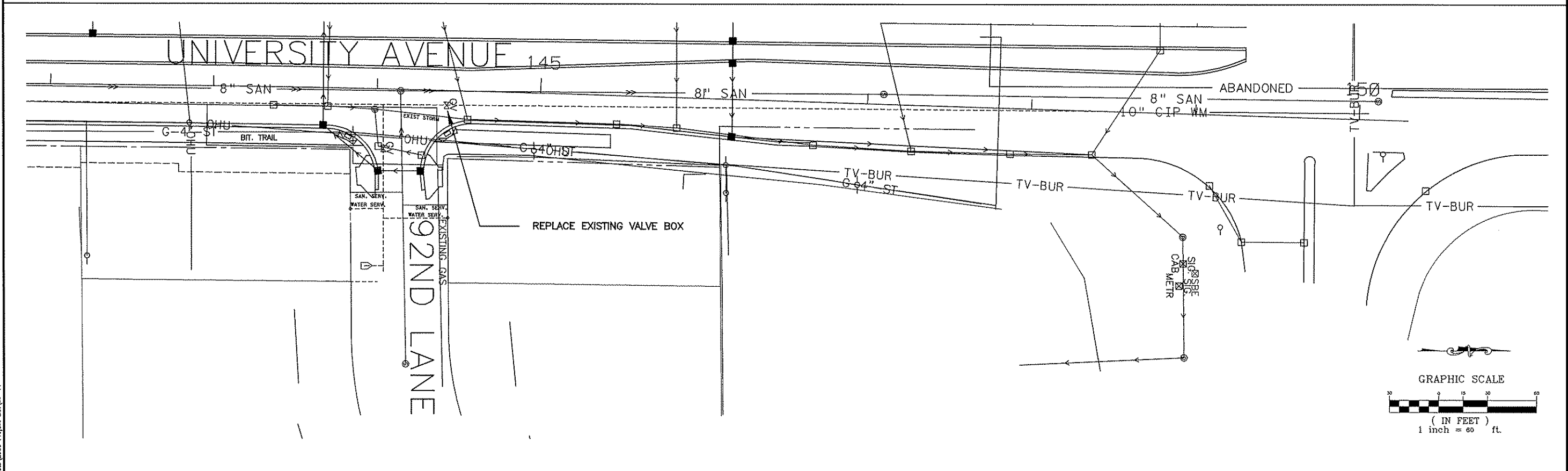
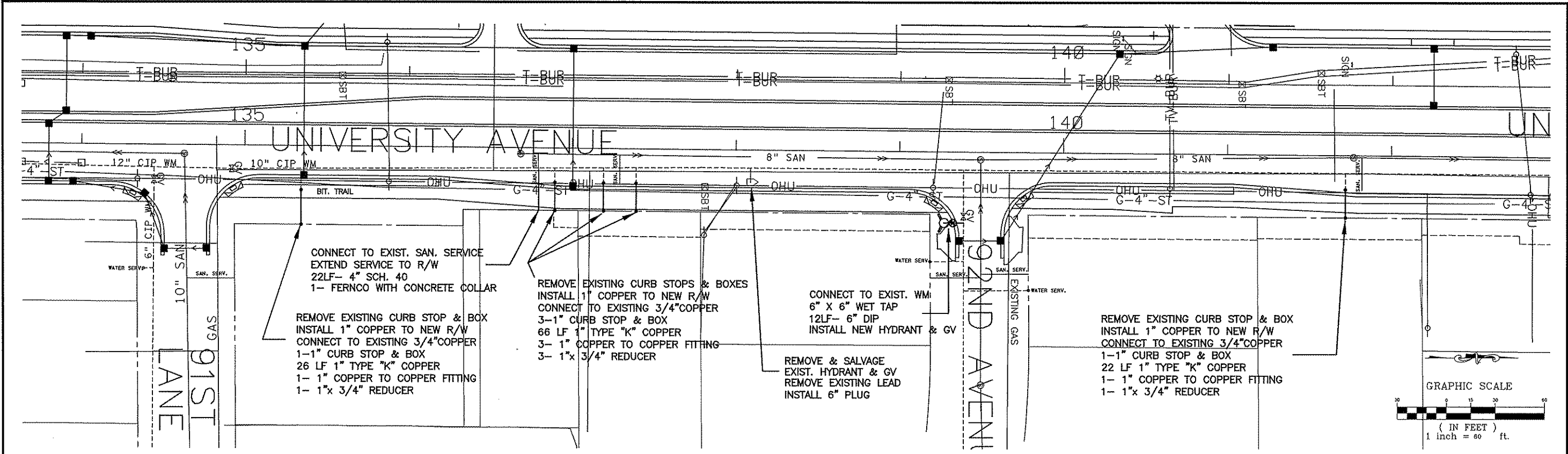
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of Minnesota.
Daniel S. Schlundt
 Daniel S. Schlundt
 Date: 4-27-05 Reg. No. 26771

DATE	REVISION

PROJECT NO.	05-11
DESIGN BY:	DSS
DRAWN BY:	JMTS
CHECKED BY:	DSS
APPROVED BY:	DSS
AS BUILT BY:	XXX

**UNIVERSITY AVENUE
 WATERMAIN**

S.A.P. 106-020-27 SHEET NO. 65 OF 159 SHEETS



H:\Team\GIS\Eng\Public Projects\2005 Project List\05-11



ENGINEERING DEPARTMENT
9150 Central Ave., N.E. Blaine, Minnesota 55434
Phone (612) 784-6700

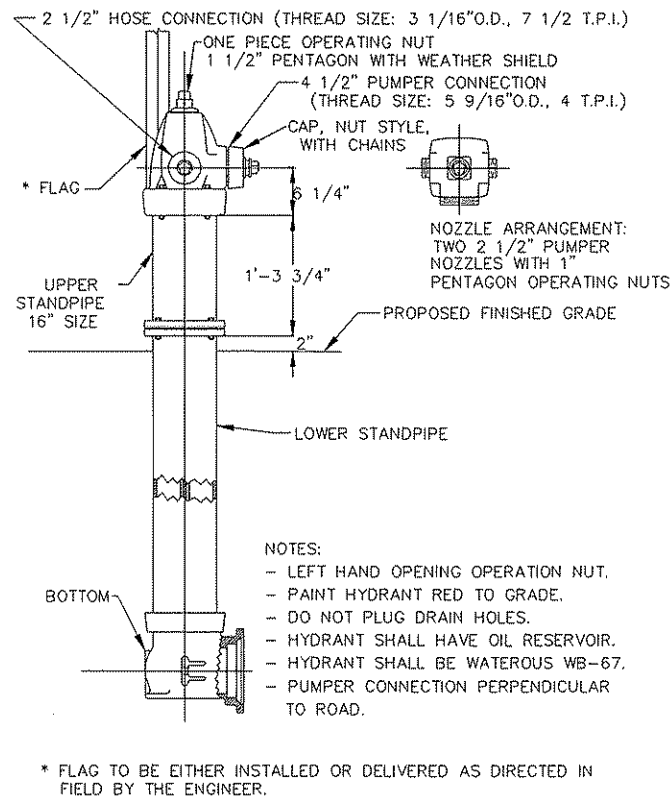
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of Minnesota.
Daniel S. Schlegel
Daniel S. Schlegel
Date: 4-28-08 Reg. No. 26771

DATE	REVISION

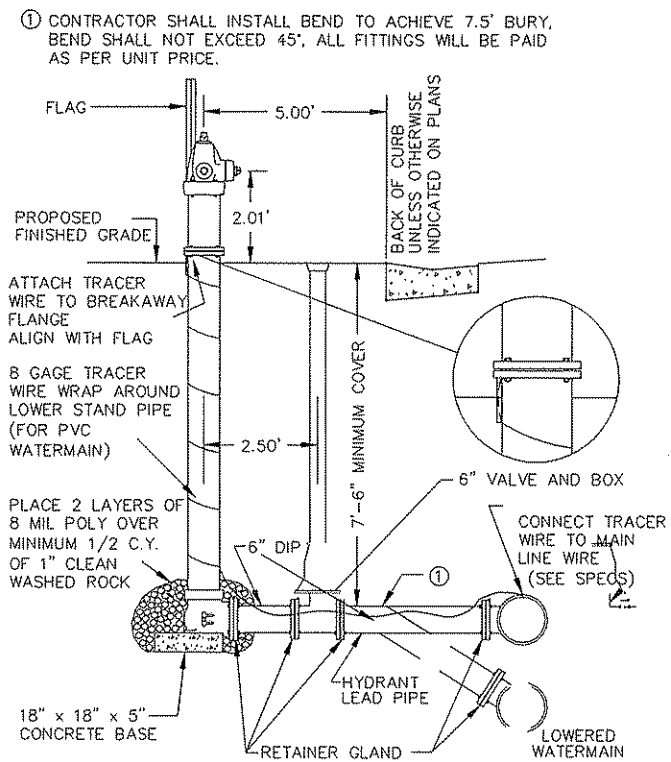
PROJECT NO.	05-11
DESIGN BY:	DSS
DRAWN BY:	JMTS
CHECKED BY:	DSS
APPROVED BY:	DSS
AS BUILT BY:	XXX

**UNIVERSITY AVENUE
WATERMAIN**

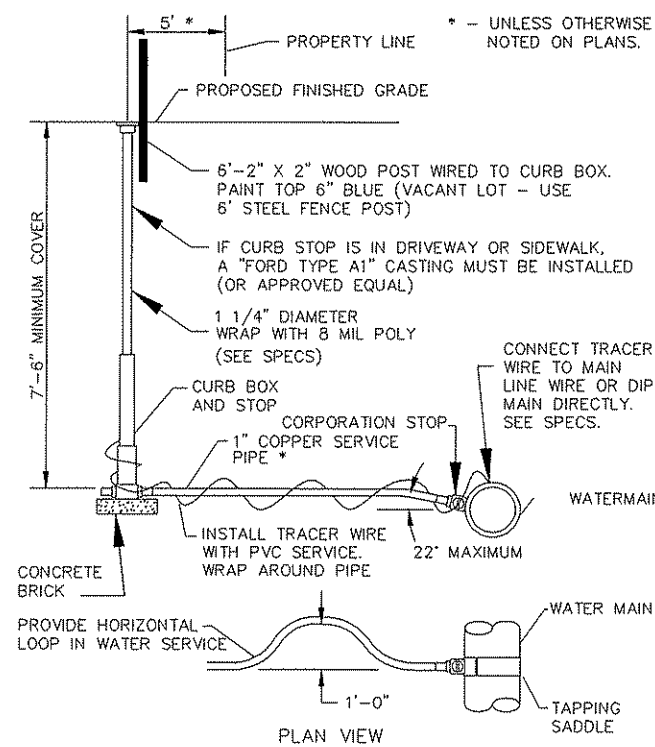
S.A.P. 106-020-27 SHEET NO. 66 OF 159 SHEETS



Date: 02/21/07 TYPICAL HYDRANT Plate No. WS-1



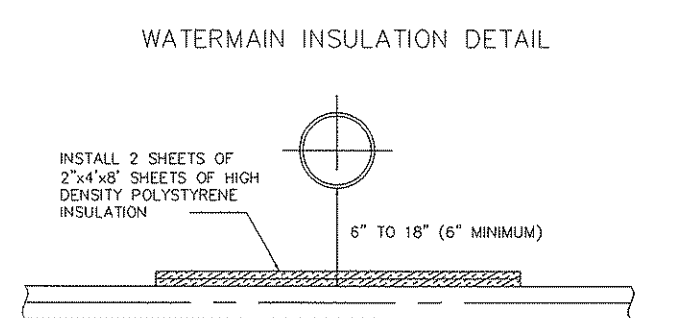
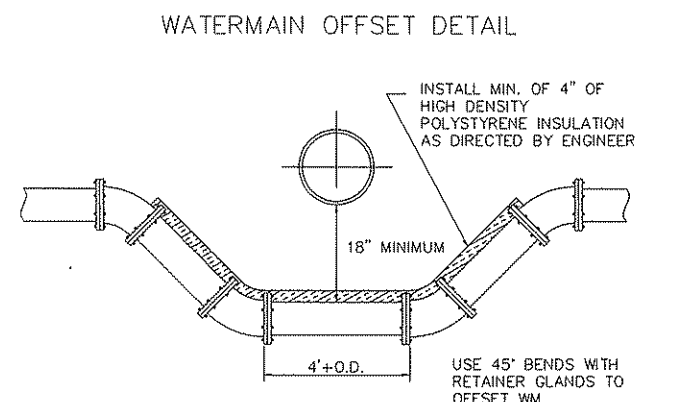
Date: 02/22/07 HYDRANT INSTALLATION Plate No. WS-2



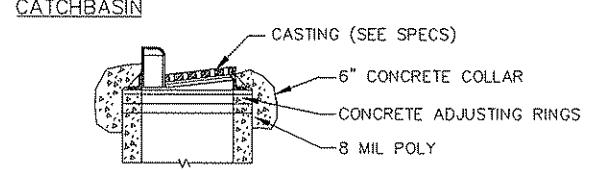
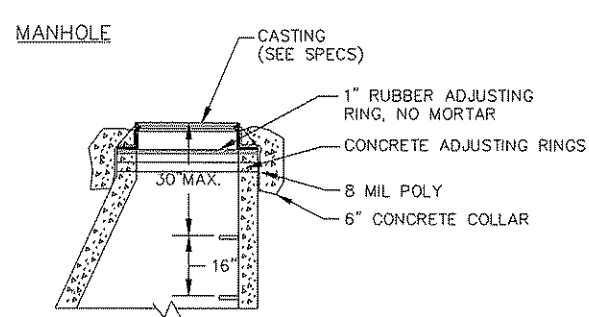
Date: 07/23/07 WATER SERVICE CONNECTION Plate No. WS-3

BENDS	PIPE SIZE									
	6"	8"	10"	12"	14"	16"	18"	20"	24"	
90°	39	57	89	108	210	264	335	400	565	
45°	32	46	70	86	164	202	250	305	405	
22 1/2°	32	46	64	84	148	178	255	310	412	
11 1/4°	30	42	58	74	130	158	205	245	315	
SLEEVES										
SHORT	28	38	48	56	111	130	160	195	255	
LONG	36	46	62	76	140	172	225	255	335	
PLUG	18	26	36	46	85	93	130	153	202	
CAP	17	25	35	44	79	100	122	202	214	
TEES										
RUN	-	-	-	-	-	-	-	-	-	
6"	56	-	-	-	-	-	-	-	-	
8"	72	36	-	-	-	-	-	-	-	
10"	90	105	120	-	-	-	-	-	-	
12"	110	125	140	160	-	-	-	-	-	
14"	182	206	228	234	280	-	-	-	-	
16"	228	248	264	280	316	322	-	-	-	
18"	275	295	315	335	380	405	435	-	-	
20"	315	345	370	395	440	465	505	535	-	
24"	415	445	470	500	550	580	625	660	720	
CROSS										
8"	80	-	-	-	-	-	-	-	-	
10"	-	105	-	-	-	-	-	-	-	
12"	-	-	145	-	-	-	-	-	-	
14"	-	-	-	215	-	-	-	-	-	
16"	-	-	-	-	335	-	-	-	-	
18"	-	-	-	-	-	585	-	-	-	
20"	-	-	-	-	-	-	XXX	XXX	-	
24"	-	-	-	-	-	-	-	-	XXX	
REDUCERS										
8"	36	-	-	-	-	-	-	-	-	
10"	47	50	-	-	-	-	-	-	-	
12"	60	60	64	-	-	-	-	-	-	
14"	100	100	100	100	-	-	-	-	-	
16"	124	124	124	140	-	-	-	-	-	
18"	-	190	195	180	195	-	-	-	-	
20"	-	-	220	205	200	200	225	-	-	
24"	-	-	-	305	310	320	305	300	-	

WEIGHTS TAKEN FROM AWWA C153
WEIGHT DOES NOT INCLUDE GLANDS, GASKETS, BOLTS AND RESTRAINING DEVICES

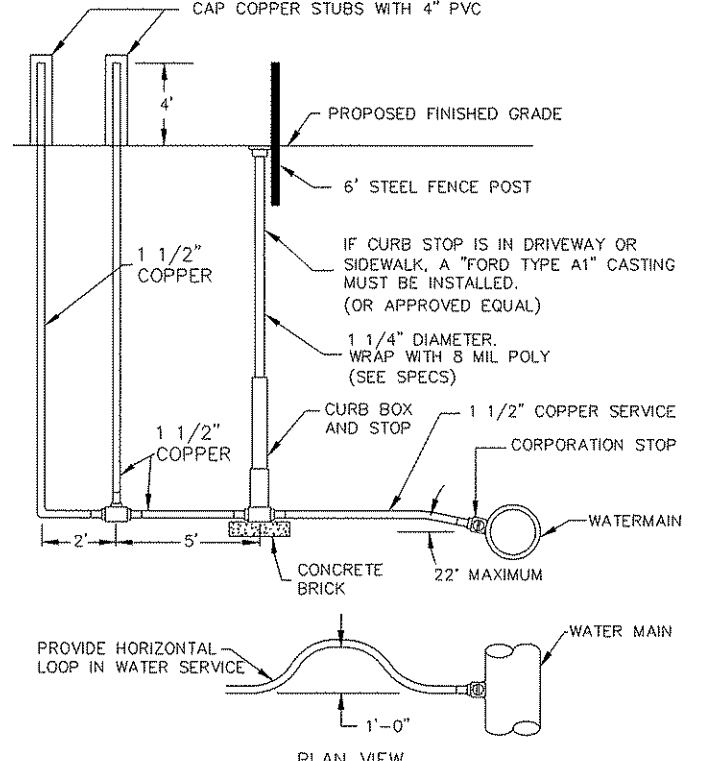


Date: 03/06/07 WATERMAIN OFFSET & INSULATION DETAIL Plate No. WS-6



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

Date: 03/07/07 ADJUSTING RINGS & STEPS Plate No. MI-3



Date: 02/22/08 IRRIGATION SERVICE Plate No. WS-7

R:\Team\688Eng\Public Projects\2005 Project\Lat\05-11

ENGINEERING DEPARTMENT
9150 Central Ave., N.E. Blaine, Minnesota 55434
Phone (612) 784-6700

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.
Daniel S. Schaefer
Daniel S. Schaefer
Date: 4-23-08 Reg. No. 26771

DATE	REVISION

PROJECT NO.	05-11
DESIGN BY:	DSS
DRAWN BY:	JMTS
CHECKED BY:	DSS
APPROVED BY:	DSS
AS BUILT BY:	XXX

UNIVERSITY AVENUE
CITY OF BLAINE DETAILS
S.A.P. 106-020-27 SHEET NO. 67 OF 159 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project Description

SP 02-651-06 consists of grading, bituminous surfacing, storm sewer, and a dry infiltration pond for stormwater retention at the south end of the project in the cities of Coon Rapids and Blaine in Anoka County. Construction activities include excavation and grading for re-alignment of C.S.A.H. 51. The main receiving water from this project will be a dry infiltration pond that will treat all runoff prior to discharging it into the groundwater table.

Site Maps

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

Environmentally Sensitive Areas

There are no impacted wetlands within the project limits. Additionally, there are no Impaired or Special Waters within this project's limits.

Outstanding Resource Value Waters

There are no outstanding resource value waters within the project limits.

Calcareous Fens

There are no calcareous fens within the project limits

TMDL Implementation Plans Containing Storm Water Requirements

No TMDL Implementation Plans currently exist for the receiving waters on this project.

Land Feature Changes

Total Project Area Disturbed:	11.81 acres
Total Existing Impervious Surface:	5.93 acres
Total Existing Pervious Surface:	5.88 acres
Total Proposed Impervious Surface:	8.23 acres
Total Proposed Pervious Surface:	3.58 acres

Timing of BMP Installation

The erosion prevention and sediment control BMP's shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site, and shall meet the NPDES Permit Part IV Construction Activity Requirements. All silt fence used for containment shall be installed prior to grading operations.

Drainage Calculations

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

Project Contacts

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

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

MPCA 24 HOUR EMERGENCY NOTIFICATION:

651-649-5451
800-422-0798

Construction Notes

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

Description	Plan Sheet Title	Location		
Temporary Erosion Control	Erosion Control	Sheet No.	70	- 78
Permanent Erosion Control	Erosion Control	Sheet No.	70	- 78
Direction of Flow	Drainage	Sheet No.	53	- 61
Final Stabilization	Turf Establishment	Sheet No.	79	- 80
Pond Locations	Construction Staging	Sheet No.	27	- 34
Pond Contours	Pond Grading	Sheet No.	138	
Drainage Structures	Drainage	Sheet No.	53	- 61
Drainage Tabulation	Drainage Tabulation	Sheet No.	61	
Drainage Profile Sheets	Drainage	Sheet No.	53	- 63
Erosion Control Details	Erosion Control	Sheet No.	70	- 78
Turf Establishment / Erosion	Erosion Control	Sheet No.	79	- 80
Control Tabulation			16	

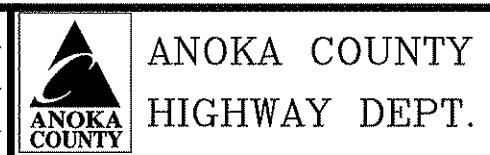
NO	DATE	BY	CKD	APPR	REVISION

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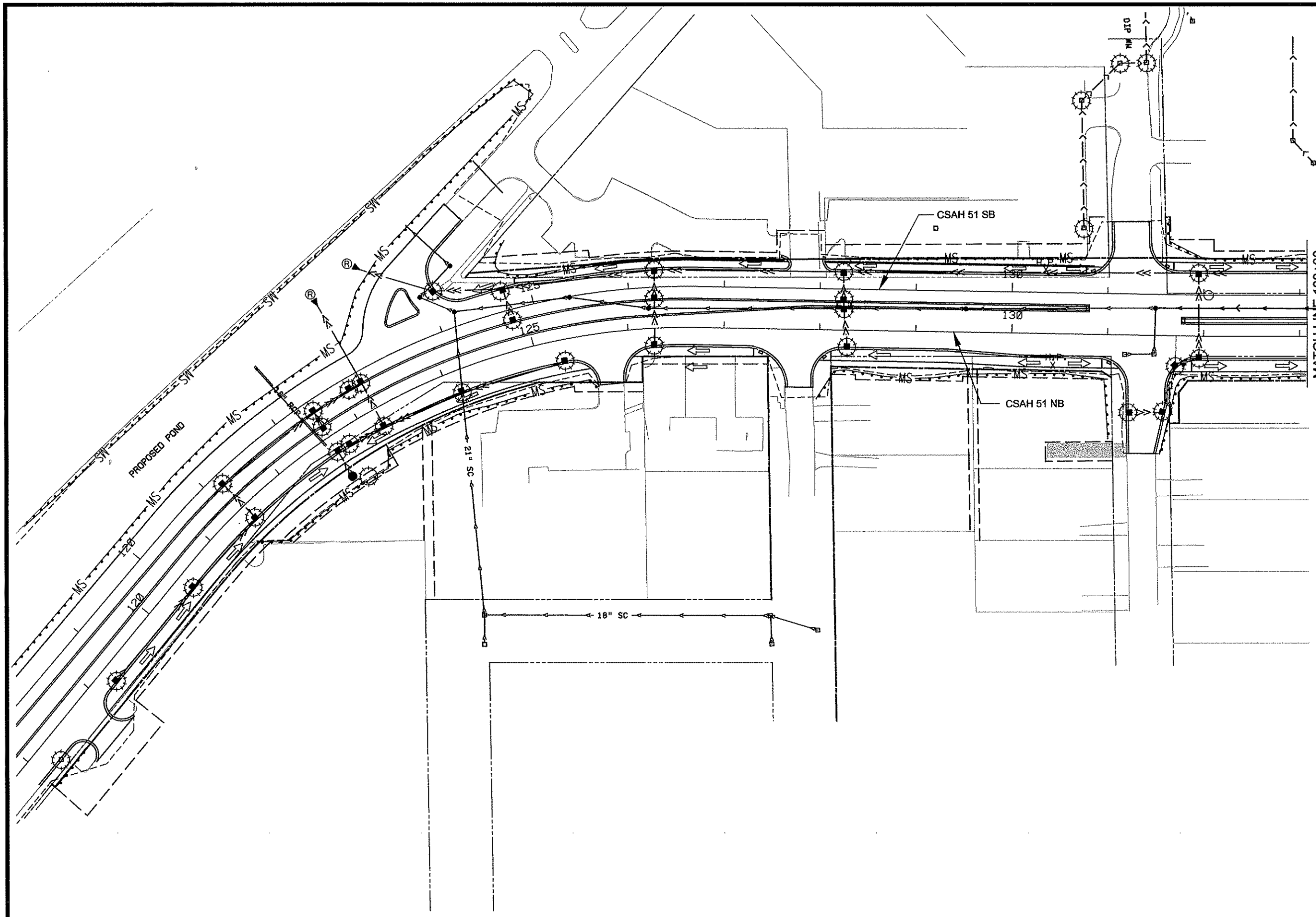
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarcsik*
DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 3-7-08
DESIGN BY: JED DATE: 3-8-08
CHECKED BY: CAK DATE: 3-8-08

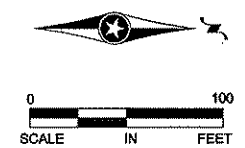


STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23



- LEGEND**
- PROPOSED CATCH BASIN
 - INPLACE CATCH BASIN
 - PROPOSED MANHOLE
 - ⊙ INPLACE MANHOLE
 - ▲ PROPOSED APRON
 - ▷ INPLACE APRON
 - PROPOSED STORM SEWER
 - INPLACE STORM SEWER
 - INPLACE CULVERT
 - MS SILT FENCE TYPE MACHINE SLICED
 - ⊗ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
 - ⊕ SOD APRON INLET OR OUTLET
 - BIOROLL
 - SURFACE FLOW ARROW
 - ⊙ INLET PROTECTION TYPE C
 - WETLAND BOUNDARIES

- NOTES**
- 1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
 - 2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR
 - 3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8' OR $\frac{2}{3}$ OF SILT FENCE HEIGHT.
 - 4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
 - 5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.
 - 6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



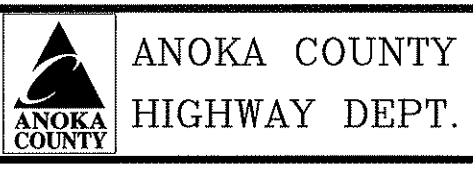
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_EC1.DGN 2:57:01 PM 04/22/2008

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

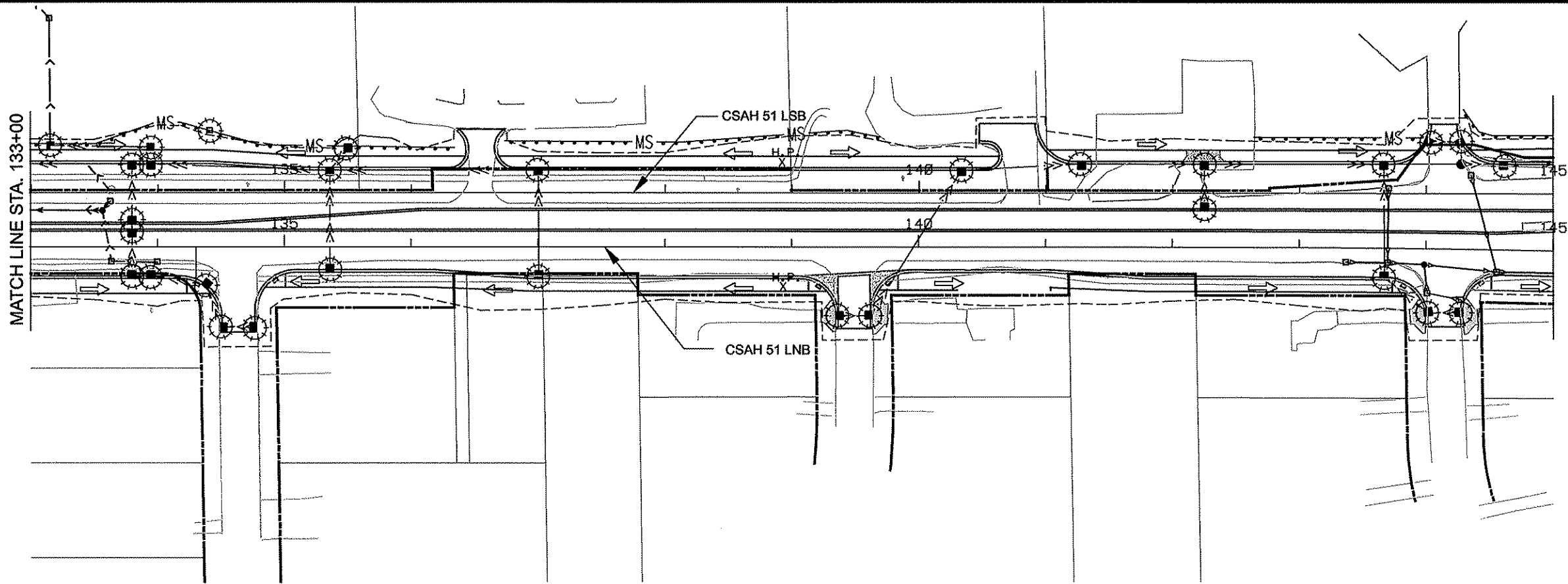
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JEO DATE: 8-17-07
 CHECKED BY: CAX DATE: 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

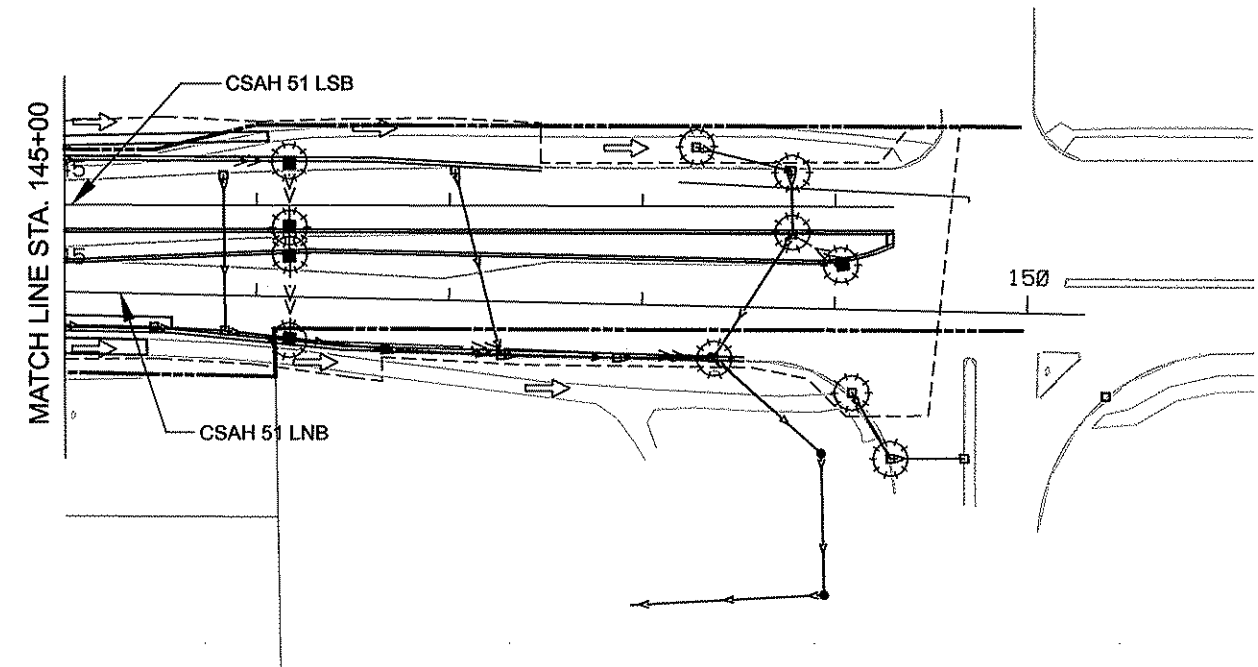
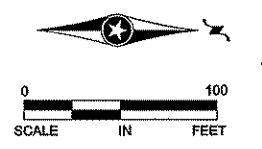
EROSION CONTROL PLAN
 STA 118+00 to STA 132+00
 Sheet 70 of 159 Sheets



- LEGEND**
- PROPOSED CATCH BASIN
 - INPLACE CATCH BASIN
 - PROPOSED MANHOLE
 - ⊙ INPLACE MANHOLE
 - ▲ PROPOSED APRON
 - ▽ INPLACE APRON
 - ⇒⇒ PROPOSED STORM SEWER
 - ⇒ INPLACE STORM SEWER
 - === INPLACE CULVERT
 - MS— SILT FENCE TYPE MACHINE SLICED
 - ⊗ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
 - ⊕ SOD APRON INLET OR OUTLET
 - ⇨ BIOROLL
 - ⇨ SURFACE FLOW ARROW
 - ⊗ INLET PROTECTION
 - WETLAND BOUNDARIES

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- 6) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

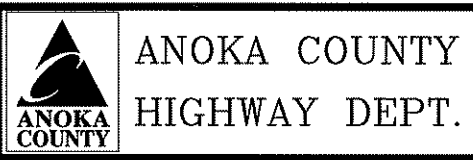


NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_EC2.DGN 04/22/2008 2:57:08 PM					

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4.23.08 LICENSE NO. 24756

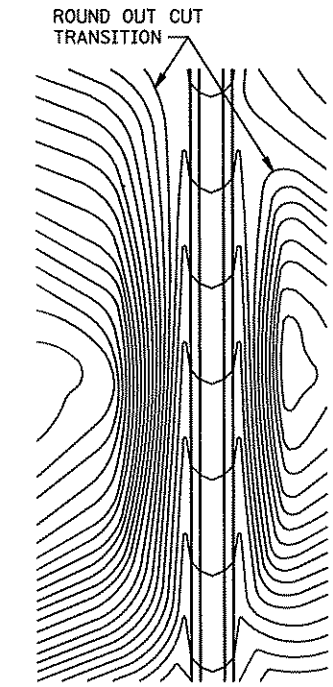
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 CHECKED BY: CAK DATE: 8-17-07



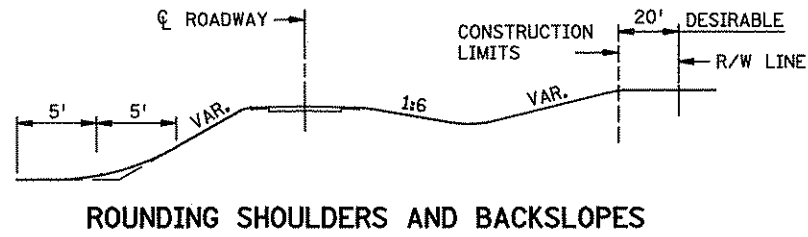
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

EROSION CONTROL PLAN
 STA 132+00 to STA 150+00
 Sheet 71 of 159 Sheets

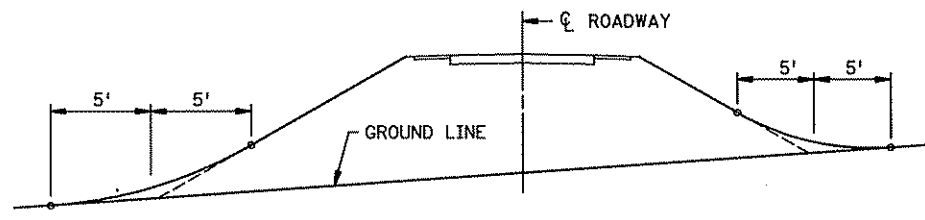
PLOTTED/REVISED: 04/22/2008



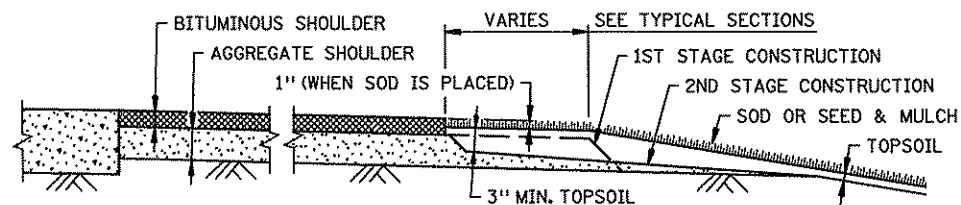
CONTOURING ROAD CUTS



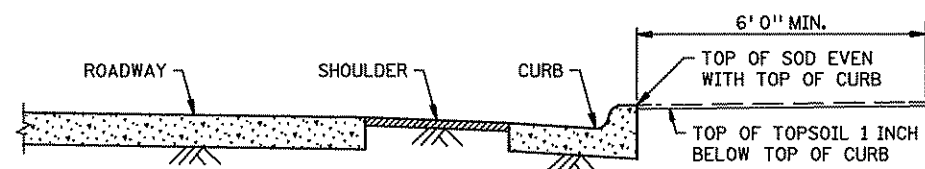
ROUNDING SHOULDERS AND BACKSLOPES



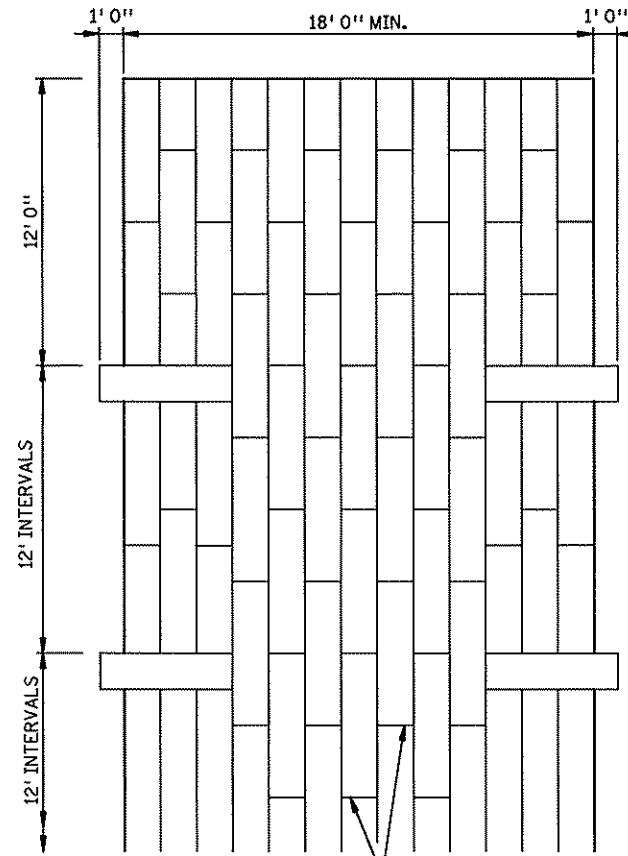
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



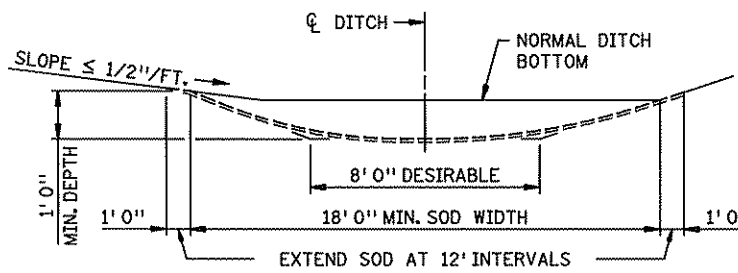
SHAPING AND TOPSOILING INSLOPES



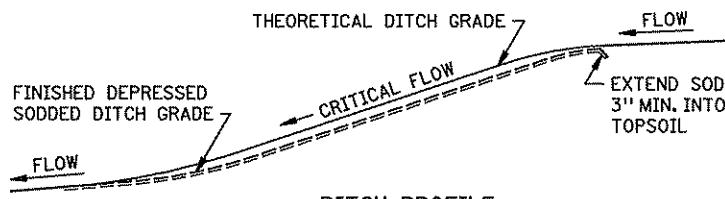
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



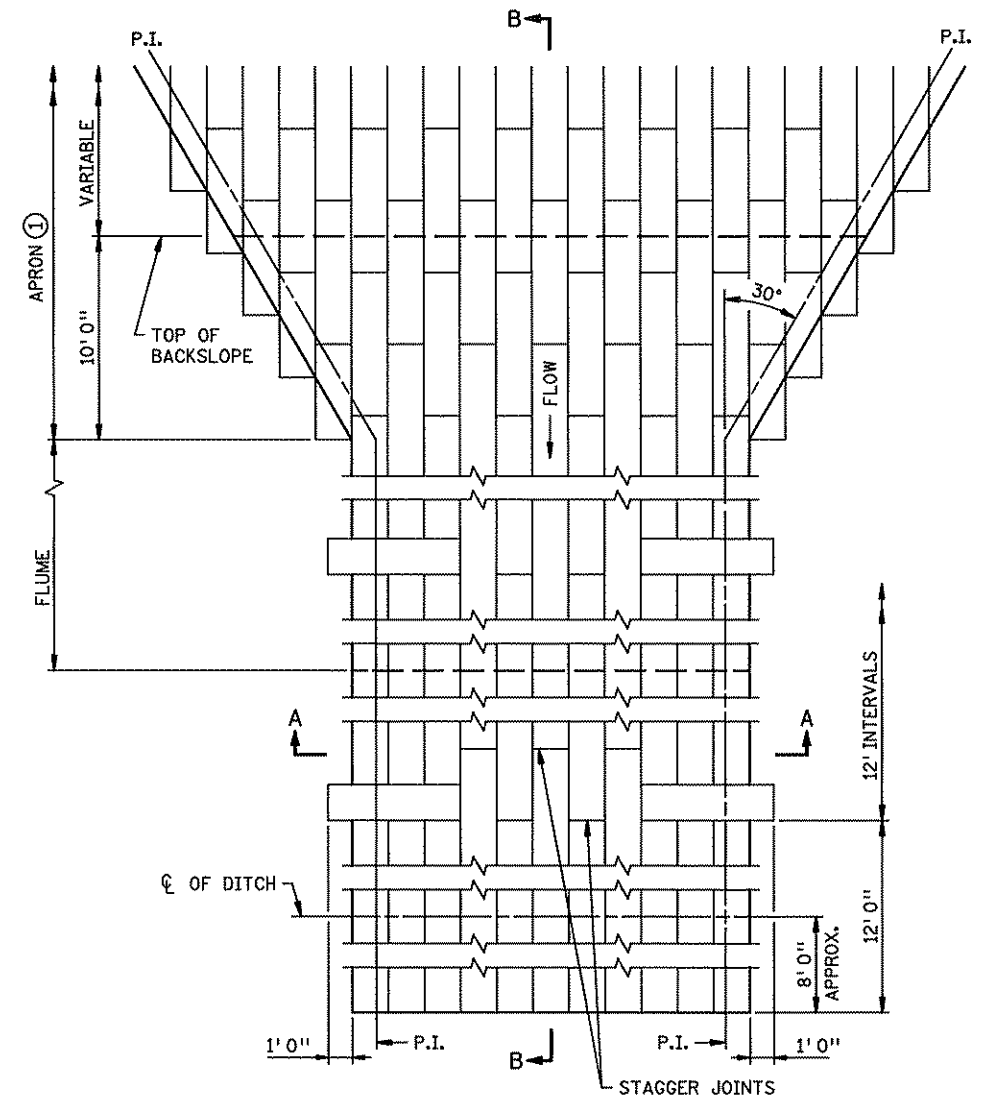
PLAN VIEW



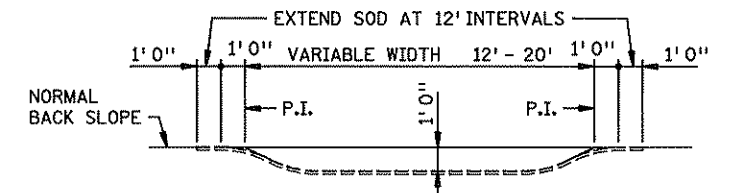
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



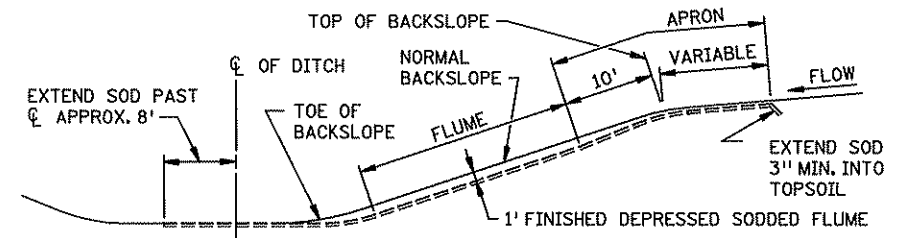
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B
SODDED FLUME DETAILS

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

S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

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

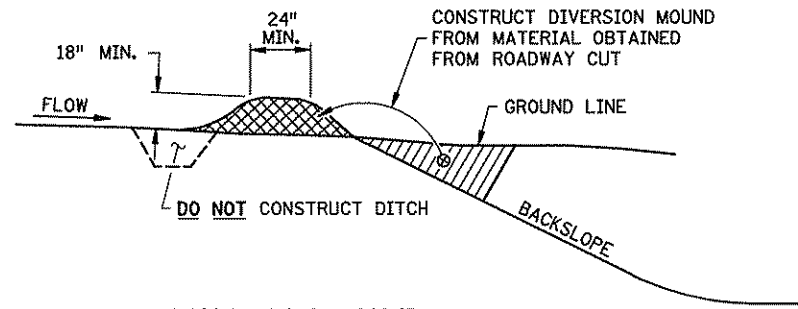
TITLE:

PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

SHEET NO. 72 OF 159 SHEETS

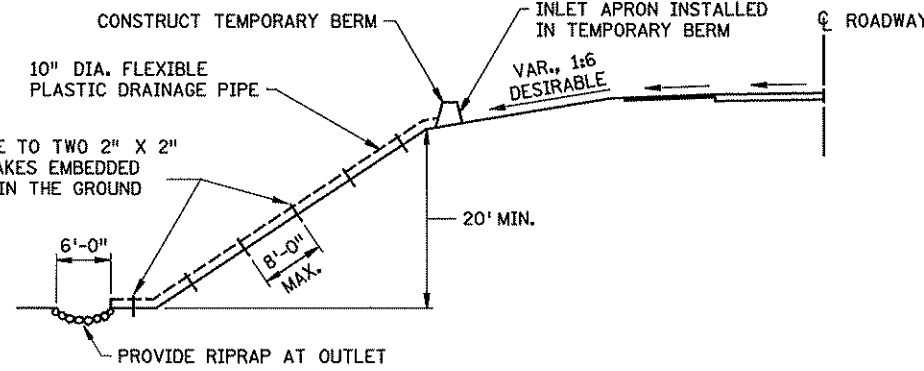
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PLOTTED/REVISED: 04/22/2008



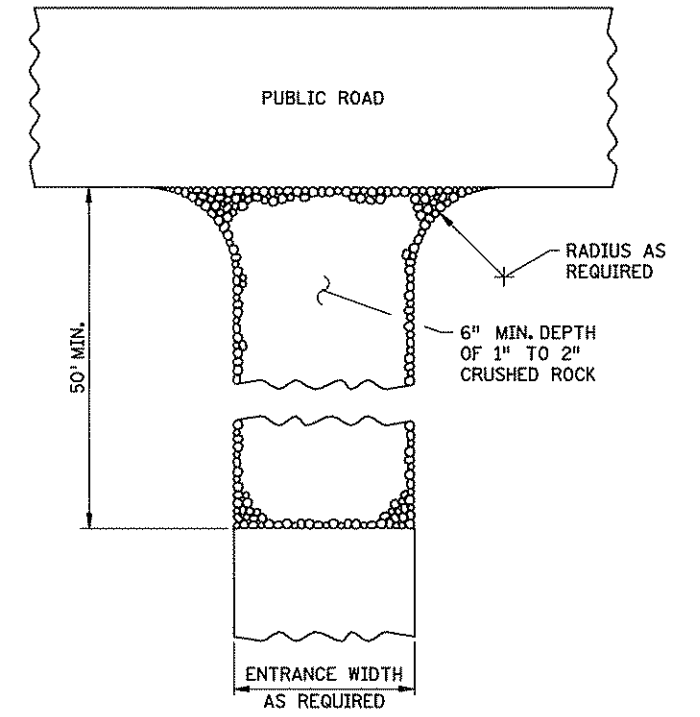
DIVERSION MOUND

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

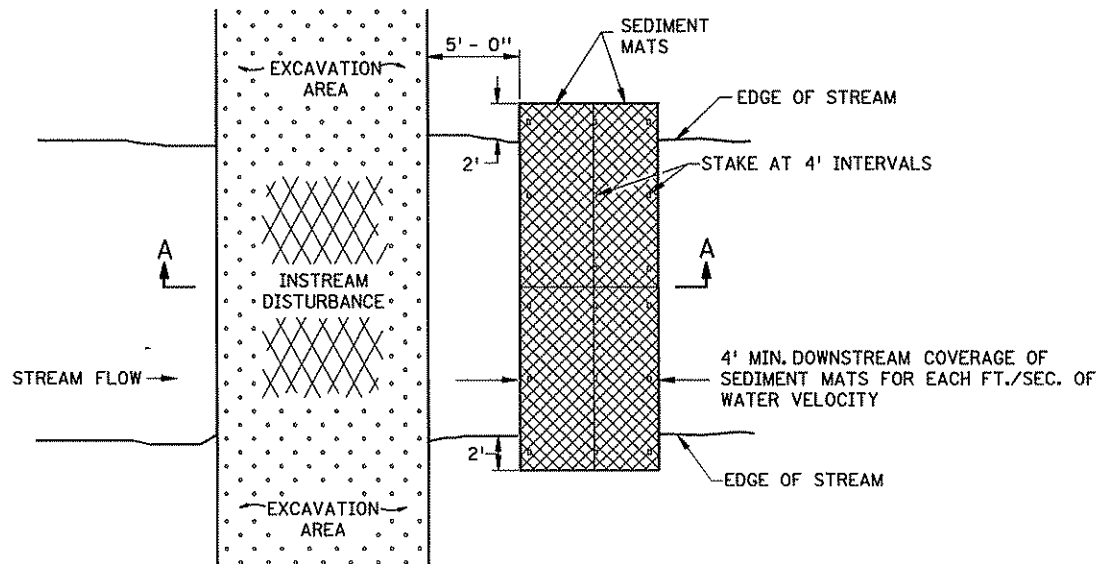


TEMPORARY DOWN DRAIN ON FILL SLOPE

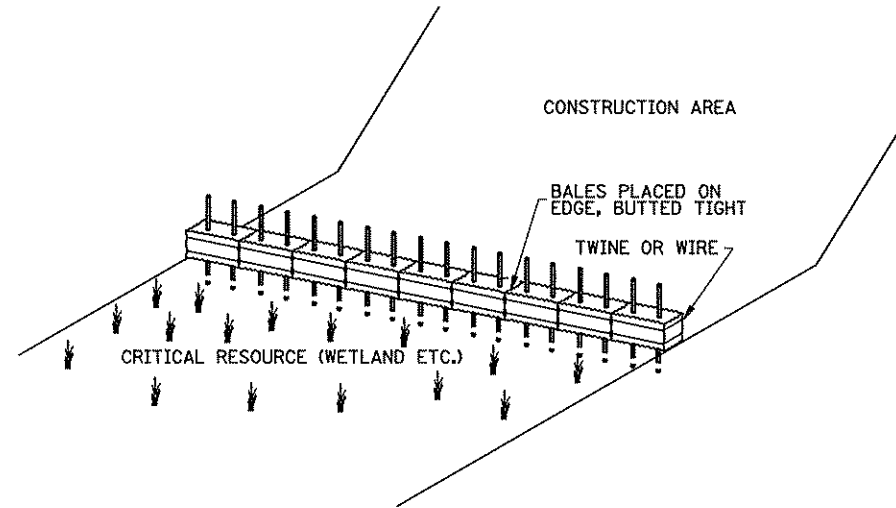
DESIGN GUIDELINES:
 STORM FREQUENCY: 2 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①

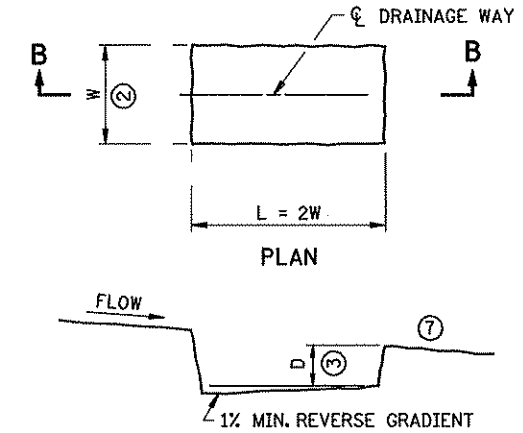


PLAN VIEW

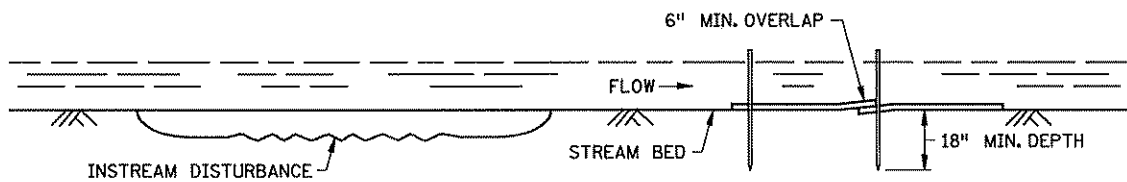


BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



SEDIMENT TRAP DETAIL

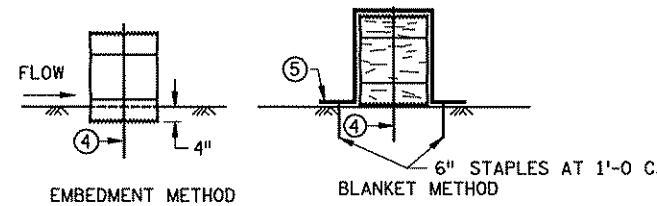


SECTION A-A

SEDIMENT MAT ⑥

TYPICAL STREAM BED INSTALLATION

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



BALE BARRIER DETAIL

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

NOTES:

SEE SPECS. 2573, 3892, & 3894.

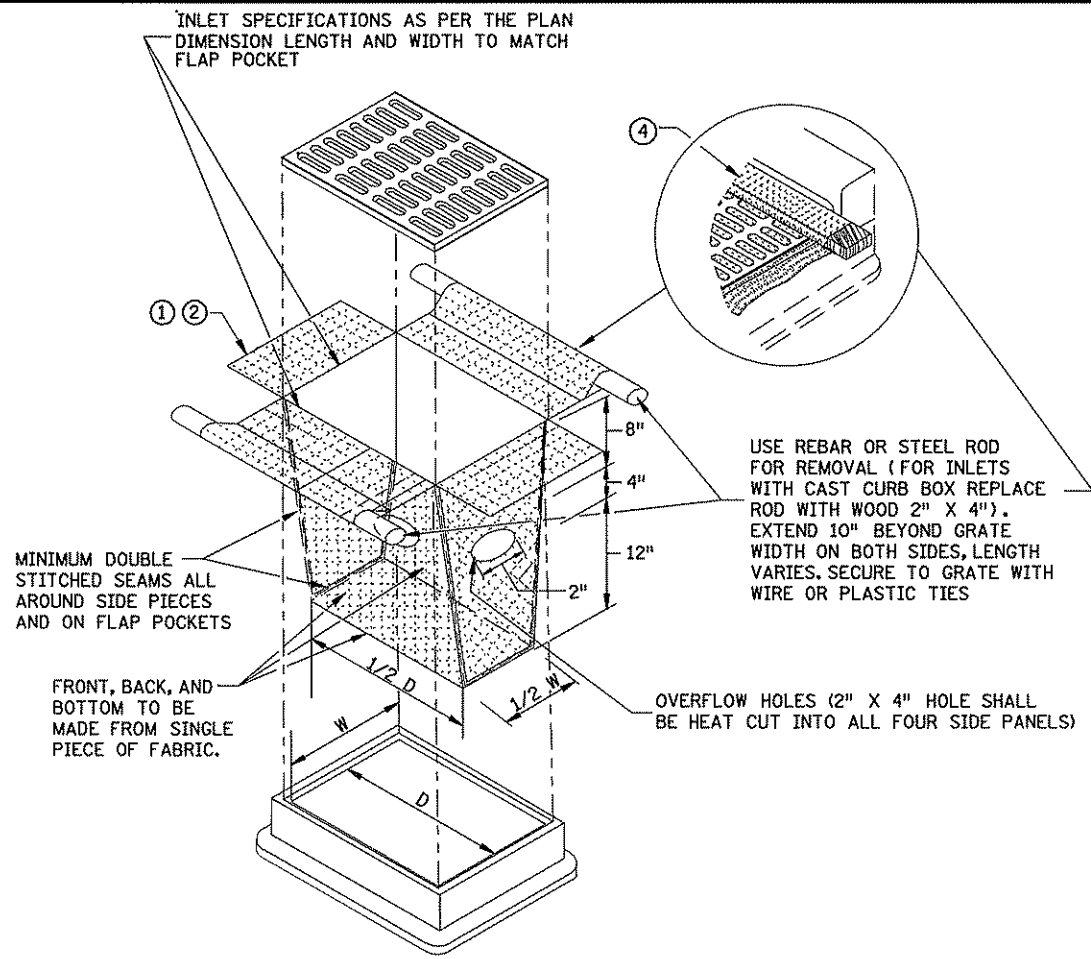
- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② W = 10 FT. MIN.,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

FILE NAME: D:\02-651-04\plan\5-297.405.2.spn.dgn

S.P. 02-651-06 S.P. 106-020-27 S.P. 114-020-23	STANDARD SHEET NO. 5-297.405 (2 of 4)	TITLE:
	STANDARD APPROVED: SEPTEMBER 27, 2006	TEMPORARY SEDIMENT CONTROL MISCELLANEOUS DETAILS
SHEET NO. 73 OF 159 SHEETS		

PLOTTED/REVISED: 04/22/2008

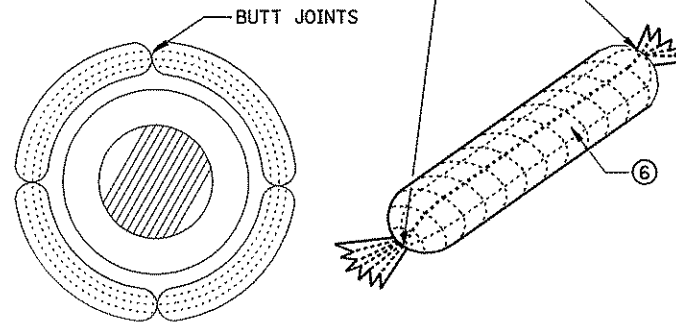
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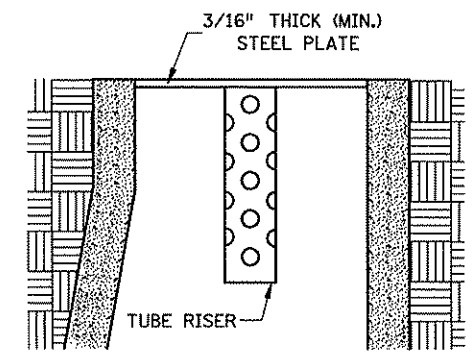
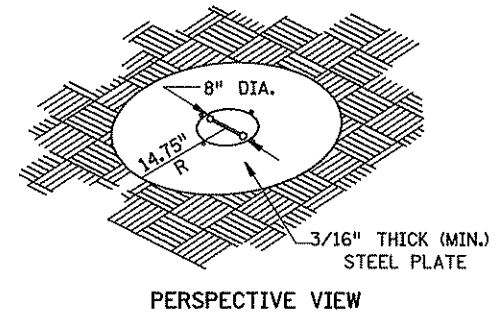
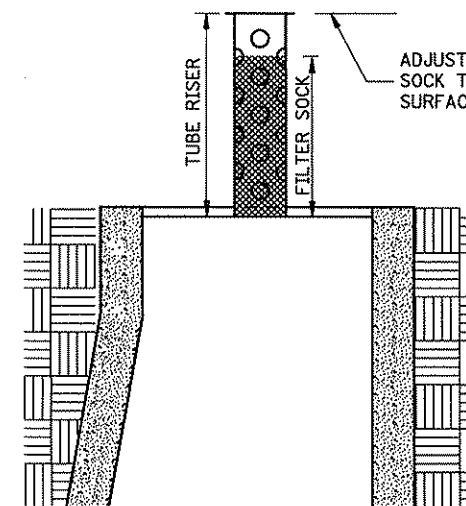
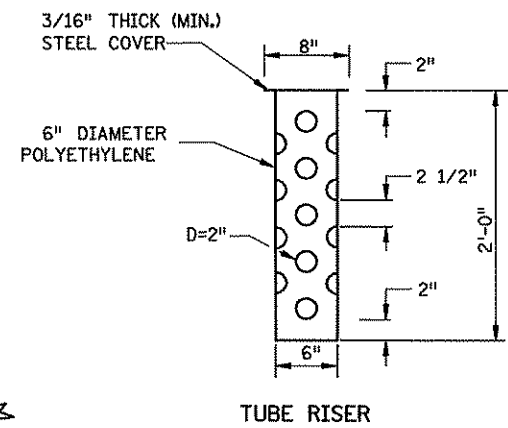
FILTER BAG INSERT ③

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

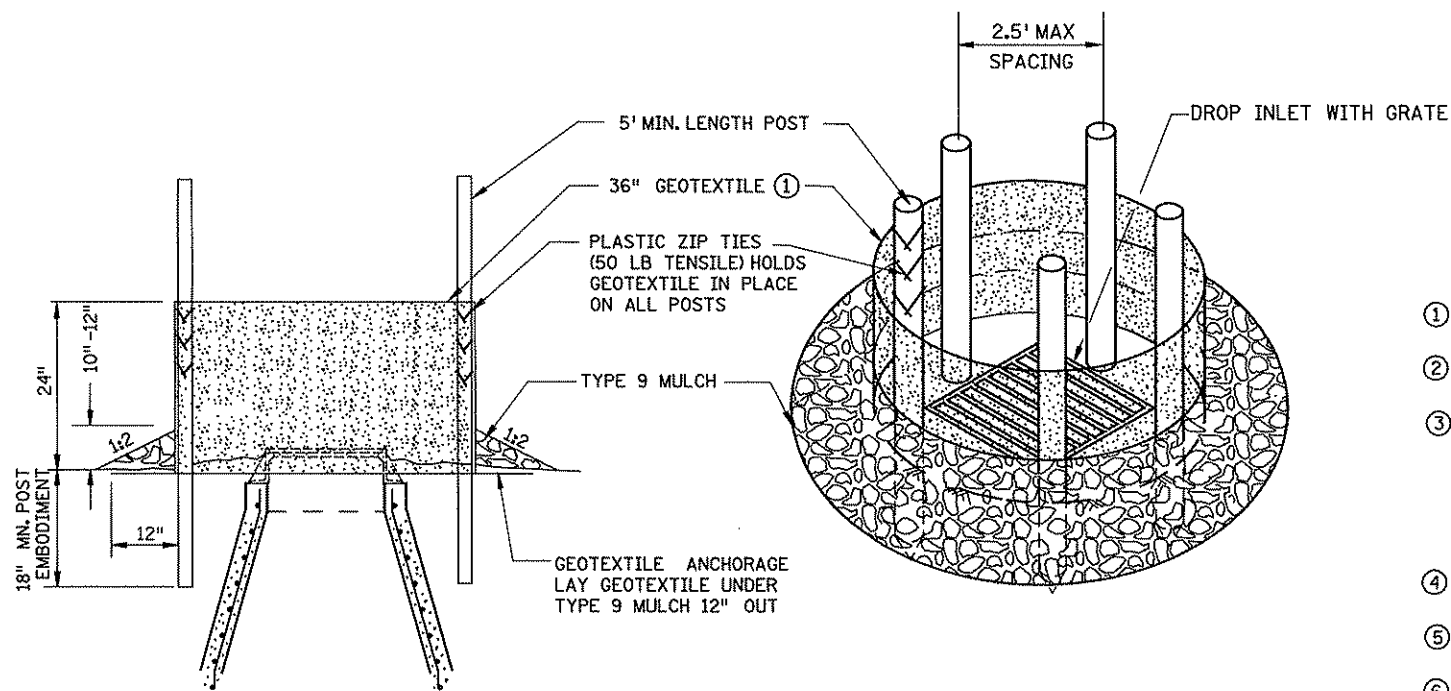
ENDS SECURELY CLOSED TO
PREVENT LOSS OF OPEN GRADED
AGGREGATE FILL. SECURED WITH
50 PSI. ZIP TIE.



ROCK LOG/COMPOST LOG

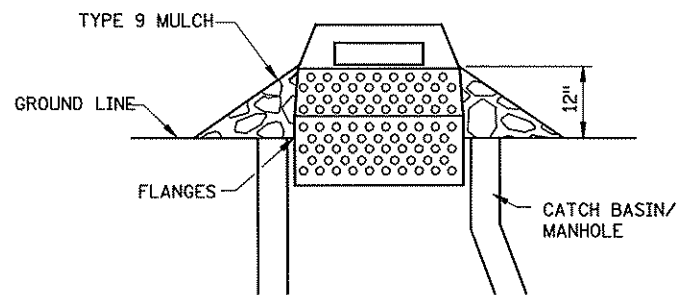


POP-UP HEAD



SILTY FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS



SEDIMENT CONTROL INLET HAT

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

NOTES:

SEE SPECS. 2573, 3137, 3886 & 3891.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST
MAY BE SUBSTITUTED.

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

S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

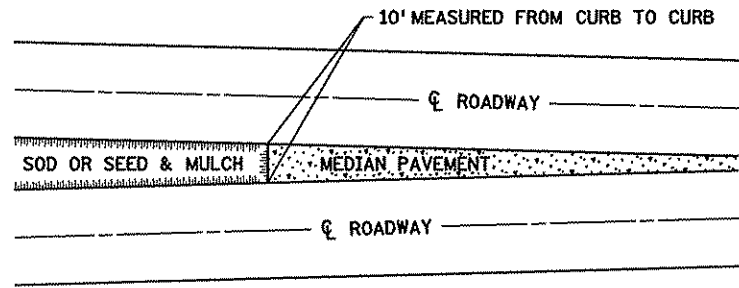
STANDARD SHEET NO.
297.405 (4 OF 4)
STANDARD APPROVED:
SEPTEMBER 27, 2006

TITLE:

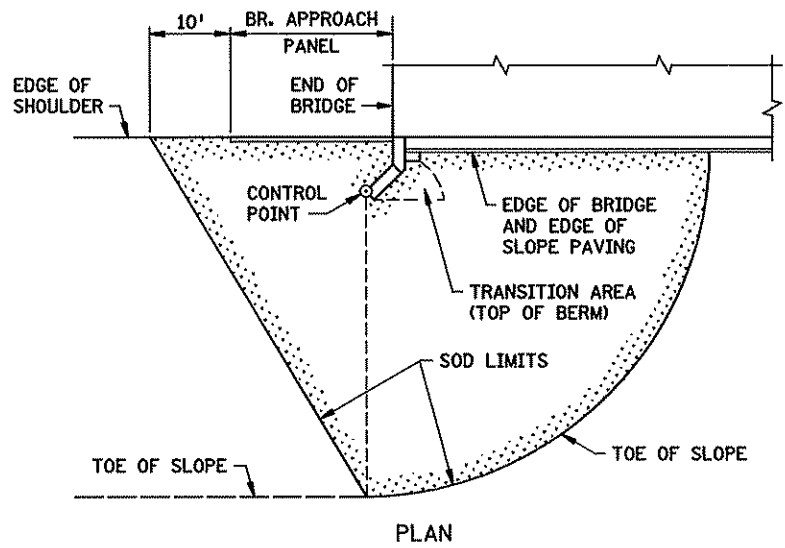
**TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION**

SHEET NO. 74 OF 159 SHEETS

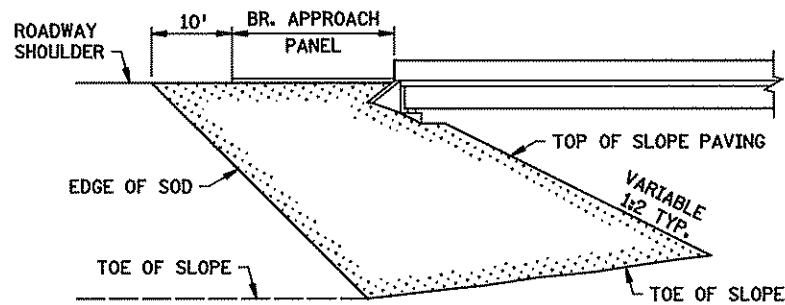
PLOTTED/REVISED: 04/22/2008



SODDING LIMITS AT GORE AREA

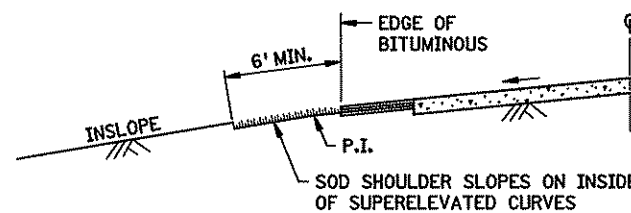


PLAN

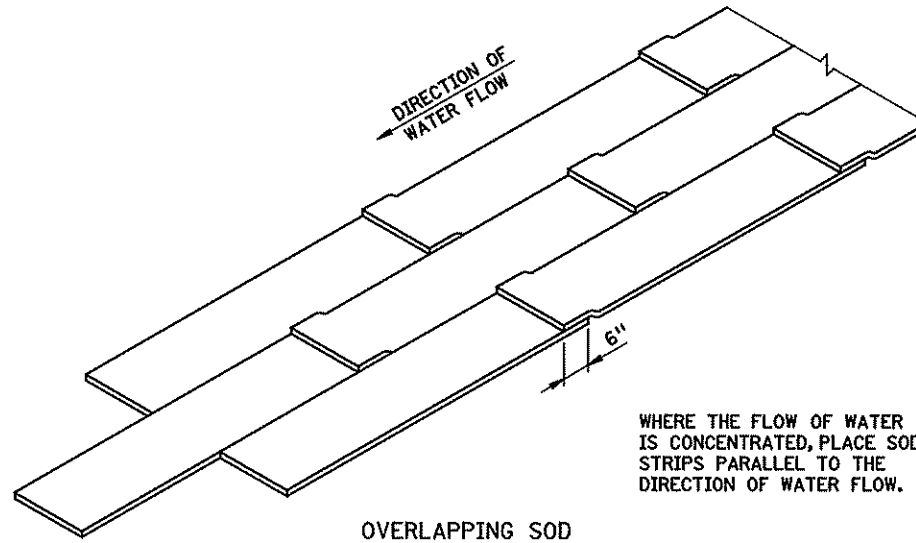


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

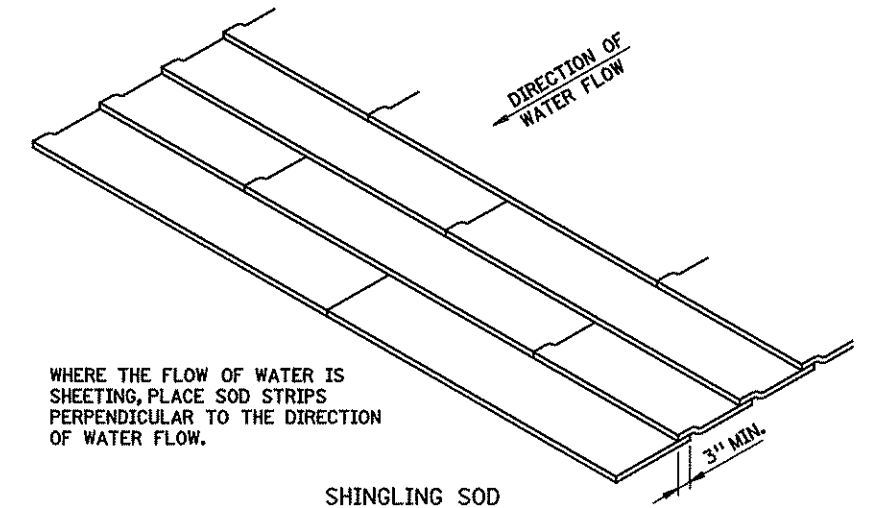


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

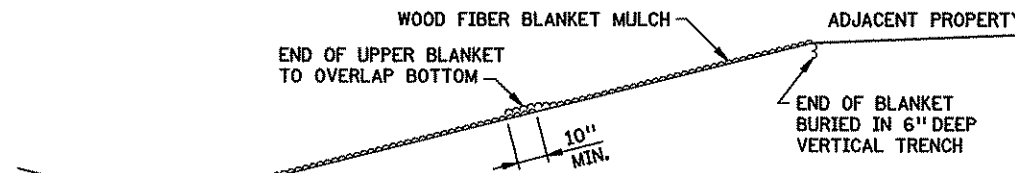
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



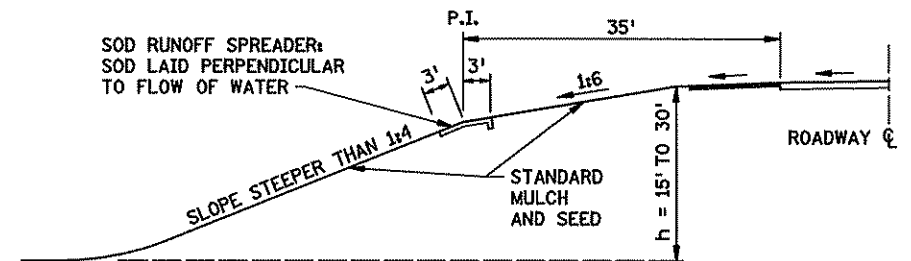
SHINGLING SOD

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

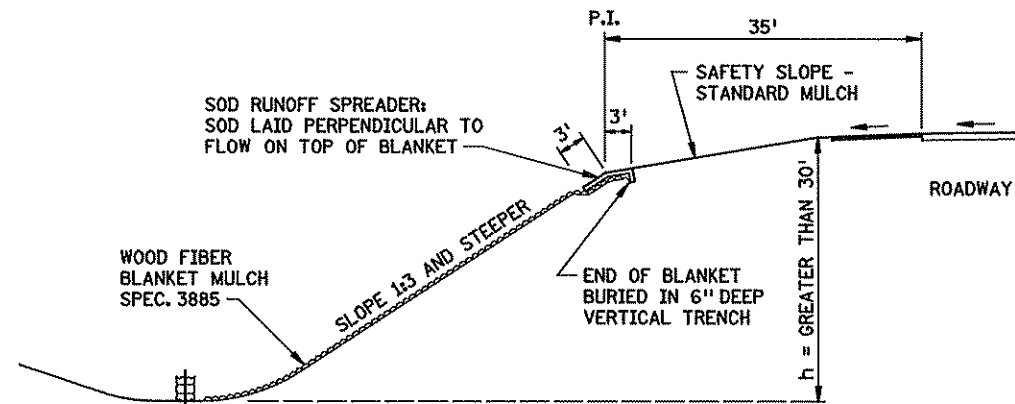
SPECIAL SOD PLACEMENT TECHNIQUES



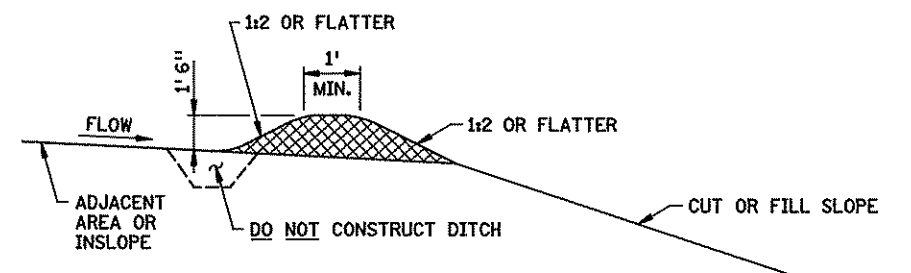
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



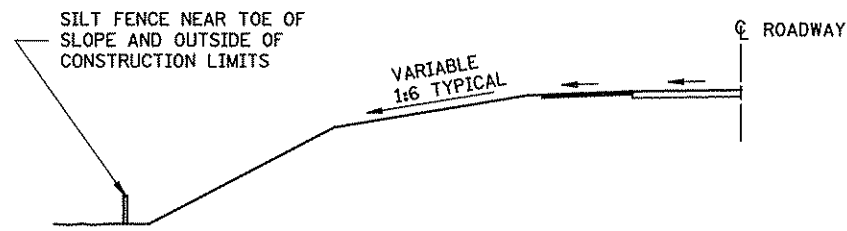
PERMANENT SLOPE PROTECTION DIKE

FILE NAME: p:\02-651-04\plan\5-297.406.spn.dgn

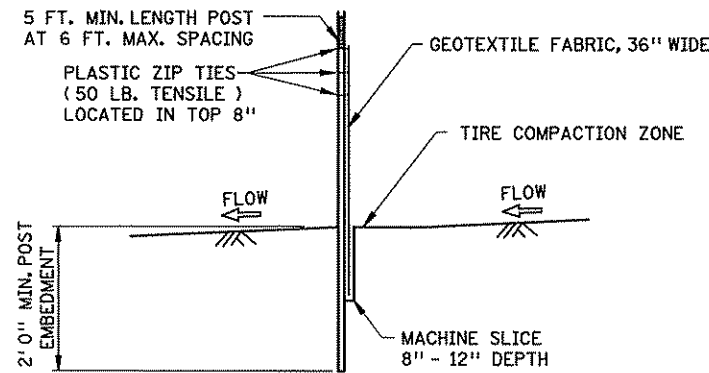
S.P. 02-651-06 S.P. 106-020-27 S.P. 114-020-23	STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
	STANDARD APPROVED: JANUARY 31, 1985	
	REVISION DATE 10-26-2000	
SHEET NO. 75 OF 159 SHEETS		

PLOTTED/REVISED: 04/22/2008

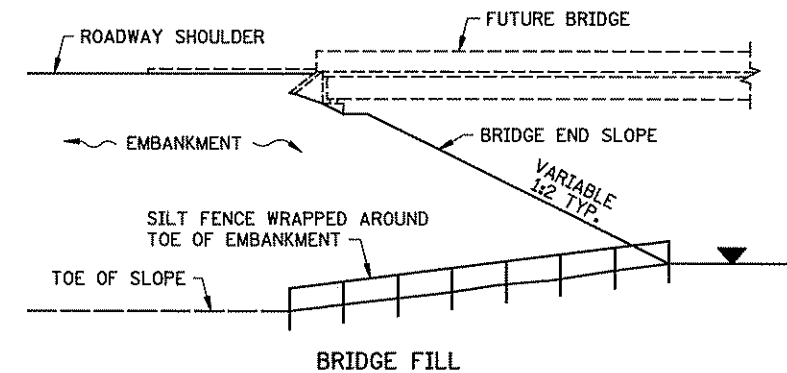
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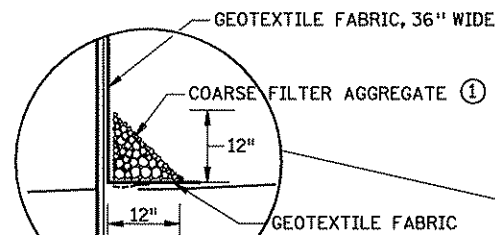
LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



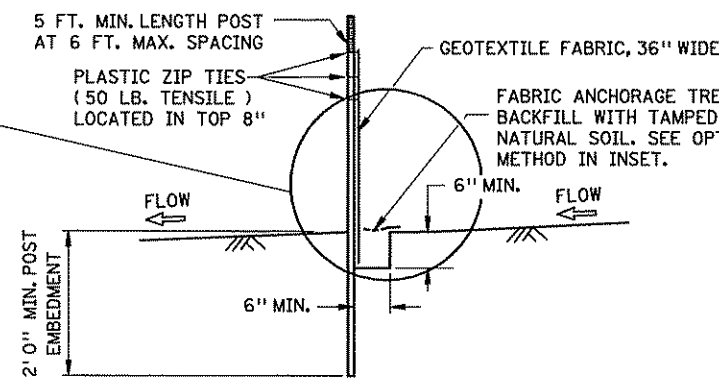
SILT FENCE, MACHINE SLICED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



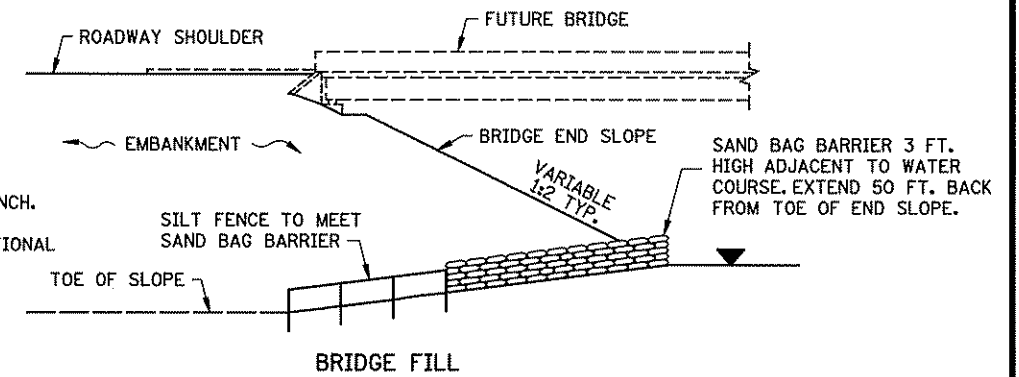
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE



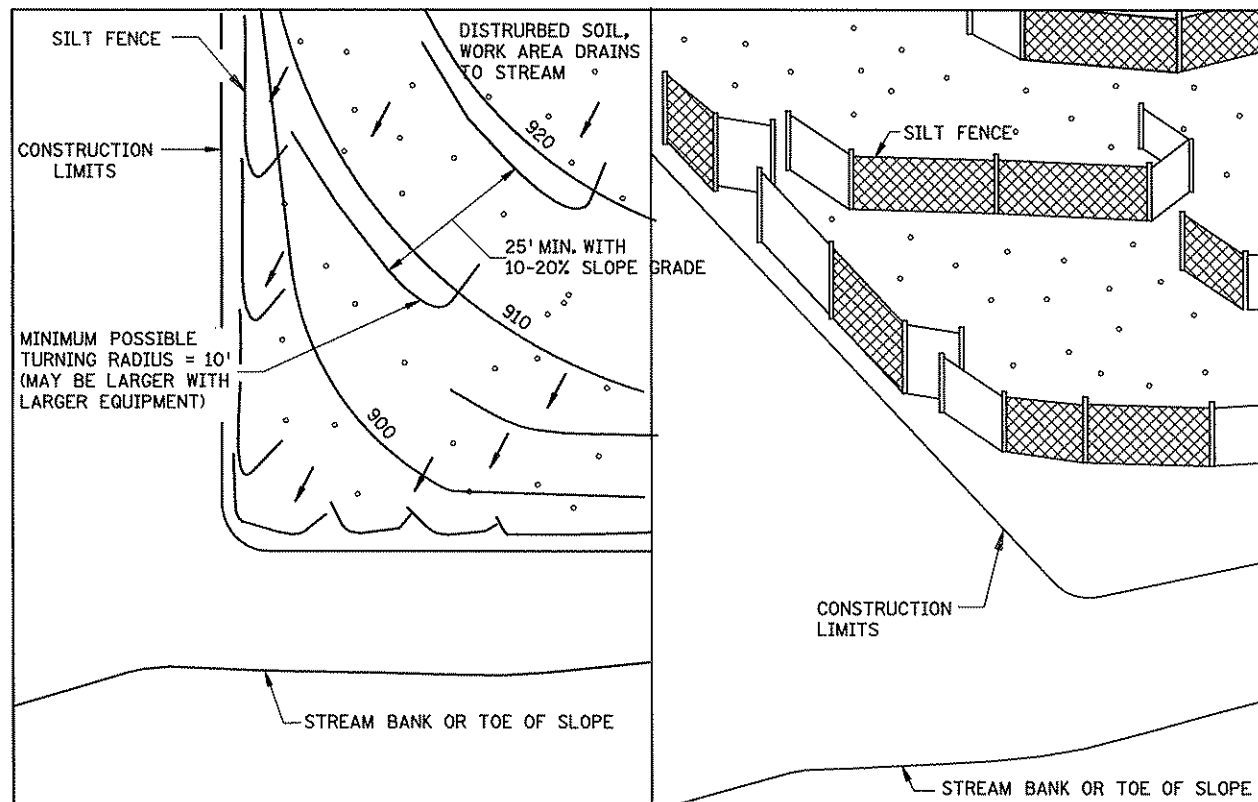
OPTIONAL METHOD FOR SILT FENCE, HEAVY DUTY



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



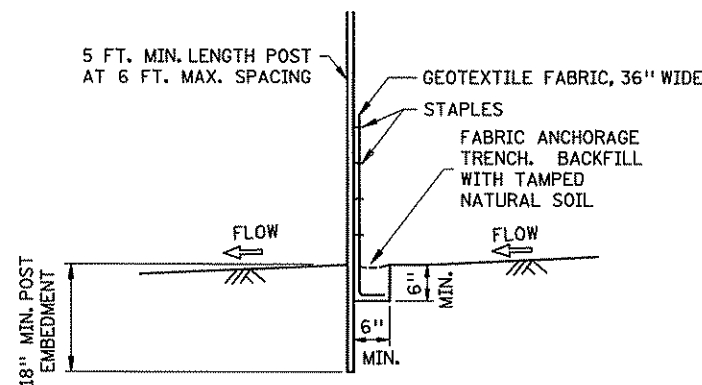
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



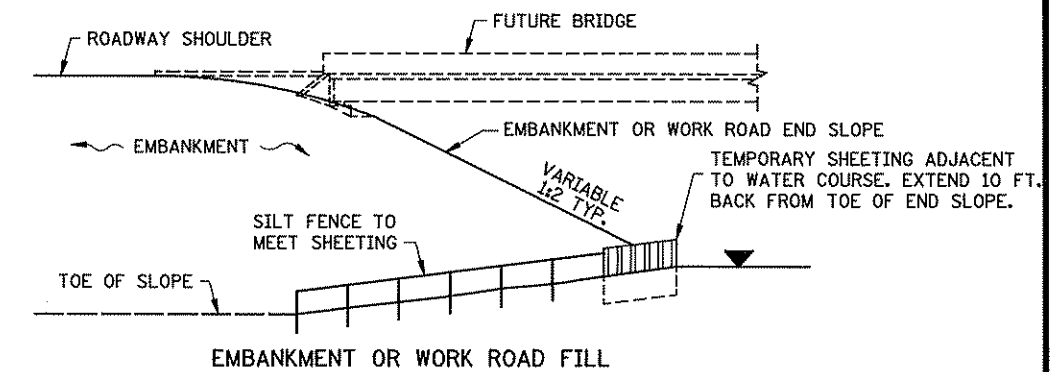
PLAN VIEW

SIDE VIEW

SILT FENCE, J-HOOK INSTALLATION



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



DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

NOTES:

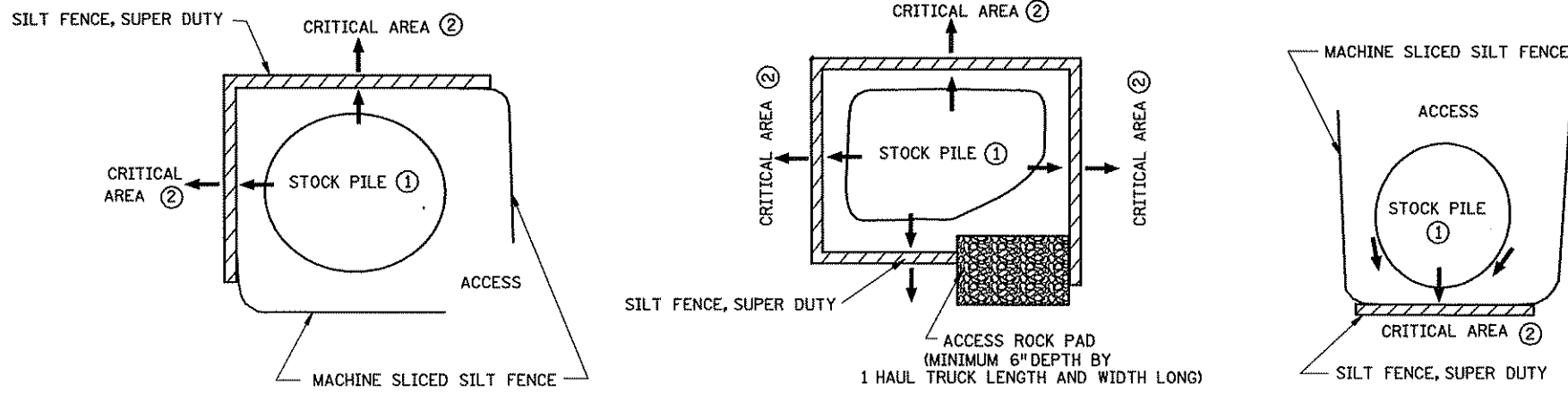
SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

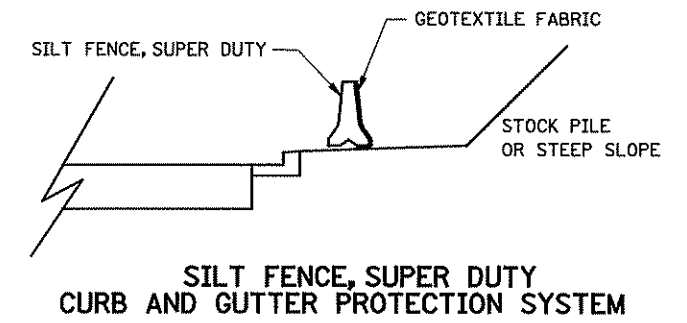
S.P. 02-651-06 S.P. 106-020-27 S.P. 114-020-23	STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL
	STANDARD APPROVED: SEPTEMBER 27, 2006	SILT FENCE
SHEET NO. 76 OF 159 SHEETS		

PLOTTED/REVISED: 04/22/2008

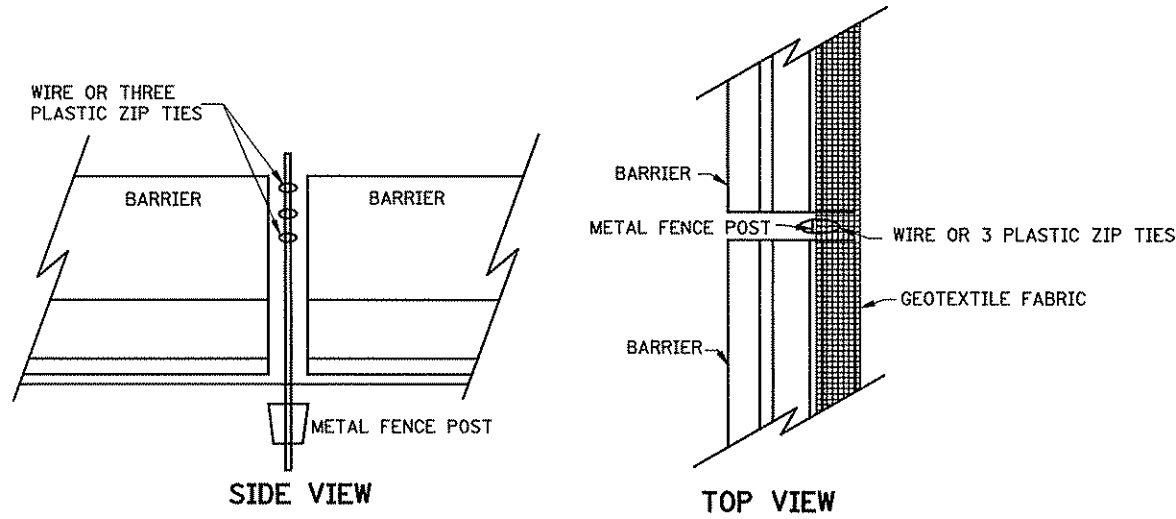
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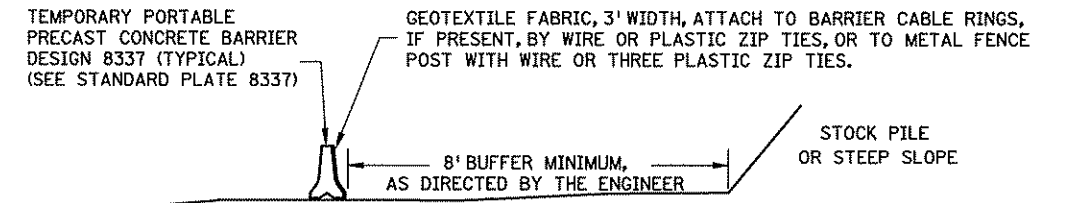
SILT FENCE, SUPER DUTY STOCK PILE CONTAINMENT



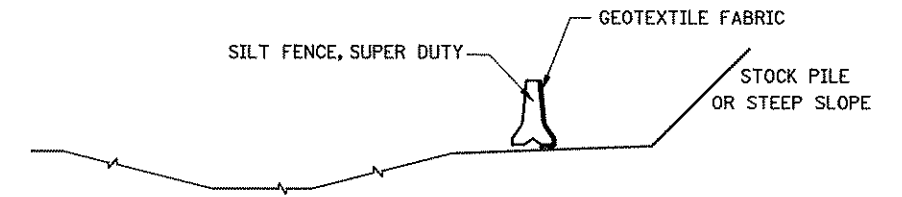
SILT FENCE, SUPER DUTY CURB AND GUTTER PROTECTION SYSTEM



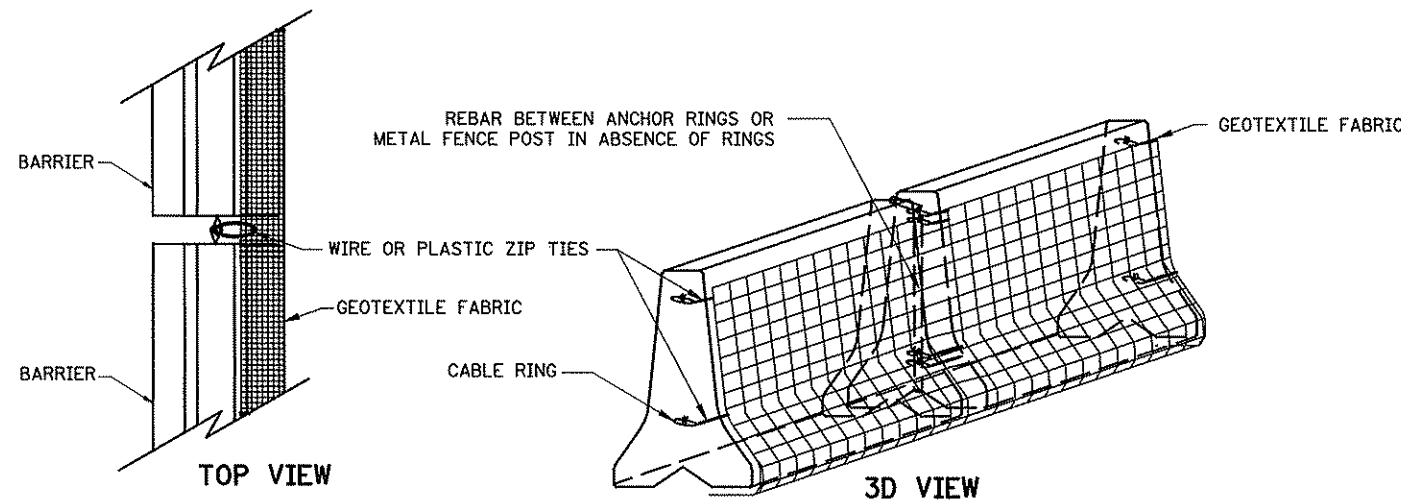
BARRIER WITHOUT CABLE RINGS



SILT FENCE, SUPER DUTY STOCKPILE SEDIMENT CONTROL



SILT FENCE, SUPER DUTY DITCH PROTECTION SYSTEM

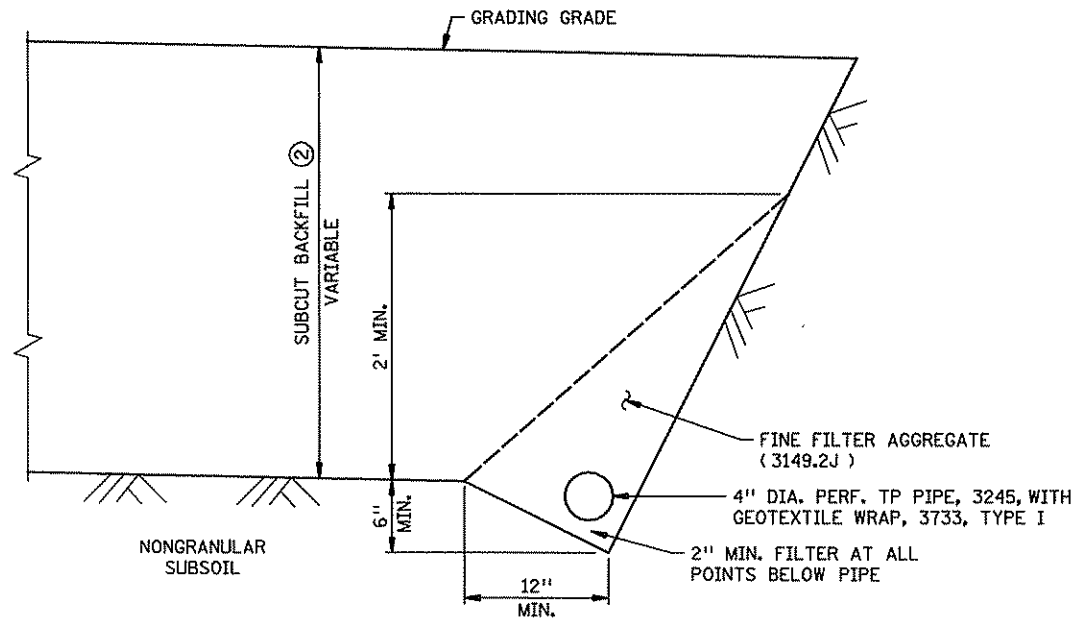


BARRIER WITH CABLE RINGS SILT FENCE, SUPER DUTY

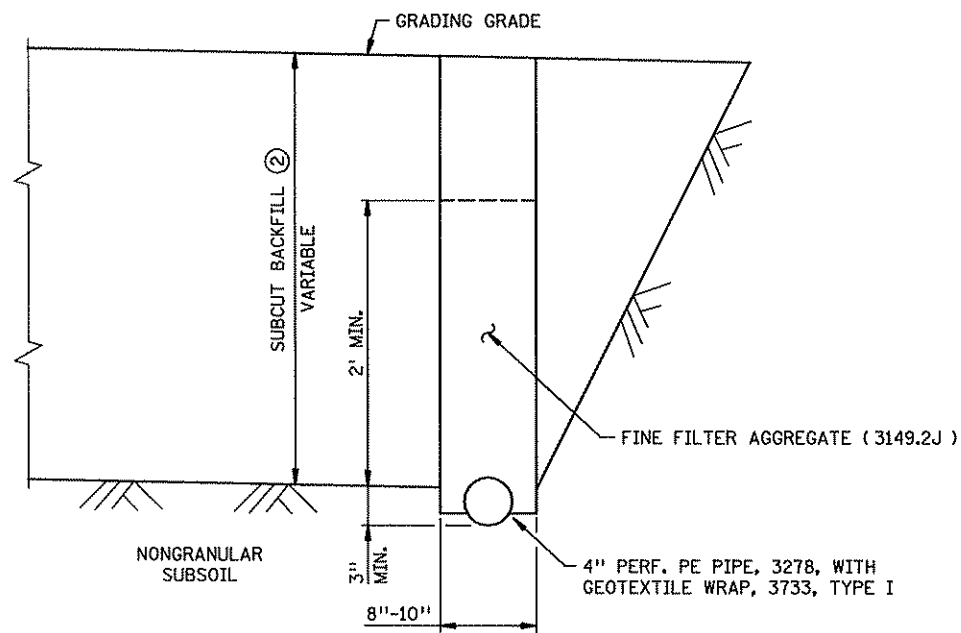
NOTES:

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

S.P. 02-651-06 S.P. 106-020-27 S.P. 114-020-23	STANDARD SHEET NO. 5-297.408 (2 of 2)	TITLE: TEMPORARY SEDIMENT CONTROL SUPER DUTY SILT FENCE
	STANDARD APPROVED: SEPTEMBER 27, 2006	
SHEET NO. 77 OF 159 SHEETS		



TYPICAL SECTION (OPTION NO. 1) ①

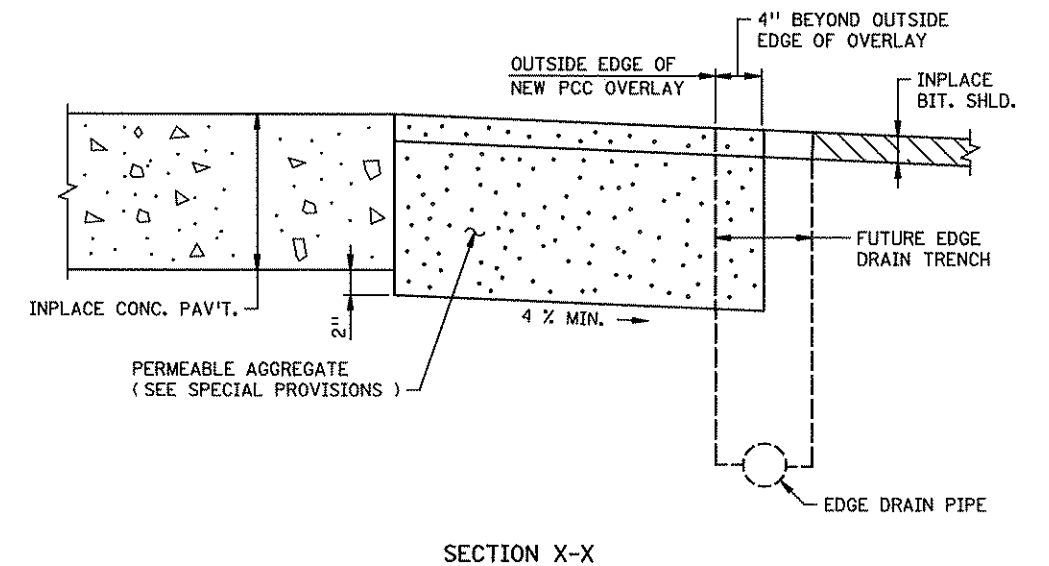
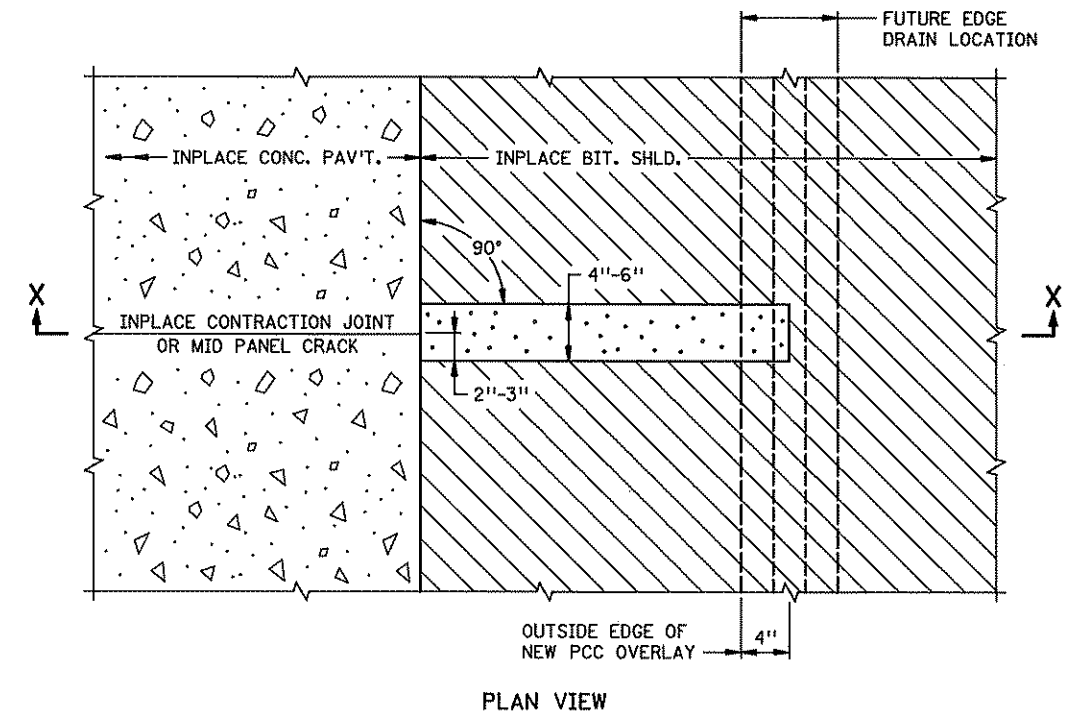


TYPICAL SECTION (OPTION NO. 2) ①

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE

NOTES:

- ① MAY NEED TO BE MODIFIED FOR SPECIFIC PROJECTS. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION NO. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.
- ② GRANULAR, SELECT GRANULAR OR SELECT GRANULAR MODIFIED. (AS SHOWN IN DESIGN RECOMMENDATION LETTER).

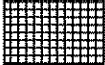



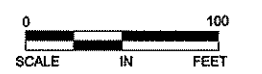
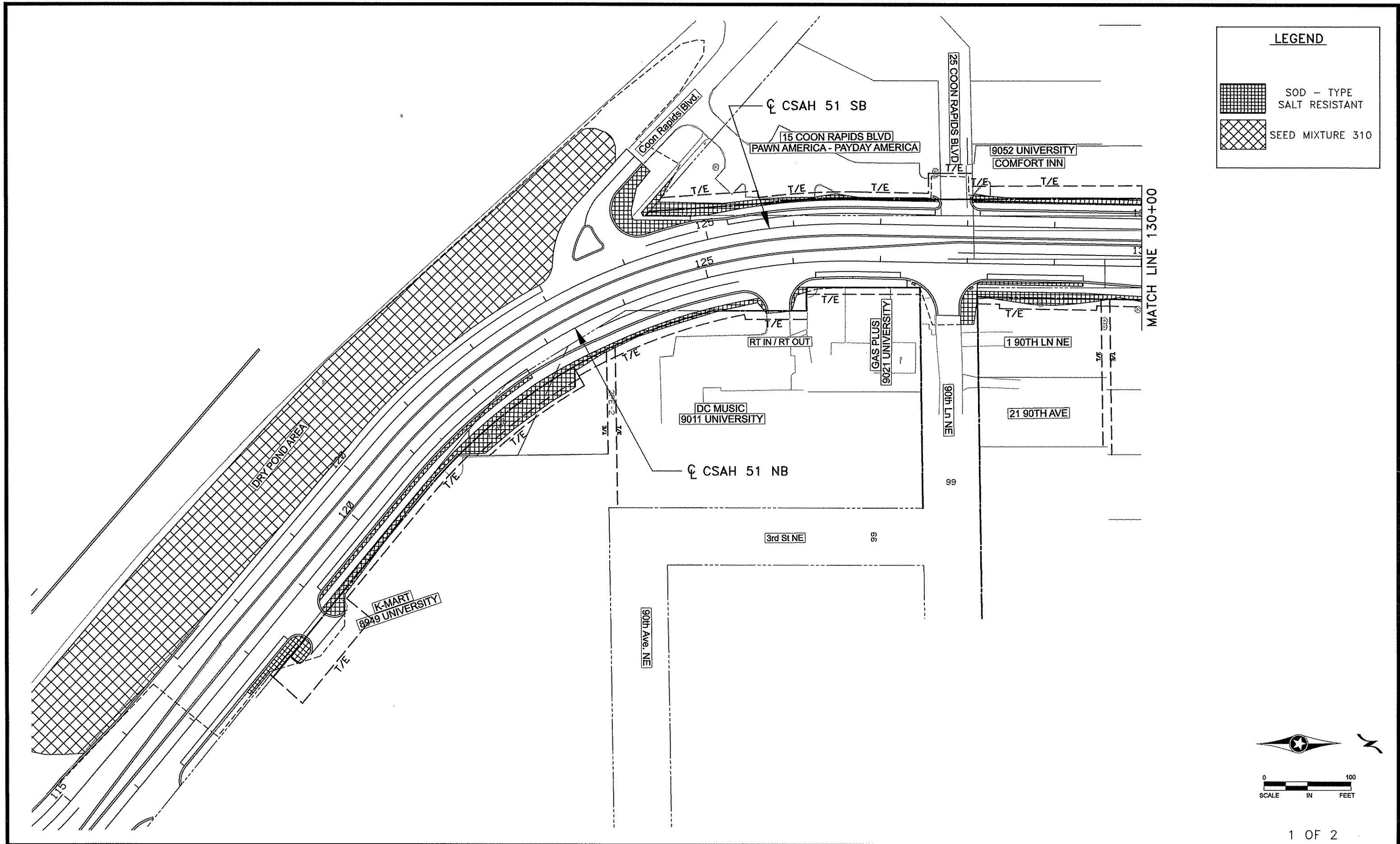
SECTION X-X
INTERCEPTOR DRAIN DETAIL ①

NOTE:
① SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.

S.P. 02-651-06 S.P. 106-020-27 S.P. 114-020-23	STANDARD SHEET NO. 5-297.430	TITLE: SUBSURFACE DRAINS
	STANDARD APPROVED: FEBRUARY 25, 1997	
SHEET NO. 78 OF 159 SHEETS		

LEGEND

-  SOD - TYPE SALT RESISTANT
-  SEED MIXTURE 310



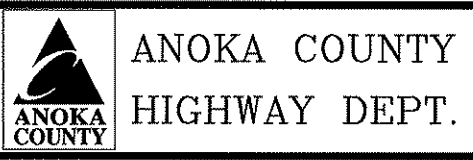
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TE1.DGN 04/22/2008 3:07:20 PM

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

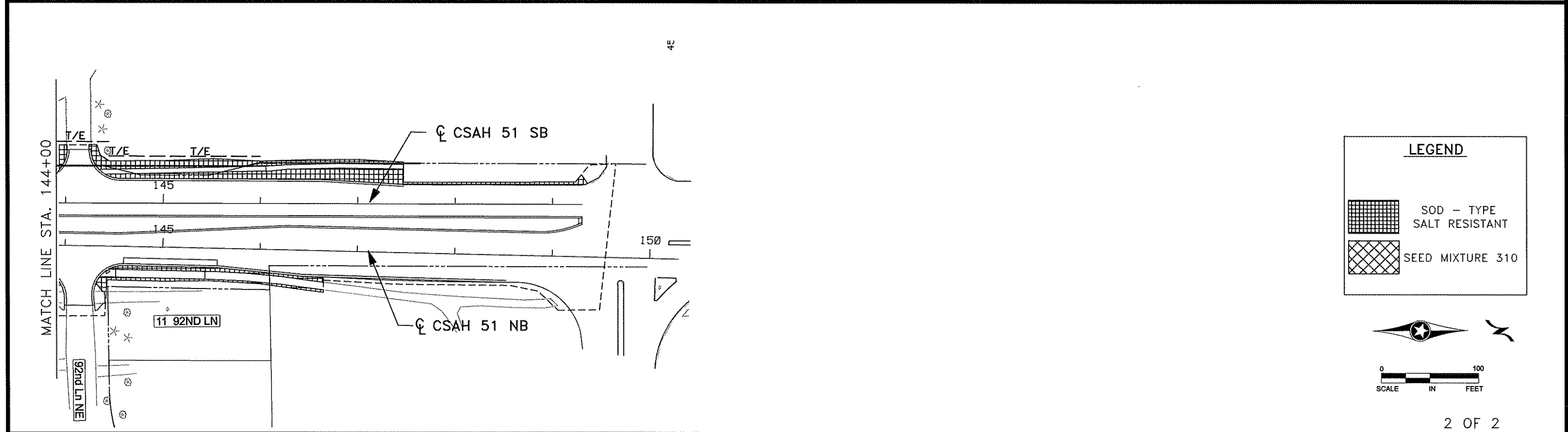
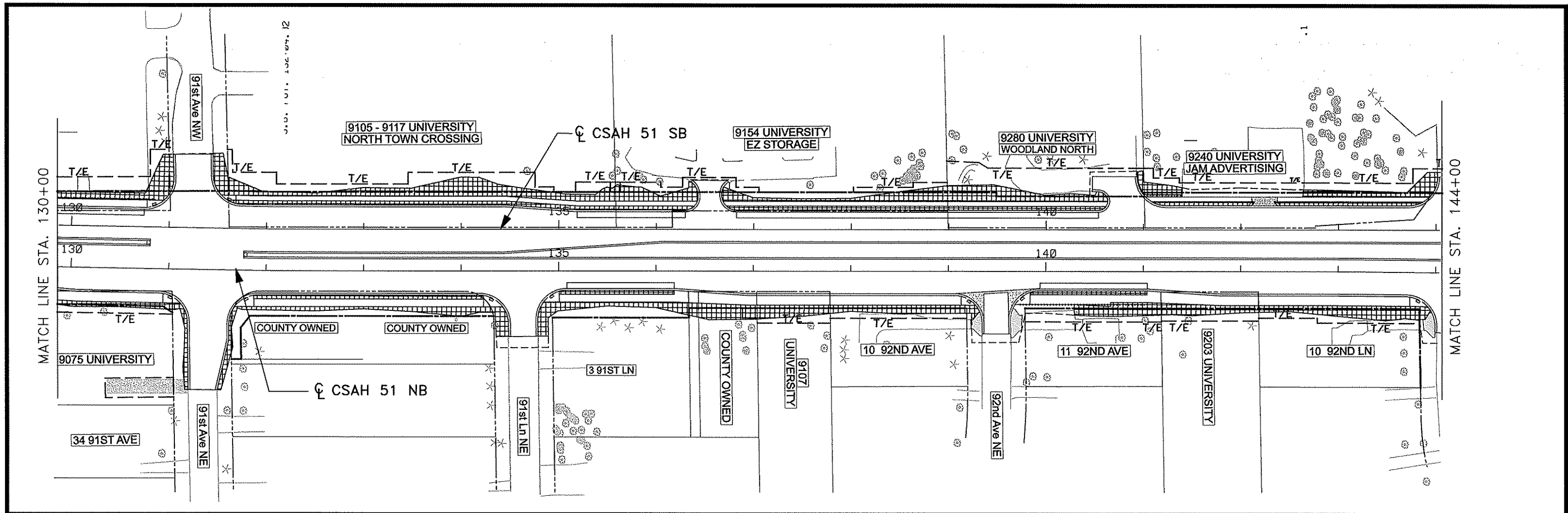
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TURF ESTABLISHMENT
 STA 116+00 to STA 132+00
 Sheet 79 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TE2.DGN 04/22/2008 3:08:16 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TURF ESTABLISHMENT
 STA 132+00 to STA 150+00
 Sheet 80 of 159 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
R1-1	48" X 48"		0	13	12	13
R1-4	18" X 6"		0	4	4	4
R2-1	24" X 30"		0	1	1	1
R2-1	24" X 30"		0	1	1	1
R3-X1	24" X 30"		0	1	1	1
R3-X2	24" X 30"		0	2	2	1
R3-2	24" X 24"		0	1	3	2
R4-1	24" X 30"		0	0	0	0
R4-7	24" X 30"		0	2	4	1
X4-11	18" X 18"		0	2	4	1
R5-1	30" X 30"		0	0	0	10
R6-1R	36" X 12"		0	0	1	10
R6-1R	48" X 18"		0	0	0	8
R6-1L	36" X 12"		0	0	0	2

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
W1-4L	48" X 48"		0	0	1	0
W3-1A	48" X 48"		0	4	4	4
W6-3	48" X 48"		0	2	2	0
W1-4L	48" X 48"		0	16	14	15
W1-4L	48" X 48"		0	1	0	0
W20-X3L	48" X 48"		0	1	0	0
W13-1	24" X 24"		0	2	0	0
W21-X5	48" X 48"		0	4	0	0
W4-2L	48" X 48"		0	2	3	3
W20-X3R	48" X 48"		0	2	3	3
W13-1	24" X 24"		0	4	6	6
W21-X5	48" X 48"		0	4	8	8

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
W20-1	48" X 48"		0	0	2	0
	48" X 48"		0	2	1	1
G20-2A	48" X 24"		0	4	4	4
			0	150	63	111
			0	140	144	66
R11-2	48" X 24"		0	2	3	1
			0	0	0	0
W1-7	48" X 24"		0	0	0	0
W1-6	48" X 24"		0	1	0	0
W1-6	48" X 24"		0	2	4	7
W6-1R	36" X 12"		0	0	0	0

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
			0	4	0	0
			3	3	4	9
			1	1	0	0

TRAFFIC CONTROL DEVICE & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	REFLECTORIZED REBOUNDABLE DRUM
	SOLID LINE PAVEMENT MARKING WITH TRPM'S SPACED AT 10' INTERVALS (TEMPORARY RAISED PAVEMENT MARKERS)

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2007.
- 2) PAVEMENT MARKINGS IN ALL TAPER AREAS SHALL HAVE TEMPORARY RAISED PAVEMENT MARKERS AT 10' INTERVALS
- 3) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.
- 4) STAGE 1 TO BE COMPLETED UNDER STANDARD FLAGGING OPERATIONS AS DESCRIBED IN THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007'

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_STAGE_SIGNS.DGN 04/22/2008 3:23:47 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: MTH DATE: 10-9-07
DESIGN BY: JEO DATE: 10-21-07
CHECKED BY: CAK DATE: 10-21-07



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

STAGING SIGN
QUANTITIES

CONSTRUCTION STAGING ITEMS SUMMARY						U
STAGE	TRPM	4" SOLID LINE YELLOW LATEX	4" SOLID LINE WHITE LATEX	REMOVABLE TAPE WHITE	REMOVABLE TAPE YELLOW	NOTES
	EACH	LIN FT	LIN FT	LIN FT	LIN FT	
CONSTRUCTION STAGE 1	0	0	0	0	0	[1]
CONSTRUCTION STAGE 2	560	6222	6222	1380	1380	
CONSTRUCTION STAGE 3	516	6220	6220	1040	1480	
CONSTRUCTION STAGE 4	92	6220	6220	240	680	
TOTALS	1168	18662	18662	2660	3540	

NOTES:

- (1) STAGE 1 TO BE COMPLETED UNDER STANDARD FLAGGING OPERATIONS AS DESCRIBED IN THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_STAGE_SIGNS.DGN 04/22/2008 3:08:20 PM					

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE 10-25-07
DESIGN BY: MTH DATE 10-25-07
CHECKED BY: CAK DATE 10-25-07












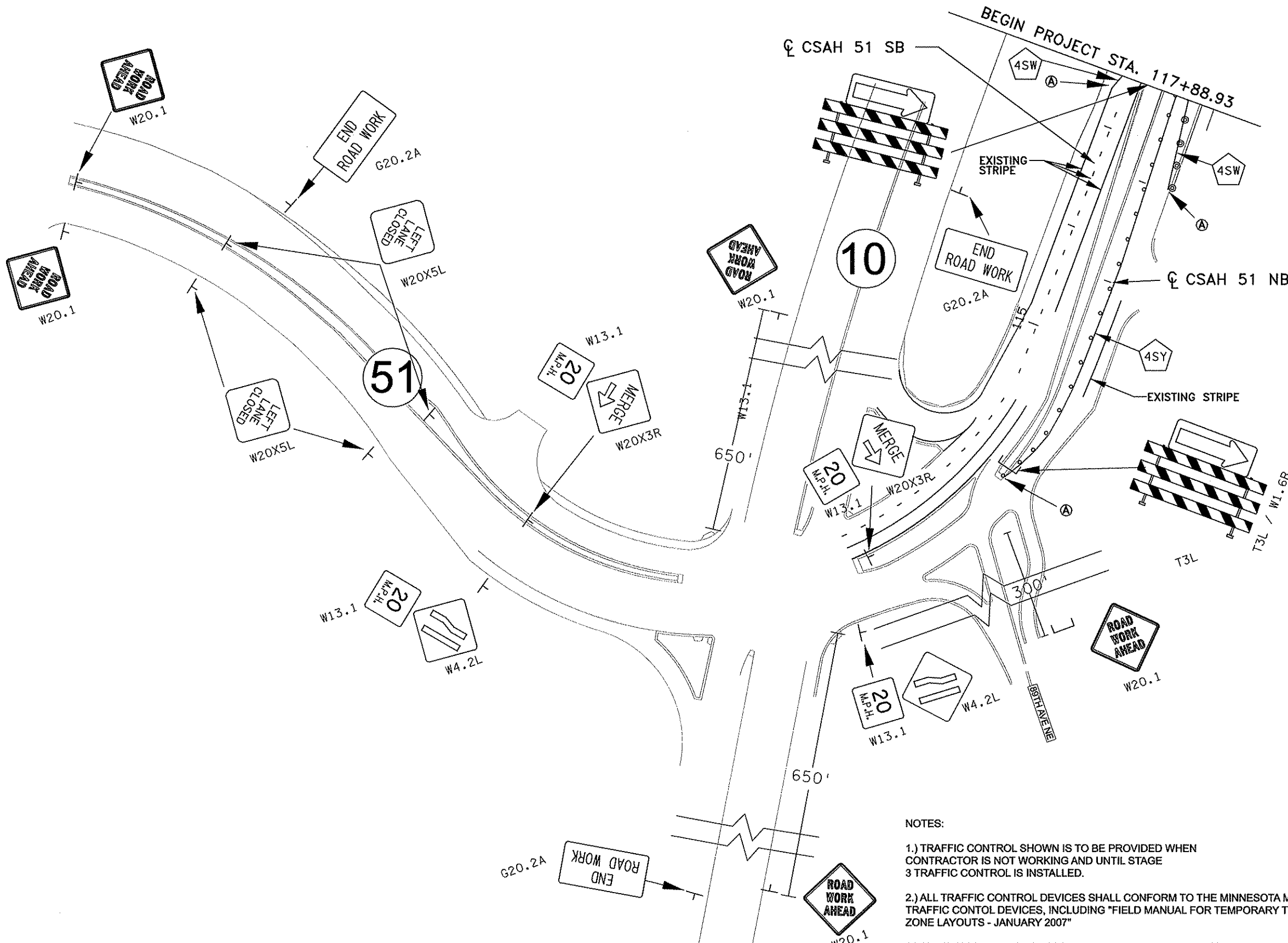
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

STAGE STRIPING
SUMMARY

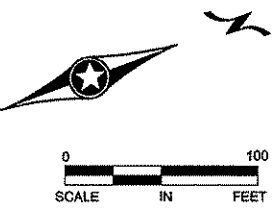
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
- 36" DRUMS
- 36" TUBULAR MARKERS
- BEGIN LANE TAPE
- END LANE TAPE
- BEGIN LATEX PAINT
- END LATEX PAINT



NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 3 TRAFFIC CONTROL IS INSTALLED.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



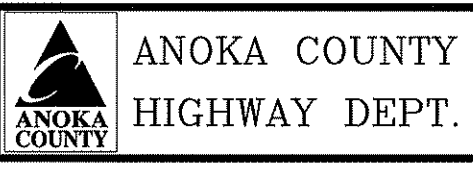
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC2A.DGN 04/22/2008 3:08:23 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4.23.08 LICENSE NO. 24756


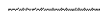













DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

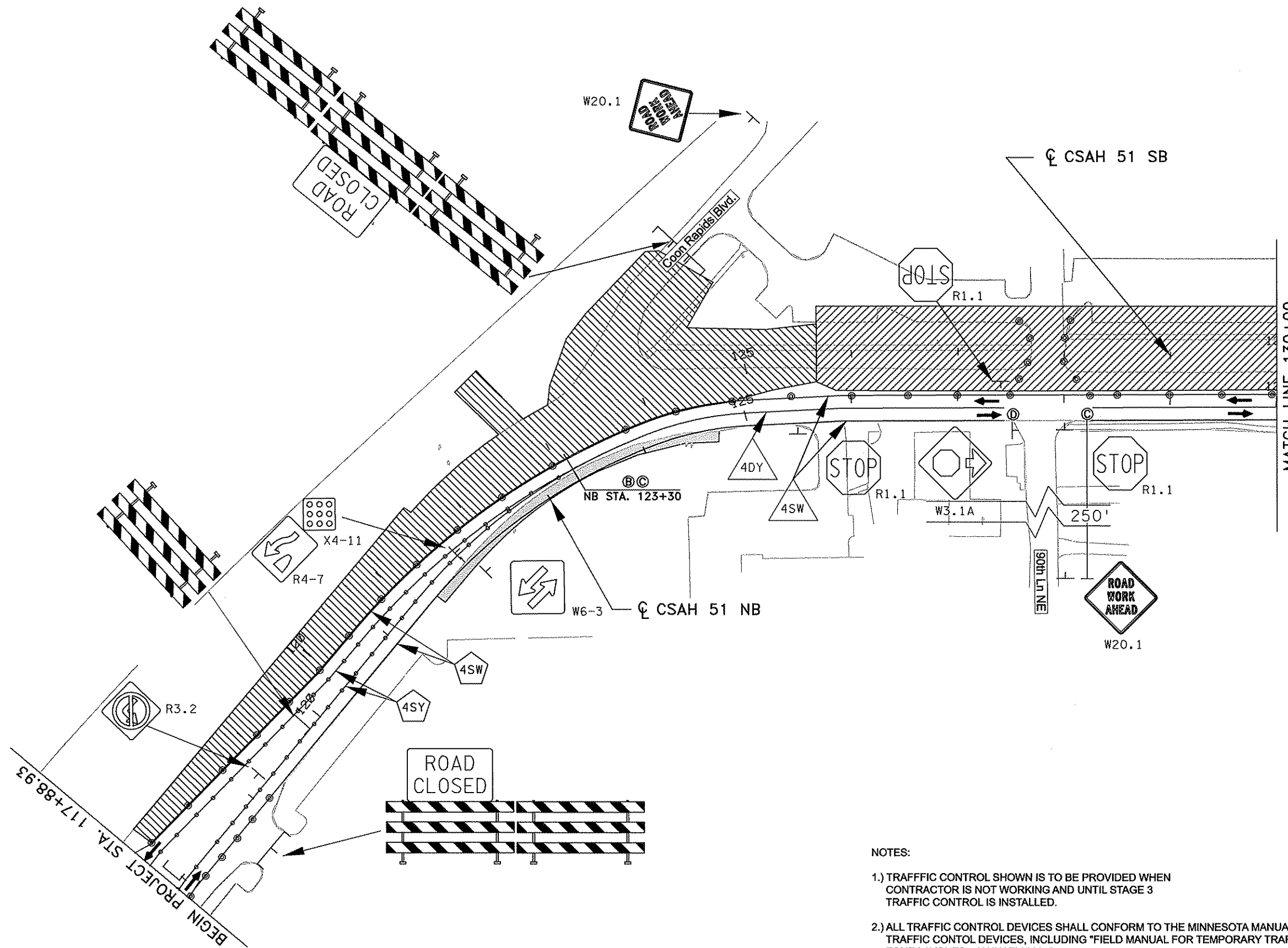


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 2
 Sheet 83 of 159 Sheets

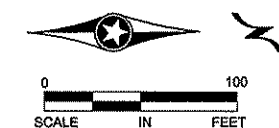
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT



NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 3 TRAFFIC CONTROL IS INSTALLED.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



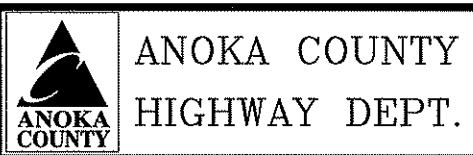
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC2B.DGN 04/22/2008 3:09:14 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756
















DRAWN BY: NJD DATE: 8-17-07
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 CHECKED BY: RB DATE: 8-17-07

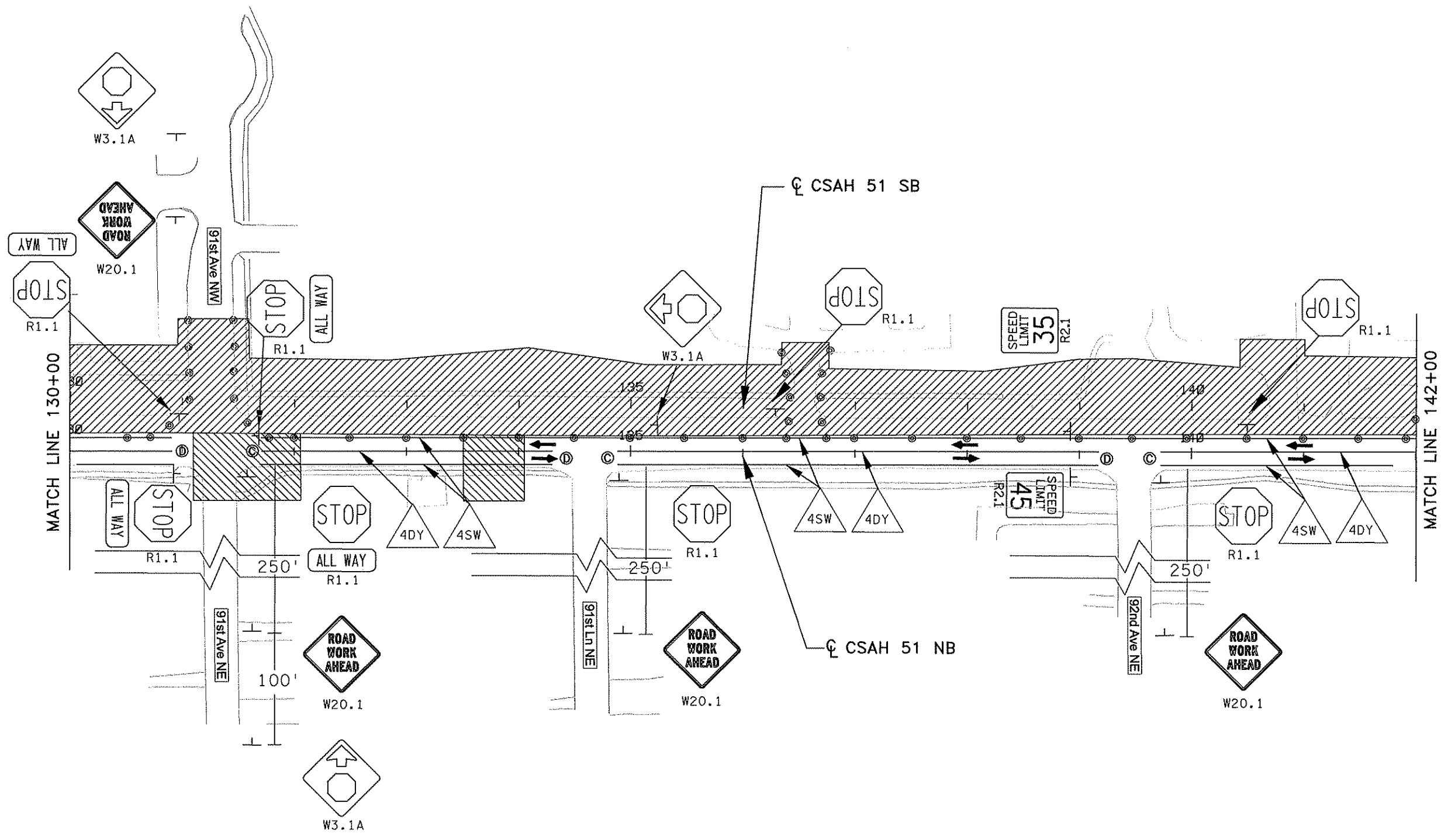


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 2
 STA 115+00 to STA 130+00
 Sheet 84 of 159 Sheets

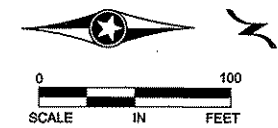
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT



NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 3 TRAFFIC CONTROL IS INSTALLED.
- 2.) TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 9-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

ANOKA COUNTY
HIGHWAY DEPT.
















STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

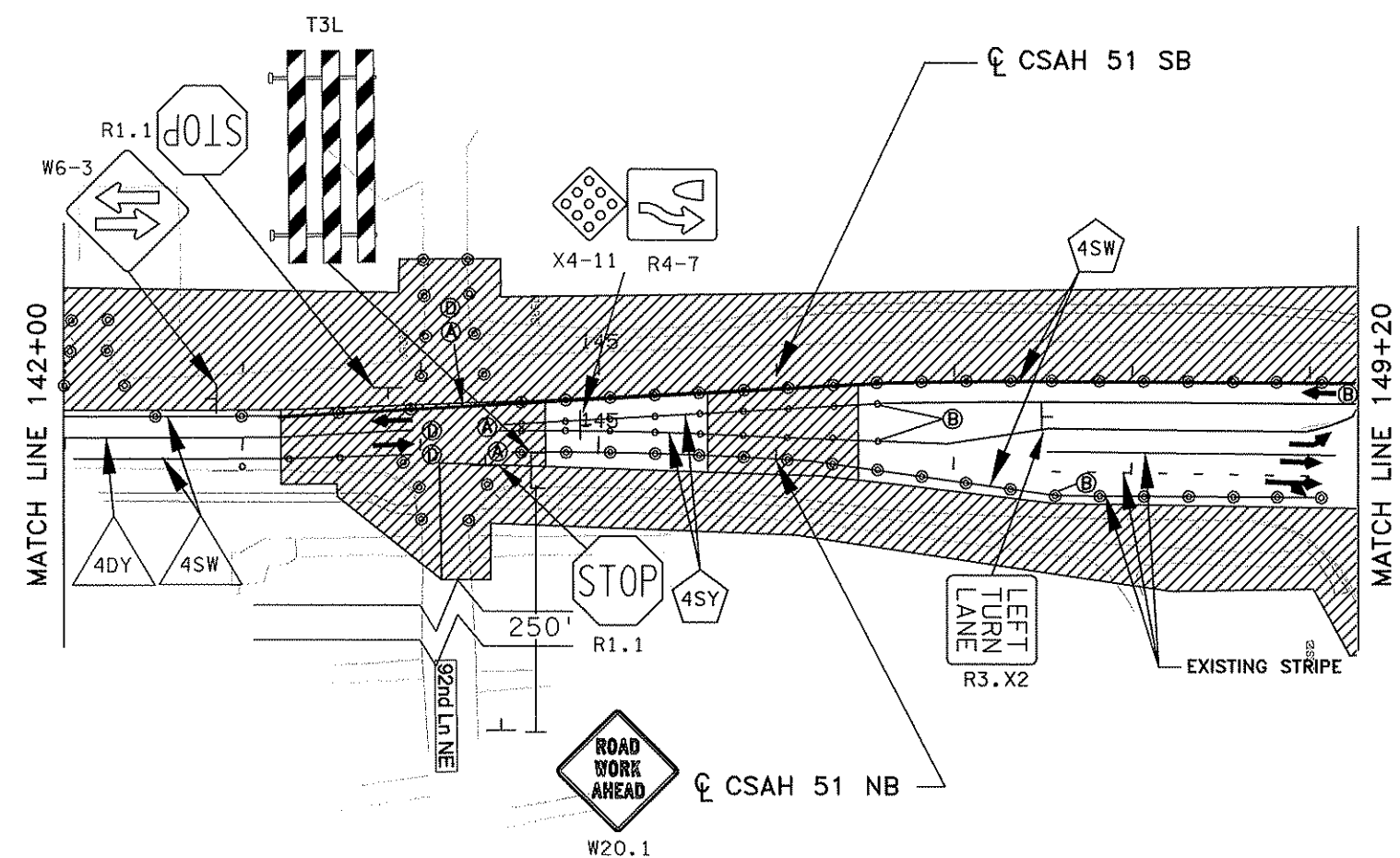
TRAFFIC CONTROL PLAN
 STAGE 2
 STA 130+00 to STA 142+00
 Sheet 85 of 159 Sheets

NO	DATE	BY	CKD	APPR	REVISION

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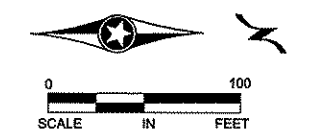
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT



NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 3 TRAFFIC CONTROL IS INSTALLED.
- 2.) A FLAGGER FOR THIS SEGMENT OF THIS STAGE MAY BE NECESSARY.
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 4.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC2D.DGN 04/22/2008 3:09:22 PM

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

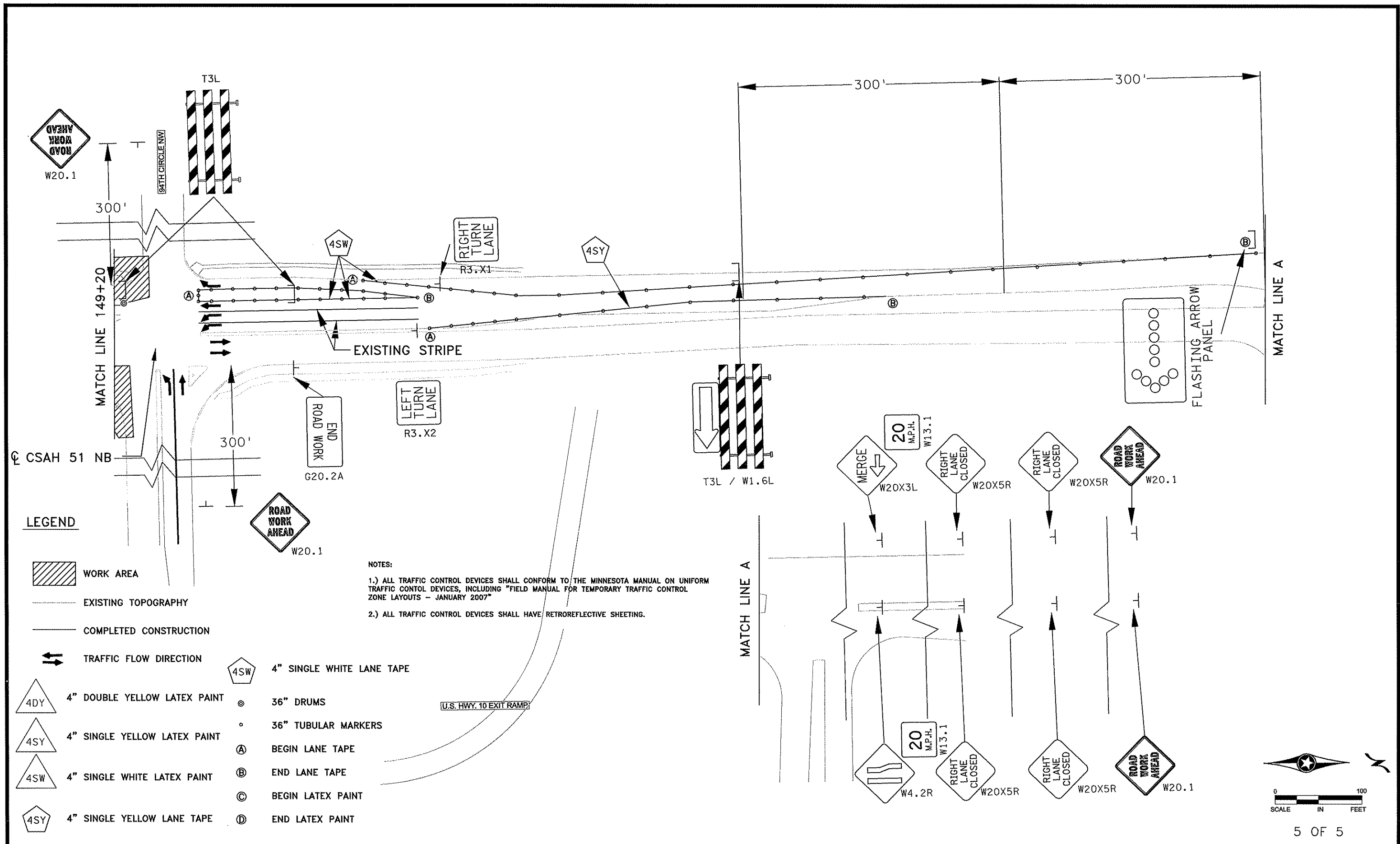
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 2
 STA 142+00 to STA 149+20
 Sheet 86 of 159 Sheets



LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- COMPLETED CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- 4" SINGLE WHITE LANE TAPE
- 4" DOUBLE YELLOW LATEX PAINT
- 4" SINGLE YELLOW LATEX PAINT
- 4" SINGLE WHITE LATEX PAINT
- 4" SINGLE YELLOW LANE TAPE
- 36" DRUMS
- 36" TUBULAR MARKERS
- BEGIN LANE TAPE
- END LANE TAPE
- BEGIN LATEX PAINT
- END LATEX PAINT

NOTES:

- 1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

U.S. HWY. 10 EXIT RAMP

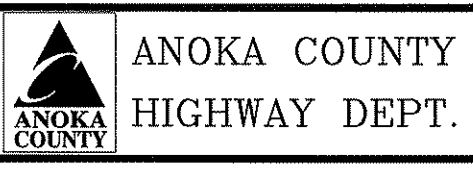
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

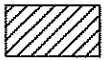
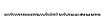







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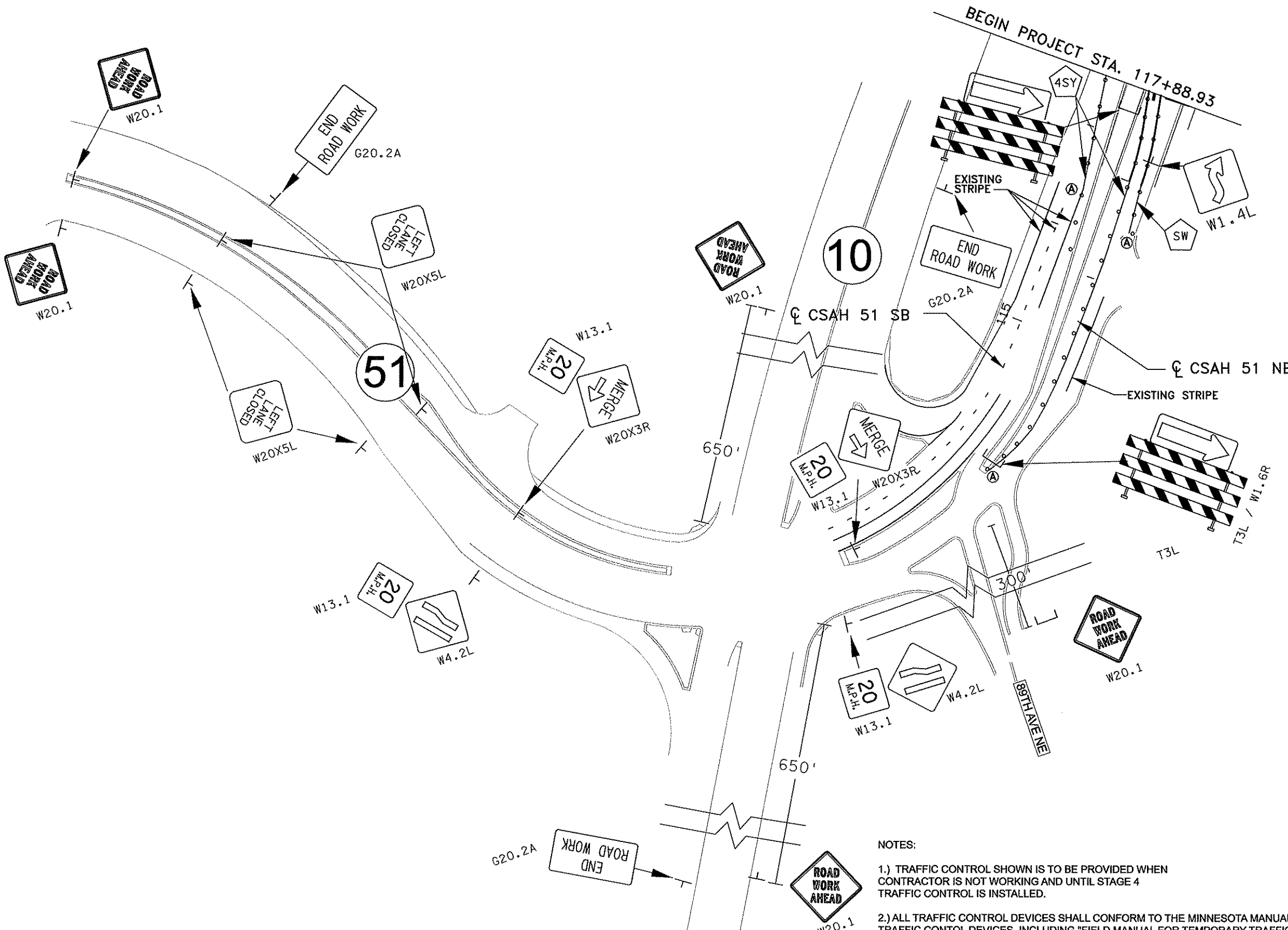


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 2
 Sheet 87 of 159 Sheets

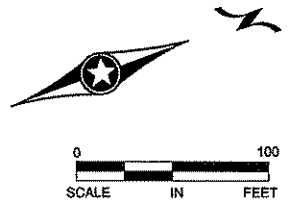
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
- 36" DRUMS
- 36" TUBULAR MARKERS
- BEGIN LANE TAPE
- END LANE TAPE
- BEGIN LATEX PAINT
- END LATEX PAINT



NOTES:


- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 4 TRAFFIC CONTROL IS INSTALLED.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC3A.DGN 04/22/2008 3:09:28 PM

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

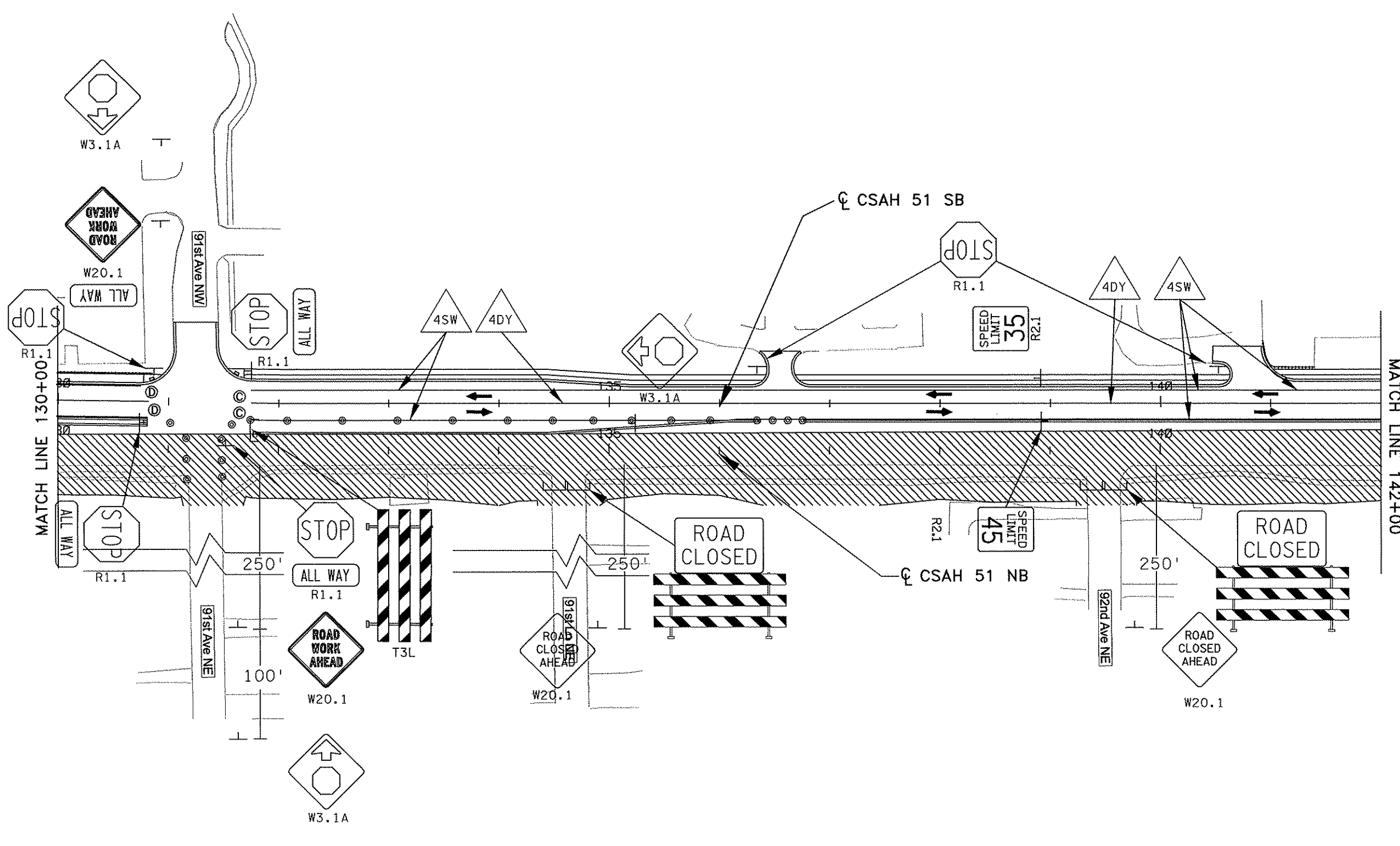
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: 
 DATE: 9-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07
















**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 3
 Sheet 88 of 159 Sheets

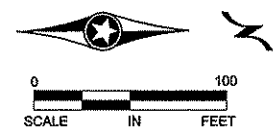


LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT

NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 4 TRAFFIC CONTROL IS INSTALLED.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



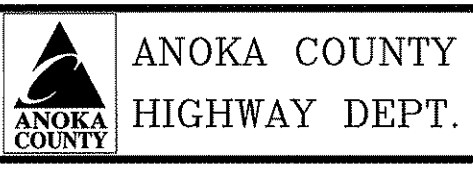
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106.TC3C.DGN 04/22/2008 3:10:20 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4.23.08 LICENSE NO. 24756
















DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

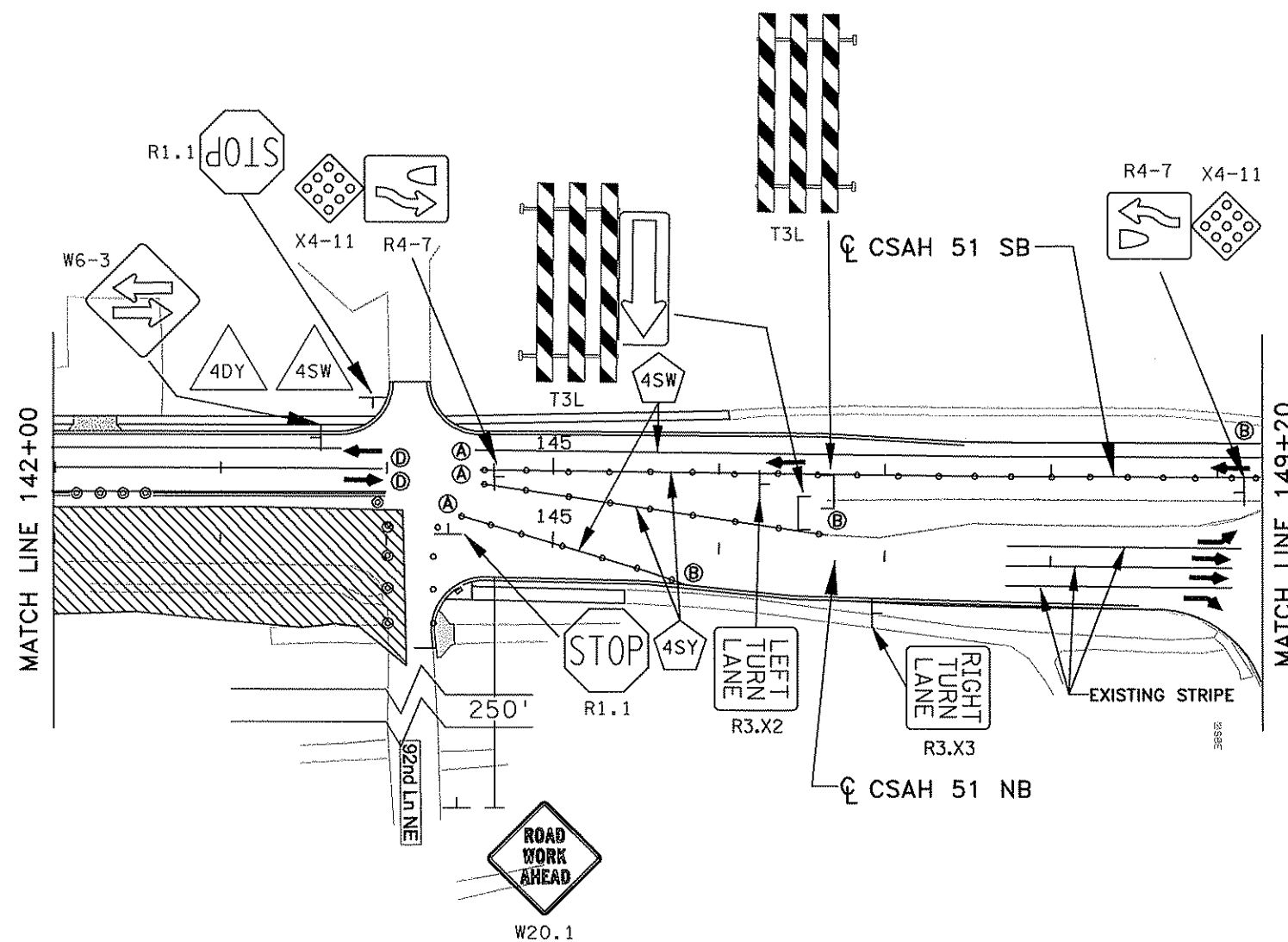


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 3
 STA 130+00 to STA 142+00
 Sheet 90 of 159 Sheets

LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT

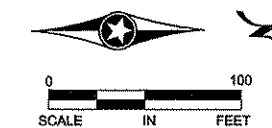


NOTES:

1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL STAGE 4 TRAFFIC CONTROL IS INSTALLED.

2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"

3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC3D.DGN 04/22/2008 3:10:23 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4.23.08 LICENSE NO. 24756

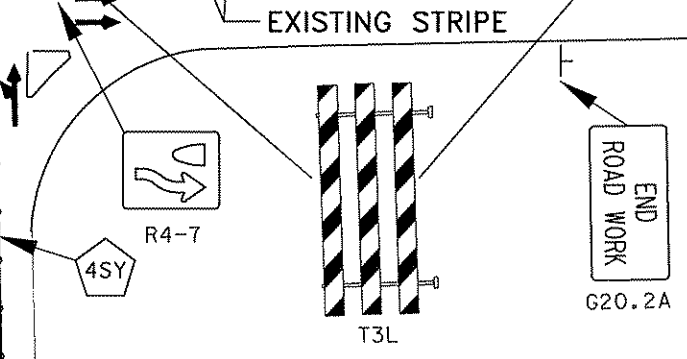
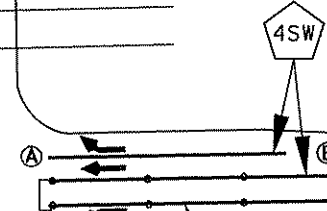
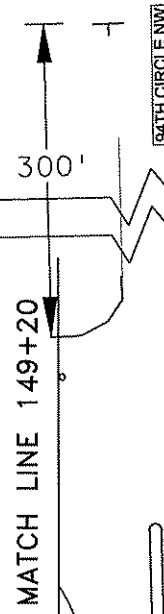
DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

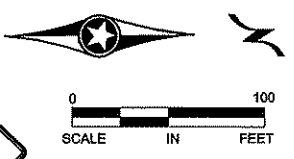
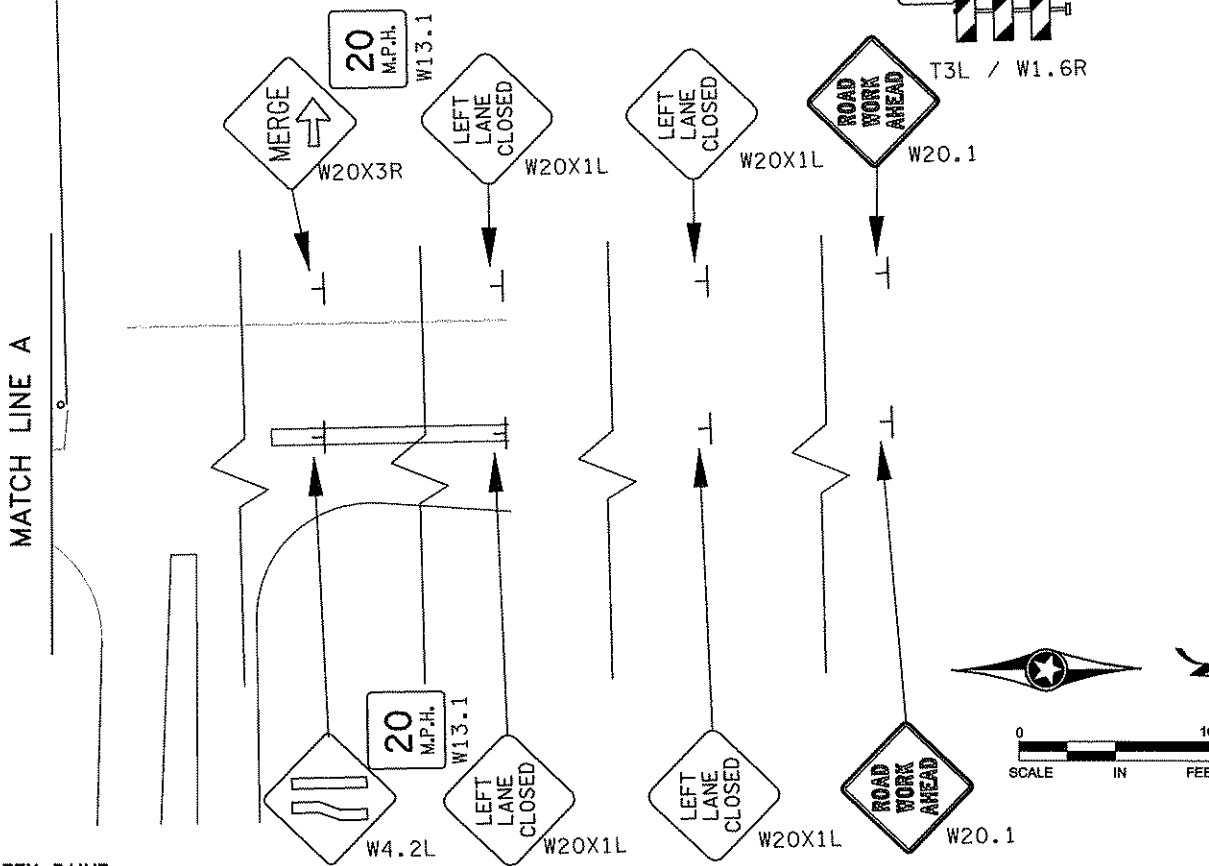
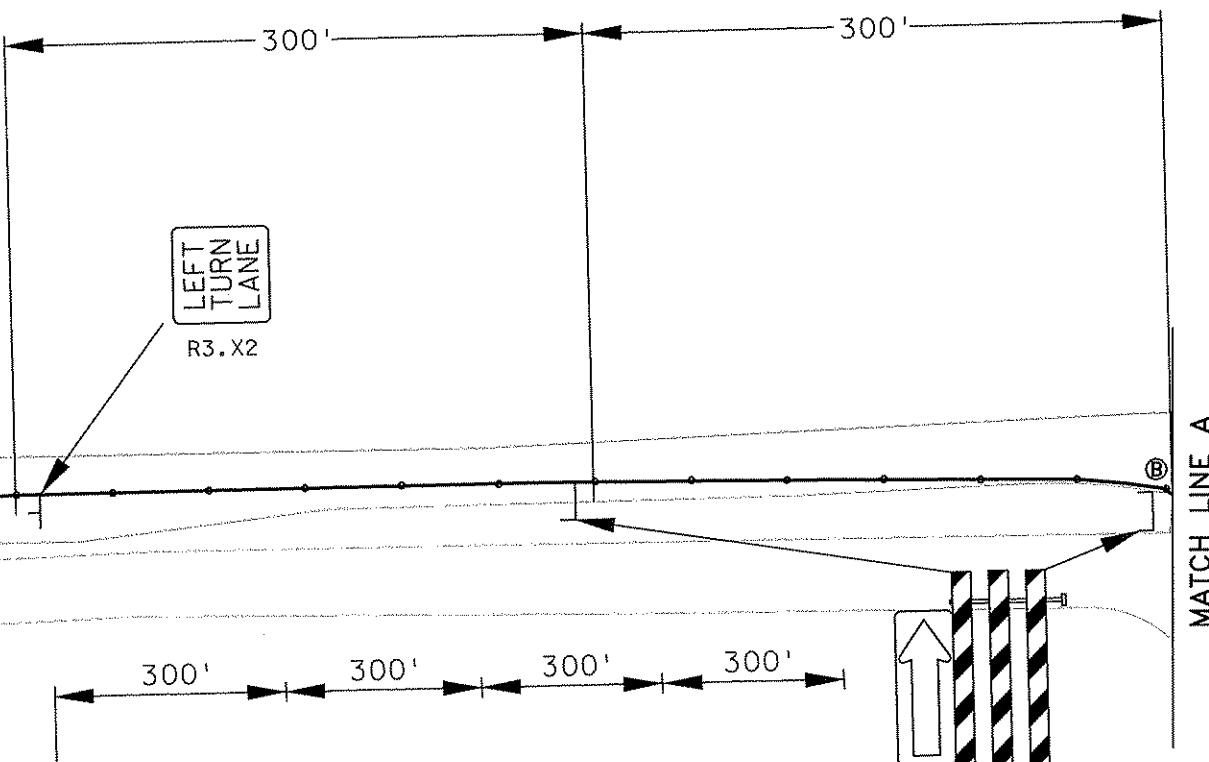
**TRAFFIC CONTROL PLAN
STAGE 3**
 STA 142+00 to STA 149+20
 Sheet 91 of 159 Sheets



NOTES:
 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- COMPLETED CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- 4" DOUBLE YELLOW LATEX PAINT
- 4" SINGLE YELLOW LATEX PAINT
- 4" SINGLE WHITE LATEX PAINT
- 4" SINGLE YELLOW LANE TAPE
- 4" SINGLE WHITE LANE TAPE
- 36" DRUMS
- 36" TUBULAR MARKERS
- BEGIN LANE TAPE
- END LANE TAPE
- BEGIN LATEX PAINT
- END LATEX PAINT

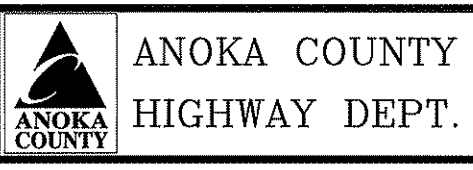


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC3E.DGN 04/22/2008 3:10:26 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756
















DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

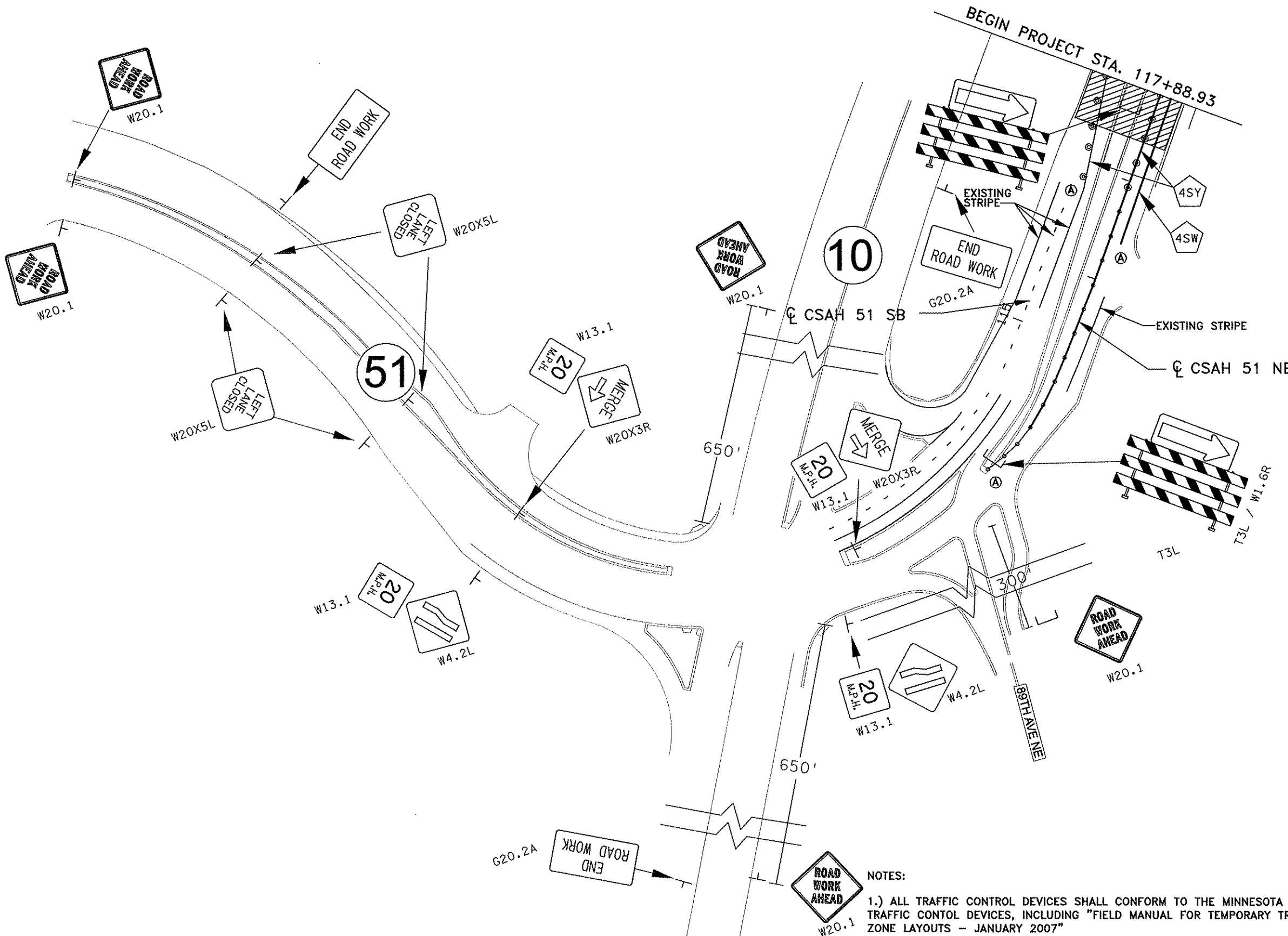


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 3
 Sheet 92 of 159 Sheets

LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT

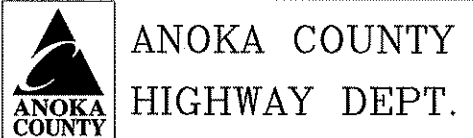


- NOTES:**
- 1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
 - 2.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07





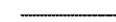


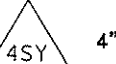
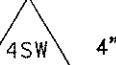




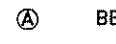



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

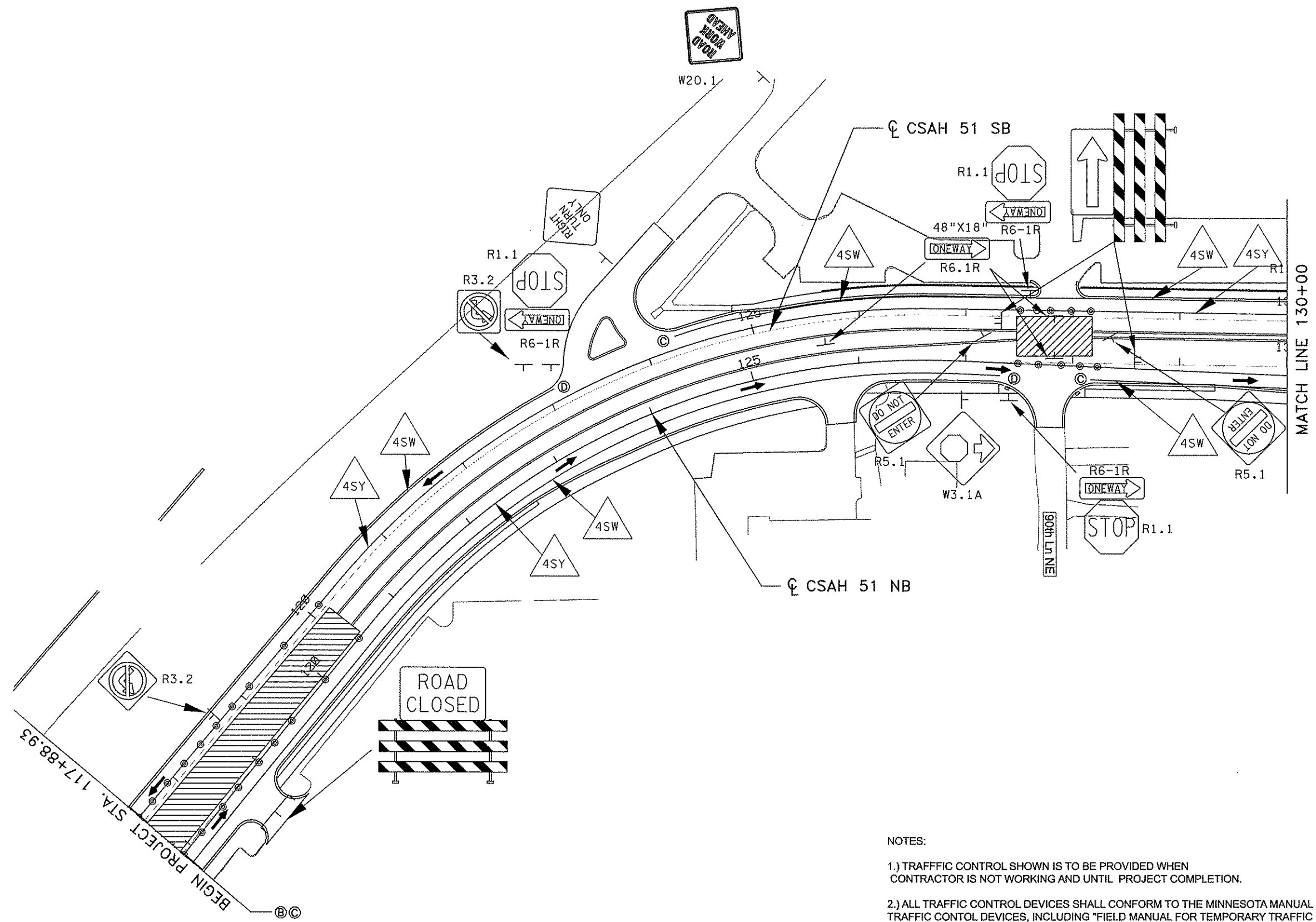
TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 4
 Sheet 93 of 159 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC4A.DGN 04/22/2008 3:10:30 PM

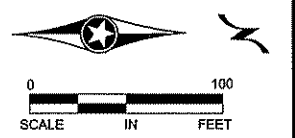
LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT



NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL PROJECT COMPLETION.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



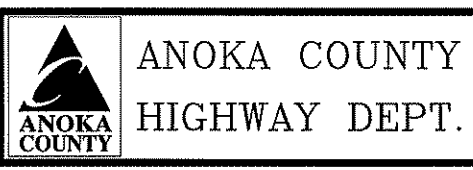
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC4B.DGN 04/22/2008 3:28:07 PM

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

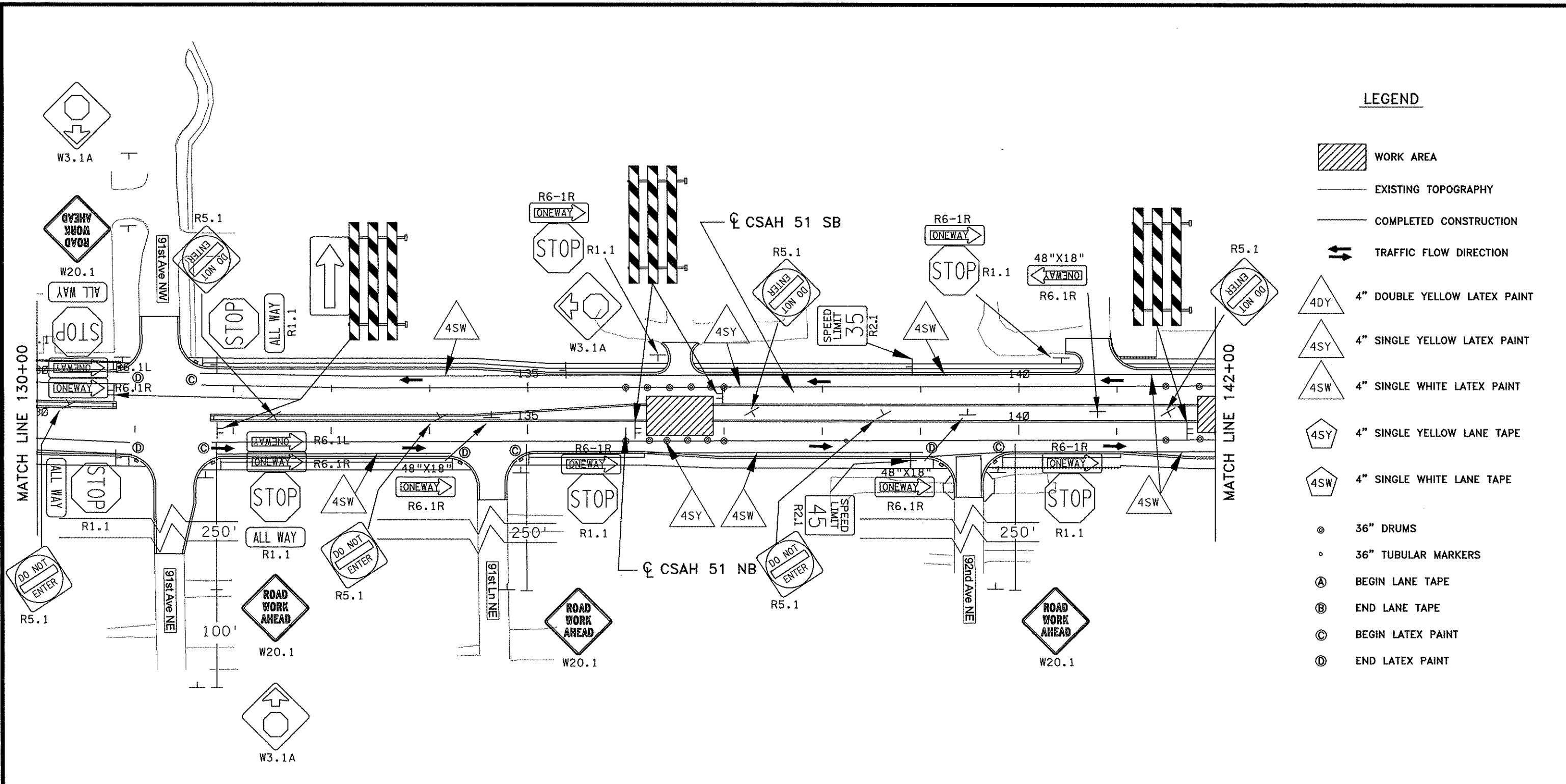
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: HJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 4
 STA 115+00 to STA 130+00
 Sheet 94 of 159 Sheets

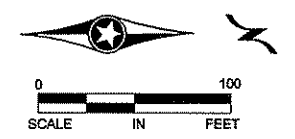


LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- COMPLETED CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- 4" DOUBLE YELLOW LATEX PAINT
- 4" SINGLE YELLOW LATEX PAINT
- 4" SINGLE WHITE LATEX PAINT
- 4" SINGLE YELLOW LANE TAPE
- 4" SINGLE WHITE LANE TAPE
- 36" DRUMS
- 36" TUBULAR MARKERS
- BEGIN LANE TAPE
- END LANE TAPE
- BEGIN LATEX PAINT
- END LATEX PAINT

NOTES:

- 1.) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL CONSTRUCTION IS COMPLETED.
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



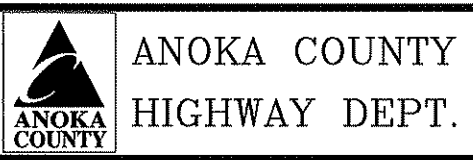
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC4C.DGN 04/22/2008 3:11:22 PM

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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756


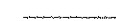













DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07

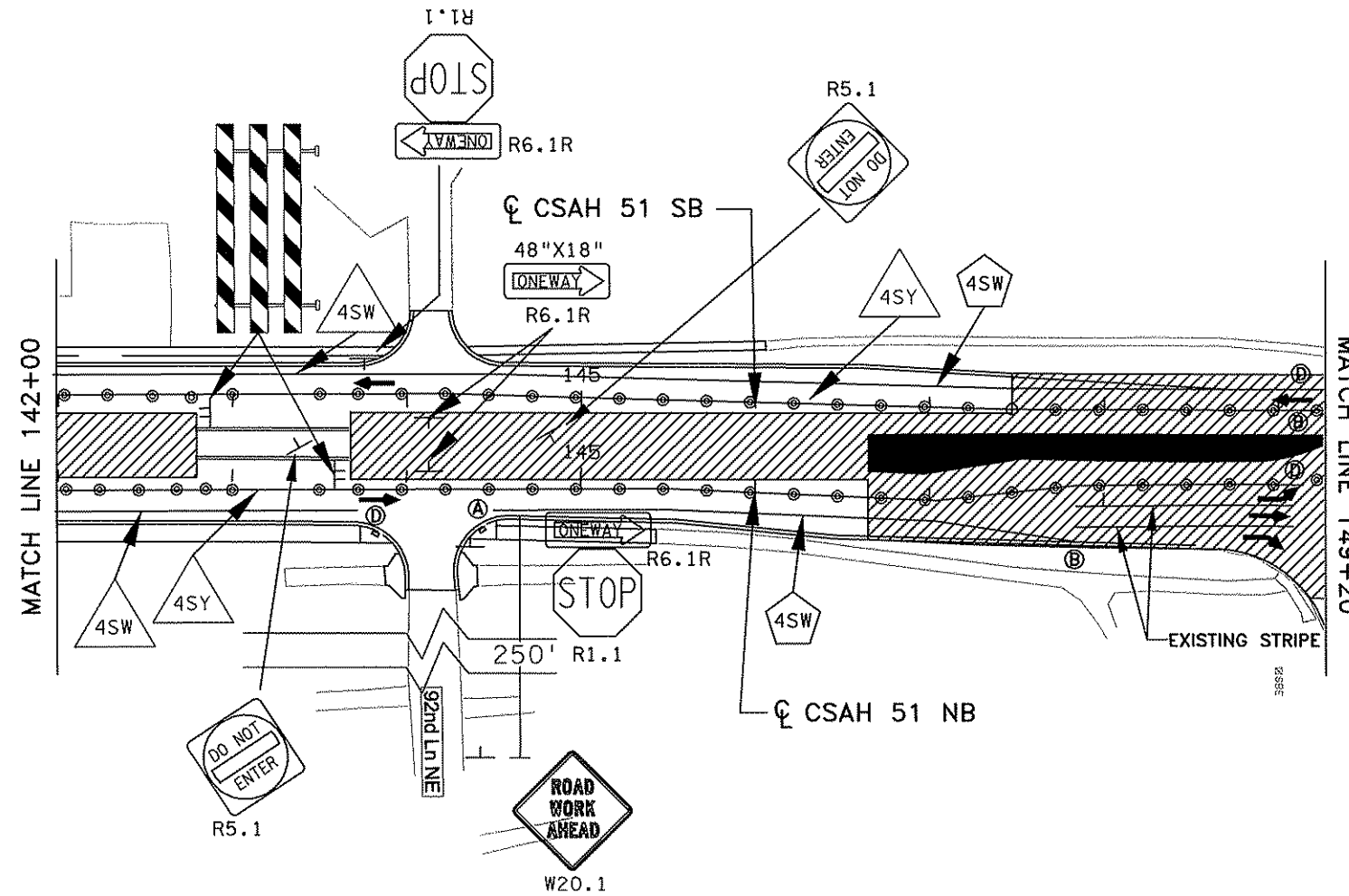


STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 4
 STA 130+00 to STA 142+00
 Sheet 95 of 159 Sheets

LEGEND

-  WORK AREA
-  EXISTING TOPOGRAPHY
-  COMPLETED CONSTRUCTION
-  TRAFFIC FLOW DIRECTION
-  4" DOUBLE YELLOW LATEX PAINT
-  4" SINGLE YELLOW LATEX PAINT
-  4" SINGLE WHITE LATEX PAINT
-  4" SINGLE YELLOW LANE TAPE
-  4" SINGLE WHITE LANE TAPE
-  36" DRUMS
-  36" TUBULAR MARKERS
-  BEGIN LANE TAPE
-  END LANE TAPE
-  BEGIN LATEX PAINT
-  END LATEX PAINT

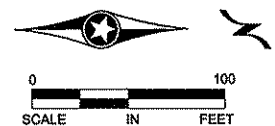


NOTES:

1) TRAFFIC CONTROL SHOWN IS TO BE PROVIDED WHEN CONTRACTOR IS NOT WORKING AND UNTIL CONSTRUCTION IS COMPLETED.

2.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"

3.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



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 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
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**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 STAGE 4
 STA 142+00 to STA 149+20

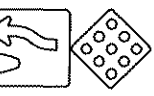
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC4D.DGN 04/22/2008 3:11:25 PM



94TH CIRCLE NW

R4-7

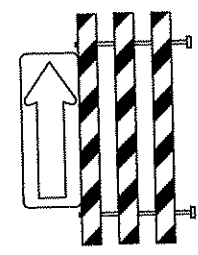


R3.X1



LEFT TURN LANE

R3.X2



T3L / W1.6R

4SW

4SY

300'

300'

300'

MATCH LINE 149+20

MATCH LINE A

EXISTING STRIPE

300'

300'

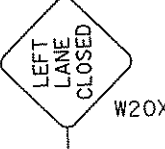
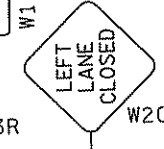
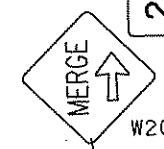
300'

300'

END ROAD WORK

G20.2A

20 M.P.H. W13.1



LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- COMPLETED CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- 4" DOUBLE YELLOW LATEX PAINT
- 4" SINGLE YELLOW LATEX PAINT
- 4" SINGLE WHITE LATEX PAINT
- 4" SINGLE YELLOW LANE TAPE
- 4" SINGLE WHITE LANE TAPE

NOTES:

- 1.) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY 2007"
- 2.) ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

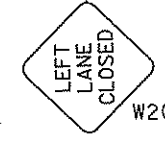
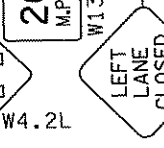
- ⊙ 36" DRUMS
- ⊙ 36" TUBULAR MARKERS
- Ⓐ BEGIN LANE TAPE
- Ⓑ END LANE TAPE
- Ⓒ BEGIN LATEX PAINT
- Ⓓ END LATEX PAINT

U.S. HWY. 10 EXIT RAMP



MATCH LINE A

20 M.P.H. W13.1

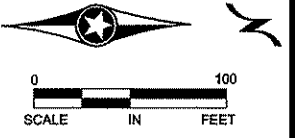


W4.2L

W20X1L

W20X1L

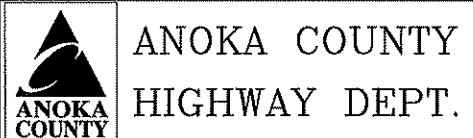
W20.1



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

PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: SH DATE: 8-17-07
 CHECKED BY: RB DATE: 8-17-07





















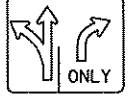
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

TRAFFIC CONTROL PLAN
 ADVANCED WARNING SIGNS
 STAGE 4
 Sheet 97 of 159 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_TC4E.DGN 04/22/2008 3:11:28 PM

M. U. T. C. D. CODE	SIZE	INSERT	QTY	PANEL AREA SQ. FT.	TOTAL SQ. FT.	(A) MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT	NOTES:
R1-1	30' x 30'	 DELINEATOR 4' DIA X 15'	12	6.25	75.00	1	7.0'	
R2-1	24' x 30'	 35	2	5.00	10.00	1	7.0'	
		 45	2	5.00	10.00	1	7.0'	
R3-X1	30' x 30'		12	6.25	75.00	1	7.0'	
R3-X2	30' x 30'		3	6.25	18.75	1	7.0'	
R3-2	24' x 24'		1	4.00	4.00	1	7.0'	
R4-7	24' x 30'		4	5.00	20.00	1	7.0'	
X4-2	18' X 18'		4	2.25	10.00	1	4.9'	
R5-1	30' X 30'		15	6.25	93.75	1	7.0'	

M. U. T. C. D. CODE	SIZE	INSERT	QTY	PANEL AREA SQ. FT.	TOTAL SQ. FT.	(A) MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT	NOTES:
R6-1R	36' X 12'		14	3.00	42.00	1	7.0'	1,2
R6-1R	48' X 18'		12	6.00	72.00	2	7.0'	1,2
R6-1L	36' X 12'		2	3.00	6.00	1		1,2
W1-1R	48' X 48'		1	16.00	16.00	2	7.0'	
W1-1L	48' X 48'		1	16.00	16.00	2	7.0'	
W13-1	30' X 30'		2	6.25	12.50		7.0'	
W1-8	18' x 24'		7	3.00	21.00	1	7.0'	
W3-3	48' X 48'		2	16.00	32.00	2	7.0'	
W12-1	24' X 24'		1	4.00	4.00	1	4.0'	
R3-30DA	36' X 36'		2	7.50	15.00	2	7.0'	

SQ. FT. TOTAL = 546.75 SQ FT

(A) POST TOTAL = 84 POSTS

NOTE: (A) MOUNTING POSTS PER INSTALLATION INCLUDES BASE POST & UPRIGHT POST.


① SIGNAL POLE MOUNT (2) R6-1R / (2) R6-1L

② TWELVE (12) MOUNTED ABOVE R1-1


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_PERM_SIGN_TAB.DGN 04/22/2008 3:14:52 PM

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

PRINT NAME: CURT A. KOBIARCSIK
SIGNATURE: 
DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: MTH DATE 10-25-07
DESIGN BY: JED DATE 10-25-07
CHECKED BY: CAK DATE 10-25-07

 ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

SIGNING & STRIPING
TABULATIONS

Sheet 98 of 159 Sheets

PERMANENT PAVEMENT MARKINGS								AA
STATION TO STATION	PAVEMENT MESSAGE (1)			SOLID LINE		BROKEN LINE (2)	DOUBLE SOLID LINE	ZEBRA CROSSWALK MARKING (1) (SF)
	LEFT ARROW (EACH)	RIGHT ARROW (EACH)	STOP BAR (SF)	4" WHITE (LF)	4" YELLOW (LF)	4" WHITE (4) (LF)	4" YELLOW (LF)	
	112+33 - 131+80	2	1	314	3724	3417	736	
131+80 - 149+31	4	4		7129	5863	941		558
PROJECT TOTAL	6	5	314	10853	9280	1677	75	1458

GENERAL NOTES:

ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
SEE TEMPORARY PAVEMENT MARKINGS FOR ALL MARKINGS RELATED TO STAGING.

- (1) MARKINGS SHALL BE PREFORMED THERMOPLASTIC.
- (2) BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.

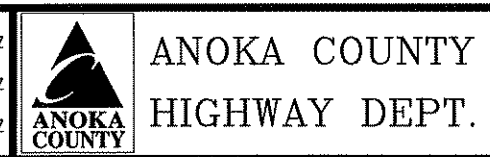
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBIARCSIK
SIGNATURE: *Curt A. Kobiarsik*
DATE: 4-23-08 LICENSE NO. 24756

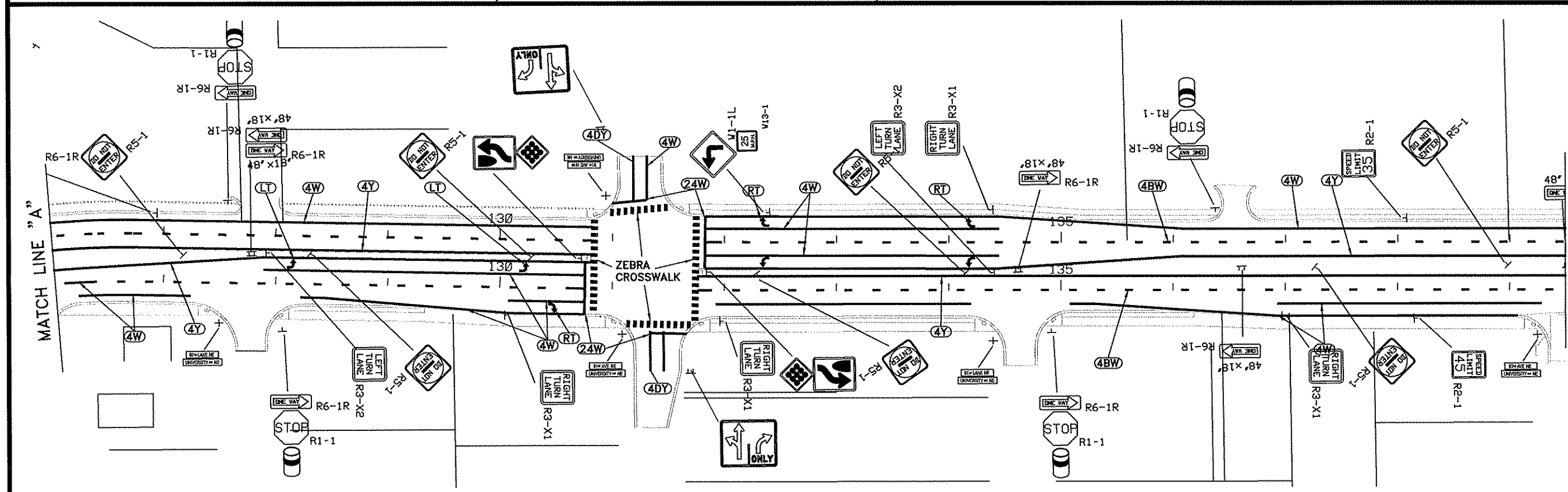
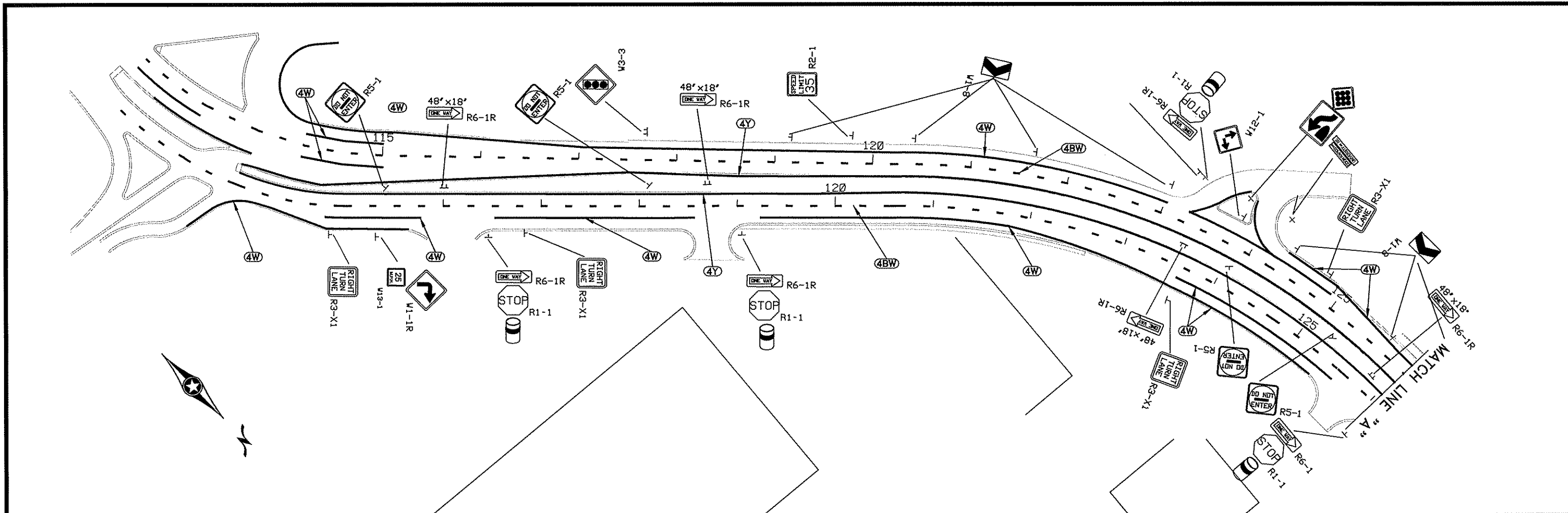
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DESIGN BY: JED DATE 10-24-07
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STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

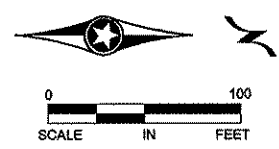
SIGNING & STRIPING
TABULATIONS

Sheet 99 of 159 Sheets



- NOTES**
- 1) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
 - 2) ALL SEGMENT STRIPE LINES SHALL BE EPOXY. PERMANENT MESSAGES AND ARROWS SHALL BE HEAT FUSED.
 - 3) ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.

- PERMANENT PAVEMENT MARKING SYMBOLS**
- (RT) PAVEMENT MESSAGE RT.
 - (LT) PAVEMENT MESSAGE LT.
 - (4W) 4" SOLID LINE WHITE
 - (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
 - (4Y) 4" SOLID LINE YELLOW
 - (4DY) 4" DOUBLE SOLID LINE YELLOW
 - (24W) 24" STOP LINE WHITE



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NAME: P:\02-651-04\PLAN\0265106_SS1.DGN 04/22/2008 3:14:57 PM

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

PRINT NAME: CURT A. KOBLARCSIK
 SIGNATURE: *Curt Koblarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

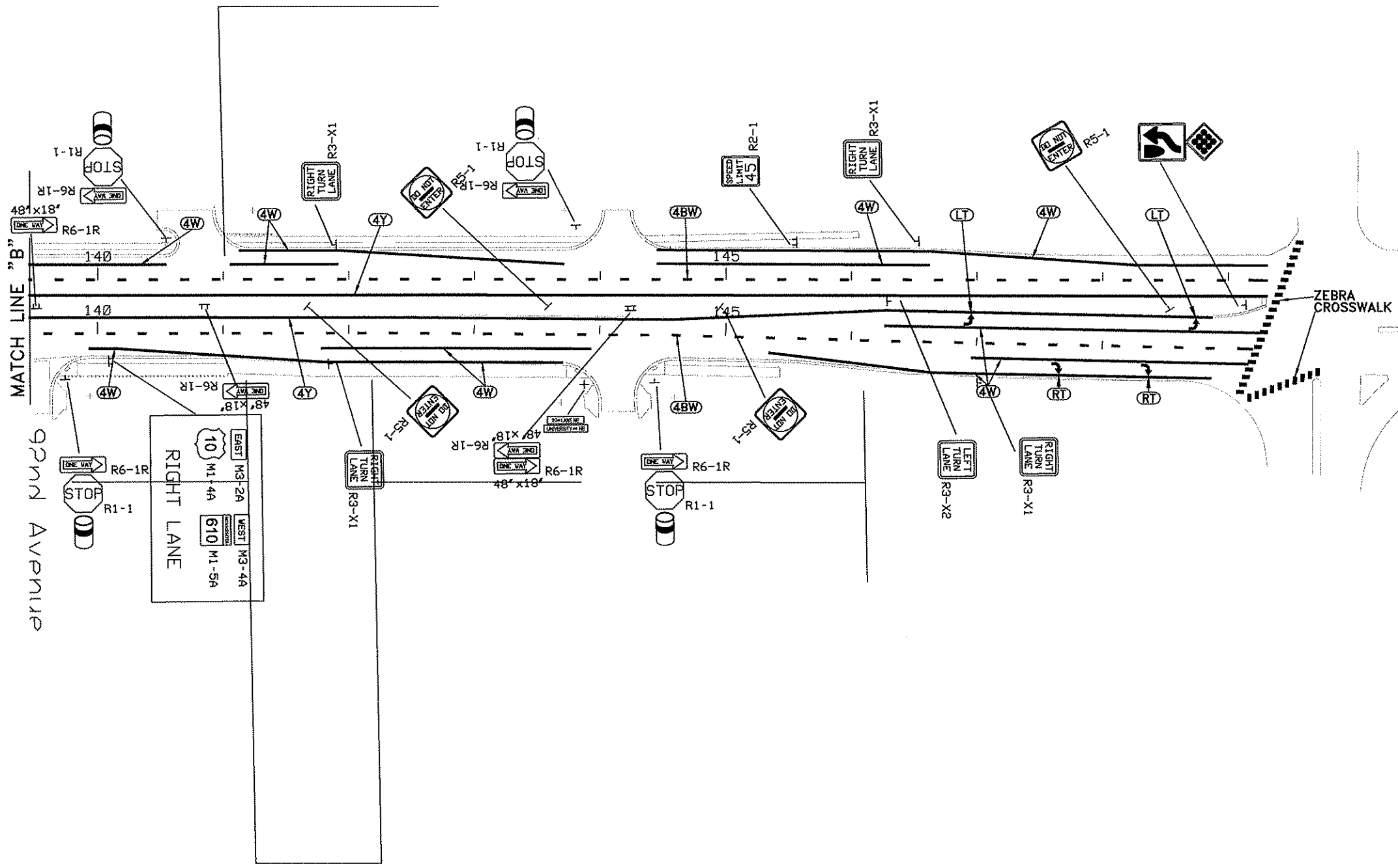
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 CHECKED BY: RB DATE: 8-17-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

SIGNING & STRIPING
 CSAH 51 RECONSTRUCTION

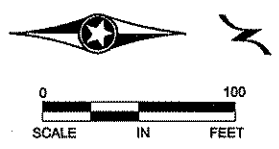
Sheet 100 of 159 Sheets



- NOTES**
- 1) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
 - 2) ALL SEGMENT STRIPE LINES SHALL BE EPOXY. PERMANENT MESSAGES AND ARROWS SHALL BE HEAT FUSED.
 - 3) ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED

PERMANENT PAVEMENT MARKING SYMBOLS

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- (LT) PAVEMENT MESSAGE LT.
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- (4BW) 4" BROKEN LINE WHITE (10' STRIPE, 40' GAP)
- (4Y) 4" SOLID LINE YELLOW
- (4DY) 4" DOUBLE SOLID LINE YELLOW
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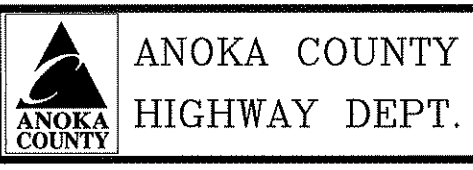
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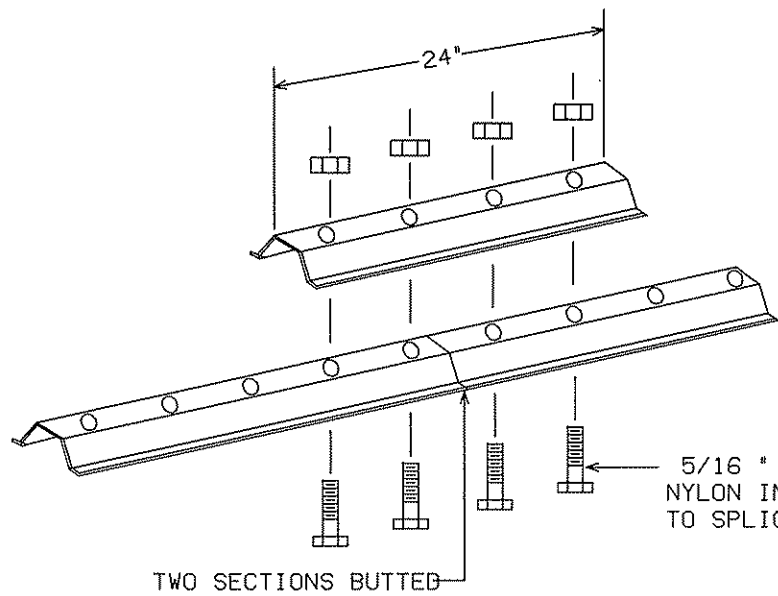
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 SIGNATURE: *Curt Kobilarsik*
 DATE: 4.23.08 LICENSE NO. 24756

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 CHECKED BY: RB DATE: 8-17-07

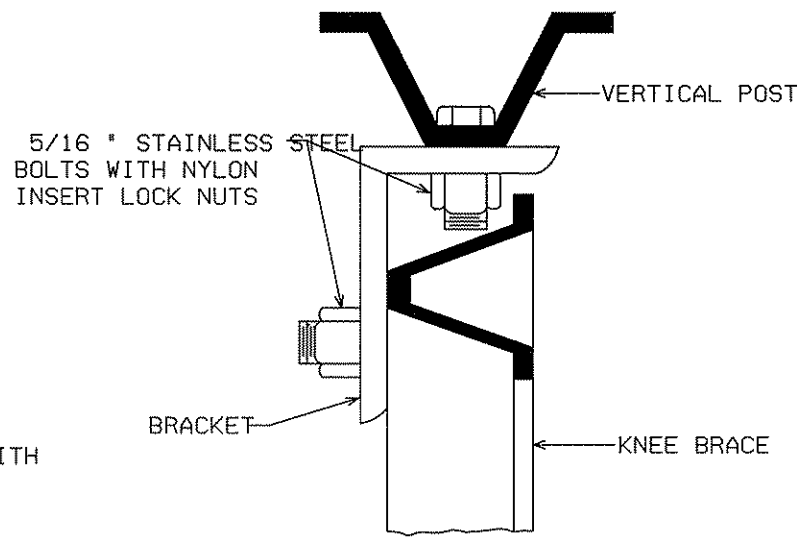


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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

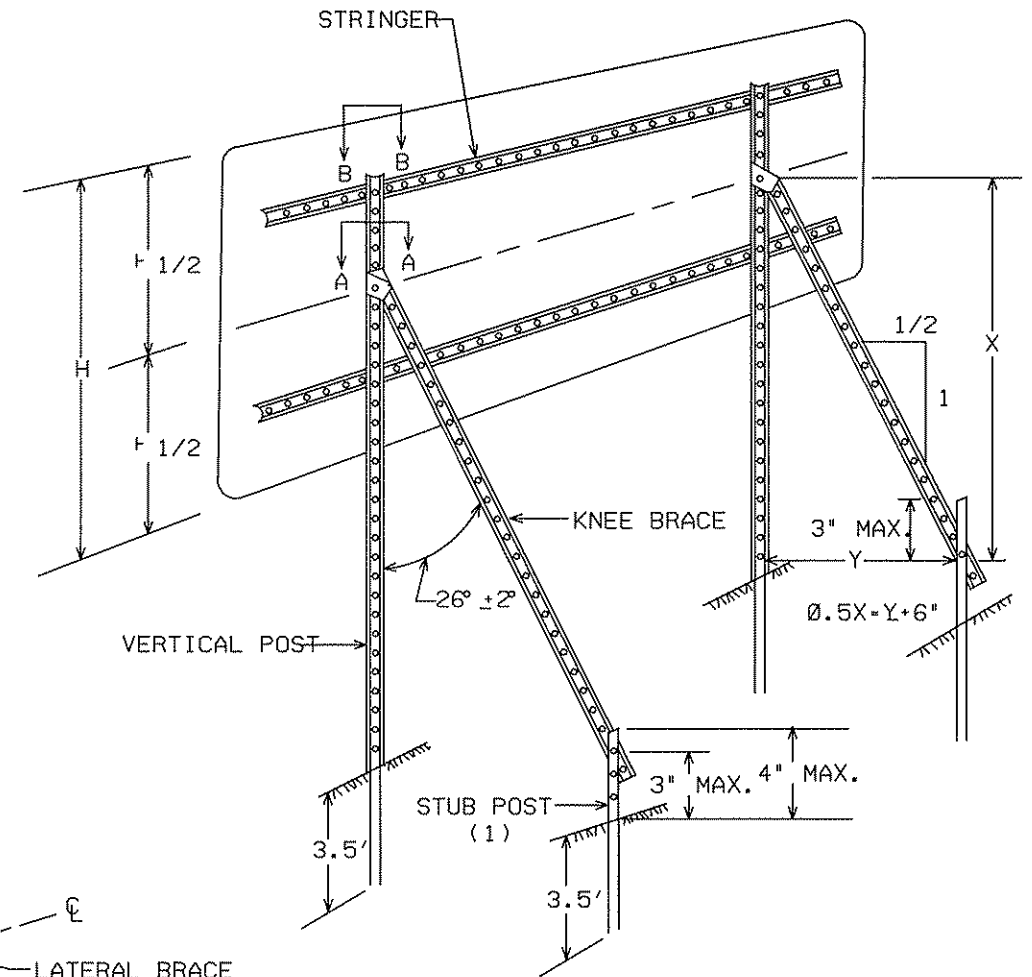
SIGNING & STRIPING
 CSAH 51 RECONSTRUCTION
 Sheet 101 of 159 Sheets



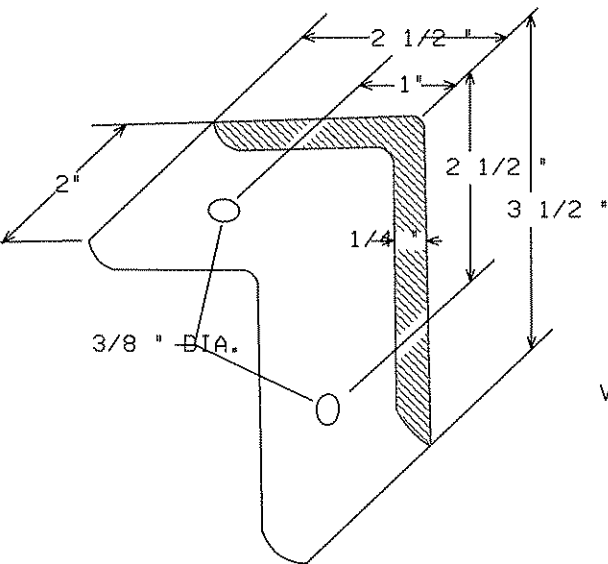
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

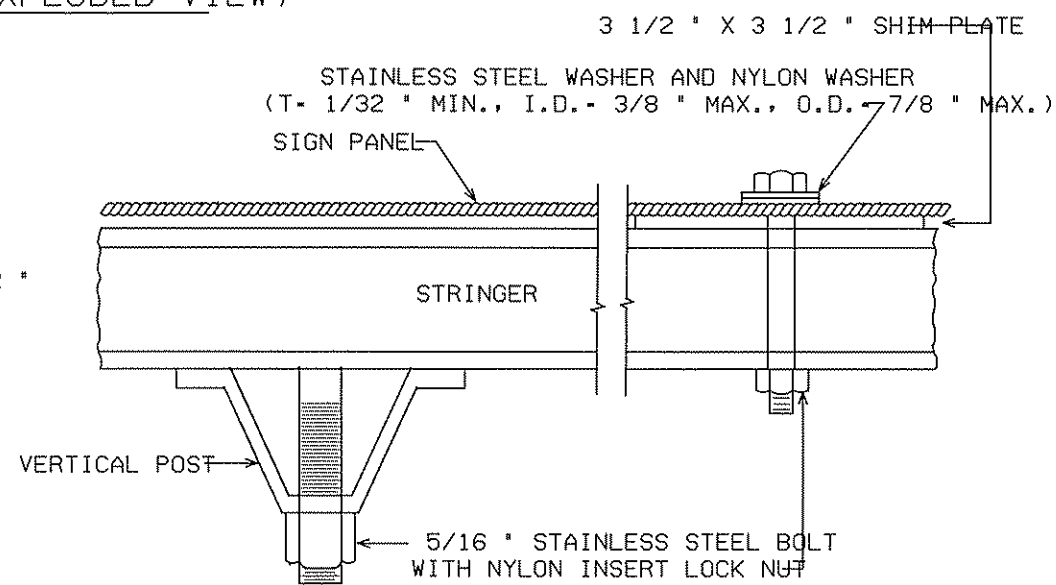


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

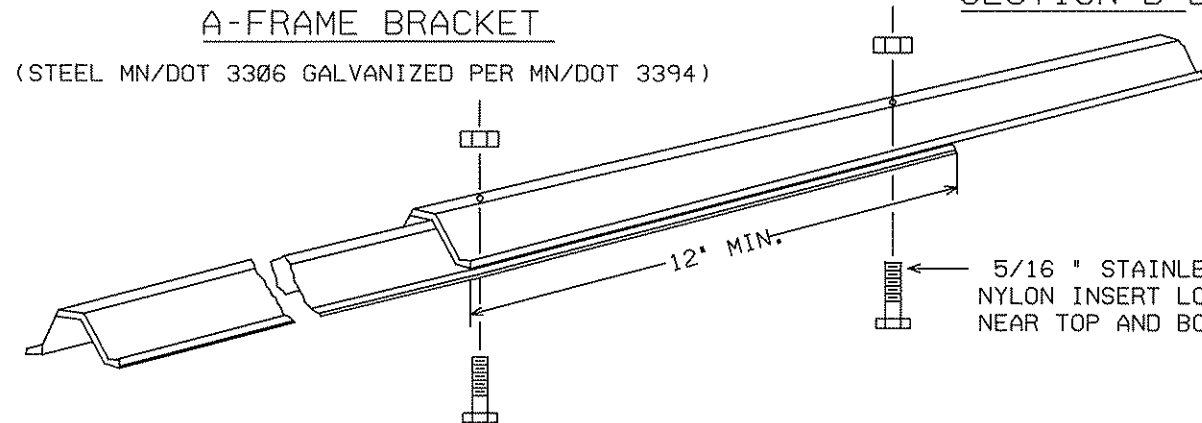


A-FRAME BRACKET

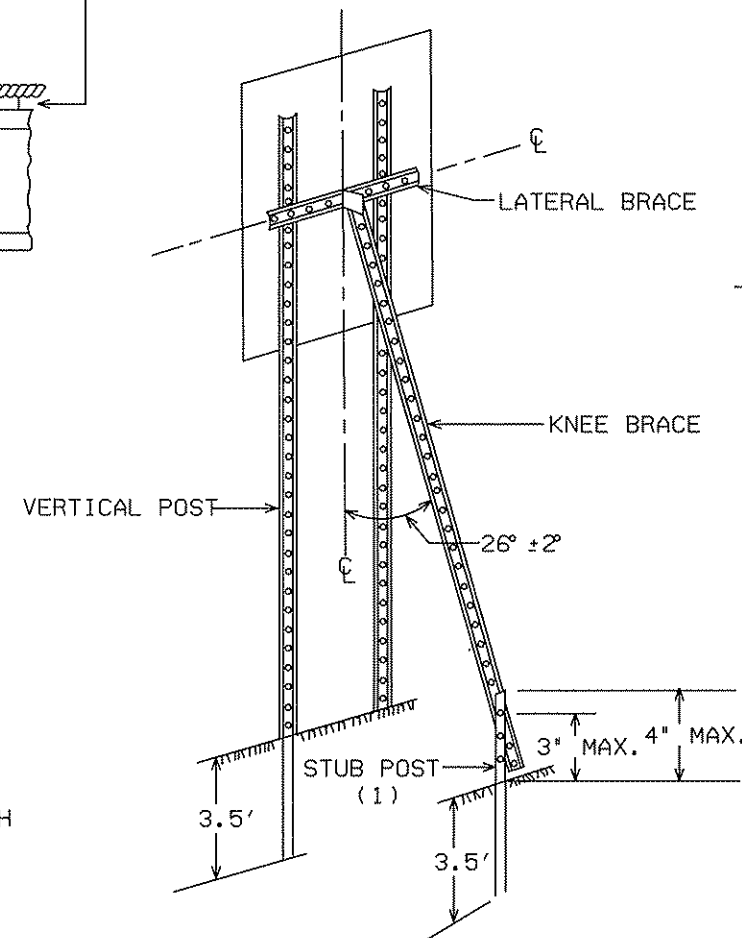
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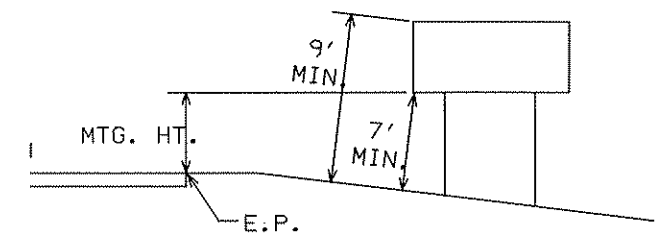
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

1 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SSD1.DGN 04/22/2008 2:38:16 PM

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

PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

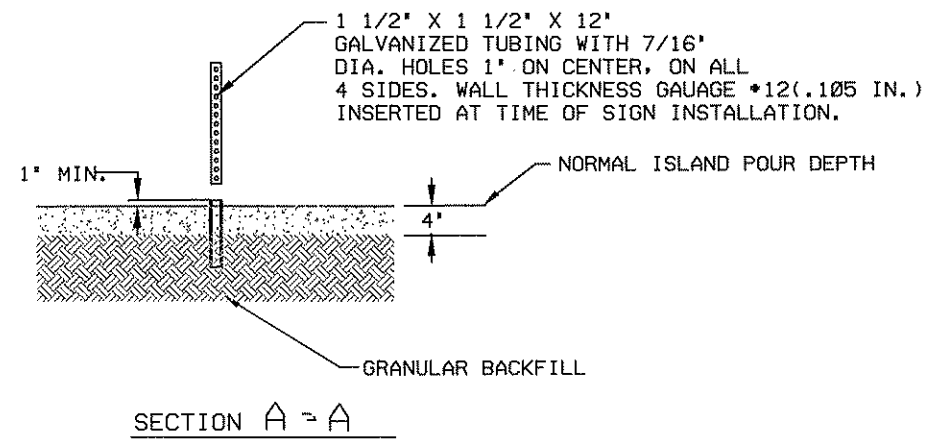
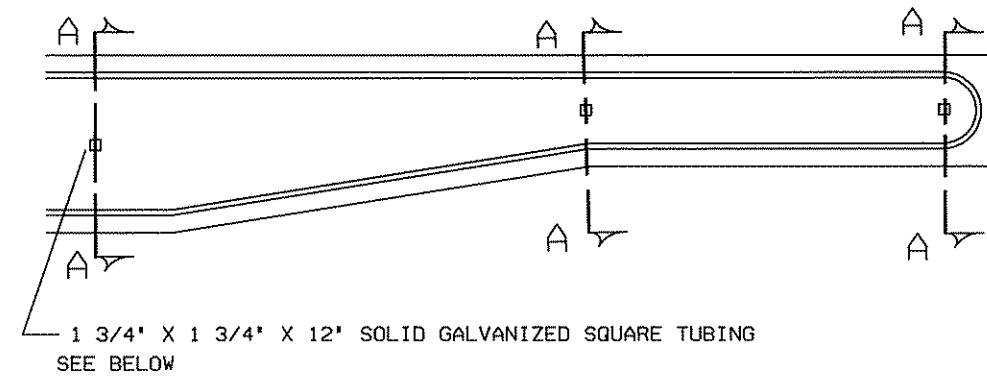
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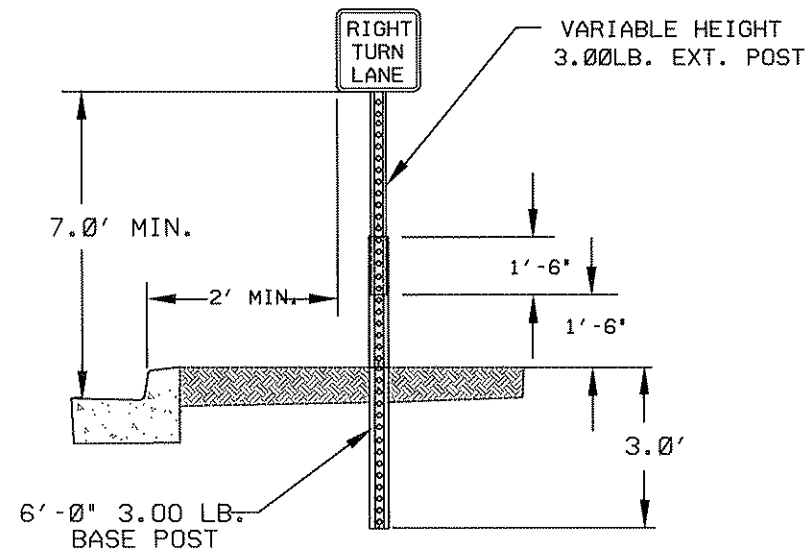
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

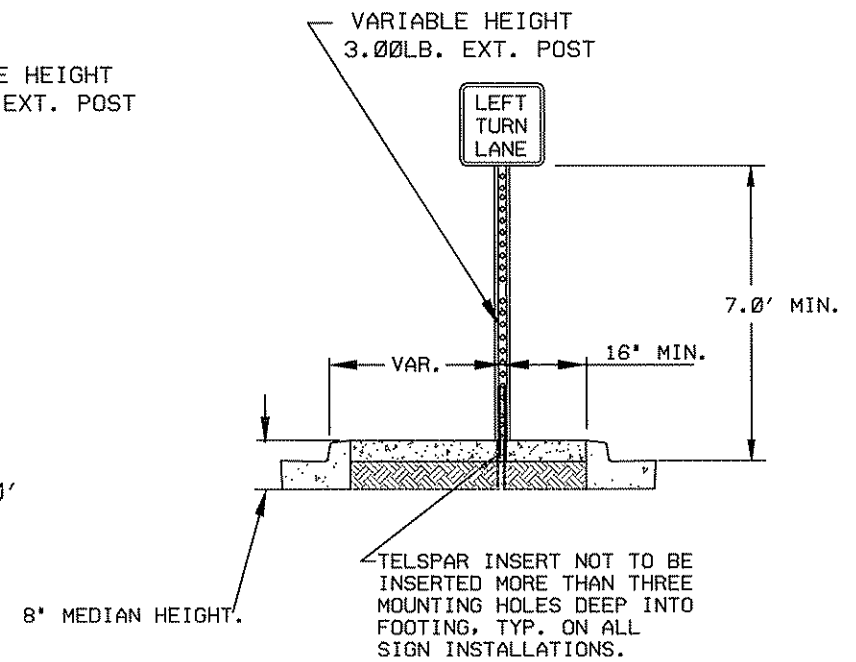
SIGN & SIGNAL
DETAILS
Sheet 102 of 159 Sheets



GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 4-23-08 LICENSE NO. 24756

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ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06

STATE PROJECT NO. 106-020-27

STATE PROJECT NO. 114-020-23

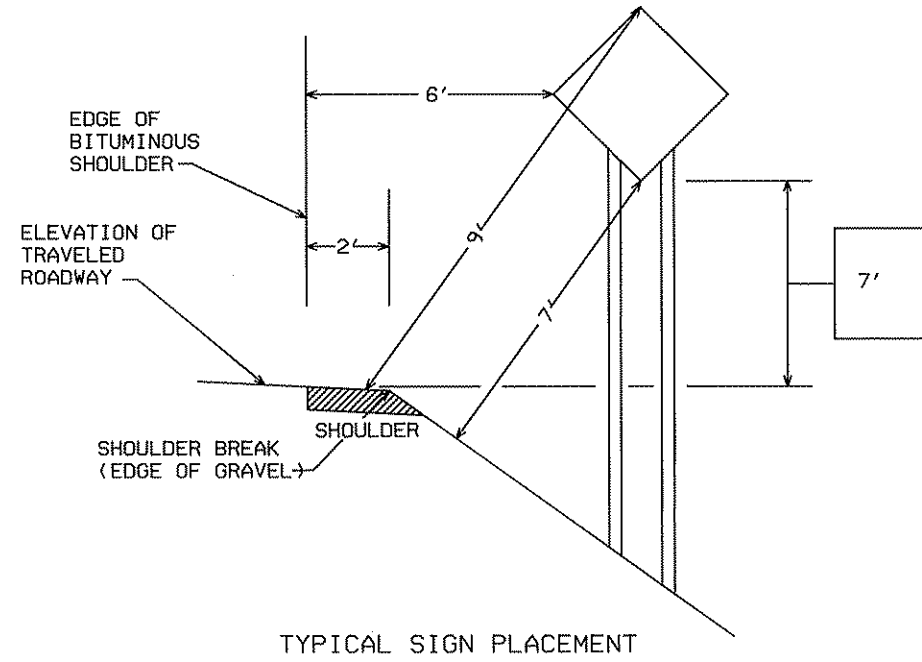
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DETAILS

NO	DATE	BY	CKD	APPR	REVISION

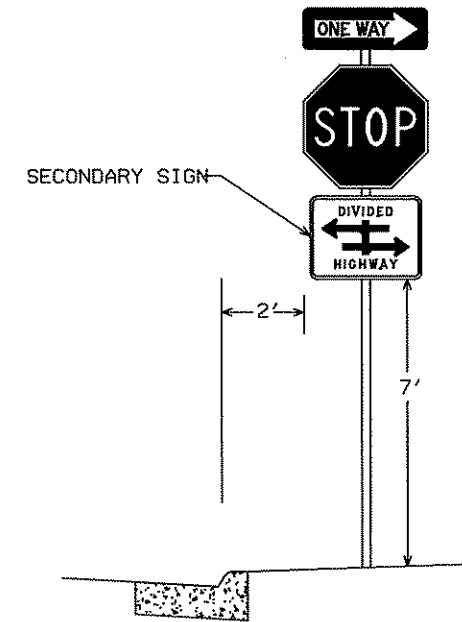
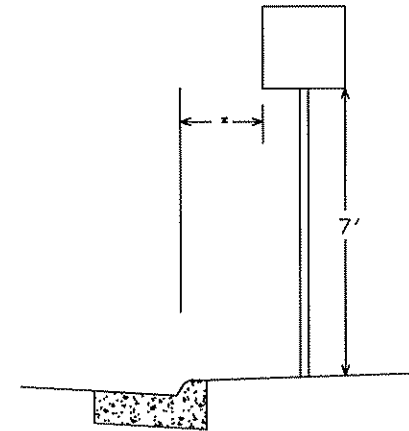
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RURAL

URBAN



- * 2' - NARROW BOULEVARD (< 8' WIDE)
- 6' - WIDE BOULEVARD



NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SSTD1.DGN 04/22/2008 2:11:35 PM

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

PRINT NAME: CURT A. KOBILARCSIK

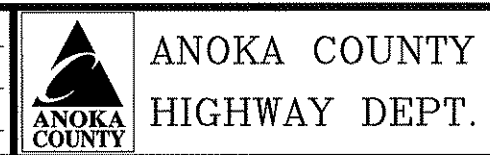
SIGNATURE: *Curt Kobilarsik*

DATE: 4.23.08 LICENSE NO. 24756

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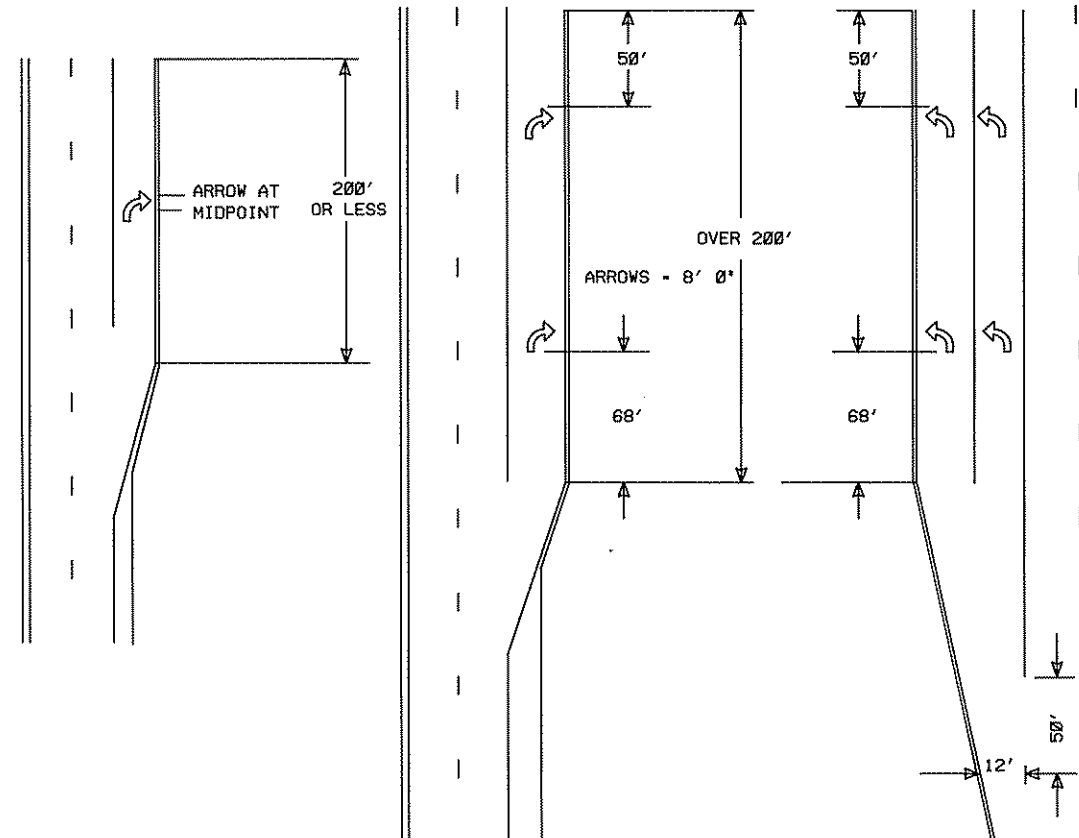


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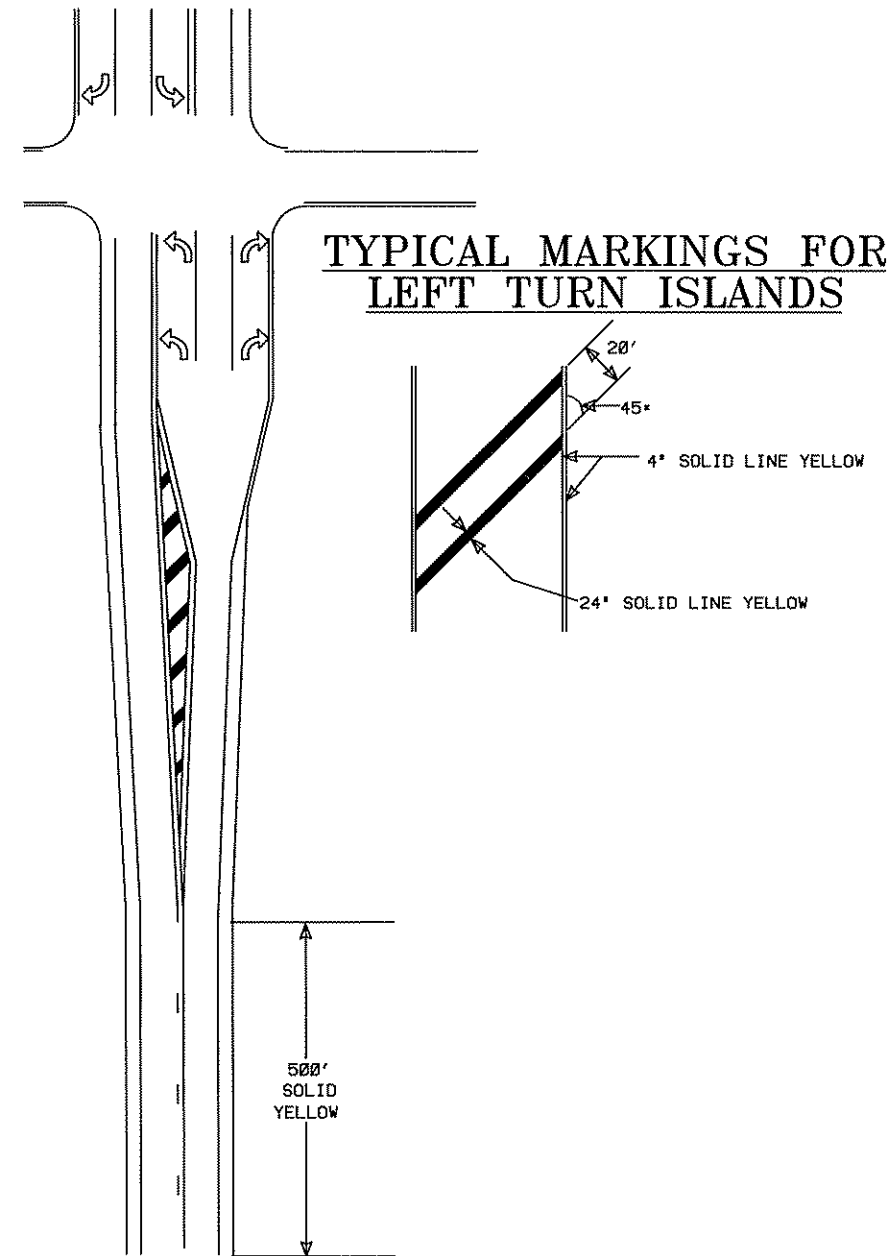
STATE PROJECT NO. 114-020-23

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**DUAL LEFT
TURN LANES**

**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt Kobilarcsik*
 DATE: 4.23.08 LICENSE NO. 24766

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JED DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07



**ANOKA COUNTY
HIGHWAY DEPT.**

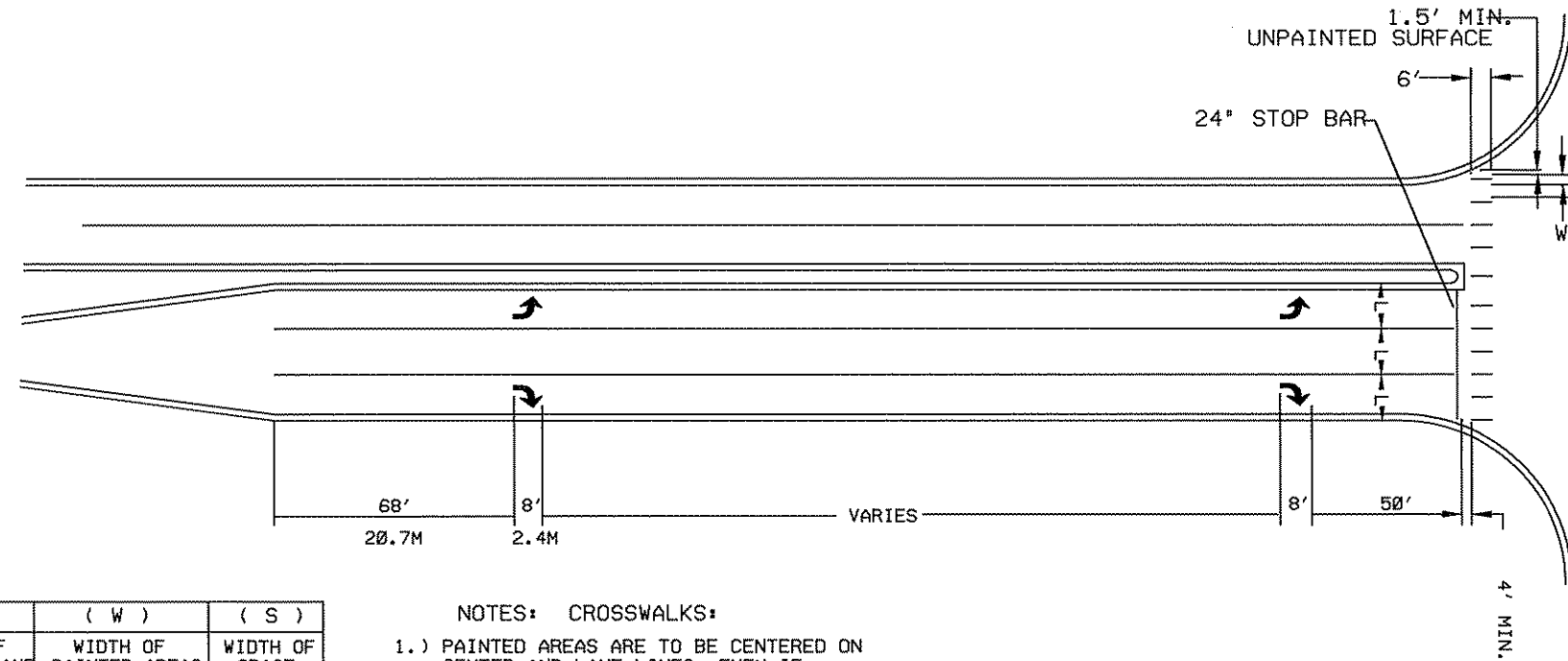
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

**SIGN & SIGNAL
DETAILS**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SSTD1.DGN 04/22/2008 2:11:36 PM

MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMP ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450MM) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3M) NSIDE LANE.

NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY 'SPOTTING' AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F* OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_SSTD1.DGN 04/22/2008 2:11:36 PM

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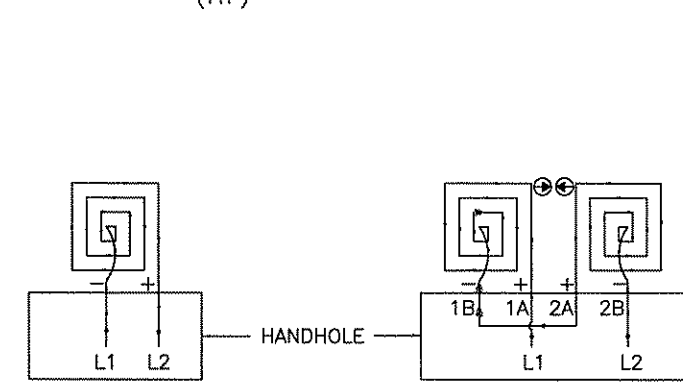
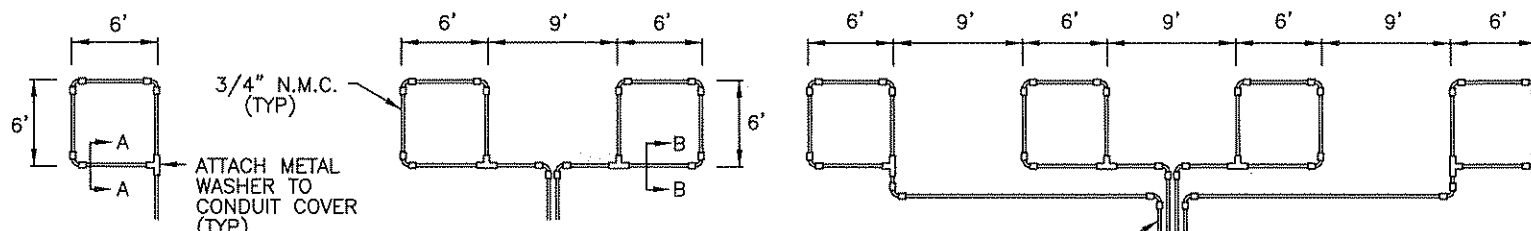
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 CHECKED BY: CAK DATE: 8-17-07



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

SIGN & SIGNAL
DETAILS

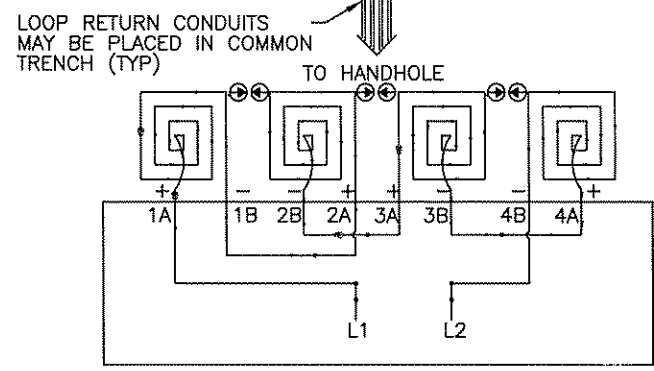


**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)

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

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

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

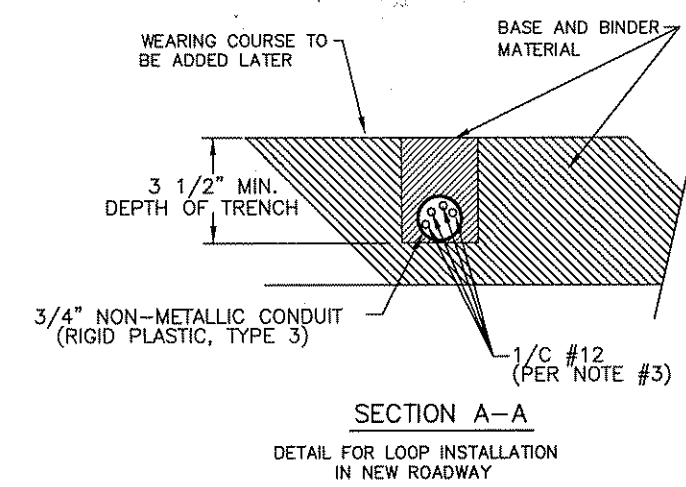


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

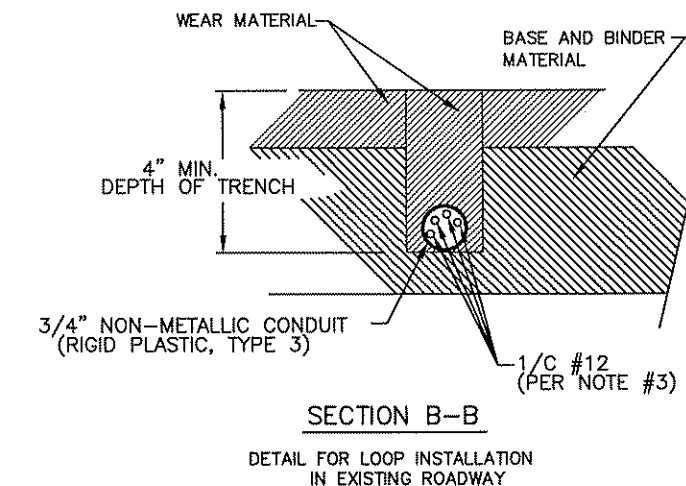
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

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

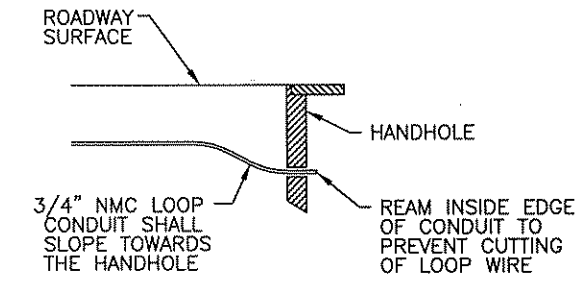
**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



SECTION A-A
DETAIL FOR LOOP INSTALLATION
IN NEW ROADWAY



SECTION B-B
DETAIL FOR LOOP INSTALLATION
IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

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

TRAFFIC SIGNAL STANDARD PLATES	
THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 D	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 L	PAB5 POLE FOUNDATION
* 8121 E	TRANSFORMER BASE AND POLE BASE PLATE
8122 D	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 G	PAB0 AND PAT00 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

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

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	(A)
SIGNAL BASE NO.	(1)
SIGNAL FACE NO.	(1-)
LUMINAIRE NO.	(L)
CONTROLLER AND CABINET	(C)
CONTROLLER AND CABINET - IN PLACE	(C)
HANDHOLE	(H)
HANDHOLE - IN PLACE	(H)
RIGID STEEL CONDUIT (RSC)	(RSC)
RIGID STEEL CONDUIT (RSC) - IN PLACE	(RSC)
SIGNAL FACE WITH BACKGROUND SHIELD	(S)
SIGNAL FACE W/O BACKGROUND SHIELD	(S)
SIGNAL FACE - IN PLACE	(S)
PEDESTRIAN INDICATORS	(P)
PEDESTRIAN INDICATORS - IN PLACE	(P)
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	(P)
PEDESTRIAN PUSH BUTTON STATION	(P)
TRAFFIC SIGNAL PEDESTAL	(T)
TRAFFIC SIGNAL PEDESTAL - INPLACE	(T)
TRAFFIC SIGNAL POLE AND MAST ARM	(T)
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	(T)
STREET LIGHT POLE AND LUMINAIRE	(S)
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	(S)
MAST ARM AND LUMINAIRE	(S)
MAST ARM AND LUMINAIRE - INPLACE	(S)
WOOD POLE	(W)
WOOD POLE - IN PLACE	(W)
SOURCE OF POWER	(S)
RAILROAD SIGNAL - IN PLACE	(R)
RIGHT OF WAY LINE	(R)
CENTERLINE	(C)
EDGE OF ROADWAY	(E)
SHOULDERLINE	(S)
CURB LINE	(C)
STOP BAR	(S)
EMERGENCY VEHICLE PREEMPTION DETECTOR	(E)

ABBREVIATIONS

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

S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

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DESIGNER: JMG			
CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
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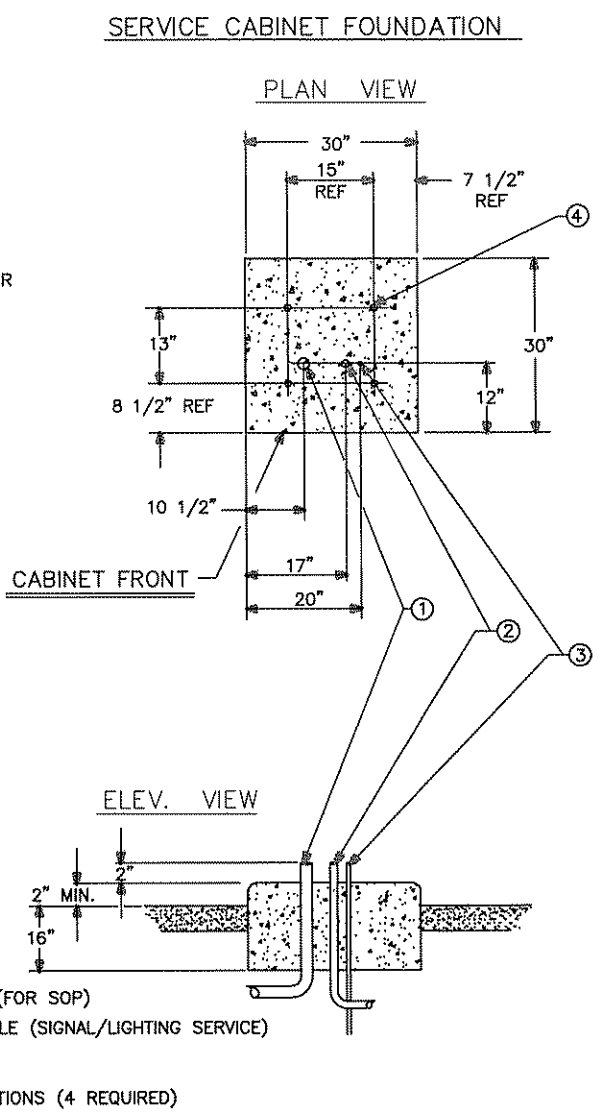
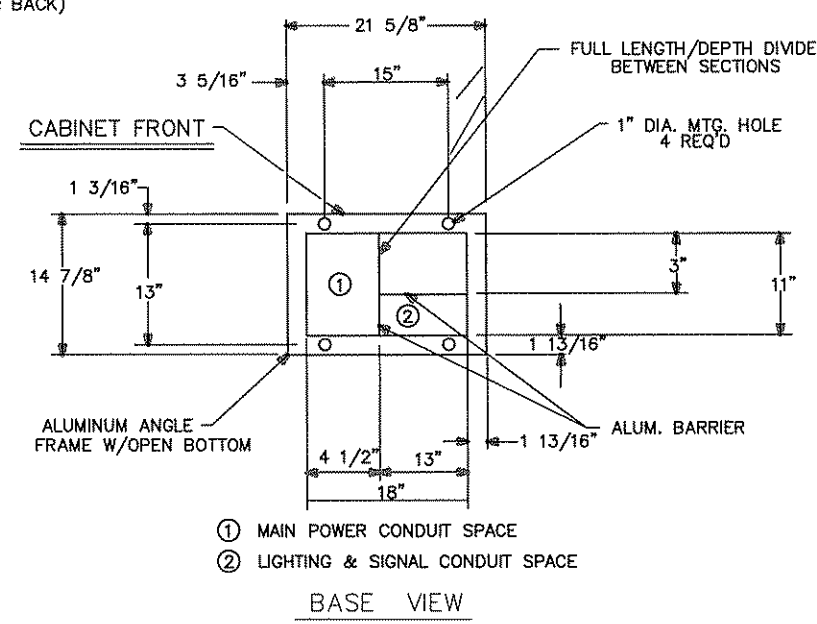
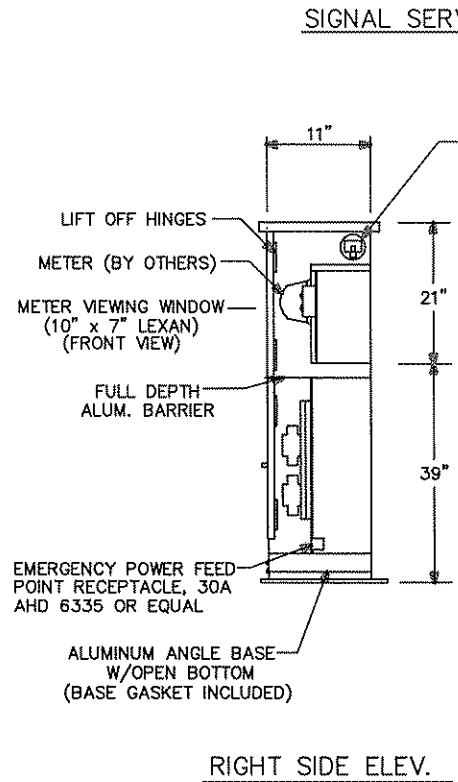
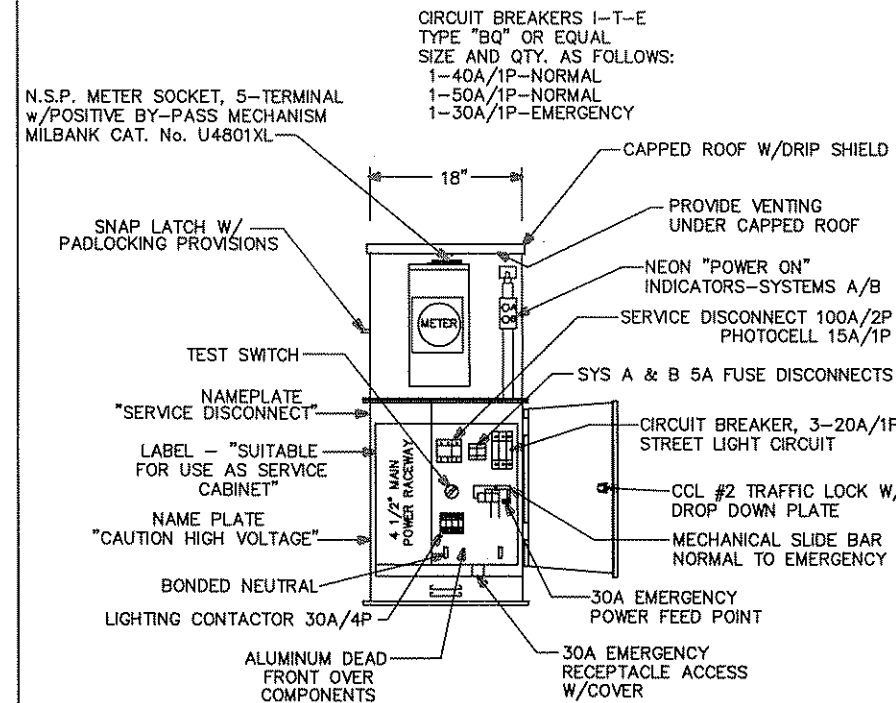
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Name: John M. Gray, PE
Date: February 13, 2008 Lic. No. 22457



**ANOKA COUNTY,
MINNESOTA**

**TRAFFIC SIGNAL SYSTEM
DETAILS + STANDARD PLATES
CSAH 51 AT 91ST AVENUE**

FILE NO.	107
AANOKC0702	
SIGNAL SHEET	159
SG1 OF SG16	



CONSTRUCTION NOTES

ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.

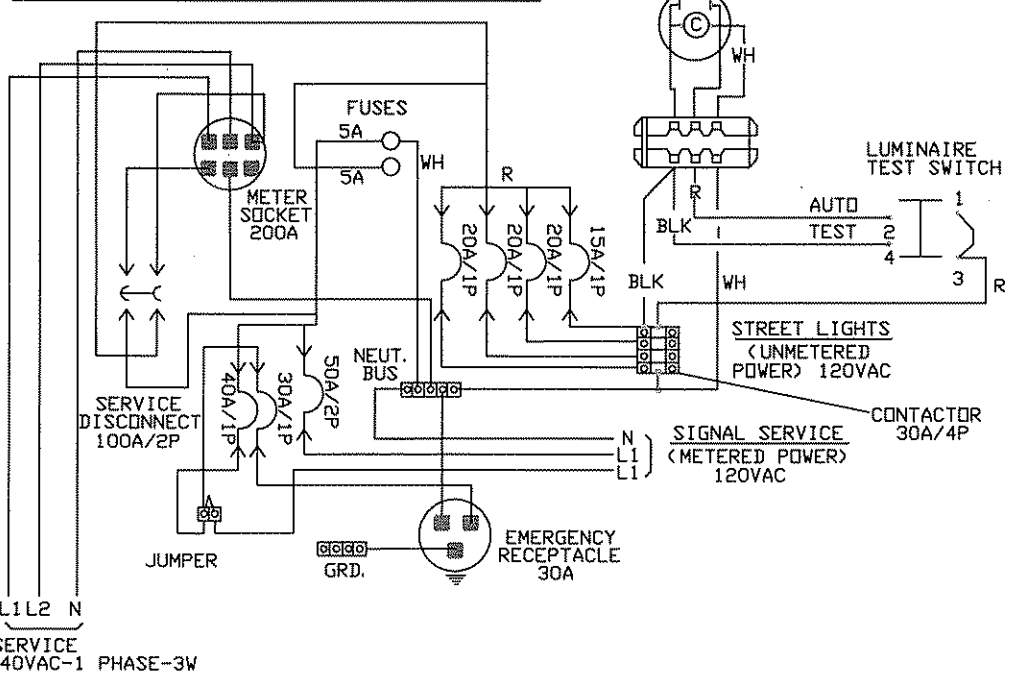
DOORS TO BE NEOPRENE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION.

CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.

NEMA 3R ENCLOSURE SHALL BE "UL" APPROVED.

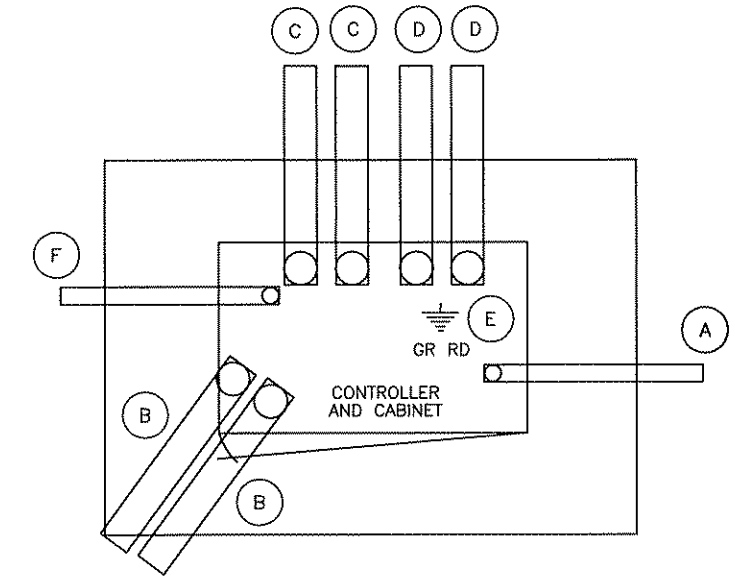
CABINET SHALL HAVE BASE GASKET INCLUDED.

FEED POINT WIRING DIAGRAM



- Ⓐ 2" R.S.C. FOR SERVICE CONNECTION (VIA HH 14)
- Ⓑ 4" R.S.C. TO HH 1
- Ⓒ 4" R.S.C. TO HH 13
- Ⓓ 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- Ⓔ 5/8" DIA X 15' GROUND ROD
- Ⓕ 1" N.M.C. STUBOUT FOR FUTURE PHONE LINE (BY OTHERS)

SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION



TYPICAL CONTROLLER CABINET PAD LAYOUT

NO SCALE

ANOKA COUNTY,
MINNESOTA

TRAFFIC SIGNAL SYSTEM
CABINET DETAILS
CSAH 51 AT 91ST AVENUE

S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

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SIGNAL SHEET
SG2 OF SG16

108
159

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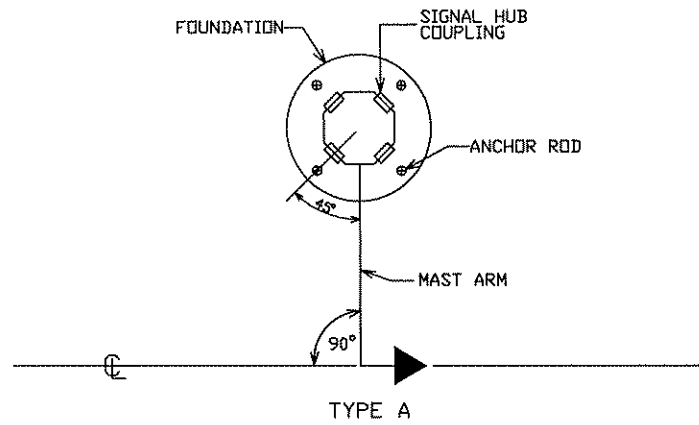
John M. Gray
Name: John M. Gray, PE
Date: February 13, 2008 Lic. No. 22457

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

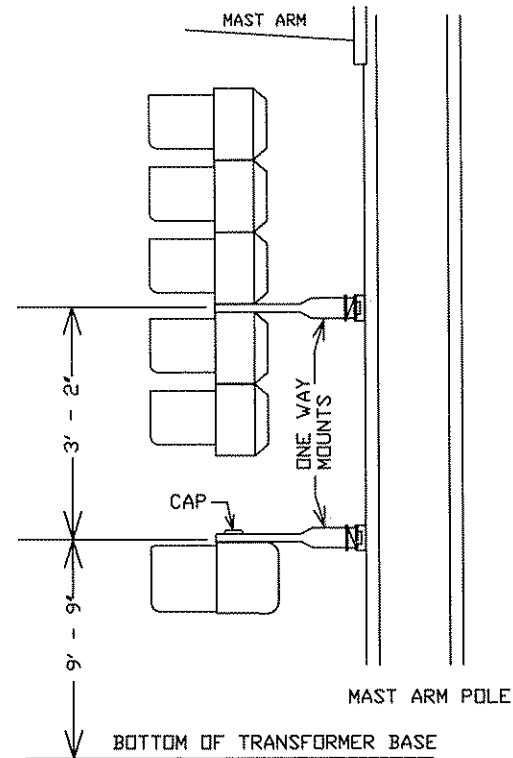
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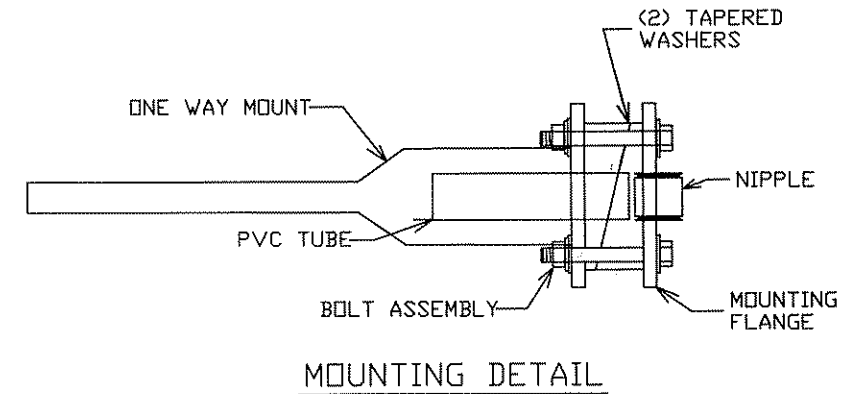
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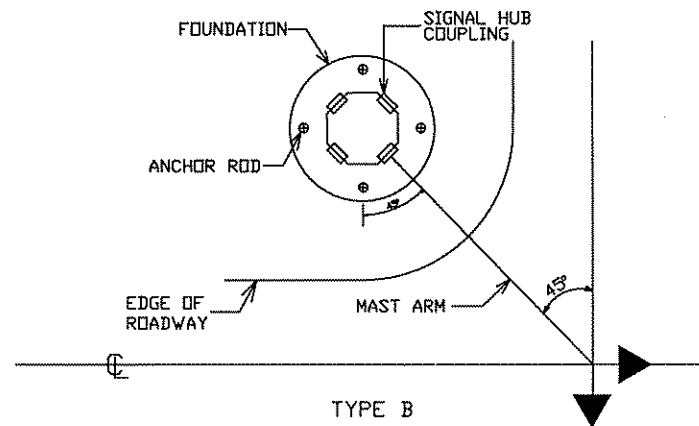
TYPE A
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS



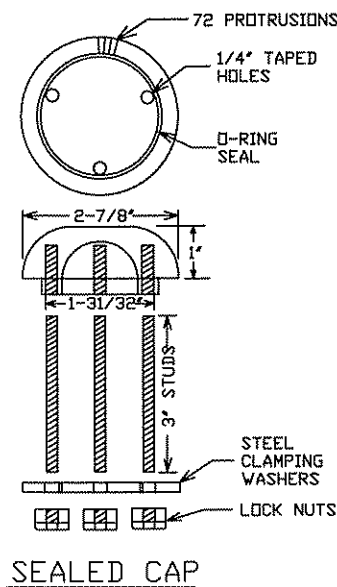
MAST ARM POLE
BOTTOM OF TRANSFORMER BASE



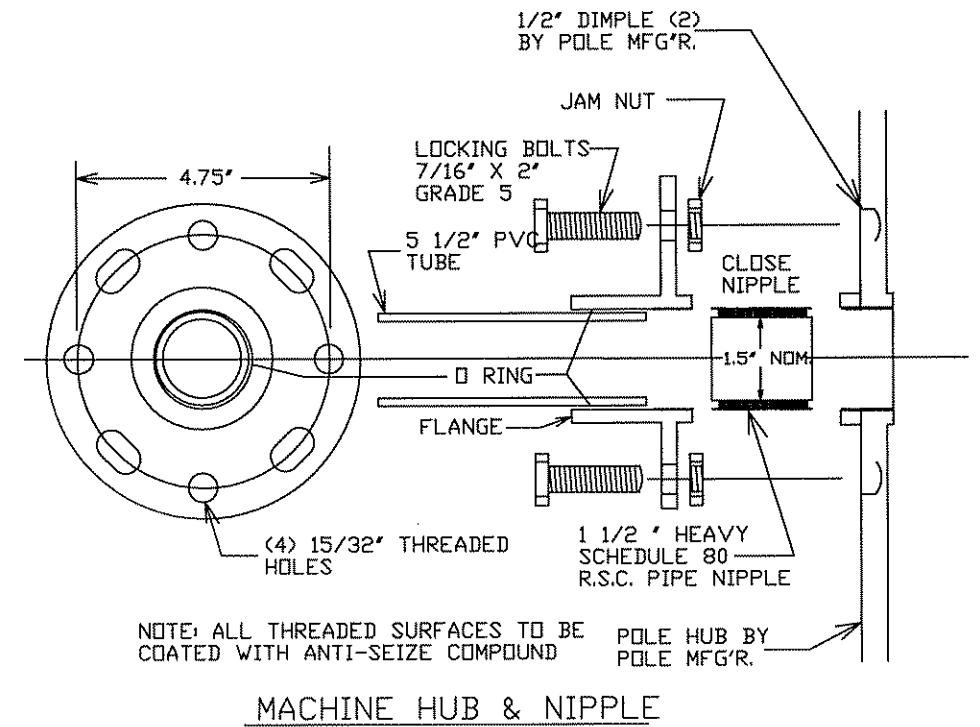
MOUNTING DETAIL



TYPE B
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS



SEALED CAP



NOTE: ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND

MACHINE HUB & NIPPLE

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 Name: John M. Gray, PE
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 3535 VADNAIS CENTER DR.
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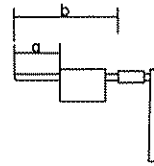
ANOKA COUNTY,
 MINNESOTA

TRAFFIC SIGNAL SYSTEM
 ONE-WAY HEAD MOUNT DETAILS
 CSAH 51 AT 91ST AVENUE

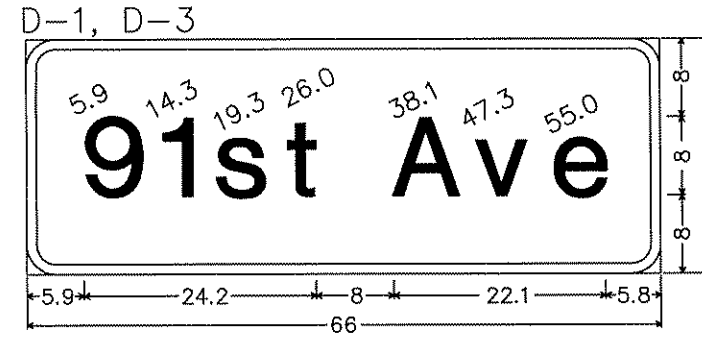
FILE NO.	109
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SIGNAL SHEET	159
SG3 OF SG16	

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 S.P. 106-020-27
 S.P. 114-020-23

MAST ARM MOUNTED SIGNS								
SIGN PANELS -- TYPE D								
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
D-1	66x24	1	3	-	11.00	1	28'	-
D-2	108x24	1	4	-	18.00	2	8'	-
D-3	66x24	1	3	-	11.00	3	28'	-
D-4	108x24	1	4	-	18.00	4	8'	-
TOTAL QUANTITIES		4			58.00			

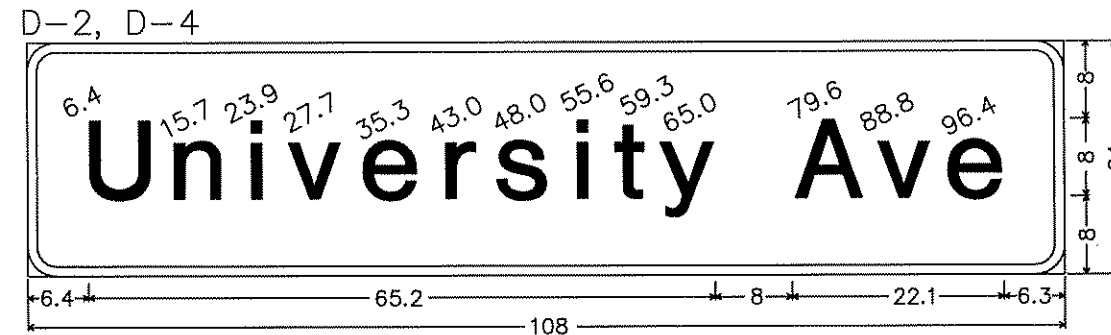


(**)= SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07) FOR BRACKET SPACING REQUIREMENTS.



3.0" Radius, 1.0" Border, White on Green; [91st Ave] E Mod;

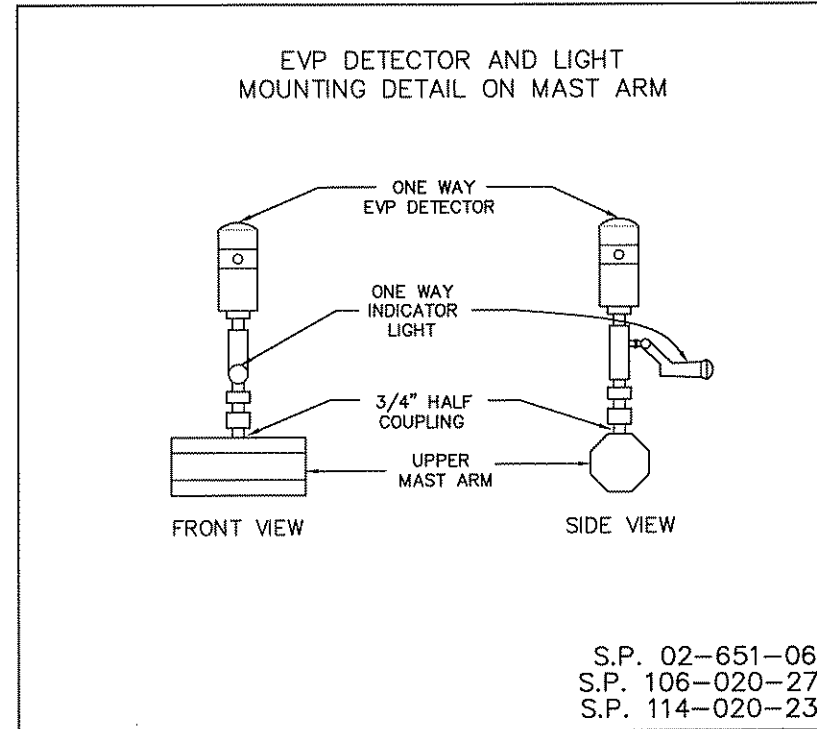
SIGNS FOR TRAFFIC SIGNAL SYSTEM									
SIGN PANELS -- TYPE C									
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	TOTAL AREA (SQ.FT.)	POLE NO.	a	b
R6-1L	36x12	2	①	-	3.00	6.00	1,3	-	-
R6-1R	36x12	2	①	-	3.00	6.00	1,3	-	-
TOTAL QUANTITIES		4				12.00			



3.0" Radius, 1.0" Border, White on Green; [University Ave] 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 OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07), AND SPECIAL PROVISIONS.
- SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- FURNISHING AND INSTALLING TYPE C AND D SIGNS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM) FOR THIS SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING HP SHEETING. SEE SPECIAL PROVISIONS.
- ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE.




S.P. 02-651-06
S.P. 106-020-27
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 Name: John M. Gray, PE
 Date: February 13, 2008 Lic. No. 22457

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**ANOKA COUNTY,
MINNESOTA**

**TRAFFIC SIGNAL SYSTEM
SIGNING AND EVP DETAILS
CSAH 51 AT 91ST AVENUE**

FILE NO.	110
AANOKC0702	
SIGNAL SHEET	159
SG4 OF SG16	

- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" HAND/WALKING PERSON INDICATION.
 - 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).
 - 9) ALL MAST ARM POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE DETAILS & SPECIAL PROVISIONS.
 - 10) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
 - 11) SEE SPECIAL PROVISIONS REGARDING INPLACE WOOD POLE AND SPAN WIRE SIGNAL SYSTEM TO BE REMOVED AND SALVAGED BY CONTRACTOR (INCIDENTAL).
 - 12) CONTRACTOR SHALL MAINTAIN OPERATION OF INPLACE SIGNAL SYSTEM AT ALL TIMES, UNTIL APPROVED BY ENGINEER FOR SIGNAL SYSTEM TO BE TURNED OFF.

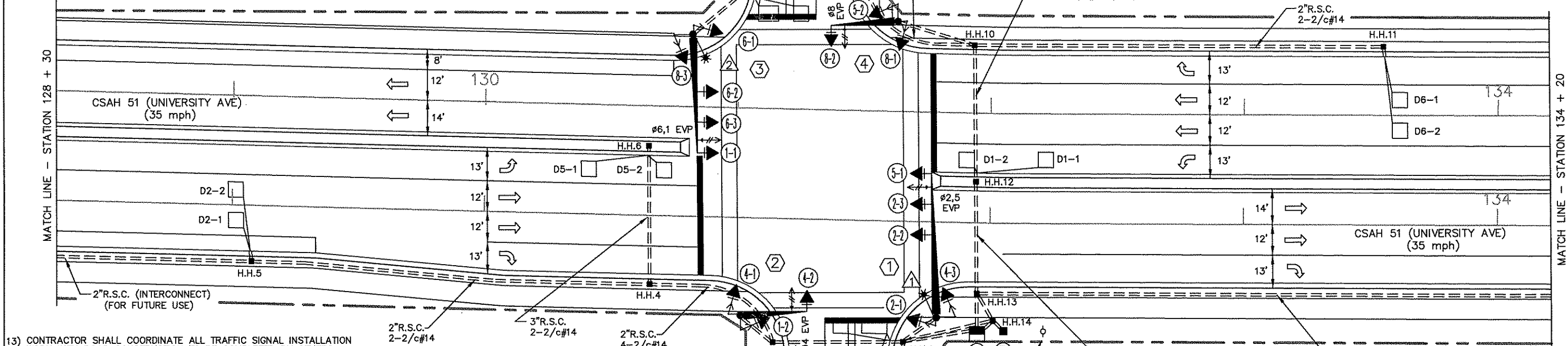
N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D4-1	6x6	90'	3,8
D4-2	6x8&6x6	0' & 15'	7
D4-3	2-6x6	0' & 15'	7
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	180'	1
D6-2	6x6	180'	1
D8-1	6x6	90'	3,8
D8-2	6x10&6x6	0' & 15'	7
D8-3	2-6x6	0' & 15'	7

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

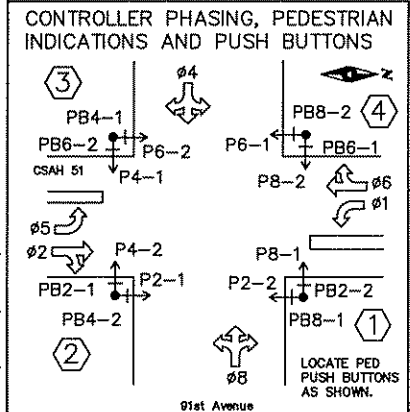
- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL
 - IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)

- ③ PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
 2-PEDESTRIAN PUSH BUTTONS
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 TYPE D SIGN PANEL-OVERHEAD (D-3)
 ONE WAY EVP DETECTOR AND LIGHT (Ø6,1) (EVP) EXTEND INTO H.H.7:
 3"R.S.C.
 3-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 2-2/c#14
 1-3/c#14 (LUM)

- ④ PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1-ONE WAY SIGNAL-OVERHEAD
 2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANEL-OVERHEAD (D-4)
 ONE WAY EVP DETECTOR AND LIGHT (Ø8) (EVP) EXTEND INTO H.H.10:
 3"R.S.C.
 2-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 2-2/c#14



- 13) CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
- 14) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR SEPARATE FROM ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 15) (EVP) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



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

- ② PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1-ONE WAY SIGNAL-OVERHEAD
 2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANEL-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT (Ø4) (EVP) EXTEND INTO H.H.3:
 3"R.S.C.
 2-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 2-2/c#14

- ① PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9 (DAVIT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
 2-ONE WAY SIGNALS-POLE MOUNTED 45° & 225°
 2-SETS PEDESTRIAN INDICATIONS-POLE MOUNTED 45° & 225°
 2-PEDESTRIAN PUSH BUTTONS
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 TYPE D SIGN PANEL-OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND LIGHT (Ø2,5) (EVP) EXTEND INTO H.H.1:
 3"R.S.C.
 3-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 2-2/c#14
 1-3/c#14 (LUM)

SEE NEXT SHEET FOR CONTROLLER CABINET AND SERVICE CABINET NOTES.

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

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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: February 13, 2008 Name: John M. Gray, PE Lic. No. 22457

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

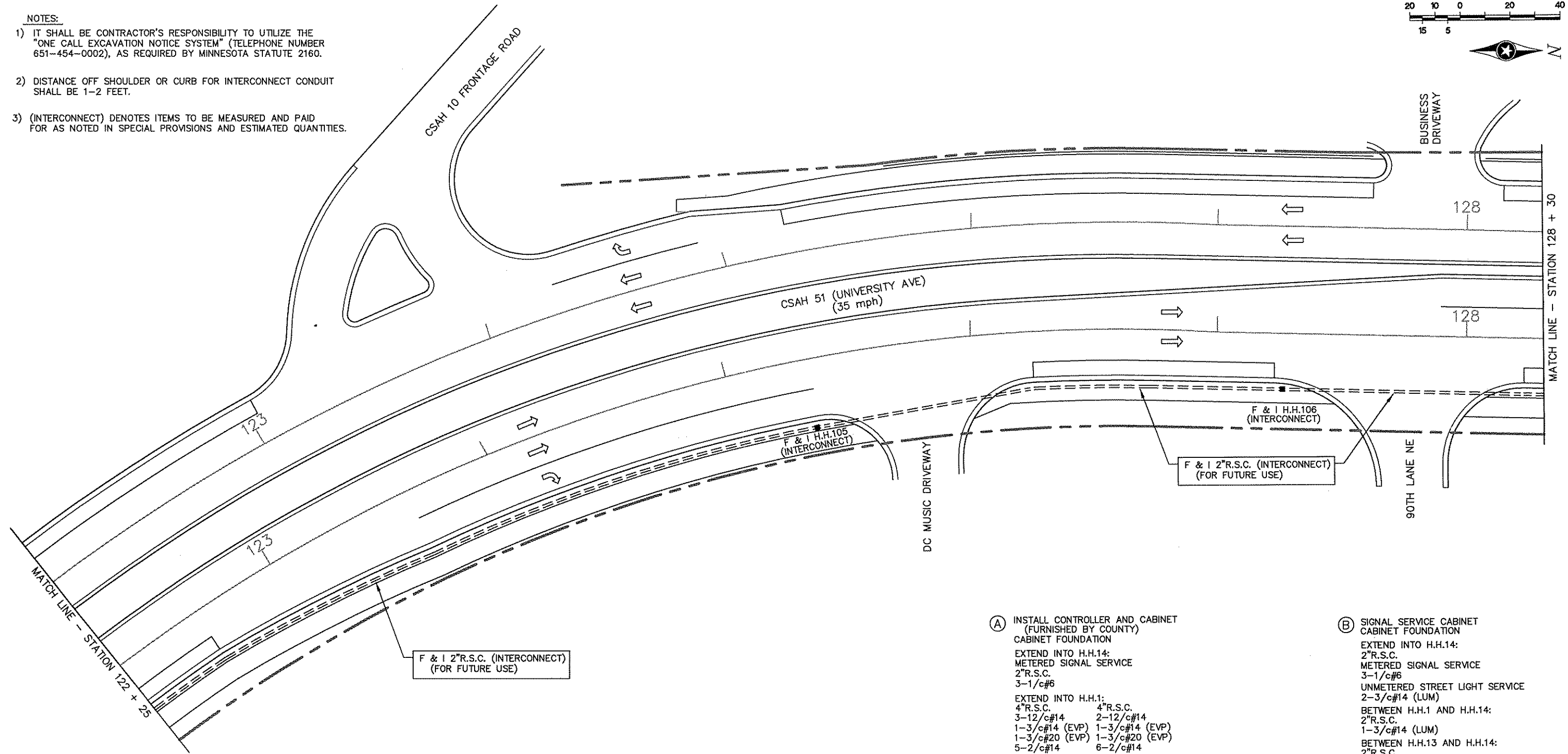
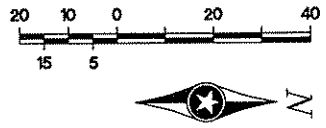
ANOKA COUNTY, MINNESOTA

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT CSAH 51 AT 91ST AVENUE

FILE NO. AANOKC0702
 SIGNAL SHEET 111
 SG5 OF SG16 159

NOTES:

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.



- (A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)**
 CABINET FOUNDATION
 EXTEND INTO H.H.14:
 METERED SIGNAL SERVICE
 2"R.S.C.
 3-1/c#6
 EXTEND INTO H.H.1:
 4"R.S.C. 4"R.S.C.
 3-12/c#14 2-12/c#14
 1-3/c#14 (EVP) 1-3/c#14 (EVP)
 1-3/c#20 (EVP) 1-3/c#20 (EVP)
 5-2/c#14 6-2/c#14
 EXTEND INTO H.H.13:
 4"R.S.C. 4"R.S.C.
 3-12/c#14 2-12/c#14
 1-3/c#14 (EVP) 1-3/c#14 (EVP)
 1-3/c#20 (EVP) 1-3/c#20 (EVP)
 5-2/c#14 6-2/c#14
 STUB OUT 2-3"R.S.C. FROM CABINET TO WEST (THREAD AND CAP-FOR FUTURE USE)
 STUB OUT 1"N.M.C. FROM CABINET (FOR FUTURE PHONE LINE BY OTHERS)

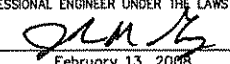
- (B) SIGNAL SERVICE CABINET**
 CABINET FOUNDATION
 EXTEND INTO H.H.14:
 2"R.S.C.
 METERED SIGNAL SERVICE
 3-1/c#6
 UNMETERED STREET LIGHT SERVICE
 2-3/c#14 (LUM)
 BETWEEN H.H.1 AND H.H.14:
 2"R.S.C.
 1-3/c#14 (LUM)
 BETWEEN H.H.13 AND H.H.14:
 2"R.S.C.
 1-3/c#14 (LUM)
 STUB OUT 2"R.S.C. FROM SERVICE CABINET TO NORTH (FOR POWER BY CONNEXUS)


S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23

S:\AE\ANOKA\COMMON\SIGNS\SI-81ST\SIGBASE51.DWG

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

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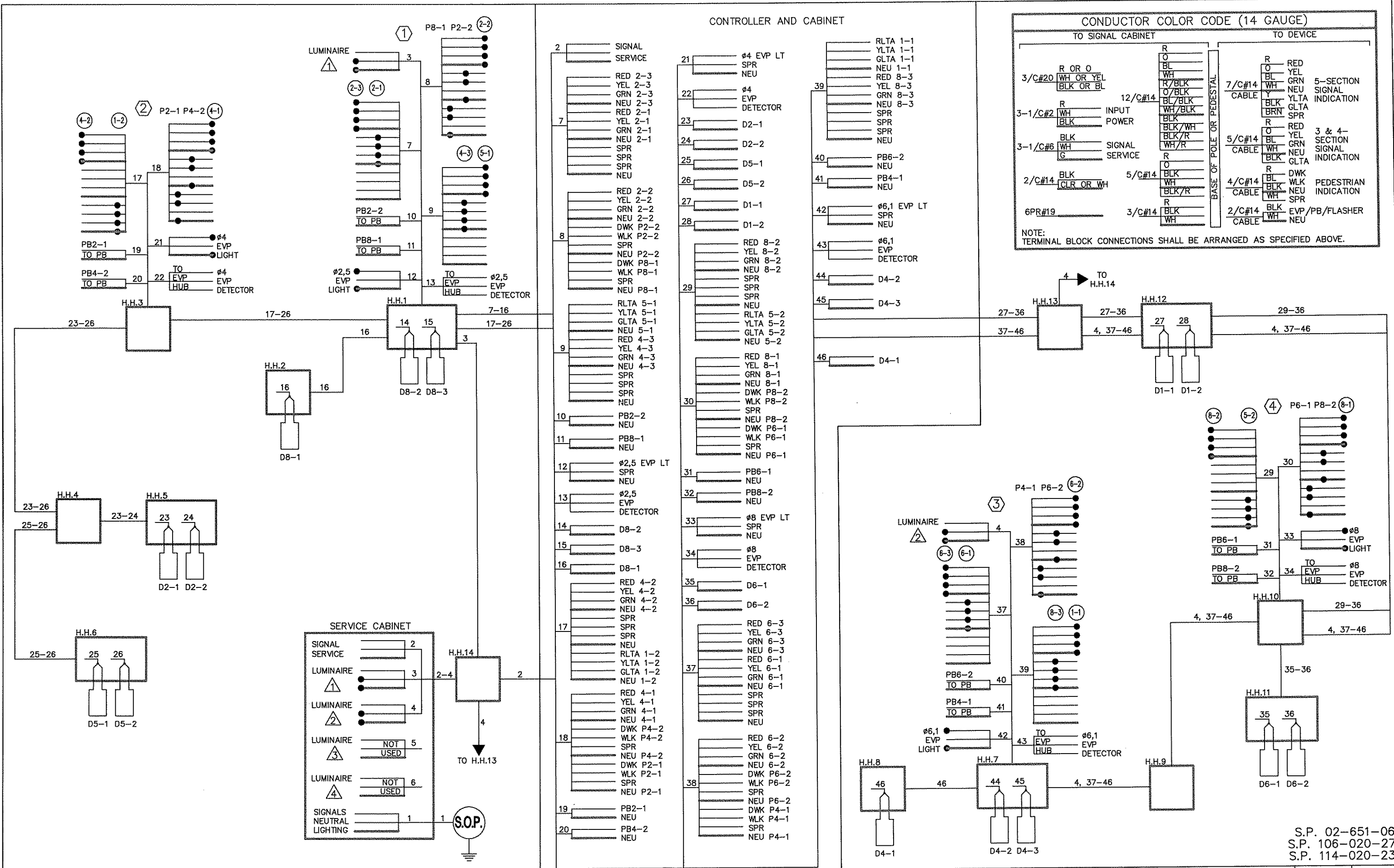
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 Name: John M. Gray, PE
 Lic. No. 22457
 Date: February 13, 2008


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

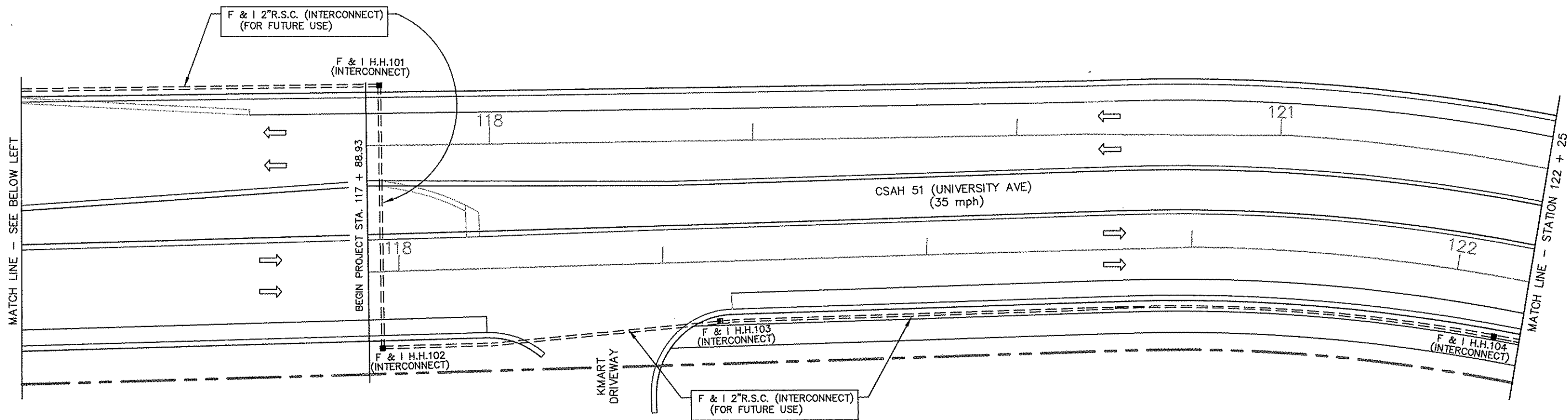
**ANOKA COUNTY,
 MINNESOTA**

**TRAFFIC CONTROL INTERCONNECTION
 INTERSECTION LAYOUT
 CSAH 51 (STA. 122+25 TO 128+30)**

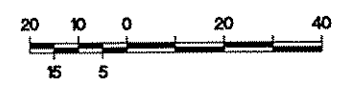
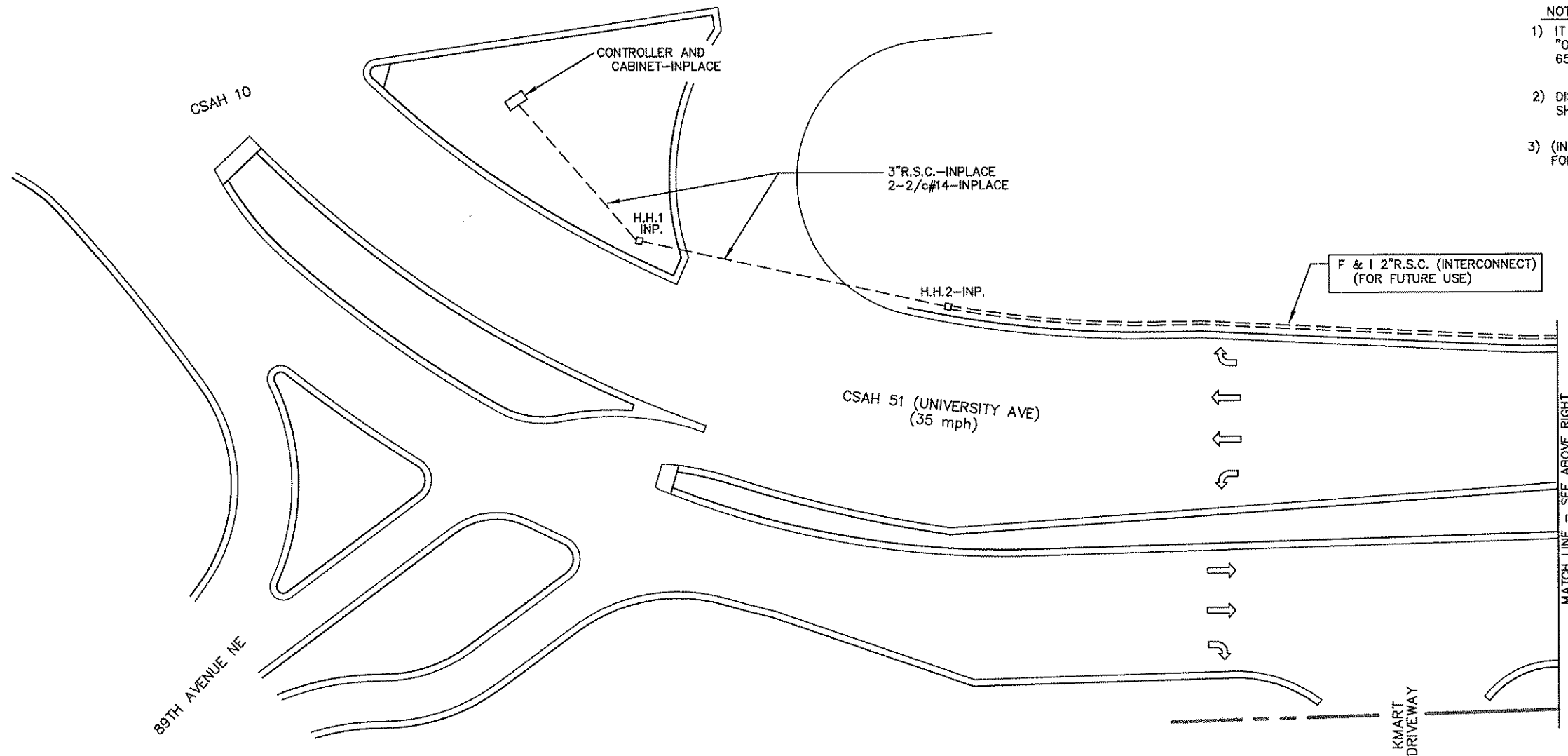
FILE NO.	112
AANOKC0702	
SIGNAL SHEET	159
SG6 OF SG16	



CONDUCTOR COLOR CODE (14 GAUGE)			
TO SIGNAL CABINET		TO DEVICE	
R OR O	WH OR YEL	R	RED
3/C#20	BLK OR BL	O	YEL
		BL	GRN
		WH	NEU
		R/BLK	YLTA
		O/BLK	GLTA
		BL/BLK	SPR
		WH/BLK	3 & 4-
		BLK	SECTION
		BLK/WH	SIGNAL
		BLK/R	INDICATION
		WH/R	
		R	RED
		O	YEL
		BL	GRN
		WH	NEU
		R/BLK	YLTA
		O/BLK	GLTA
		BL/BLK	SPR
		WH/BLK	3 & 4-
		BLK	SECTION
		BLK/WH	SIGNAL
		BLK/R	INDICATION
		WH/R	
		R	DWK
		O	WLK
		BL	NEU
		WH	SPR
		R/BLK	PEDESTRIAN
		O/BLK	INDICATION
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- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.



S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23

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

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John M. Gray
 Name: John M. Gray, PE
 Lic. No. 22457
 Date: February 13, 2008

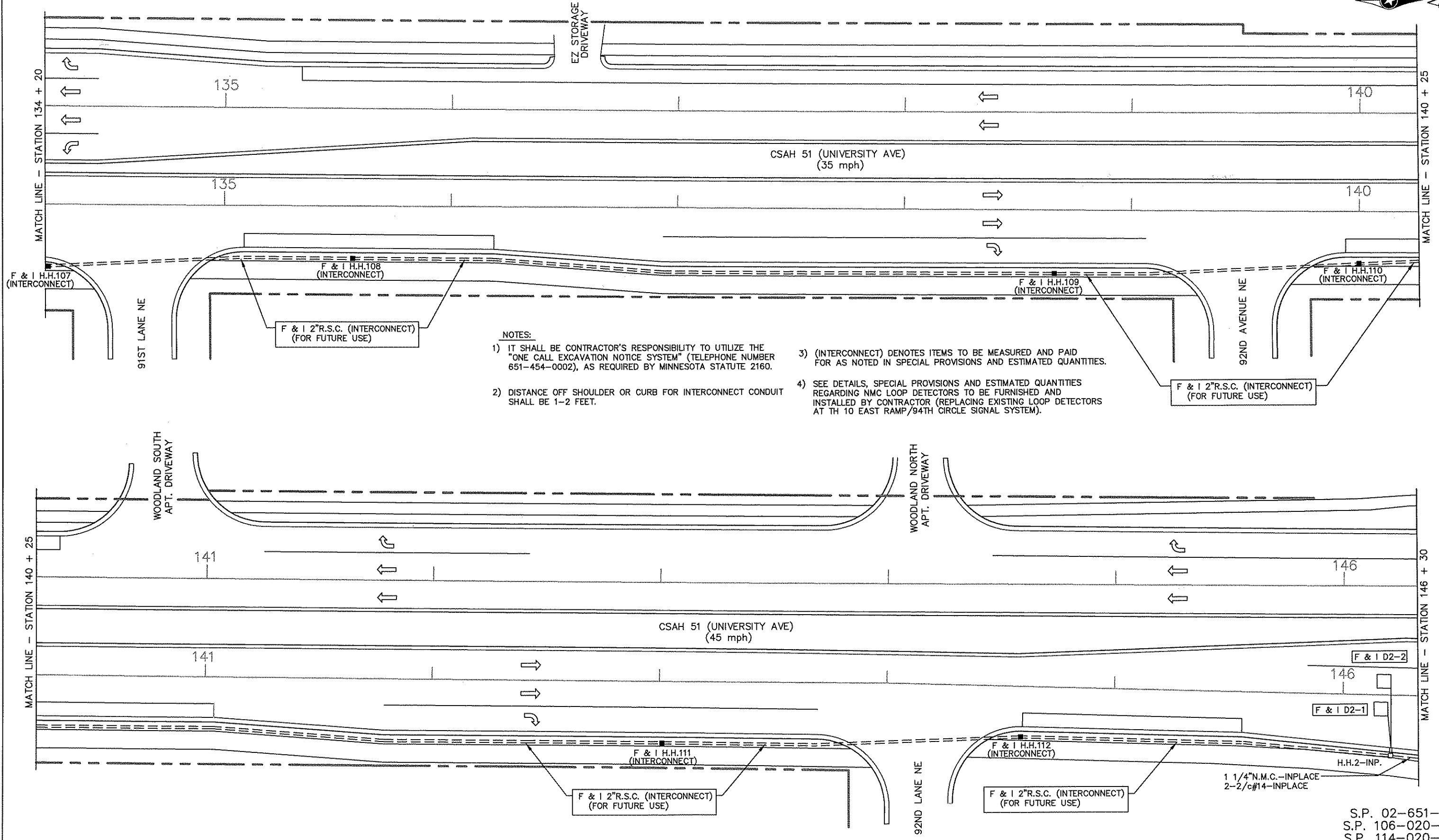
PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

**ANOKA COUNTY,
 MINNESOTA**

**TRAFFIC CONTROL INTERCONNECTION
 INTERSECTION LAYOUT
 CSAH 51 (SIGNAL TO STA. 122+25)**

FILE NO. AANOKC0702	114
SIGNAL SHEET SG8 OF SG16	159

S:\AE\ANOKA\COMMON\SIGNALS\SI-81ST\SIGBASE1.DWG



- NOTES:**
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 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
 - 3) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR AS NOTED IN SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.
 - 4) SEE DETAILS, SPECIAL PROVISIONS AND ESTIMATED QUANTITIES REGARDING NMC LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (REPLACING EXISTING LOOP DETECTORS AT TH 10 EAST RAMP/94TH CIRCLE SIGNAL SYSTEM).

S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23

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

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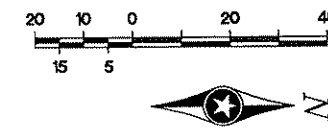
John M. Gray
 Name: John M. Gray, PE
 Date: February 13, 2008 Lic. No. 22457

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

**ANOKA COUNTY,
 MINNESOTA**

**TRAFFIC CONTROL INTERCONNECTION
 INTERSECTION LAYOUT
 CSAH 51 (STA. 134+20 TO 146+30)**

FILE NO. AANOKC0702	115
SIGNAL SHEET SG9 OF SG16	159



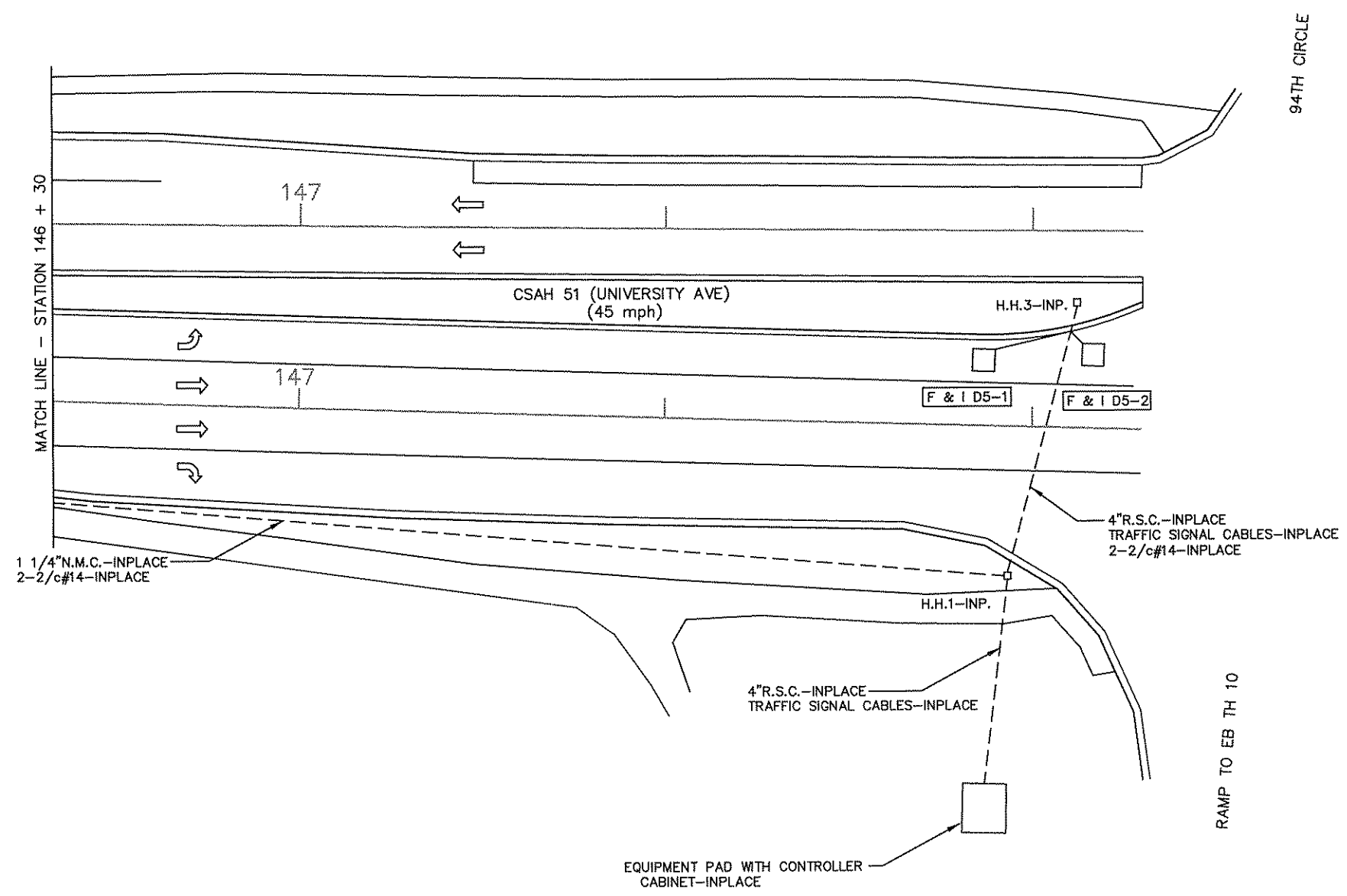
NOTES:

- 1) SEE DETAILS, SPECIAL PROVISIONS AND ESTIMATED QUANTITIES REGARDING NMC LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (REPLACING EXISTING LOOP DETECTORS AT TH 10 EAST RAMP/94TH CIRCLE SIGNAL SYSTEM).

F & I N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	6x6	300'	1
D2-2	6x6	300'	1
D5-1	6x6	40'	1
D5-2	6x6	10'	1

LOOP DETECTORS FUNCTIONS:
1) CALL AND EXTEND

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



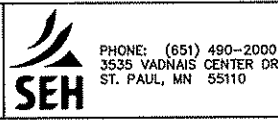
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S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

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

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 Date: February 13, 2008 Name: John M. Gray, PE Lic. No. 22457



ANOKA COUNTY, MINNESOTA

**NMC LOOP DETECTOR REPLACEMENT
INTERSECTION LAYOUT
CSAH 51 AT TH 10 SOUTH RAMPS**

FILE NO. AANOKC0702	116
SIGNAL SHEET SG10 OF SG16	159

NOTES:

- 1) LOCATION OF POLES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 3) NEW HANDHOLES SHALL BE CONCRETE HANDHOLES WITH TYPE "C" COVERS PER Mn/DOT STANDARD PLATE NO.8117F.
- 4) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.

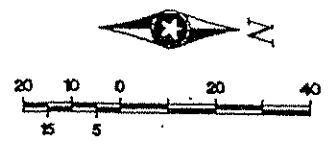
LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	6x15	285'	1
D4-1	6x8	129'	3,8
D4-2	2-6x8	SEE PLAN	7
D6-1	6x15	285'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	SEE PLAN	7
D8-3	2-6x6	SEE PLAN	7

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

FUNCTIONS:

- 1) CALL AND EXTEND
- 3) EXTEND ONLY
- 7) DELAYED CALL, IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)

- ③ 40' WOOD POLE - CLASS 2
DOWN GUY, GUY GUARD AND ANCHOR
2- TYPE 10B-WOOD POLE MOUNTED
2- PEDESTRIAN PUSH BUTTONS AND SIGNS
METAL JUNCTION BOX
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
1-12/c#12
2-3/c#12
1-2/c#14
EXTEND INTO H.H.4:
1 1/4" R.S.C. RISER BELOW JUNCTION BOX
1-2/c#14



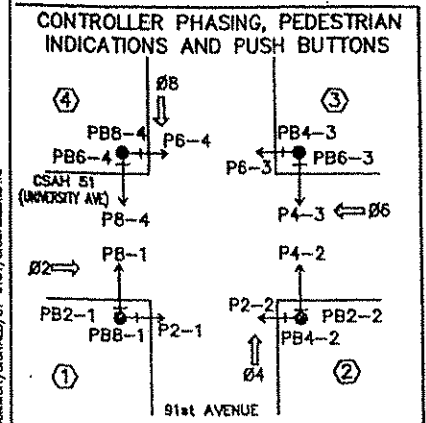
- Ⓐ CONTROLLER AND CABINET
CABINET FOUNDATION
EXTEND INTO H.H.1:
2-3" R.S.C.
4-12/c#12
9-3/c#12
7-2/c#14
2-1/c#5
1-1/c#5 Br.Gr.
2-3/c#12
2-3/c#20

- ④ 40' WOOD POLE - CLASS 2
DOWN GUY, GUY GUARD AND ANCHOR
2- TYPE 10B-WOOD POLE MOUNTED
2- PEDESTRIAN PUSH BUTTON AND SIGN
METAL JUNCTION BOX
3" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2-12/c#12
3-3/c#12
3-2/c#14
EXTEND INTO H.H.9:
1 1/4" R.S.C. RISER BELOW JUNCTION BOX
3-2/c#14

- ① 40' WOOD POLE - CLASS 2
DOWN GUY, GUY GUARD AND ANCHOR
2- TYPE 10B-WOOD POLE MOUNTED
2- PEDESTRIAN PUSH BUTTON AND SIGN
METAL JUNCTION BOX
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2-12/c#12
4-3/c#12
3-2/c#14
2" R.S.C. RISER BELOW JUNCTION BOX
EXTEND INTO H.H.1:
3-12/c#12
6-3/c#12
3-2/c#14
2" R.S.C. RISER AND WEATHERHEAD
EXTEND INTO H.H.1
1-12/c#12
3-3/c#12
3-2/c#14
2" R.S.C. RISER
AND WEATHERHEAD
2-3/c#12
2-3/c#20

- ② 40' WOOD POLE - CLASS 2
DOWN GUY, GUY GUARD AND ANCHOR
2- TYPE 10B-WOOD POLE MOUNTED
2- PEDESTRIAN PUSH BUTTON AND SIGN
METAL JUNCTION BOX
1 1/4" R.S.C. RISER BELOW JUNCTION BOX
EXTEND INTO H.H.7:
2-2/c#14
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2-12/c#12
2-3/c#12
2-2/c#14

- Ⓑ WOOD POLE (S.O.P.)
LUMINAIRE AND MAST ARM
1 1/4" R.S.C. RISER AND WEATHERHEAD
ABOVE METER
1 1/4" R.S.C. RISER BELOW DISCONNECT
(EXTEND INTO H.H.1)
2-1/c#5
1-1/c#5 Br.Gr.



SIGNAL FACE	SIGNAL INDICATIONS ARE 12"					
	LED R	Y	G	LED R	Y	G
2-1, 2-2, 2-3	•	•	•			
4-1, 4-2, 4-3	•	•	•			
6-1, 6-2, 6-3	•	•	•			
8-1, 8-2, 8-3	•	•	•			

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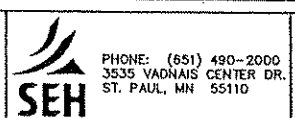
S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

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

REVISIONS			
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.
John M. Gray
Name: John M. Gray, PE
Lic. No. 22457
Date: February 13, 2008

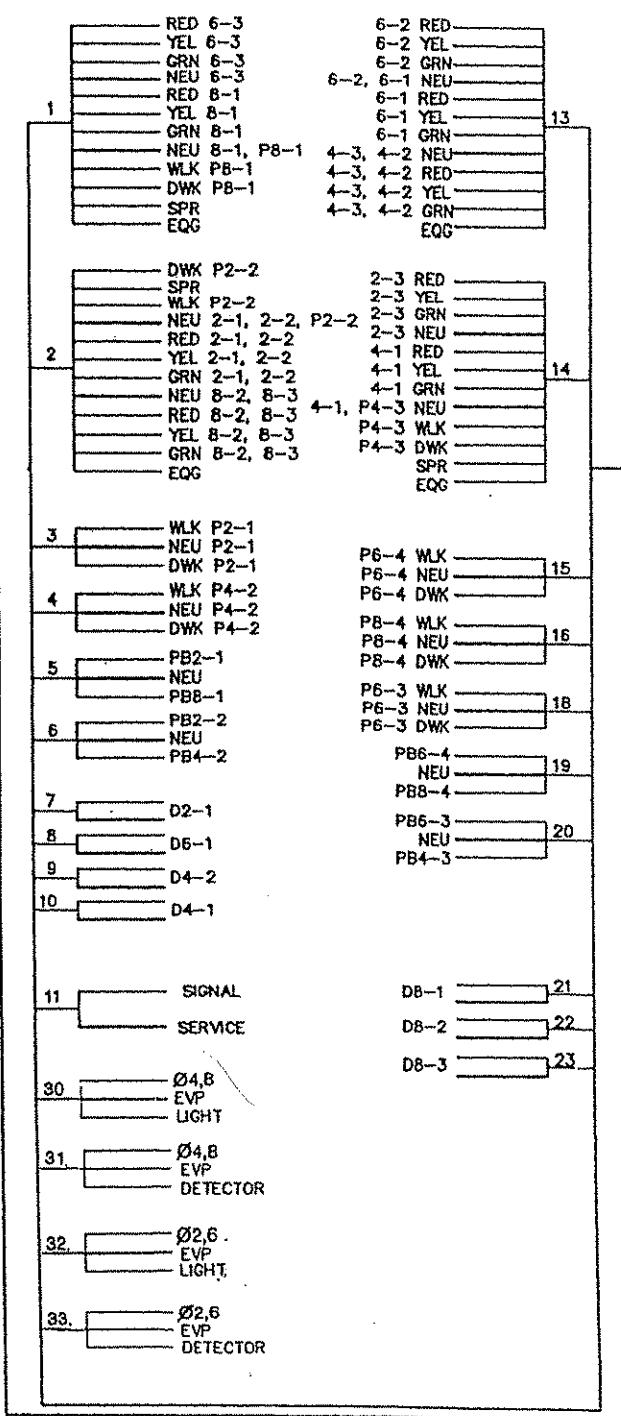


ANOKA COUNTY,
MINNESOTA

INPLACE SIGNAL SYSTEM
"FOR INFORMATION ONLY"
CSAH 51 AT 91ST AVENUE

FILE NO.	117
AANOKC0702	
SIGNAL SHEET	159
SG11 OF 5G16	

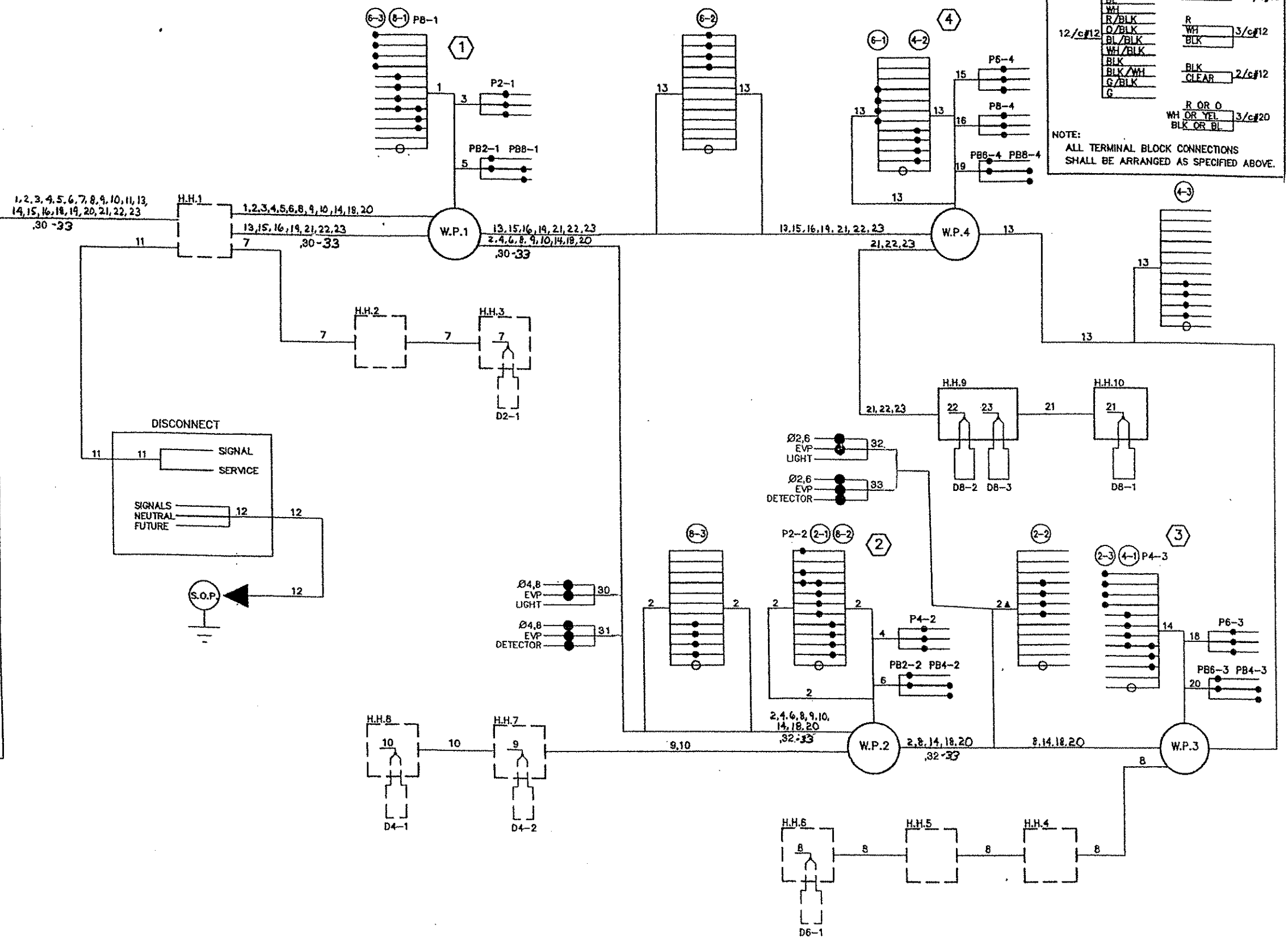
CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH	R	3/c#12
R/BLK	WH	3/c#12
O/BLK	BLK	3/c#12
BL/BLK	BLK	3/c#12
WH/BLK	BLK	3/c#12
BLK	BLK	2/c#12
BLK/WH	CLEAR	2/c#12
G/BLK	CLEAR	2/c#12
R OR O	WH OR YEL	3/c#20
	BLK OR BL	3/c#20

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



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S.P. 02-651-06
S.P. 106-020-27
S.P. 114-020-23

S:\E\A\ANOKA\COUNTY\SIGNALS\51-91ST\SIGBASE1.DWG

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

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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY,
MINNESOTA

INPLACE SIGNAL SYSTEM
"FOR INFORMATION ONLY"
CSAH 51 AT 91ST AVENUE

FILE NO.	118
AANOKC0702	
SIGNAL SHEET	159
SG12 OF SG16	

(A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
 CABINET FOUNDATION
 EXTEND INTO H.H.19:
 METERED SIGNAL SERVICE
 2"R.S.C.
 3-1/c#5
 EXTEND INTO H.H.1:
 3"R.S.C.
 2-2/c#14
 EXTEND INTO H.H.3:
 2-4"R.S.C.
 6-12/c#12
 4-3/c#12
 3-3/c#20
 12-2/c#14
 EXTEND INTO H.H.18:
 2-4"R.S.C.
 6-12/c#12
 4-3/c#12
 3-3/c#20
 8-2/c#14
 EXTEND INTO H.H.20:
 4"R.S.C.
 2-6 Pr.#19-INPLACE
 (SALVAGE AND INSTALL)
 8-2/c#14
 STUB OUT 2-3"R.S.C. FROM CABINET TO WEST (THREAD AND CAP-FOR FUTURE USE)
 STUB OUT 1"R.S.C. FROM CABINET TO WEST (THREAD AND CAP-FOR FUTURE PHONE LINE)

H.H.18 TO H.H.19:
 2"R.S.C.
 4-3/c#12 (LUM)
 H.H.3 TO H.H.18:
 2"R.S.C.
 2-3/c#12 (LUM)

H.H.20 TO H.H.21:
 4"R.S.C.-INPLACE (EXTEND INTO NEW H.H.20)
 2-6 Pr.#19-INPLACE
 8-2/c#14

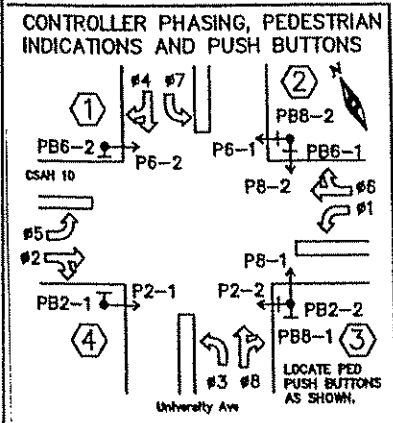
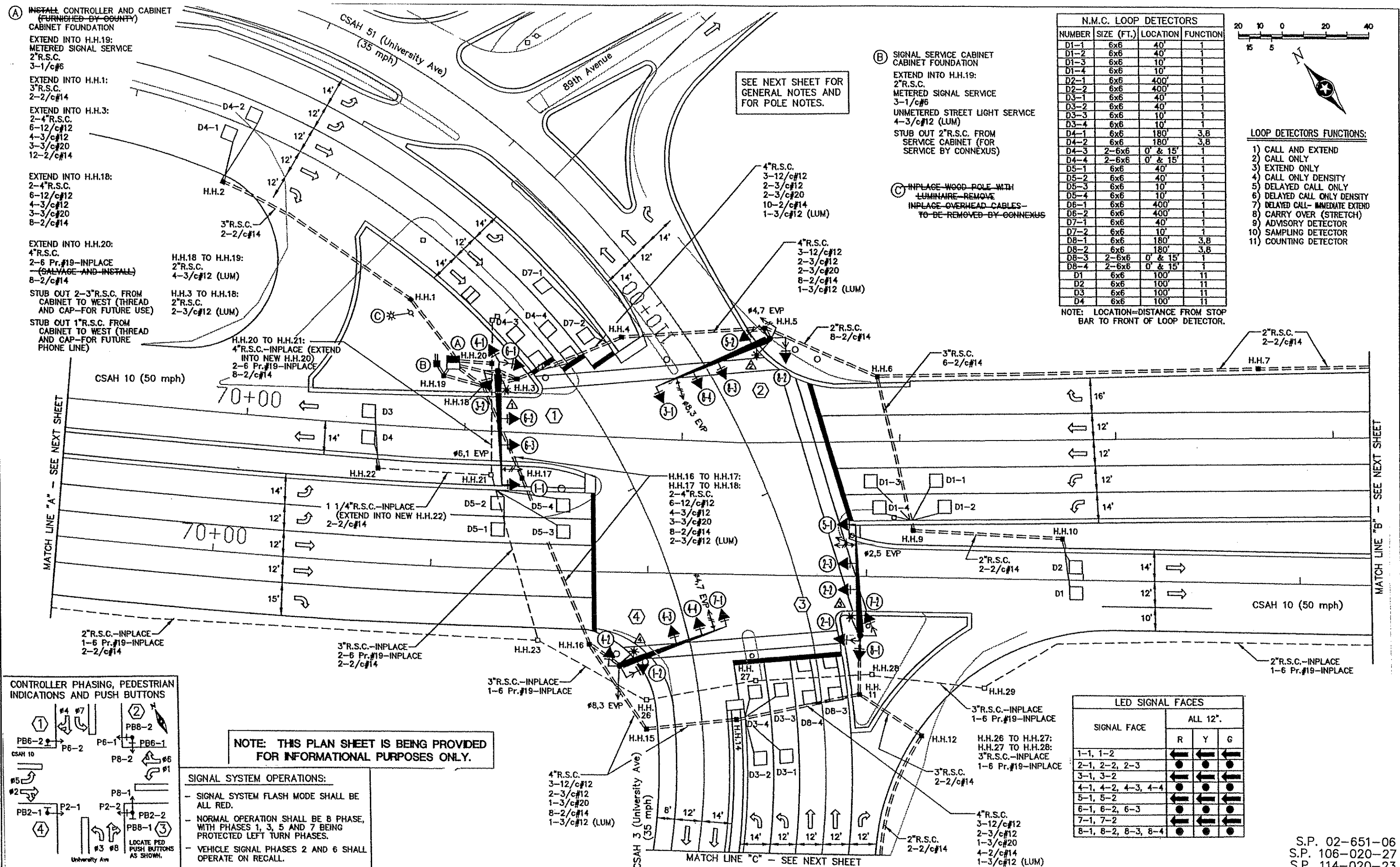
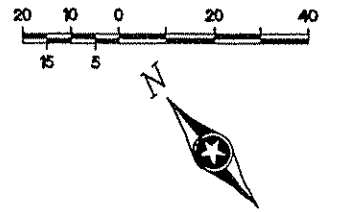
(B) SIGNAL SERVICE CABINET CABINET FOUNDATION
 EXTEND INTO H.H.19:
 2"R.S.C.
 METERED SIGNAL SERVICE
 3-1/c#5
 UNMETERED STREET LIGHT SERVICE
 4-3/c#12 (LUM)
 STUB OUT 2"R.S.C. FROM SERVICE CABINET (FOR SERVICE BY CONNEXUS)

(C) INPLACE WOOD POLE WITH LUMINAIRE-REMOVE INPLACE-OVERHEAD CABLES-TO-BE-REMOVED-BY-CONNEXUS

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	40'	1
D1-3	6x6	10'	1
D1-4	6x6	10'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D3-1	6x6	40'	1
D3-2	6x6	40'	1
D3-3	6x6	10'	1
D3-4	6x6	10'	1
D4-1	6x6	180'	3,8
D4-2	6x6	180'	3,8
D4-3	2-6x6	0' & 15'	1
D4-4	2-6x6	0' & 15'	1
D5-1	6x6	40'	1
D5-2	6x6	40'	1
D5-3	6x6	10'	1
D5-4	6x6	10'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D7-1	6x6	40'	1
D7-2	6x6	10'	1
D8-1	6x6	180'	3,8
D8-2	6x6	180'	3,8
D8-3	2-6x6	0' & 15'	1
D8-4	2-6x6	0' & 15'	1
D1	6x6	100'	11
D2	6x6	100'	11
D3	6x6	100'	11
D4	6x6	100'	11

- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL- IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) COUNTING DETECTOR

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



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

SIGNAL SYSTEM OPERATIONS:

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

LED SIGNAL FACES

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

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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 Date: February 13, 2008

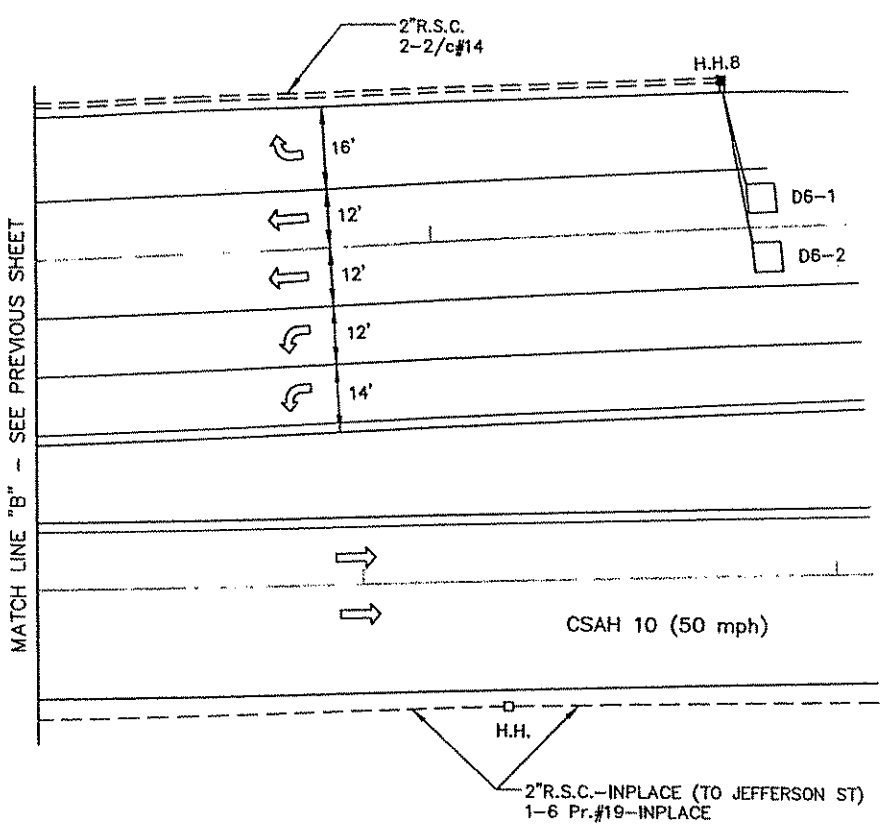
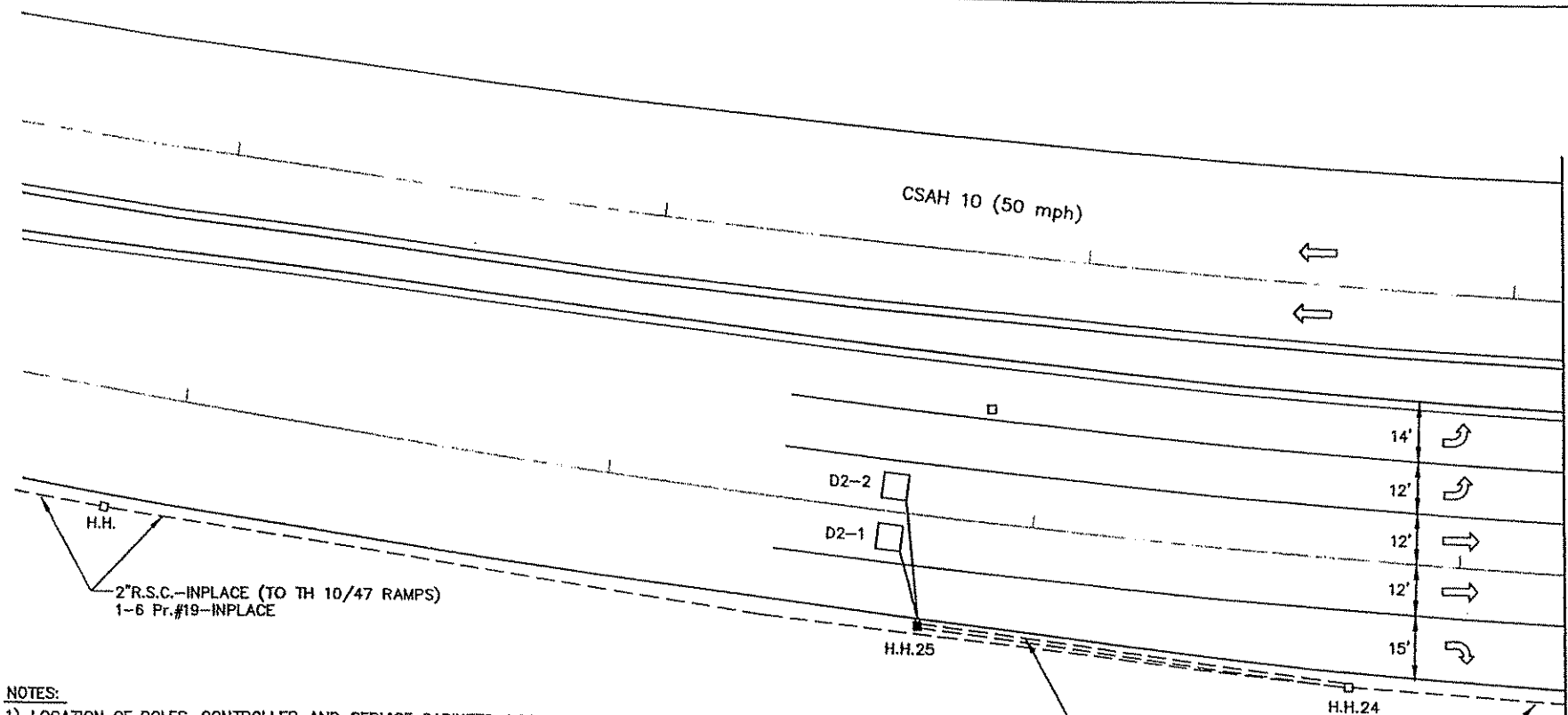
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA

**INPLACE SIGNAL SYSTEM
 'FOR INFORMATION ONLY'
 CSAH 51 AT CSAH 10**

FILE NO. AANOKC0702
 SIGNAL SHEET SG13 OF SG16
 119
 159

S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23



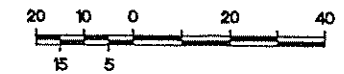
- NOTES:**
- 1) LOCATION OF POLES, CONTROLLER AND SERVICE CABINETS, LOOP DETECTORS & HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - 5) CONTRACTOR SHALL FURNISH & INSTALL NEW CONCRETE COVERS FOR INPLACE HANDHOLES 21, 23 AND 26.
 - 6) CONTRACTOR SHALL CUT HANDHOLE 27 DOWN BELOW ROADWAY, SHALL CONNECT INPLACE 3" R.S.C. WITHIN HANDHOLE (TO AID IN FUTURE CABLE PULLING THROUGH HANDHOLE), SHALL PULL ANY SLACK CABLE FROM HANDHOLE, SHALL PROVIDE METAL COVER OVER THE HANDHOLE, SHALL FILL HANDHOLE WITH SAND, AND SHALL PAVE OVER HANDHOLE, TO SATISFACTION OF ENGINEER.
 - 7) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
 - 9) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - 10) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNING TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
 - 11) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
 - 12) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM END OF EACH MAST ARM (FOR EVP).
 - 13) CONTRACTOR SHALL COORDINATE ALL SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION TO BE COMPLETED BY OTHERS AS PART OF ENTIRE PROJECT.
 - 14) CONTRACTOR SHALL MAINTAIN OPERATION OF SIGNAL SYSTEM AT ALL TIMES, UNTIL OTHERWISE APPROVED BY ENGINEER FOR SIGNAL SYSTEM TO BE TURNED OFF.
 - 15) CONTRACTOR SHALL REMOVE & SALVAGE ALL ITEMS OF INPLACE SIGNAL SYSTEM (EXCEPT FOR INTERCONNECT CABLES) (TO BE MEASURED AND PAID FOR SEPARATELY UNDER ITEM NO. 2104).
 - 16) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING & HOLDING EXISTING SIGNAL POLES & FOUNDATIONS INPLACE WHEN INSTALLING NEW CONCRETE FOUNDATIONS (INCIDENTAL TO ITEM NO. 2565).
 - 17) CONTRACTOR SHALL NOTE PRESENCE OF HIGH WATER TABLE THROUGH AREA, AND SHALL BE RESPONSIBLE FOR ALL WORK (INCLUDING DEWATERING) REQUIRED FOR FOUNDATION INSTALLATIONS.

① PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)
 TYPE 10A-POLE MOUNTED 90°
 TYPE 20B-POLE MOUNTED 180°
 1-PEDESTRIAN PUSH BUTTON
 R9-3a SIGN PANEL-FACING POLE 4
 TYPE D SIGN PANEL-OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND LIGHT (ø6,1)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 EXTEND INTO H.H.3:
 3"R.S.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

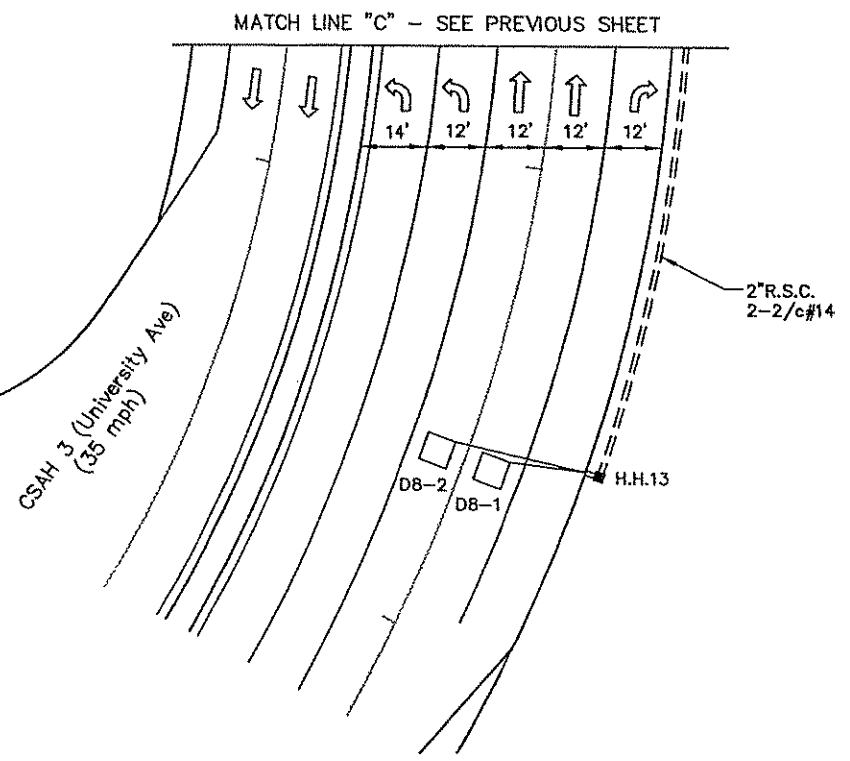
② PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9 (DAVT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)
 2-TYPE 10B-POLE MOUNTED 90° & 180°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANEL-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT (ø8,3)
 ONE WAY EVP DETECTOR-POLE MOUNTED 90° (ø4,7)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 EXTEND INTO H.H.5:
 3"R.S.C.
 3-12/c#12
 2-3/c#12
 2-3/c#20
 1-3/c#12 (LUM)

③ PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 17' AND 29' FROM END OF MAST ARM)
 TYPE 10B-POLE MOUNTED 90°
 TYPE 20B-POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS
 TYPE D SIGN PANELS-OVERHEAD (D-3)
 TWO WAY EVP DETECTOR AND ONE WAY LIGHT (ø2,5)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 EXTEND INTO H.H.11:
 3"R.S.C.
 3-12/c#12
 2-3/c#12
 1-3/c#20
 1-3/c#12 (LUM)

④ PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVT AT 350°)
 LUMINAIRE-250 W HPS
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' AND 23' FROM END OF MAST ARM)
 TYPE 10B-POLE MOUNTED 90°
 TYPE 10A-POLE MOUNTED 180°
 1-PEDESTRIAN PUSH BUTTON
 R9-3a SIGN PANEL-FACING POLE 1
 TYPE D SIGN PANEL-OVERHEAD (D-4)
 ONE WAY EVP DETECTOR AND LIGHT (ø4,7)
 ONE WAY EVP DETECTOR-POLE MOUNTED 90° (ø8,3)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0° & 180°
 EXTEND INTO H.H.16:
 3"R.S.C.
 3-12/c#12
 2-3/c#12
 2-3/c#20
 1-3/c#12 (LUM)



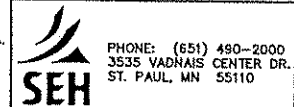
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DESIGNER:	JMG			
CHECKED BY:	JMG			
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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 Date: February 13, 2008 Name: John M. Gray, PE Lic. No. 22457



ANOKA COUNTY, MINNESOTA

INPLACE SIGNAL SYSTEM "FOR INFORMATION ONLY" CSAH 51 AT CSAH 10

FILE NO.	120
SIGNAL SHEET	159
SG14 OF SG16	

S:\AE\ANOKA\CAD\COMMON\SIGNALS\81-91ST\SIGBASE1.DWG

① PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350")
 ONE WAY SIGNAL OVERHEAD
 TYPE 10B AT 0"
 TYPE 10B AT 270"
 LUMINAIRE-200W HPS
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (4' FROM END OF MAST ARM)
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 3" RSC TO HH 14
 4-12/C#12
 2-3/C#12
 1-3/C#20

③ PA90 POLE FOUNDATION
 TYPE PA90-A-25-D40-9 (DAVIT AT 350")
 ONE WAY SIGNAL OVERHEAD
 TYPE 10B AT 0"
 TYPE 10B AT 270"
 LUMINAIRE-200W HPS
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (4' FROM END OF MAST ARM)
 1-PEDESTRIAN PUSH BUTTON AND SIGN
 3" RSC TO HH 6
 2-12/C#12
 2-3/C#12
 1-3/C#20

Ⓐ EQUIPMENT PAD (SEE SHEET NO. 273)
 SERVICE CABINET (SEE SHEET NO. 274)
 MASTER CONTROLLER, CONTROLLER AND CABINET
 4" RSC TO HH 1
 4-12/C#12
 3-3/C#12
 8-2/C#14
 2-3/C#20
 4" RSC TO HH 14
 4-12/C#12
 3-3/C#12
 6-2/C#14
 2-3/C#20
 1-6PR#19
 3" RSC (THREADED AND CAPPED BOTH ENDS)
 SERVICE CABINET TO CONTROLLER CABINET
 2" RSC
 2-1/C#6
 1-1/C#6 INS. GR.
 SERVICE CABINET TO HH 1
 2" RSC
 4-3/C#12
 SERVICE CABINET TO TRANSFORMER
 2" RSC
 3-1/C#2

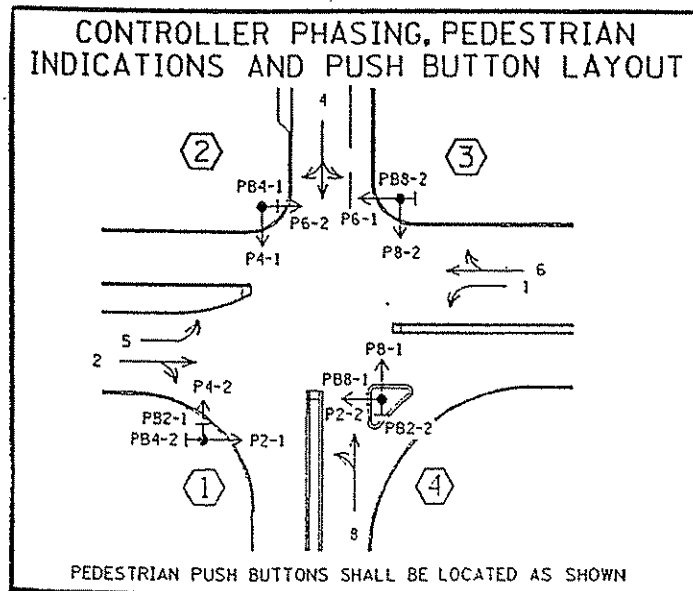
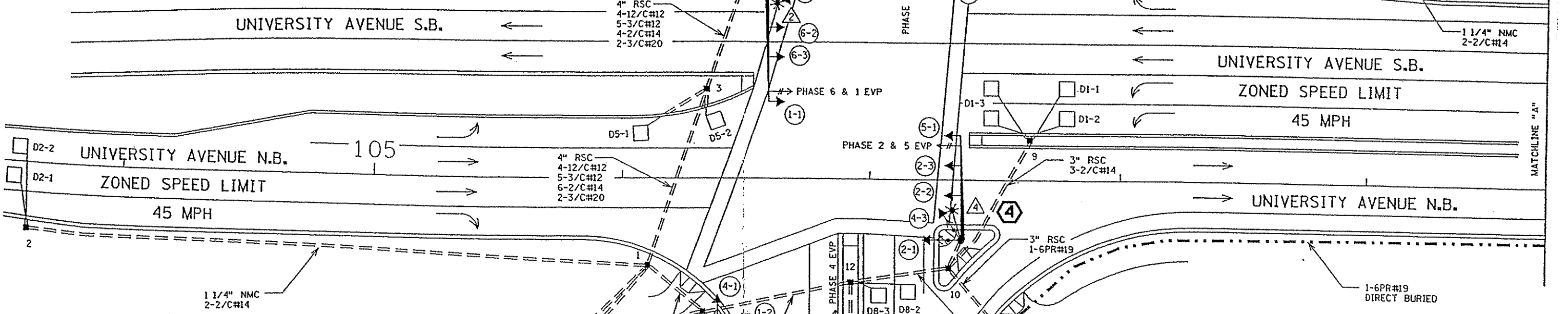
② PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350")
 3-ONE WAY SIGNALS OVERHEAD
 (0', 17' AND 29' FROM END OF MAST ARM)
 TYPE 10B AT 0"
 TYPE 10B AT 270"
 LUMINAIRE-200W HPS
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (4' FROM END OF MAST ARM)
 1-PEDESTRIAN PUSH BUTTON AND SIGN
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 3" RSC TO HH 4
 2-12/C#12
 3-3/C#12
 1-3/C#20

④ PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350")
 3-ONE WAY SIGNALS OVERHEAD
 (0', 11' AND 23' FROM END OF MAST ARM)
 TYPE 10B AT 0"
 TYPE 10B AT 270"
 LUMINAIRE-200W HPS
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (4' FROM END OF MAST ARM)
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 1-SIGN (R6-1L) ONE WAY
 1-SIGN (R6-1R) ONE WAY
 3" RSC TO HH 10
 2-12/C#12
 3-3/C#12
 1-3/C#20

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

NMC LOOP DETECTORS			
ALL LOOP DETECTORS SHALL BE 6' X 6' UNLESS OTHERWISE SPECIFIED			
DESIGNATION	NO. OF LOOP DETECTORS	FUNCTION	LOCATION
D1-1, D1-2	1	1	40
D1-3	2	1	10
D2-1, D2-2	1	1	300
D4-1	1-6X15	7	0
D4-2	1	1	20
D5-1	1	1	40
D5-2	1	1	10
D6-1, D6-2	1	1	300
D8-1	1	1	120
D8-2, D8-3	1	1	20

FUNCTION:
 1 CALL AND EXTEND
 7 DELAY CALL/IMMEDIATE EXTEND
 LOCATION:
 DISTANCE FROM CROSSWALK IN FEET



SIGNAL SYSTEM OPERATION

- FLASH MODE IS ALL RED
- NORMAL OPERATION IS FIVE PHASE
- PHASES ONE AND FIVE SHALL BE PROTECTED LEFT TURNS
- PHASE TWO SHALL BE ON VEHICLE RECALL
- PHASE SIX SHALL BE ON PEDESTRIAN RECALL

- NOTES:
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS, PEDESTRIAN INDICATIONS, RED LED VEHICLE INDICATIONS, PVC HANDHOLES WITH METAL FRAMES AND COVERS AND PAINTING OF SIGNAL SYSTEM.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD. ALL YELLOW AND GREEN VEHICLE SIGNAL INDICATIONS SHALL HAVE GLASS LENSES.
 - LOCATION OF POLES, NMC LOOP DETECTORS, HANDHOLES AND EQUIPMENT PAD SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE MOUNTED ON EACH MAST ARM AS SPECIFIED IN POLE NOTES.

SYSTEM ID: 22124 MASTER ID: 22125
 METER ADDRESS: UNIV. AVE. AT T.H. 10 S. RAMP

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

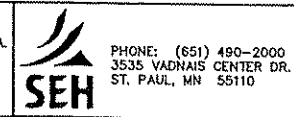
DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

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

Name: John M. Gray, PE
 Lic. No. 22457
 Date: February 13, 2008

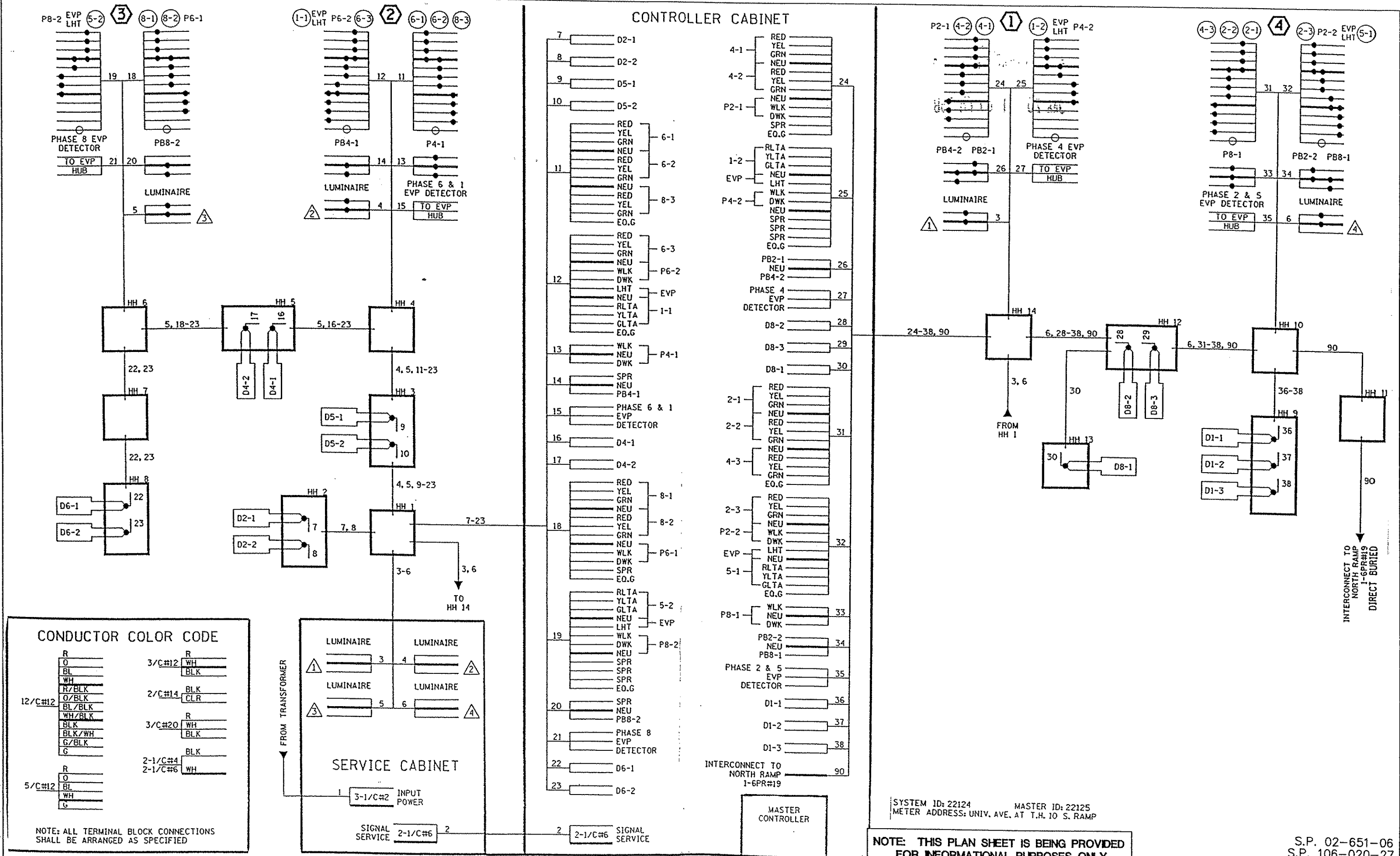


ANOKA COUNTY, MINNESOTA

INPLACE SIGNAL SYSTEM
 'FOR INFORMATION ONLY'
 CSAH 51 AT TH 10 SOUTH RAMPS

FILE NO. AANOKC0702 121
 SIGNAL SHEET 5615 OF 5616 159

S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23



SYSTEM ID: 22124 MASTER ID: 22125
 METER ADDRESS: UNIV. AVE. AT T.H. 10 S. RAMP

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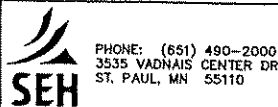
S.P. 02-651-06
 S.P. 106-020-27
 S.P. 114-020-23

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

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John M. Gray
 Name: John M. Gray, PE
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 Date: February 13, 2008



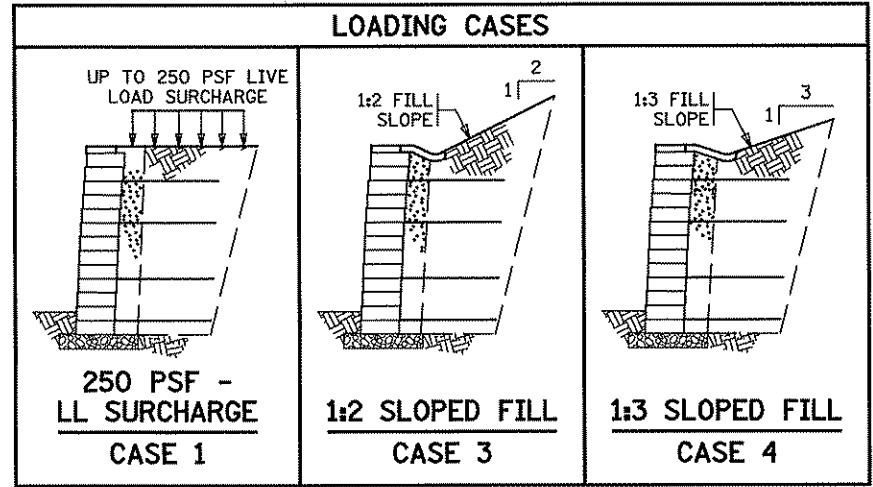
ANOKA COUNTY, MINNESOTA

INPLACE SIGNAL SYSTEM
 "FOR INFORMATION ONLY"
 CSAH 51 AT TH 10 SOUTH RAMPS

FILE NO. AANOKC0702	122
SIGNAL SHEET SG16 OF SG16	159

PLOTTED/REVISED: 04/22/2008

FILE NAME: p:\02-651-04\p10n\5-297.640_spn.dgn



CASE 2 IS OMITTED INTENTIONALLY FOR FUTURE RECONSIDERATION

NOTES TO CONTRACTOR:

- APPROVED COMBINATIONS OF MODULAR BLOCK UNIT AND SOIL REINFORCEMENT PRODUCTS LIST WITH MBW REINFORCEMENT CLASS NOTED ARE HELD AND MAINTAINED BY THE FOUNDATIONS UNIT, AND POSTED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp UNDER FOUNDATIONS UNIT. ONLY APPROVED PRODUCT COMBINATIONS, INCLUDING BLOCK PRODUCED FROM APPROVED SOURCES MEETING DURABILITY AND QUALITY CONTROL REQUIREMENTS, MAY BE USED IN STANDARD DESIGNS.
- PROVIDE DETAILED DRAWINGS FOR CONSTRUCTION CONTAINING:
- SUBMIT, WITH THE DETAILED DRAWINGS, A COPY OF Mn/DOT STANDARD SHEETS FOR LOADING CASE(S) USED WITH OPTIONS USED MARKED IN THE TABLE.
 - ELEVATION VIEW WITH REINFORCEMENT PLACEMENT REQUIREMENTS, WALL FACING LAYOUT, AND GEOMETRIC INFORMATION. TOP OF WALL MAY EXTEND UP TO 4" ABOVE PLAN TOP OF WALL ELEVATION.
 - PLAN VIEW WITH BOTTOM AND TOP OF WALL ALIGNMENT, AND PLAN LIMITS OF WALL ALIGNMENT.
 - CROSS SECTIONS DETAILING BATTER, REINFORCEMENT, VERTICAL SPACING, REINFORCEMENT LENGTHS, SUBSURFACE DRAINAGE, SURFACE DRAINAGE, AND WATER RUNOFF COLLECTION ABOVE WALL.
 - REINFORCEMENT LAYOUT: REINFORCEMENT SHALL BE PLACED AT 100% COVERAGE RATIO. REINFORCEMENT ELEVATIONS SHALL BE CONSISTENT ACROSS LENGTH OF WALL STRUCTURE.
 - NOTE BLOCK, REINFORCEMENT, AND FILL PLACEMENT METHODS AND REQUIREMENTS.
 - DETAIL ALL WALL FILL PENETRATIONS AND WALL FACE PENETRATIONS. DETAIL REINFORCEMENT AND/OR WALL FACING UNIT PLACEMENT AROUND PENETRATIONS.
 - DETAILS THAT ARE SPECIFIC TO VENDOR PRODUCTS AND THEIR INTERACTION WITH OTHER PROJECT COMPONENTS.
 - LIST INFORMATION ON APPROVED COMBINATION OF MBW UNIT AND GEOSYNTHETIC REINFORCEMENT, INCLUDING Mn/DOT CLASSIFICATION CODE, NOMINAL BLOCK WIDTH, PROPERTIES FOR FIELD IDENTIFICATION, AND INSTALLATION INSTRUCTIONS.
 - DETAILS OF CAP UNITS AND INSTALLATION/FASTENING INSTRUCTIONS FOR THE CAPS. CAP UNITS SHALL BE SET IN A BED OF ADHESIVE DESIGNED TO WITHSTAND MOISTURE AND TEMPERATURE EXTREMES, REMAIN FLEXIBLE, AND SHALL BE SPECIFICALLY FORMULATED FOR BONDING MASONRY TO MASONRY.
 - CERTIFICATION BY PROFESSIONAL ENGINEER THAT THE CONSTRUCTION LAYOUT MEETS THE REQUIREMENTS OF PLANS AND Mn/DOT MSEW STANDARDS. DEVIATION FROM STANDARD DESIGN TABLES ARE PERMITTED BY VALUE ENGINEERING SUBMITTAL ONLY ON PROJECTS WITH OVER 5000 SQ. FT. OF WALL.

DEFINITION OF TERMS	
MBW	MODULAR BLOCK WALL
LL	LIVE LOAD
C.I.P.	CAST-IN-PLACE
H	WALL HEIGHT
S	VERTICAL REINFORCEMENT SPACING
REINFORCEMENT COVERAGE RATIO	WIDTH OF SOIL REINFORCEMENTS TO HORIZONTAL SPACING (100% COVERAGE RATIO REQUIRED)

DESIGN CRITERIA

DESIGN CRITERIA FOLLOWS THE AASHTO SPECIFICATION FOR HIGHWAY BRIDGES (16TH EDITION WITH 1998 INTERIMS) EXCEPT FOR THE DEVIATIONS NOTED BELOW. DESIGN CRITERIA ARE IN ACCORDANCE WITH Mn/DOT POLICY, AS RECORDED IN THE Mn/DOT ROAD DESIGN MANUAL.

- A. THE MINIMUM REINFORCEMENT LENGTH IS 4 FT. OR 0.7H, WHICHEVER IS GREATER.
- B. THE REINFORCEMENT FILL FRICTION ANGLE IS 35°.
- C. THE ALLOWABLE CONNECTION LOAD, AT A GIVEN NORMAL LOAD, IS COMPUTED AS THE ULTIMATE CONNECTION STRENGTH REDUCED BY A SAFETY FACTOR EQUAL TO 2.0.
- D. THE LATERAL EARTH PRESSURE COMPUTATION FOR EXTERNAL STABILITY CALCULATIONS USES AN INTERFACE ANGLE SET EQUAL TO THE RETAINED BACKFILL ANGLE.
- E. THE LATERAL EARTH PRESSURE COMPUTATION FOR INTERNAL STABILITY CALCULATIONS INCORPORATES THE EFFECTS OF WALL FACE BATTER.

MINIMUM FACTORS OF SAFETY:
 OVERTURNING: 2.0
 SLIDING: 1.5
 ECCENTRICITY: $e < L/6$
 BEARING CAPACITY: 2.5
 DEEP SEATED STABILITY: 1.3

BEARING:

- A. SEE FOUNDATION REPORT FOR ALLOWABLE SOIL BEARING PRESSURE.
- B. CASES 1 AND 4 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2000 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: $2000 \text{ PSF} + (H-10)(625 \text{ PSF})$ WITH H IN FEET.
- C. CASE 3 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2500 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: $2500 \text{ PSF} + (H-10)(850 \text{ PSF})$ WITH H IN FEET.

REINFORCED WALL FILL CHARACTERISTICS:

- A. SELECT GRANULAR BORROW MODIFIED FOLLOWING SPEC. 3149.2B2. MODIFICATION: SELECT GRANULAR BORROW MODIFIED, FOR SPECIAL USE IN EMBANKMENT OR BACKFILL CONSTRUCTION OR OTHER SPECIFIED PURPOSES, MAY BE ANY PIT-RUN OR CRUSHER-RUN MATERIAL THAT IS GRADED FROM COARSE TO FINE, SUCH THAT 100% OF THE MATERIAL MUST PASS THE 2" SIEVE, AND THAT THE RATIO OF THE PORTION PASSING THE #200 SIEVE DIVIDED BY THE PORTION PASSING THE 1" SIEVE MAY NOT EXCEED 10% BY MASS (THAT IS: #200/1" RATIO)
- B. INTERNAL ANGLE OF FRICTION (ϕ_p) = 35°
- C. COHESION (C) = 0
- D. MOIST UNIT WEIGHT (γ_p) = 125 PSF

COARSE FILTER AGGREGATE CHARACTERISTICS:

- A. COARSE FILTER AGGREGATE TO MEET SPEC. 3149.2H, INCIDENTAL, NO DIRECT PAYMENT WILL BE MADE.

RETAINED BACKFILL CHARACTERISTICS:

- A. INTERNAL ANGLE OF FRICTION (ϕ_b) = 30°
- B. COHESION (C) = 0
- C. MOIST UNIT WEIGHT (γ_b) = 120 PSF

FOUNDATION SOILS CHARACTERISTICS:

- A. INTERNAL ANGLE OF FRICTION (ϕ_f) = 30°
- B. COHESION (C) = 0
- C. UNIT WEIGHT (γ_f) = 120 PSF

SUMMARY OF ESTIMATED QUANTITIES FOR MBW WALLS		
	UNIT	QUANTITY
STRUCTURE EXCAVATION CLASS ---	CU. YD.	-----
STRUCTURE EXCAVATION CLASS ---	CU. YD.	-----
REINFORCED WALL FILL (CV)	CU. YD.	-----
STRUCTURAL CONCRETE (1A43)	CU. YD.	-----
MBW WALL	SQ. FT.	-----
TYPE I GEOTEXTILE	SQ. YD.	-----

- ① VERTICAL FACE AREA OF MODULAR BLOCK AS MEASURED FROM PLAN TOP OF WALL TO 2 FT. BELOW FINISHED GRADE AT BOTTOM OF WALL.
- ② PAY ITEM FOR MBW WALLS SHALL BE 2411.

NOTES TO DESIGNER:

HEIGHT AND LOCATION RESTRICTIONS FOR ISSUES SUCH AS FREEZE-THAW DURABILITY ARE GOVERNED BY APPROPRIATE TECHNICAL MEMORANDUMS. CURRENT GOVERNING TECH. MEMO. NO.: 01-05-MRR-01 MAY BE FOUND AT www.dot.state.mn.us/tecsup/fmemo/index.html.

IN ADDITION TO THE STANDARD SHEETS, PLAN AND FRONT ELEVATION VIEWS OF THE MODULAR BLOCK RETAINING WALLS SHALL BE INCLUDED IN THE PLANS. THE PLAN VIEW MUST SHOW ALIGNMENT BASELINE, LIMITS OF BOTTOM OF WALL ALIGNMENT, AND LIMITS OF TOP OF WALL ALIGNMENT AS ALIGNMENTS VARY WITH BATTER OF WALL SYSTEM ACTUALLY SUPPLIED. THE FRONT ELEVATION MUST IDENTIFY BOTTOM AND TOP OF WALL ELEVATIONS, EXISTING GRADES, AND FINISHED GRADES.

IF THE WALL IS CURVED, THE RADIUS AT THE BOTTOM AND THE TOP OF EACH WALL SEGMENT AND THE P.C. AND P.T. STATION POINTS OFF OF BASELINE AND LIMITS OF BOTTOM AND TOP OF WALL ALIGNMENT MUST BE SHOWN.

REFERENCE STANDARD PLATES AND PROVIDE DETAILS FOR TRAFFIC BARRIERS, CURB AND GUTTER, HANDRAILS AND FENCING AS REQUIRED BY PROJECT CONDITIONS. SEE AASHTO AND Mn/DOT DESIGN MANUALS, STANDARD PLATES AND DETAILS FOR REQUIREMENTS.

SURFACE DRAINAGE PATTERNS SHALL BE SHOWN IN THE PLAN VIEW. PROVIDE DIMENSIONS FOR WIDTH AND DEPTH OF THE DRAINAGE SWALE AS WELL AS THE TYPE OF IMPERVIOUS LINER MATERIAL. SURFACE WATER RUNOFF SHOULD BE COLLECTED ABOVE AND DIVERTED AROUND WALL FACE.

DETAIL LINES AND GRADES OF THE INTERNAL DRAINAGE COLLECTION PIPE. DETAIL OR NOTE THE DESTINATION OF INTERNAL WALL DRAINS AS WELL AS THE METHOD OF TERMINATION (DAYLIGHT END OF PIPE OR CONNECTION INTO HYDRAULIC STRUCTURE). THE SPACING FOR DRAIN PIPE OUTLET SHALL NOT BE MORE THAN 250 FT.

SOFT SOILS AND/OR HIGH WATER CONDITIONS (DEFINED AS GROUNDWATER WITHIN A DEPTH EQUAL TO THE WALL HEIGHT H) MAY NOT BE SUITABLE FOR APPLICATION OF STANDARD DESIGNS AND REQUIRE SPECIAL CONSIDERATION BY THE FOUNDATIONS UNIT.

STANDARD DESIGN CHARTS ARE NOT APPLICABLE TO:

- PROJECT/SITES WHERE FOUNDATION SOILS SHEAR STRENGTH AND/OR BEARING CAPACITY DO NOT MEET OR EXCEED VALUES USED IN THE DEVELOPMENT OF STANDARD DESIGN CHARTS.
- PROJECTS WITH A LARGE QUANTITY OF FACE AREA WHERE PROJECT SPECIFIC DESIGNS ARE RECOMMENDED, AS DEFINED IN Mn/DOT ROAD DESIGN MANUAL.
- WHERE SLOPES IN FRONT OF WALL ARE STEEPER THAN 1:3.
- WHERE MAXIMUM WALL HEIGHT EXCEEDS 12 FT.
- WHERE WALLS ARE TIERED.
- WALLS WITH NOISE WALLS.

IF USING CONCRETE RAILING, INCLUDE STANDARD BRIDGE DETAIL "CONCRETE RAILING (TYPE F)" IN PLAN SET.

PROVIDE PROJECT SPECIFIC AESTHETIC REQUIREMENTS INCLUDING COLOR AND FASCIA SURFACING IN THE SPECIAL PROVISIONS.

CHAPTER 9 OF THE Mn/DOT "ROAD DESIGN MANUAL" CONTAINS GUIDELINES, TRAFFIC SAFETY AND OTHER ASPECTS.

GENERAL NOTES:

- UTILITIES:**
 EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.
- EXCAVATION AND EARTHWORK:**
 ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO Mn/DOT 2451.
- CAST-IN-PLACE CONCRETE:**
 ALL CONCRETE SHALL CONFORM TO Mn/DOT 2461, EXCEPT AS NOTED.
- CONSTRUCTION:**
 CONSTRUCTION SHALL BE IN ACCORDANCE WITH Mn/DOT 2411, EXCEPT AS NOTED.
- GEOMETRICS AND GRADES:**
 DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.
- THE FILL SLOPE CONVENTION OF 1 VERTICAL TO HORIZONTAL IS USED IN THIS PLAN.
- COMPACTION REQUIREMENTS:**
 COMPACT REINFORCED WALL FILL IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.
- COMPACT GRANULAR BEDDING IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.

REVISED: 11-12-02
 APPROVED: JULY 12, 2002

 STATE BRIDGE ENGINEER

REVISION DATE
11-12-02

STANDARD SHEET NO. 5-297.640	TITLE: MODULAR BLOCK RETAINING WALL GENERAL NOTES AND SUMMARY OF QUANTITIES
STANDARD APPROVED: JULY 12, 2002	
STATE PROJ. NO. 02-651-06	SHEET NO. 123 OF 159 SHEETS

PLOTTED/REVISED: 04/22/2008

MODULAR BLOCK WALL REINFORCEMENT LAYOUT

CASE 1 - LEVEL BACKFILL WITH 250 PSF SURCHARGE

MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF)		① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT, A (IN.)	ZONE 1		ZONE 2		ZONE 3		
	LG. TERM (T _d)	DESIGN (T _d)				<	H1 (FT.)		S1 _{MAX} (IN.)	H2 (FT.)	S2 _{MAX} (IN.)	H3 (FT.)	S3 _{MAX} (IN.)	H3 (FT.)	S3 _{MAX} (IN.)
MBW-700	1050	700	0.7 H	12.0	12	0	3	15	7.9	24	4.1	16			
						3	7	16	9.8	24	2.2	16			
						7	10	18	11.5	24	0.5	16			
						10	15	18	12.0	24					
						21	0	3	32	4.9	32	3.0	24	4.1	16
							3	7	32	4.9	32	4.9	24	2.2	16
							7	10	32	5.9	32	6.1	24		
							10	15	32	7.2	32	4.8	24		
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	15	12.0	24					
						3	7	16	12.0	24					
						7	10	18	12.0	24					
						10	15	18	12.0	24					
						21	0	3	36	5.9	42	4.9	32	1.2	24
							3	7	40	8.5	42	3.5	32		
							7	10	42	9.8	42	2.2	32		
							10	15	42	9.8	42	2.2	32		
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	15	12.0	24					
						3	7	16	12.0	24					
						7	10	18	12.0	24					
						10	15	18	12.0	24					
						21	0	3	36	6.6	48	3.3	42	2.1	32
							3	7	40	8.2	48	3.8	42		
							7	10	48	9.8	48	2.2	42		
							10	15	48	9.8	48	2.2	42		

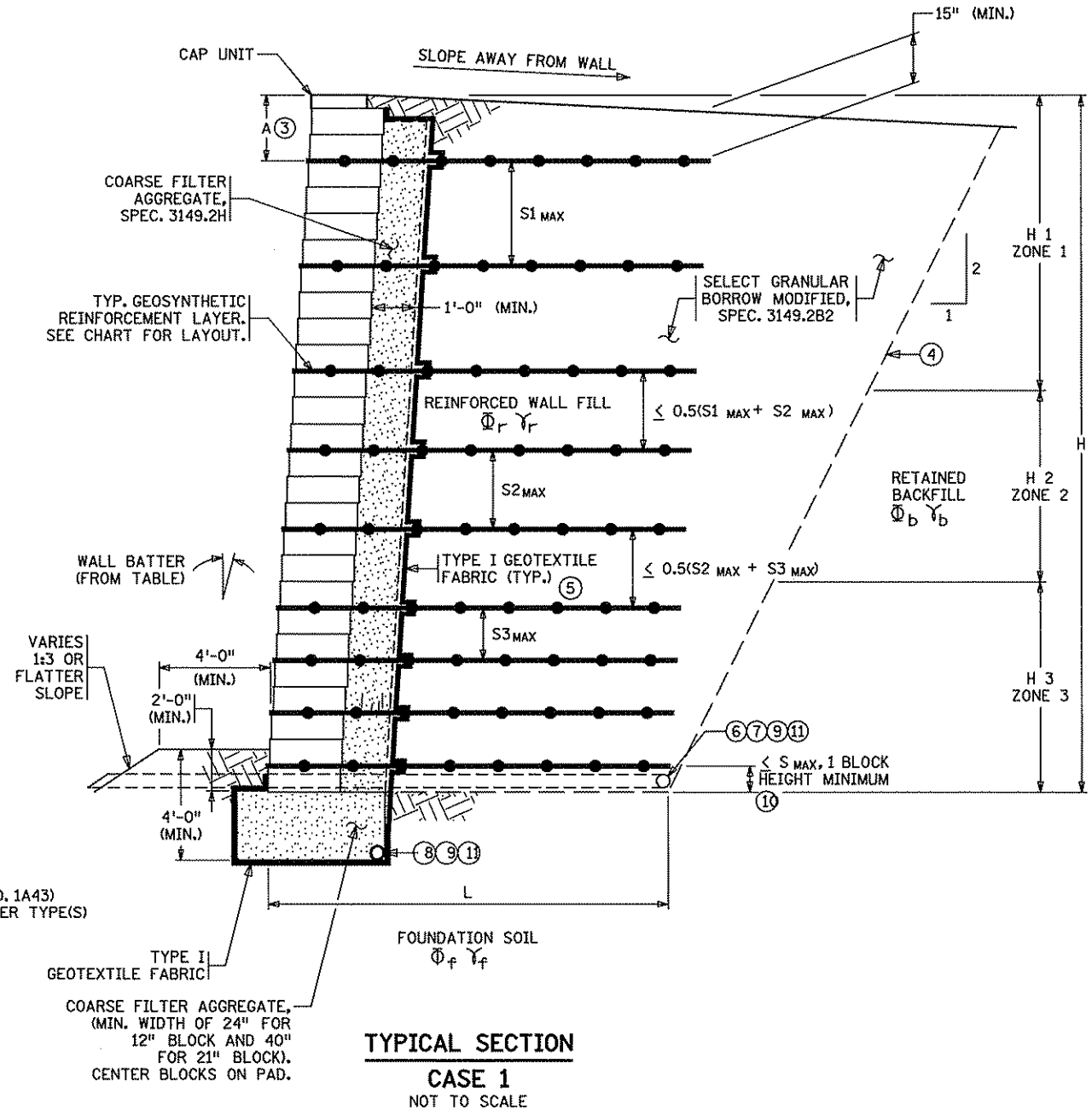
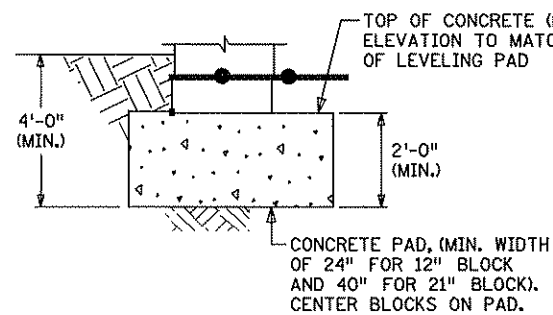
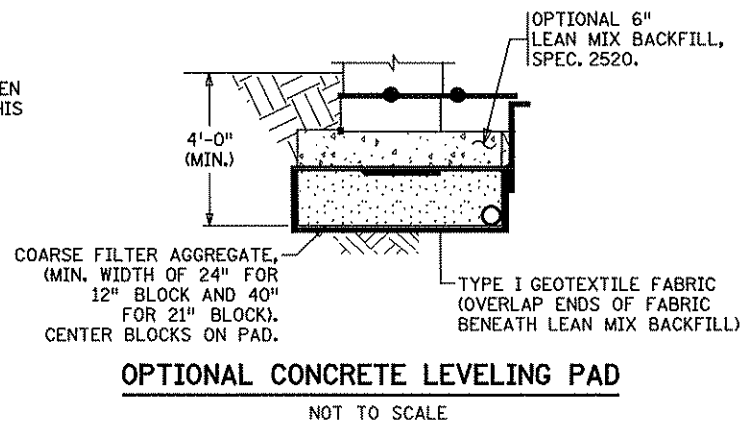
INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT www.mnr.dot.state.mn.us/geotechnical/foundations/foundations.asp.

NOTES TO CONTRACTOR:

- ① OR 4 FT. MINIMUM, WHICHEVER IS GREATER.
- ② WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.
- ③ MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.
- ④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.
- ⑤ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".
- ⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.
- ⑦ PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.
- ⑧ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.
- ⑨ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.
- ⑩ $S_{MAX} = 0.5 S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
 $S_{MAX} = 0.5 S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
 $S_{MAX} = 0.5 S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.
- ⑪ THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



FILE NAME: D:\02-651-04\plan\5-297.641_spn.dgn

REVISED: 11-12-02
 APPROVED: JULY 12, 2002
 STATE BRIDGE ENGINEER

REVISION DATE
 11-12-02

STANDARD SHEET NO. 5-297.641	TITLE: MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR LEVEL FILL, CASE 1
STANDARD APPROVED: JULY 12, 2002	
STATE PROJ. NO. 02-651-06	SHEET NO. 124 OF 159 SHEETS

PLOTTED/REVISED: 04/22/2008

MODULAR BLOCK WALL REINFORCEMENT LAYOUT														
CASE 3 - 1:2 FILL SLOPE														
MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF)		① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT, A (IN.)	ZONE 1		ZONE 2		ZONE 3	
	L.G. TERM (Td)	DESIGN (Td)				≥	<		H1 (FT.)	S1 MAX (IN.)	H2 (FT.)	S2 MAX (IN.)	H3 (FT.)	S3 MAX (IN.)
MBW-700	1050	700	0.7 H	12.0	12	0	3	24	4.9	24	5.6	16	1.5	8
						3	7	24	5.9	24	6.1	16		
						7	10	24	9.2	24	2.8	16		
						10	15	24	9.8	24	2.2	16		
						0	3	24	4.9	24	5.6	16	1.5	8
						3	7	24	5.9	24	6.1	16		
						7	10	32	4.6	32	5.2	24	2.2	16
						10	15	32	7.2	32	4.3	24	0.5	16
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	24	10.8	24	1.2	18		
						3	7	24	12.0	24				
						7	10	24	12.0	24				
						10	15	24	12.0	24				
						0	3	32	6.9	32	3.9	24	1.2	18
						3	7	36	5.6	42	3.3	32	3.1	24
						7	10	42	6.6	42	3.9	32	1.5	24
						10	15	42	8.5	42	3.0	32	0.5	24
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	24	12.0	24				
						3	7	24	12.0	24				
						7	10	24	12.0	24				
						10	15	24	12.0	24				
						0	3	42	8.9	42	3.1	32		
						3	7	42	10.8	42	1.2	32		
						7	10	42	12.0	42				
						10	15	42	11.5	42	0.5	32		

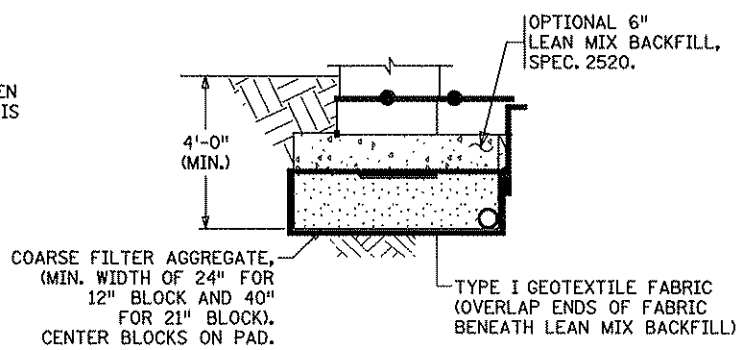
INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT www.mnr.dot.state.mn.us/geotechnical/foundations/foundations.asp.

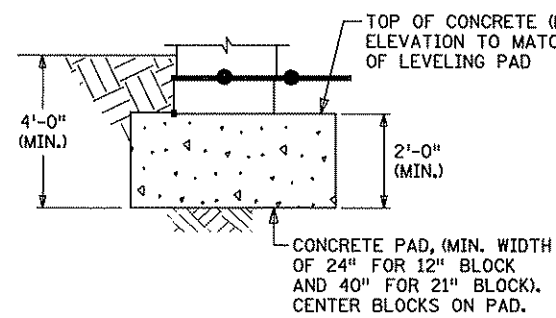
NOTES TO CONTRACTOR:

- ① OR 4 FT. MINIMUM, WHICHEVER IS GREATER.
- ② WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.
- ③ MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.
- ④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.
- ⑤ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".
- ⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.
- ⑦ PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.
- ⑧ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.
- ⑨ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.
- ⑩ $S_{MAX} = 0.5 S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
 $S_{MAX} = 0.5 S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
 $S_{MAX} = 0.5 S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.
- ⑪ THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



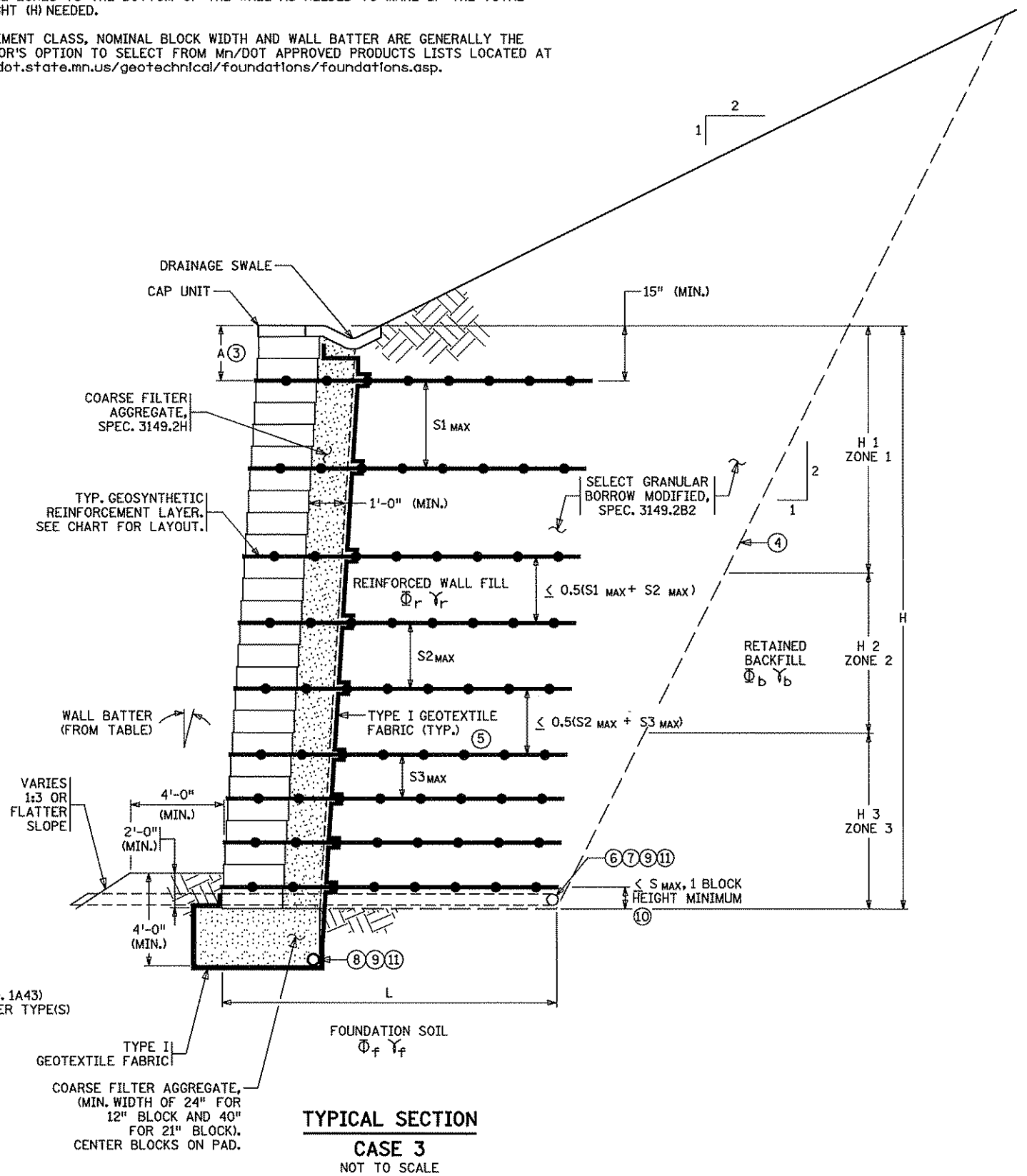
OPTIONAL CONCRETE LEVELING PAD

NOT TO SCALE



CONCRETE PAD WITHOUT DRAIN

NOT TO SCALE



TYPICAL SECTION

CASE 3
NOT TO SCALE

FILE NAME: D:\02-651-04\plan\5-297.643.spr.dgn

REVISED: 11-12-02
 APPROVED: JULY 12, 2002
 Daniel A. Johnson
 STATE BRIDGE ENGINEER

STANDARD SHEET NO. 5-297.643	TITLE: MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR 1:2 FILL SLOPE, CASE 3
STANDARD APPROVED: JULY 12, 2002	
REVISION DATE 11-12-02	STATE PROJ. NO. 02-651-06
	SHEET NO. 125 OF 159 SHEETS

PLOTTED/REVISED: 04/22/2008

FILE NAME: p:\02-651-04\plan\5-297.644.spr.dgn

MODULAR BLOCK WALL REINFORCEMENT LAYOUT

CASE 4 - 1:3 FILL SLOPE

MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF)		① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT, A (IN.)	ZONE 1		ZONE 2		ZONE 3	
	LG. TERM (Td)	DESIGN (Td)				≥	<		H1 (FT.)	S1 MAX (IN.)	H2 (FT.)	S2 MAX (IN.)	H3 (FT.)	S3 MAX (IN.)
MBW-700	1050	700	0.7 H	12.0	12	0	3	24	8.5	24	3.5	16		
						3	7	24	9.2	24	2.8	16		
						7	10	24	11.2	24	0.8	16		
						10	15	24	12.0	24				
						0	3	32	4.6	32	3.9	24	3.5	16
						3	7	32	5.2	32	3.9	24	2.9	16
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	24	12.0	24				
						3	7	24	12.0	24				
						7	10	24	12.0	24				
						10	15	24	12.0	24				
						0	3	42	5.6	42	3.3	32	3.1	24
						3	7	42	8.2	42	2.6	32	1.2	24
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	24	12.0	24				
						3	7	24	12.0	24				
						7	10	24	12.0	24				
						10	15	24	12.0	24				
						0	3	42	8.9	42	3.1	32		
						3	7	42	10.8	42	1.2	32		

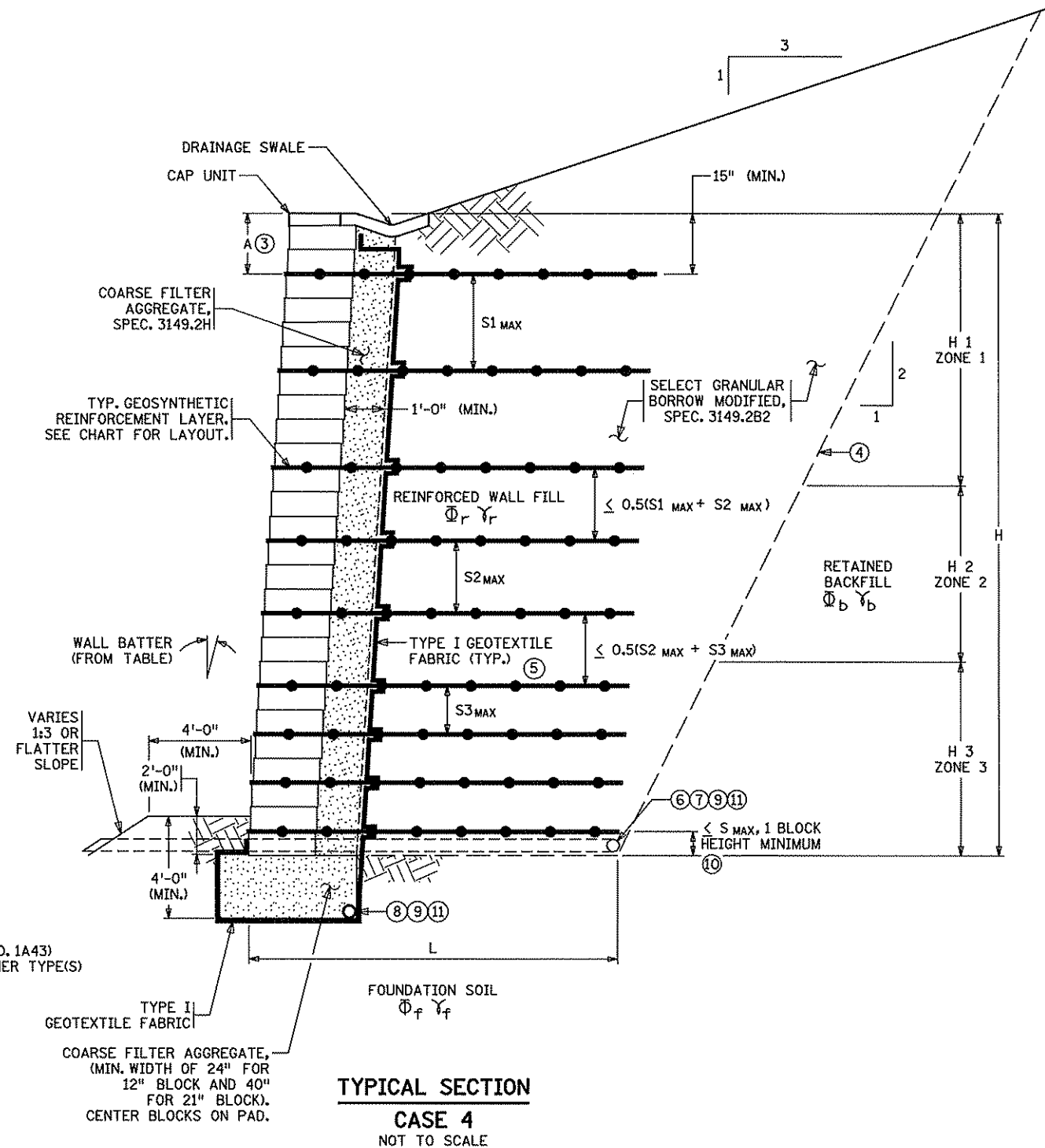
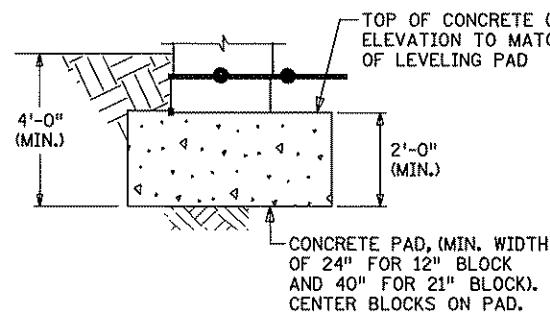
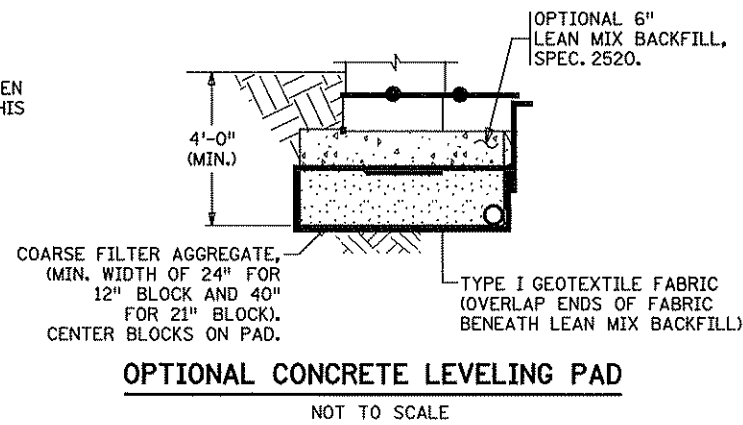
INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp.

NOTES TO CONTRACTOR:

- ① OR 4 FT. MINIMUM, WHICHEVER IS GREATER.
- ② WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.
- ③ MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.
- ④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.
- ⑤ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".
- ⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.
- ⑦ PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.
- ⑧ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.
- ⑨ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.
- ⑩ $S_{MAX} = 0.5 S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
 $S_{MAX} = 0.5 S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
 $S_{MAX} = 0.5 S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.
- ⑪ THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



REVISED: 11-12-02
 APPROVED: JULY 12, 2002

David A. Berggren
 STATE BRIDGE ENGINEER

REVISION DATE
 11-12-02

STANDARD SHEET NO.
 5-297.644
 STANDARD APPROVED:
 JULY 12, 2002

TITLE:
 MODULAR BLOCK RETAINING WALL
 SOIL REINFORCEMENT FOR 1:3 FILL SLOPE, CASE 4

STATE PROJ. NO. 02-651-06

SHEET NO. 126 OF 159 SHEETS

FILE NAME: D:\02-651-04\plan\5-297.645.spr.dgn

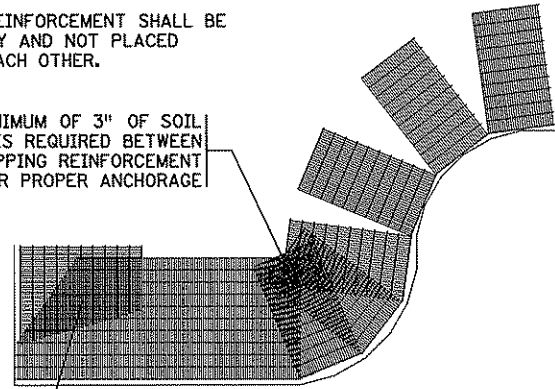
NOTES:

CORRECT ORIENTATION OF GEOSYNTHETIC TO OBTAIN PROPER STRENGTH SHALL BE DETAILED ON CONTRACTOR DRAWINGS.

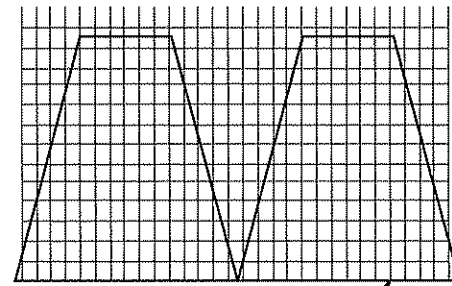
ADJACENT WIDTHS OF REINFORCEMENT SHALL BE EXTENDED AS NECESSARY AND NOT PLACED DIRECTLY ON TOP OF EACH OTHER.

MINIMUM OF 3" OF SOIL FILL IS REQUIRED BETWEEN OVERLAPPING REINFORCEMENT FOR PROPER ANCHORAGE

STAGGER REINFORCEMENT BY ONE BLOCK HEIGHT. REINFORCEMENTS SHALL NOT BE PLACED DIRECTLY ON TOP OF EACH OTHER.

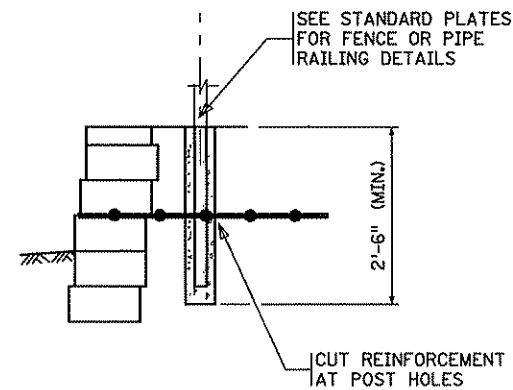


REINFORCEMENT PLACEMENT AROUND CURVES AND CORNERS



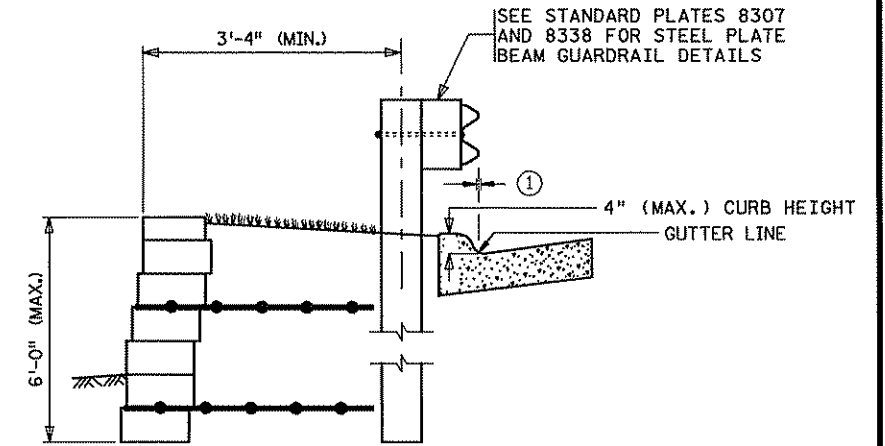
REINFORCEMENT IS TO BE PLACED ON LEVEL BACKFILL AND EXTENDED TO FRONT FACE OF OVERLYING BLOCKS. PLACE NEXT UNIT, PULL REINFORCEMENT TAUT AND BACKFILL AS REQUIRED.

REINFORCEMENT PLACEMENT BETWEEN BLOCK UNITS

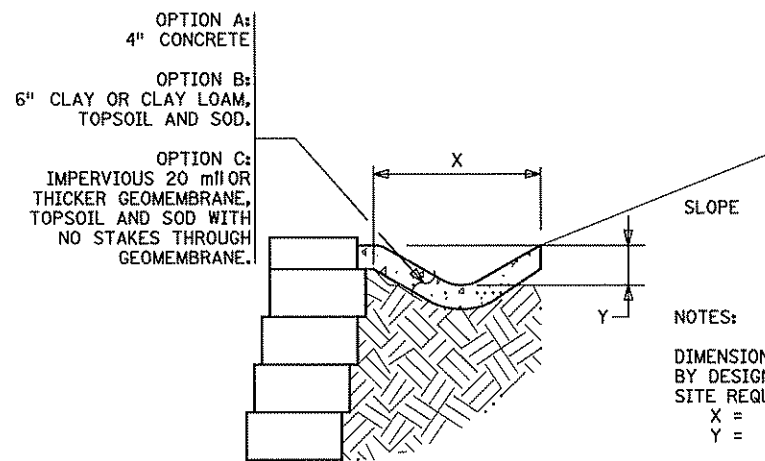


POST DETAIL

TYPICAL HANDRAIL AND/OR FENCE POST



STEEL PLATE BEAM GUARDRAIL DETAIL 1



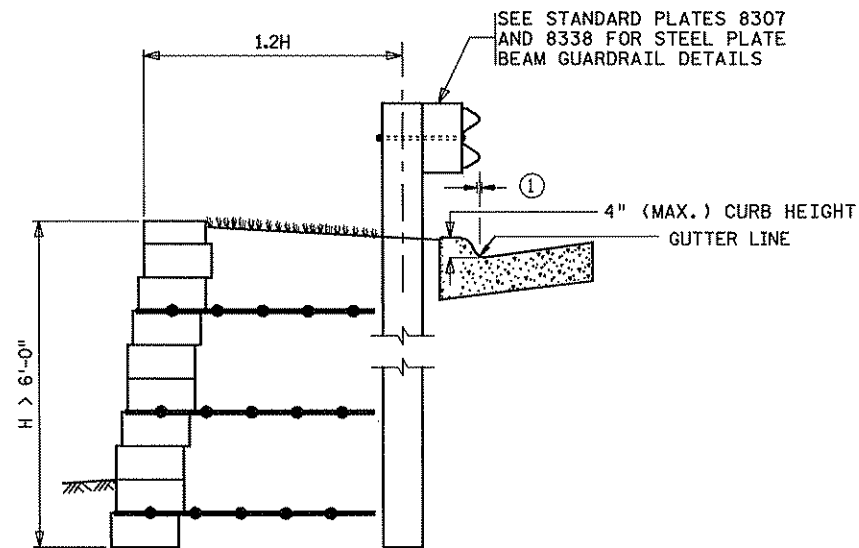
TYPICAL DRAIN SWALE DETAIL

NOTES:

DIMENSIONS TO BE DETERMINED BY DESIGN ENGINEER BASED ON SITE REQUIREMENTS.

X =
Y =

SEE PLAN VIEW FOR SURFACE DRAINAGE PATTERNS.

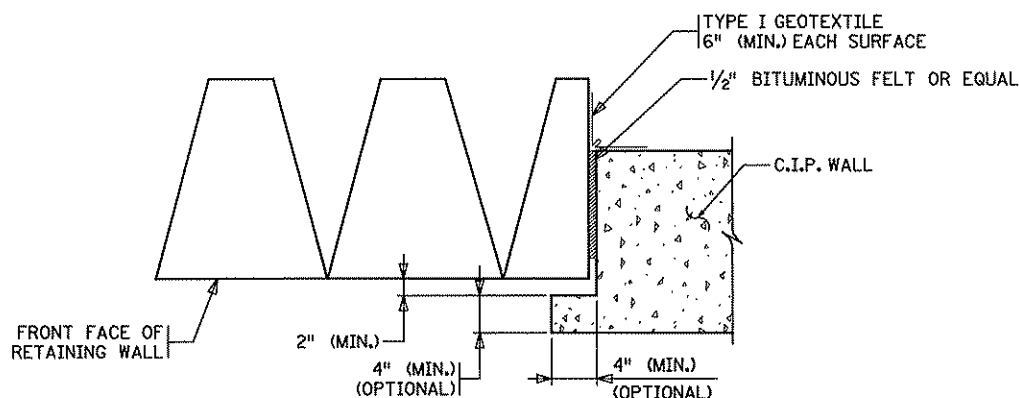


STEEL PLATE BEAM GUARDRAIL DETAIL 2

(AADT SHALL BE LESS THAN 5000)
STEEL PLATE BEAM GUARDRAIL SHOWN.

NOTES:

① USE CAUTION WHEN PLACING CURB WITH GUARDRAIL. CURBS ADVERSELY AFFECT THE PERFORMANCE OF THE GUARDRAIL. GENERALLY PLACE CURB DIRECTLY BELOW GUARDRAIL. SEE PLANS OR REFER TO STANDARD PLAN 5-297.601 (2). FOR CURB LOCATIONS ON NCHRP REPORT NO. 350 APPROVED BRIDGE TRANSITIONS, SEE STANDARD PLANS 5-297.603, .605, .606 ETC..



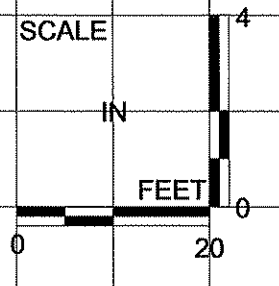
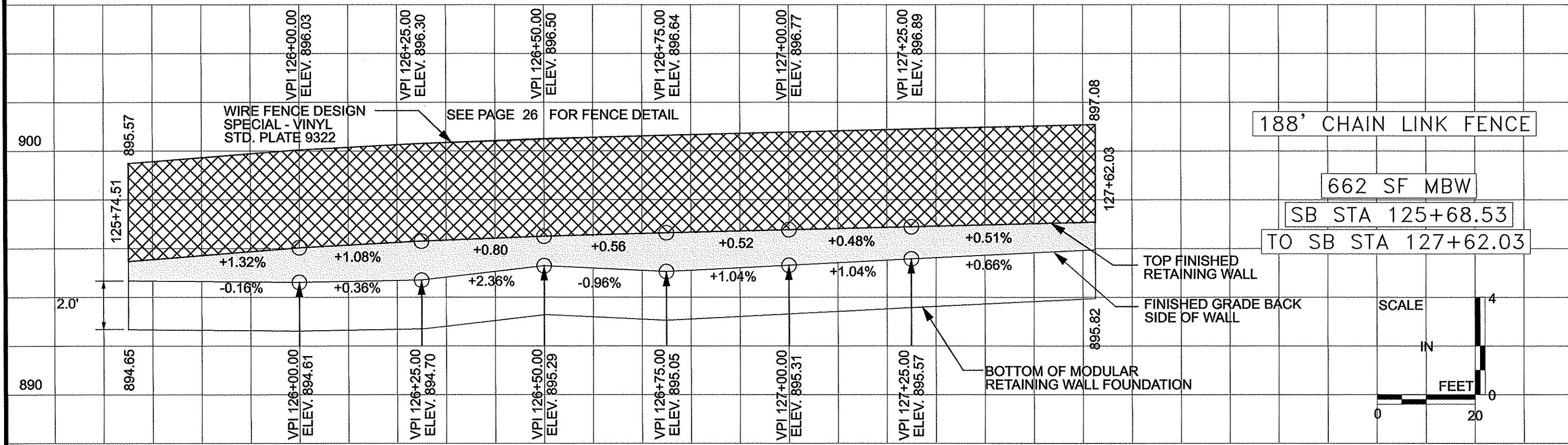
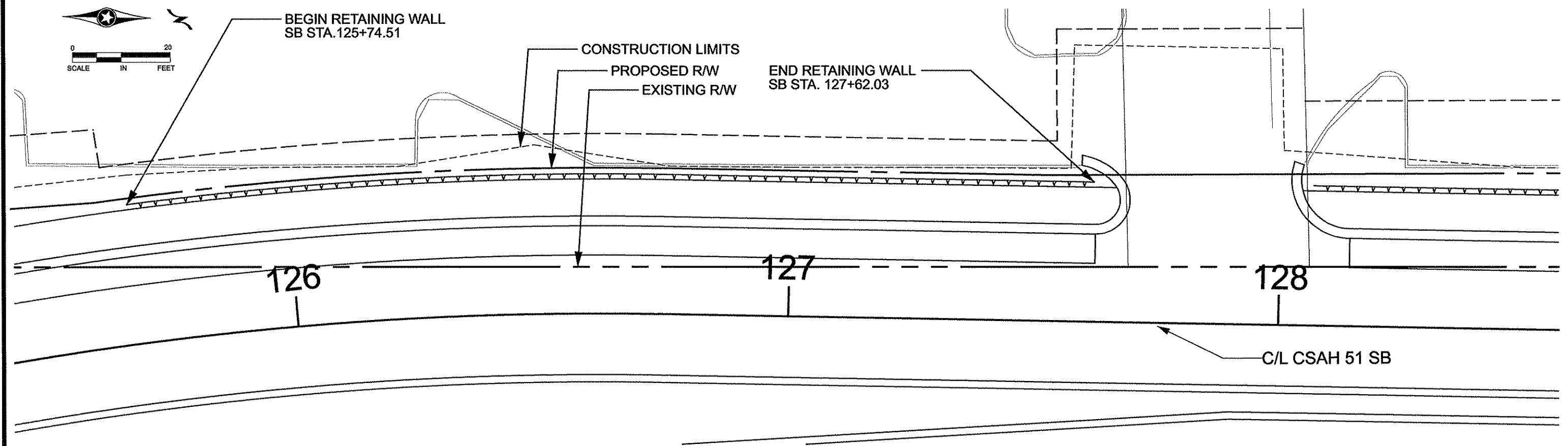
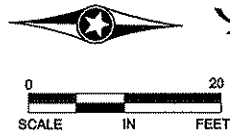
CONNECTION DETAIL AT JUNCTURE OF MSEW AND C.I.P. STRUCTURE

REVISOR:
APPROVED:
Samuel A. Hansen
STATE BRIDGE ENGINEER

STATE PROJ. NO. 02-651-06
STATE PROJ. NO. 106-020-27
STATE PROJ. NO. 114-020-23

STANDARD SHEET NO.
5-297.645
STANDARD APPROVED:
MARCH 19, 2003

TITLE:
MODULAR BLOCK RETAINING WALL
DETAILS
SHEET NO. 127 OF 159 SHEETS



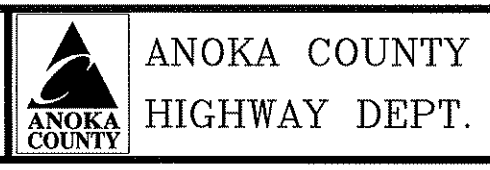
1 OF 4

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_RET1.DGN					

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

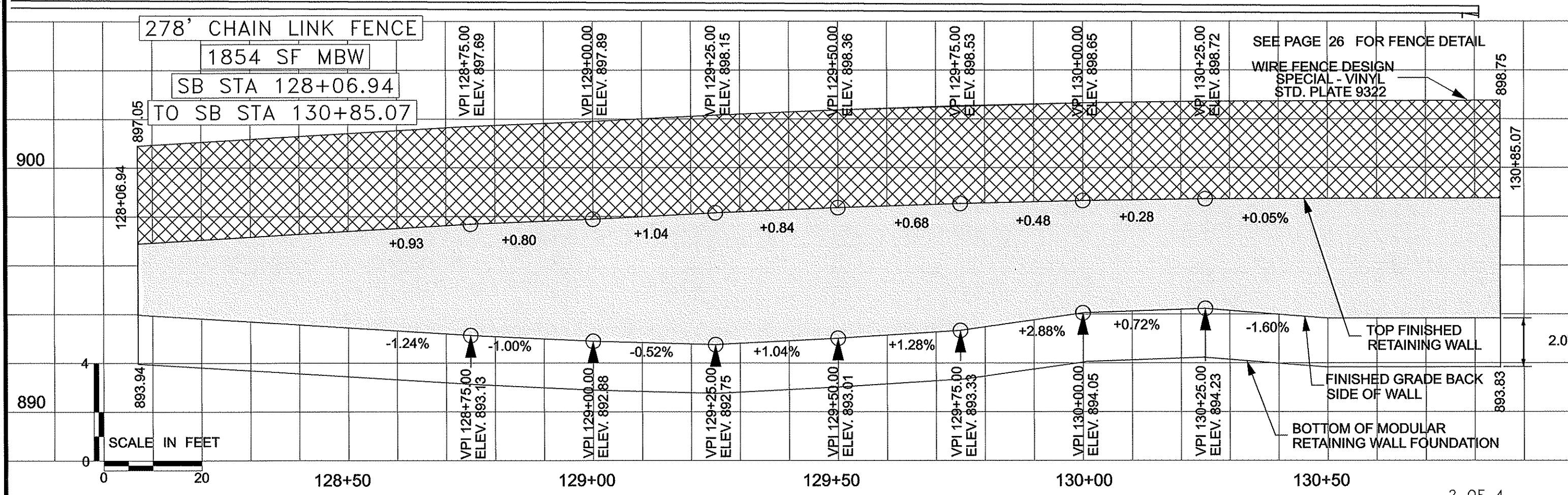
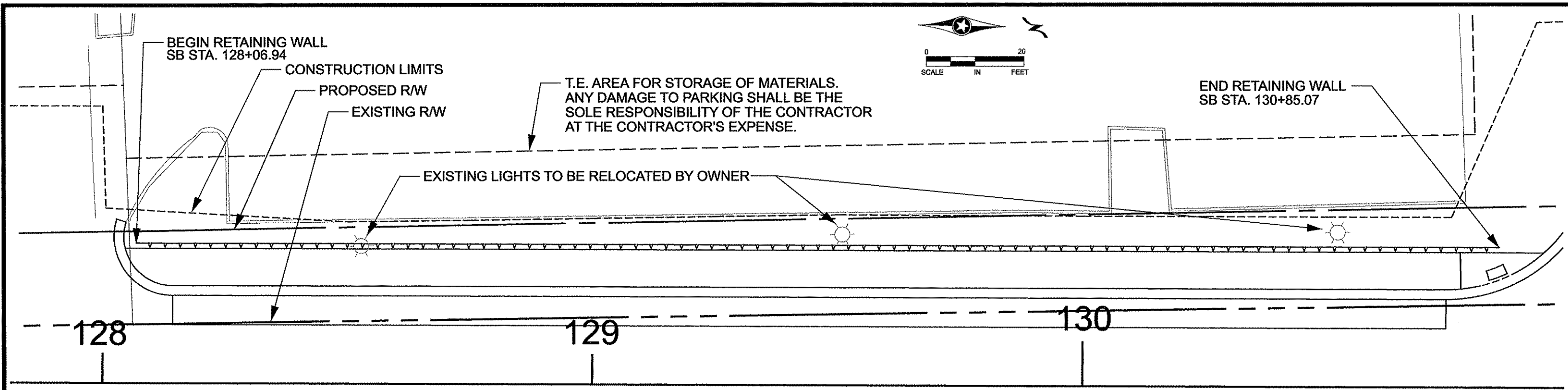
PRINT NAME: CURT A. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-16-07
 DESIGN BY: JEO DATE: 8-16-07
 CHECKED BY: CJK DATE: 8-16-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

C.S.A.H. 51
 RETAINING WALL
 Sheet 128 of 159 Sheets



Beginning chain WOODWL description

Point 3 N 137,645.3688 E 499,879.4875 Sta 10+00.00

Course from 3 to PC WOODWL-1 N 80° 20' 58.38" E Dist 8.3322

Curve Data

Curve WOODWL-1
 P.I. Station 10+15.12 N 137,847.4512 E 499,894.4502
 Delta = 26° 02' 26.40" (LT)
 Degree = 195° 19' 43.47"
 Tangent = 6.7830
 Length = 13.3317
 Radius = 29.3330
 External = 0.7740
 Long Chord = 13.2173
 Mid. Ord. = 0.7541
 P.C. Station 10+08.33 N 137,646.7666 E 499,887.7018
 P.T. Station 10+21.66 N 137,651.0288 E 499,900.2130
 C.C. N 137,675.9499 E 499,884.7416
 Back = N 84° 12' 28.82" E
 Ahead = N 58° 10' 02.42" E
 Chord Bear = N 71° 11' 15.62" E

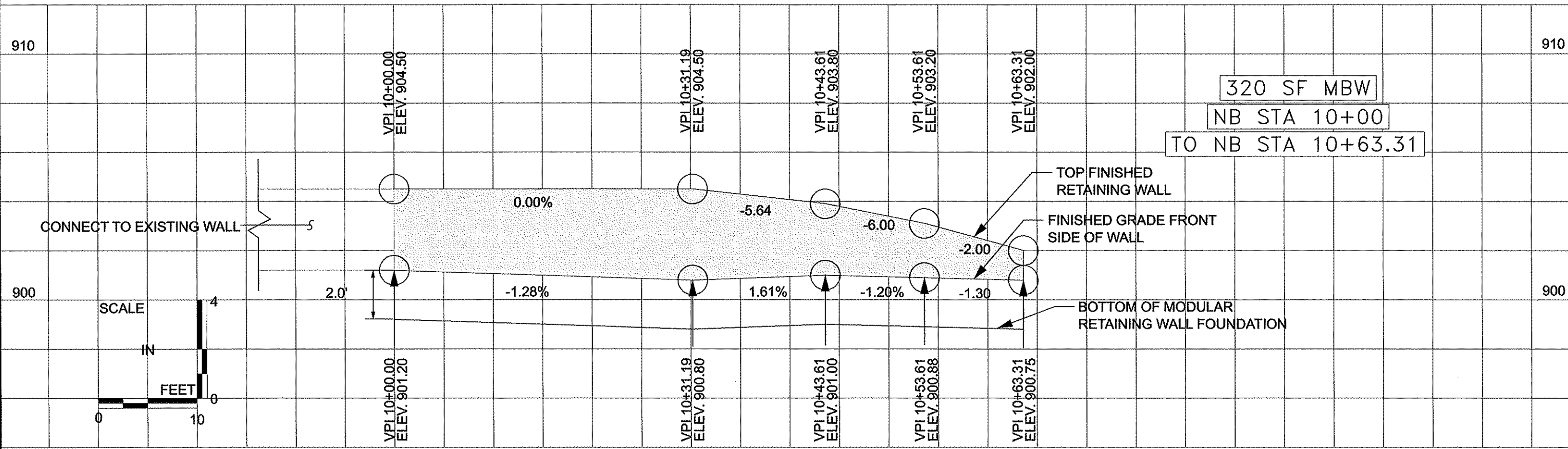
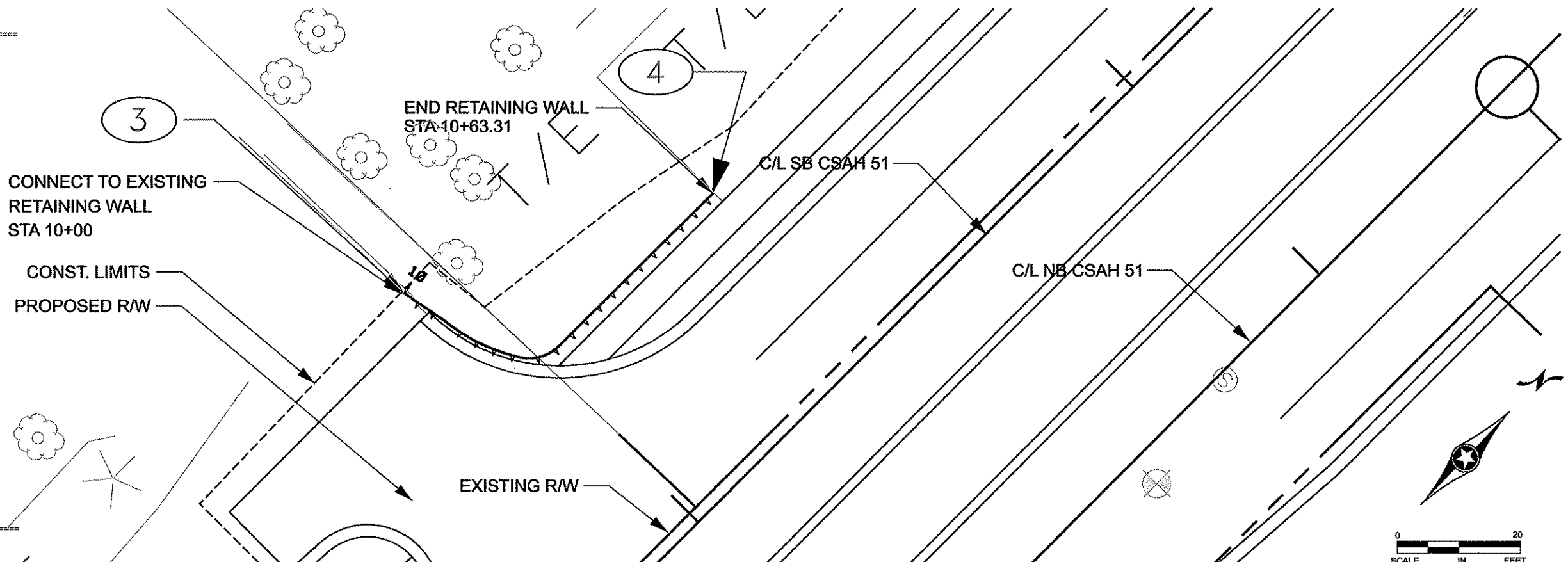
Curve Data

Curve WOODWL-2
 P.I. Station 10+25.34 N 137,652.9666 E 499,903.3344
 Delta = 57° 41' 30.13" (LT)
 Degree = 858° 57' 34.55"
 Tangent = 3.6740
 Length = 6.7165
 Radius = 6.6704
 External = 0.9449
 Long Chord = 6.4363
 Mid. Ord. = 0.8277
 P.C. Station 10+21.66 N 137,651.0288 E 499,900.2130
 P.T. Station 10+28.38 N 137,656.6405 E 499,903.3649
 C.C. N 137,656.6959 E 499,896.6947
 Back = N 58° 10' 02.42" E
 Ahead = N 0° 28' 32.29" E
 Chord Bear = N 29° 19' 17.36" E

Course from PT WOODWL-2 to 4 N 0° 49' 42.56" E Dist 35.2407

Point 4 N 137,691.8776 E 499,903.8744 Sta 10+63.62

Ending chain WOODWL description



10+00 10+20 10+40 10+60

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_RET3.DGN 04/22/2008 2:12:39 PM

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

PRINT NAME: CURTA KOBILARCSIK
 SIGNATURE: *C. Kobilarcsik*
 DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: _____
 DESIGN BY: JED DATE: _____
 CHECKED BY: CAK DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

C.S.A.H. 51
 RETAINING WALL
 Sheet 130 of 159 Sheets

140

141

142

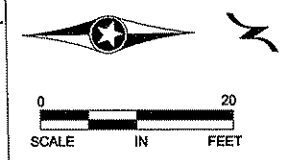
C/L NB CSAH 51

BEGIN RETAINING WALL
NB STA. 139+70.95

END RETAINING WALL
NB STA. 141+03.89

CONST. LIMITS

EXISTING RW
PROPOSED RW



SEE PAGE 26 FOR FENCE DETAIL

WIRE FENCE DESIGN
SPECIAL - VINYL
STD. PLATE 9322

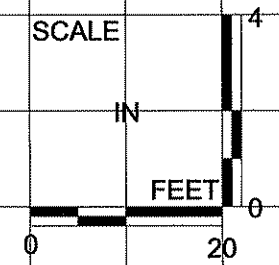
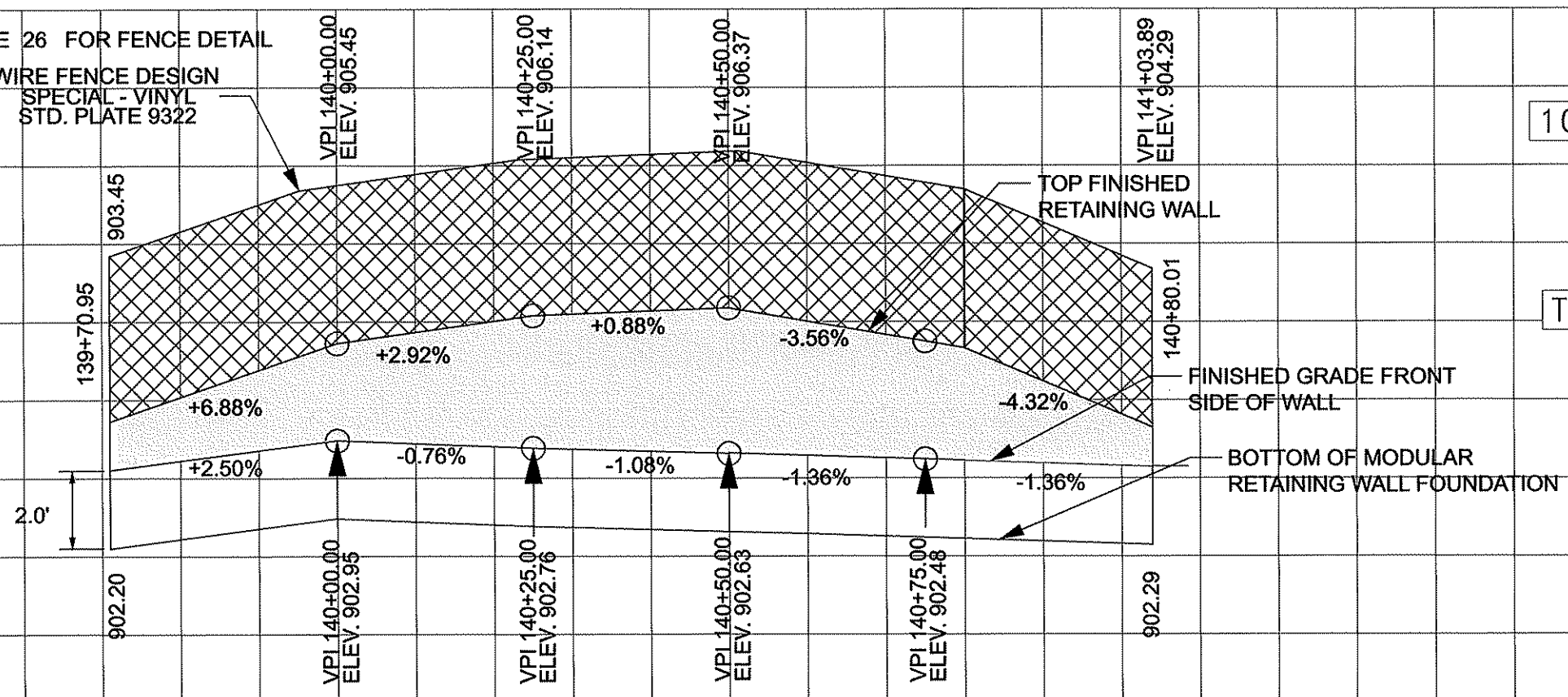
109' CHAIN LINK FENCE

628 SF MBW

NB STA 139+70.95
TO NB STA 140+80.01

910

900



139+50

140+00

140+50

4 OF 4

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: *Curt A. Kobilarsik*
DATE: 4-23-08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-18-07
DESIGN BY: JED DATE: 8-16-07
CHECKED BY: CAK DATE: 8-18-07



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

C.S.A.H. 51
RETAINING WALL

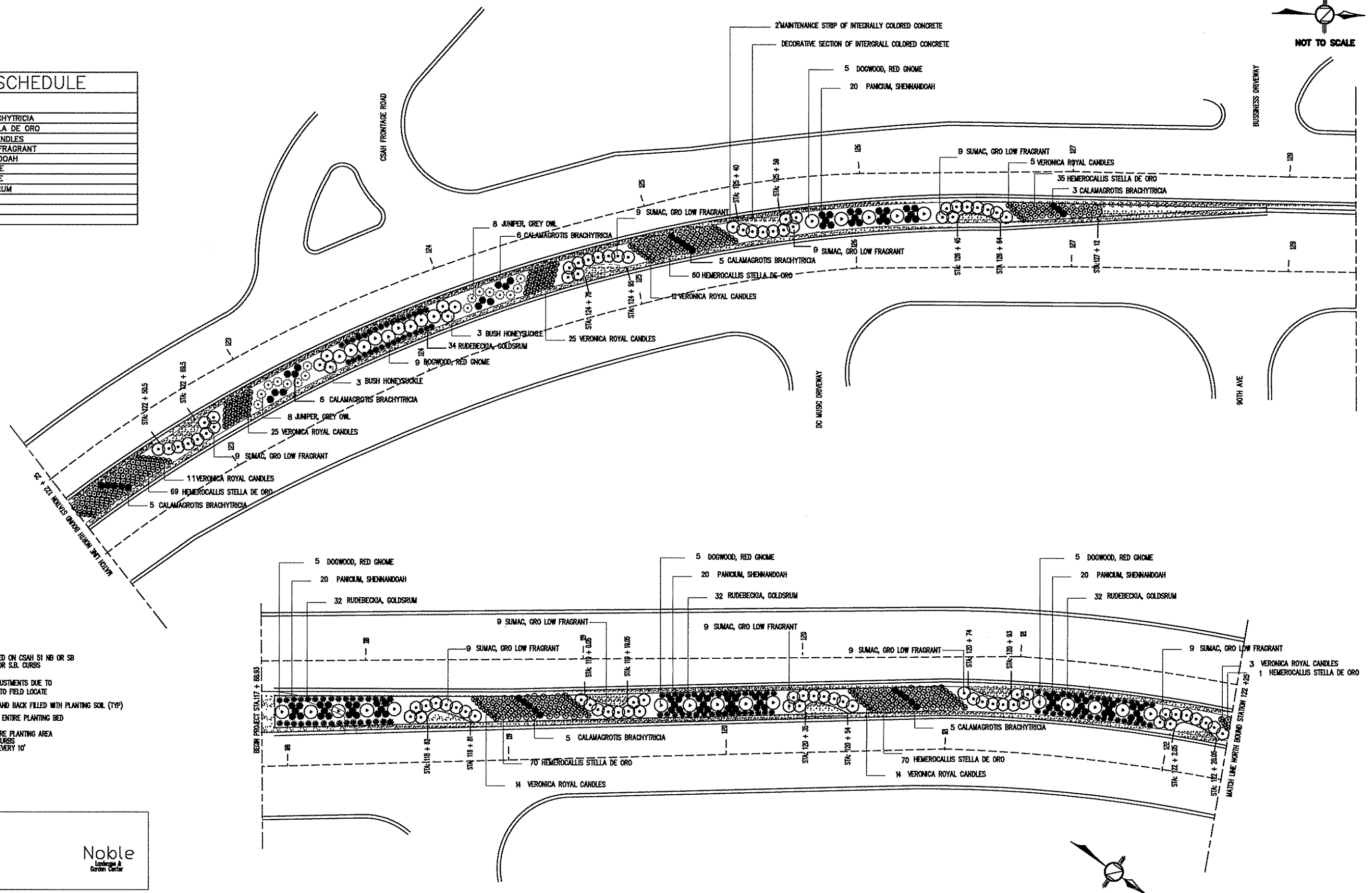
Sheet 131 of 159 Sheets

NO.	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-651-04\PLAN\0265106_RET4.DGN 04/22/2008 2:12:43 PM



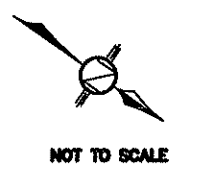
PLANT SCHEDULE	
QTY.	PLANT TYPE
35	CALAMAGROTIS BRACHYTRICIA
305	HEMEROCALLIS STELLA DE ORO
108	VERONICA ROYAL CANDLES
81	SUMAC, GRO LOW FRAGRANT
80	PANICUM, SHENANDOAH
29	DOGWOOD, RED GNOME
6	BUSH HONEY SUCKLE
130	RUDEBECKIA GOLDSRUM
16	JUNIPERS, GREY OWL
791	TOTAL



NOTES:
 ALL STREET SCAPE STATIONING BASED ON CSAH 51 NB OR SB CENTERLINE AS APPROPRIATE FOR N.B OR S.B. CURBS
 PLANT LOCATIONS MAY REQUIRE SLIGHT ADJUSTMENTS DUE TO EXISTING UTILITY LOCATIONS. ENGINEER TO FIELD LOCATE
 ALL PLANTING BEDS TO BE 30" MIN DEPTH AND BACK FILLED WITH PLANTING SOIL (TYP)
 4" SHREDDED HARDWOOD MULCH TO COVER ENTIRE PLANTING BED
 DRIP LINE IRRIGATION TO RUN THROUGH ENTIRE PLANTING AREA MINIMUM OF 4 LINES TO RUN PARALLEL TO CURBS JOINER LINES TO CONNECT PARALLEL LINES EVERY 10'

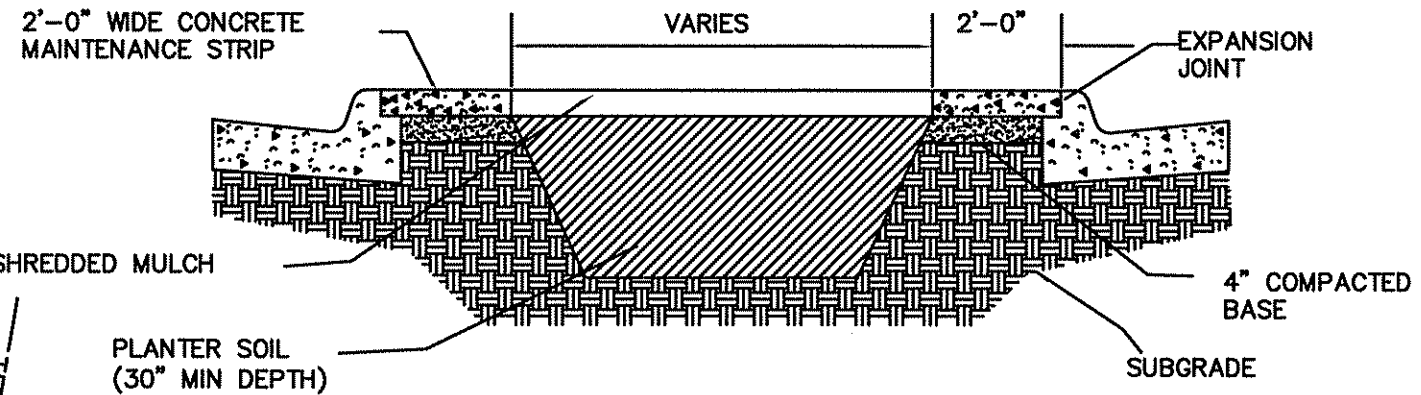
DESIGNED BY
 DGRUNDEEN
 DATE
 MARCH 21 2007
 DESIGN NAME
 CAS-3-08

Noble
 Landscape &
 Garden Center

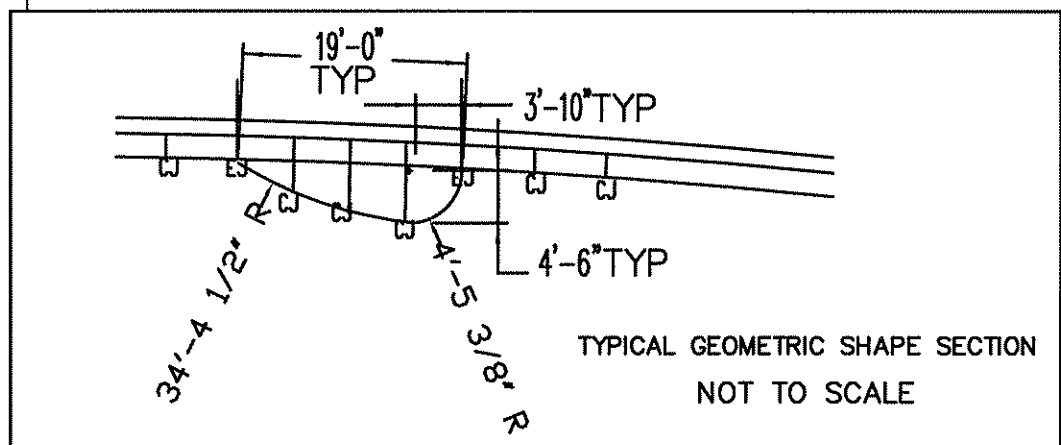
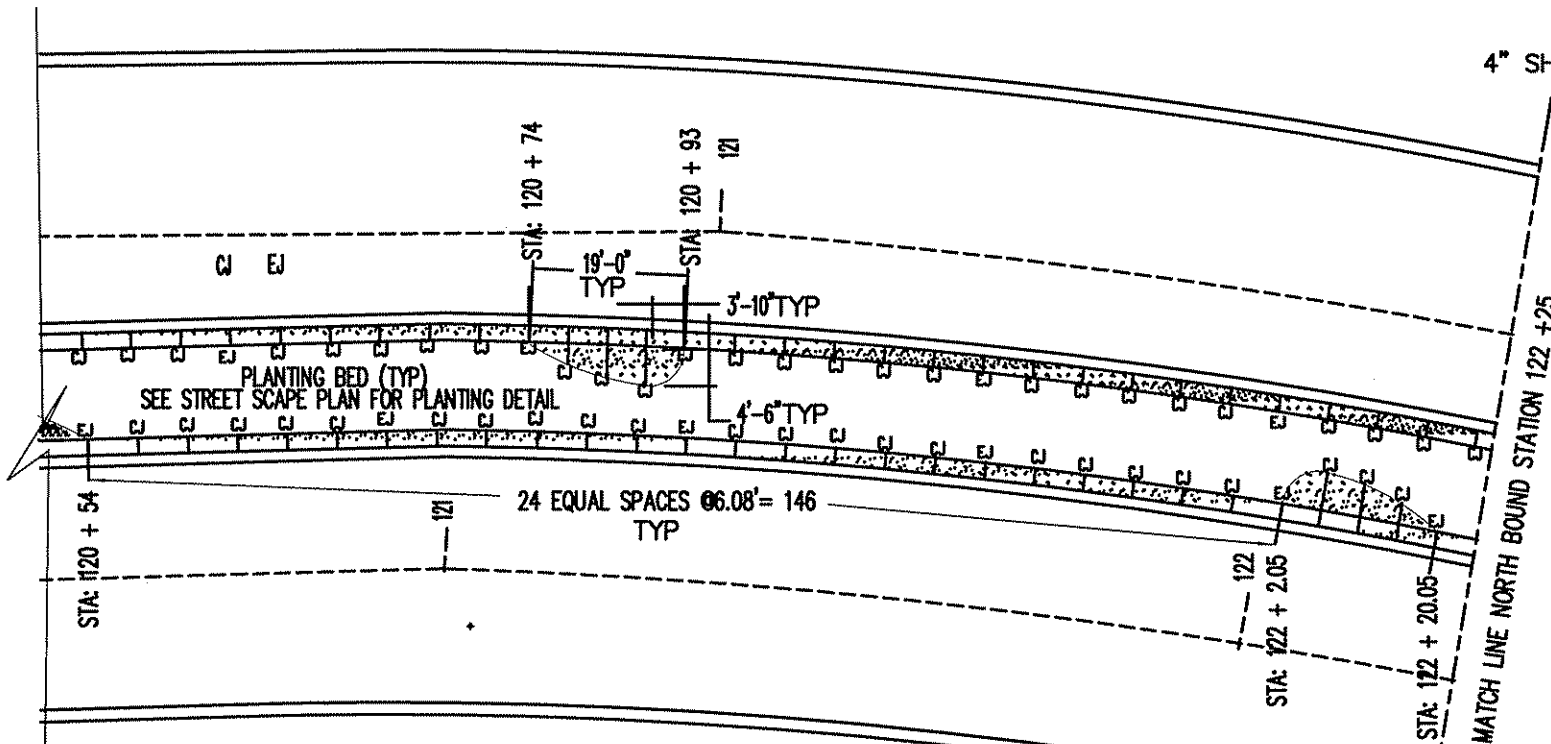


TYPICAL CONCRETE JOINT

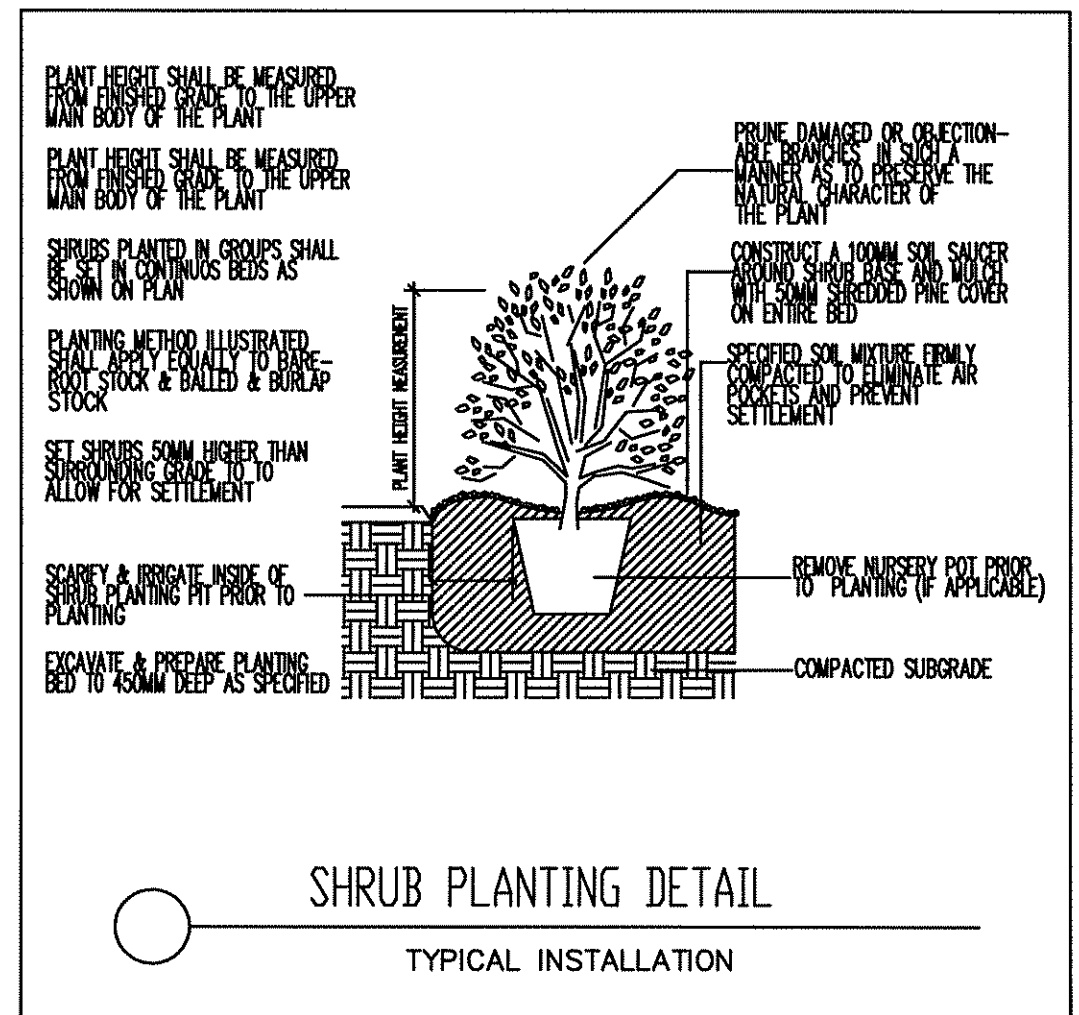
1. ALL JOINTS TO BE TOOLED
2. JOINTS IN THE INTEGRALLY COLORED TO BE ALIGNED WITH THE 2' MAINTENANCE STRIP JOINTS
3. LAYOUT OF ALL CONCRETE INSETS BASED ON STATIONING FROM THE ACCORDING CENTERLINE
4. EJ REPRESENTS EXPANSION JOINT CJ REPRESENTS CONTROL JOINT
5. ALL CONCRETE TO BE A MINIMUM OF 4" THICK WITH 4" COMPACTED BASE.
6. EXPANSION JOINT TO RUN BETWEEN MAINTENANCE STRIP AND CURB.
7. EXPANSION JOINT TO RUN BETWEEN MAINTENANCE STRIP AND DECORATIVE SECTIONS



TYPICAL MEDIAN PLANTING BED SECTION
NOT TO SCALE



TYPICAL GEOMETRIC SHAPE SECTION
NOT TO SCALE



SHRUB PLANTING DETAIL
TYPICAL INSTALLATION

DESIGNED BY
DGRUNDEEN
DATE
MARCH 21 2007
DESIGN NAME
CAS-3-08

Noble
Landscape &
Garden Center



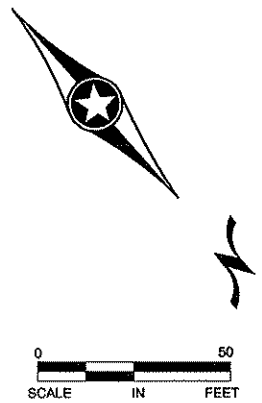
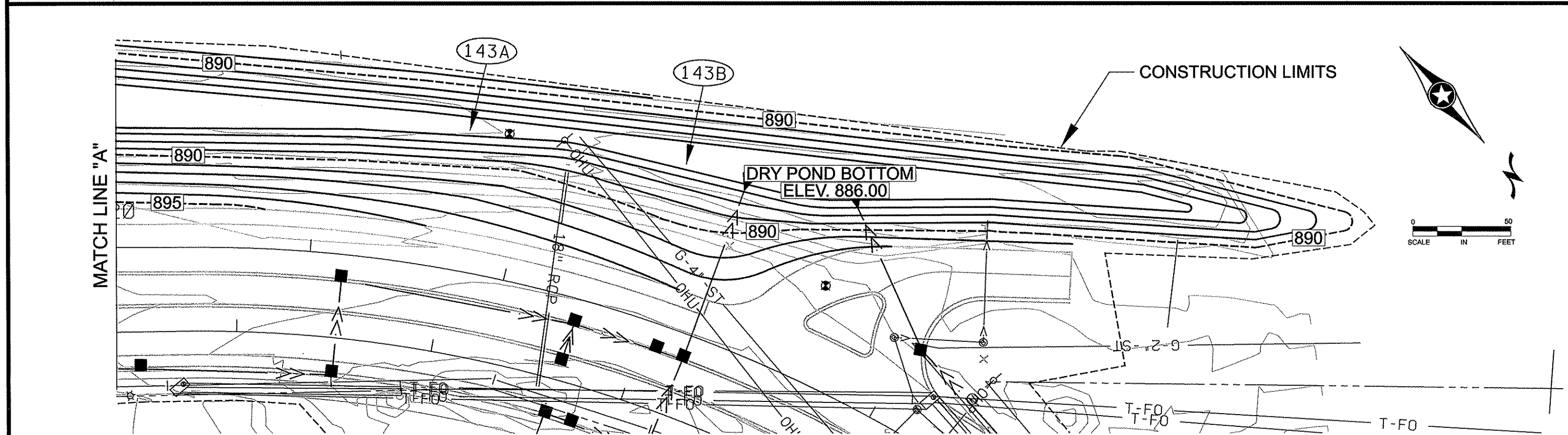
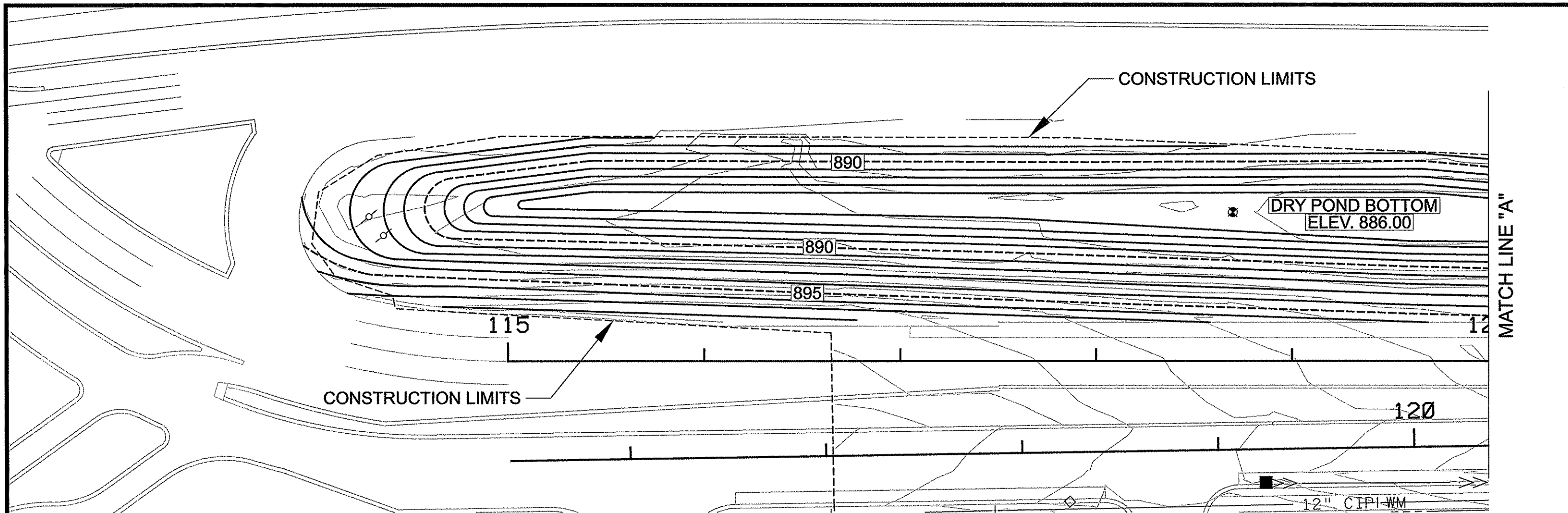
ENGINEERING DEPARTMENT
10801 TOWN SQUARE DR., N.E. Blaine, Minnesota 55449
Phone (612) 785-6172

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.
Daniel S. Schumaker
Date 4-23-08 Reg. No. 28771

DATE	REVISION

PROJECT NO.	05-11
DESIGN BY: DSS	DRAWN BY: JMTS
CHECKED BY: DSS	APPROVED BY: DSS
AS BUILT BY:	XXX

UNIVERSITY AVENUE
LANDSCAPING
S.A.P. 106-020-27 SHEET NO. 133 OF 159 SHEETS

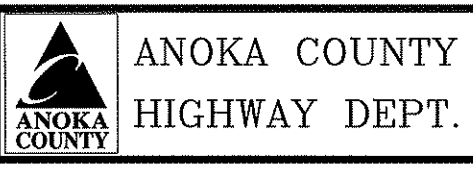


NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-651-04\PLAN\0265106_POND.DGN					

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

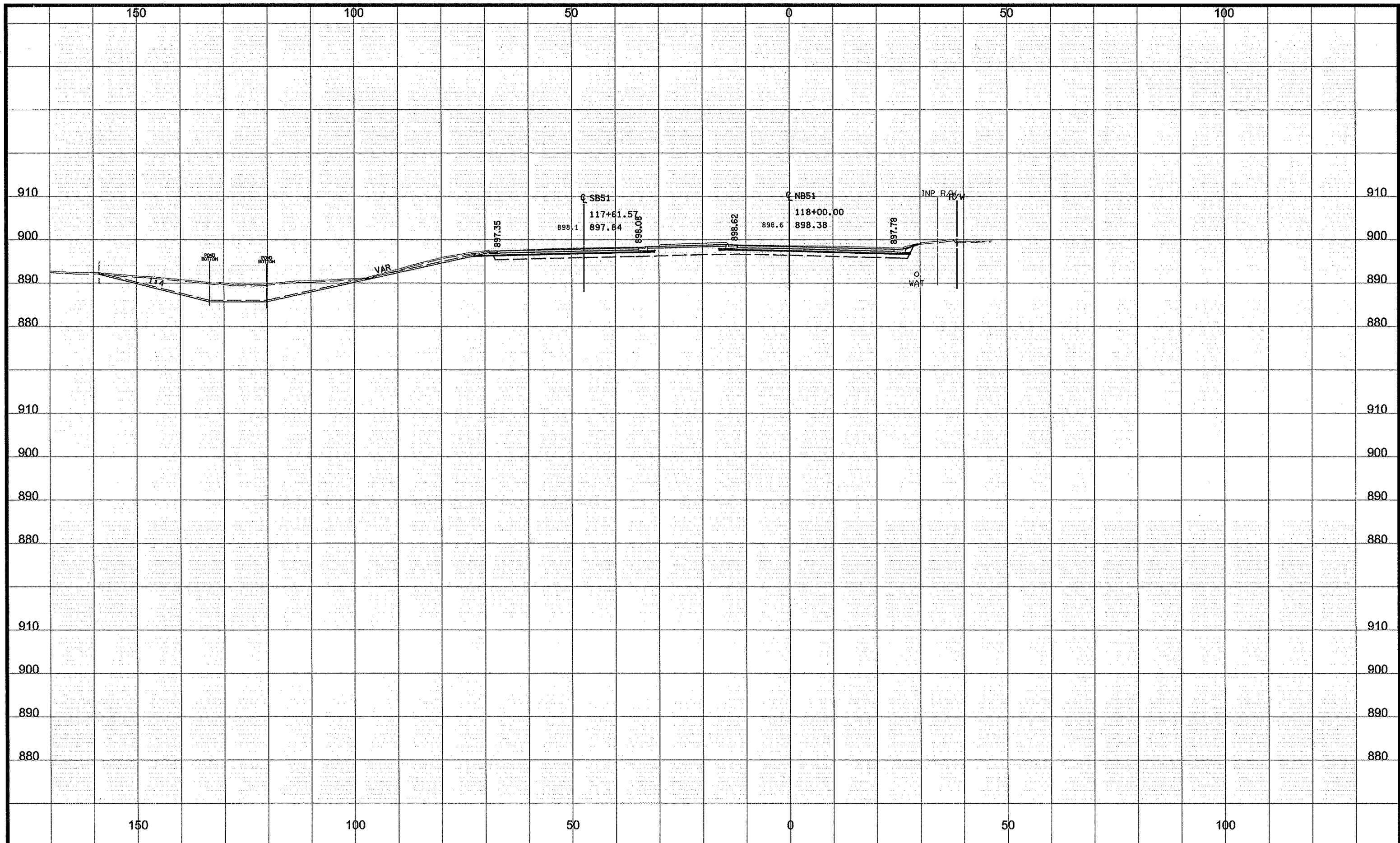
PRINT NAME: CURT A. KOBIARCSIK
 SIGNATURE: *Curt A. Kobiarczik*
 DATE: 4.23.08 LICENSE NO. 24756

DRAWN BY: NJD DATE: 8-17-07
 DESIGN BY: JEO DATE: 8-17-07
 CHECKED BY: CAK DATE: 8-17-07



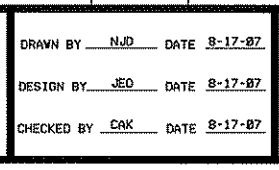
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

POND GRADING PLAN
 Sheet 134 of 159 Sheets



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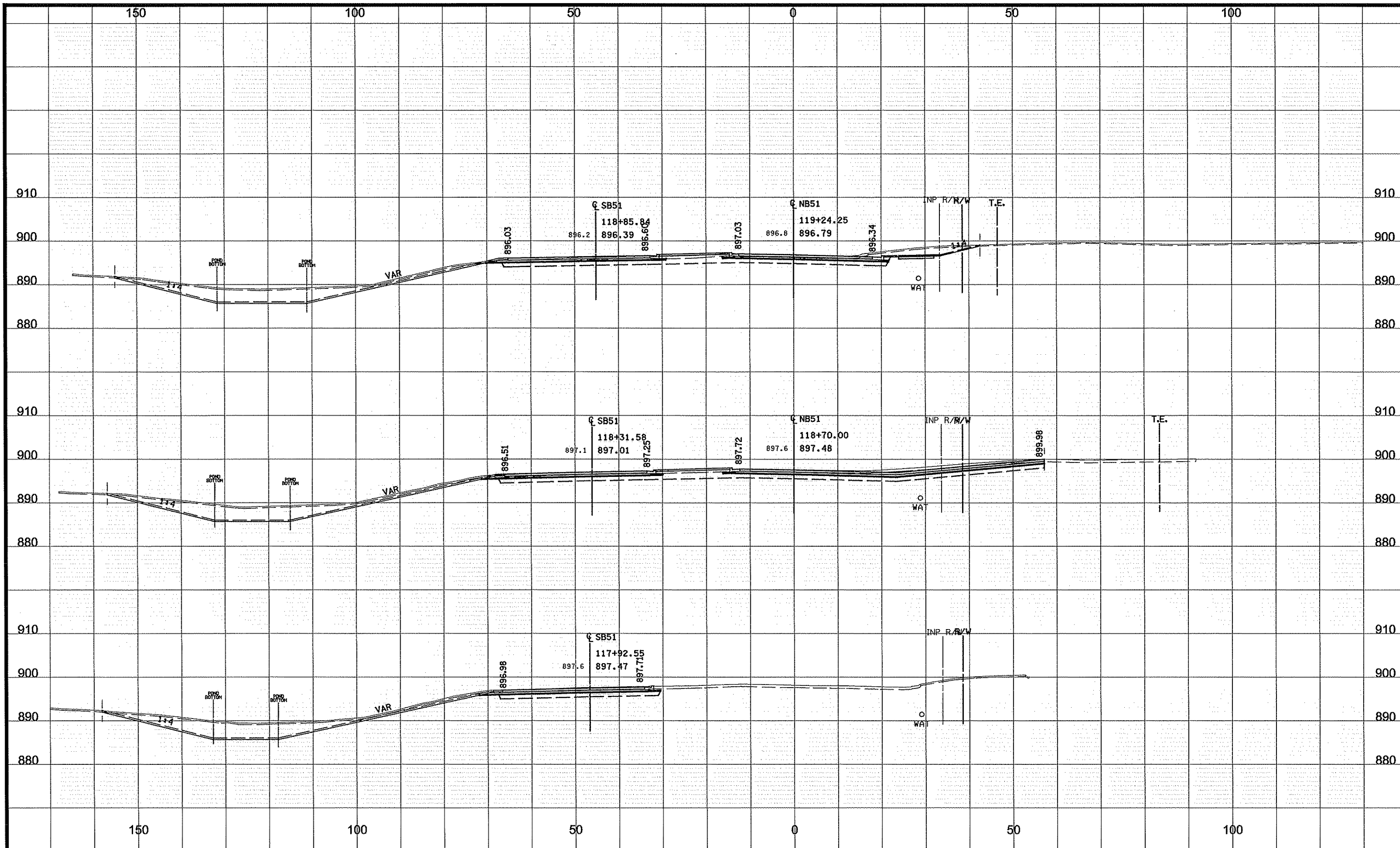
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DESIGN BY	JEO	DATE	8-17-07
CHECKED BY	CAK	DATE	8-17-07



**ANOKA COUNTY
HIGHWAY DEPT.**

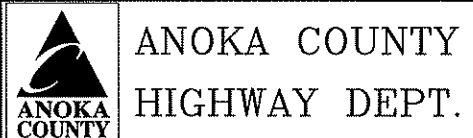
STATE PROJECT NO.	02-651-06
STATE PROJECT NO.	106-020-27
STATE PROJECT NO.	114-020-23

CROSS SECTIONS
 STA 118+00 to STA 118+00
 Sheet 135 of 159 Sheets



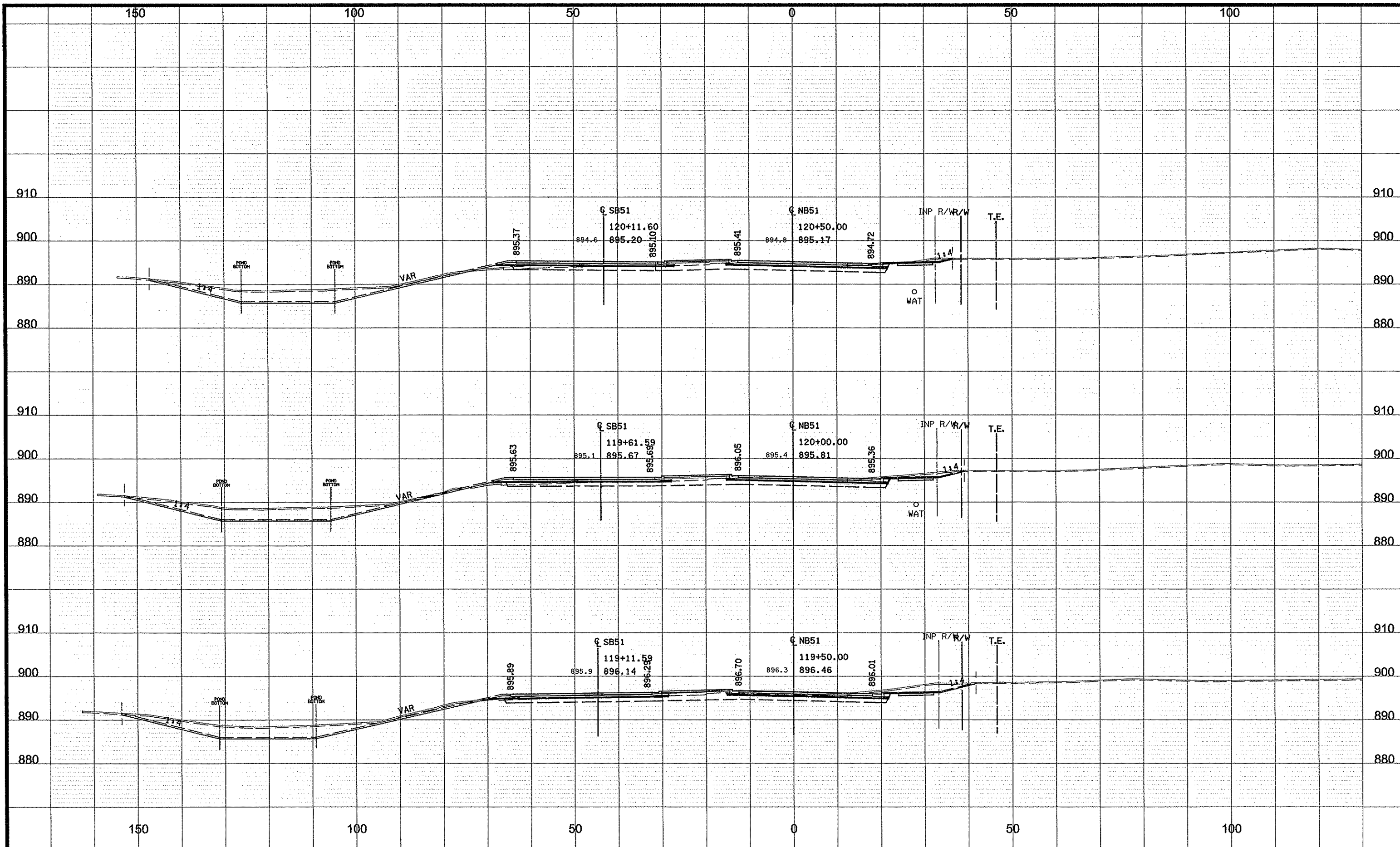
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DRAWN BY NJD DATE 8-17-07
 DESIGN BY JED DATE 8-17-07
 CHECKED BY CAK DATE 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

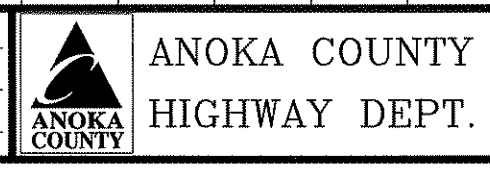
CROSS SECTIONS
 STA 118+50 to STA 119+24
 Sheet 136 of 159 Sheets



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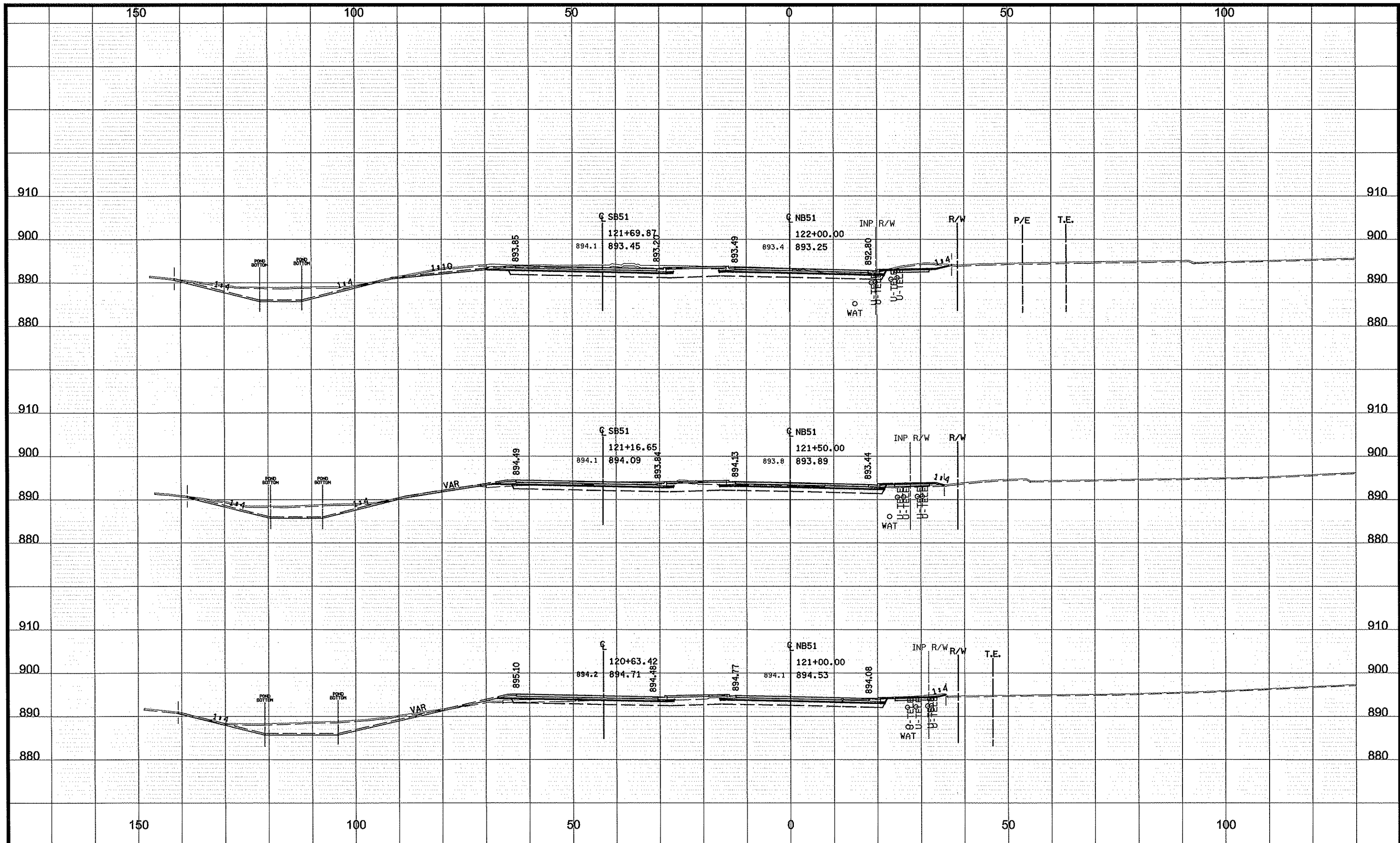
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 CHECKED BY CAK DATE 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

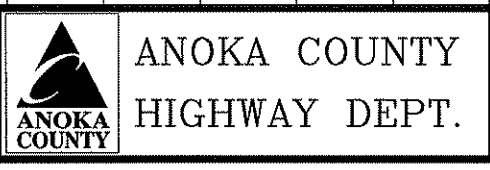
CROSS SECTIONS
 STA 119+50 to STA 120+50
 Sheet 137 of 159 Sheets



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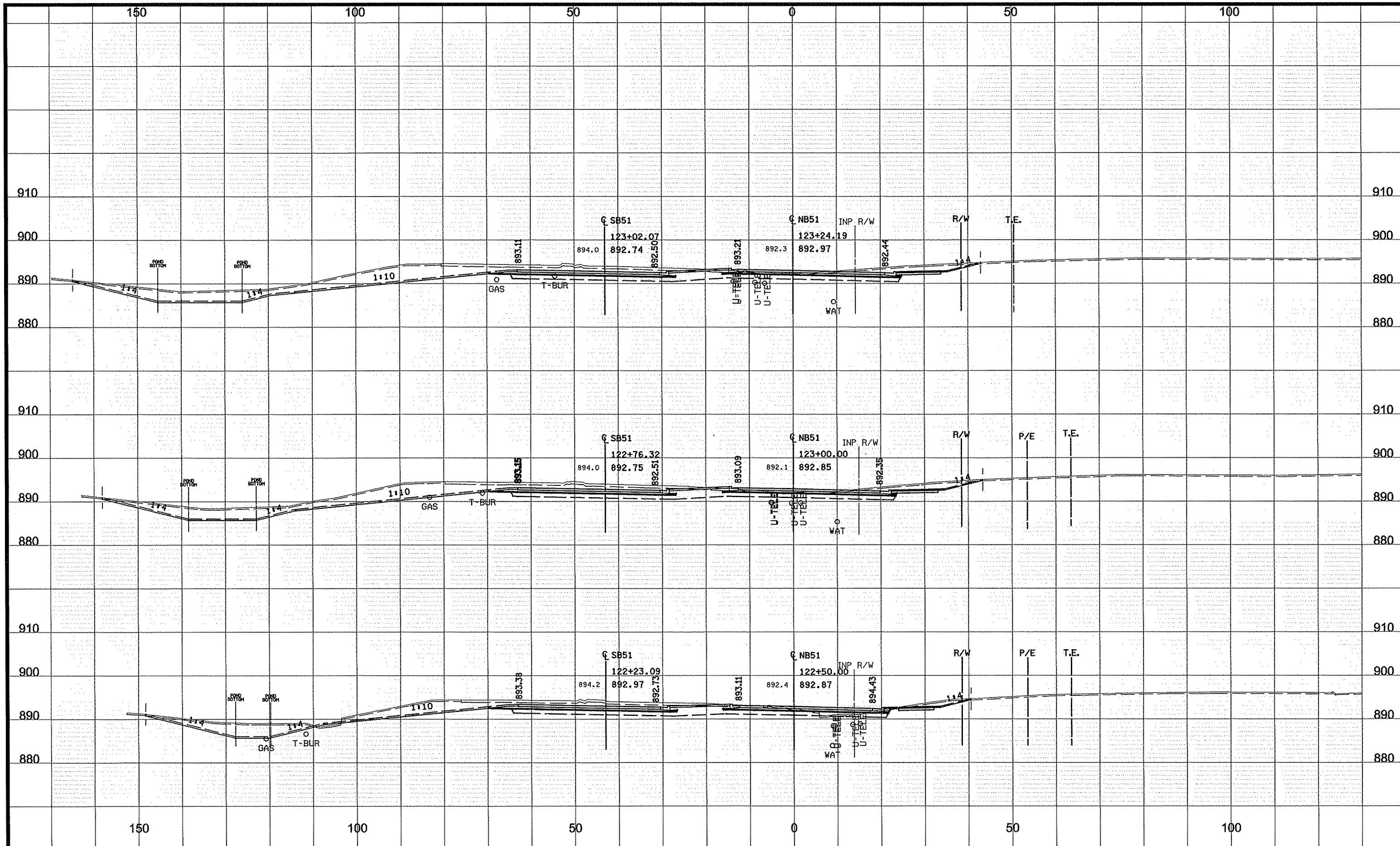
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

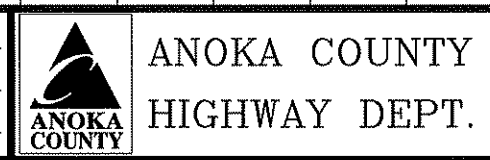
CROSS SECTIONS
 STA 121+00 to STA 122+00
 Sheet 138 of 159 Sheets



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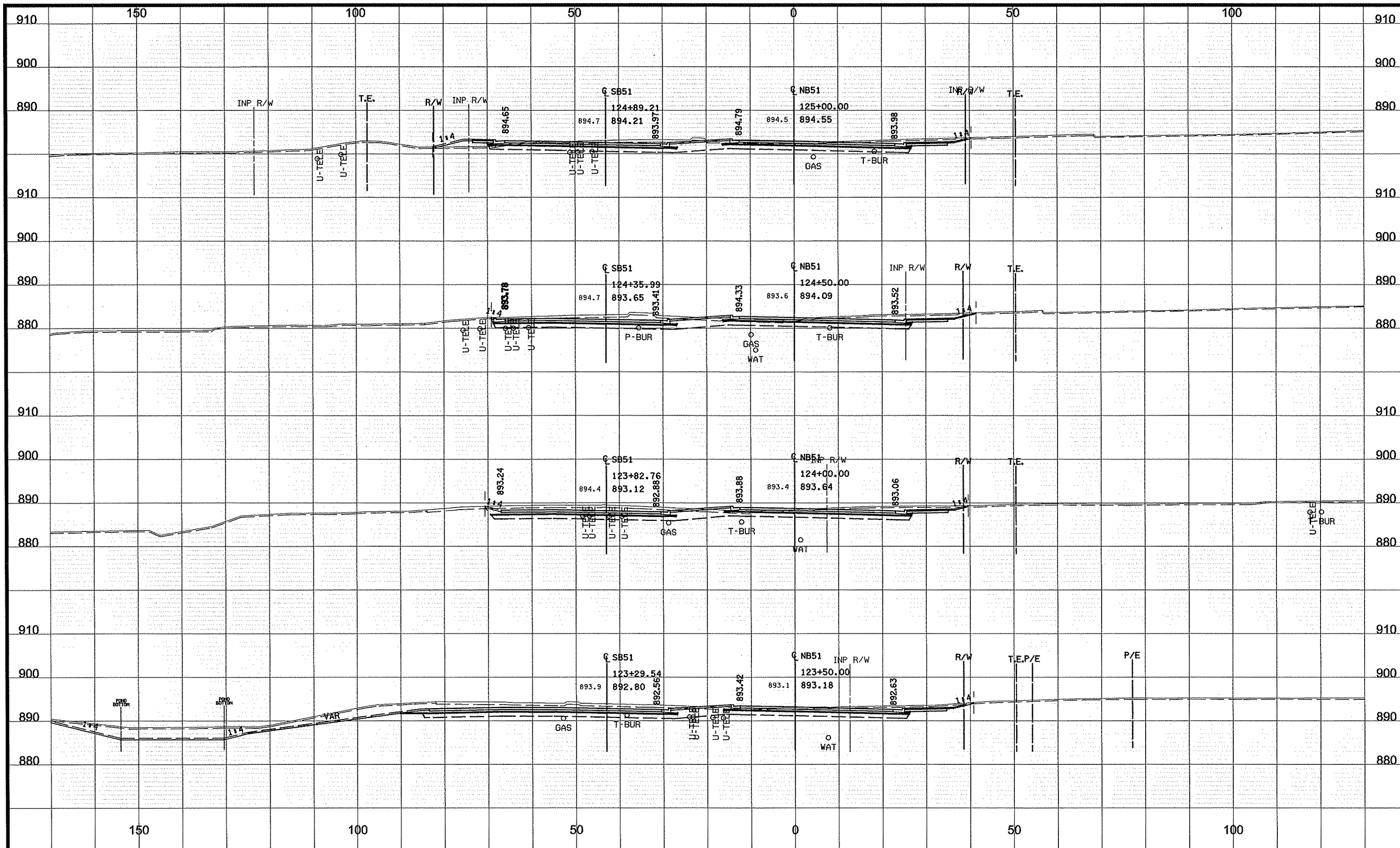
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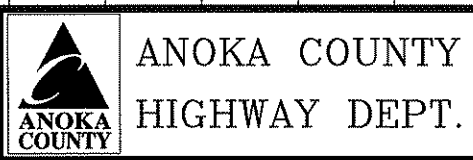
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 122+50 to STA 123+24
 Sheet 139 of 159 Sheets



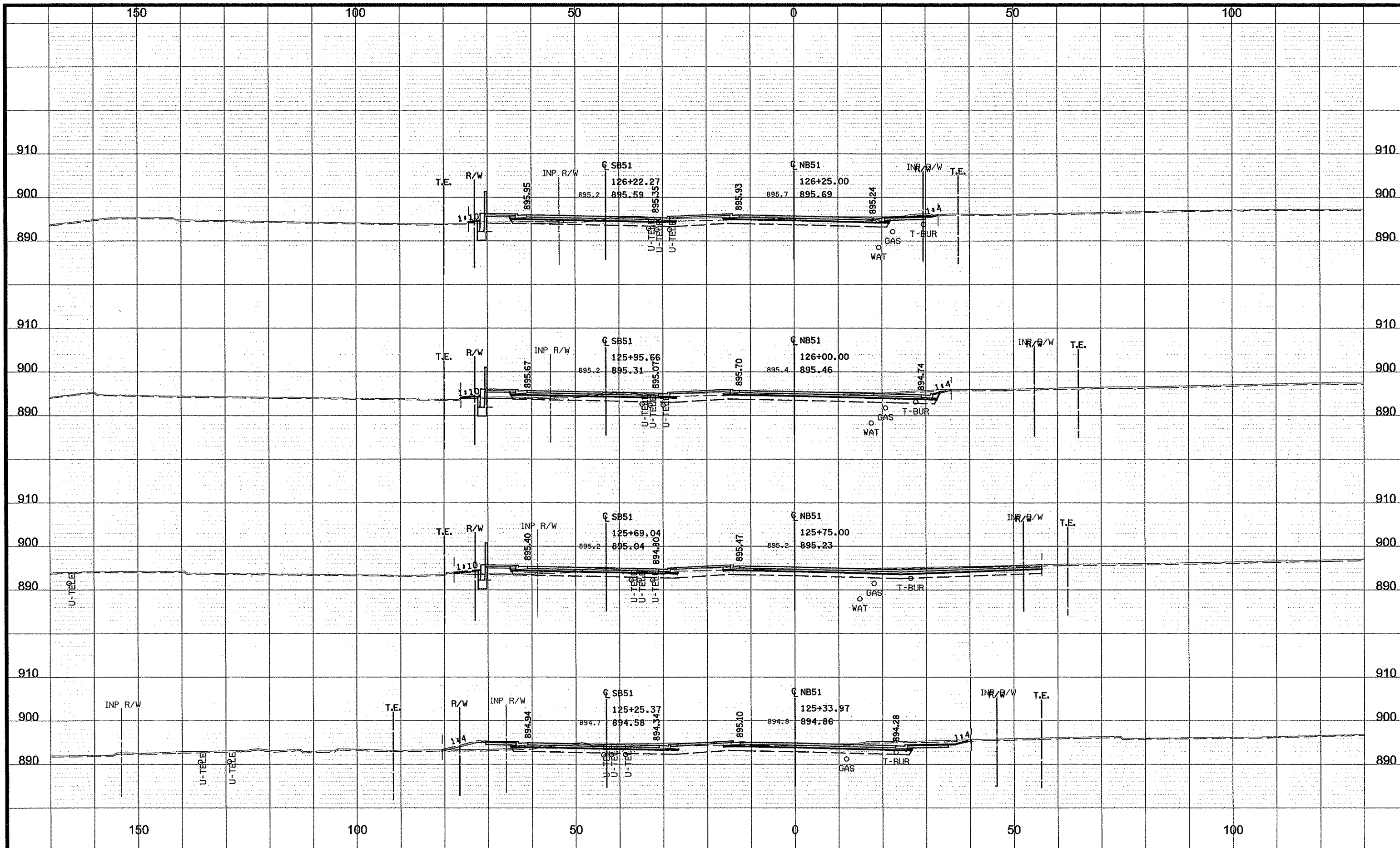
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 CHECKED BY CAK DATE 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

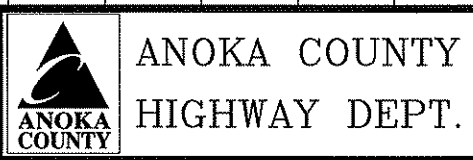
CROSS SECTIONS
 STA 123+50 to STA 125+00
 Sheet 140 of 159 Sheets



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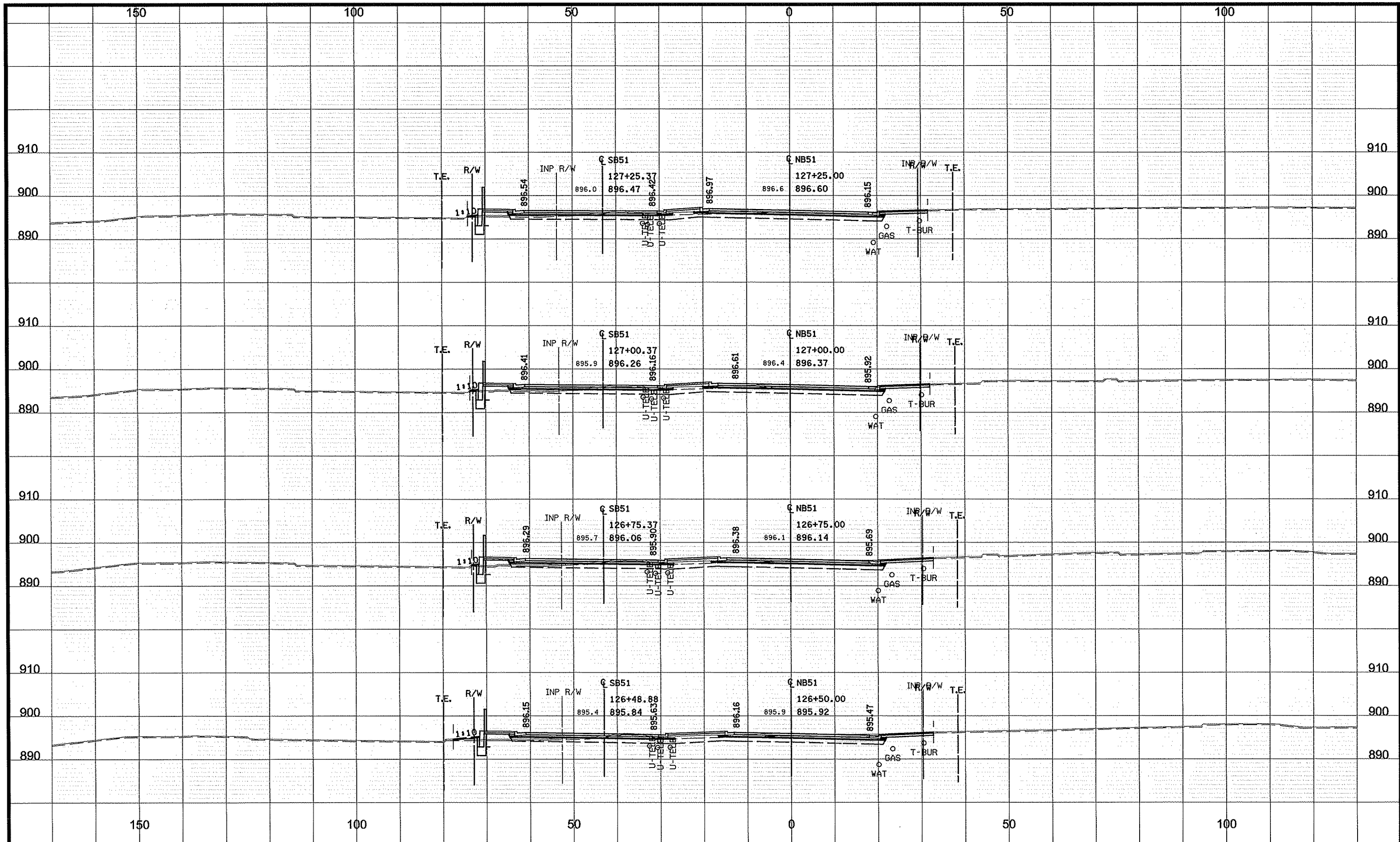
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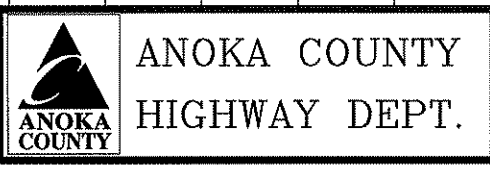
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 125+33 to STA 126+25
 Sheet 141 of 159 Sheets



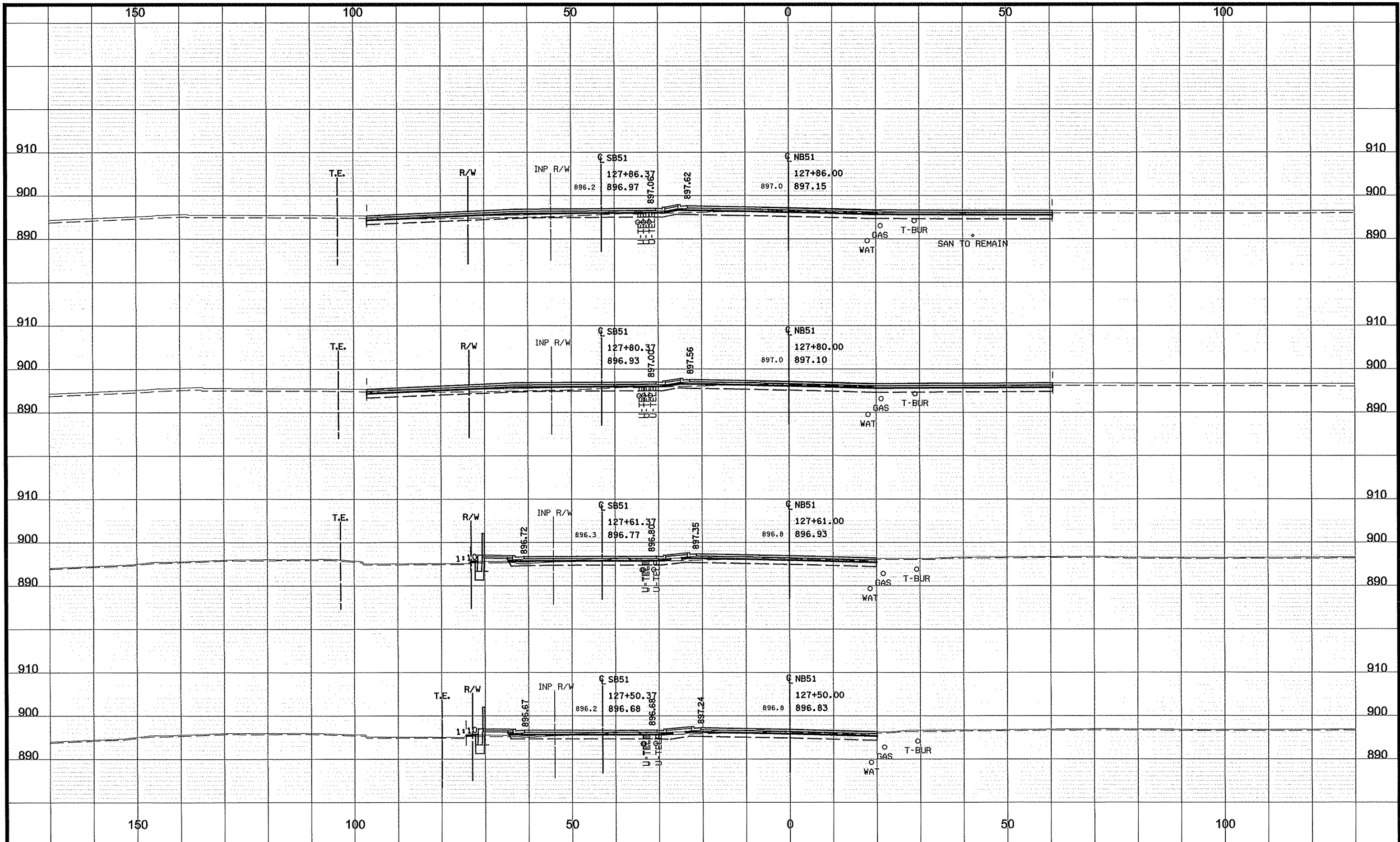
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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

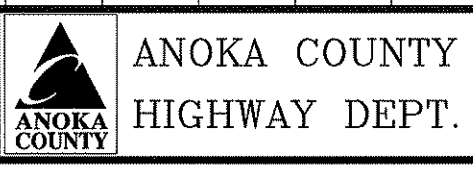
CROSS SECTIONS
 STA 126+50 to STA 127+25
 Sheet 142 of 159 Sheets



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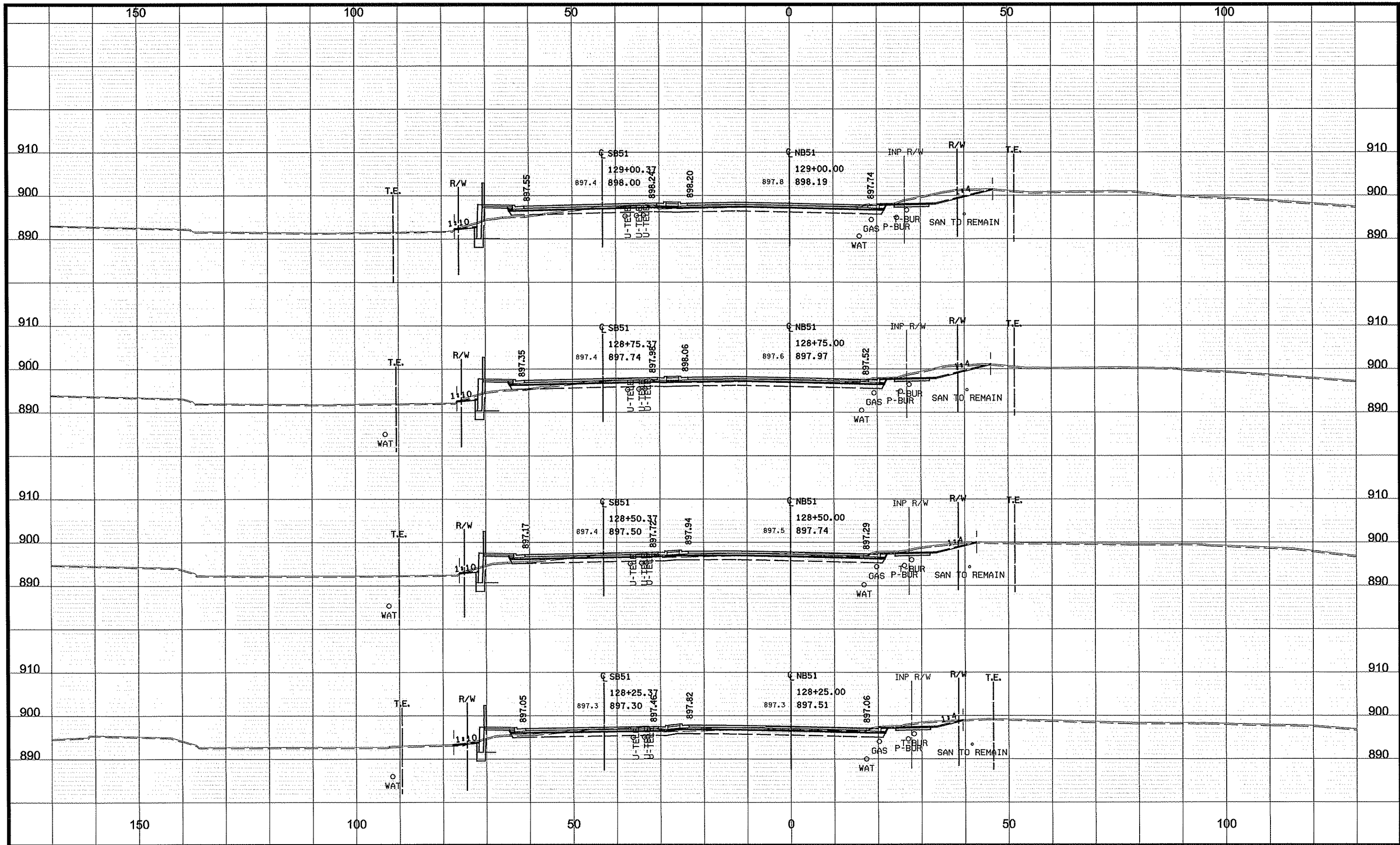
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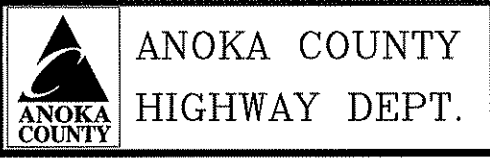
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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 127+50 to STA 127+86
 Sheet 143 of 159 Sheets



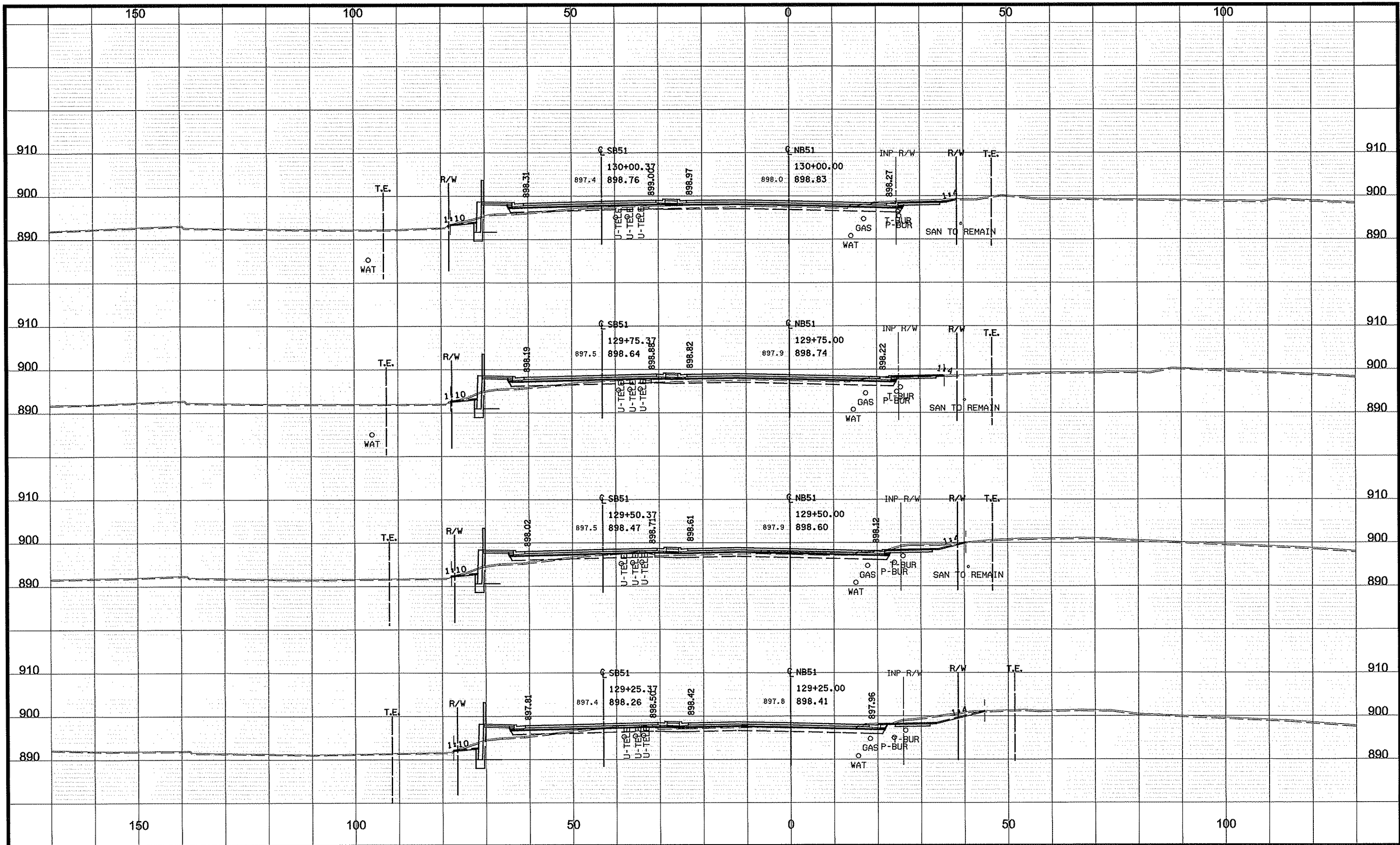
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

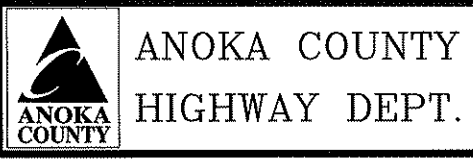
CROSS SECTIONS
 STA 128+25 to STA 129+00
 Sheet 144 of 159 Sheets



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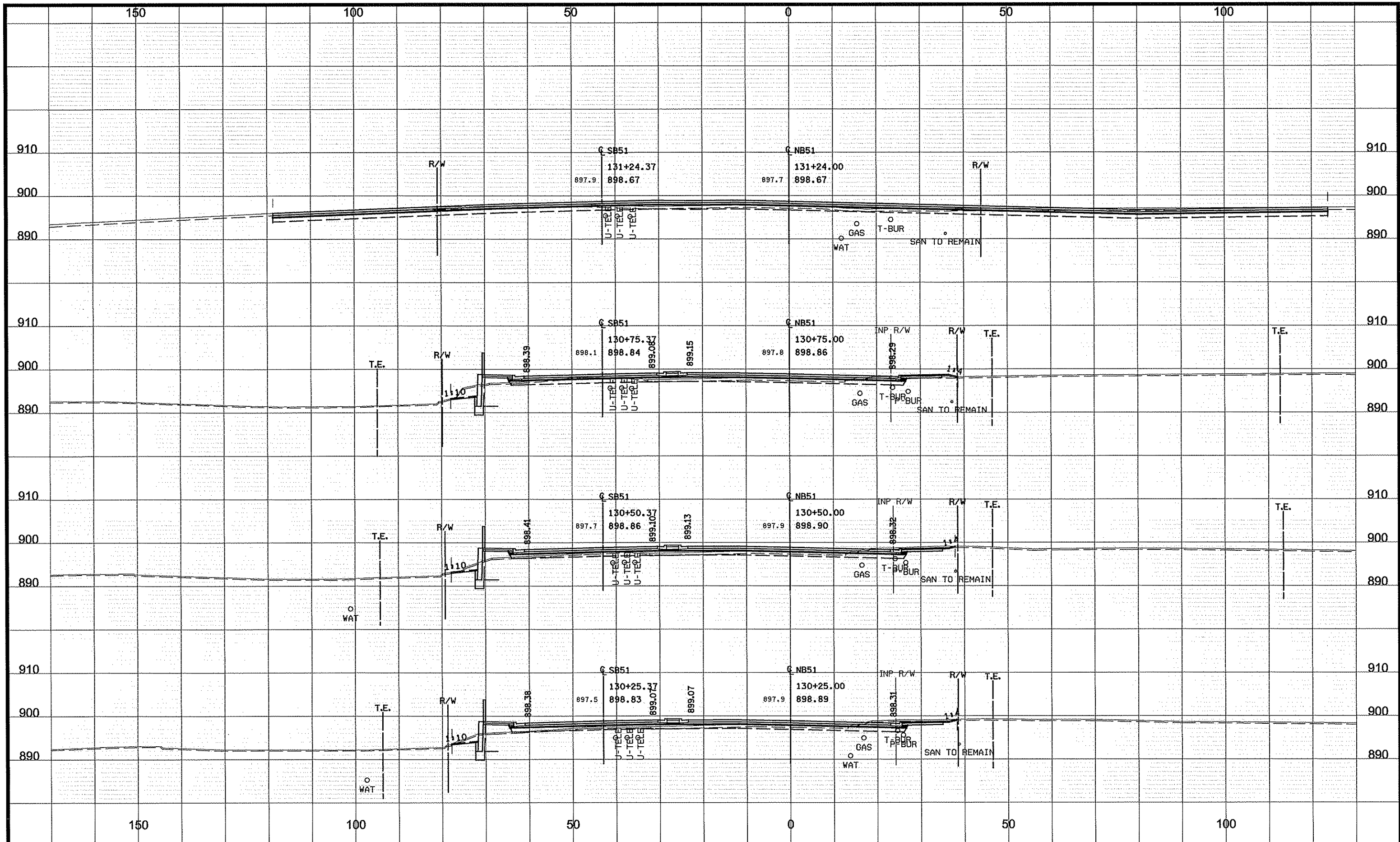
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 CHECKED BY CAK DATE 8-17-07



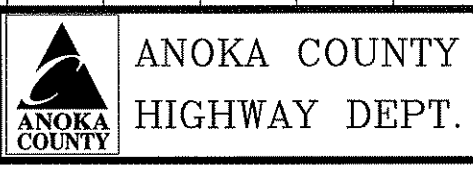
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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 129+25 to STA 130+00
 Sheet 145 of 159 Sheets



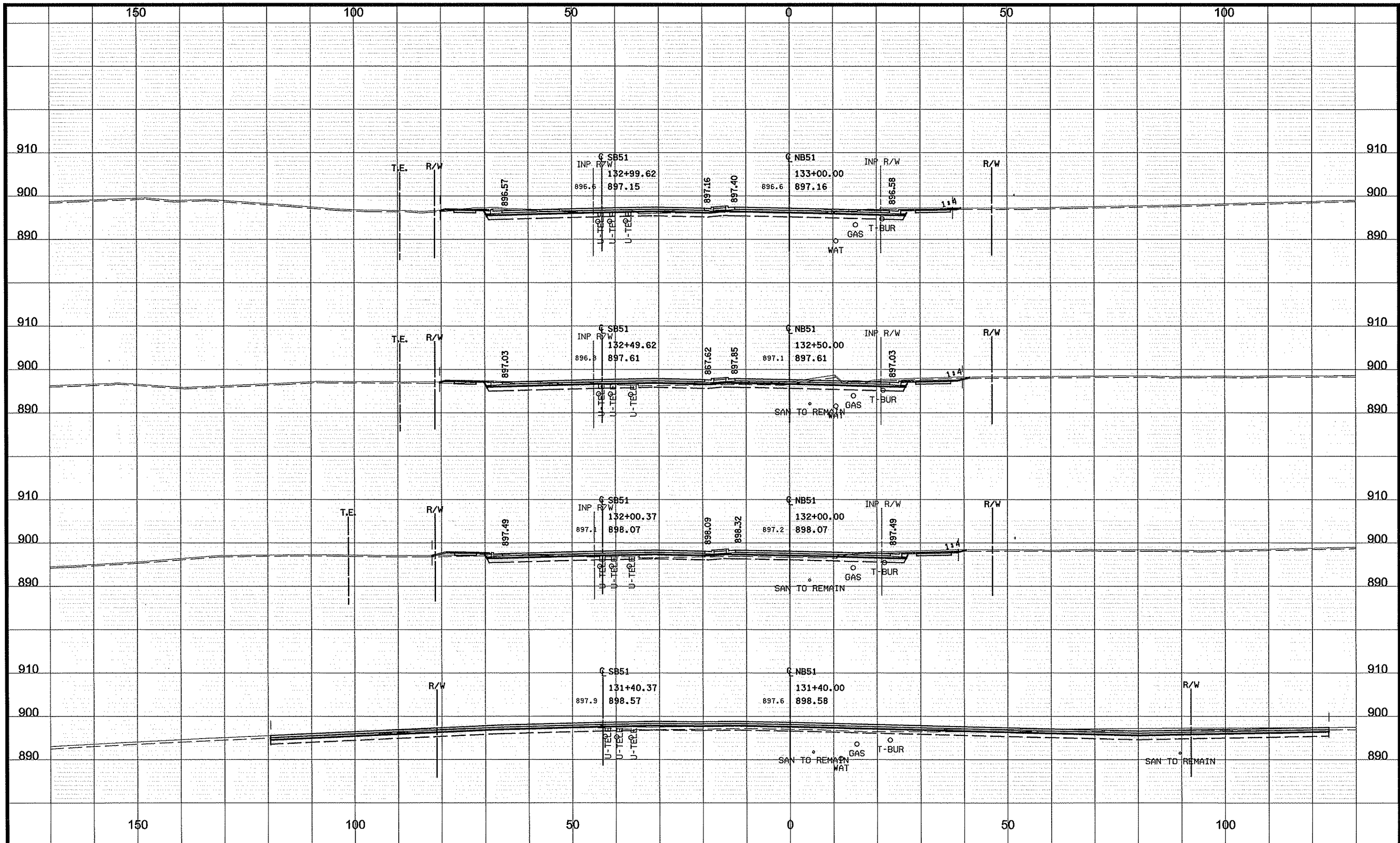
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STATE PROJECT NO. 02-651-06
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 STATE PROJECT NO. 114-020-23

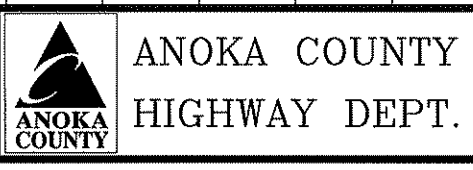
CROSS SECTIONS
 STA 130+25 to STA 131+24
 Sheet 146 of 159 Sheets



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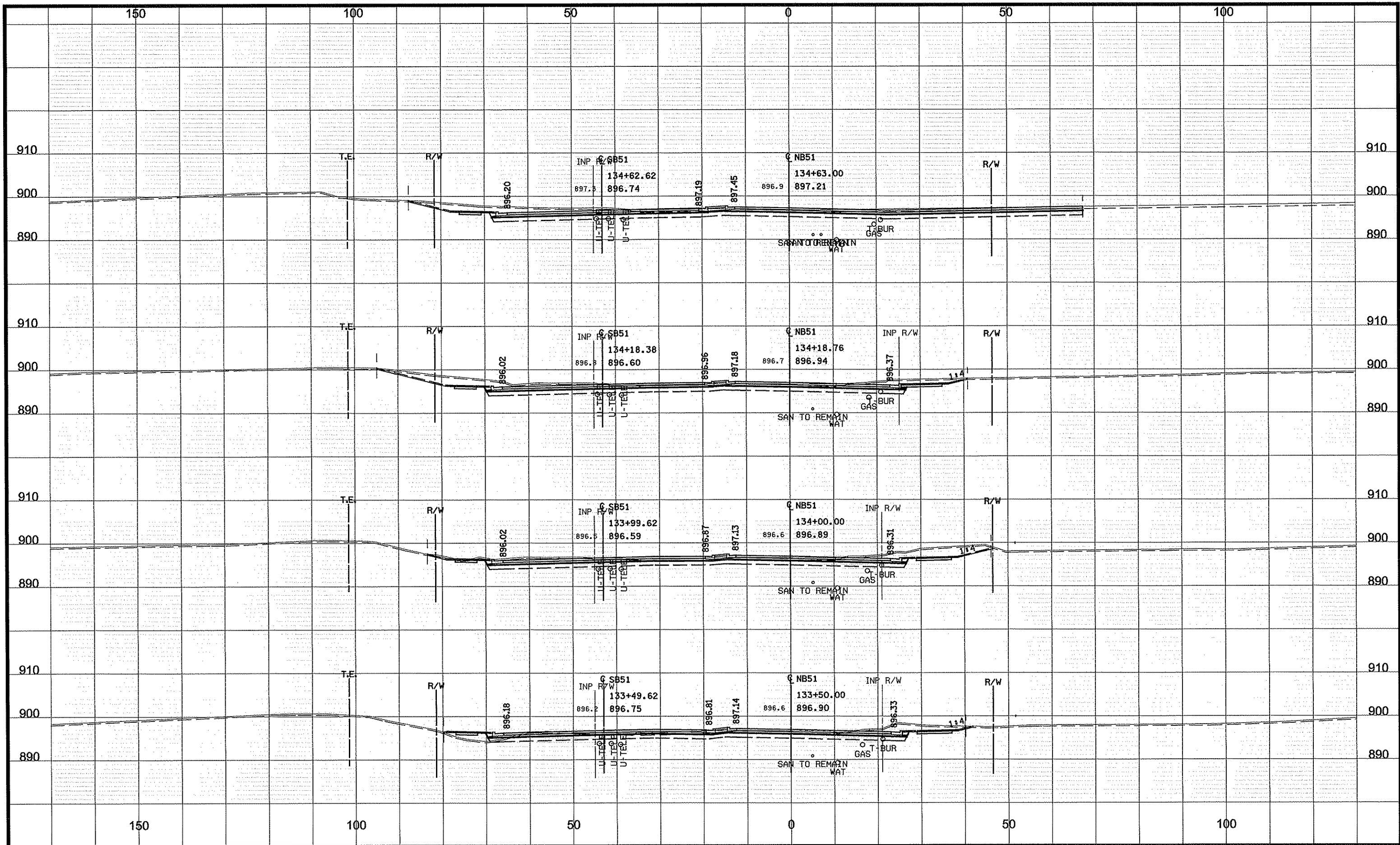
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

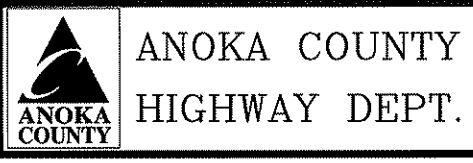
CROSS SECTIONS
 STA 131+40 to STA 133+00
 Sheet 147 of 159 Sheets



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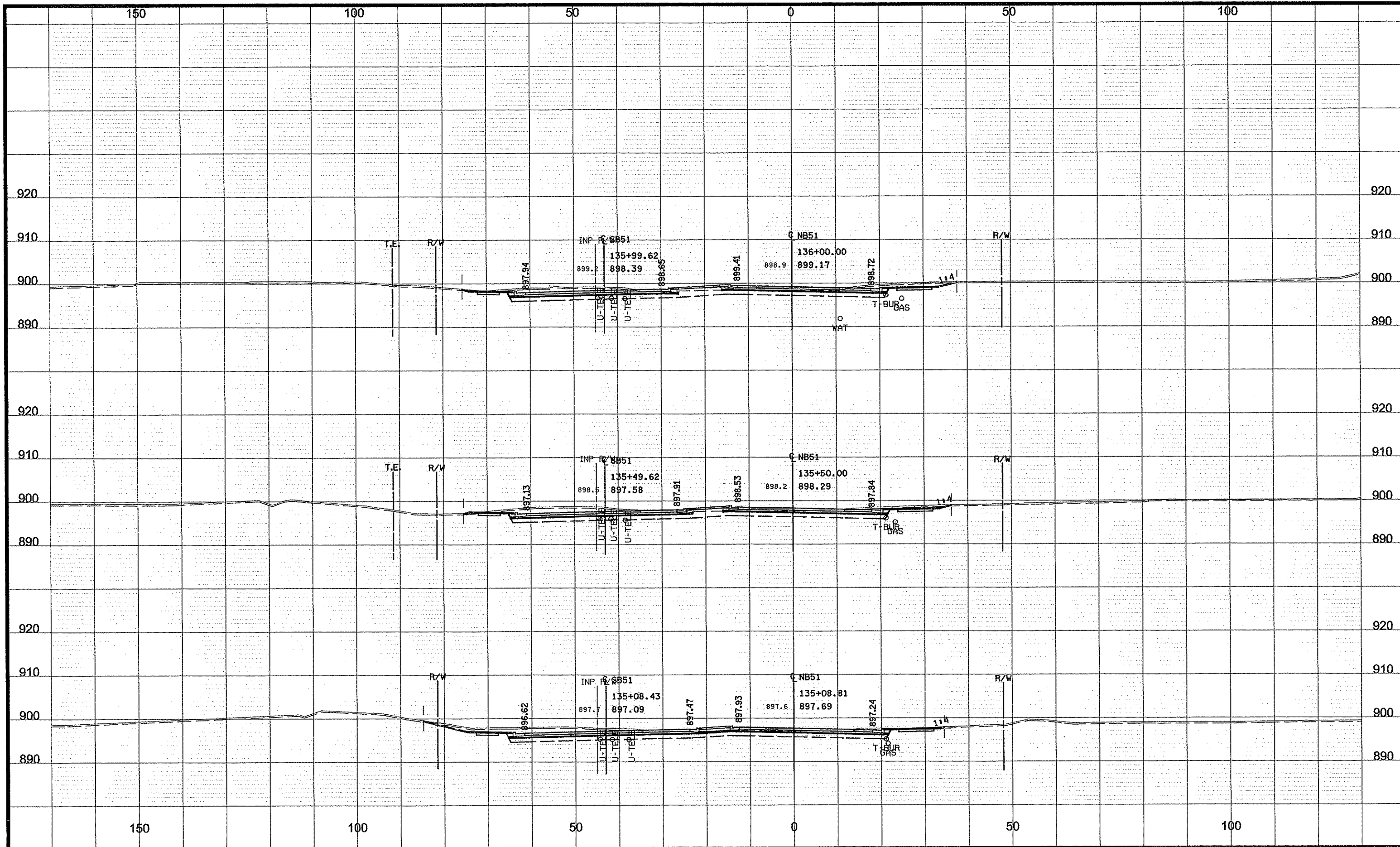
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 CHECKED BY CAK DATE 8-17-07



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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

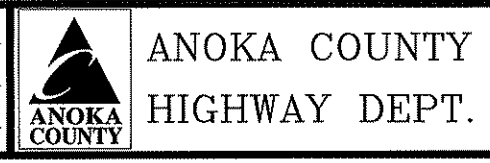
CROSS SECTIONS
 STA 133+50 to STA 134+63
 Sheet 148 of 159 Sheets



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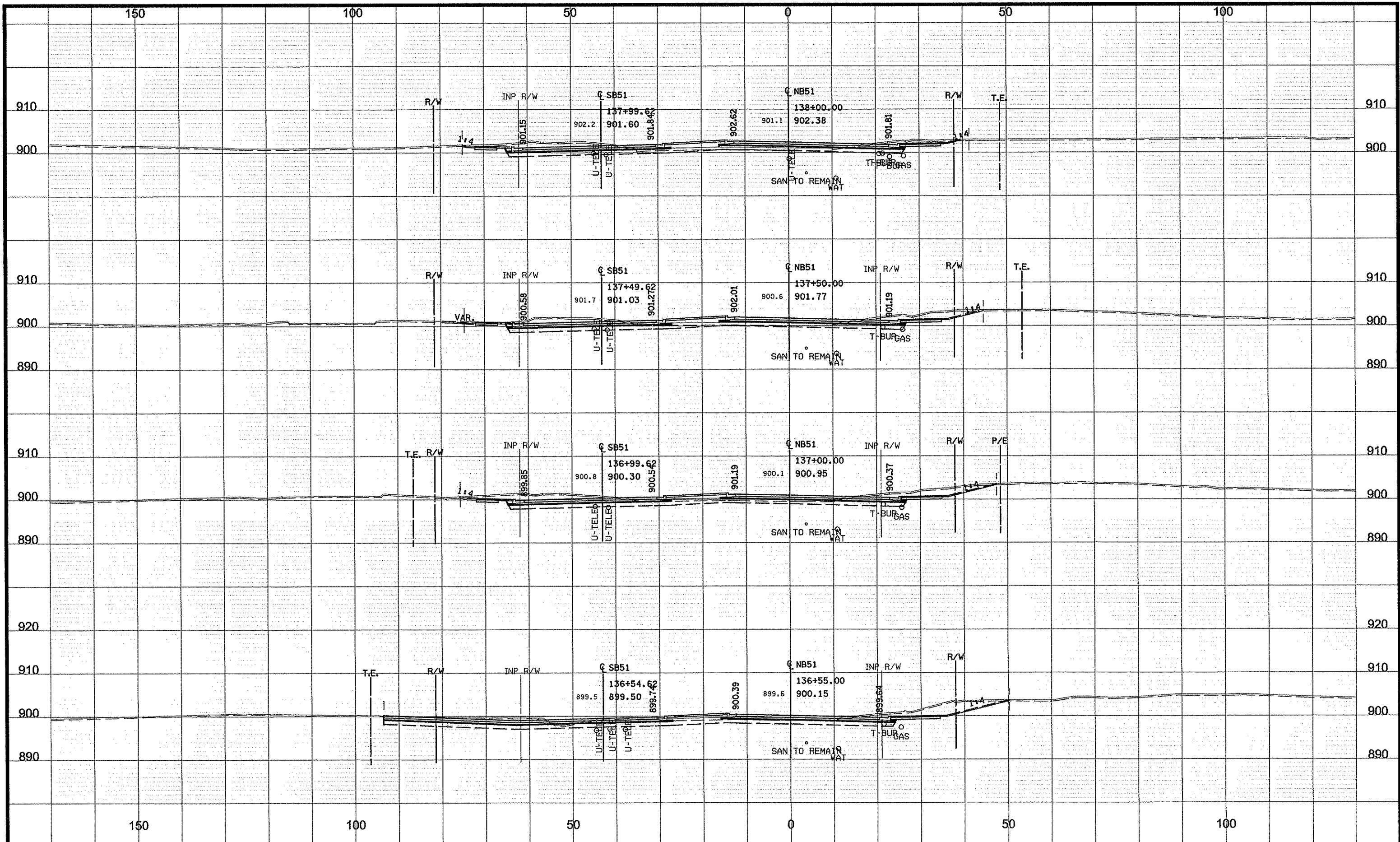
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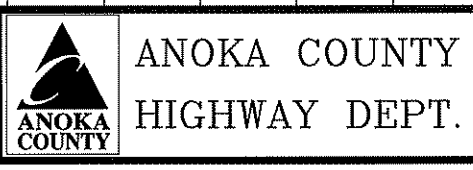
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 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 135+08 to STA 136+00
 Sheet 149 of 159 Sheets



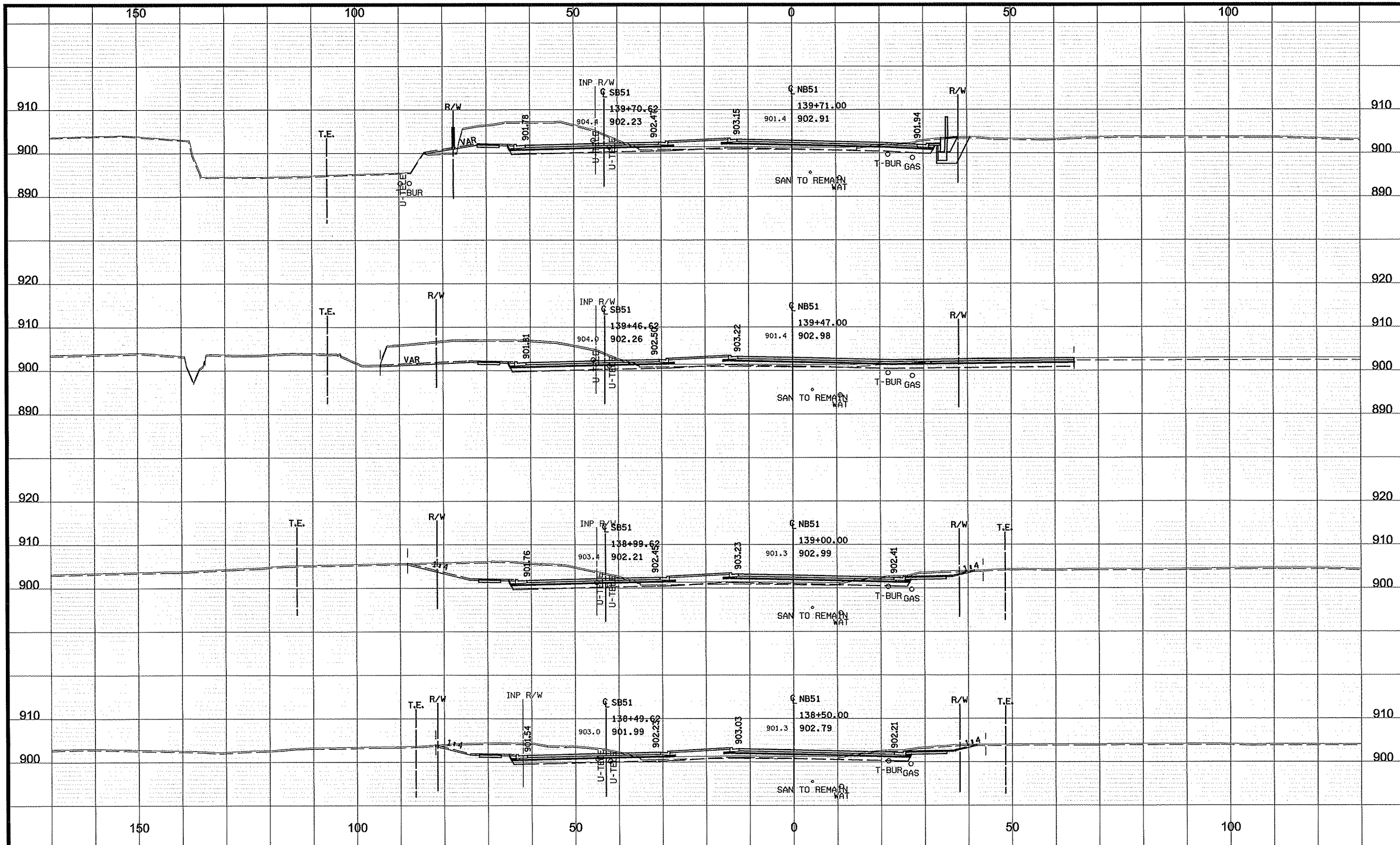
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

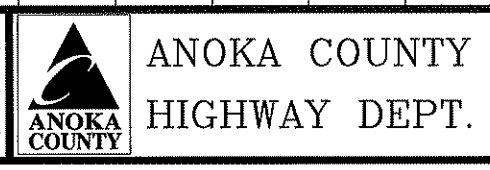
CROSS SECTIONS
 STA 136+55 to STA 138+00
 Sheet 150 of 159 Sheets



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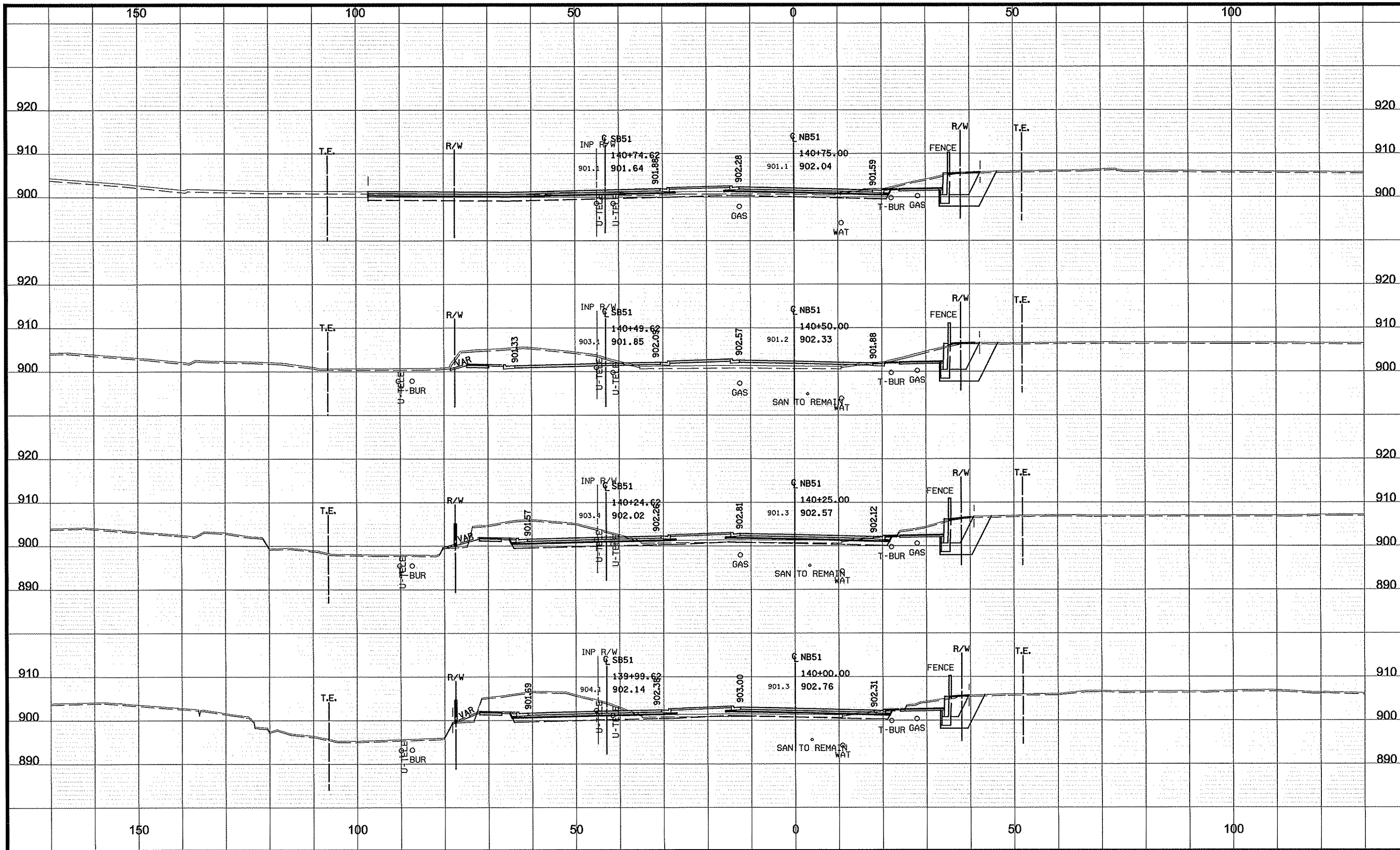
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 CHECKED BY CAK DATE 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 138+50 to STA 139+71
 Sheet 151 of 159 Sheets



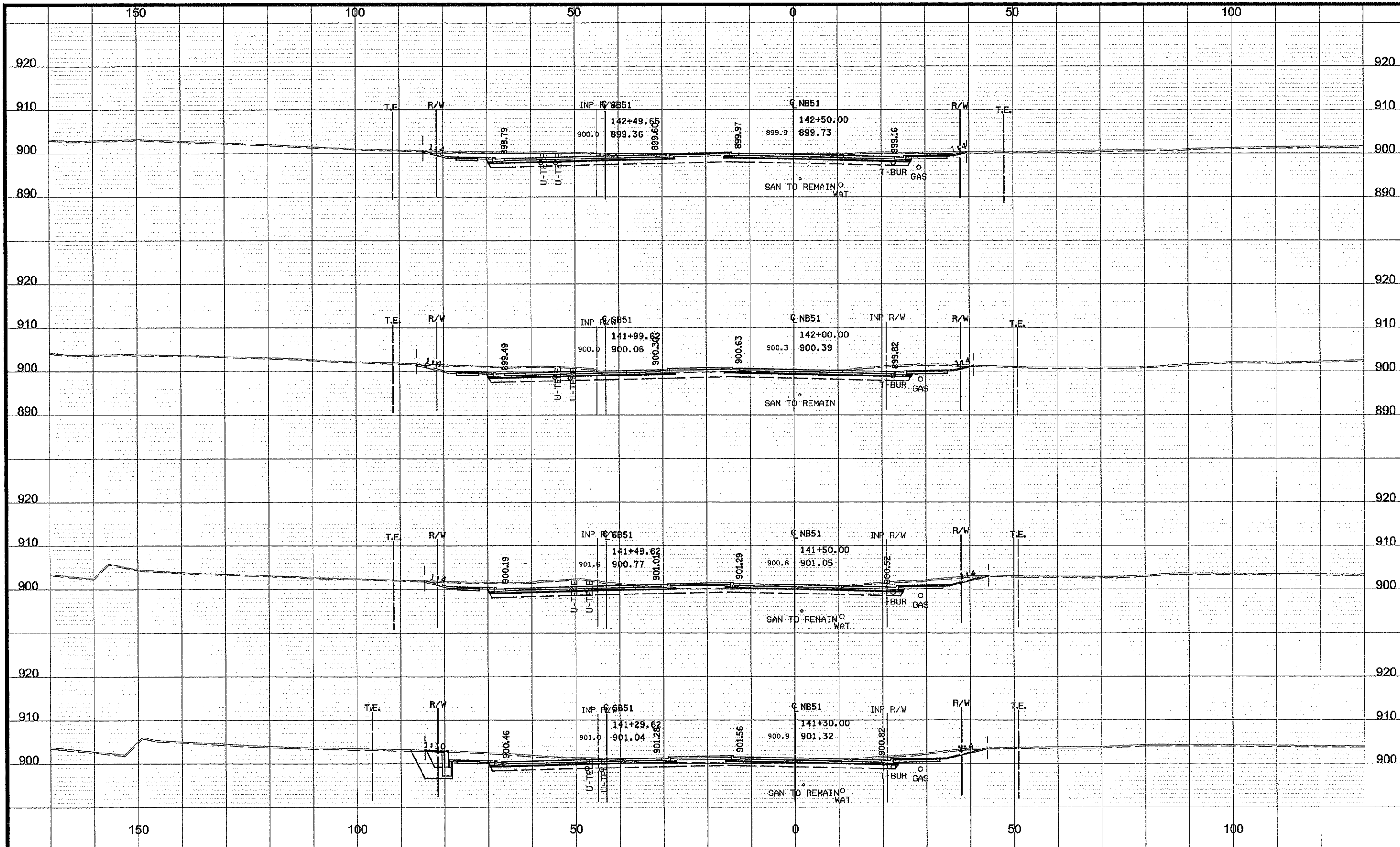
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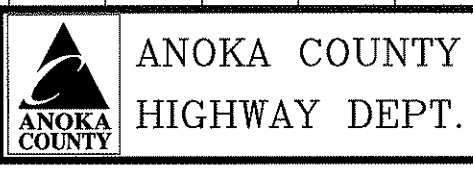
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 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 140+00 to STA 140+75
 Sheet 152 of 159 Sheets



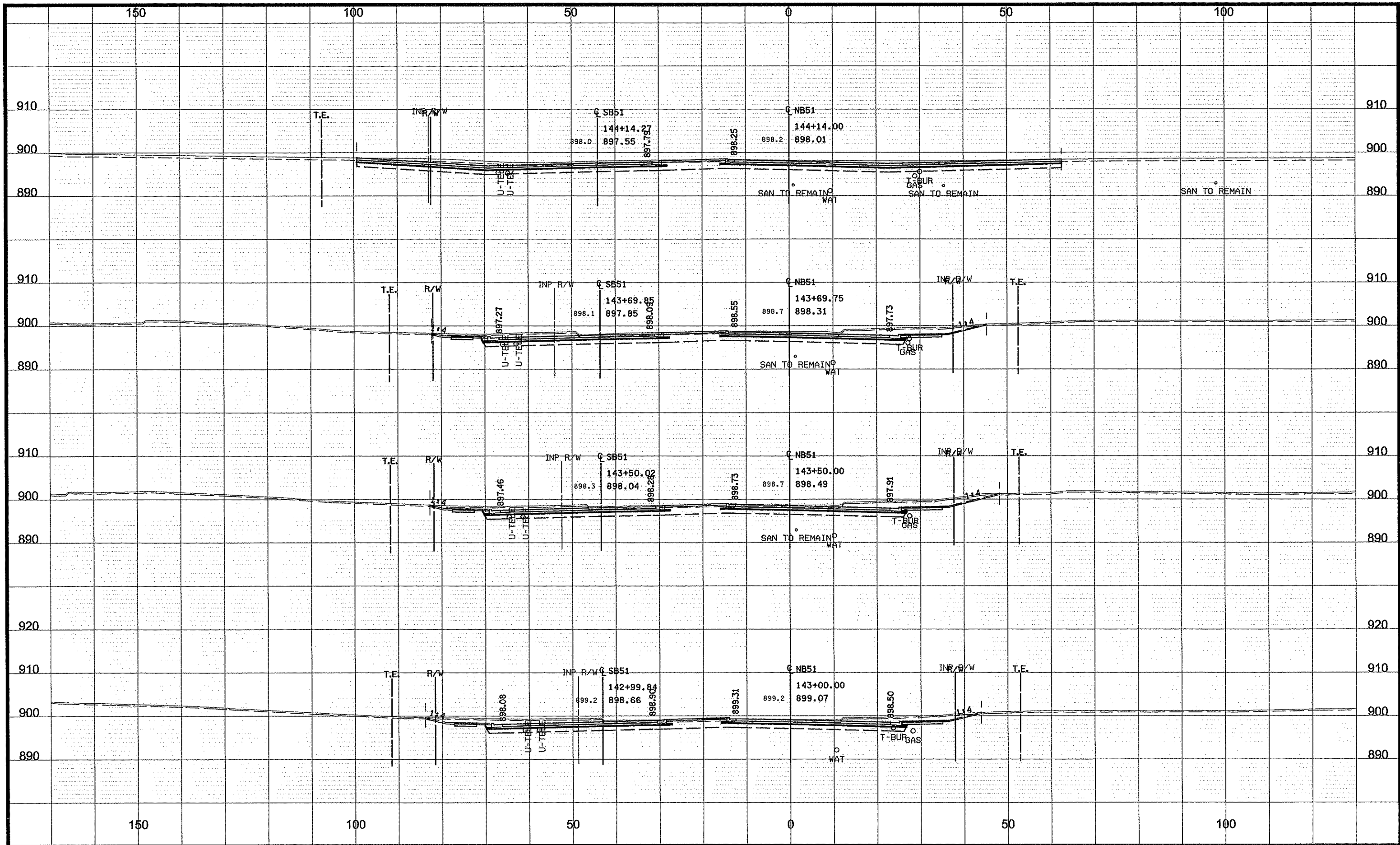
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STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

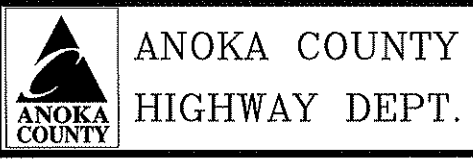
CROSS SECTIONS
 STA 141+30 to STA 142+50
 Sheet 153 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

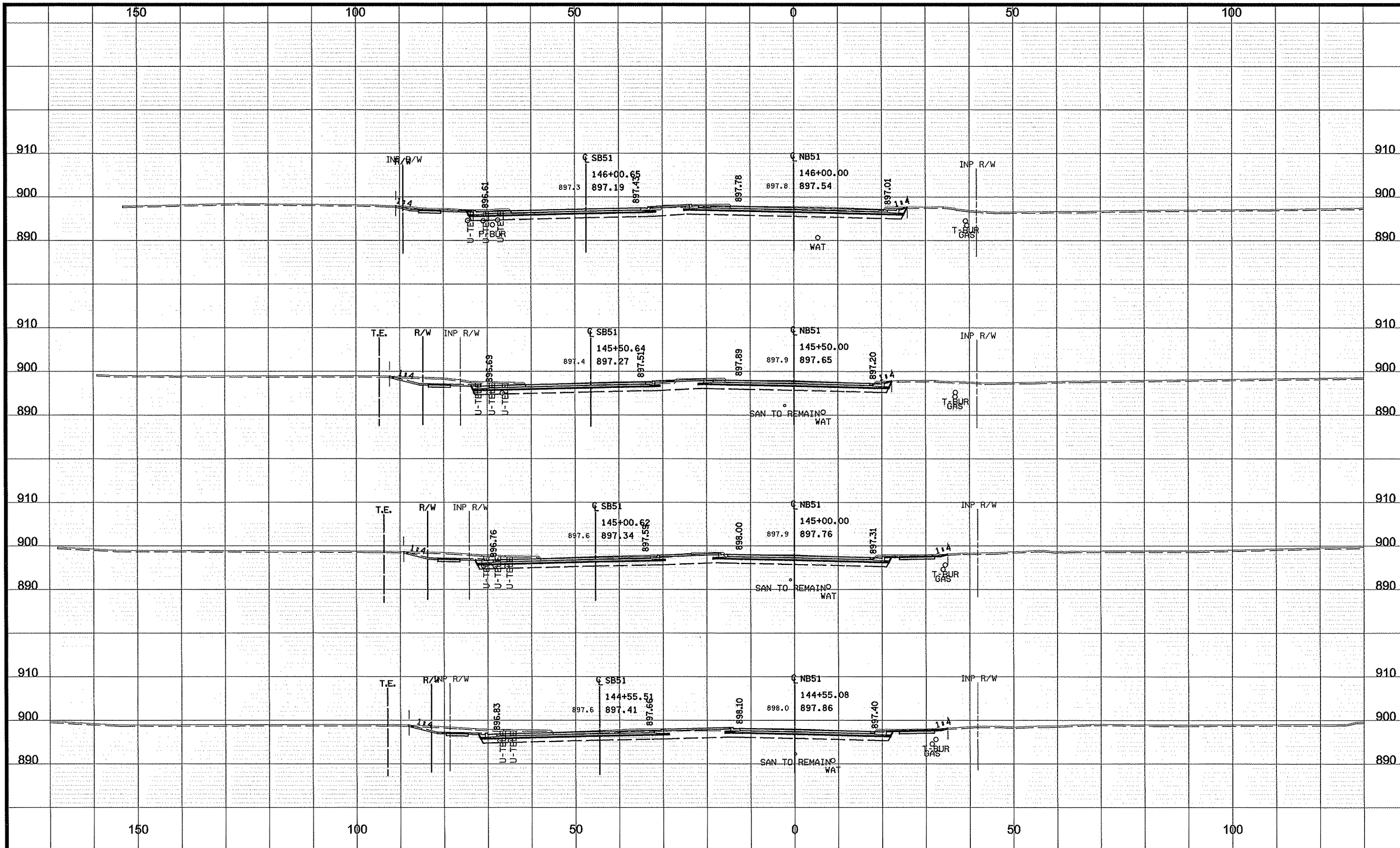
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 DESIGN BY JEO DATE 8-17-07
 CHECKED BY CAK DATE 8-17-07



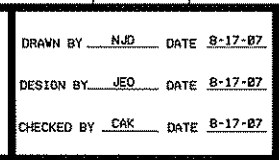
STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 143+00 to STA 144+14
 Sheet 154 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION
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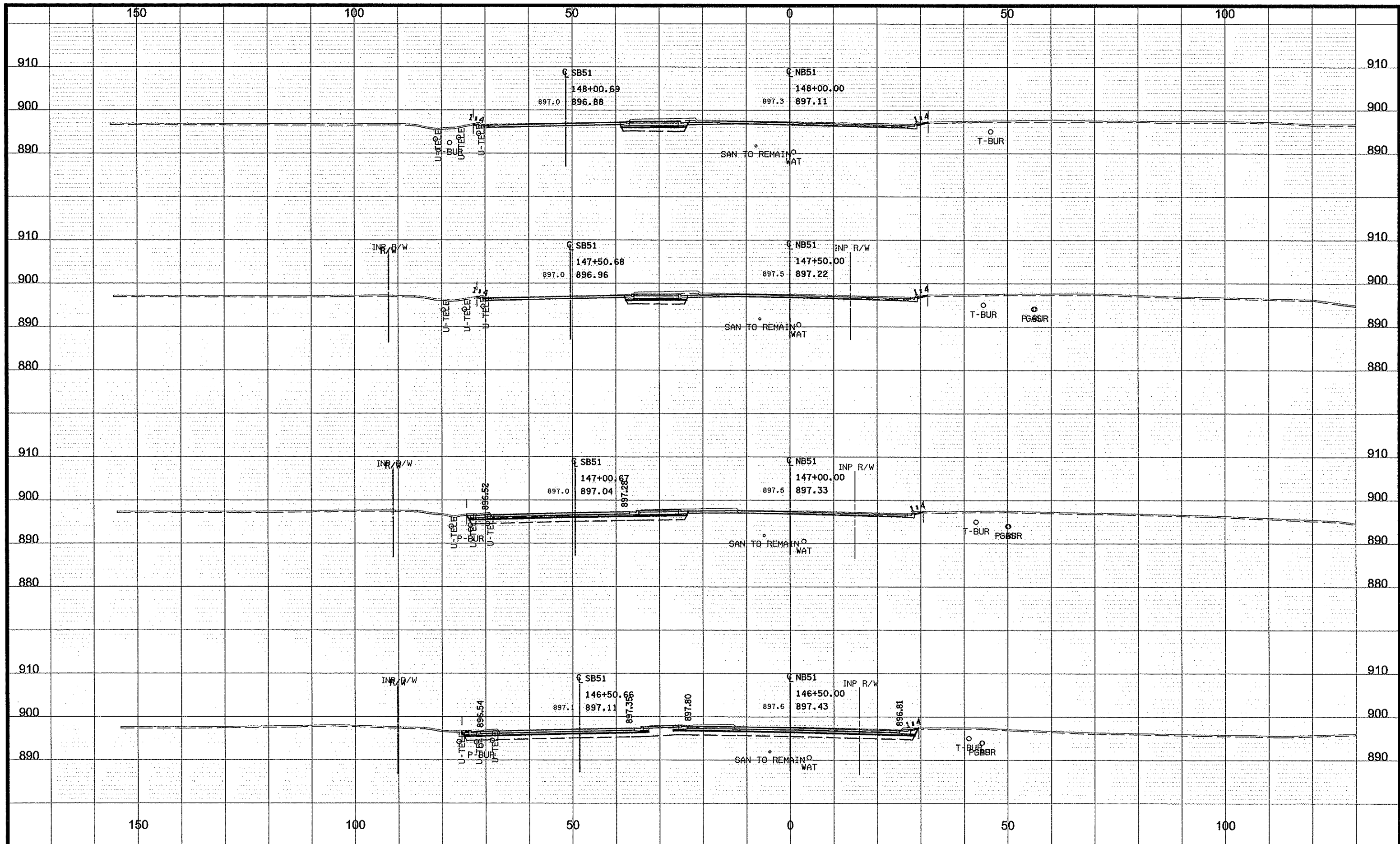
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DESIGN BY	JEO	DATE	8-17-07
CHECKED BY	CAK	DATE	8-17-07



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 144+55 to STA 146+00
 Sheet 155 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

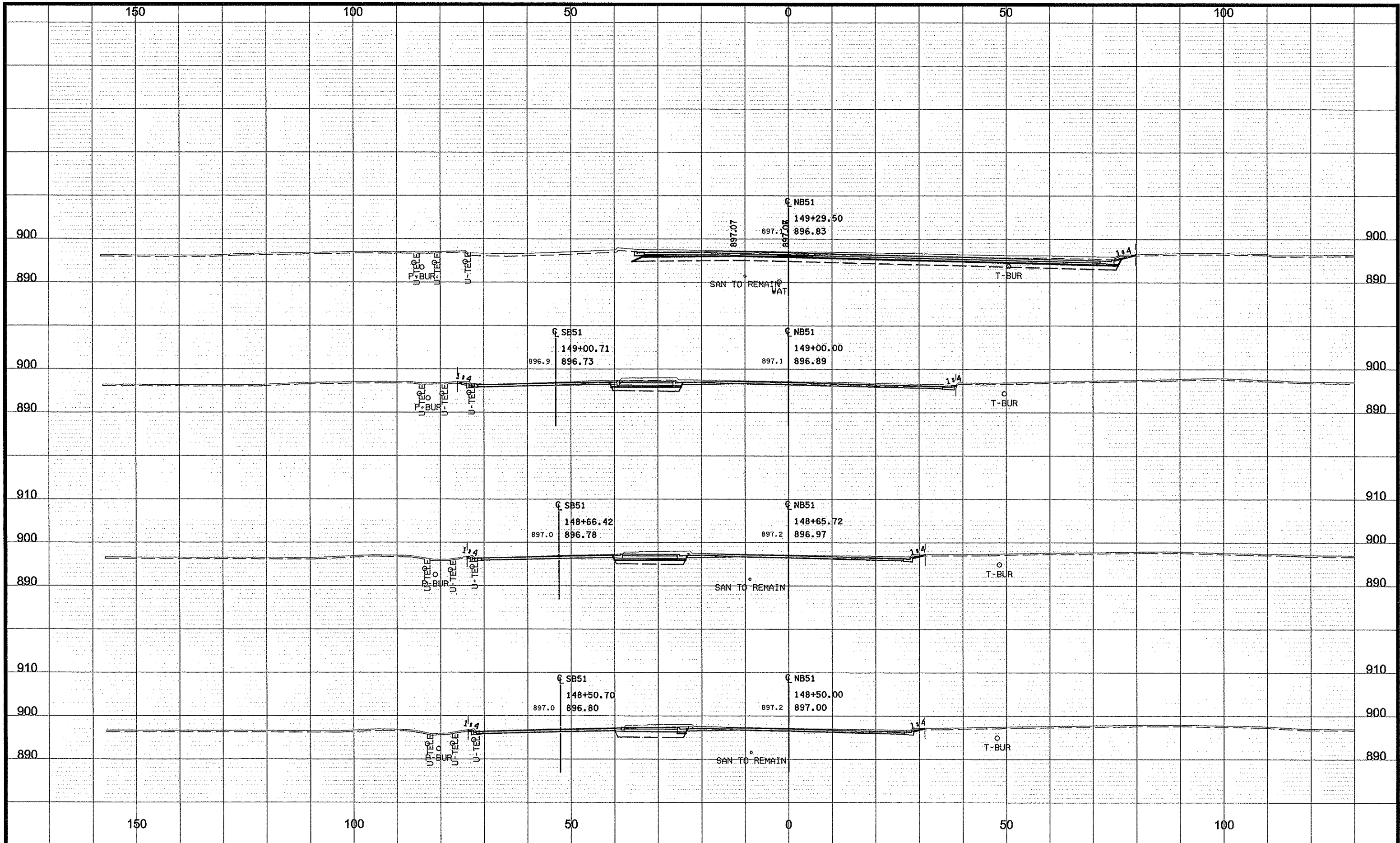
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DESIGN BY	JED	DATE	8-17-07
CHECKED BY	CAK	DATE	8-17-07

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO.	02-651-06
STATE PROJECT NO.	106-020-27
STATE PROJECT NO.	114-020-23

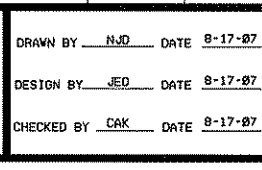
CROSS SECTIONS
STA 146+50 to STA 148+00
Sheet 156 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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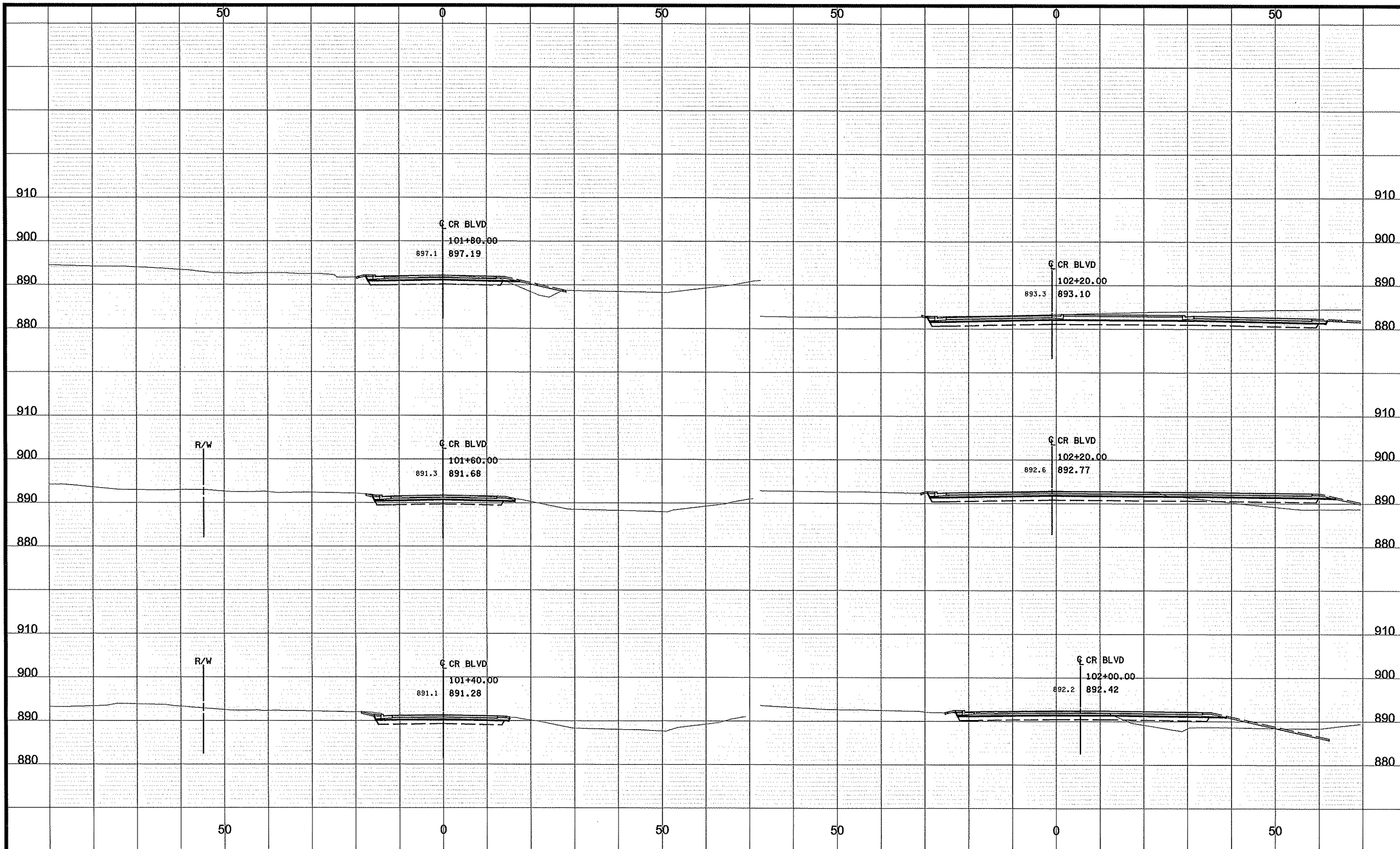
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**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 STA 148+50 to STA 149+29
 Sheet 157 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

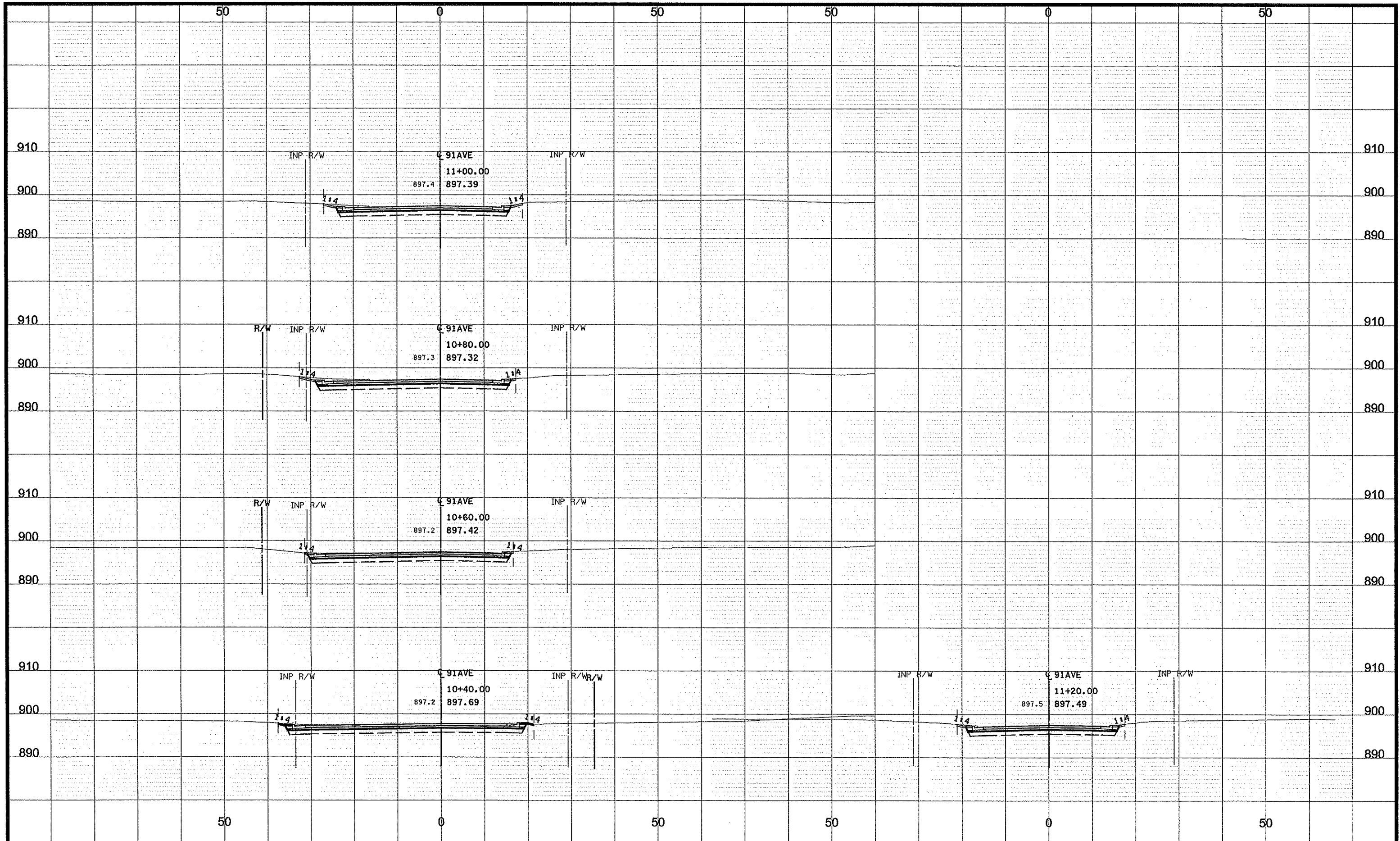
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CHECKED BY	CAK	DATE	8-17-87

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 02-651-06
STATE PROJECT NO. 106-020-27
STATE PROJECT NO. 114-020-23

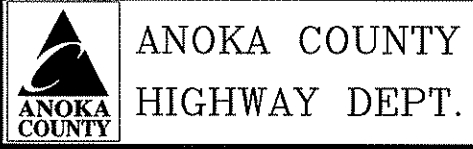
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NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY NJD DATE 8-17-07
 DESIGN BY JEO DATE 8-17-07
 CHECKED BY CAK DATE 8-17-07



STATE PROJECT NO. 02-651-06
 STATE PROJECT NO. 106-020-27
 STATE PROJECT NO. 114-020-23

CROSS SECTIONS
 91ST AVE EAST
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