

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY HIGHWAY DEPARTMENT

CSAH 12 RECONSTRUCTION

CONSTRUCTION PLANS FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CONCRETE CURB AND GUTTER, BITUMINOUS TRAIL LANDSCAPING, DRAINAGE, UTILITY IMPROVEMENTS AND TRAFFIC SIGNAL IMPROVEMENTS

LOCATED ON CSAH 12 (109TH AVENUE NE) BETWEEN TH 65 AND CSAH 52 (RADISSON ROAD) IN BLAINE

CSAH 12
TH 65 to CSAH 52 (RADISSON ROAD)
STATE PROJ. No. 02-612-11, 106-020-025
GROSS-LENGTH 5836.41 FEET - 1.105 MILES
BRIDGE-LENGTH 0.00
EXCEPTIONS-LENGTH 0.00
NET-LENGTH 5836.41 FEET - 1.105 MILES
NOTE: LENGTH AND STATIONING BASED ON THE
CSAH 12 EB ALIGNMENT

SCALES IN FEET

INDEX: 0 1500 3000 6000

MAP:

ALIGNMENT: 0 50 100 200

PLAN: 0 25 50 100

PROFILE: 0 25 50 100

HORIZONTAL SCALE

0 5 10

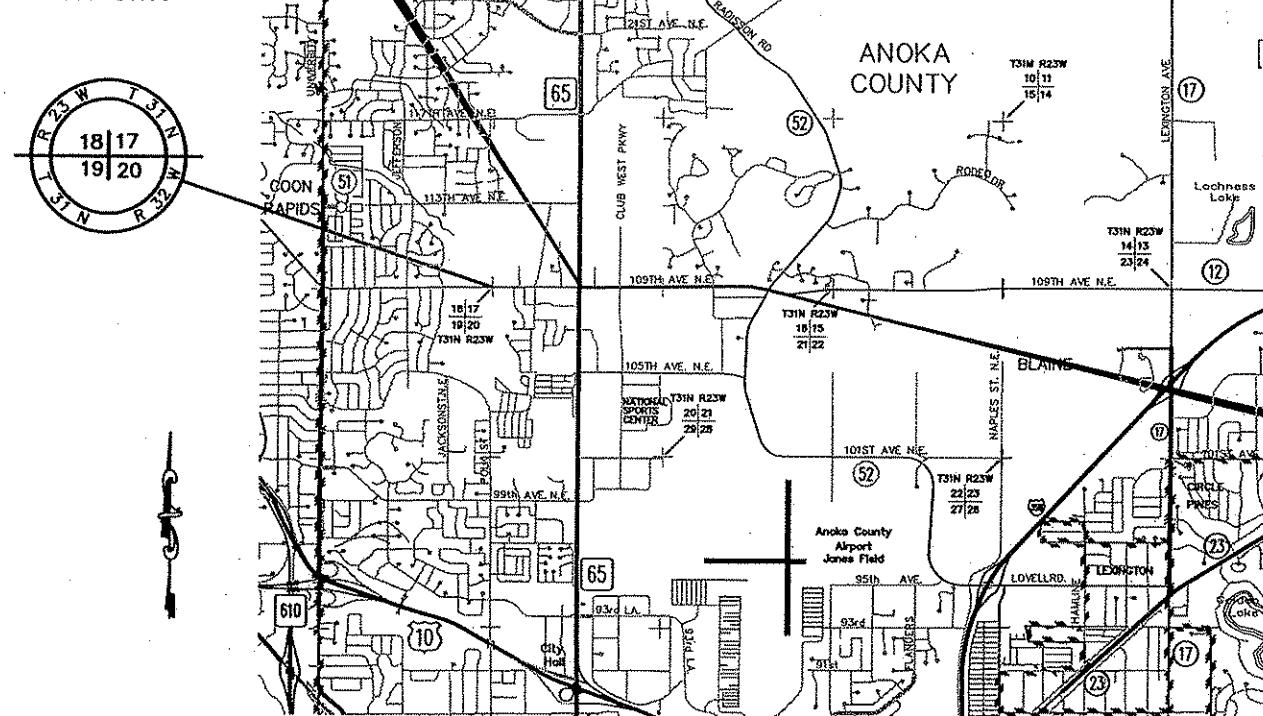
VERTICAL SCALE

CROSS SECTIONS: 0 5 10 20

LEGEND

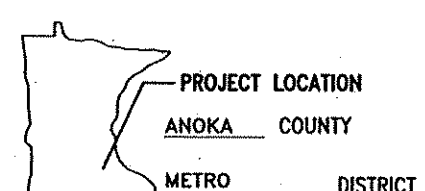
- EXISTING GATE VALVE
- EXISTING HYDRANT
- EXISTING CURB BOX
- EXISTING MANHOLE, STORM
- EXISTING MANHOLE, SANITARY SEWER
- EXISTING CATCH BASIN
- EXISTING POWER POLE
- EXISTING SANITARY SEWER
- EXISTING FORCE MAIN
- EXISTING STORM SEWER
- EXISTING WATER MAIN
- EXISTING CURB AND GUTTER
- EXISTING UNDERGROUND GAS MAIN
- EXISTING UNDERGROUND ELECTRIC
- EXISTING SIGNAL SYSTEM
- EXISTING TV FIBER OPTIC
- EXISTING TV COMMUNICATIONS
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING OVERHEAD POWER
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREE LINE
- EXISTING STREET SIGN
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED REDUCER
- PROPOSED TEE
- PROPOSED GATE VALVE
- PROPOSED HYDRANT
- PROPOSED MANHOLE, FOR STORM AND SANITARY SEWER
- PROPOSED CATCH BASIN
- PROPOSED FLARED END SECTION
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED CURB AND GUTTER

BEGIN S.P. 02-612-11
CSAH 12 EB
STA. 101+81.00

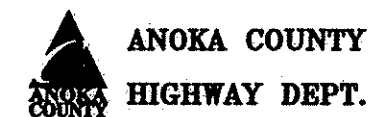


STATE PROJ. NO.

CHARGE IDENTIFIER



END S.P. 02-612-11
CSAH 12 EB
STA. 160+17.41



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

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

DATE _____ Lic. No. _____

FEDERAL PROJ. No. STPX 0206 ()

GOVERNING SPECIFICATIONS AS AMENDED
THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

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179-211	CROSS SECTION

THIS PLAN SET CONTAINS 211 SHEETS

URS
Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED 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 8/18/05 Lic.No. 40545

ENGINEER Steve Weser
STEVE WESER, P.E.

DESIGN SQUAD SW, CN, LJ, JB

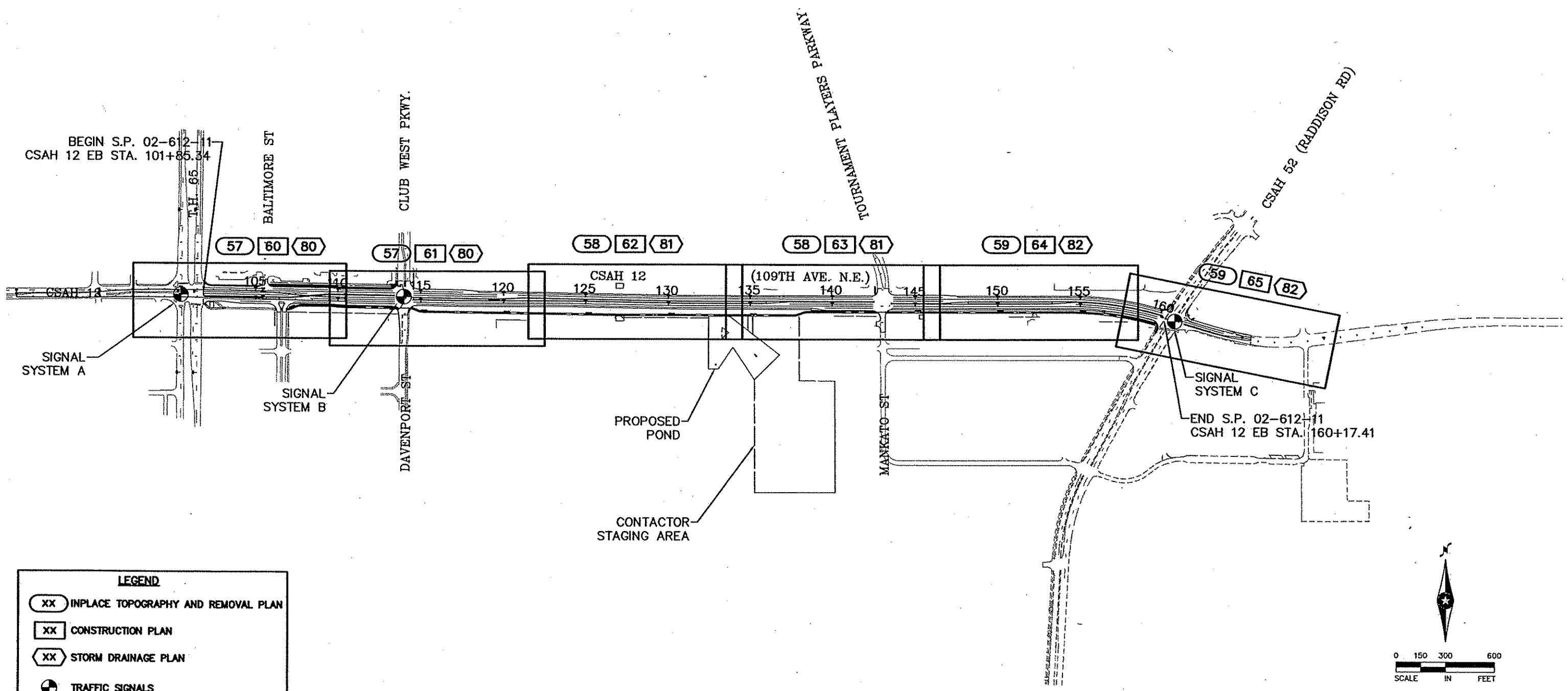
Approved _____	ANOKA COUNTY ENGINEER	20
Approved _____	CITY OF BLAINE ENGINEER	20
State Aid Approvals _____	DISTRICT STATE AID ENGINEER	20
REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES/POLICY		20
APPROVED FOR STATE AND FEDERAL AID FUNDING: STATE AID ENGINEER		20

DESIGN DESIGNATION: CSAH 12 S.P. 02-612-11
from TH 65 TO CLUB WEST PARKWAY / DAVENPORT STREET
Functional Classification: "A" MINOR ARTERIAL
No. of Traffic Lanes = 4 No. of Parking Lanes = 0
ADT (Current Year) 2005 = 17,450 Design Speed 55 MPH
ADT (Future Year) 2025 = 26,175 Based on STOPPING Sight Distance
D (Design Hr. Vol.) = NA Height of eye 3.5' Height of Object 2'
D (Directional Distr.) = 45 % Design Speed not achieved at N.A.
T (Heavy Commercial) = 5.9 % STA. N.A. TO STA. N.A. MPH. N.A.
R-Value 60 20 YR BESALS 2,300,000 Design Load 10 ton

DESIGN DESIGNATION: CSAH 12 S.P. 02-612-11
from CLUB WEST PARKWAY / DAVENPORT STREET TO CSAH 52 (RADISSON ROAD)
Functional Classification: "A" MINOR ARTERIAL
No. of Traffic Lanes = 4 No. of Parking Lanes = 0
ADT (Current Year) 2005 = 14,850 Design Speed 55 MPH
ADT (Future Year) 2025 = 22,275 Based on STOPPING Sight Distance
D (Design Hr. Vol.) = NA Height of eye 3.5' Height of Object 2'
D (Directional Distr.) = 45 % Design Speed not achieved at N.A.
T (Heavy Commercial) = 5.9 % STA. N.A. TO STA. N.A. MPH. N.A.
R-Value 60 20 YR BESALS 2,000,000 Design Load 10 ton

PLOT DATE: Aug 18, 4:33pm DISK FILE NAME: (16.1) R:\31808791\PLAN-SHT\CV.dwg

PLOT DATE: Aug 18, 2005 7:21pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\CL.dwg



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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: LGJ	DESIGN BY: LGJ
CHKD. BY: SAW	DWG. NAME: CL	DATE: AUGUST 18, 2005



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1375 Fax

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

Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
GENERAL LAYOUT

S.P. 02-612-11	SHEET NO. 2 211
S.P. 106-020-025	
S.P.	
S.P.	

STATEMENT OF ESTIMATED QUANTITIES

TAB.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	S.P. 02-612-11, S.P. 106-020-025					
						ANOKA COUNTY			CITY OF BLAINE		
						ELIGIBLE	NON-ELIGIBLE	DRAINAGE	ELIGIBLE	NON-ELIGIBLE	LANDSCAPE
	2021.501	MOBILIZATION		LUMP SUM	1	0.64		0.21	0.08	0.01	0.06
	2031.501	FIELD OFFICE TYPE D MODIFIED		EACH	1	0.64		0.21	0.08	0.01	0.06
	2041.610	TRAINEES		HOUR							
B	2101.501	CLEARING		ACRE	0.06	0.06					
B	2101.502	CLEARING	7	TREE	38	38					
B	2101.506	GRUBBING		ACRE	0.06	0.06					
B	2101.507	GRUBBING	7	TREE	38	38					
	2102.501	PAVEMENT MARKING REMOVAL -- PERMANENT		SQ FT	1850	1850					
	2102.502	PAVEMENT MARKING REMOVAL -- TEMPORARY		LIN FT	3900	3900					
	2102.502	PAVEMENT MARKING REMOVAL -- PERMANENT		LIN FT	25700	25700					
	2104.501	REMOVE PIPE CULVERTS	6	LIN FT	368	368					
	2104.501	REMOVE SEWER PIPE (STORM)		LIN FT	346	346					
	2104.501	REMOVE SEWER PIPE (SANITARY)		LIN FT	172		172				
B	2104.501	REMOVE CURB AND GUTTER		LIN FT	3782	3782					
B	2104.503	REMOVE CONCRETE WALK		SQ FT	7345	7345					
B	2104.505	REMOVE BITUMINOUS PAVEMENT	4	SQ YD	40144	40144					
	2104.509	REMOVE DRAINAGE STRUCTURE		EACH	6	6					
	2104.509	REMOVE PIPE APRON	6	EACH	2	2					
	2104.509	REMOVE LIGHT BASE		EACH	1	1					
	2104.509	REMOVE SIGN TYPE SPECIAL	9	EACH	1	1					
B	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	10	LIN FT	60	60					
B	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	12500	12,500					
	2104.523	SALVAGE PIPE APRON		EACH	2	2					
	2104.523	SALVAGE SIGN TYPE SPECIAL	8	EACH	5	5					
	2104.523	SALVAGE SIGN TYPE C		EACH	51	51					
	2104.523	SALVAGE SIGN TYPE D		EACH	1	1					
	2104.523	SALVAGE DELINEATOR		EACH	14	14					
	2104.601	HAUL SALVAGED MATERIAL		LUMP SUM	1		0.5			0.5	
	2104.602	RELOCATE STREET LIGHT		EACH	1	1					
A	2105.501	COMMON EXCAVATION	(P)	CU YD	25237	25237					
A	2105.505	MUCK EXCAVATION		CU YD	34173	34173					
A	2105.507	SUBGRADE EXCAVATION	(P)	CU YD	24665	24665					
A	2105.507	SUBGRADE EXCAVATION		CU YD	1200	1200					
A	2105.522	SELECT GRANULAR BORROW (CV)	(P)	CU YD	43472	43472					
A	2105.522	SELECT GRANULAR BORROW (LV)		CU YD	1400	1400					
A	2105.522	SELECT GRANULAR BORROW MOD 5% (LV)	(P)	CU YD	1960	1960					
	2130.501	WATER		M GALLON	200	200					
	2211.501	AGGREGATE BASE CLASS 5	14	TON	700	700					
C	2211.503	AGGREGATE BASE (CV) CLASS 5	(P)	CU YD	15187	14,353		834			
C	2221.501	AGGREGATE SHOULDERING CLASS 2 MOD		TON	187	187					
	2232.501	MILL BITUMINOUS SURFACE (2.0")		SQ YD	2574	2574					
D	2350.501	TYPE LV 4 WEARING COURSE MIXTURE (B)	5	TON	726			726			
D	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	5432	5432					

- NOTES:
- PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN.
 - TEMPORARY PAVEMENT FOR STAGED CONSTRUCTION
 - HEAT TAPE - SEE SPECIAL PROVISIONS
 - FOR ALL PAVEMENT REGARDLESS OF DEPTH
 - BITUMINOUS TRAIL
 - RCP AND CMP
 - GREATER THAN 4" DIAMETER (TREES LESS THAN 4" DIAMETER AND SHRUBS ARE INCIDENTAL)
 - STREET NAME SIGNS
 - COMMERCIAL SIGN
 - CONCRETE WALK AND CURB AND GUTTER
 - 100% CRUSHED
 - IRRIGATION SLEEVE (SCHEDULE 80 PVC)
 - ITEM INCLUDES ASSOCIATED FITTINGS (SLEEVES, ETC. AND JOINT RESTRAINT
 - TEMPORARY PAVEMENT PATCHING AND EDGELINE RAMPING FOR STAGED CONSTRUCTION
 - PERMANENT BULKHEAD. NO PAYMENT WILL BE MADE FOR TEMPORARY BULKHEADS NEEDED FOR STAGED CONSTRUCTION
 - TEMPORARY
 - INCLUDES BRACE ASSEMBLIES AND ELECTRICAL GROUND

PLOT DATE: Aug 18, 4:31pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SEQ1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWG. NAME: SEQ1

DATE:
AUGUST 18, 2005

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

Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STATEMENT OF ESTIMATED QUANTITIES

S.P. 02-612-11	SHEET NO. 3 211
S.P. 106-020-025	
S.P.	
S.P.	

STATEMENT OF ESTIMATED QUANTITIES

S.P. 02-612-11, S.P. 106-020-025

TAB.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	S.P. 02-612-11, S.P. 106-020-025					
						ANOKA COUNTY			CITY OF BLAINE		
						ELIGIBLE	NON-ELIGIBLE	DRAINAGE	ELIGIBLE	NON-ELIGIBLE	LANDSCAPE
ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY						
D	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,F)		TON	12753	12753					
D	2360.502	TYPE SP 12.5 NON WEAR COURSE MIXTURE (3,B)		TON	6578	6578					
	2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	2	TON	500	500					
M	2501.511	66" RC PIPE CULVERT		LIN FT	161	161					
M	2501.515	15" RC PIPE APRON		EACH	4		4				
M	2501.515	18" RC PIPE APRON		EACH	1		1				
M	2501.515	30" RC PIPE APRON		EACH	1		1				
M	2501.515	36" RC PIPE APRON		EACH	1		1				
M	2501.525	58" SPAN RC PIPE-ARCH APRON		EACH	1		1				
M	2501.569	15" RC SAFETY APRON		EACH	5		5				
M	2501.573	INSTALL CONCRETE APRON		EACH	2	2					
M	2501.602	TRASH GUARD FOR 30" PIPE APRON		EACH	1		1				
M	2503.521	58" SPAN RC PIPE-ARCH SEWER CL IIA	1	LIN FT	183		183				
M	2503.541	15" RC PIPE SEWER DES 3006	1	LIN FT	3963		3963				
M	2503.541	18" RC PIPE SEWER DES 3006	1	LIN FT	887		887				
M	2503.541	21" RC PIPE SEWER DES 3006	1	LIN FT	711		711				
M	2503.541	24" RC PIPE SEWER DES 3006	1	LIN FT	368		368				
M	2503.541	30" RC PIPE SEWER DES 3006	1	LIN FT	270		270				
M	2503.541	33" RC PIPE SEWER DES 3006	1	LIN FT	388		388				
M	2503.541	36" RC PIPE SEWER DES 3006	1	LIN FT	2233		2233				
M	2503.541	48" RC PIPE SEWER DES 3006	1	LIN FT	783		783				
M	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	4	2	2				
J	2503.602	8" PIPE PLUG		EACH	1				1		
J	2503.602	8"X6" PVC WYE		EACH	1						
J	2503.602	CONSTRUCT BULKHEAD	15	EACH	5		5				
J	2503.602	CONNECT TO EXISTING SANITARY SEWER		EACH	2		2				
J	2503.602	RECONNECT SANITARY SEWER SERVICE		EACH	3		3		1		
J	2503.603	6" PVC PIPE SEWER		LIN FT	19		19				
J	2503.603	8" PVC PIPE SEWER		LIN FT	372		337		35		
	2504.601	IRRIGATION SYSTEM		LUMP SUM	1						1
I	2504.602	RELOCATE HYDRANT		EACH	5		5				
I	2504.602	CONNECT TO EXISTING WATERMAIN	13	EACH	7		7				2
I	2504.602	ADJUST VALVE BOX		EACH	7		7				
I	2504.602	2" CORPORATION STOP		EACH	2		2				2
I	2504.602	2" CURB STOP & BOX		EACH	2		2				2
I	2504.602	6" GATE VALVE		EACH	5		5				
I	2504.602	WATERMAIN OFFSET		EACH	2		2				
I	2504.603	2" TYPE K COPPER PIPE		LIN FT	310						310
I	2504.603	6" PVC WATERMAIN	12	LIN FT	155						155
I	2504.603	6" WATERMAIN DUCTILE IRON CL 52		LIN FT	132				132		
I	2504.603	WATERMAIN ENCASEMENT		LIN FT	132				132		
I	2504.604	4" POLYSTYRENE INSULATION		SQ YD	18		18				
I	2504.608	DUCTILE IRON FITTINGS		POUND	101				101		
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H		LIN FT	106.2		106.2				
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN G		LIN FT	201.0		201.0				
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN F		LIN FT	13.2		13.2				
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020		LIN FT	46.8		46.8				
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020		LIN FT	27.1		27.1				

- NOTES:
- PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN.
 - TEMPORARY PAVEMENT FOR STAGED CONSTRUCTION
 - HEAT TAPE - SEE SPECIAL PROVISIONS
 - FOR ALL PAVEMENT REGARDLESS OF DEPTH
 - BITUMINOUS TRAIL
 - RCP AND CMP
 - GREATER THAN 4" DIAMETER (TREES LESS THAN 4" DIAMETER AND SHRUBS ARE INCIDENTAL)
 - STREET NAME SIGNS
 - COMMERCIAL SIGN
 - CONCRETE WALK AND CURB AND GUTTER
 - 100% CRUSHED
 - IRRIGATION SLEEVE (SCHEDULE 80 PVC)
 - ITEM INCLUDES ASSOCIATED FITTINGS (SLEEVES, ETC. AND JOINT RESTRAINT
 - TEMPORARY PAVEMENT PATCHING AND EDGELINE RAMPING FOR STAGED CONSTRUCTION
 - PERMANENT BULKHEAD. NO PAYMENT WILL BE MADE FOR TEMPORARY BULKHEADS NEEDED FOR STAGED CONSTRUCTION
 - TEMPORARY
 - INCLUDES BRACE ASSEMBLIES AND ELECTRICAL GROUND

PLOT DATE: Aug 18, 4:31pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SEQ2.dwg

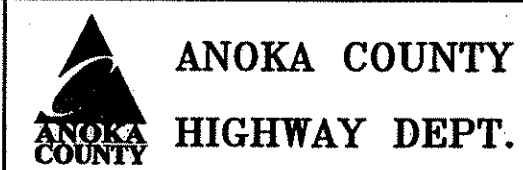
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JCD DESIGN BY: JCD
 CHKD. BY: SAW DWG. NAME: SEQ2
 DATE: AUGUST 18, 2005



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

Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



CSAH 12 RECONSTRUCTION STATEMENT OF ESTIMATED QUANTITIES

S.P. 02-612-11	SHEET NO. 4
S.P. 106-020-025	
S.P.	
S.P.	211

STATEMENT OF ESTIMATED QUANTITIES

TAB.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	S.P. 02-612-11, S.P. 106-020-025					
						ANOKA COUNTY			CITY OF BLAINE		
						ELIGIBLE	NON-ELIGIBLE	DRAINAGE	ELIGIBLE	NON-ELIGIBLE	LANDSCAPE
ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY						
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020		LIN FT	96.3			96.3			
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020		LIN FT	24.0			24.0			
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 78-4020		LIN FT	14.0			14.0			
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 90-4020		LIN FT	18.1			18.1			
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 96-4020		LIN FT	8.3			8.3			
M	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 108-4020		LIN FT	16.4			16.4			
M	2506.602	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 1		EACH	1			1			
J,M	2506.516	CASTING ASSEMBLY		EACH	128			128			
J	2506.522	ADJUST FRAME AND RING CASTING		EACH	4			4			
J	2506.603	RECONSTRUCT SANITARY MANHOLES		LIN FT	5			5			
J	2506.603	CONSTRUCT SANITARY MANHOLES		LIN FT	16.5			16.5			
M	2511.501	RANDOM RIPRAP CLASS II		CU YD	25			25			
M	2511.515	GEOTEXTILE FILTER TYPE IV		SQ YD	80			80			
E	2521.501	4" CONCRETE WALK		SQ FT	8339	2961		5378			
E	2521.501	6" CONCRETE WALK		SQ FT	734			734			
E	2521.501	4" CONCRETE WALK SPECIAL 1		SQ FT	18290	14083		3239			968
E	2521.501	4" CONCRETE WALK SPECIAL 2		SQ FT	11290	3839		2533			4918
E	2531.501	CONCRETE CURB & GUTTER DESIGN B424		LIN FT	9672	4836		4836			
E	2531.501	CONCRETE CURB & GUTTER DESIGN B612		LIN FT	70	35		35			
E	2531.501	CONCRETE CURB & GUTTER DESIGN B418 (MOD)		LIN FT	11162	11162					
E	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LIN FT	356	178		178			
	2531.507	8" CONCRETE DRIVEWAY PAVEMENT		SQ YD	10	10					
	2531.604	CONCRETE DRAINAGE FLUME		SQ YD	13	13					
	2531.618	TRUNCATED DOMES		SQ FT	272	16		256			
D	2535.501	BITUMINOUS CURB		LIN FT	435	435					
	2554.501	TRAFFIC BARRIER DESIGN B8307		LIN FT	13	13					
	2554.521	ANCHORAGE ASSEMBLY - PLATE BEAM		EACH	1	1					
	2554.523	END TREATMENT - FLARED TERMINAL		EACH	1	1					
M	2554.509	GUIDE POST TYPE B		EACH	15	2					
	2554.603	WATER FILLED BARRIER		LIN FT	3440	3440					
	2554.603	RELOCATE WATER FILLED BARRIER		LIN FT	1000	1000					
	2557.501	WIRE FENCE DESIGN 60V-9322	17	LIN FT	55	55					
	2563.601	TRAFFIC CONTROL		LUMP SUM	1	0.64		0.21	0.08	0.01	0.06
	2563.602	RAISED PAVEMENT MARKER TEMPORARY		EACH	350	350					
	2563.610	POLICE OFFICER		HOUR	80	80					
	2563.618	CONSTRUCTION SIGN-SPECIAL		SQ FT	1000	1000					
L	2564.531	SIGN PANELS TYPE C		SQ FT	410.26	410.26					
	2564.537	INSTALL SIGN TYPE SPECIAL		EACH	5	5					
	2564.552	HAZARD MARKER X4-2		EACH	7	7					
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT		EACH	41	41					
	2564.602	PAVEMENT MESSAGE (RIGHT-THRU ARROW) PAINT		EACH	27	27					
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT		EACH	17	17					
K	2564.602	PAVEMENT MESSAGE (LT ARROW) POLY PREFORM	3	EACH	21	21					
K	2564.602	PAVEMENT MESSAGE (RT ARROW) POLY PREFORM	3	EACH	17	17					

- NOTES:
- PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN.
 - TEMPORARY PAVEMENT FOR STAGED CONSTRUCTION
 - HEAT TAPE - SEE SPECIAL PROVISIONS
 - FOR ALL PAVEMENT REGARDLESS OF DEPTH
 - BITUMINOUS TRAIL
 - RCP AND CMP
 - GREATER THAN 4" DIAMETER (TREES LESS THAN 4" DIAMETER AND SHRUBS ARE INCIDENTAL)
 - STREET NAME SIGNS
 - COMMERCIAL SIGN
 - CONCRETE WALK AND CURB AND GUTTER
 - 100% CRUSHED
 - IRRIGATION SLEEVE (SCHEDULE 80 PVC)
 - ITEM INCLUDES ASSOCIATED FITTINGS (SLEEVES, ETC. AND JOINT RESTRAINT
 - TEMPORARY PAVEMENT PATCHING AND EDGELINE RAMPING FOR STAGED CONSTRUCTION
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 - TEMPORARY
 - INCLUDES BRACE ASSEMBLIES AND ELECTRICAL GROUND

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DATE: AUGUST 18, 2005




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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STATEMENT OF ESTIMATED QUANTITIES

S.P. 02-612-11	SHEET NO. 5
S.P. 106-020-025	
S.P.	
S.P.	

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STATEMENT OF ESTIMATED QUANTITIES

TAB.	ITEM NO.	DESCRIPTION	NOTES	UNIT	PROJECT TOTALS	S.P. 02-612-11, S.P. 106-020-025					
						ANOKA COUNTY			CITY OF BLAINE		
						ELIGIBLE	NON-ELIGIBLE	DRAINAGE	ELIGIBLE	NON-ELIGIBLE	LANDSCAPE
			ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY			
K	2564.602	PAVT MESSAGE (THRU ARROW) POLY PREF	3	EACH	4	4					
K	2564.602	PAVT MESSAGE (RT-THRU ARROW) POLY PREF	3	EACH	1	1					
	2564.603	4" SOLID LINE WHITE - PAINT		LIN FT	44200	44200					
	2564.603	24" STOP LINE WHITE - PAINT		LIN FT	700	700					
	2564.603	8" DOTTED LINE WHITE - PAINT		LIN FT	950	950					
	2564.603	4" SOLID LINE YELLOW - PAINT		LIN FT	21000	21000					
	2564.603	4" DOUBLE SOLID LINE YELLOW - PAINT		LIN FT	13900	13900					
	2564.603	24" SOLID LINE YELLOW - PAINT		LIN FT	1400	1400					
K	2564.603	4" SOLID LINE WHITE - EPOXY		LIN FT	20350	20350					
K	2564.603	8" DOTTED LINE WHITE - EPOXY		LIN FT	1122	1122					
K	2564.603	24" STOP LINE WHITE - EPOXY		LIN FT	448	448					
K	2564.603	4" BROKEN LINE WHITE - EPOXY		LIN FT	1912	1912					
K	2564.603	4" SOLID LINE YELLOW - EPOXY		LIN FT	8413	8413					
K	2564.603	4" DOUBLE SOLID LINE YELLOW - EPOXY		LIN FT	1511	1511					
K	2564.603	24" SOLID LINE YELLOW - EPOXY		LIN FT	197	197					
K	2564.618	ZEBRA CROSSWALK - WHITE POLY PREFORM	3	SQ FT	3060	3060					
	2564.618	ZEBRA CROSSWALK WHITE - PAINT		SQ FT	2200	2200					
	2565.601	TRAFFIC CONTROL INTERCONNECTION		LUMP SUM	1	1					
	2565.602	PVC HANDHOLE (METAL FRAME WITH COVER)		EACH	12				12		
	2565.603	2" RIGID STEEL CONDUIT		LIN FT	460	460					
	2565.603	4" RIGID STEEL CONDUIT		LIN FT	410				410		
	2565.616	REVISE SIGNAL SYSTEM A		SYSTEM	1	1					
	2565.616	REVISE SIGNAL SYSTEM B		SYSTEM	1	0.25		0.75			
	2565.616	REVISE SIGNAL SYSTEM C		SYSTEM	1	1					
	2565.616	TEMPORARY SIGNAL SYSTEM		SYSTEM	1	1					
	2571.501	CONIFEROUS TREE 6" HT B & B		TREE	8			8			
	2571.502	DECIDUOUS TREE 2.5" CAL B & B		TREE	31			31			
	2571.503	ORNAMENTAL TREE 10' HT B & B		TREE	73			37			36
	2571.504	CONIFEROUS SHRUB 2' SPREAD CONT		SHRUB	597						597
	2571.507	PERENNIAL NO 1 CONT		PLANT	6926						6926
F	2573.502	SILT FENCE, TYPE MACHINE SLICED		LIN FT	11290	11290					
	2573.601	EROSION CONTROL SUPERVISOR		LUMP SUM	1	1					
	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE		EACH	3	3					
F	2573.602	INLET PROTECTION		EACH	35	35					
F	2573.603	BIOROLL		LF	405	405					
G	2575.501	SEEDING		ACRE	18.7	18.7					
G	2575.502	SEED MIXTURE 350		POUND	1055	1055					
G	2575.502	SEED MIXTURE 310		POUND	241	241					
G	2575.502	SEED MIXTURE 100B		POUND	156	156					
G	2575.502	SEED MIXTURE 110B		POUND	156	156					
F,M	2575.505	SODDING TYPE EROSION		SQ YD	445	251					
G	2575.505	SODDING TYPE SALT RESISTANT		SQ YD	11991	11991		194			
G	2575.511	MULCH MATERIAL TYPE 3		TON	37.3	37.3					
	2575.513	MULCH MATERIAL TYPE 6		CU YD	300						300
G	2575.519	DISK ANCHORING		ACRE	18.7	18.7					
G	2575.523	EROSION CONTROL BLANKETS CATEGORY 3		SQ YD	50	50					
G	2575.532	COMMERCIAL FERT ANALYSIS 18-1-18		POUND	1798	1798					
G	2575.608	SEED MIXTURE 330		POUND	11						11
	2581.501	REMOVABLE PREFORMED PLASTIC MARKING		LIN FT	3900	3900					
	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)		LIN FT	500	500					

- NOTES:
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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STATEMENT OF ESTIMATED QUANTITIES

S.P. 02-612-11	SHEET NO. 6
S.P. 106-020-025	
S.P.	
S.P.	

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BASIS FOR ESTIMATED QUANTITIES:	
CLASS 2 SHOULDER MATERIAL: 135 LB/CF	
BITUMINOUS MIXTURES (ROADWAY-2360): 113 LB/SY/1" DEPTH	
BITUMINOUS MIXTURES (TRAIL-2350): 110 LB/SY/1" DEPTH	
BITUMINOUS MATERIAL FOR TACK COAT: 0.05 GAL/SY	
SEED MIXTURE NO. 350: 84.5 LB/ACRE	
SEED MIXTURE NO. 310 (WET): 82 LB/ACRE	
SEED MIXTURE NO. 330 (NATIVE): 84.5 LB/ACRE	
SEED MIXTURE NO. 100B: 100 LB/ACRE	
SEED MIXTURE NO. 110B: 100 LB/ACRE	
TYPE I MULCH: 2 TON/ACRE	
COMMERCIAL FERTILIZER 18-1-18: 150 LB/ACRE	

MNDOT STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014J	REINFORCED CONCRETE PIPE ARCH
3022C	PRECAST CONCRETE END SECTION
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3133C	RIPRAP AT RCP OUTLETS
3139A	RIPRAP AT PRECAST CONCRETE END SECTIONS
3145F	CONCRETE PIPE TIES
4003B	30" PRECAST CATCH BASIN
4005L	MANHOLE OR CATCH BASIN PRECAST
4006L	MANHOLE OR CATCH BASIN PRECAST
4007C	PRECAST MECHANICAL JOINT SEWER MANHOLE
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN COVER
4024A	48" DIA PRECAST SHALLOW DEPTH CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
4143E	STOOL GRATE & CONCRETE FRAME
4180J	MANHOLE OR CATCH BASIN STEP
7035M	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036F	PEDESTRIAN CURB RAMP
7065C	BITUMINOUS CURB
7100H	CONCRETE CURB AND GUTTER
7102I	CONCRETE CURB AND GUTTER
7107H	ENTRANCE NOSE
7108F	EXIT NOSE
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8106B	EQUIPMENT PAD TYPE B
8110D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8111D	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)
8112D	PEDESTAL FOUNDATION
8114A	P.V.C. HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8119C	GROUND MOUNTED CABINET FOUNDATION
8120L	POLE FOUNDATION (PA85)
8121D	TRANSFORMER BASE AND POLE BASE PLATE
8122C	PEDESTAL AND PEDESTAL BASE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126G	PA90 AND PA100 POLE FOUNDATION
8150C	INSTALLATION OF CULVERT MARKERS
8307R	W-BEAM GUARDRAIL & END ANCHORAGES
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9322J	CHAIN LINK FENCE

TABULATION INDEX		
TAB	SHEET NO	DESCRIPTION
A		EARTHWORK TABULATIONS AND SUMMARY
B		MISCELLANEOUS REMOVALS
C		AGGREGATE AND SELECT GRANULAR SUMMARY
D		BITUMINOUS SUMMARY
E		CONCRETE CURB AND GUTTER, WALK, DRIVEWAY, AND NOSES
F		EROSION CONTROL
G		TURF ESTABLISHMENT
H		INPLACE UTILITIES
I		WATERMAIN
J		SANITARY SEWER
K		PERMANENT PAVEMENT MARKINGS
L		SIGNS PANELS TYPE C
M		STORM SEWER SUMMARY

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STANDARD PLATES/INDEX OF TABS

S.P. 02-612-11
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211

SOILS AND CONSTRUCTION NOTES:

1. TOP OF THE THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.
2. BOTTOM OF SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE SELECT GRANULAR LAYER (BOTTOM OF FROST FREE ZONE).
3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL.
4. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B1.
5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2.
6. SELECT GRANULAR MODIFIED 5% IS DEFINED AS SAND HAVING LESS THAN 5% BY WEIGHT PASSING THE #200 SIEVE, AND LESS THAN 40% BY WEIGHT PASSING THE #40 SIEVE.
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 2 CRUSHED TO A 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 18" SHALL BE SELECT GRANULAR MATERIAL AS SPECIFIED IN THE PLANS. THE REMAINDER OF THE SUBGRADE SHALL BE CONSTRUCTED WITH SUITABLE GRADING MATERIAL. EXCEPTIONS INCLUDE FILLING IN SENSITIVE BOTTOM OR STANDING WATER CONDITIONS.
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 SELECT 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. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY IF DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3G. USE AN APPLICATION RATE OF APPROXIMATELY 200 POUNDS PER SQUARE YARD. STABILIZING AGGREGATE SHALL BE AT THE CONTRACTOR'S EXPENSE WHEN MATERIAL NEEDING STABILIZATION IS FURNISHED AS A BORROW ITEM
18. TEST ROLLING WILL BE REQUIRED.
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 A 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. APPROXIMATE DIMENSIONS ENCOUNTERED ARE 0.5 FEET MINIMUM TO 2.0 FEET MAXIMUM.
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 AN 18" SUBCUT BELOW THE TOP OF THE GRADING GRADE TO ASSURE UNIFORMITY AND COMPACTION. THE BOTTOM OF THE SUBCUT SHALL BE SHAPED AND COMPACTED BY THE QUALITY COMPACTION METHOD WITH A MINIMUM OF 4 PASSES OF AN APPROVED ROLLER. REPLACEMENT FILL SHALL BE SELECT GRANULAR MATERIAL.
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 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. WHERE THESE SLOPES ARE NOT POSSIBLE, CHEMICAL STABILIZATION OF THE SOILS OR A TEMPORARY RETAINING WALL WILL LIKELY BE NEEDED.
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. DISTURBED SOILS BELOW THE GROUNDWATER TABLE IN UTILITY TRENCHES WILL LIKELY BE UNSUITABLE FOR SUPPORT OF THE UTILITY PIPES. IN THESE AREAS THE BOTTOM OF THE UTILITY TRENCH SHALL BE SUBCUT 1 TO 2 FEET AND THE DISTURBED SOIL REPLACED BY SELECT GRANULAR MODIFIED 5%.
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. SWAMP EXCAVATION - SWAMP DEPOSITS SHALL BE REMOVED FROM BENEATH THE PROPOSED ROADWAY CORE AND TRAIL INCLUDING LATERAL OVERSIZING, AS SHOWN IN THE TYPICAL SECTIONS AND IN ACCORDANCE WITH SECTION 5-2.02.01 OF THE MNDOT GEOTECHNICAL AND PAVEMENT MANUAL. IN SWAMP AREAS, EXCAVATION DEWATERING SHALL BE PERFORMED TO ALLOW COMPLETE OBSERVATION OF THE SOILS EXPOSED IN THE EXCAVATION BOTTOM. DEWATERING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 5-2.04 OF THE MNDOT GEOTECHNICAL AND PAVEMENT MANUAL.
39. INPLACE BITUMINOUS PAVEMENT RANGES FROM 6" TO 9" THICK. (AVERAGE 6").
40. WHERE FILL MUST BE PLACED INTO WATER OR ONTO WET SUBGRADE SOILS, FILL SHALL CONSIST OF A CLEAN, FREE DRAINING SAND CONTAINING LESS THAN 40% BY WEIGHT USING THE NUMBER 40 SIEVE AND LESS THAN 5% PASSING THE NUMBER 200 SIEVE. (SELECT GRANULAR MODIFIED 5%)
41. SURFICIAL ORGANIC TOPSOIL, SILT, CLAY OR SILT SAND LOCATED LESS THAN FOUR FEET BELOW THE TOP OF THE PAVEMENT SHALL BE REMOVED IN NEW EMBANKMENT AREAS, PRIOR TO EMBANKMENT CONSTRUCTION, - AND SHALL BE REPLACED WITH GRANULAR MATERIAL OF WHICH THE UPPER 18" SHALL BE SELECT GRANULAR MATERIAL.
42. AGGREGATE BASE MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MNDOT SPEC. 3138, CLASS 5.

PLOT DATE: Aug 18, 2005 4:33pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\NO1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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DWG. NAME: NO1
DATE: AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN UC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
SOILS AND CONSTRUCTION NOTES

S.P. 02-612-11	SHEET NO. 8 211
S.P.106-020-025	
S.P.	
S.P.	

PLOT DATE: Aug 22, 2005 11:20am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\VIEW2.dwg

STATION	EXCAVATION				EMBANKMENT			
	SUITABLE COMMON CY	TOPSOIL STRIPPING CY	UNSUITABLE CY	SUBGRADE EXCAVATION CY	MUCK EXCAVATION CY	SUITABLE GRADING CY	REGULAR EMBANKMENT CY	TOPSOIL CY
CSAH 12 EAST OF CSAH 52 (RADISSON ROAD)								
101+35								
101+50	0.00	3.84		12.77		0.01		1.86
102+00	5.60	33.70		68.08		7.17		44.84
102+50	13.97	41.90		50.15		17.58		50.15
103+00	17.45	41.59		52.28		17.17		50.32
103+50	13.41	40.39		57.45		10.60		49.56
104+00	10.35	39.01		65.81		6.54		48.17
104+50	6.38	35.44		68.98		4.32		45.85
105+00	0.67	33.55		74.81		2.31		45.09
105+50	0.31	31.47		85.00		1.89		49.27
SUBTOTAL	68	301		535		67		385
DAVENPORT STREET								
SUBTOTAL	95	65		215		150		35
MANKATO STREET								
SUBTOTAL	85	35		195		30		25
POND EXCAVATION								
SUBTOTAL	8,510		2,450		7,550		2,840	
PROJECT TOTAL	12,630	5,030	7,576	24,665	34,173	44,567	7,768	3,482

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
EARTHWORK SUMMARY

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
10
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EARTHWORK BALANCE

EXCAVATION (CY)

EARTHWORK BALANCE	(10)	SUITABLE GRADING	12,630	(EV) / 1.2 = 10,525 (CV)
COMMON (EV) (P) 25,237		SALVAGE TOPSOIL	5,030	(EV) / 1.2 = 4,192 (CV)
	(9)	UNSUITABLE	7,576	(EV) / 1.2 = 6,313 (CV)
	(11) (12)	PIPE BEDDING EXCAVATION	480	(EV) / 1.2 = 400 (CV)
SUBGRADE (EV) (P) 24,665		SUITABLE MATERIAL	24,665	(EV) / 1.2 = 20,555 (CV)
SUBGRADE (EV)	(7)	SOIL CORRECTION AREAS BELOW NORMAL SUBGRADE EXCAVATION	1,200	(EV) / 1.2 = 1,000 (CV)
MUCK (EV) 34,173		UNSUITABLE	34,173	(EV) / 1.2 = 28,478 (CV)

(1) 85,755 (EV)

EMBANKMENT (CY)

44,567 (CV)	SUITABLE GRADING
7,768 (CV)	REGULAR EMBANKMENT
31,385 (CV)	SELECT GRANULAR (4)
1,000 (CV)	SELECT GRANULAR (5)
400 (CV)	SELECT GRANULAR (5% MODIFIED) (11)
1,000 (CV)	SELECT GRANULAR (5% MODIFIED) (8)
3,482 (CV)	TOPSOIL (14)
930 (CV)	TOPSOIL (15)

(2) 90,532 (CV)	SUITABLE GRADING	32,480 (CV)
	UNSUITABLE	34,791 (CV)
	TOPSOIL	4,192 (CV)

NOTES:

- (1) TOTAL EXCAVATION (EV) REQUIRED FOR THIS PROJECT
- (2) TOTAL EMBANKMENT (CV) REQUIRED FOR THIS PROJECT
- (3) TOTAL BORROW (CV) REQUIRED FOR THIS PROJECT
- (4) QUANTITY FROM AGGREGATE AND SELECT GRANULAR SUMMARY TABULATION
- (5) ESTIMATED QUANTITY - REQUIRED TO REPLACE SUBGRADE EXCAVATION IN ADDITION TO THE PLAN QUANTITY (GREATER THAN 1.5' DEPTH)
- (6) NEEDED SUITABLE MATERIAL (44,567 CY) MINUS AVAILABLE (32,480 CY) = 12,087 CY
- (7) ESTIMATED QUANTITY - ASSUME MATERIAL IS SUITABLE FOR REUSE FOR EMBANKMENT MORE THAN 4' BELOW GRADING GRADE
- (8) ESTIMATED QUANTITY - FOR BACKFILLING SWAMP EXCAVATIONS IN WET OR STANDING WATER AREAS
- (9) INCLUDES PEAT EXCAVATED ABOVE GRADING GRADE AND SILT MATERIAL FROM POND EXCAVATION
- (10) 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)
- (11) ESTIMATED QUANTITY - FOR SUBCUTTING BELOW PIPE INSTALLATIONS BELOW OR NEAR WATER TABLE. EXCAVATION IS INCIDENTAL TO PIPE INSTALLATION PAY ITEMS. BACKFILL WITH SELECT GRANULAR MODIFIED 5%
- (12) ASSUME MATERIAL IS SUITABLE FOR REUSE AFTER DRYING. MAY NOT BE SUITABLE FOR REUSE IN THE UPPER 4' OF EMBANKMENT BELOW GRADING GRADE
- (13) FINAL PLAN QUANTITY - SELECT GRANULAR BORROW (CV) (P)
- (14) RESTORATION OUTSIDE ROADWAY
- (15) MEDIAN (PLANTING BEDS)
- (16) NO ITEM PROVIDED FOR TOPSOIL BORROW - (SOME ON SITE MATERIALS IN MUCK EXCAVATION AREAS WILL MAKE UP SMALL SHORTAGE QUANTITY. SOME BLENDING MAY BE REQUIRED)

BORROW (CY)

	SELECT GRANULAR (P)	16,922	LV /1.4 =	12,087 (CV) (6)
	SELECT GRANULAR (P)	43,939	LV /1.4 =	31,385 (CV) (4)
BORROW	SELECT GRANULAR (P)	60,861	LV /1.4 =	43,472 (CV) (13)
	SELECT GRANULAR BORROW	1,400	LV /1.4 =	1,000 (CV) (5)
	SELECT GRANULAR (5% MOD)	1,400	LV /1.4 =	1,000 (CV) (8)
	SELECT GRANULAR (5% MOD)	560	LV /1.4 =	400 (CV) (11)
	SELECT GRANULAR (5% MOD)	1,960	LV /1.4 =	1,400 (CV)
	TOPSOIL	307	LV /1.4 =	220 (CV) (16)

(3) 45,872 (CV)

EXCESS (CY)

UNSUITABLE 34,791 (CV) - REGULAR EMBANKMENT 7,768 (CV) = 27,023 (CV)

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN. LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
EARTHWORK**

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	11
S.P.	
S.P.	

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PLOT DATE: Aug 19, 2:12pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB02.dwg

MISCELLANEOUS REMOVAL ITEMS							B	
ROADWAY	LOCATION	OFFSET	2104	2104	2104	2104	2101	2101
			REMOVE CONCRETE WALK [1] [4] SQ FT	REMOVE CONCRETE CURB AND GUTTER LF	REMOVE BITUMINOUS PAVEMENT [2] [3] SY	SAWING BITUMINOUS PAVEMENT LF	CLEARING AND GRUBBING ACRE	CLEARING AND GRUBBING TREE
S.P. 02-612-11, S.P. 106-020-025								
CSAH 12 AND DAVENPORT			LT AND RT		38,637			
CSAH 12	TH65 TO CLUB WEST	LEFT	2937	869	7			22
CSAH 12	TH65 TO CLUB WEST	RIGHT	389	1023	99			
CSAH 13	TH65 TO CLUB WEST	MEDIAN	3814	1150				
CSAH 12	CLUB WEST TO MANKATO	LEFT	133	164	39			
CSAH 12	CLUB WEST TO MANKATO	RIGHT			11			
CSAH 12	MANKATO TO CSAH52	LEFT		94	44			11
CSAH 12	MANKATO TO CSAH52	RIGHT		166	34		0.06	5
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT		99	23			
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	RIGHT						
RADISSON ROAD	NORTH OF CSAH 12	MEDIAN	72	20				
DAVENPORT	SOUTH OF CSAH12	LT AND RT		197				
CONSTRUCTION STAGING					1,250	12,500		
PROJECT TOTALS:			7,345	3,782	40,144	12,500	0.06	38

NOTES:
 [1] DEPTH OF CONCRETE WALK IS ESTIMATED TO BE 4" - 6".
 [2] ROADWAY - DEPTH OF BITUMINOUS VARIES (6" TO 9") AVERAGE (6")
 [3] INCLUDES BITUMINOUS SIDEWALK - DEPTH VARIES 2" TO 6"
 [4] INCLUDES MEDIAN NOSES

AGGREGATE AND SELECT GRANULAR SUMMARY						C
ROADWAY	LOCATION	OFFSET	2211	2105	2221	NOTES
			AGGREGATE BASE CL 5 CU YD	SELECT GRANULAR BORROW (CV) CU YD	AGGREGATE SHOULDERING CL 2 MOD. TON	
S.P. 02-612-11, S.P. 106-020-025						
CSAH 12	TH65 TO CLUB WEST	LT AND RT	3,442	7,762		
CSAH 12	TH65 TO CLUB WEST	LT	105			
CSAH 12	CLUB WEST TO MANKATO	LT AND RT	6,582	14,712	162	
CSAH 12	CLUB WEST TO MANKATO	LT	11			
CSAH 12	MANKATO TO CSAH52	LT AND RT	3,997	8,740		
CSAH 12	MANKATO TO CSAH52	LT	5			
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LT AND RT	217		25	
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LT	1			
DAVENPORT	SOUTH OF CSAH12	LT AND RT	74	171		
BITUMINOUS TRAIL			752			
PROJECT TOTALS:			15,187	31,385	187	

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DWG. NAME:
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DATE:
AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11	SHEET NO. 12
S.P. 106-020-025	
S.P.	
S.P.	

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PLOT DATE: Aug 18, 2005 2:13pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB03.dwg

BITUMINOUS SUMMARY								D
ROADWAY	LOCATION	OFFSET	2360	2360	2350	2535	2557	NOTES
			TYPE SP 12.5 WEAR (3,F) [1] TON	TYPE SP 12.5 NON-WEAR (3,B) [2] TON	TYPE LV 4 WEAR (B) [1] TON	BITUMINOUS CURB LF	BIT. TACK COAT GAL	
S.P. 02-612-11, S.P. 106-020-025								
CSAH 12	TH65 TO CLUB WEST	LEFT	1,593	843			663	
CSAH 12	TH65 TO CLUB WEST	RIGHT	1,574	833			655	
CSAH 12	CLUB WEST TO MANKATO	LEFT	2,706	1,433			1,127	
CSAH 12	CLUB WEST TO MANKATO	RIGHT	2,859	1,514			1,191	
CSAH 12	MANKATO TO CSAH52	LEFT	1,679	889			699	
CSAH 12	MANKATO TO CSAH52	RIGHT	1,782	943		435	742	
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT	168	89			70	
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	OVERLAY	327				257	
DAVENPORT	SOUTH OF CSAH12	LT AND RT	65	35			27	
BITUMINOUS TRAIL					726			
TEMP FOR STAGING						240	100	
PROJECT TOTALS:			12,753	6,578	726	435	5,432	

NOTES:
 (1) TOP LIFT THICKNESS WAS INCREASED BY 0.25 INCHES
 (2) BOTTOM LIFT THICKNESS WAS INCREASED BY 0.25 INCHES

CONCRETE CURB AND GUTTER, WALK, DRIVEWAY, AND NOSES										E
ROADWAY	LOCATION	OFFSET	2521				2531			
			4" CONCRETE WALK SQ FT	6" CONCRETE WALK [1] SQ FT	4" CONCRETE WALK SPECIAL 1 SQ FT	4" CONCRETE WALK SPECIAL 2 SQ FT	CURB AND GUTTER DESIGN			
						B418 (MOD) LIN FT	B424 LIN FT	B612 LIN FT	B618 LIN FT	
S.P. 02-612-11, S.P. 106-020-025										
CSAH 12	TH65 TO CLUB WEST	LEFT	7119					1,244		
CSAH 12	TH65 TO CLUB WEST	RIGHT						1,386		
CSAH 12	TH65 TO CLUB WEST	MEDIAN			3,280		2,296			
CSAH 12	CLUB WEST TO MANKATO	LEFT	604					2,897	70	
CSAH 12	CLUB WEST TO MANKATO	RIGHT						533		95
CSAH 12	CLUB WEST TO MANKATO	MEDIAN			10,550	8,250	5,579			
CSAH 12	MANKATO TO CSAH52	LEFT	337					1,767		
CSAH 12	MANKATO TO CSAH52	RIGHT						1,760		89
CSAH 12	MANKATO TO CSAH52	MEDIAN			4,460	3,040	3,287			
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT	119					85		
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	RIGHT								
DAVENPORT	SOUTH OF CSAH12	LT AND RT	160							172
BITUMINOUS TRAIL				734						
PROJECT TOTALS:			8339	734	18290	11290	11162	9672	70	356

[1] PEDESTRIAN CURB RAMPS ALONG BIKE PATH

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TAB SHEETS

S.P. 02-612-11	SHEET NO. 13
S.P. 106-020-025	
S.P.	
S.P.	

EROSION CONTROL									F
ROADWAY	LOCATION	OFFSET	2573	2573	2573	2573	2573	2575	NOTES
			SILT FENCE TYPE MACHINE SLICED	BIOROLL	INLET PROTECTION TYPE A	INLET PROTECTION TYPE C	INLET PROTECTION TYPE D	SODDING TYPE EROSION	
S.P. 02-612-11, S.P. 106-020-025			LF	LF	EACH	EACH	EACH	SY	
CSAH 12	TH65 TO CLUB WEST	LEFT	722		5	5	2	8	
CSAH 12	TH65 TO CLUB WEST	RIGHT	680		2	2			
CSAH 12	CLUB WEST TO MANKATO	LEFT	2,840		8	5	1	30	
CSAH 12	CLUB WEST TO MANKATO	RIGHT	3,768	300	3	2	4	192	
CSAH 12	MANKATO TO CSAH52	LEFT	1,750		3	2			
CSAH 12	MANKATO TO CSAH52	RIGHT	1,330		5	4	2	21	
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT		105					
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	RIGHT							
DAVENPORT	SOUTH OF CSAH12	LT AND RT	200						
PROJECT TOTALS:			11,290	405	26	20	9	251	

NOTES: 1) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR 1/3 OF SILT FENCE HEIGHT.

TURF ESTABLISHMENT															G
ROADWAY	LOCATION	OFFSET	2575	2575	2575	2575	2575	2575	2575	2575	2575	2575	2575	2575	NOTES
			SEEDING	SODDING TYPE SALT RESISTANT	MULCH MATERIAL TYPE 3	DISK ANCHORING	COMMERCIAL FERTILIZER 18-1-18	EROSION CONTROL BLANKETS CATEGORY 3	SEED MIXTURE 350	SEED MIXTURE 330	SEED MIXTURE 310	SEED MIXTURE 100B [1]	SEED MIXTURE 110B [1]	MULCH MATERIAL TYPE 3 [1]	
S.P. 02-612-11, S.P. 106-020-025			ACRE	SQ YD	TON	ACRE	POUND	SQ YD	POUND	POUND	POUND	POUND	POUND	TON	
CSAH 12	TH65 TO CLUB WEST	LEFT		1,130											
CSAH 12	TH65 TO CLUB WEST	RIGHT	0.3	2,300	0.7	0.3	50		29						
CSAH 12	CLUB WEST TO MANKATO	LEFT	1.0	590	2.0	1.0	142		83						
CSAH 12	CLUB WEST TO MANKATO	RIGHT	13.5	3,138	27.0	13.5	1,519	50	891		241				
CSAH 12	CLUB WEST TO MANKATO	MEDIAN													
CSAH 12	MANKATO TO CSAH52	LEFT	0.5	499	1.1	0.5	59		35	11					
CSAH 12	MANKATO TO CSAH52	RIGHT		3,920											
CSAH 12	MANKATO TO CSAH52	MEDIAN													
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT	0.2	201	0.4	0.2	29		17						
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	RIGHT		214											
TEMPORARY SEEDING			3.11			3.1					156	156	6.2		
PROJECT TOTALS:			18.7	11991	31.1	18.7	1798	50	1055	11	241	156	156	6.2	

NOTES: [1] TEMPORARY

PLOT DATE: Aug 19, 2:14pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB04.dwg

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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11	SHEET NO. 14
S.P. 106-020-025	
S.P.	
S.P.	

3 OF 11

211

PRIVATE UTILITY OWNERS

H

CITY OF BLAINE
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DIRECTOR OF PUBLIC WORKS
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ELK RIVER, MN 55330
CONTACT: CRAIG POORKER
TEL: (763) 241-2367

CONNEXUS ENERGY
14601 RAMSEY BOULEVARD
RAMSEY, MN 55303
CONTACT: CARY TRACY
TEL: (763) 323-2765

CENTER POINT ENERGY--MINNEGASCO
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MINNEAPOLIS, MN 55480
CONTACT: STEVE GUHANICK
TEL: (612) 321-5421

XCEL ENERGY
825 RICE STREET
SAINT PAUL, MN 55108
CONTACT: CONRAD MILLER
TEL: (651) 229-2564

QWEST COMMUNICATIONS
325 MONROE STREET
ANOKA, MN 55303
CONTACT: TOM BURNEY
TEL: (763) 712-5006

COMCAST
1238 GREY FOX ROAD
ARDEN HILLS, MN 55112
CONTACT: DOUG ZAHN
TEL: (651) 493-5316

GENERAL NOTES:

UNDERGROUND UTILITIES WERE DIGITIZED FROM MAPS FURNISHED BY UTILITY COMPANIES AND NOT FIELD LOCATED. UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES IN THE FIELD.

THE REMARKS COLUMN IS 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.

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

INPLACE WATERMAIN (CITY OF BLAINE)

H

STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)
		FT		
CSAH 12 (EB STA)				
101+80 TO 102+27	LT	71-21	12" WM	LEAVE AS IS
102+27 TO 105+88	LT	21-20	12" WM	LEAVE AS IS
105+88	LT	20	GATE VALVE	ADJUST
105+88 TO 113+57	LT	20-21	8" WM	LEAVE AS IS
113+57	LT	21-45	8" PVC WM	LEAVE AS IS
113+57	LT	45	GATE VALVE	ADJUST
113+57 TO 114+21	LT	45-87	8" PVC WM	LEAVE AS IS
114+21 TO 114+19	LT	87-211	8" PVC WM	LEAVE AS IS
114+20 TO 114+37	LT	112	8" PVC WM	LEAVE AS IS
114+37	LT	112	FIRE HYDRANT AND VALVE	RELOCATE
108+74 TO 109+06	LT	51-20	WATER SERVICE	LEAVE AS IS
109+53	LT	44	FIRE HYDRANT	RELOCATE
110+28	LT	51-20	WATER SERVICE	LEAVE AS IS
111+53	LT	51-20	WATER SERVICE	LEAVE AS IS
112+98 TO 112+69	LT	51-21	WATER SERVICE	LEAVE AS IS
105+28	LT	81	FIRE HYDRANT	RELOCATE
105+45 TO 105+46	LT	137-51	12" WM	LEAVE AS IS
105+46	LT	51	GATE VALVE	ADJUST
105+46 TO 105+44	LT	51-1	12" WM	LEAVE AS IS
105+44	LT	1	GATE VALVE	ADJUST
105+44 TO 105+43	LT-RT	1-35	12" WM	LEAVE AS IS
105+43	RT	35	GATE VALVE	ADJUST
105+43 TO 116+35	RT	35-24	20" DIP WM	LEAVE AS IS
116+35 TO 121+43	RT-LT	24-8	20" DIP WM	LEAVE AS IS
121+43 TO 126+23	LT	8-9	20" DIP WM	LEAVE AS IS
126+23 TO 126+97	LT-RT	9-21	20" DIP WM	LEAVE AS IS
126+97 TO 127+10	RT	21	20" DIP WM	LEAVE AS IS
127+10 TO 127+83	RT-LT	21-10	20" DIP WM	LEAVE AS IS
127+83 TO 142+14	LT	10	20" DIP WM	LEAVE AS IS
142+14 TO 142+61	LT-RT	10-22	20" DIP WM	LEAVE AS IS
142+61 TO 142+91	RT	22	20" DIP WM	LEAVE AS IS
142+91	RT	22	GATE VALVE	ADJUST
123+44	RT	11	FIRE HYDRANT	RELOCATE
142+94	LT	136-76	UNKNOWN SIZE WM	LEAVE AS IS
142+94 TO 142+37	LT-RT	76-6	UNKNOWN SIZE WM	LEAVE AS IS
142+37	RT	6	GATE VALVE	ADJUST
142+91	LT-RT	10-328	16" DIP WM	LEAVE AS IS
142+81	RT	55	FIRE HYDRANT	RELOCATE
145+00	LT	83	WATERMAIN SHUT OFF	LEAVE AS IS
159+47 TO 159+85	RT	160-29	8" DIP WM	LEAVE AS IS
159+85 TO 160+05	RT-LT	29-47	8" DIP WM (IN 30" STEEL CASING)	LEAVE AS IS
160+05 TO 160+13	LT	47-80	8" DIP WM	LEAVE AS IS
160+13 TO 160+39	LT	80	8" DIP WM	LEAVE AS IS
160+39 TO 161+20	LT	80	8" DIP WM (IN 30" STEEL CASING)	LEAVE AS IS
161+20 TO 161+29	LT	80-147	20" DIP WM	LEAVE AS IS

PLOT DATE: Aug 19, 2005 2:14pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWS. NAME: TB05

DATE:
AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
15
211

PLOT DATE: Aug 19, 2005 2:15pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB06.dwg

INPLACE SANITARY SEWER (CITY OF BLAINE)				H
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)
		FT		
CSAH 12 (EB STA)				
112+70 TO 112+24	LT	102-10	6" SAN SERVICE	RECONSTRUCT
112+54	LT	10	MANHOLE	RECONSTRUCT
112+54 TO 109+06	LT	10	10" SAN	LEAVE AS IS
109+06	LT	10	MANHOLE	ADJUST
111+59	LT	102-10	6" SAN SERVICE	RECONSTRUCT
110+15	LT	101-10	6" SAN SERVICE	RECONSTRUCT
108+88	LT	101-10	6" SAN SERVICE	RECONSTRUCT
109+06 TO 105+56	LT	10	10" SAN	LEAVE AS IS
105+56	LT	10	MANHOLE	ADJUST
105+58 TO 105+56	LT	39-10	10" SAN	LEAVE AS IS
105+58	LT	39	MANHOLE	LEAVE AS IS
105+54 TO 105+56	LT	139-10	10" SAN	LEAVE AS IS
105+56 TO 102+22	LT	10-11	10" SAN	LEAVE AS IS
102+22	LT	11	MANHOLE	LEAVE AS IS
102+22 TO 101+76	LT	11-61	10" SAN	LEAVE AS IS
101+76	LT	61	MANHOLE	LEAVE AS IS
155+64 TO 160+42	LT	91-169	10" PVC SAN FM	LEAVE AS IS
159+39 TO 159+76	RT	147-23	6" PVC SAN FM	LEAVE AS IS
159+76 TO 159+94	RT-LT	23-44	6" PVC SAN FM (IN 16" STEEL CASING)	LEAVE AS IS
159+94 TO 160+06	LT	44-89	6" PVC SAN FM	LEAVE AS IS
160+06 TO 160+44	LT	89	6" PVC SAN FM	LEAVE AS IS
160+44 TO 161+18	LT	89-90	6" PVC SAN FM (IN 16" STEEL CASING)	LEAVE AS IS
161+18 TO 161+65	LT	90	6" PVC SAN FM	LEAVE AS IS

INPLACE TELEPHONE (QWEST)				H
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)
		FT		
CSAH 12 (EB STA)				
102+16	LT	167-91	FIBEROPTIC	
102+16 TO 104+05	LT	91-90	FIBEROPTIC	
104+05 TO 108+70	LT	90-45	FIBEROPTIC	
108+70 TO 118+77	LT	45-62	FIBEROPTIC	
118+77 TO 121+79	LT	62-79	FIBEROPTIC	
121+79 TO 126+79	LT	79	FIBEROPTIC	
126+79	LT	79-81	FIBEROPTIC	
126+79 TO 134+63	LT	81-89	FIBEROPTIC	
134+63 TO 141+09	LT	89-87	FIBEROPTIC	
141+09 TO 143+50	LT	92	FIBEROPTIC	
143+50 TO 143+95	LT	92-87	FIBEROPTIC	
143+95 TO 153+49	LT	87-82	FIBEROPTIC	
153+49	LT	82-93	FIBEROPTIC	
153+49 TO 158+61	LT	93-141	FIBEROPTIC	
101+91	LT	102	TELEPHONE MANHOLE	
102+19 TO 105+04	LT	99-95	BURIED	
105+04 TO 108+17	LT	95-61	BURIED	
108+17 TO 108+29	LT	61-73	BURIED	
108+29 TO 114+47	LT	73-81	BURIED	
114+47 TO 114+52	LT	81-98	BURIED	
114+52 TO 114+50	LT	98-206	BURIED	
114+72 TO 114+74	LT	207-90	BURIED	
114+74 TO 114+96	LT	90-62	BURIED	
114+96 TO 114+98	LT-RT	62-74	BURIED	
114+98 TO 113+58	RT	74-76	BURIED	
113+58 TO 113+60	RT	76-164	BURIED	
142+06 TO 142+55	LT-RT	252-25	BURIED	
142+55 TO 143+48	RT	25	BURIED	
143+48	RT	25-299	BURIED	
142+55 TO 142+63	RT	25-19	BURIED	
142+63 TO 143+53	RT	19	BURIED	
143+53	RT	19-24	BURIED	
143+53	RT	24-300	BURIED	
157+18 TO 158+38	RT	16-31	BURIED	
158+38 TO 158+60	RT-LT	31-137	BURIED	
160+43 TO 161+65	LT	143-132	BURIED	
161+65 TO 161+47	LT	132-62	BURIED	
160+90 TO 161+08	RT	138-75	BURIED	
161+08 TO 161+65	RT-LT	75-100	BURIED	

NOTES:
 (1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
JCD

DESIGN BY:
JCD

CHKD. BY:
SAW

DWG. NAME:
TB06

DATE:
AUGUST 18, 2005



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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TAB SHEETS

S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

SHEET NO.
 16
 211

PLOT DATE: Aug 19, 2005 2:15pm DISK FILE NAME: (16-1) R:\31809791\PLAN-SHT\TB07.dwg

INPLACE GAS (XCEL ENERGY)					H
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)	
		FT			
CSAH 12 (EB STA)					
102+05 TO 102+07	LT-RT	169-67	4" GAS		
102+06 TO 104+11	LT	93-92	4" GAS		
104+11 TO 108+71	LT	92-48	4" GAS		
108+71 TO 113+02	LT	48-50	4" GAS		
113+02 TO 113+57	LT	50-69	4" GAS		
113+57 TO 114+44	LT	69-70	4" GAS		
114+44 TO 114+83	LT	70-57	4" GAS		
114+83 TO 116+18	LT	57-60	4" GAS		
116+18 TO 116+62	LT	60-89	4" GAS		
116+62 TO 126+58	LT	89-88	4" GAS		
126+58 TO 126+59	LT	88-75	4" GAS		
126+59 TO 153+61	LT	75	4" GAS		
153+61 TO 153+61	LT	75-81	4" GAS		
153+61 TO 160+37	LT	81-64	4" GAS		
160+37 TO 159+80	LT-RT	64-172	4" GAS		
160+20 TO 161+10	RT-LT	159-146	4" GAS		
160+49 TO 161+43	RT-LT	173-147	4" GAS		

INPLACE GAS (CENTERPOINT ENERGY)					
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)	
		FT			
CSAH 12 (EB STA)					
102+00 TO 102+46	RT	56-55	4" GAS		
102+46 TO 102+45	RT	55-21	4" GAS		
102+45 TO 116+43	RT	21-17	4" GAS		
116+43 TO 121+53	RT-LT	17-15	4" GAS		
121+53 TO 143+53	LT	15-11	4" GAS		
105+78 TO 105+79	LT	142-59	2" GAS		
105+79 TO 106+12	LT	59-32	2" GAS		
106+12	LT-RT	32-28	2" GAS		
106+20 TO 106+45	RT	102-29	3" GAS		
113+22 TO 113+80	RT	15-81	UNKNOWN SIZE GAS		
113+80 TO 113+81	RT	81-166	UNKNOWN SIZE GAS		
142+75	LT-RT	11-139	4" GAS		
142+75 TO 142+80	RT	139	4" GAS		
142+80	RT	139-298	4" GAS		

NOTES:
 (1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

INPLACE CABLE (COMCAST)					H
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)	
		FT			
CSAH 12 (EB STA)					
118+79 TO 121+79	LT	52-68	BURIED		
121+79 TO 122+34	LT	68	BURIED		
126+80 TO 134+60	LT	83-90	BURIED		
134+60 TO 141+05	LT	90-89	BURIED		
141+05 TO 142+54	LT	93	BURIED		
142+54 TO 142+44	LT	93-195	BURIED		
142+54 TO 143+50	LT	93-94	BURIED		
143+50 TO 143+42	LT	94-195	BURIED		
143+50 TO 143+95	LT	94-89	BURIED		
143+95 TO 153+45	LT	89-85	BURIED		
153+45	LT	85-97	BURIED		
153+45 TO 158+58	LT	97-145	BURIED		
158+58 TO 158+57	LT	145-148	BURIED		

NOTES:
 (1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
 31809-791
 DRAWN BY: JCD
 DESIGN BY: JCD
 CHKD. BY: SAW
 DWG. NAME: TB07
 DATE: AUGUST 18, 2005



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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TAB SHEETS

S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

PLOT DATE: Aug 18, 4:47pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB08.dwg

INPLACE POWER (CONNEXUS)					H
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)	
		FT			
CSAH 12 (EB STA)					
102+00 TO 106+01	LT	88-84	OVERHEAD		
102+43	LT	88	POWER POLE		
103+53	LT	88	POWER POLE		
104+67	LT	85	POWER POLE		
106+01	LT	84	POWER POLE		
106+01 TO 108+24	LT	84-75	UNDERGROUND		
108+24	LT	75-64	UNDERGROUND		
108+24 TO 113+01	LT	64-70	UNDERGROUND		
113+01 TO 113+44	LT	70-101	UNDERGROUND		
113+44 TO 114+87	LT	100-104	UNDERGROUND		
114+51	LT	90	ELECTRIC MANHOLE		
114+62	LT	88	LIGHT POLE		
114+87 TO 115+19	LT	104-68	UNDERGROUND		
115+19 TO 141+25	LT	68-80	UNDERGROUND		
141+25	LT	80-100	UNDERGROUND		
141+33	LT	100-80	UNDERGROUND		
141+33 TO 153+57	LT	80-77	UNDERGROUND		
142+62	LT	96	LIGHT POLE		
143+48	LT	96	LIGHT POLE		
153+57	LT	77-84	UNDERGROUND		
153+57 TO 158+51	LT	84-96	UNDERGROUND		
158+51 TO 158+55	LT	96-122	UNDERGROUND		
158+55 TO 160+40	LT	122-170	UNDERGROUND		
INPLACE POWER (GREAT RIVER ENERGY)					
STATION TO STATION	LOCATION	OFFSET	ITEM INPLACE	REMARKS (1)	
		FT			
CSAH 12 (EB STA)					
102+00 TO 105+31	RT	31-42	OVERHEAD		
102+51	RT	41	POWER POLE		
105+31	RT	42	POWER POLE		
105+31 TO 129+49	RT	42-15	OVERHEAD		
109+22	RT	40	POWER POLE		
112+97	RT	37	POWER POLE		
113+77	RT	92	ELECTRIC MANHOLE		
116+76	RT	31	POWER POLE		
120+51	RT	28	POWER POLE		
124+27	RT	25	POWER POLE		
129+49	RT	15	POWER POLE		
129+49 TO 153+56	RT	15-30	OVERHEAD		
134+82	RT	16	POWER POLE		
139+79	RT	20	POWER POLE		
142+65	RT	8	LIGHT POLE		
145+41	RT	24	POWER POLE		
149+34	RT	27	POWER POLE		
153+56	RT	30	POWER POLE		
153+56 TO 161+65	RT-LT	30-83	OVERHEAD		
157+20	RT	17	POWER POLE		
161+07	RT	68	ELECTRIC MANHOLE		

NOTES:
(1) ALL WORK INDICATED SHALL BE BY OTHERS UNLESS OTHERWISE NOTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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CHKD. BY: SAW	DWG. NAME: TB08	
DATE: AUGUST 18, 2005		



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11	SHEET NO. 18
S.P. 106-020-025	
S.P.	211
S.P.	

WATERMAIN

ROADWAY	STATION	OFFSET	DUCTILE IRON FITTINGS [4] LB	2" TEE [2] EACH	2" ELBOW [2] EACH	2" TYPE K COPPER PIPE LF	2" CORPORATION STOP EACH	2" CURB STOP & BOX EACH	2" CAP [2] EACH	6" PVC SLEEVE (SCH 80) (IRRIGATION) LF	6" WATERMAIN DUCTILE IRON CL 52 LF	6" GATE VALVE EACH	CONNECT TO EXISTING WATERMAIN EACH	RELOCATE HYDRANT [3] EACH	ADJUST VALVE BOX [1] EACH
S.P. 02-612-11, S.P. 106-020-025															
CSAH 12 (EB STA) TH65 TO CLUB WEST	105+43.7	0.7 LT													1
	105+46.4	34.6 LT													1
CLUB WEST TO MANKATO	123+43.6	50.5-53.0 RT									42	1	1	1	1
	142+34.2	5.8 RT													1
	142+69.5-142+72.0	55.6 RT									12	1	1	1	1
	142.87.2	22.1 RT													1
MANKATO TO CSAH52 CSAH52 TO TOWN SQ. DR															
CSAH 12 (WB STA) TH65 TO CLUB WEST	105+29	39-41.5 LT	39								15	1	1	1	1
	105+46.2	4.3 RT													1
	105+89.0	34.9 RT													1
	109+53.7 - 109+63.6	11.0 RT - 42.9 LT	62								55	1	1	1	1
	113+57.4	11.5 RT													1
CLUB WEST TO MANKATO	114+46.5-114+49.0	57.5 LT									8	1	1	1	1
	130+10	LT		1	1	110	1	1	2						
	130+20	LT								80					
MANKATO TO CSAH52	144+50	LT		1	1	200	1	1	2				1		
CSAH52 TO TOWN SQ. DR	148+50	LT								75					
PROJECT TOTALS:			101	2	2	310	2	2	4	155	132	5	7	5	7

NOTES:

- [1] PAYMENT WILL BE MADE ONCE FOR EACH VALVE BOX REGARDLESS OF HOW MANY TIMES VALVE BOX IS ADJUSTED
- [2] TEES, ELBOWS AND CAPS FOR COPPER PIPE ARE INCIDENTAL TO PAYMENT FOR COPPER PIPE.
- [3] PAYMENT FOR THIS ITEM INCLUDES FITTINGS AND JOINT RESTRAINING DEVICES.
- [4] PAYMENT FOR THIS ITEM INCLUDES JOINT RESTRAINING DEVICES.

PLOT DATE: Aug 18, 4:48pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB09.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCD	DESIGN BY: JCD
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DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11	SHEET NO. 19
S.P. 106-020-025	
S.P.	
S.P.	

SANITARY SEWER

J

ROADWAY	STATION	OFFSET	2503			ADJUST FRAME & CASTING EACH	2506		2506			2503		2506			NOTES
			8" PVC SDR 35 PIPE SEWER LF	6" PVC SCH 40 PIPE SEWER LF	8"x6" PVC WYE EACH		EXISTING ELEV	ADJUST FRAME & RING CASTING PROP ELEV	EXISTING ELEV	PROP ELEV	PAY HEIGHT (LF)	CONNECT TO EXIST SAN. SEWER EACH	RECONNECT SAN. SEWER SERVICE EACH	RIM ELEVATION	INVERT	PAY HEIGHT (LF)	
S.P. 02-612-11, S.P. 106-020-025																	
CSAH 12 (EB STA) TH65 TO CLUB WEST	102+21.8	11 LT				1	901.50	901.55									
	105+56.1	10 LT				1	898.89	899.41									
	105+57.6	39 RT				1	899.72	899.12									
	108+88.0 - 109+06.0	101 LT - 94 LT		19									1				[5]
	109+06.0	10 LT				1	900.36	900.60									
	109+06.0	94 LT - 10 LT	84									1					[5]
	109+06.0	94 LT											900.33	891.89	8.44		[3]
	109+06.0 - 111+58.8	94 LT - 89 LT	253														
	110+14.9	92 LT			1												
	111+58.8	89 LT										1	901.72	893.62	8.10		[3]
	112+53.8	10 LT							900.88	902.07	5						
	112+53.8	RT	35									1					
PROJECT TOTALS:			372	19	1	4						5	2	3			16.5

NOTES:

- [1] CASTING ASSEMBLY SHALL BE SALVAGED AND REUSED.
- [2] ASSUMED PAY HEIGHT OF RECONSTRUCTION OF 5' TO REMOVE CASTING, RINGS, CONE, AND ADD OR REMOVE A BARREL SECTION.
ACTUAL RECONSTRUCT HEIGHT TO BE MEASURED DURING CONSTRUCTION
- [3] CONTRACTOR TO POTHOLE TO VERIFY ELEVATION OF EXISTING SERVICE PRIOR TO CONSTRUCTION OF ANY SANITARY OR STORM SEWER
(IF STORM SEWER WILL CLEAR SANITARY SERVICE, RECONSTRUCTION OF SANITARY SEWER SERVICE IS NOT NECESSARY)
- [4] PLUG END OF 8" STUB TO SOUTH AT 112+53.8 RT
- [5] ANY NECESSARY BENDS SHALL BE CONSIDERED INCIDENTAL TO PIPE COSTS

PLOT DATE: Aug 18, 2005 4:48pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB10.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWG. NAME: TB10

DATE:
AUGUST 18, 2005



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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11	SHEET NO. 20 211
S.P. 106-020-025	
S.P.	
S.P.	

PERMANENT PAVEMENT MARKINGS



K

ROADWAY	LOCATION	OFFSET	2564	2564	2564	2564	2564	2564	2564	2564	2564	2564	2564	2564	
			PAVEMENT MESSAGE (LT ARROW) HOT TAPE EACH	PAVEMENT MESSAGE (RT ARROW) HOT TAPE EACH	PAVEMENT MESSAGE (THRU ARROW) HOT TAPE EACH	PAVEMENT MESSAGE (RT-THRU ARROW) HOT TAPE EACH	4" SOLID LINE WHITE EPOXY L F	4" SOLID LINE YELLOW EPOXY L F	4" DOUBLE SOLID LINE YELLOW [3] EPOXY L F	8" DOTTED LINE WHITE [2] EPOXY L F	24 INCH STOP LINE WHITE EPOXY L F	24 INCH SOLID LINE YELLOW EPOXY L F	4" BROKEN LINE WHITE [1] EPOXY L F	ZEBRA CROSSWALK WHITE HOT TAPE SQ. FT.	
S.P. 02-612-11, S.P. 106-020-025															
CSAH 12	TH65 TO CLUB WEST	LEFT	5	4				2833	1155			54		230	1062
CSAH 12	TH65 TO CLUB WEST	RIGHT	4	3				2611	1155			62		231	108
CSAH 12	CLUB WEST TO MANKATO	LEFT	2	2				3656				52		559	342
CSAH 12	CLUB WEST TO MANKATO	RIGHT	2	2				3558	2801			42		560	126
CSAH 12	MANKATO TO CSAH52	LEFT	2	2				2275	1653			54		332	612
CSAH 12	MANKATO TO CSAH52	RIGHT	2	2	2			2628	1649		1122	48			
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	LEFT	2	2	2			936				48			
CSAH 12 (EAST)	CSAH52 TO TOWN SQ. DR	RIGHT						559		850		58	99		594
DAVENPORT	SOUTH OF CSAH12	LT AND RT	2			1		1294		661		30	98		216
PROJECT TOTALS:			21	17	4	1		20350	8413	1511	1122	448	197	1912	3060

NOTES:

- [1] 4" BROKEN LINE WHITE OR YELLOW (10 FT. LINE, 40 FT. SPACE): TABULATED LENGTH DOES NOT INCLUDE GAP.
- [2] 8" DOTTED LINE WHITE (3 FT. LINE, 12 FT. SPACE): TABULATED LENGTH DOES NOT INCLUDE GAP.
- [3] DOUBLE SOLID LINES WILL BE MEASURED BY THE ACTUAL LENGTH OF BOTH 4 INCH LINES, THAT IS, A DOUBLE SOLID LINE WITH A CENTERLINE DISTANCE OF 1000 FEET WILL BE MEASURED AS 1000 FEET OF DOUBLE SOLID LINE INSTALLED

PLOT DATE: Aug 18, 2005 4:49pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB11.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 31809-791	 <p>Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</p>	<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED 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><i>Steve Weser</i> STEVE WESER DATE: 8/18/2005 MN LIC. NO. 40545</p>	 <p>ANOKA COUNTY HIGHWAY DEPT.</p>	CSAH 12 RECONSTRUCTION TAB SHEETS		S.P. 02-612-11	SHEET NO. 21	
				DRAWN BY: JCD				DESIGN BY: JCD		S.P. 106-020-025		
				CHECKED BY: SAW				DWG. NAME: TB11		S.P.		
				DATE: AUGUST 18, 2005						S.P.		

PLOT DATE: Aug 18, 2005 4:49pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TB12.dwg

SIGN PANELS TYPE C											L	
SIGN No.	POST			MINIMUM MOUNTING HEIGHT [1] FT	SIGN			S.P. 02-612-11 S.P. 106-020-025 CSAH 12		SIGN LEGEND	NOTES	
	No. AND TYPE	KNEE BRACE EACH	LENGTH [1] LIN FT		PANEL CODE	SIZE		EACH	QTY.			SQ. FT.
						INCHES	SQ FT					
C-1	2U		13	7	R4-7	24 x 30	5.00	6	30.00	KEEP RIGHT	[3]	
					X4-2	18 x 18				HAZARD MARKER		
C-2	2U		13	7	R5-1	30 x 30	6.25	6	37.50	DO NOT ENTER		
C-3	2U	1	13	7	R3-30AB	36 x 30	7.50	4	30.00	LT. TURN ONLY/LT. TURN ONLY		
					M3-2A	24 x 12	2.00		2.00	EAST		
C-4	2U		13.5	7	M1-6	24 x 24	4.00	1	4.00	ANOKA COUNTY ROUTE MARKER - 12		
					M1-5A	24 x 24	4.00		4.00	MINNESOTA HIGHWAY ROUTE MARKER - 65		
C-5	2U		14	7	M6-4A	21 x 15	2.19	1	2.19	DOUBLE ARROW		
C-6	2U		13	7	R2-1	24 x 30	5.00	2	10.00	SPEED LIMIT 45 MPH		
					R3-X1	30 x 30	6.25		43.75	RIGHT TURN LANE		
C-7	2U	1	15	7	R8-3A	24 x 24	4.00	7	28.00	NO PARKING		
					R6-1R	36 x 12	3.00		6.00	ONE WAY (RIGHT)		
C-8	2U	1	14	7	R1-1	30 x 30	6.25	2	12.50	STOP		
					R6-1R	36 x 12	3.00	1	3.00	ONE-WAY (RIGHT)		
C-9	2U		12.5	7	M2-1A	21 x 15	2.19		2.19	JUNCTION		
C-10	2U		14	7	M1-5A	24 x 24	4.00	1	4.00	MINNESOTA HIGHWAY ROUTE MARKER - 65		
					R2-1	24 x 30	5.00		5.00	SPEED LIMIT 55 MPH		
C-11	2U	1	16.5	7	R8-3A	24 x 24	4.00	1	4.00	NO PARKING		
C-12	2U		13	7	R3-X2	30 x 30	6.25	4	25.00	LEFT TURN LANE		
C-13	2U	1	13.5	7	W3-3	36 x 36	9.00	2	18.00	SIGNAL AHEAD		
C-14	2U		12.5	7	R8-3A	24 x 24	4.00	6	24.00	NO PARKING		
					R6-1L	36 x 12	3.00		9.00	ONE WAY (LEFT)		
C-17	2U	1	14	7	R6-1R	36 x 12	3.00	3	9.00	ONE WAY (RIGHT)	[4]	
					R1-1	30 x 30	6.25		18.75	STOP		
					M2-1A	21 x 15	2.19		2.19	JUNCTION		
C-18	2U		14	7	M1-6	24 x 24	4.00	1	4.00	ANOKA COUNTY ROUTE MARKER - 52		
					R3-30ACA	54 x 30	11.25		11.25	LT. TURN ONLY / THRU ONLY / RT. TURN ONLY		
C-19	2U	1	15	7	R8-3A	24 x 24	4.00	1	4.00	NO PARKING		
					M3-4A	24 x 12	2.00		2.00	WEST		
C-20	2U	1	15.5	7	M1-6	24 x 24	4.00	1	4.00	ANOKA COUNTY ROUTE MARKER - 12		
					R8-3A	24 x 24	4.00		4.00	NO PARKING		
					M1-6	24 x 24	4.00		4.00	ANOKA COUNTY ROUTE MARKER - 52		
C-21	2U		14	7	M6-4A	21 x 15	2.19	1	2.19	DOUBLE ARROW		
C-22	2U	1	13	7	R3-30ACA	54 x 30	11.25	1	11.25	LT. TURN ONLY / THRU ONLY / RT. TURN ONLY		
					R5-1	30 x 30	6.25		6.25	DO NOT ENTER		
C-23	2U	1	13	7	R5-1	30 x 30	6.25	1	6.25	DO NOT ENTER	[4]	
C-24	1U		12.5	7	X4-2	18 x 18		1		HAZARD MARKER		
C-25	2U		13	7	R2-1	24 x 30	5.00	1	5.00	SPEED LIMIT 55 MPH		
C-26	2U		14	7	R8-3A	24 x 24	4.00	3	12.00	NO PARKING		
PROJECT TOTALS:								58	410.26			

SPECIFIC NOTES:

- [1] MOUNTING HEIGHT IS MINIMUM; SEE DETAILS ON SHEET 132 AND 133 FOR TYPICAL MOUNTING.
- [2] FOR PUNCHING AND MOUNTING DETAILS, SEE SHEET 131.
- [3] DELINEATION MARKING REQUIRED ON BACK OF SIGN PANEL.
- [4] MOUNT BACK TO BACK.

GENERAL NOTES:

- 1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- 2. SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- 3. SIGN POSTS ON COUNTY ROADS SHALL BE PAINTED BLACK PER PROJECT SPECIFICATIONS.
- 4. SIGN POSTS ON STATE TRUNK HIGHWAYS SHALL BE GALVANIZED STEEL PER MNDOT STANDARD SPECIFICATIONS.
- 5. SIGN POSTS ON CITY STREETS SHALL BE PAINTED GREEN PER PROJECT SPECIFICATIONS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: DWS. NAME: TB12

DATE:
AUGUST 18, 2005



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



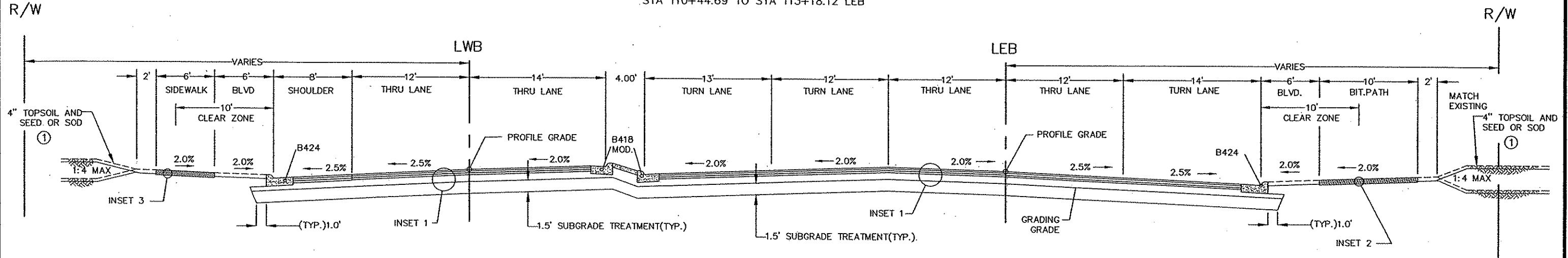
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TAB SHEETS

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
22
211

CSAH 12 (109TH AVE) TURN LANES EB
STA 110+44.69 TO STA 113+18.12 LEB



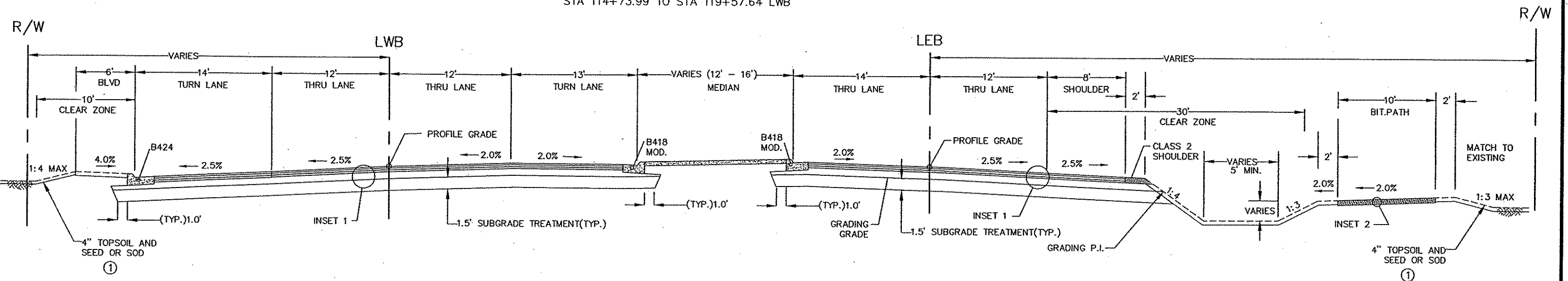
GENERAL NOTES

- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPES. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- ALL CSAH 12 STATIONS REFER TO CSAH 12 EASTBOUND ALIGNMENT
- SEE SHEET 30 FOR MISCELLANEOUS DETAILS
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

NOTES

- ① SEE TURF ESTABLISHMENT PLAN

CSAH 12 (109TH AVE) TURN LANES WB
STA 114+73.99 TO STA 119+57.64 LWB



PLOT DATE: Aug 18, 2005 4:51pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: TP2
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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Steve Weser
STEVE WESER

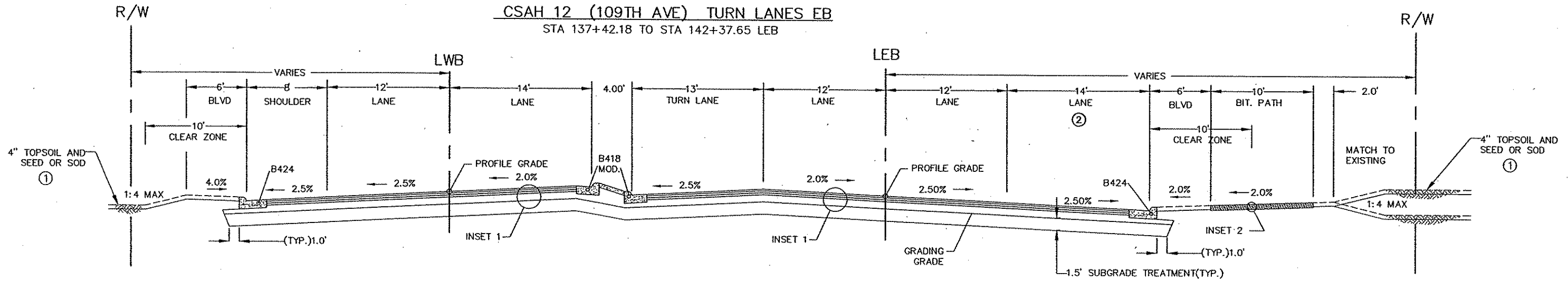
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TYPICAL SECTIONS

S.P. 02-612-11	SHEET NO. 24
S.P. 106-020-025	
S.P.	
S.P.	



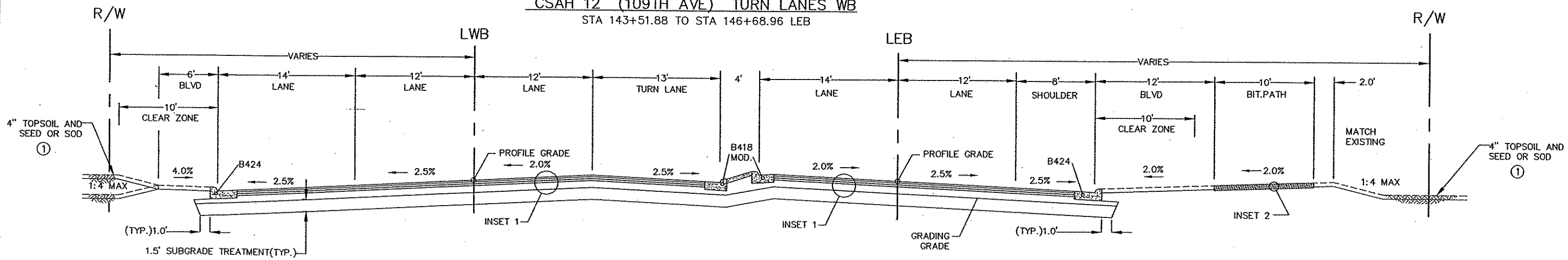
GENERAL NOTES

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- ALL CSAH 12 STATIONS REFER TO CSAH 12 EASTBOUND ALIGNMENT
- SEE SHEET 30 FOR MISCELLANEOUS DETAILS
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

NOTES

- ① SEE TURF ESTABLISHMENT PLAN
- ② STA. 139+55.95 TO STA. 142+37.65

CSAH 12 (109TH AVE) TURN LANES WB
STA 143+51.88 TO STA 146+68.96 LEB



PLOT DATE: Aug 18, 2005 4:51pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
DRAWN BY:
LGJ
DESIGN BY:
CTN
CHKD. BY:
SAW
DWG. NAME:
TP3
DATE:
AUGUST 18, 2005



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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



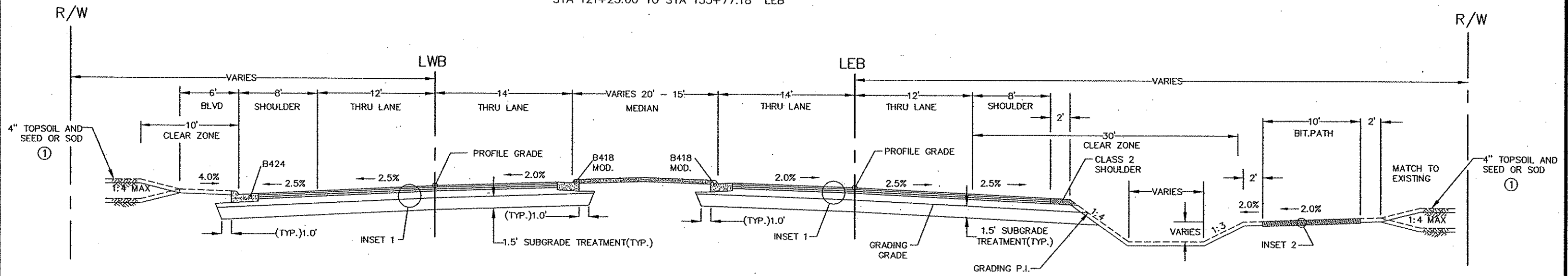
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TYPICAL SECTIONS

S.P. 02-612-11	SHEET NO. 25
S.P. 106-020-025	
S.P.	
S.P.	

3 OF 7
211

(CSAH 12) 109TH AVE. TYPICAL SECTION
STA 121+23.00 TO STA 135+77.18 LEB



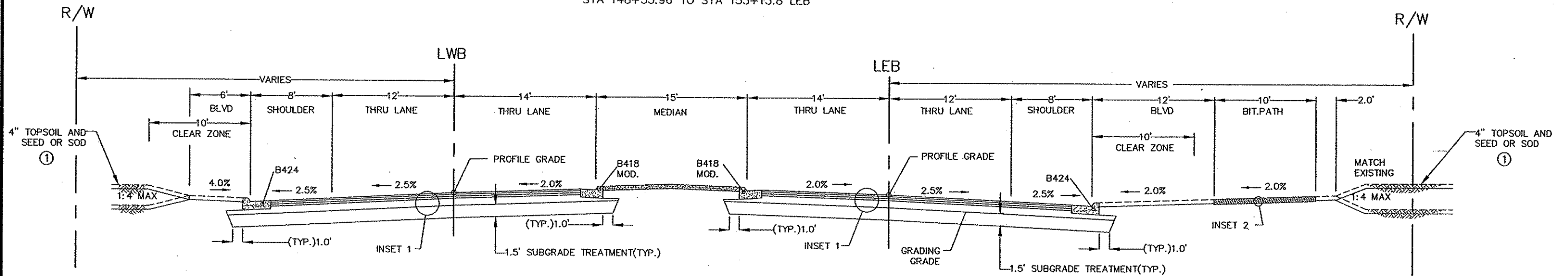
GENERAL NOTES

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- ALL CSAH 12 STATIONS REFER TO CSAH 12 EASTBOUND ALIGNMENT
- SEE SHEET 30 FOR MISCELLANEOUS DETAILS
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

NOTES

- ① SEE TURF ESTABLISHMENT PLAN

(CSAH 12) 109TH AVE. TYPICAL SECTION
STA 148+33.96 TO STA 153+13.8 LEB



PLOT DATE: Aug 18, 2005 4:52pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP4.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: TP4
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN UC NO. 40545



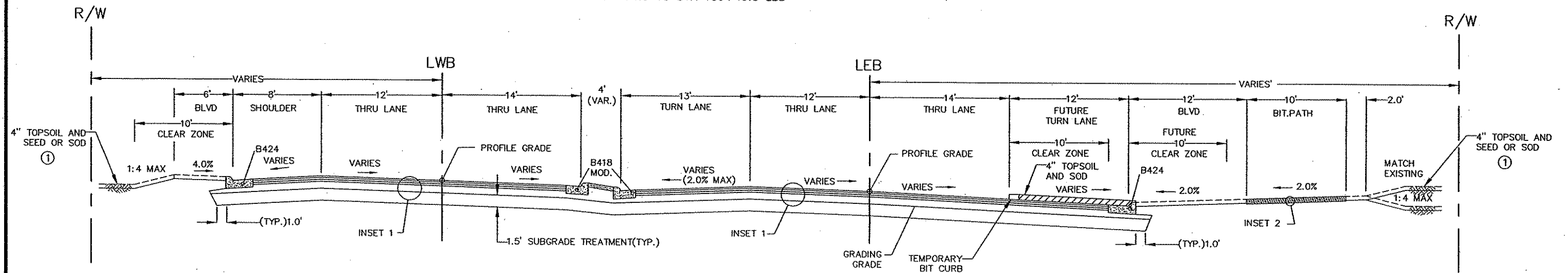
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TYPICAL SECTIONS

S.P. 02-612-11	SHEET NO. 26
S.P. 106-020-025	
S.P.	211
S.P.	

CSAH 12 (109TH AVE) TURN LANES EB AND SUPERELEVATION

STA 154+74.3 TO STA 159+49.8 LEB



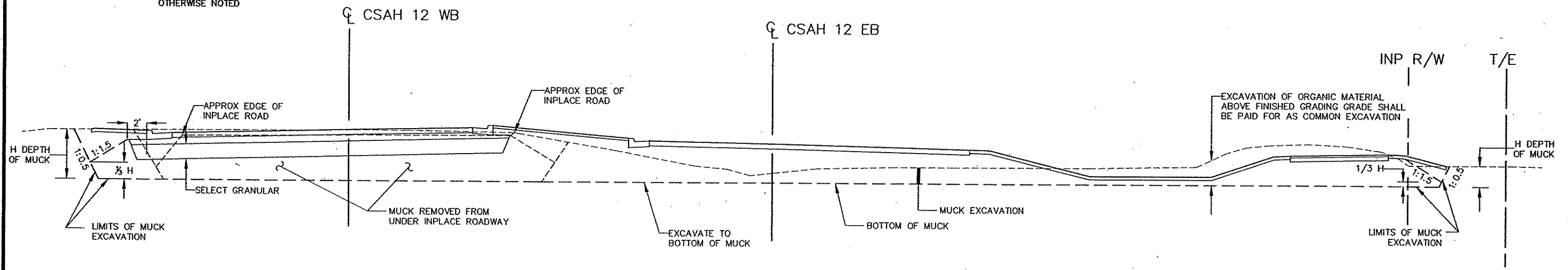
GENERAL NOTES

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- ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPES. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
- ALL CSAH 12 STATIONS REFER TO CSAH 12 EASTBOUND ALIGNMENT
- SEE SHEET 30 FOR MISCELLANEOUS DETAILS
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

NOTES

- ① SEE TURF ESTABLISHMENT PLAN

CSAH 12 (109TH AVE) MUCK EXCAVATION



- NOTES: - SEE CROSS SECTIONS FOR APPROXIMATE MUCK EXCAVATION DEPTH
- REMOVE MUCK FROM UNDERNEATH ROADWAY AND TRAIL

PLOT DATE: Aug 18, 4:52pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP5.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: LGJ
 DESIGN BY: CTN
 CHKD. BY: SAW
 DWG. NAME: TP5
 DATE: AUGUST 18, 2005



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 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.1376 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



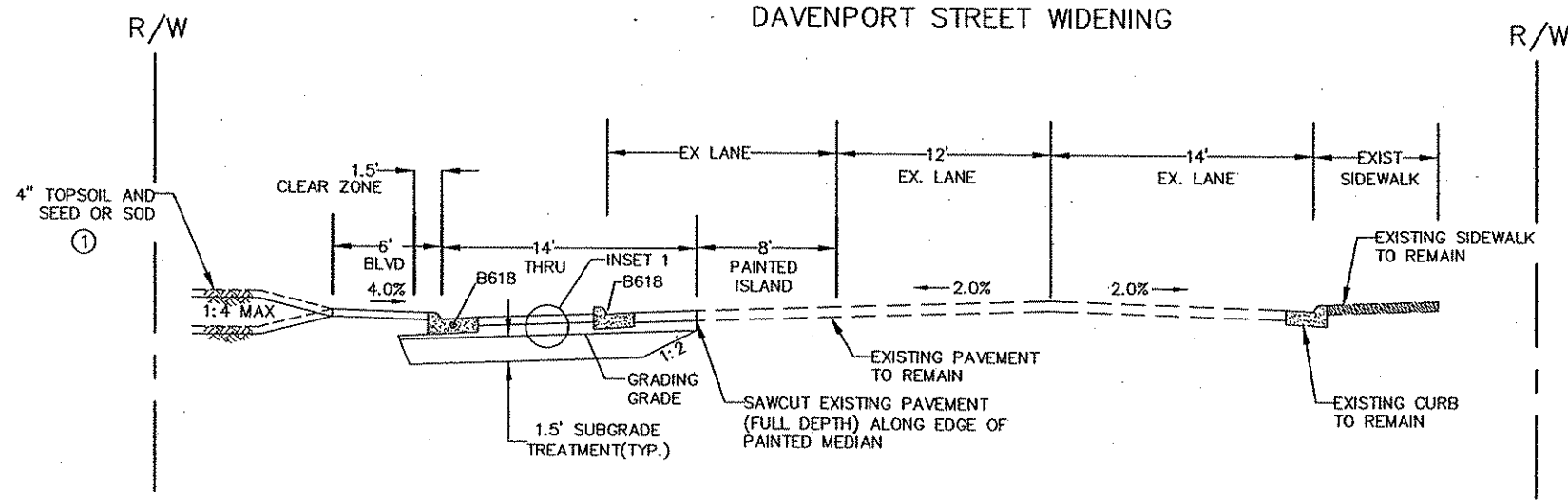
ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TYPICAL SECTIONS

S.P. 02-612-11	SHEET NO. 27
S.P. 106-020-025	
S.P.	
S.P.	

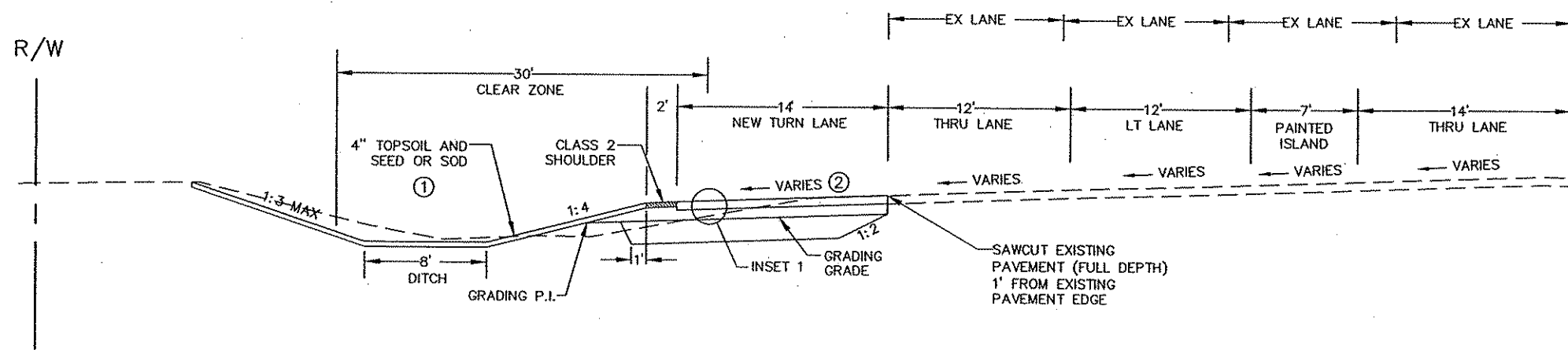
5 OF 7
 211

PLOT DATE: Aug 18, 2005 4:53pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP6.dwg



- NOTES**
- ① SEE TURF ESTABLISHMENT PLAN
 - ② MATCH EXISTING PAVEMENT

**CSAH 12 EAST APPROACH AT T.H. 52
PROPOSED WIDENING**



- GENERAL NOTES**
- GRADING GRADE CROSS SLOPES WILL BE THE SAME AS FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
 - ALL SECTIONS SHOWN ARE FOR NORMAL CROWN AND CROSS SLOPES. FOR SUPERELEVATIONS AND TRANSITIONS SEE SUPERELEVATION PLANS.
 - ALL CSAH 12 STATIONS REFER TO CSAH 12 EASTBOUND ALIGNMENT
 - SEE SHEET 30 FOR MISCELLANEOUS DETAILS
 - ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
CTN

CHKD. BY:
SAW

DWG. NAME:
TP6

DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

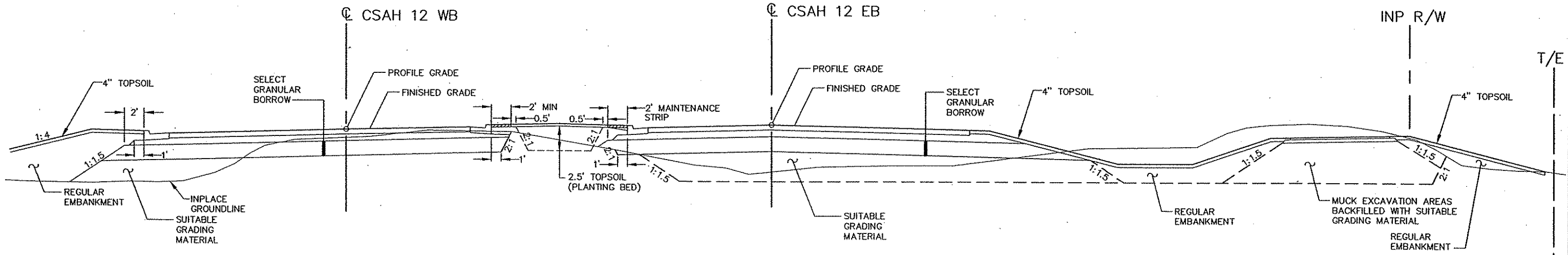
**CSAH 12
RECONSTRUCTION
TYPICAL SECTIONS**

S.P. 02-612-11	SHEET NO. 28
S.P. 106-020-025	
S.P.	
S.P.	

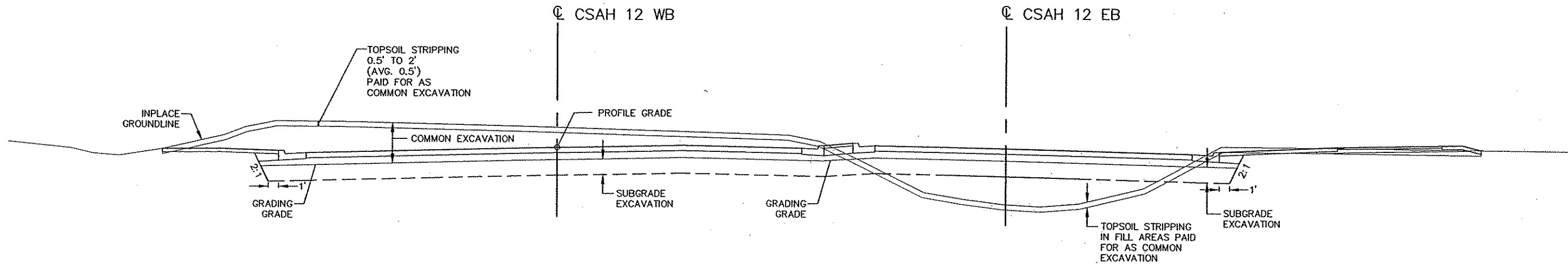
6 OF 7

211

CSAH 12 (109TH AVE)
EMBANKMENT TYPICAL



CSAH 12 (109TH AVE)
EXCAVATION TYPICAL



PLOT DATE: Aug 18, 4:53pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TP7.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: TP7
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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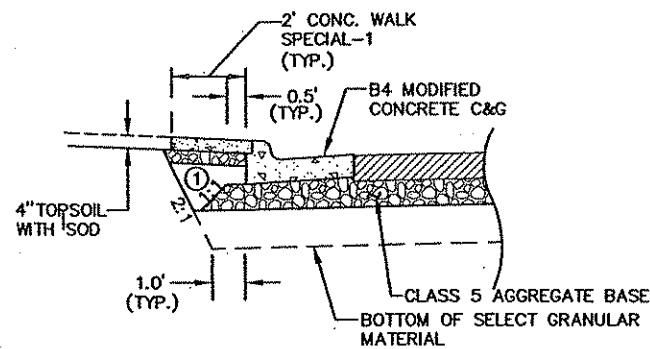
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



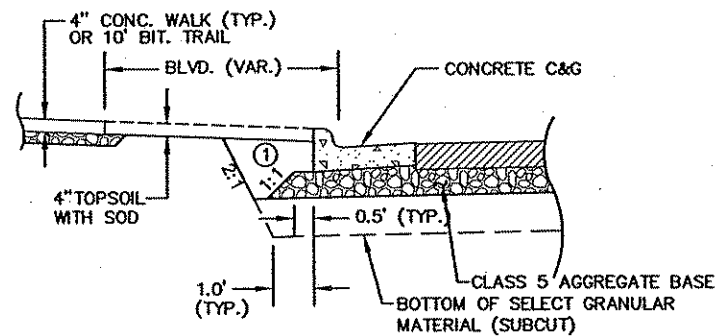
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TYPICAL SECTIONS

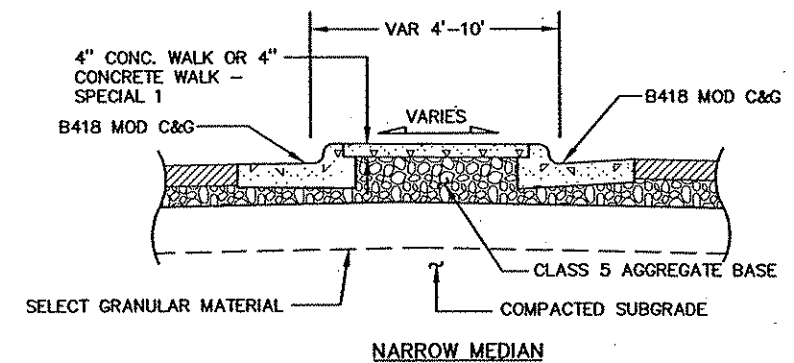
S.P. 02-612-11	SHEET NO. 29
S.P. 106-020-025	
S.P.	211
S.P.	



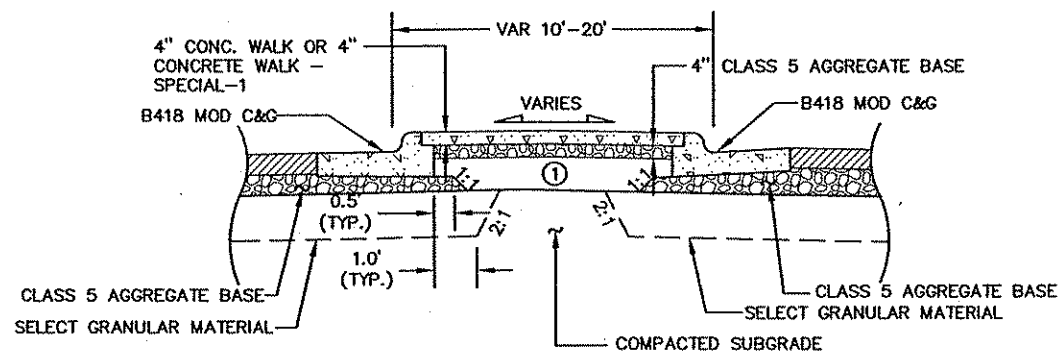
DETAIL A
B4 CURB & GUTTER AT
CONCRETE MAINTENANCE STRIP



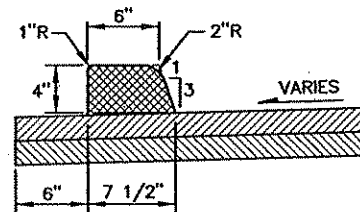
B4 CURB & GUTTER AT
GRASS BOULEVARD - CSAH 11



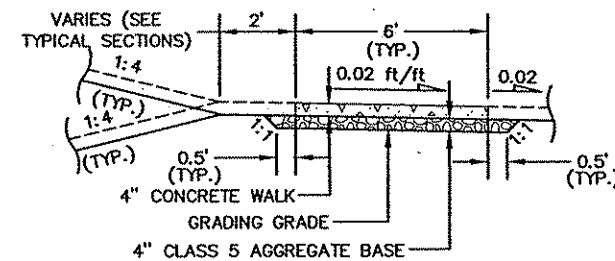
NARROW MEDIAN



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



BITUMINOUS CURB
N.T.S.



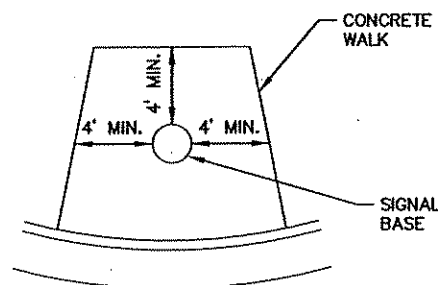
4" CONCRETE SIDEWALK

NOTES:
WALK PANEL SHALL BE 6 FEET SQUARE WITH CONTRACTION JOINT ON EACH SIDE.
EXPANSION JOINTS ON EACH SIDE OF DRIVEWAY, BETWEEN WALK AND CURB SECTIONS, AND AT MAXIMUM SPACING OF 60 FT.
WALK SHOULD HAVE A BRUSHED FINISH.

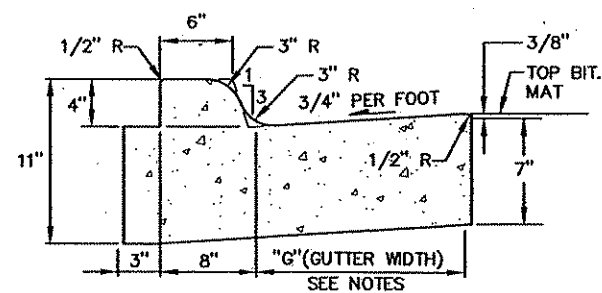
NOTES

① BACK FILL WITH SUITABLE GRADING MATERIAL.

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

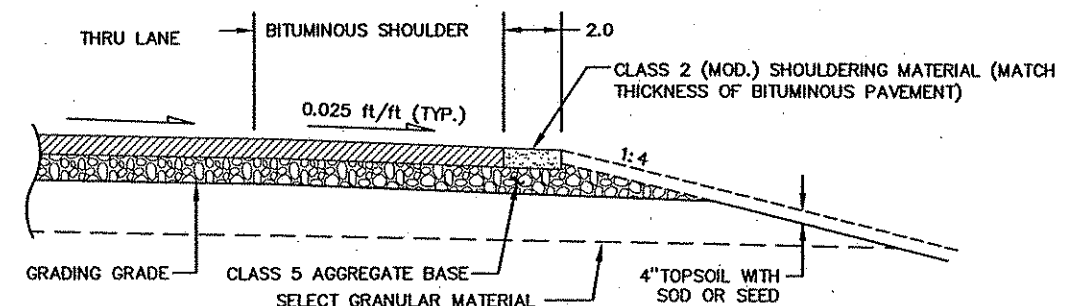


CONCRETE WALK AT SIGNAL BASES



- "G"=12" FOR B412 MODIFIED CONCRETE CURB & GUTTER.
- "G"=18" FOR B418 MODIFIED CONCRETE CURB & GUTTER.
- "G"=24" FOR B424 MODIFIED CONCRETE CURB & GUTTER.

B4 MODIFIED CURB & GUTTER
N.T.S.



CLASS 2 (MOD.) SHOULDER

PLOT DATE: Aug 18, 2005 4:54pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\DL1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: DL1
CHKD. BY: SAW	DATE: AUGUST 18, 2005



Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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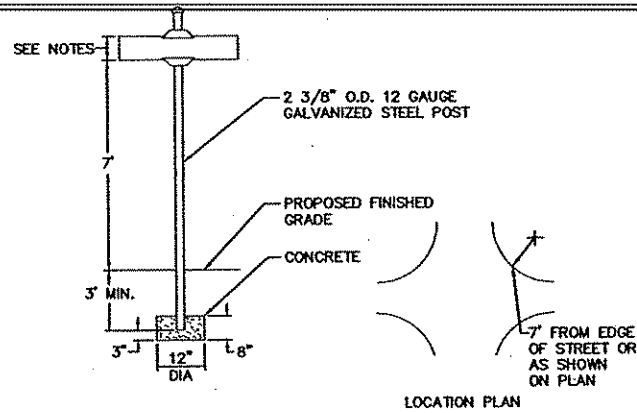
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

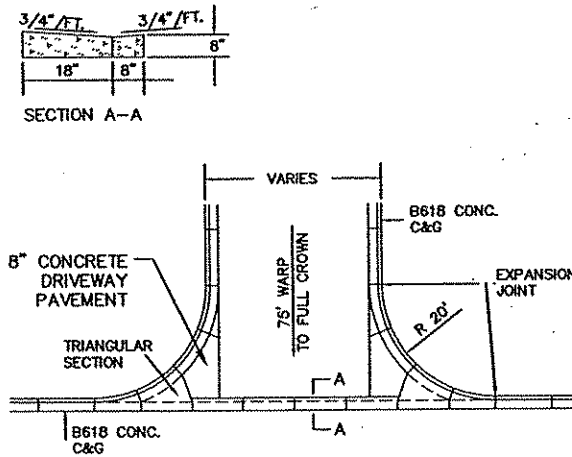
CSAH 12
RECONSTRUCTION
MISCELLANEOUS DETAILS

S.P. 02-612-11	SHEET NO.
S.P.106-020-025	30
S.P.	211
S.P.	



- NOTES:
1. SIGN SIZE-DESIGN A: 6" (40 MPH AND LESS) AND SIGN SIZE-DESIGN B: 9" (45 MPH AND GREATER).
 2. BLADE LENGTH SHALL BE AS NECESSARY.
 3. LETTER SIZE (ALL UPPER CASE)-DESIGN A: 4" AND DESIGN B: 5".
 4. V.P. DIAMOND GRADE, WHITE ON MNDOT GREEN BACKGROUND FOR PUBLIC STREETS WHITE ON MNDOT BROWN BACKGROUND FOR PRIVATE STREETS, SEE CITY SPECIFICATIONS FOR MATERIALS.
 5. STREET NAMES AND SUFFIXES SHALL BE SPELLED COMPLETELY EXCEPT FOR "NORTHEAST" WHICH SHALL BE "NE".
 6. SIGNS SHALL NOT HAVE BORDERS.
 7. SIGN BRACKETS SHALL BE "LYLE SIGNS" NO. E-450 OR APPROVED EQUAL.
 8. A SIGN PLAN SHOWING SIGN COLORS, SIZES AND LETTERING MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO SIGN INSTALLATION.

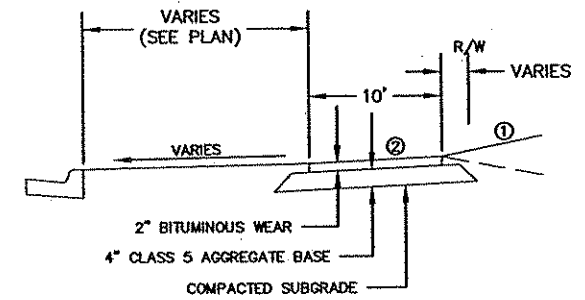
Date: 2/20/04 **STREET SIGN INSTALLATION** Plate No. ST-1



NOTE: PAYMENT FOR CONC. VALLEY GUTTER SHALL BE PER L.F. OF B618 CONC. C&G

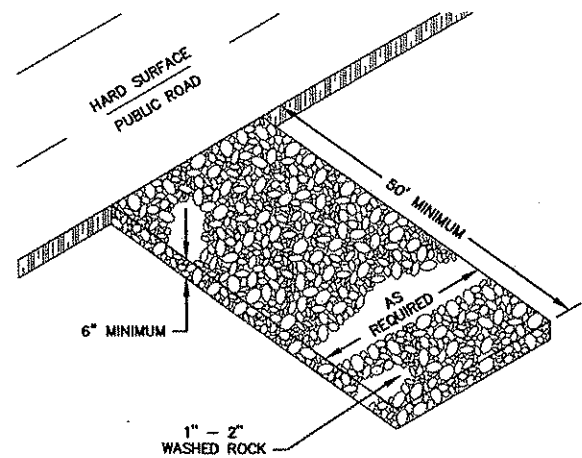
PAYMENT FOR TRIANGULAR SECTION SHALL BE 8" CONCRETE OR DRIVEWAY PAVEMENT

Date: 02/13/97 **CONCRETE VALLEY GUTTER DESIGN WITH B618 CURB** Plate No. ST-4



- NOTES:
- 1- SLOPE VARIES 1:2 TO 1:4
 - 2- CROSS SLOPE 2%
 - 3- SOO ALL DISTURBED AREAS WITH 4" TOPSOIL

Date: 03/08/02 **OFF ROAD TRAIL TYPICAL SECTION** Plate No. ST-17



Date: 05/03/2000 **ROCK CONSTRUCTION ENTRANCE** Plate No. MI-7

PLOT DATE: Aug 18, 2005 4:54pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\DL2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: DL3
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER

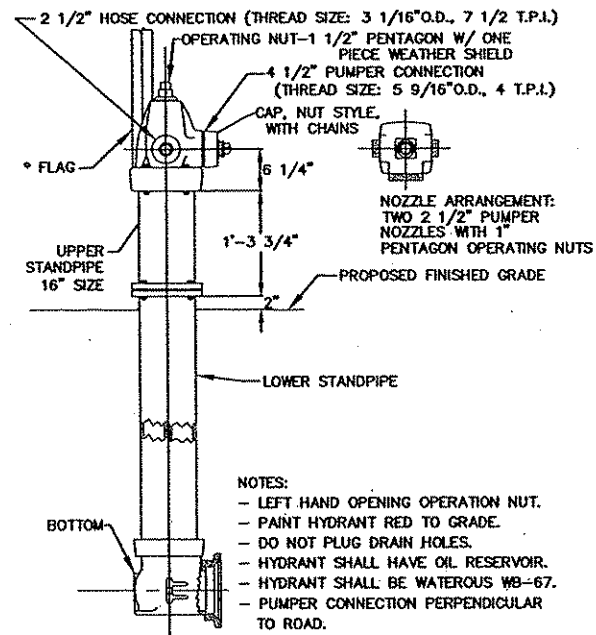
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

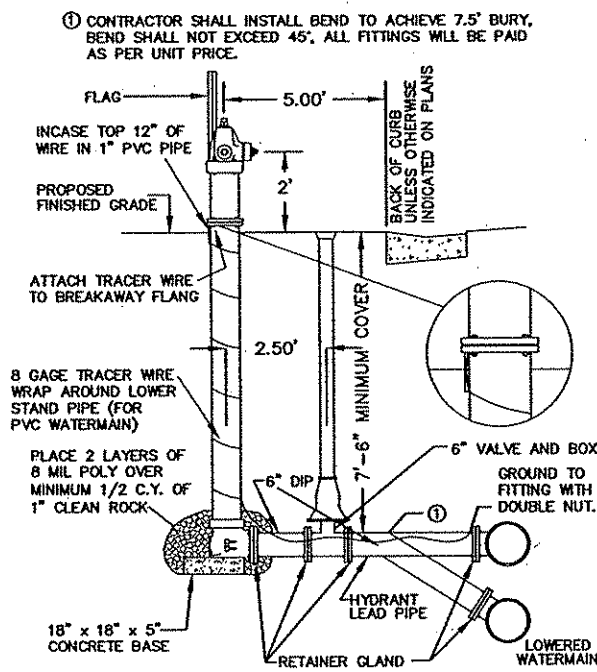
CSAH 12
RECONSTRUCTION
UTILITY DETAILS
STREET DETAILS

S.P. 02-612-11	SHEET NO. 31
S.P. 106-020-025	
S.P.	211
S.P.	

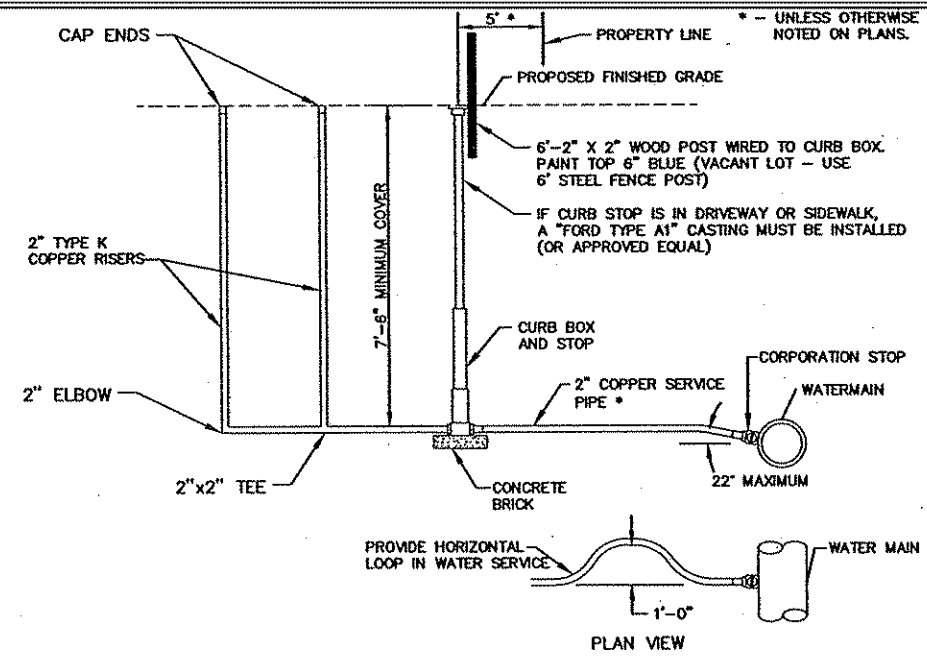


* FLAG TO BE EITHER INSTALLED OR DELIVERED AS DIRECTED IN FIELD BY THE ENGINEER.

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



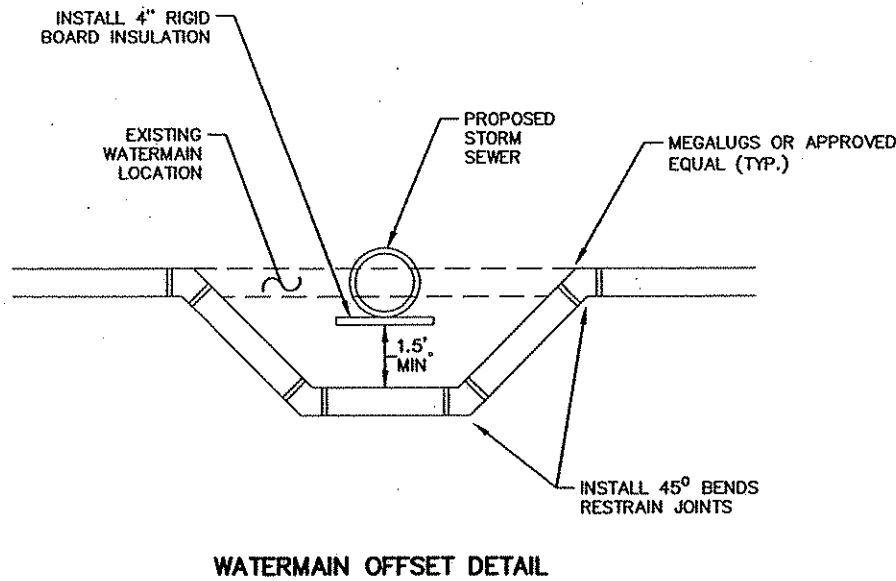
Date: 02/22/05 **HYDRANT INSTALLATION** Plate No. WS-2



Date: 03/11/03

IRRIGATION SYSTEM WATER SERVICE CONNECTION

Plate No. WS-3



WATERMAIN OFFSET DETAIL

	PIPE SIZE								
	6"	8"	10"	12"	14"	16"	18"	20"	24"
BENDS									
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	49	58	111	130	180	195	255
LONG	38	46	62	78	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	86							
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									
6"	80								
8"		105							
10"			145						
12"				215					
14"					335				
16"						385			
18"							XXX		
20"								XXX	
24"									XXX
REDUCERS									
8"	36								
10"	47	50							
12"	60	80	84						
14"	100	100	100	100					
16"	124	124	124	124	140				
18"		180	185	180	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: 12/27/96 **WATER MAIN FITTINGS** Plate No. WS-4

PLOT DATE: Aug 18, 2005 4:55pm DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\DL3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
DRAWN BY:
LGJ
DESIGN BY:
CTN
CHKD. BY:
SAW
DWG. NAME:
DL3
DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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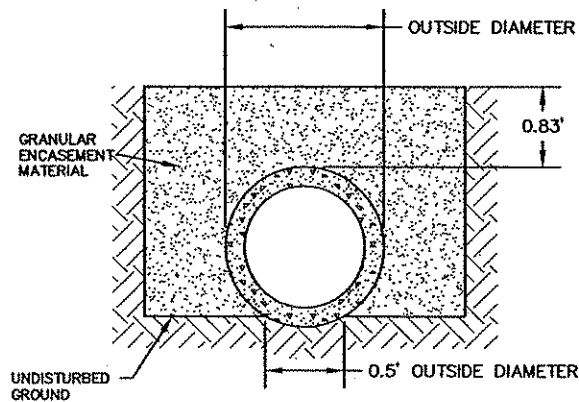
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

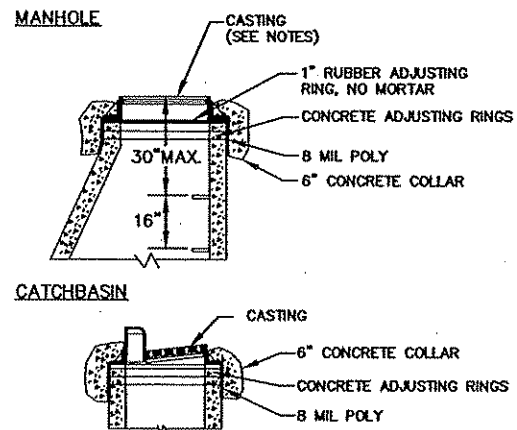
CSAH 12
RECONSTRUCTION
UTILITY DETAILS
WATERMAIN DETAILS

S.P. 02-612-11	SHEET NO.
S.P.106-020-025	32
S.P.	211
S.P.	



NOTES:
 THIS IS THE STANDARD PIPE BEDDING APPLICATION UNLESS OTHER BEDDING IS SPECIFIED.
 THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE BARREL OF THE PIPE FOR AT LEAST 50% OF THE OUTSIDE DIAMETER OF THE PIPE. THE REMAINDER OF THE PIPE IS TO BE SURROUNDED TO A HEIGHT OF AT LEAST 1" ABOVE ITS TOP. GRANULAR ENCASEMENT MATERIAL SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS.

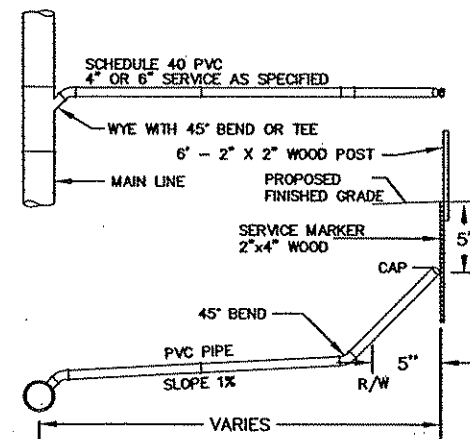
Date: 01/29/97 CLASS C PIPE BEDDING Plate No. MI-1



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

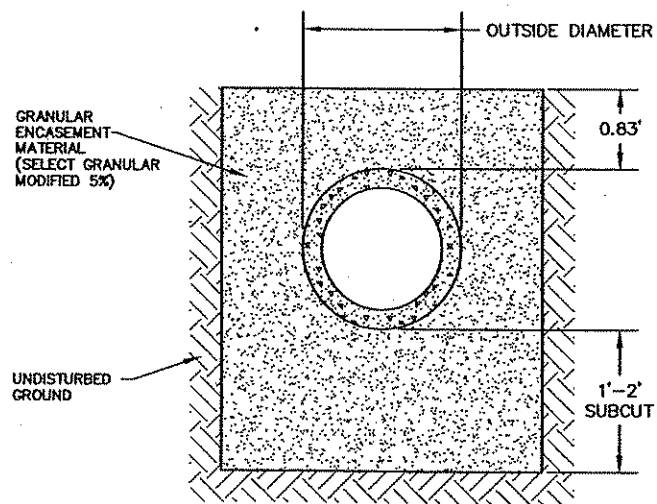
ADJUSTING RINGS & STEPS

Date: 02/22/05 Plate No. MI-2



NOTE: WHEN SANITARY SERVICE IS NOT ACCOMPANIED BY A WATER SERVICE IN THE SAME TRENCH, INSTALL A 6" POST NEXT TO THE 2"x4" MARKER AND PAINT THE TOP 6" GREEN. FOR VACANT LOTS, USE 6" STEEL FENCE POST.
 UNLESS OTHERWISE INDICATED ON PLANS
 NO BEND MAY BE USED OTHER THAN THOSE SHOWN ON DETAIL
 SOLVENT WELD ALL JOINTS
 ON EXISTING MAINS, SEE DETAIL SSS-2
 IF DISTANCE FROM MAIN TO STRUCTURE IS GREATER THAN 100', A CLEAN OUT MUST BE INSTALLED AT 100' INTERVALS, SEE DETAIL SSS-8.

Date: 03/11/03 SERVICE CONNECTION Plate No. SSS-4



PIPE INSTALLATION BELOW WATER TABLE

PLOT DATE: Aug 18, 4:55pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\DL4.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
 DRAWN BY: LGJ
 DESIGN BY: CTN
 CHKD. BY: SAW
 DWG. NAME: DL3
 DATE: AUGUST 18, 2005



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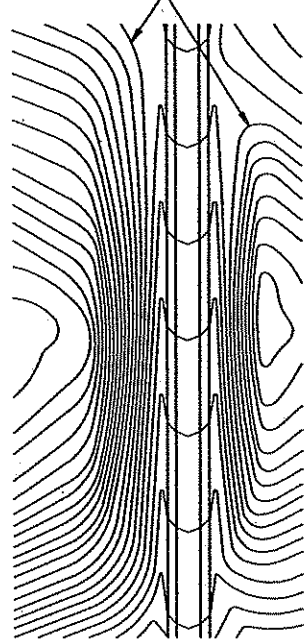
ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 UTILITY DETAILS
 STORM DETAILS

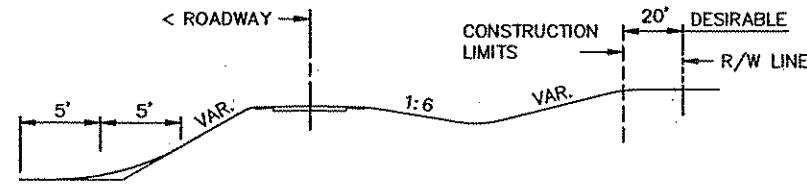
S.P. 02-612-11	SHEET NO. 33
S.P. 106-020-025	
S.P.	
S.P.	

4 OF 4
208

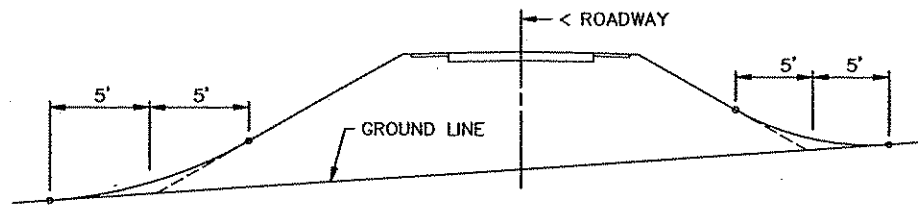
ROUND OUT CUT
TRANSITION



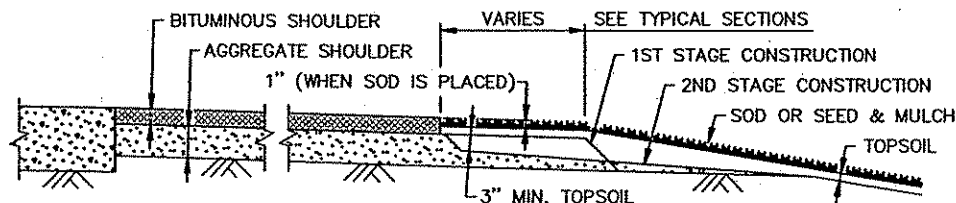
CONTOURING ROAD CUTS



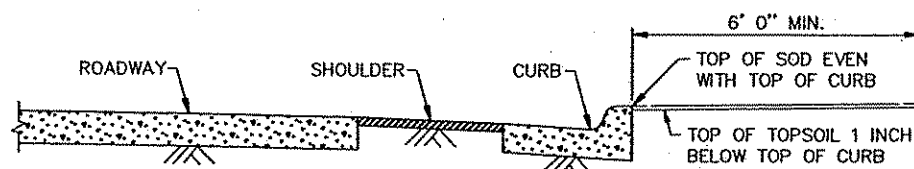
ROUNDING SHOULDERS AND BACKSLOPES



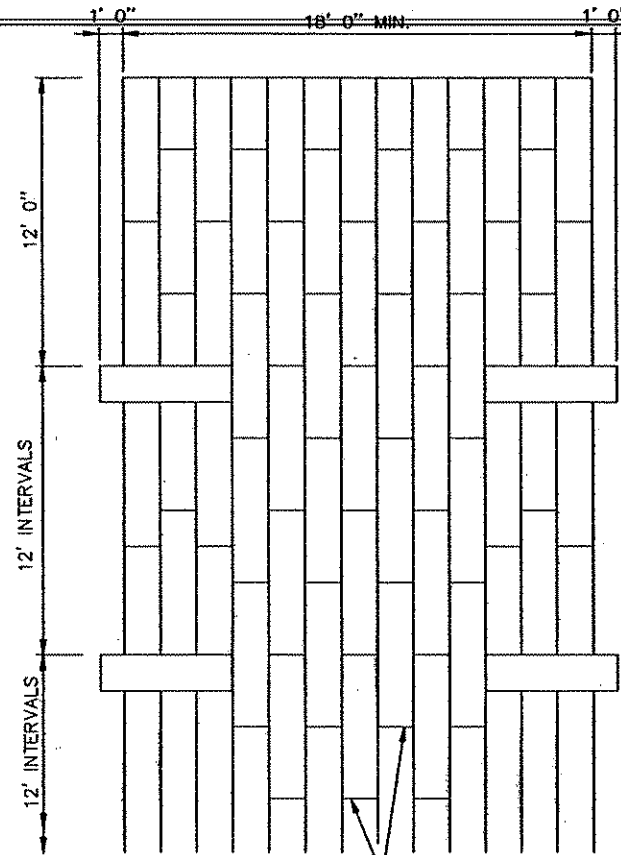
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



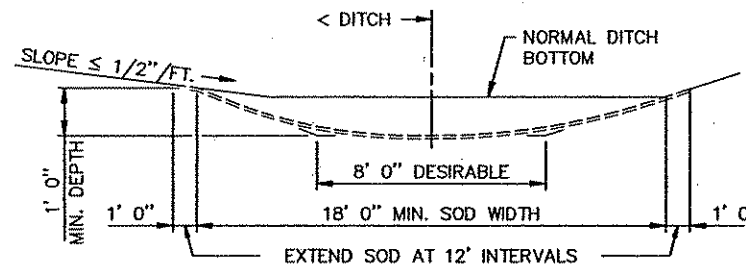
SHAPING AND TOPSOILING INSLOPES



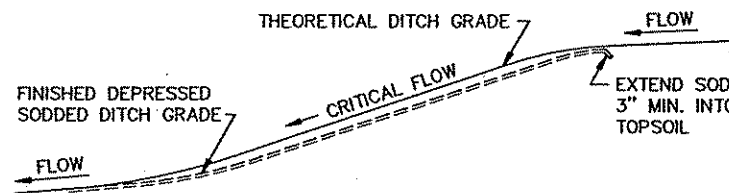
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



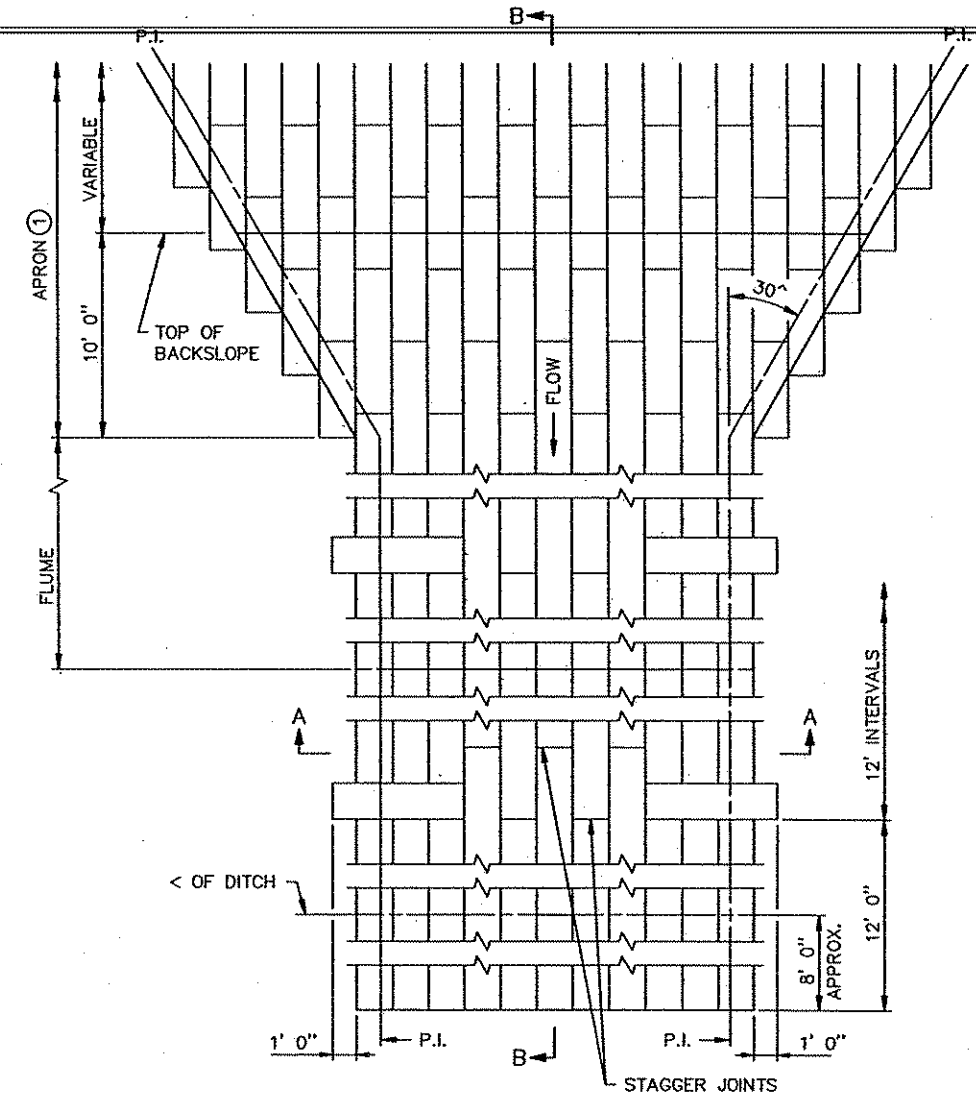
STAGGER JOINTS
PLAN VIEW



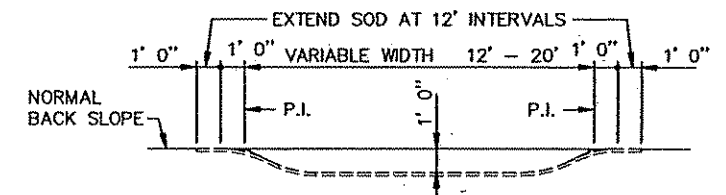
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2\"/>



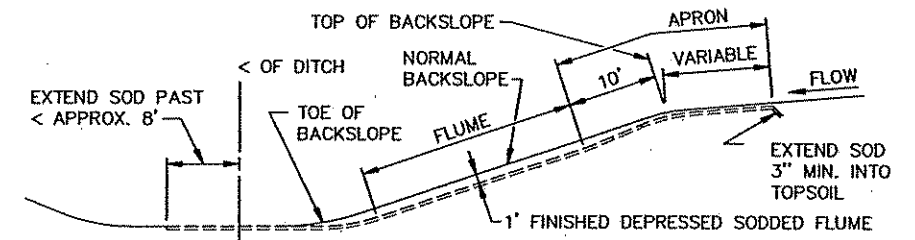
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A

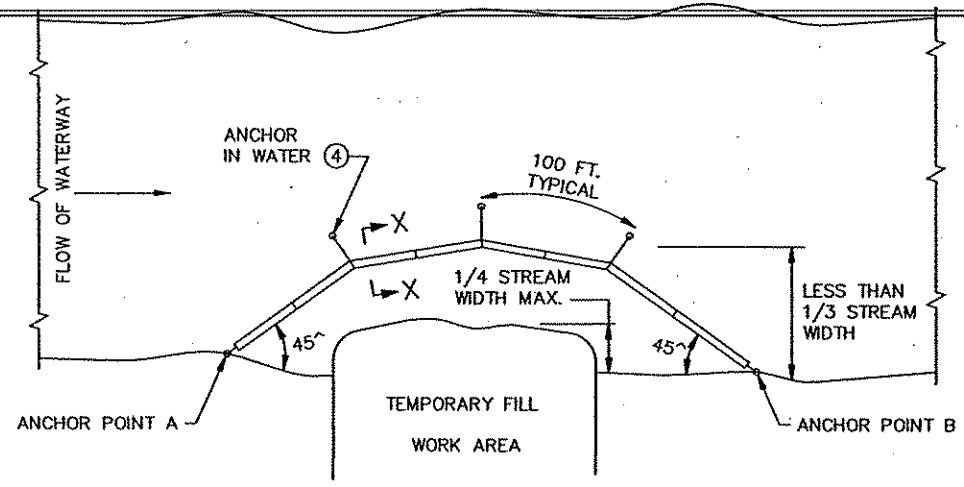


SECTION B-B
SODDED FLUME DETAILS

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

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: NOVEMBER 20, 2002	
STATE PROJ. NO. S.P. 02-612-11, 106-020-025 SHEET NO. 34 OF 211 SHEETS	

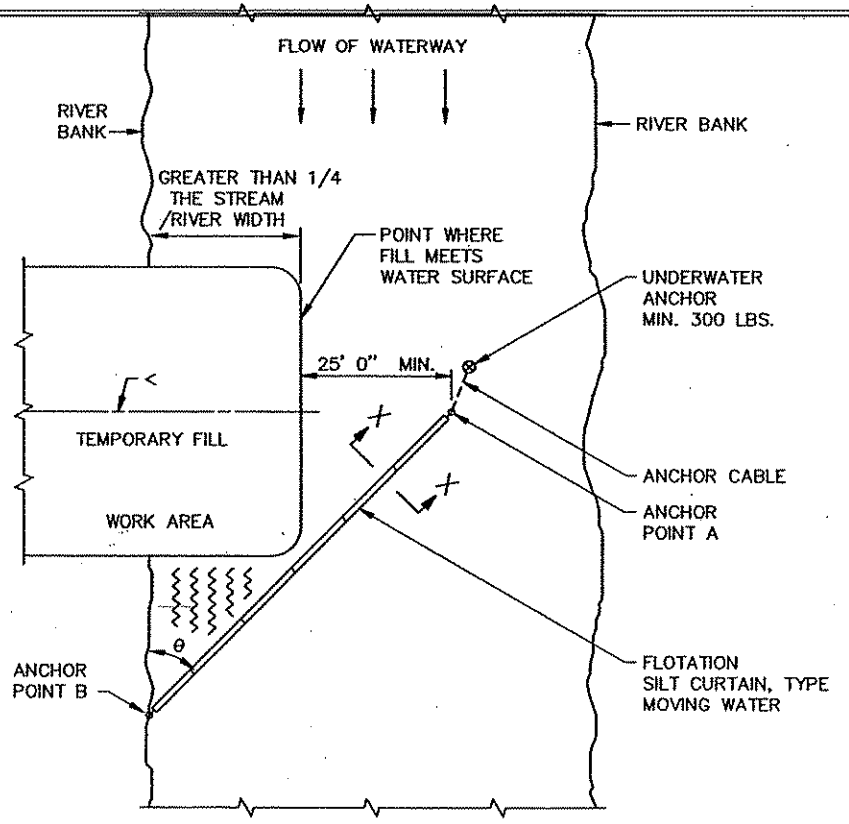
PLOT DATE: Aug 19, 2002 12:58pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SD1.dwg



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

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

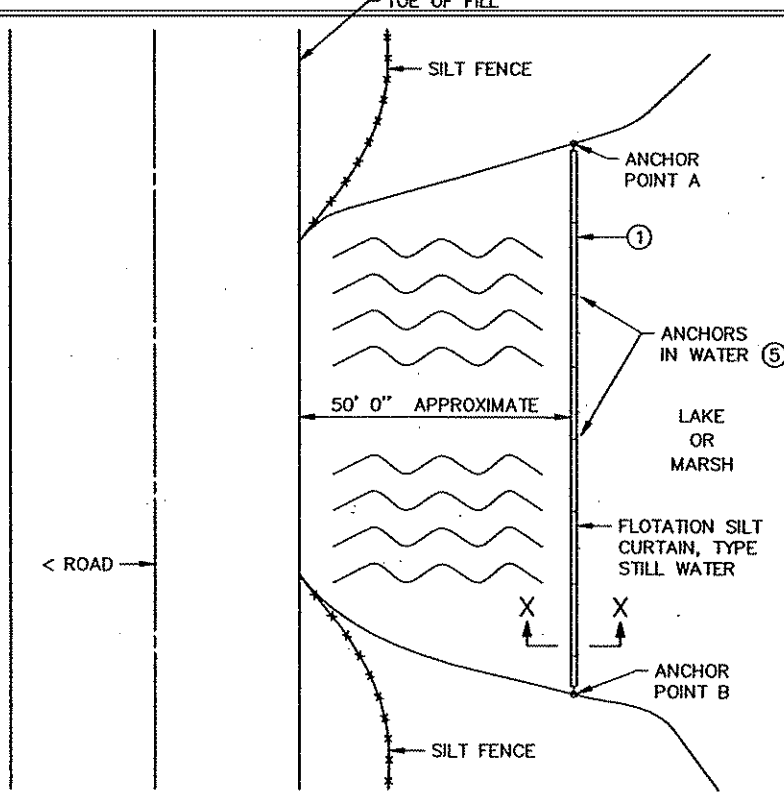
DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WATER DEPTH: 11 FT.



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

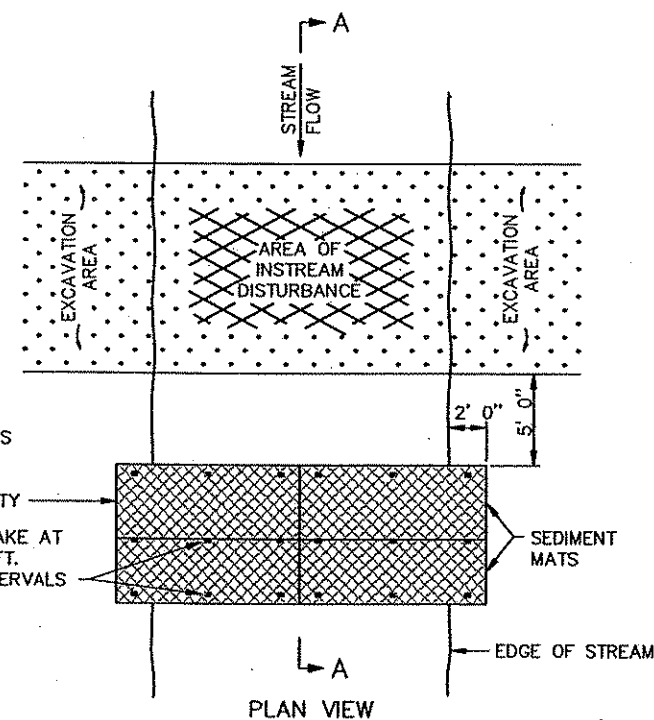
PLAN VIEW
FLOTATION SILT CURTAIN - TYPE MOVING WATER
 (SPEC. 3887)

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



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

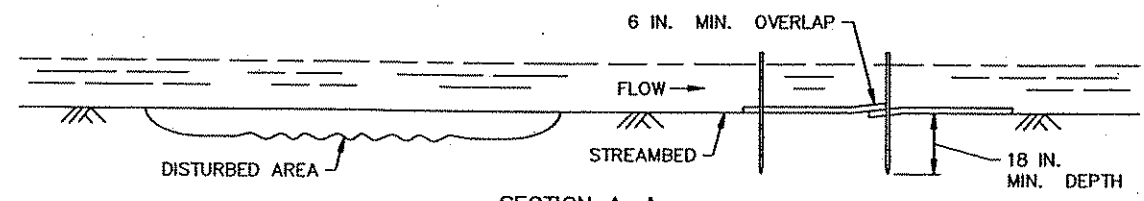
DESIGN GUIDELINES:
 MAXIMUM WATER DEPTH: 11 FT. ①
 MINIMUM WATER DEPTH: 3 FT.



4 FT. MIN. DOWNSTREAM COVERAGE OF SEDIMENT MATS FOR EACH FT./SEC. OF WATER VELOCITY

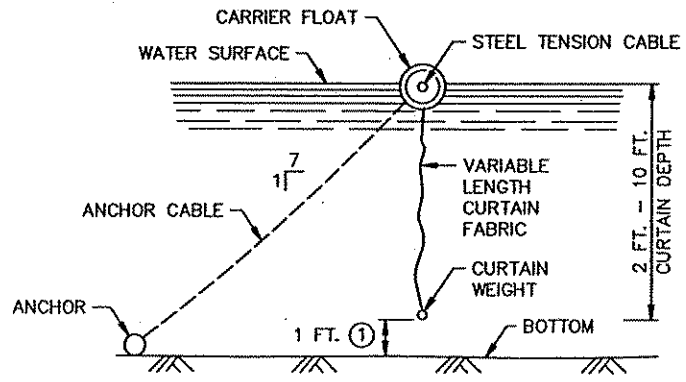
STAKE AT 4 FT. INTERVALS

PLAN VIEW

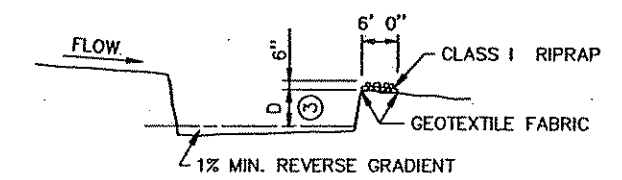
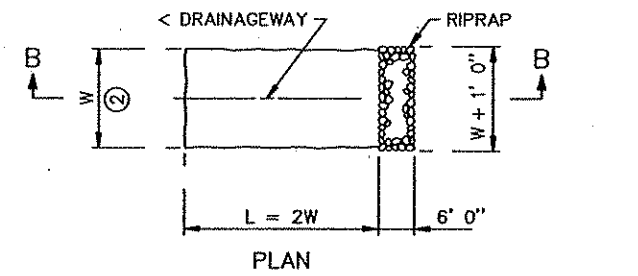


SECTION A-A
SEDIMENT MAT
 (SPEC. 3894)
 TYPICAL STREAMBED INSTALLATION

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



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



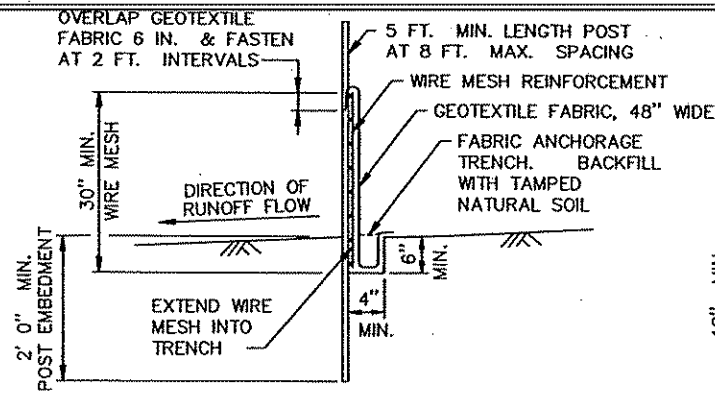
SECTION B-B
SEDIMENT TRAP DETAIL
 (SPEC. 2573)

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

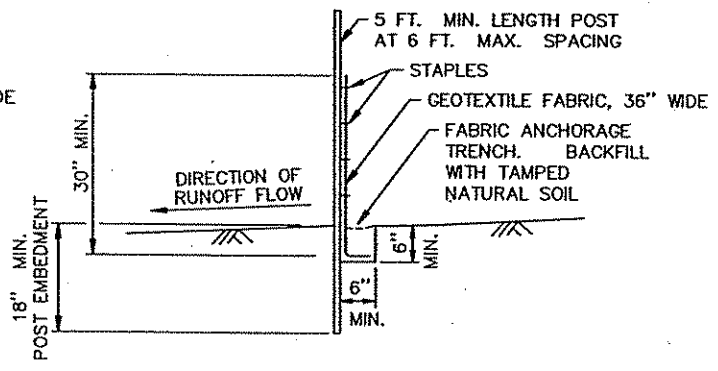
STANDARD SHEET NO.
 5-297.405 (1 OF 4)
 STANDARD APPROVED:
 July 30, 2001

TEMPORARY EROSION CONTROL

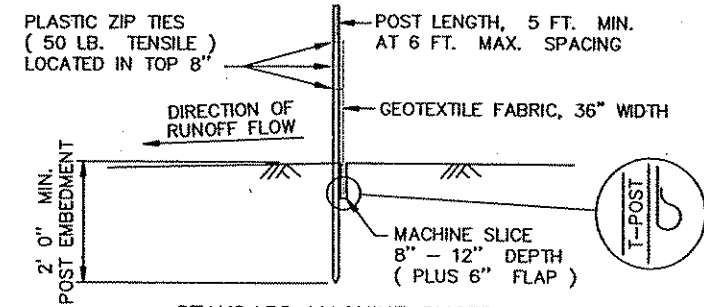
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HEAVY DUTY



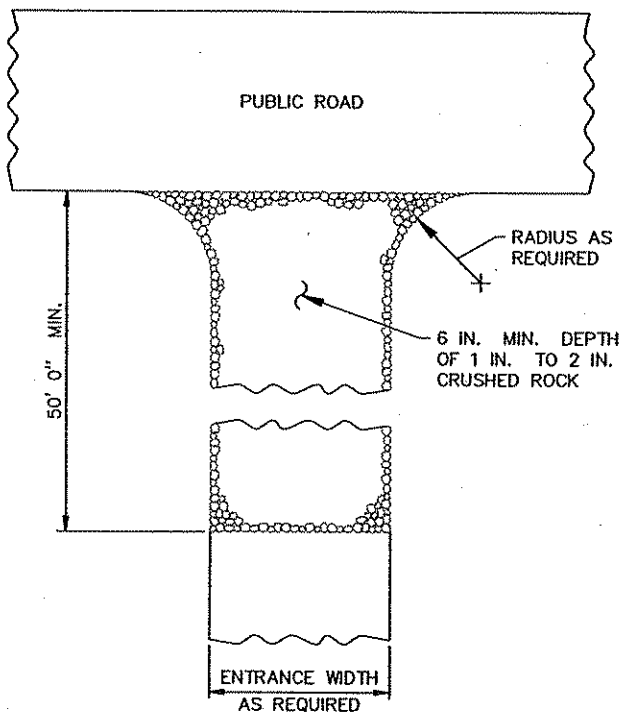
PREASSEMBLED



STANDARD MACHINE SLICED

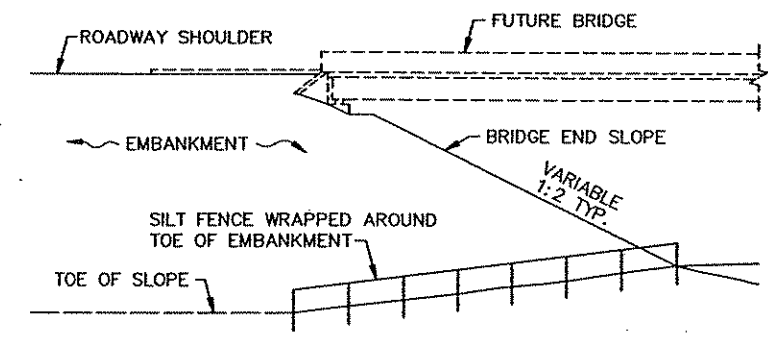
DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

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



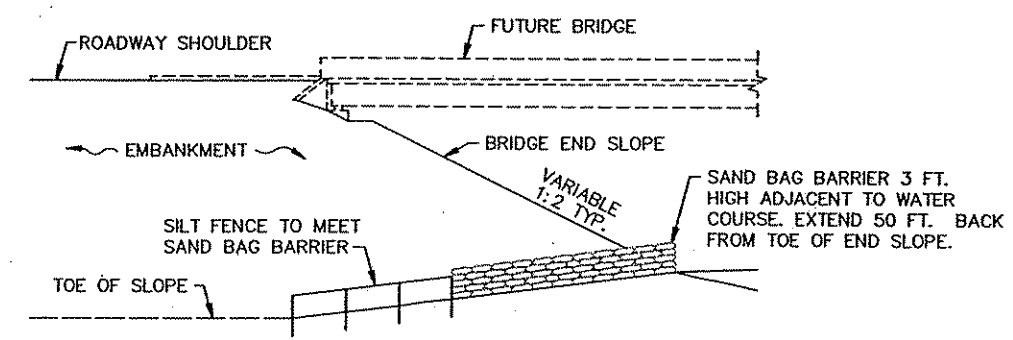
ROCK CONSTRUCTION ENTRANCE ①

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



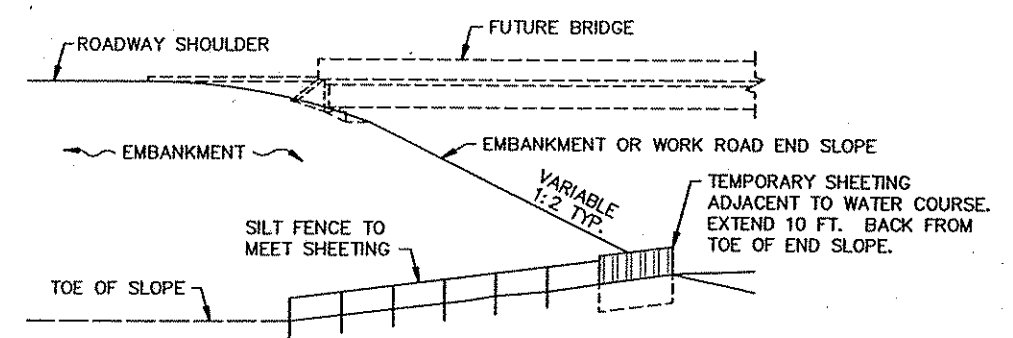
BRIDGE FILL

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



BRIDGE FILL

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

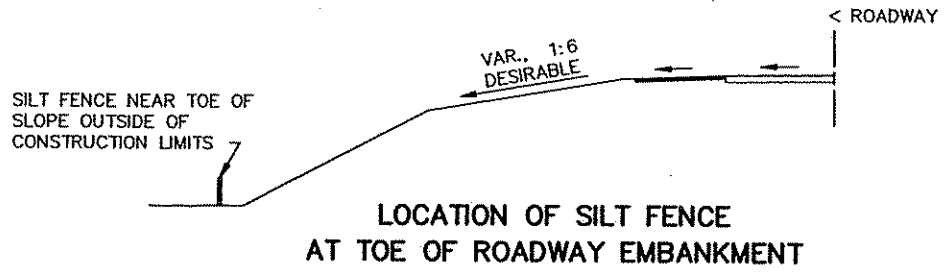


EMBANKMENT OR WORK ROAD FILL

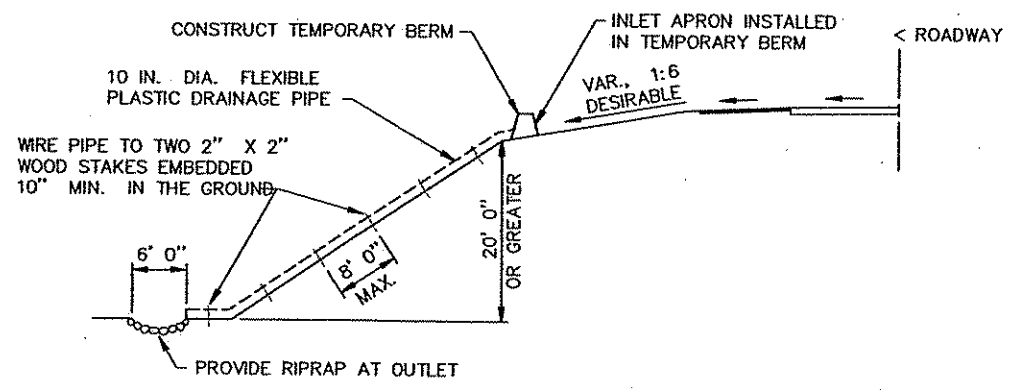
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

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

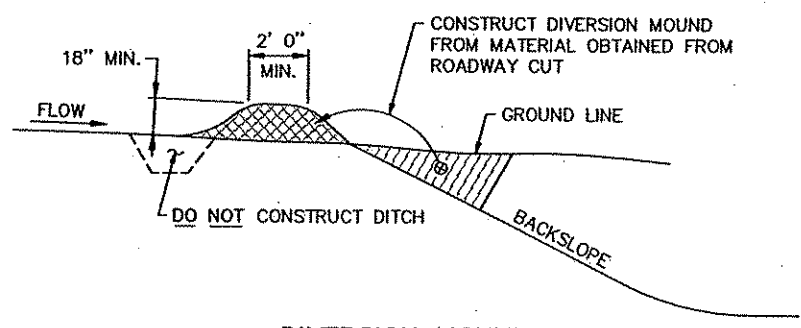


LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

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



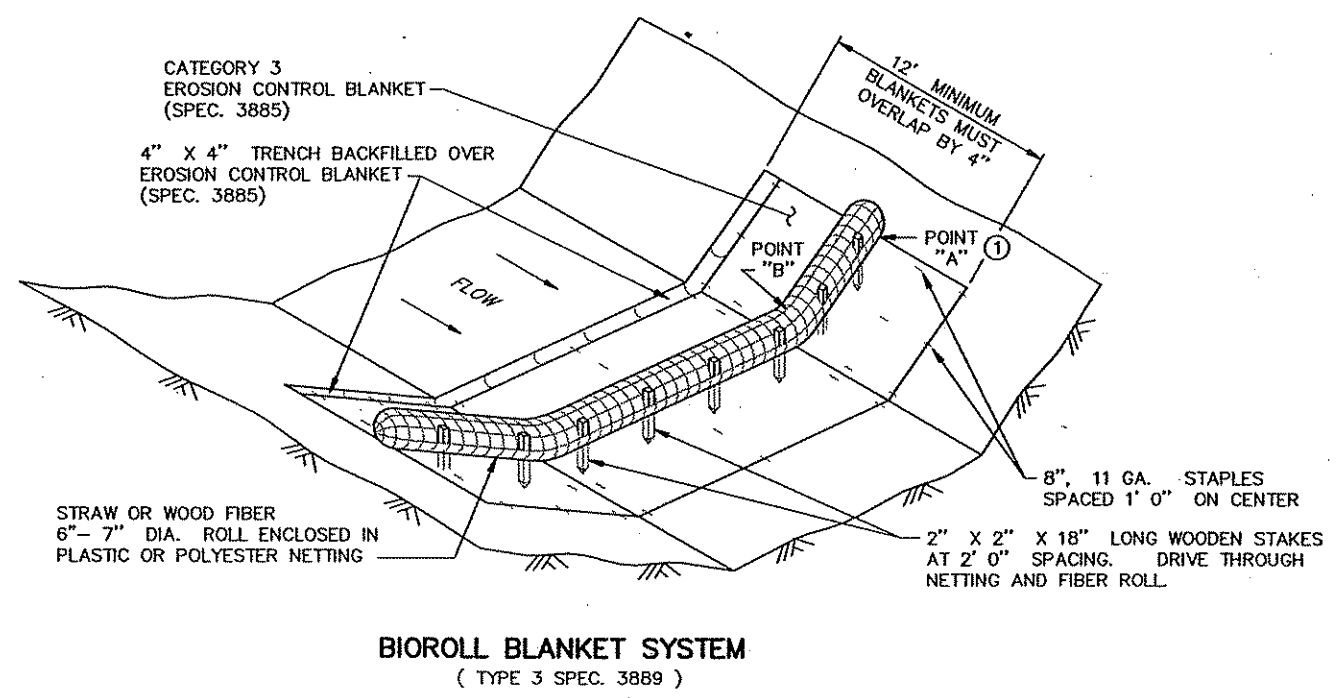
DIVERSION MOUND

STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE:
STANDARD APPROVED: JULY 30, 2001	

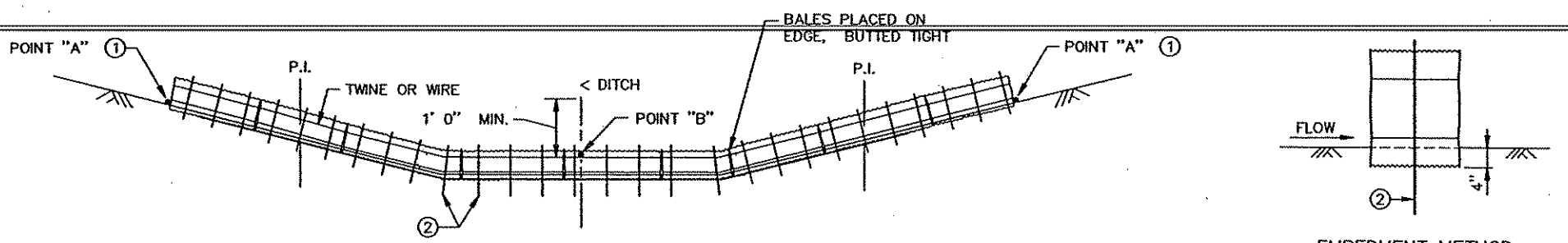
TEMPORARY EROSION CONTROL

PLOT DATE: Aug 1, 2005 1:pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SD3.dwg

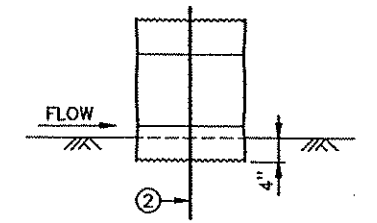
PLOT DATE: Aug 15, 2005 1:01pm DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\SD4.dwg



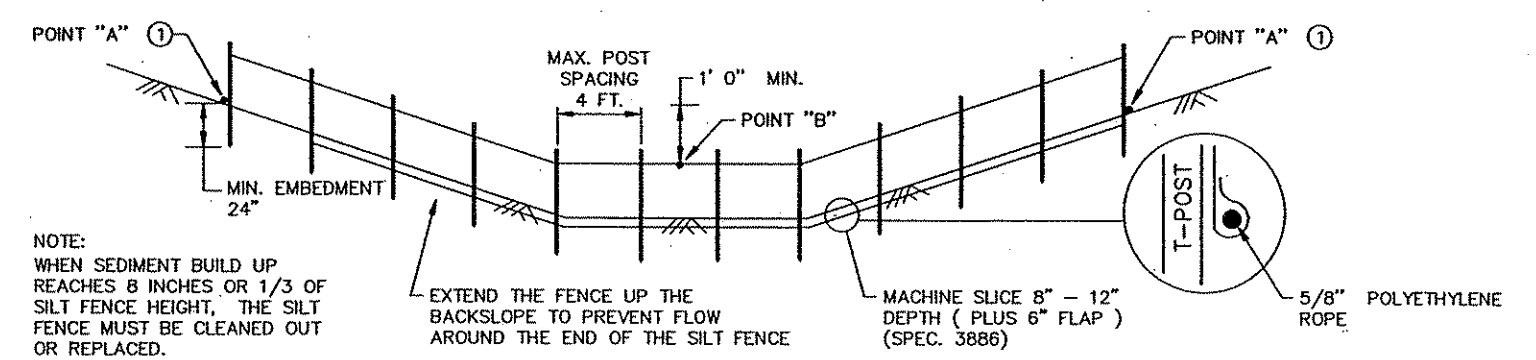
BIOROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



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

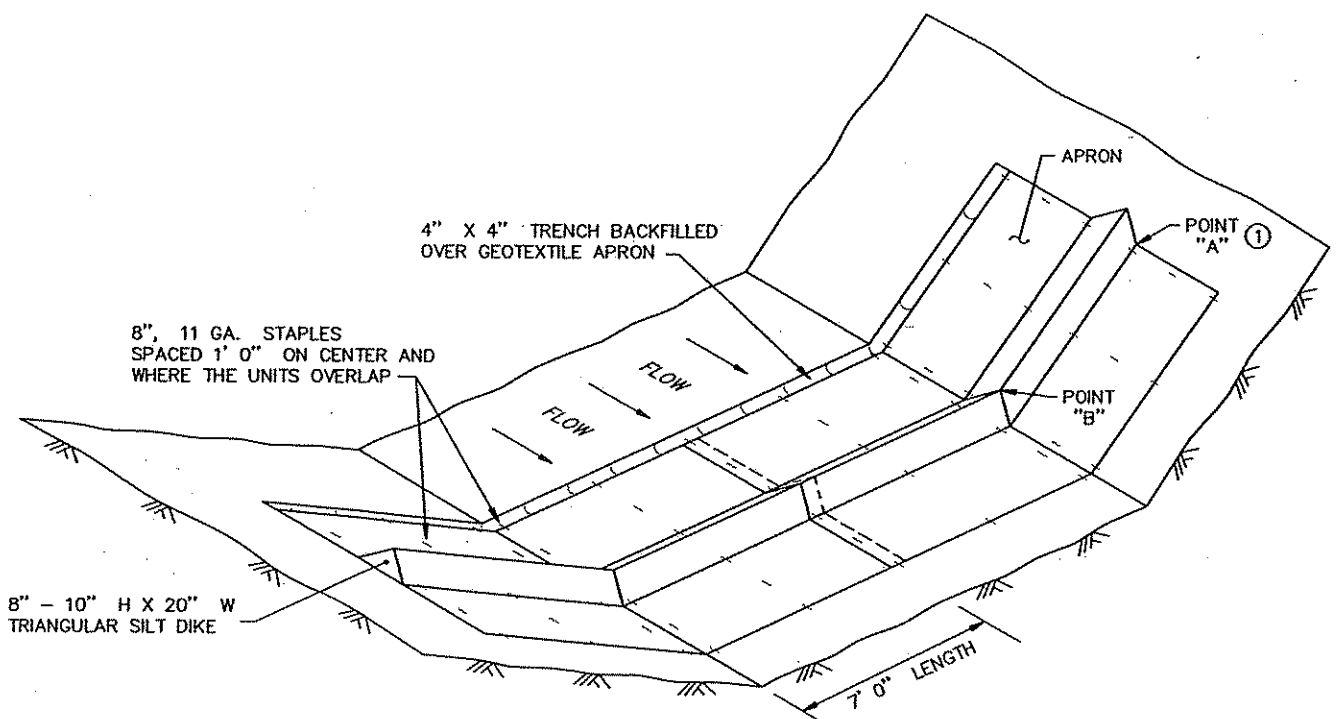


EMBEDMENT METHOD BALE CHECK DETAIL

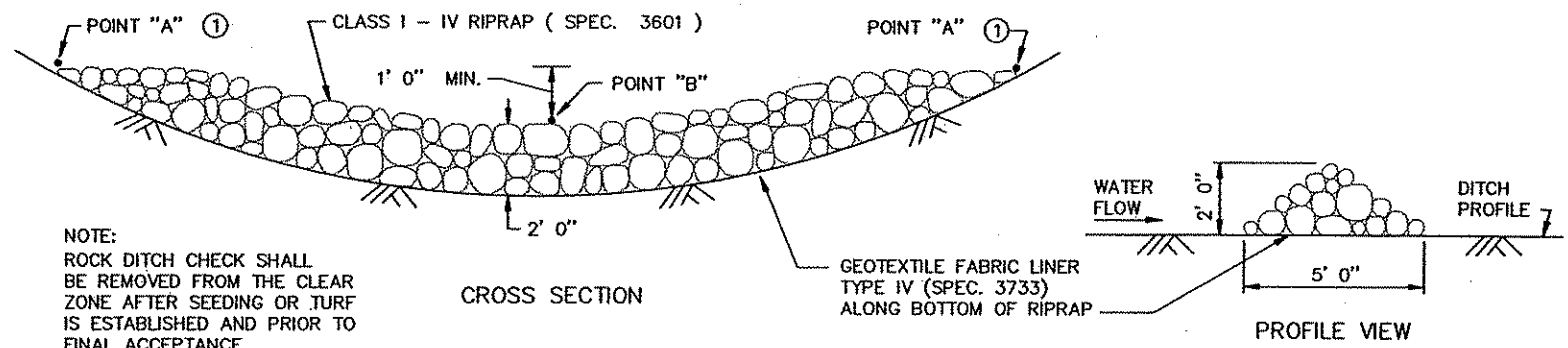


NOTE:
WHEN SEDIMENT BUILD UP REACHES 8 INCHES OR 1/3 OF SILT FENCE HEIGHT, THE SILT FENCE MUST BE CLEANED OUT OR REPLACED.

MACHINE SLICED SILT FENCE
(TYPE 1 SPEC. 3889)



GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)



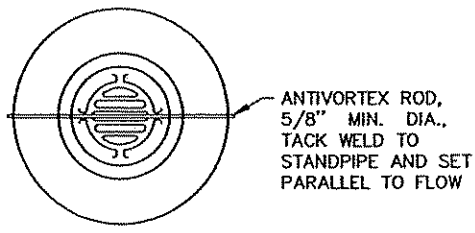
NOTE:
ROCK DITCH CHECK SHALL BE REMOVED FROM THE CLEAR ZONE AFTER SEEDING OR TURF IS ESTABLISHED AND PRIOR TO FINAL ACCEPTANCE.

ROCK CHECK
(TYPE 7 SPEC. 3889)

NOTES:
SEE SPECS. 2573, 3882, 3885, 3886 & 3889.
SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:
SPACING OF DITCH CHECKS (FT) = $\frac{\text{HEIGHT OF DITCH CHECK (FT)} \times 100}{\text{DITCH GRADE IN PERCENT}}$

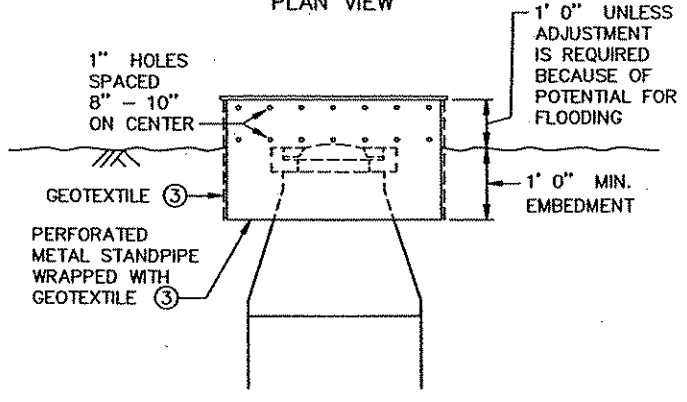
- ① POINT A MUST BE 1' 0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

STANDARD SHEET NO. 5-297.405 (3 OF 4)	TITLE: TEMPORARY EROSION CONTROL DITCH CHECKS
STANDARD APPROVED: NOVEMBER 5, 2002	
STATE PROJ. NO. S.P. 02-612-11, 106-020-025 SHEET NO. 37 OF 211 SHEETS	



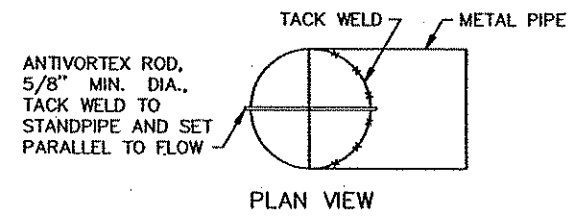
ANTIVORTEX ROD,
5/8" MIN. DIA.,
TACK WELD TO
STANDPIPE AND SET
PARALLEL TO FLOW

PLAN VIEW

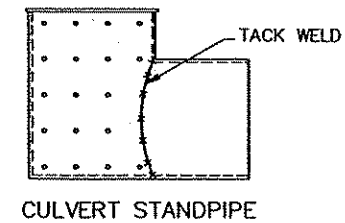


ELEVATION

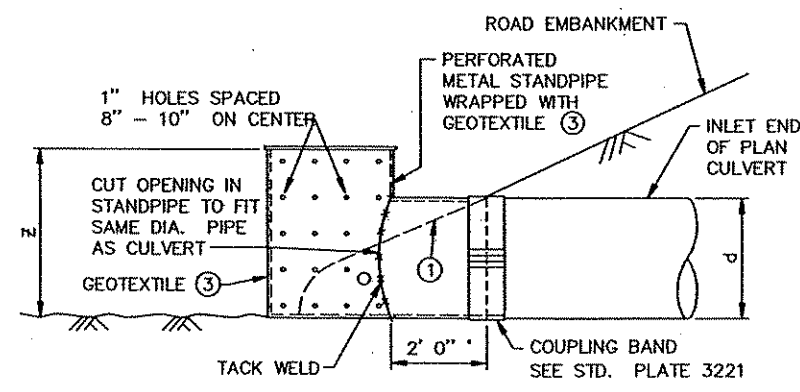
RISER STANDPIPE
TO PROTECT DROP INLET



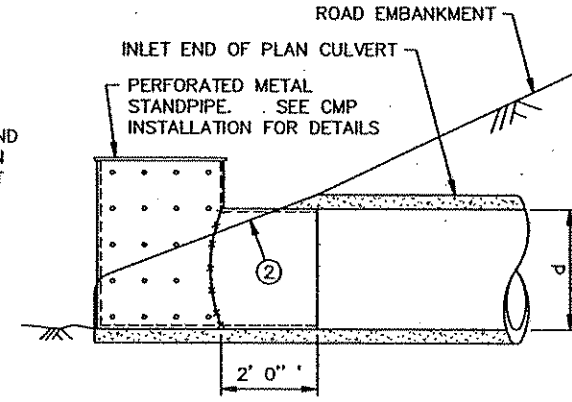
PLAN VIEW



ELEVATION



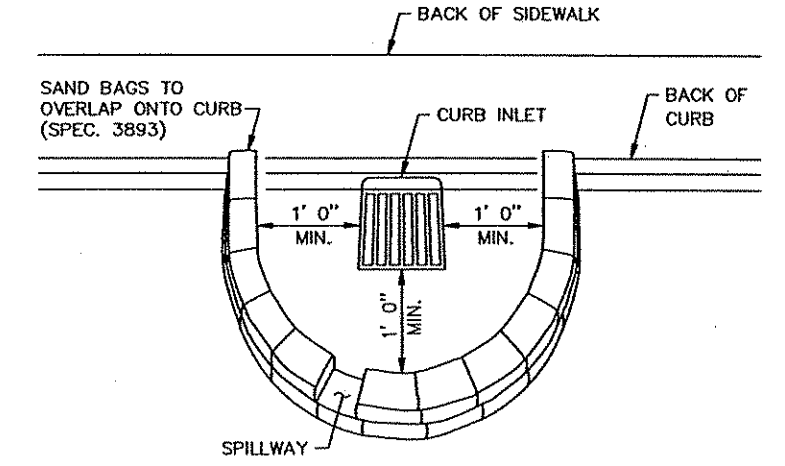
ELEVATION OF CSP INSTALLATION



ELEVATION OF RCP INSTALLATION

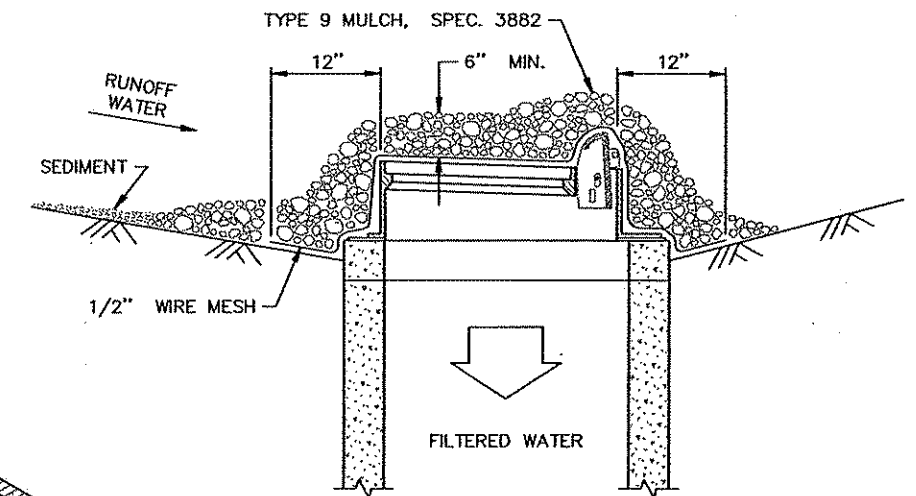
CULVERT STANDPIPE PROTECTION

FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)
CULVERT SIZE: 12" - 36"
d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
z = LENGTH OF PERFORATED STANDPIPE (d + 12")



SANDBAG BARRIER AT STREET INLET

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

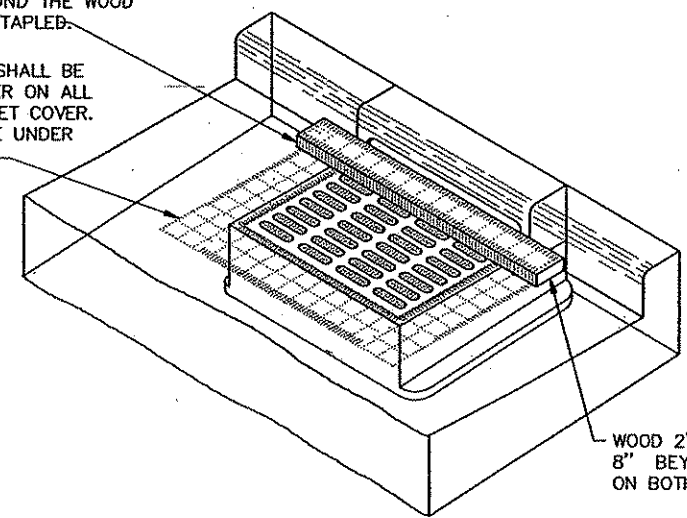


AGGREGATE FILTER AT CURB INLET

(TYPE B WITHOUT CURB SPEC. 3891)
(TYPE C WITH CURB SPEC. 3891)

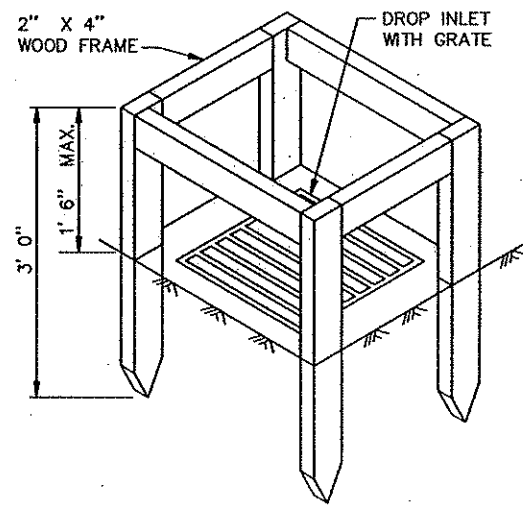
AN ADDITIONAL 18" OF GEOTEXTILE IS WRAPPED AROUND THE WOOD 2" X 4" AND STAPLED.

GEOTEXTILE SIZE SHALL BE 8" MIN. GREATER ON ALL SIDES OF THE INLET COVER. PLACE GEOTEXTILE UNDER INLET COVER. ③



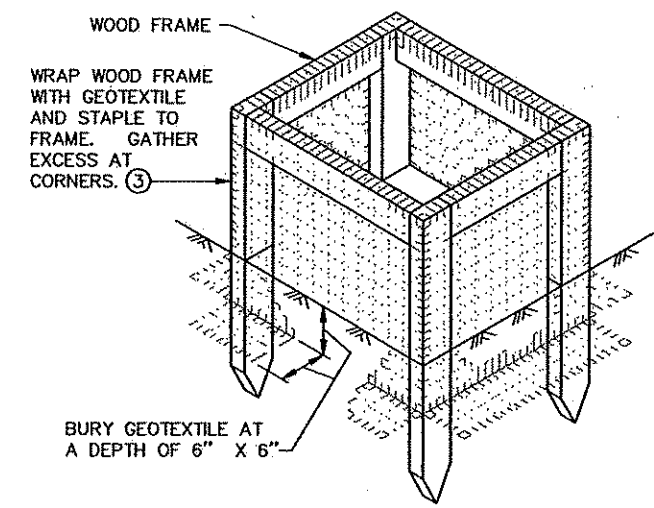
GEOTEXTILE FILTER AT STREET INLET WITH CURB BOX

TYPE C SPEC. 3891



SILT FENCE BOX TO PROTECT DROP INLETS

USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS
(TYPE A SPEC. 3891)



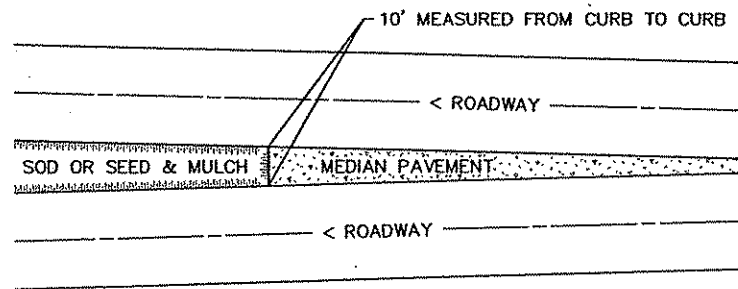
NOTES:

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

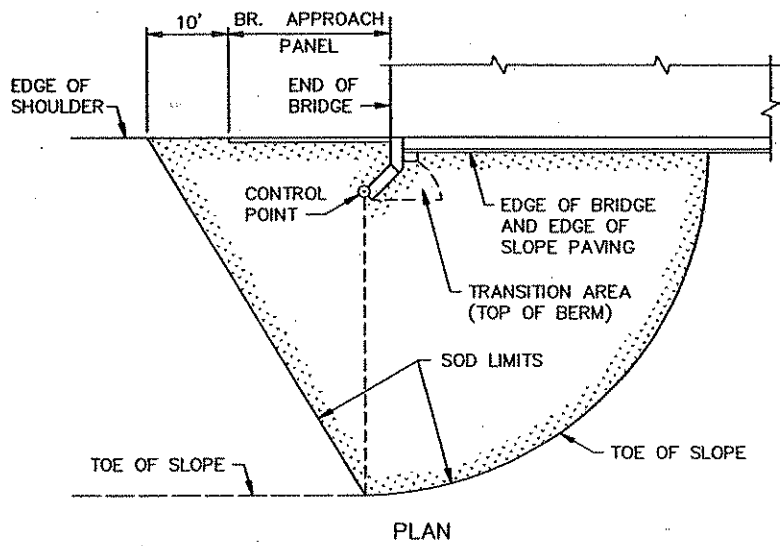
PLOT DATE: Aug 19, 2005 1:01pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SD5.dwg

STANDARD SHEET NO. 5-297.405 (4 OF 4)	TITLE:
STANDARD APPROVED: NOVEMBER 5, 2002	

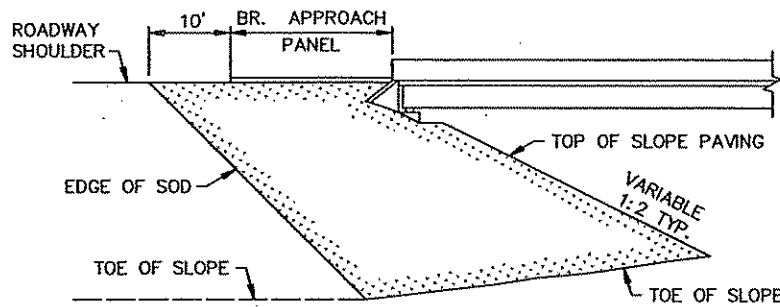
TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION



SODDING LIMITS AT GORE AREA

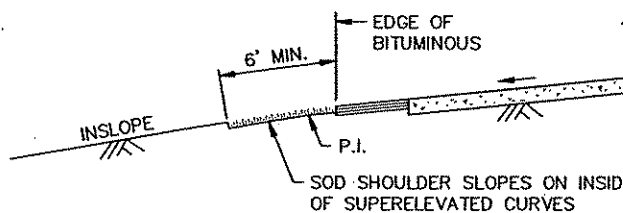


PLAN

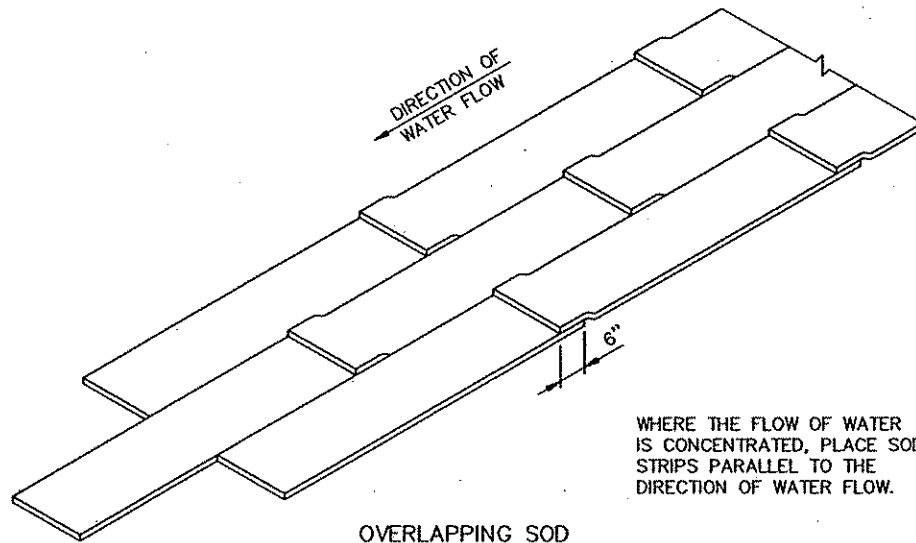


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

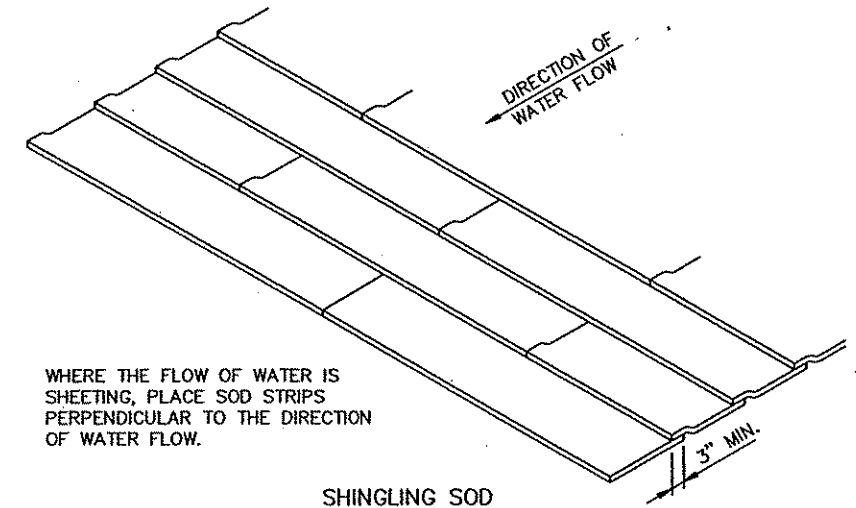


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

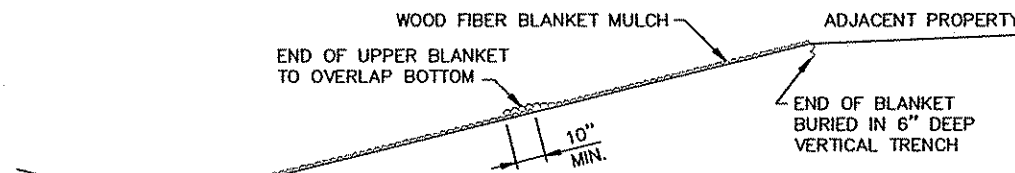
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



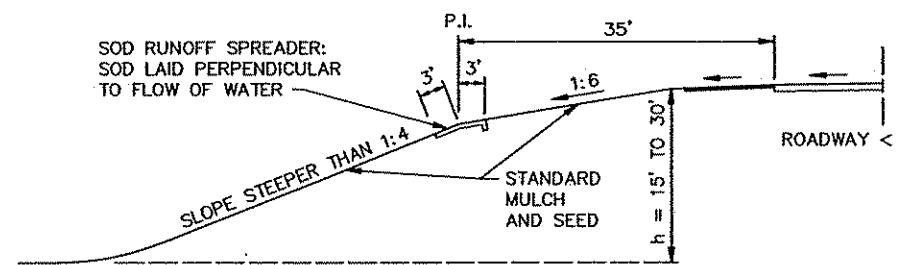
SHINGLING SOD

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

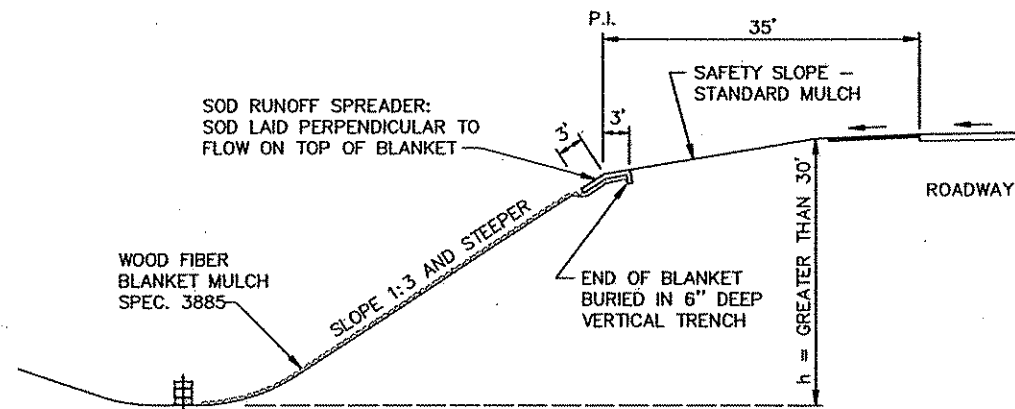
SPECIAL SOD PLACEMENT TECHNIQUES



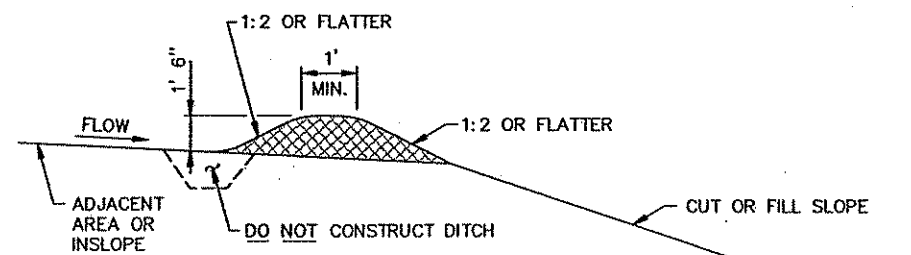
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



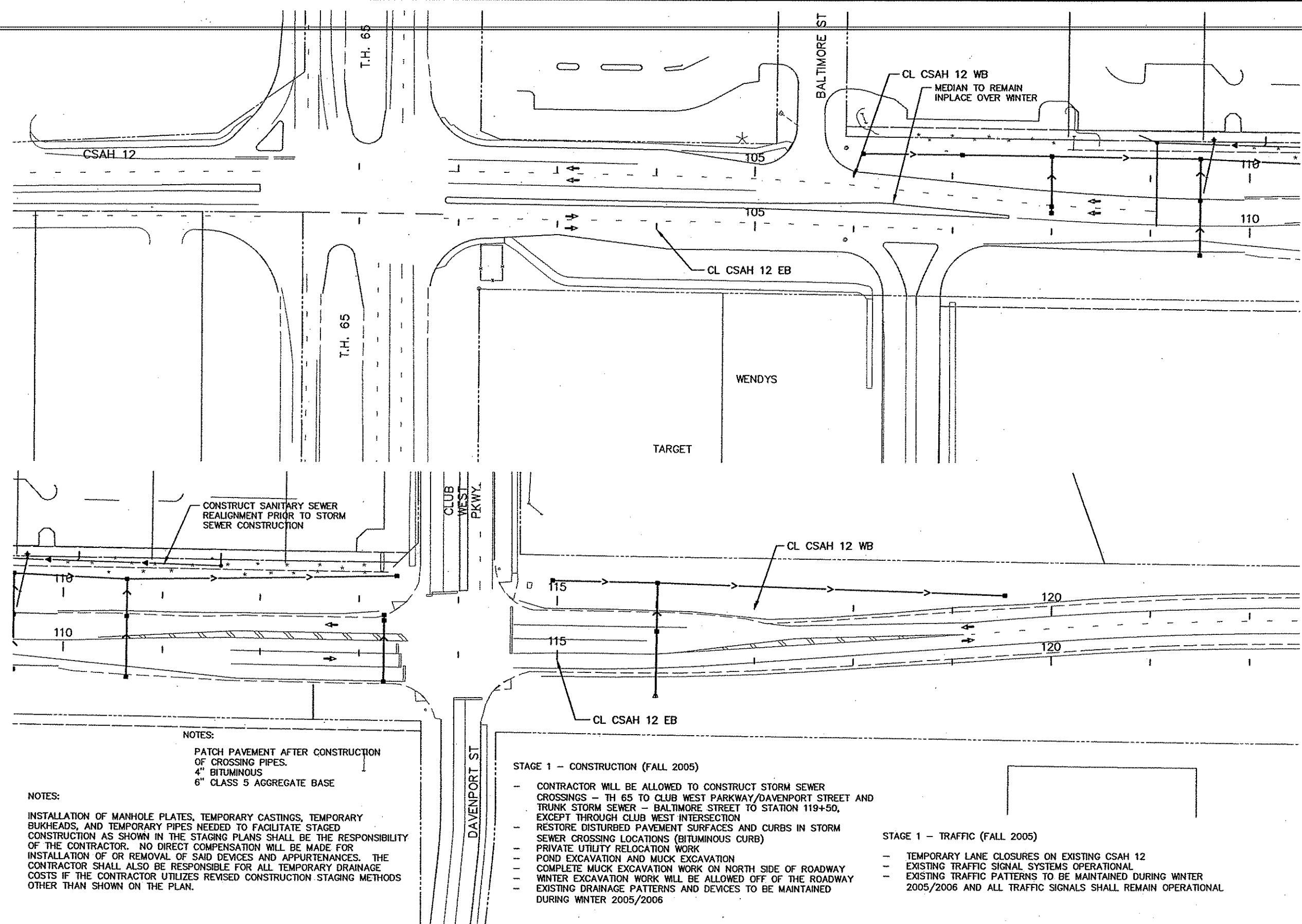
PERMANENT SLOPE PROTECTION DIKE

PLOT DATE: Aug 19, 2005 1:01pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SD6.dwg

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL
STANDARD APPROVED: JANUARY 31, 1985	ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STATE PROJ. NO. S.P. 02-612-11, 106-020-025 SHEET NO. 39 OF 211 SHEETS	

REVISION DATE
10-26-2000

PLOT DATE: Aug 19, 2005 9:14am DISK FILE NAME: (16.1) R:\1809791\PLAN-SHT\SG12.dwg



- LEGEND**
- WORK AREA
 - TRAFFIC FLOW DIRECTION
-
- LEGEND**
- DITCH FLOW ARROW
 - INPLACE DRAINAGE PIPES
 - STAGE CONSTRUCTION

NOTES:
 PATCH PAVEMENT AFTER CONSTRUCTION OF CROSSING PIPES.
 4" BITUMINOUS
 6" CLASS 5 AGGREGATE BASE

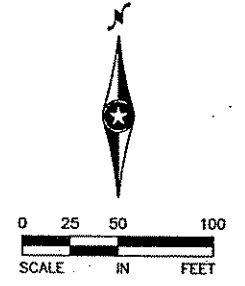
NOTES:
 INSTALLATION OF MANHOLE PLATES, TEMPORARY CASTINGS, TEMPORARY BUKHEADS, AND TEMPORARY PIPES NEEDED TO FACILITATE STAGED CONSTRUCTION AS SHOWN IN THE STAGING PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO DIRECT COMPENSATION WILL BE MADE FOR INSTALLATION OF OR REMOVAL OF SAID DEVICES AND APPURTENANCES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL TEMPORARY DRAINAGE COSTS IF THE CONTRACTOR UTILIZES REVISED CONSTRUCTION STAGING METHODS OTHER THAN SHOWN ON THE PLAN.

STAGE 1 - CONSTRUCTION (FALL 2005)

- CONTRACTOR WILL BE ALLOWED TO CONSTRUCT STORM SEWER CROSSINGS - TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET AND TRUNK STORM SEWER - BALTIMORE STREET TO STATION 119+50, EXCEPT THROUGH CLUB WEST INTERSECTION
- RESTORE DISTURBED PAVEMENT SURFACES AND CURBS IN STORM SEWER CROSSING LOCATIONS (BITUMINOUS CURB)
- PRIVATE UTILITY RELOCATION WORK
- POND EXCAVATION AND MUCK EXCAVATION
- COMPLETE MUCK EXCAVATION WORK ON NORTH SIDE OF ROADWAY
- WINTER EXCAVATION WORK WILL BE ALLOWED OFF OF THE ROADWAY
- EXISTING DRAINAGE PATTERNS AND DEVICES TO BE MAINTAINED DURING WINTER 2005/2006

STAGE 1 - TRAFFIC (FALL 2005)

- TEMPORARY LANE CLOSURES ON EXISTING CSAH 12
- EXISTING TRAFFIC SIGNAL SYSTEMS OPERATIONAL
- EXISTING TRAFFIC PATTERNS TO BE MAINTAINED DURING WINTER 2005/2006 AND ALL TRAFFIC SIGNALS SHALL REMAIN OPERATIONAL



1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

CHKD. BY:
SAW

DATE:
AUGUST 18, 2005

DESIGN BY:
SAW

DWG. NAME:
SG12



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



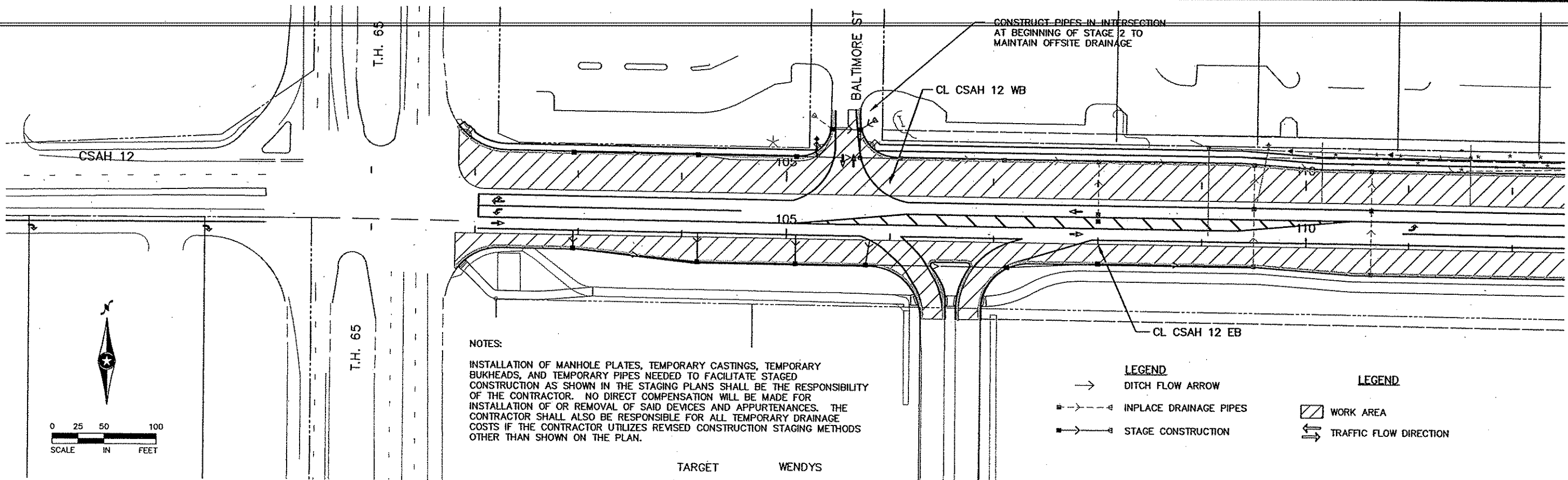
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 1**

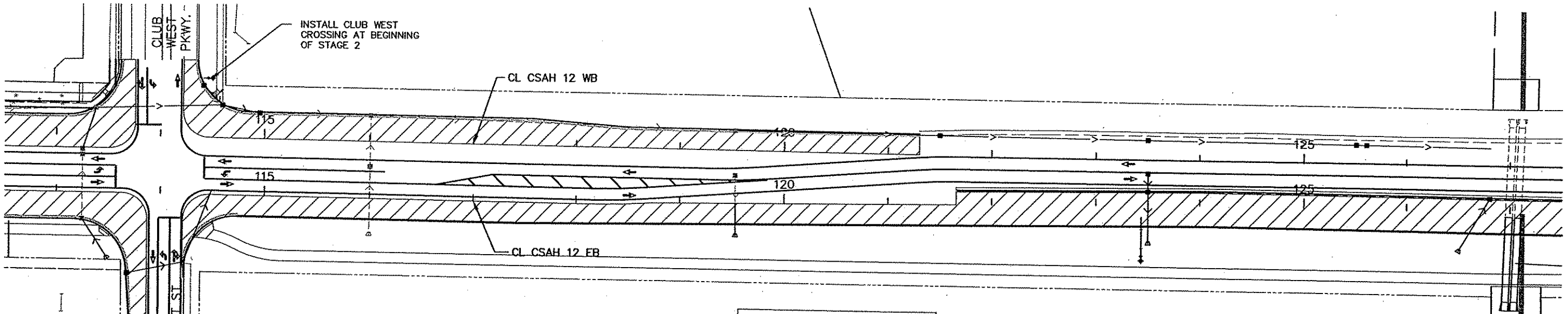
S.P. 02-612-11	SHEET NO. 40
S.P. 106-020-025	
S.P.	
S.P.	

211

PLOT DATE: Aug 19, 10:15am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG21.dwg



NOTES:
 INSTALLATION OF MANHOLE PLATES, TEMPORARY CASTINGS, TEMPORARY BUKHEADS, AND TEMPORARY PIPES NEEDED TO FACILITATE STAGED CONSTRUCTION AS SHOWN IN THE STAGING PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO DIRECT COMPENSATION WILL BE MADE FOR INSTALLATION OF OR REMOVAL OF SAID DEVICES AND APPURTENANCES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL TEMPORARY DRAINAGE COSTS IF THE CONTRACTOR UTILIZES REVISED CONSTRUCTION STAGING METHODS OTHER THAN SHOWN ON THE PLAN.



STAGE 2 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE EB AND WB OUTSIDE LANES - TH 65 TO EAST OF CLUB WEST PARKWAY/DAVENPORT STREET (EB AND WB TRAFFIC TO UTILIZE CENTER LANES)
- CLOSE OUTSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- SHIFT EB AND WB TRAFFIC TO SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO COUNTY DITCH 41
- SHIFT EB AND WB TRAFFIC TO NORTH SIDE OF CSAH 12 FROM COUNTY DITCH 41 TO RADISSON ROAD
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH
- CLOSE EB RIGHT TURN LANE AT RADISSON ROAD

STAGE 2 - CONSTRUCTION

- CONSTRUCT OUTSIDE LANES AND SHOULDER FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- CONSTRUCT WIDENING ON WEST SIDE OF DAVENPORT STREET AND DAVENPORT STREET INTERSECTION
- CONSTRUCT OUTSIDE LANES OF CLUB WEST PARKWAY
- CONSTRUCT SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY/DAVENPORT STREET TO RADISSON ROAD
- CONSTRUCT RIGHT TURN LANE AND NORTHERNMOST THRU LANE - CLUB WEST PARKWAY TO APPROXIMATELY STATION 121+00.
- COMPLETE TRUNK STORM SEWER FROM TH 65 TO COUNTY DITCH 41
- COMPLETE TRUNK STORM SEWER FROM COUNTY DITCH 41 TO RADISSON ROAD

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
 DRAWN BY:
LGJ
 DESIGN BY:
SAW
 CHKD. BY:
SAW
 DWG. NAME:
SG21
 DATE:
AUGUST 18, 2005



Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.0779 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545





**ANOKA COUNTY
 HIGHWAY DEPT.**




**CSAH 12
 RECONSTRUCTION
 CONSTRUCTION STAGING PLANS
 STAGE 2**

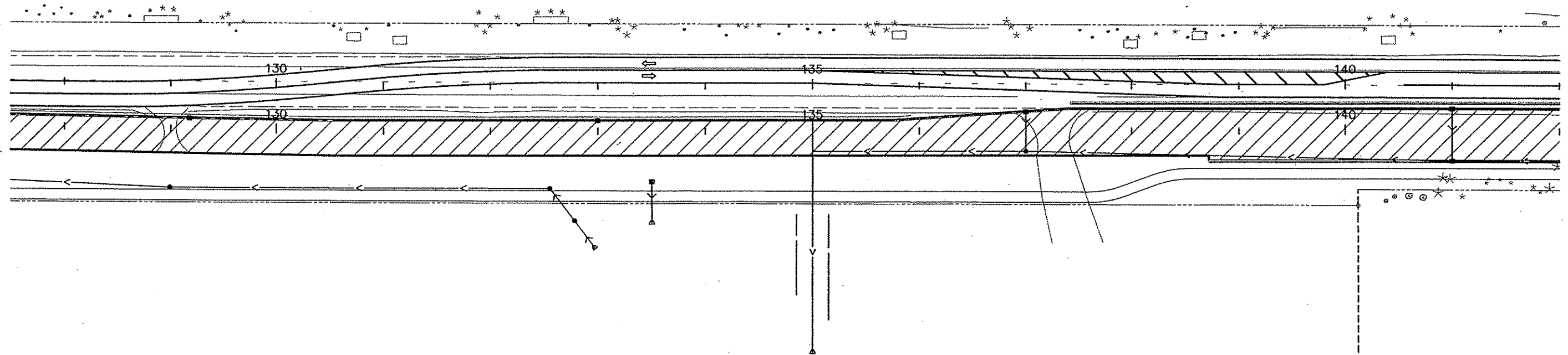
S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

SHEET NO.
41
 211

PLOT DATE: Aug 19, 2005 10:18am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG22.dwg

LEGEND
 WORK AREA
 TRAFFIC FLOW DIRECTION

LEGEND
 DITCH FLOW ARROW
 INPLACE DRAINAGE PIPES
 STAGE CONSTRUCTION

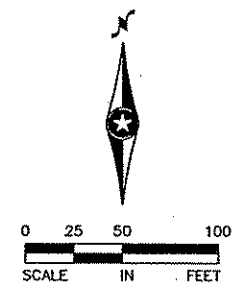


STAGE 2 - CONSTRUCTION

- CONSTRUCT OUTSIDE LANES AND SHOULDER FROM TH 65 TO CLUB WEST PARKWAY/ DAVENPORT STREET
- CONSTRUCT WIDENING ON WEST SIDE OF DAVENPORT STREET AND DAVENPORT STREET INTERSECTION
- CONSTRUCT OUTSIDE LANES OF CLUB WEST PARKWAY
- CONSTRUCT SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY/DAVENPORT STREET TO RADISSON ROAD
- CONSTRUCT RIGHT TURN LANE AND NORTHERNMOST THRU LANE - CLUB WEST PARKWAY TO APPROXIMATELY STATION 121+00.
- COMPLETE TRUNK STORM SEWER FROM TH 65 TO COUNTY DITCH 41
- COMPLETE TRUNK STORM SEWER FROM COUNTY DITCH 41 TO RADISSON ROAD

STAGE 2 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE EB AND WB OUTSIDE LANES - TH 65 TO EAST OF CLUB WEST PARKWAY/DAVENPORT STREET (EB AND WB TRAFFIC TO UTILIZE CENTER LANES)
- CLOSE OUTSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- SHIFT EB AND WB TRAFFIC TO SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO COUNTY DITCH 41
- SHIFT EB AND WB TRAFFIC TO NORTH SIDE OF CSAH 12 FROM COUNTY DITCH 41 TO RADISSON ROAD
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH
- CLOSE EB RIGHT TURN LANE AT RADISSON ROAD



2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
SAW

CHKD. BY:
SAW

DWG. NAME:
SG22

DATE:
AUGUST 18, 2005



Thrasher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545








**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 2**

S.P. 02-612-11	SHEET NO. 42 211
S.P.106-020-025	
S.P.	
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PLOT DATE: Aug 19, 2005 7:06am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG23.dwg

LEGEND
 WORK AREA
 TRAFFIC FLOW DIRECTION

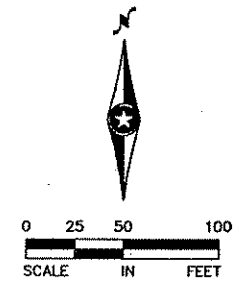
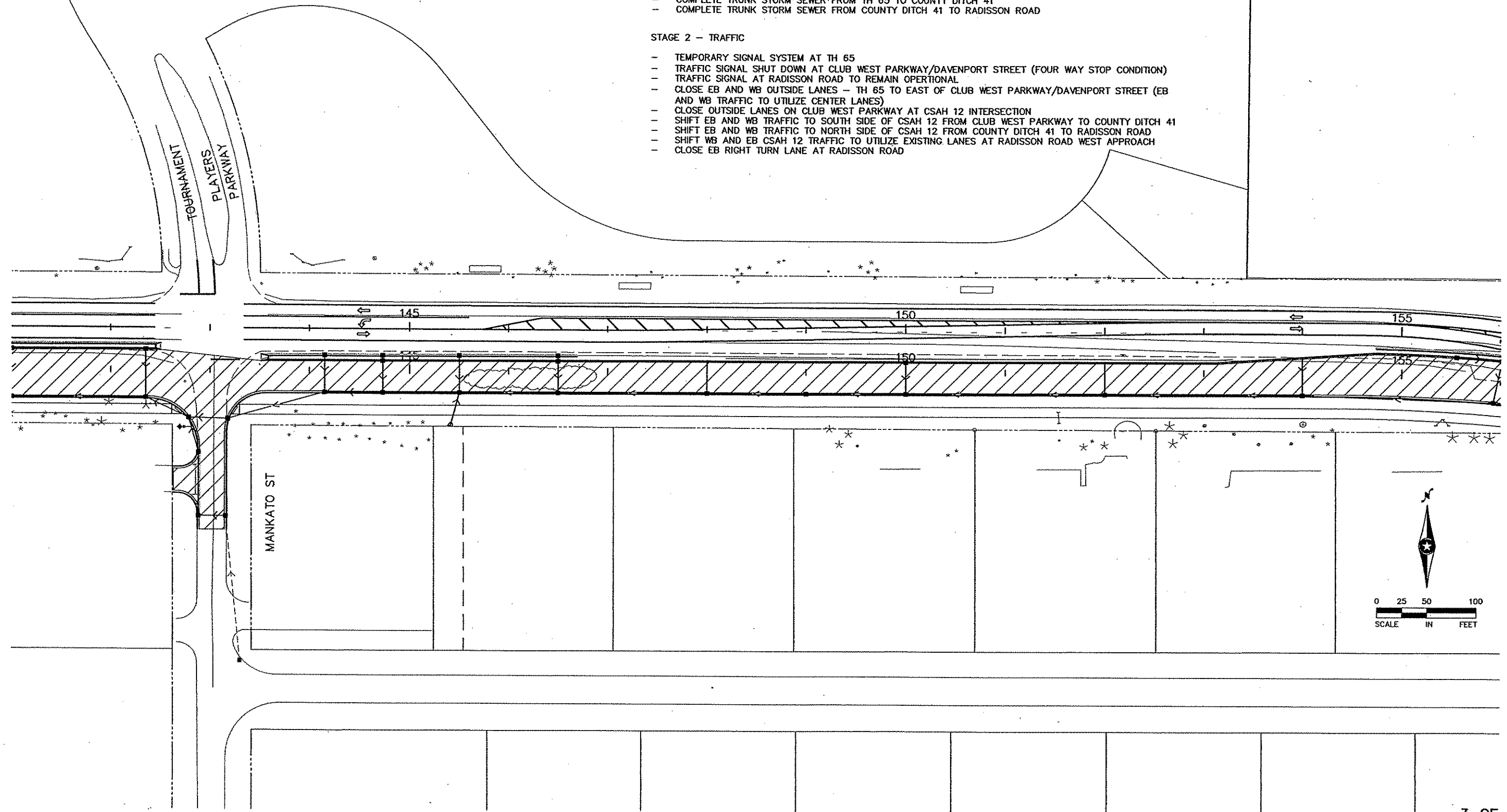
LEGEND
 DITCH FLOW ARROW
 INPLACE DRAINAGE PIPES
 STAGE CONSTRUCTION

STAGE 2 - CONSTRUCTION

- CONSTRUCT OUTSIDE LANES AND SHOULDER FROM TH 65 TO CLUB WEST PARKWAY/ DAVENPORT STREET
- CONSTRUCT WIDENING ON WEST SIDE OF DAVENPORT STREET AND DAVENPORT STREET INTERSECTION
- CONSTRUCT OUTSIDE LANES OF CLUB WEST PARKWAY
- CONSTRUCT SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY/DAVENPORT STREET TO RADISSON ROAD
- CONSTRUCT RIGHT TURN LANE AND NORTHERNMOST THRU LANE - CLUB WEST PARKWAY TO APPROXIMATELY STATION 121+00.
- COMPLETE TRUNK STORM SEWER FROM TH 65 TO COUNTY DITCH 41
- COMPLETE TRUNK STORM SEWER FROM COUNTY DITCH 41 TO RADISSON ROAD

STAGE 2 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE EB AND WB OUTSIDE LANES - TH 65 TO EAST OF CLUB WEST PARKWAY/DAVENPORT STREET (EB AND WB TRAFFIC TO UTILIZE CENTER LANES)
- CLOSE OUTSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- SHIFT EB AND WB TRAFFIC TO SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO COUNTY DITCH 41
- SHIFT EB AND WB TRAFFIC TO NORTH SIDE OF CSAH 12 FROM COUNTY DITCH 41 TO RADISSON ROAD
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH
- CLOSE EB RIGHT TURN LANE AT RADISSON ROAD



3 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ	DESIGN BY: SAW
CHECKED BY: SAW	DWG. NAME: SG23

DATE:
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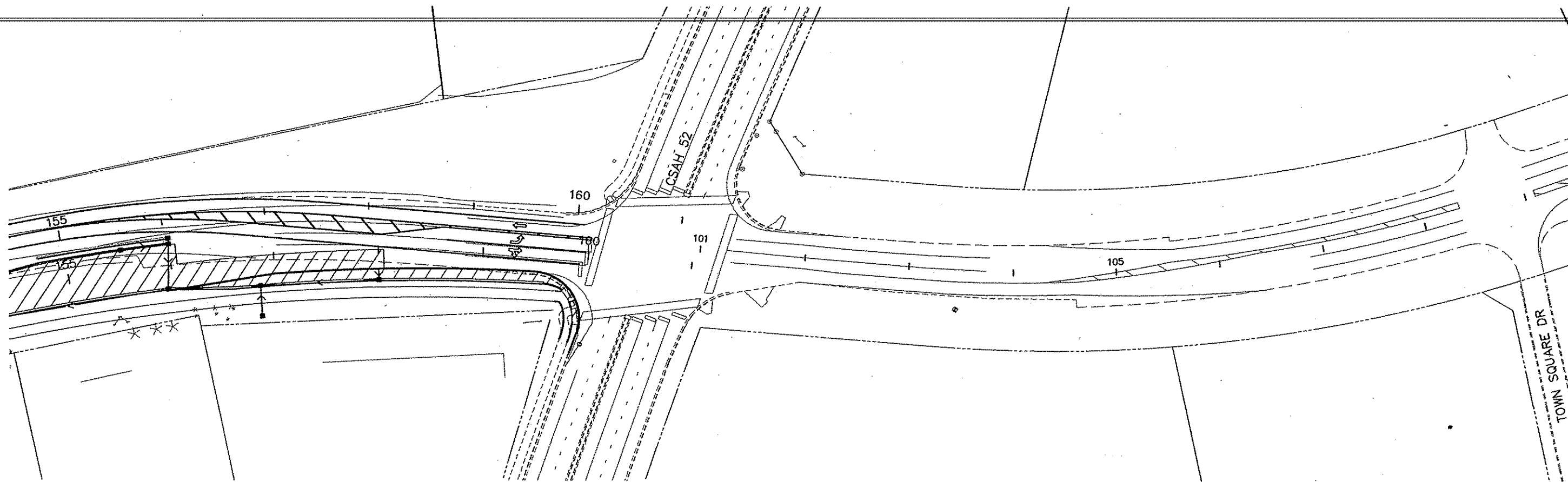
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 2**

S.P. 02-612-11	SHEET NO. 43
S.P. 106-020-025	
S.P.	211
S.P.	



STAGE 2 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE EB AND WB OUTSIDE LANES - TH 65 TO EAST OF CLUB WEST PARKWAY/DAVENPORT STREET (EB AND WB TRAFFIC TO UTILIZE CENTER LANES)
- CLOSE OUTSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- SHIFT EB AND WB TRAFFIC TO SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO COUNTY DITCH 41
- SHIFT EB AND WB TRAFFIC TO NORTH SIDE OF CSAH 12 FROM COUNTY DITCH 41 TO RADISSON ROAD
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH
- CLOSE EB RIGHT TURN LANE AT RADISSON ROAD

STAGE 2 - CONSTRUCTION

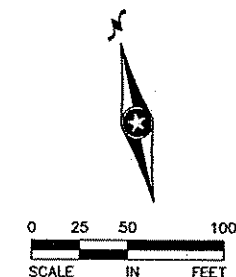
- CONSTRUCT OUTSIDE LANES AND SHOULDER FROM TH 65 TO CLUB WEST PARKWAY/ DAVENPORT STREET
- CONSTRUCT WIDENING ON WEST SIDE OF DAVENPORT STREET AND DAVENPORT STREET INTERSECTION
- CONSTRUCT OUTSIDE LANES OF CLUB WEST PARKWAY
- CONSTRUCT SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY/DAVENPORT STREET TO RADISSON ROAD
- CONSTRUCT RIGHT TURN LANE AND NORTHERNMOST THRU LANE - CLUB WEST PARKWAY TO APPROXIMATELY STATION 121+00.
- COMPLETE TRUNK STORM SEWER FROM TH 65 TO COUNTY DITCH 41
- COMPLETE TRUNK STORM SEWER FROM COUNTY DITCH 41 TO RADISSON ROAD

LEGEND

- WORK AREA
- TRAFFIC FLOW DIRECTION

LEGEND

- DITCH FLOW ARROW
- INPLACE DRAINAGE PIPES
- STAGE CONSTRUCTION



PLOT DATE: Aug 19, 2005 7:07am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG24.dwg

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DATE: AUGUST 18, 2005	



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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

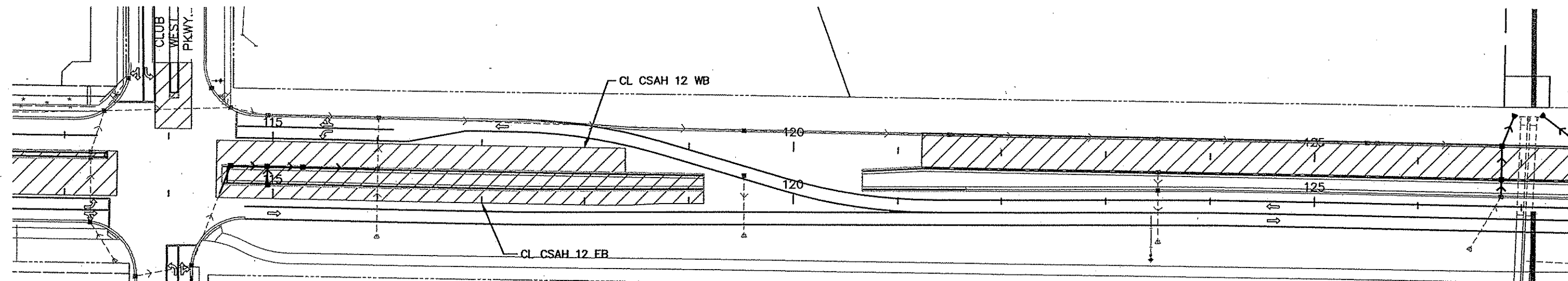
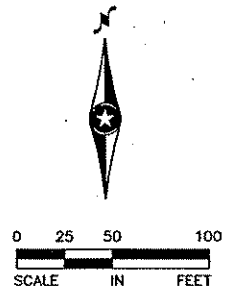
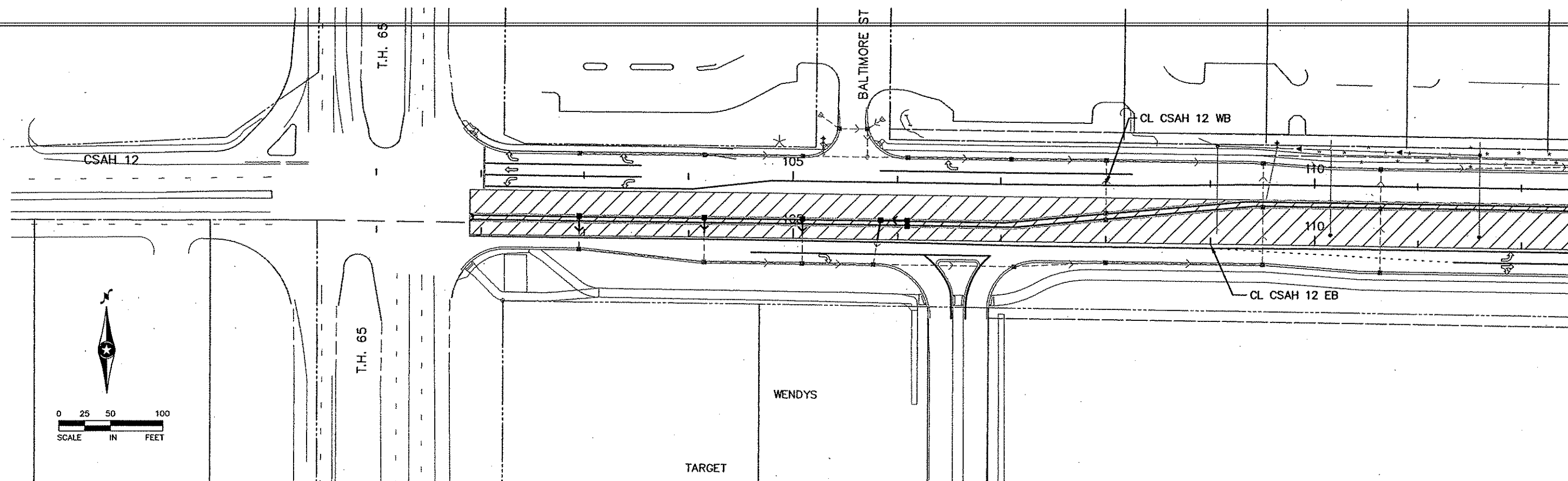


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 2**

S.P. 02-612-11	SHEET NO. 44
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 10:35am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG31.dwg



- LEGEND**
- DITCH FLOW ARROW
 - INPLACE DRAINAGE PIPES
 - STAGE CONSTRUCTION
 - ▨ WORK AREA
 - ↔ TRAFFIC FLOW DIRECTION

- STAGE 3 - TRAFFIC**
- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
 - TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
 - TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
 - CLOSE INSIDE LANES FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
 - CLOSE INSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
 - EB AND WB TRAFFIC ON SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD
 - SHIFT WB CSAH 12 TRAFFIC ONTO NORTH SIDE OF CSAH 12 AT CLUB WEST PARKWAY EAST APPROACH
 - SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH
- STAGE 3 - CONSTRUCTION**
- CONSTRUCT INSIDE LANES AND MEDIAN FROM TH 65 TO CLUB WEST PARKWAY/ DAVENPORT STREET
 - COMPLETE STORM SEWER INSTALLATION - TH 65 TO RADISSON ROAD
 - CONSTRUCT INSIDE LANES OF CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
 - CONSTRUCT NORTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD

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31809-791

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CHKD. BY: SAW DWG. NAME: SG31

DATE:
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Steve Weser
STEVE WESER
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ANOKA COUNTY
HIGHWAY DEPT.



CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 3

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.




SHEET NO.
45
211

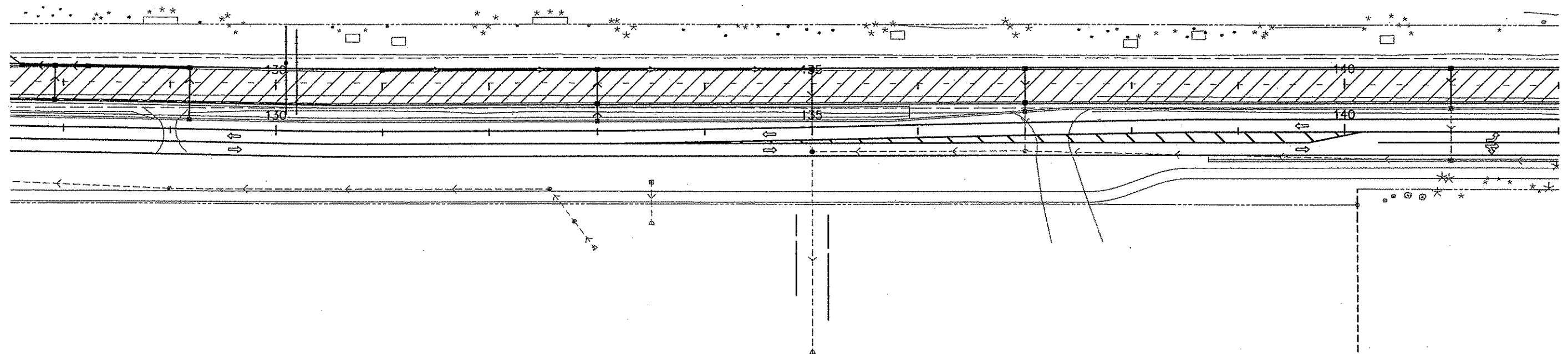
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LEGEND

-  WORK AREA
-  TRAFFIC FLOW DIRECTION

LEGEND

-  DITCH FLOW ARROW
-  INPLACE DRAINAGE PIPES
-  STAGE CONSTRUCTION

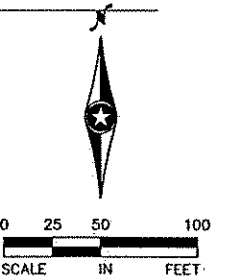


STAGE 3 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE INSIDE LANES FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- CLOSE INSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- EB AND WB TRAFFIC ON SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD
- SHIFT WB CSAH 12 TRAFFIC ONTO NORTH SIDE OF CSAH 12 AT CLUB WEST PARKWAY EAST APPROACH
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH

STAGE 3 - CONSTRUCTION

- CONSTRUCT INSIDE LANES AND MEDIAN FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- COMPLETE STORM SEWER INSTALLATION - TH 65 TO RADISSON ROAD
- CONSTRUCT INSIDE LANES OF CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- CONSTRUCT NORTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD



2 OF 4

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ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 3

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S.P.106-020-025	
S.P.	
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211

LEGEND
 WORK AREA
 TRAFFIC FLOW DIRECTION

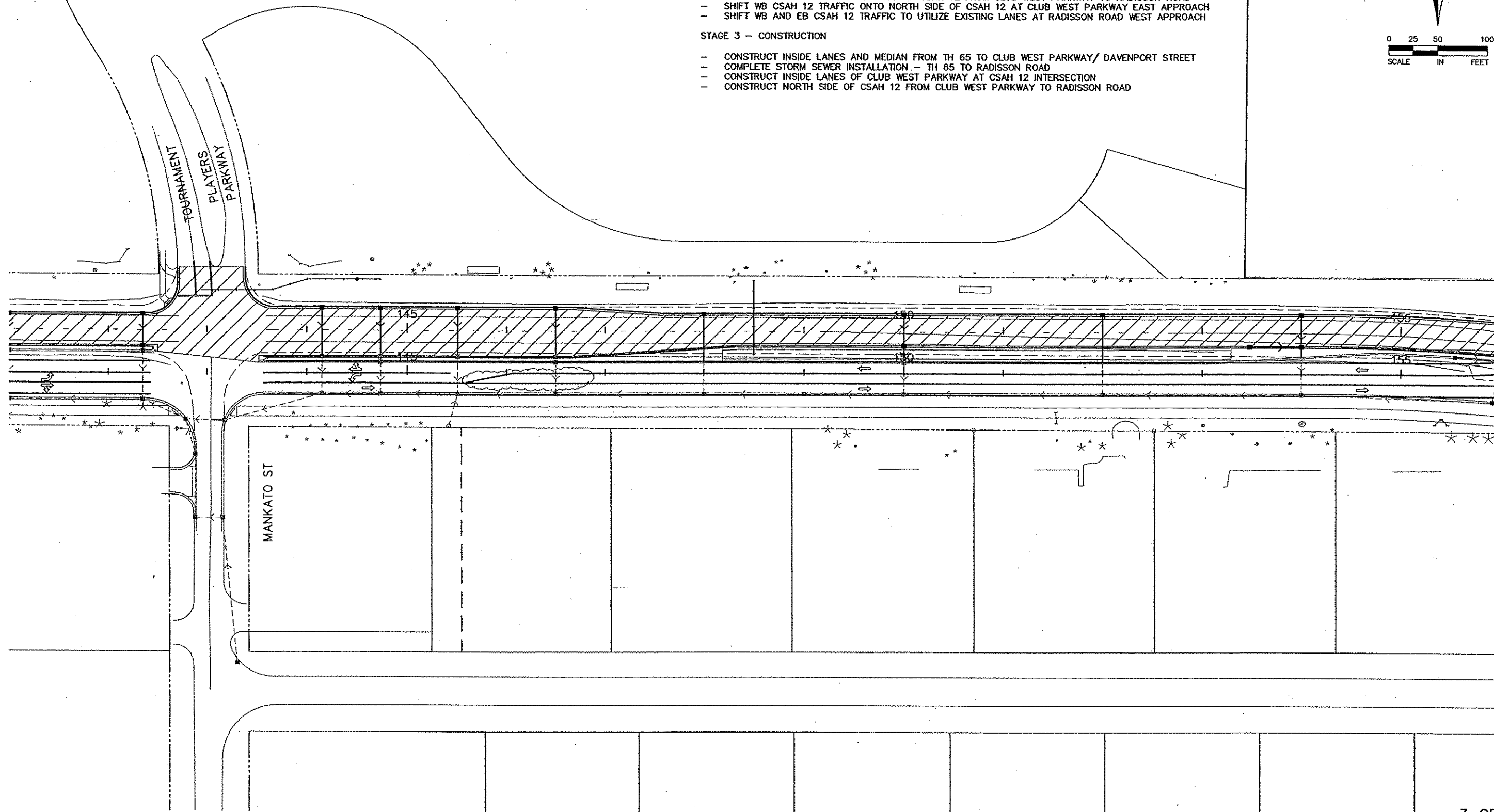
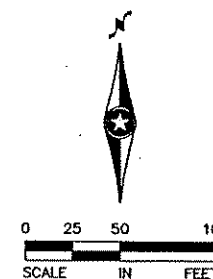
LEGEND
 DITCH FLOW ARROW
 INPLACE DRAINAGE PIPES
 STAGE CONSTRUCTION

STAGE 3 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE INSIDE LANES FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- CLOSE INSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- EB AND WB TRAFFIC ON SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD
- SHIFT WB CSAH 12 TRAFFIC ONTO NORTH SIDE OF CSAH 12 AT CLUB WEST PARKWAY EAST APPROACH
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH

STAGE 3 - CONSTRUCTION

- CONSTRUCT INSIDE LANES AND MEDIAN FROM TH 65 TO CLUB WEST PARKWAY/ DAVENPORT STREET
- COMPLETE STORM SEWER INSTALLATION - TH 65 TO RADISSON ROAD
- CONSTRUCT INSIDE LANES OF CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- CONSTRUCT NORTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD



PLOT DATE: Aug 19, 2005 7:11am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG33.dwg

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31809-791
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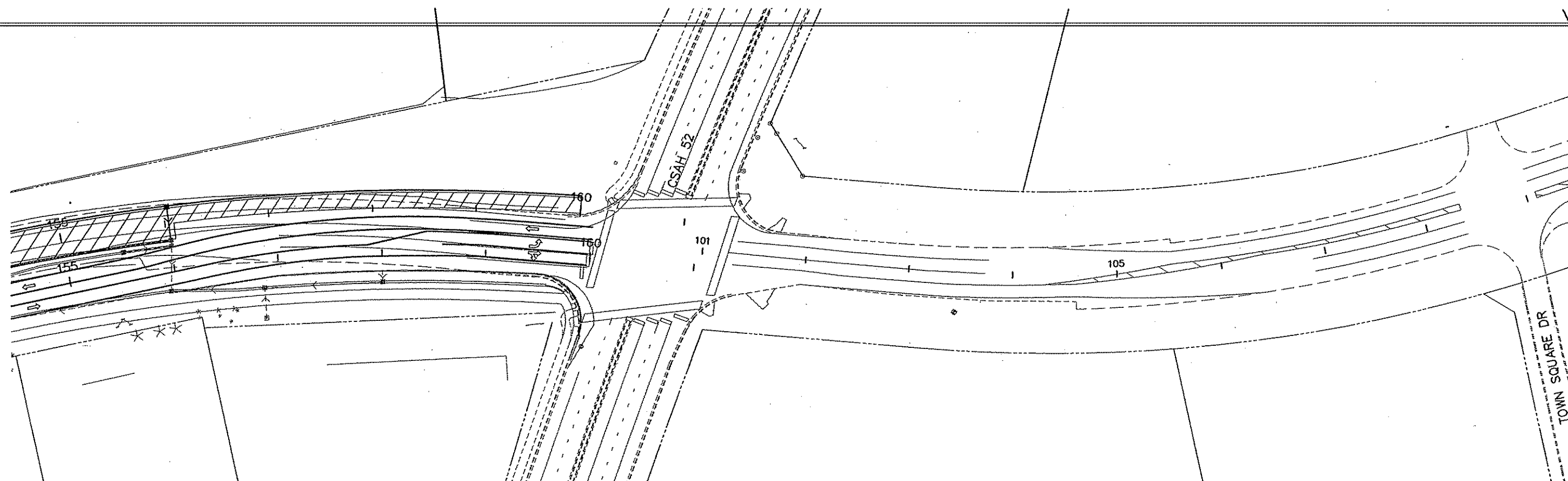


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 3**

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47
211



LEGEND

WORK AREA
 TRAFFIC FLOW DIRECTION

LEGEND

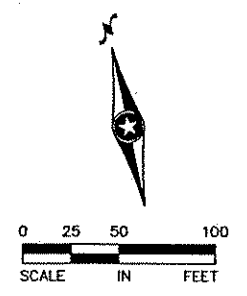
DITCH FLOW ARROW
 INPLACE DRAINAGE PIPES
 STAGE CONSTRUCTION

STAGE 3 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- TRAFFIC SIGNAL AT RADISSON ROAD TO REMAIN OPERATIONAL
- CLOSE INSIDE LANES FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- CLOSE INSIDE LANES ON CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- EB AND WB TRAFFIC ON SOUTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD
- SHIFT WB CSAH 12 TRAFFIC ONTO NORTH SIDE OF CSAH 12 AT CLUB WEST PARKWAY EAST APPROACH
- SHIFT WB AND EB CSAH 12 TRAFFIC TO UTILIZE EXISTING LANES AT RADISSON ROAD WEST APPROACH

STAGE 3 - CONSTRUCTION

- CONSTRUCT INSIDE LANES AND MEDIAN FROM TH 65 TO CLUB WEST PARKWAY/DAVENPORT STREET
- COMPLETE STORM SEWER INSTALLATION - TH 65 TO RADISSON ROAD
- CONSTRUCT INSIDE LANES OF CLUB WEST PARKWAY AT CSAH 12 INTERSECTION
- CONSTRUCT NORTH SIDE OF CSAH 12 FROM CLUB WEST PARKWAY TO RADISSON ROAD



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 SAW
 DWG. NAME:
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 DATE:
 AUGUST 18, 2005



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 DATE: 8/18/2005 MN LIC. NO. 40545



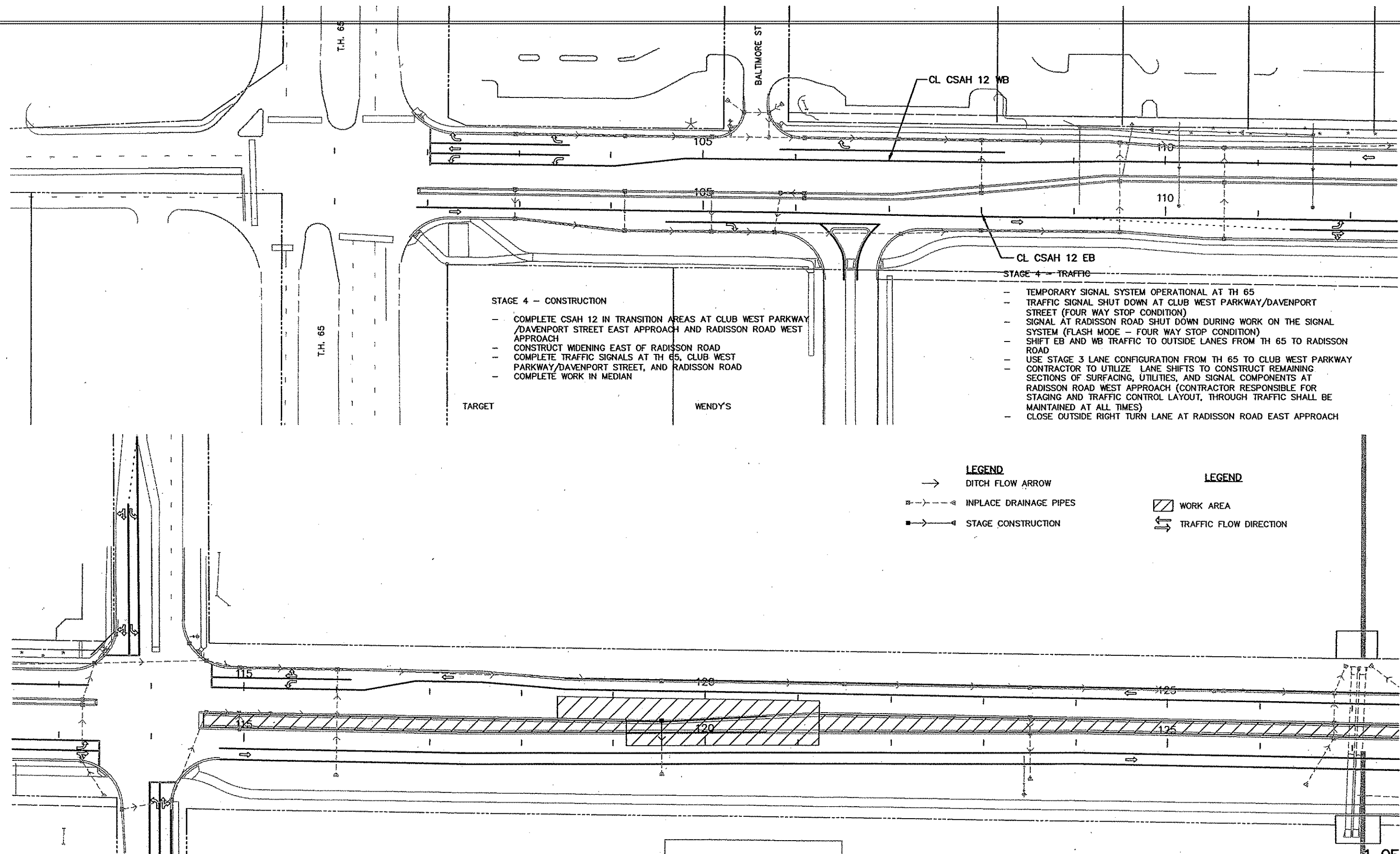
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLAN
 STAGE 3

S.P. 02-612-11	SHEET NO. 48
S.P.106-020-025	
S.P.	
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4 OF 4
211

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STAGE 4 - CONSTRUCTION

- COMPLETE CSAH 12 IN TRANSITION AREAS AT CLUB WEST PARKWAY /DAVENPORT STREET EAST APPROACH AND RADISSON ROAD WEST APPROACH
- CONSTRUCT WIDENING EAST OF RADISSON ROAD
- COMPLETE TRAFFIC SIGNALS AT TH 65, CLUB WEST PARKWAY/DAVENPORT STREET, AND RADISSON ROAD
- COMPLETE WORK IN MEDIAN

STAGE 4 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- SIGNAL AT RADISSON ROAD SHUT DOWN DURING WORK ON THE SIGNAL SYSTEM (FLASH MODE - FOUR WAY STOP CONDITION)
- SHIFT EB AND WB TRAFFIC TO OUTSIDE LANES FROM TH 65 TO RADISSON ROAD
- USE STAGE 3 LANE CONFIGURATION FROM TH 65 TO CLUB WEST PARKWAY
- CONTRACTOR TO UTILIZE LANE SHIFTS TO CONSTRUCT REMAINING SECTIONS OF SURFACING, UTILITIES, AND SIGNAL COMPONENTS AT RADISSON ROAD WEST APPROACH (CONTRACTOR RESPONSIBLE FOR STAGING AND TRAFFIC CONTROL LAYOUT, THROUGH TRAFFIC SHALL BE MAINTAINED AT ALL TIMES)
- CLOSE OUTSIDE RIGHT TURN LANE AT RADISSON ROAD EAST APPROACH

LEGEND

- DITCH FLOW ARROW
- IN-PLACE DRAINAGE PIPES
- STAGE CONSTRUCTION

LEGEND

- ▨ WORK AREA
- ↔ TRAFFIC FLOW DIRECTION

1 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 4**

S.P. 02-612-11	SHEET NO. 49
S.P. 106-020-025	
S.P.	
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211

LEGEND

- DITCH FLOW ARROW
- INPLACE DRAINAGE PIPES
- STAGE CONSTRUCTION

LEGEND

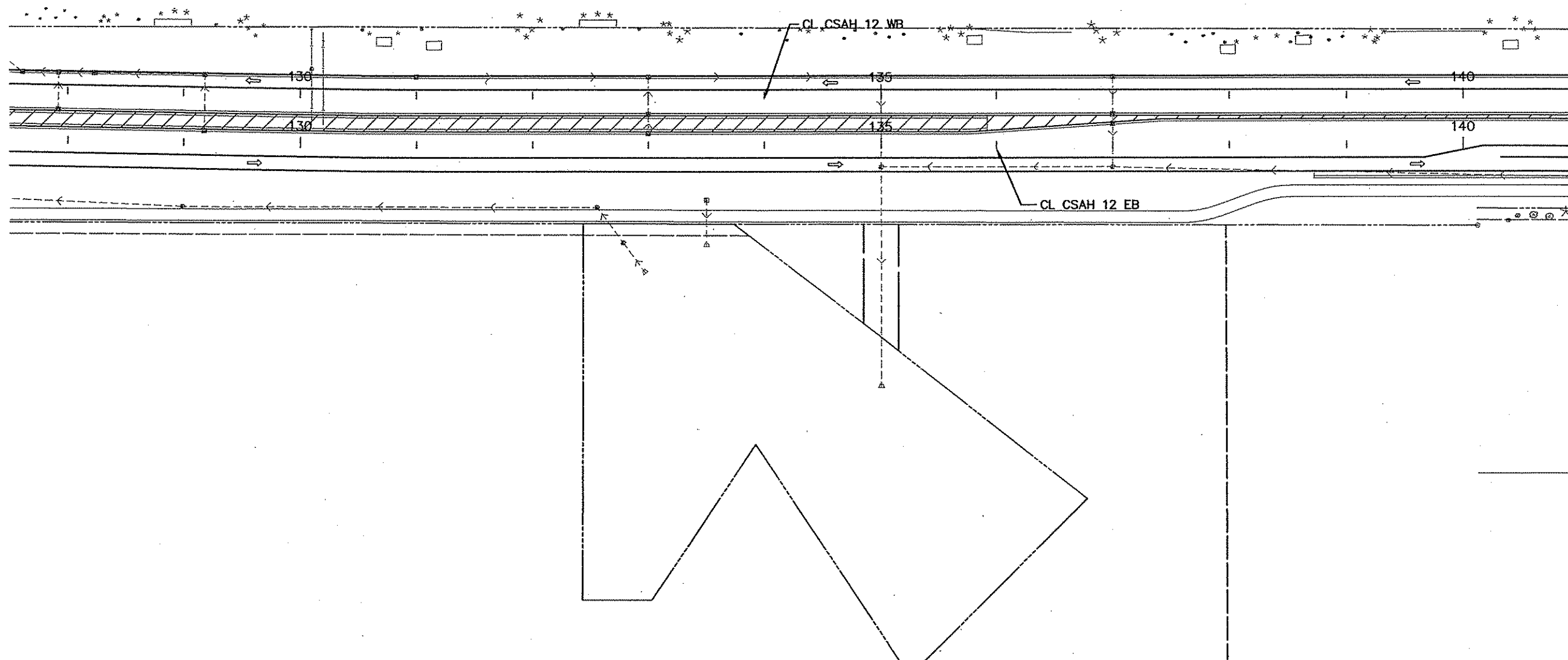
- ▨ WORK AREA
- ⇄ TRAFFIC FLOW DIRECTION

STAGE 4 - CONSTRUCTION

- COMPLETE CSAH 12 IN TRANSITION AREAS AT CLUB WEST PARKWAY / DAVENPORT STREET EAST APPROACH AND RADISSON ROAD WEST APPROACH
- CONSTRUCT WIDENING EAST OF RADISSON ROAD
- COMPLETE TRAFFIC SIGNALS AT TH 65, CLUB WEST PARKWAY/DAVENPORT STREET, AND RADISSON ROAD
- COMPLETE WORK IN MEDIAN

STAGE 4 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- SIGNAL AT RADISSON ROAD SHUT DOWN DURING WORK ON THE SIGNAL SYSTEM (FLASH MODE - FOUR WAY STOP CONDITION)
- SHIFT EB AND WB TRAFFIC TO OUTSIDE LANES FROM TH 65 TO RADISSON ROAD
- USE STAGE 3 LANE CONFIGURATION FROM TH 65 TO CLUB WEST PARKWAY
- CONTRACTOR TO UTILIZE LANE SHIFTS TO CONSTRUCT REMAINING SECTIONS OF SURFACING, UTILITIES, AND SIGNAL COMPONENTS AT RADISSON ROAD WEST APPROACH (CONTRACTOR RESPONSIBLE FOR STAGING AND TRAFFIC CONTROL LAYOUT, THROUGH TRAFFIC SHALL BE MAINTAINED AT ALL TIMES)
- CLOSE OUTSIDE RIGHT TURN LANE AT RADISSON ROAD EAST APPROACH



PLOT DATE: Aug 22, 2005 9:53am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG42.dwg

2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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CHKD. BY: SAW	DWG. NAME: SG42
DATE: AUGUST 18, 2005	



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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545





ANOKA COUNTY
HIGHWAY DEPT.




CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 4

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S.P.

SHEET NO. 50
211

PLOT DATE: Aug 19, 2005 7:20am DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\SG43.dwg

LEGEND
 WORK AREA
 TRAFFIC FLOW DIRECTION

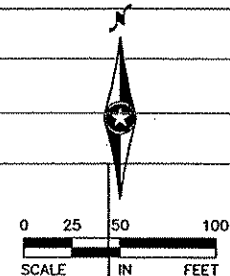
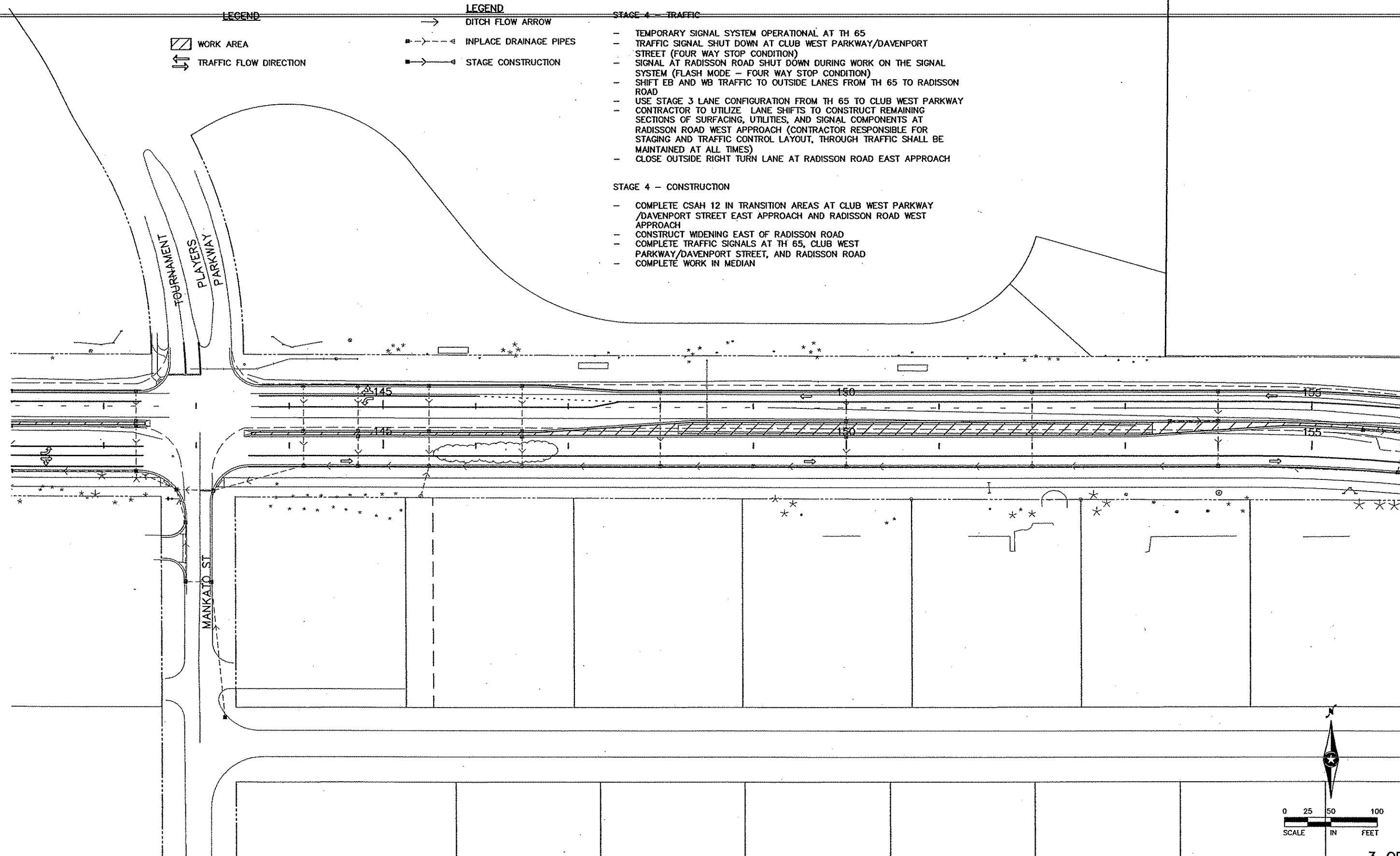
LEGEND
 DITCH FLOW ARROW
 INPLACE DRAINAGE PIPES
 STAGE CONSTRUCTION

STAGE 4 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
- SIGNAL AT RADISSON ROAD SHUT DOWN DURING WORK ON THE SIGNAL SYSTEM (FLASH MODE - FOUR WAY STOP CONDITION)
- SHIFT EB AND WB TRAFFIC TO OUTSIDE LANES FROM TH 65 TO RADISSON ROAD
- USE STAGE 3 LANE CONFIGURATION FROM TH 65 TO CLUB WEST PARKWAY
- CONTRACTOR TO UTILIZE LANE SHIFTS TO CONSTRUCT REMAINING SECTIONS OF SURFACING, UTILITIES, AND SIGNAL COMPONENTS AT RADISSON ROAD WEST APPROACH (CONTRACTOR RESPONSIBLE FOR STAGING AND TRAFFIC CONTROL LAYOUT, THROUGH TRAFFIC SHALL BE MAINTAINED AT ALL TIMES)
- CLOSE OUTSIDE RIGHT TURN LANE AT RADISSON ROAD EAST APPROACH

STAGE 4 - CONSTRUCTION

- COMPLETE CSAH 12 IN TRANSITION AREAS AT CLUB WEST PARKWAY /DAVENPORT STREET EAST APPROACH AND RADISSON ROAD WEST APPROACH
- CONSTRUCT WIDENING EAST OF RADISSON ROAD
- COMPLETE TRAFFIC SIGNALS AT TH 65, CLUB WEST PARKWAY/DAVENPORT STREET, AND RADISSON ROAD
- COMPLETE WORK IN MEDIAN



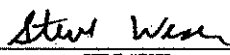
3 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
 DRAWN BY:
LGJ
 DESIGN BY:
SAW
 CHKED. BY:
SAW
 DWG. NAME:
SG43
 DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545

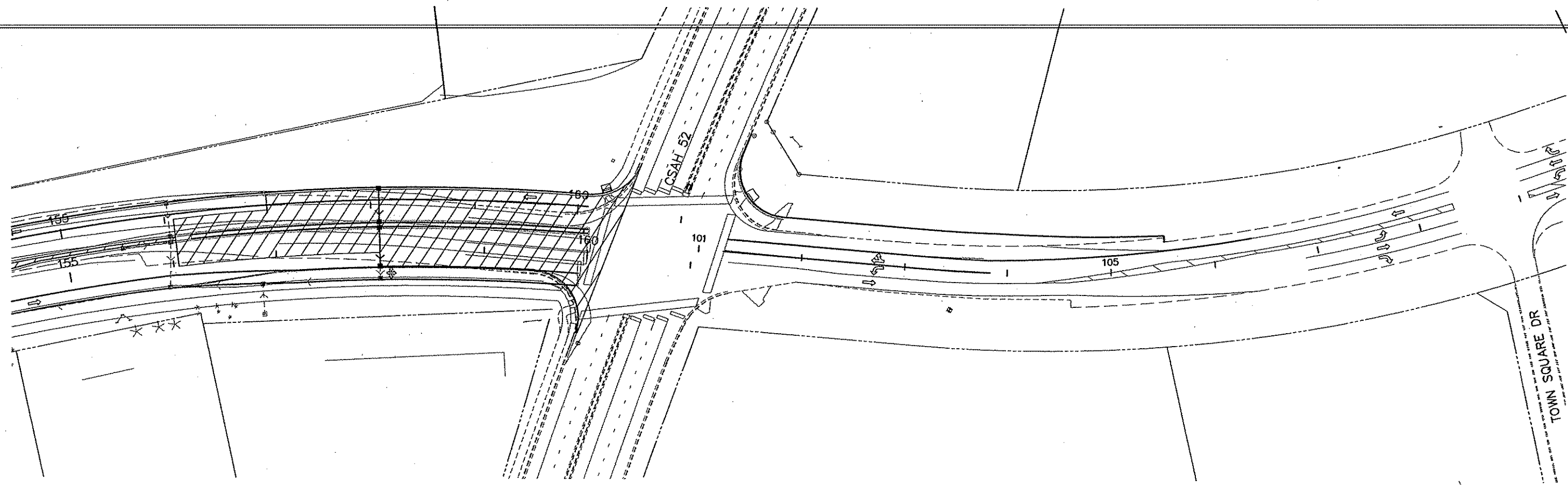


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 4**

S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

SHEET NO.
51
211



LEGEND

▨ WORK AREA

→ TRAFFIC FLOW DIRECTION

LEGEND

→ DITCH FLOW ARROW

▬ INPLACE DRAINAGE PIPES

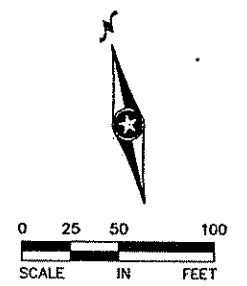
▬ STAGE CONSTRUCTION

STAGE 4 - TRAFFIC

- TEMPORARY SIGNAL SYSTEM OPERATIONAL AT TH 65
- TRAFFIC SIGNAL SHUT DOWN AT CLUB WEST PARKWAY/DAVENPORT STREET (FOUR WAY STOP CONDITION)
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STAGE 4 - CONSTRUCTION

- COMPLETE CSAH 12 IN TRANSITION AREAS AT CLUB WEST PARKWAY /DAVENPORT STREET EAST APPROACH AND RADISSON ROAD WEST APPROACH
- CONSTRUCT WIDENING EAST OF RADISSON ROAD
- COMPLETE TRAFFIC SIGNALS AT TH 65, CLUB WEST PARKWAY/DAVENPORT STREET, AND RADISSON ROAD
- COMPLETE WORK IN MEDIAN



PLOT DATE: Aug 19, 2005 7:22am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SG44.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
SAW

CHKD. BY:
SAW

DWG. NAME:
SG44

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION STAGING PLANS
STAGE 4**

S.P. 02-612-11

S.P. 106-020-025

S.P.

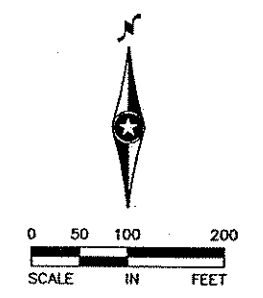
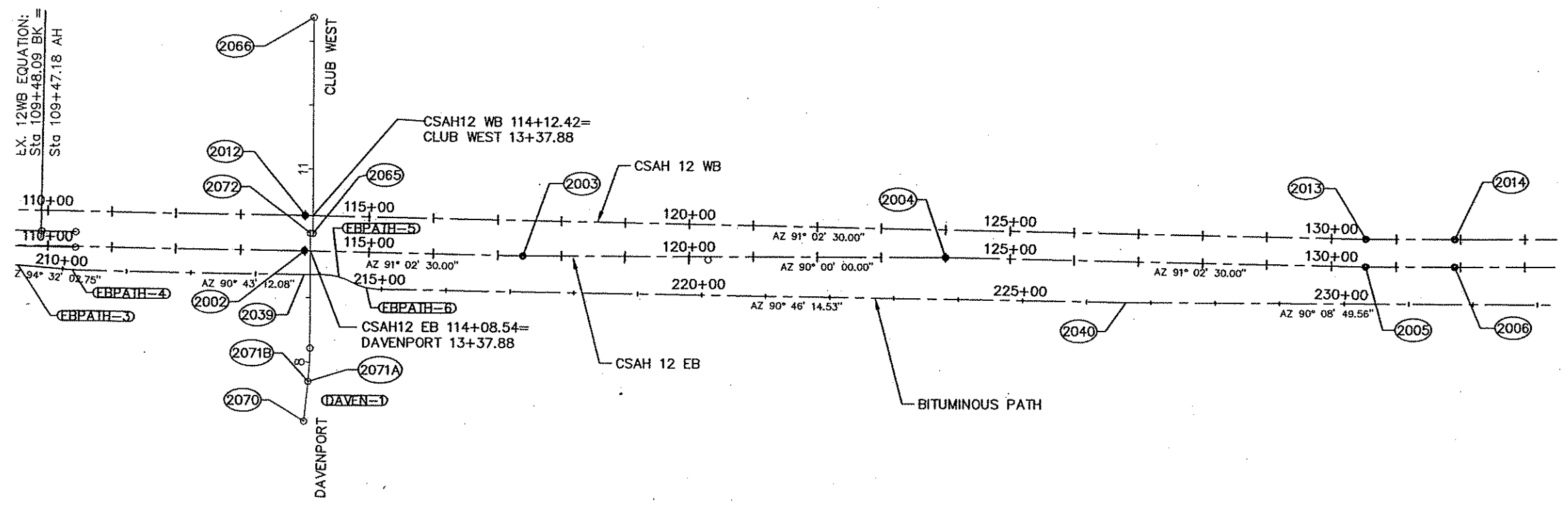
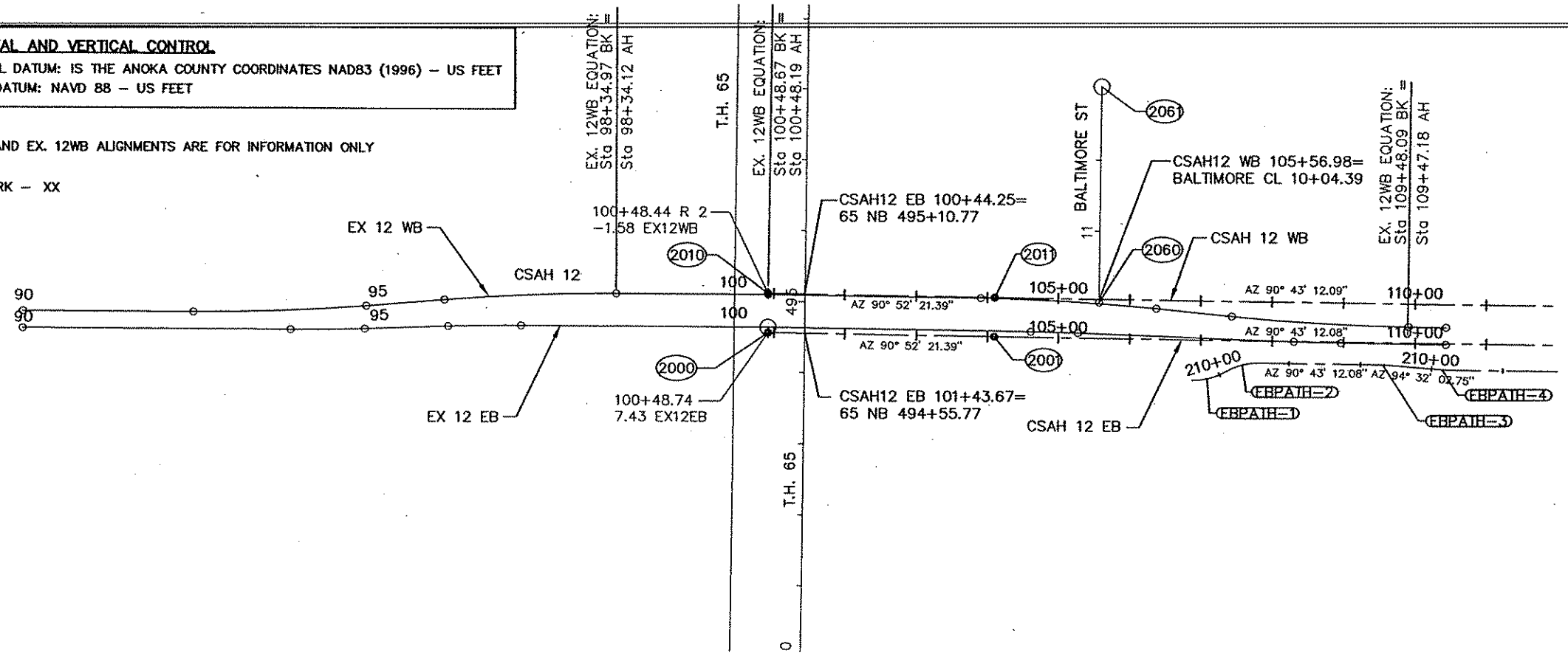
S.P.

SHEET NO.
52

211

HORIZONTAL AND VERTICAL CONTROL
 HORIZONTAL DATUM: IS THE ANOKA COUNTY COORDINATES NAD83 (1996) - US FEET
 VERTICAL DATUM: NAVD 88 - US FEET

EX. 12EB AND EX. 12WB ALIGNMENTS ARE FOR INFORMATION ONLY
 BENCH MARK - XX



PLOT DATE: Aug 19, 2005 7:22am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\VAL1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: LGJ
 DESIGN BY: CTN
 CHKD. BY: SAW
 DWG. NAME: AL1
 DATE: AUGUST 18, 2005



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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



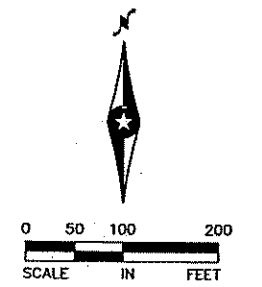
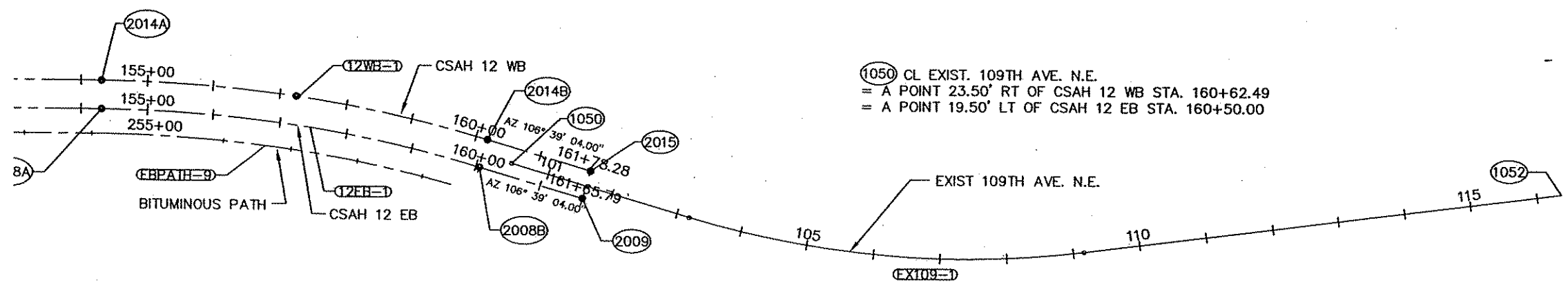
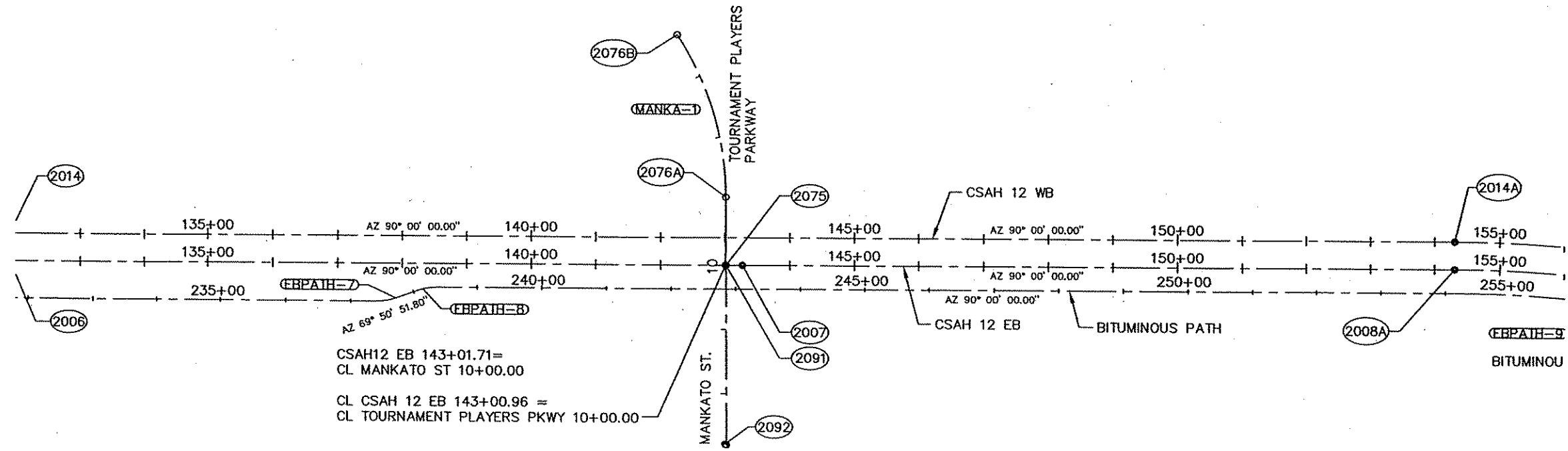
**ANOKA COUNTY
 HIGHWAY DEPT.**

**CSAH 12
 RECONSTRUCTION
 ALIGNMENT PLAN**

S.P. 02-612-11	SHEET NO. 53
S.P.106-020-025	
S.P.	
S.P.	

1 OF 2
 211

PLOT DATE: Aug 19, 5:06pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\AL2.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
CTN

CHKD. BY:
SAW

DWG. NAME:
AL2

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
ALIGNMENT PLAN**

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

2 OF 2
SHEET NO.
54
211

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
CSAH 12 EB										
2000	PI	100+91.720						508,155.3235	148,445.2855	
2001	PI	104+09.639						508,473.2052	148,440.4438	
2002	PI	113+99.265						509,462.7532	148,428.0077	
2003	PI	117+39.545						509,802.9770	148,421.8216	
2004	PI	123+99.737						510,463.1696	148,421.8216	
2005	PI	130+52.671						511,115.9956	148,409.9516	
2006	PI	131+91.104						511,254.4284	148,409.9516	
2007	PI	143+26.707						512,390.0312	148,409.9516	
2008A	PC	154+30.622						513,493.9465	148,409.9516	90° 00' 00.00"
2008	PI	157+19.936	16° 39' 04.00" RT	2° 53' 53.22"	1,977.000'	289.314'	574.549'	513,783.2603	148,409.9516	PI
12EB-1	CC							513,493.9465	146,432.9516	
2008B	PT	160+05.171						514,060.4423	148,327.0507	106° 39' 04.00"
2009	PI	161+65.786						514,214.3217	148,281.0278	

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
CSAH 12 WB										
2010	PI	100+91.560						508,155.2745	148,500.2926	
2011	PI	104+10.292						508,473.9696	148,495.4385	
2012	PI	114+00.001						509,463.6007	148,483.0014	
2013	PI	130+52.951						511,116.2776	148,452.9516	
2014A	PC	154+30.620						513,493.9465	148,452.9516	90° 00' 00.00"
2014	PI	157+26.226	16° 39' 04.00" RT	2° 50' 11.13"	2,020.000'	295.606'	587.046'	513,789.5529	148,452.9516	PI
12WB-1	CC							513,493.9465	146,432.9516	
2014B	PT	160+17.666						514,072.7637	148,368.2476	106° 39' 04.00"
2015	PI	161+78.280						514,226.6430	148,322.2247	

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
EXIST. CSAH 12 EB										
1000	PI	90+00.000						507,106.7884	148,448.1681	
	PC	93+75.013						507,481.7989	148,446.9336	90° 11' 19.01"
1001	PI	94+26.700	2° 04' 02.24" LT	2° 00' 00.00"	2,864.790'	51.688'	103.364'	507,533.4865	148,446.7635	PI
EX12EB-1	CC							507,491.2296	151,311.7081	
	PT	94+78.377						507,585.1466	148,448.4580	88° 07' 16.77"
	PC	95+96.745						507,703.4510	148,452.3385	88° 07' 16.77"
1002	PI	96+48.435	2° 04' 02.47" RT	2° 00' 00.00"	2,864.790'	51.689'	103.368'	507,755.1127	148,454.0330	PI
EX12EB-2	CC							507,797.3679	145,589.0883	
	PT	97+00.113						507,806.8018	148,453.8628	90° 11' 19.25"
1003	PI	100+48.431						508,155.1179	148,452.7157	
	PC	104+18.040						508,524.6932	148,447.6752	90° 46' 53.04"
1004	PI	104+51.028	1° 19' 10.00" RT	2° 00' 00.00"	2,864.790'	32.988'	65.972'	508,557.6777	148,447.2253	PI
EX12EB-3	CC							508,485.6244	145,583.1516	
	PT	104+84.013						508,590.6431	148,446.0160	92° 06' 03.04"
	PC	107+87.203						508,893.6292	148,434.9016	92° 06' 03.04"
1005	PI	108+20.184	1° 19' 09.18" LT	2° 00' 00.00"	2,864.790'	32.982'	65.961'	508,926.5890	148,433.6925	PI
EX12EB-4	CC							508,998.6479	151,297.7660	
	PT	108+53.163						508,959.5678	148,433.2426	90° 46' 53.86"
1006	PI	110+00.175						509,106.5660	148,431.2371	

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
EXIST. CSAH 12 WB										
1010	PI	90+00.000						507,106.8676	148,472.1684	
	PC	92+37.995						507,344.8611	148,471.3842	90° 11' 19.64"
1011	PI	93+59.539	4° 51' 31.86" LT	2° 00' 00.00"	2,864.790'	121.544'	242.943'	507,466.4046	148,470.9837	PI
EX12WB-1	CC							507,354.3005	151,336.1587	
	PT	94+80.937						507,587.5453	148,480.8796	85° 19' 47.78"
	PC	95+92.044						507,698.2829	148,489.9256	85° 19' 47.78"
1012	PI	97+13.580	4° 51' 30.67" RT	2° 00' 00.00"	2,864.790'	121.536'	242.926'	507,819.4152	148,499.8208	PI
EX12WB-2	CC							507,931.5276	145,634.6465	
	PCC	98+34.970						507,940.9505	148,499.4210	90° 11' 18.45"
	PCC	98+34.120						507,940.9505	148,499.4210	90° 11' 18.45"
1013	PI	98+34.121	0° 00' 00.21" RT	2° 00' 00.00"	2,864.790'	0.001'	0.003'	507,940.9519	148,499.4210	PI
EX12WB-3	CC							507,931.5276	145,634.6465	
	PT	98+34.123						507,940.9534	148,499.4210	90° 11' 18.66"
1014	PI	100+48.190						508,155.4993	148,498.7151	
	PC	103+47.088						508,454.3691	148,494.6384	90° 46' 53.41"
1015	PI	104+70.693	4° 56' 28.16" RT	2° 00' 00.00"	2,864.790'	123.606'	247.058'	508,577.9631	148,492.9525	PI
EX12WB-4	CC							508,415.2951	145,630.1149	
	PT	105+94.145						508,700.9527	148,480.6274	95° 43' 21.57"
	PC	107+01.039						508,807.3139	148,469.9687	95° 43' 21.57"
1016	PI	108+24.641	4° 56' 27.63" LT	2° 00' 00.00"	2,864.790'	123.602'	247.051'	508,930.2998	148,457.6439	PI
EX12WB-5	CC							509,092.9715	151,320.4812	
	PCC	109+48.090						509,053.8902	148,455.9578	90° 46' 53.94"
	PCC	109+47.180						509,053.8902	148,455.9578	90° 46' 53.94"
1017	PI	109+47.465	0° 00' 41.07" LT	2° 00' 00.00"	2,864.790'	0.285'	0.570'	509,054.1754	148,455.9539	PI
EX12WB-6	CC							509,092.9715	151,320.4812	
	PT	109+47.750						509,054.4606	148,455.9500	90° 46' 12.87"
1018	PI	110+00.188						509,106.8933	148,455.2451	

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
EXIST. 109th AVE.										
1050	PI	100+43.000						514,108.9787	148,332.8877	
1051A	PC	103+19.395						514,373.7840	148,253.6885	106° 39' 04.00"
1051	PI	106+22.185	23° 52' 18.37" LT	4° 00' 00.00"	1,432.394'	302.790'	596.794'	514,663.8772	148,166.9261	PI
EX109-1	CC							514,784.2268	149,626.0189	
1051B	PT	109+16.190						514,964.2659	148,204.9841	82° 46' 45.63"
1052	PI	116+36.197						515,678.5630	148,295.4825	

PLOT DATE: Aug 19, 2005 7:23am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ALTB1.dwg


REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: ALTB1
CHKD. BY: SAW	DATE: AUGUST 18, 2005

URS
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 700 Third Street South
 Minneapolis, MN 55412
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Steve Weser
 STEVE WESER
 DATE: 8/19/2005 MN LIC. NO. 40545

ANOKA COUNTY

HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION ALIGNMENT TABS
 PROP. CSAH 12 EB AND WB
 EX. CSAH12, EX. 109th AVENUE

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	55
S.P.	211
S.P.	

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
EB BIKE PATH										
	PC	206+60.000						508,751.4688	148,380.0637	90° 46' 14.53"
EBPATH-1	PI	206+85.347	30° 48' 23.03" LT	62° 16' 40.88"	92.000'	25.347'	49.466'	508,776.8131	148,379.7227	PI
	CC							508,752.7063	148,472.0554	
	PRC	207+09.466						508,798.7560	148,392.4097	59° 57' 51.50"
	PT	207+09.466						508,798.7560	148,392.4097	59° 57' 51.50"
EBPATH-2	PI	207+34.769	30° 45' 20.58" RT	62° 16' 40.88"	92.000'	25.303'	49.385'	508,820.6609	148,405.0747	PI
	CC							508,844.8056	148,312.7640	
	PT	207+58.850						508,845.9617	148,404.7568	90° 43' 12.08"
	PC	209+27.301						509,014.3988	148,402.6399	90° 43' 12.08"
EBPATH-3	PI	209+30.364	3° 48' 50.67" RT	62° 16' 40.88"	92.000'	3.063'	6.124'	509,017.4619	148,402.6015	PI
	CC							509,013.2427	148,310.6472	
	PT	209+33.425						509,020.5155	148,402.3593	94° 32' 02.75"
	PC	210+17.498						509,104.3257	148,395.7131	94° 32' 02.75"
EBPATH-4	PI	210+20.562	3° 48' 50.67" LT	62° 16' 40.88"	92.000'	3.063'	6.124'	509,107.3794	148,395.4709	PI
	CC							509,111.5985	148,487.4252	
	PT	210+23.623						509,110.4424	148,395.4325	90° 43' 12.08"
2039	PI	213+75.496						509,462.2883	148,391.0107	
	PC	214+05.483						509,492.2749	148,391.0376	89° 56' 54.89"
EBPATH-5	PI	214+28.786	28° 25' 39.81" RT	62° 16' 40.88"	92.000'	23.303'	45.646'	509,515.5781	148,391.0585	PI
	CC							509,492.3575	148,299.0376	
	PRC	214+51.129						509,536.0814	148,379.9834	118° 22' 34.70"
	PT	214+51.129						509,536.0814	148,379.9834	118° 22' 34.70"
EBPATH-6	PI	214+73.732	27° 36' 20.17" LT	62° 16' 40.88"	92.000'	22.602'	44.326'	509,555.9678	148,369.2415	PI
	CC							509,579.8054	148,460.9291	
	PT	214+95.456						509,578.5679	148,368.9374	90° 46' 14.53"
2040	PI	226+61.353						510,744.3595	148,353.2551	
	PC	237+40.136						511,823.1391	148,350.4854	90° 08' 49.56"
EBPATH-7	PI	237+56.606	20° 17' 57.76" LT	62° 16' 40.88"	92.000'	16.470'	32.595'	511,839.6090	148,350.4431	PI
	CC							511,823.3753	148,442.4851	
	PT	237+72.731						511,855.0708	148,356.1173	69° 50' 51.80"
	PC	238+05.246						511,885.5954	148,367.3194	69° 50' 51.80"
EBPATH-8	PI	238+21.594	20° 09' 08.20" RT	62° 16' 40.88"	92.000'	16.348'	32.359'	511,900.9428	148,372.9516	PI
	CC							511,917.2909	148,280.9516	
	PT	238+37.605						511,917.2909	148,372.9516	90° 00' 00.00"
	PC	254+14.260						513,493.9466	148,372.9516	90° 00' 00.00"
EBPATH-9	PI	256+80.965	15° 39' 19.91" RT	2° 57' 12.21"	1,939.999'	266.705'	530.087'	513,760.6513	148,372.9516	PI
	CC							513,493.9466	146,432.9521	
	PT	259+44.347						514,017.4616	148,300.9805	105° 39' 19.91"

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	X	Y	
BALTIMORE STREET										
2060	PI	10+00.000						508,620.5919	148,489.2027	00° 43' 19.25"
2061	PI	13+03.974						508,624.4224	148,793.1523	
CLUB WEST PARKWAY										
2065	PI	10+00.000						509,476.0139	148,455.2712	00° 00' 18.53"
2066	PI	13+37.881						509,476.0443	148,793.1523	
DAVENPORT STREET										
2070	PI	7+08.024						509,462.6131	148,163.8189	
2071A	PC	7+70.204						509,469.2529	148,225.6436	6° 07' 47.79"
2071	PI	7+95.992	6° 07' 29.25" LT	11° 53' 12.55"	482.011'	25.788'	51.526'	509,472.0066	148,251.2837	PI
DAVEN-1	CC							508,989.9979	148,277.1145	
2071B	PT	8+21.730						509,472.0089	148,277.0712	0° 00' 18.53"
2072	PI	9+99.999						509,472.0249	148,455.3402	
TOURNAMENT PLAYERS PARKWAY										
2075	PI	10+00.000						512,364.2865	148,409.9514	
2076A	PC	11+05.985						512,364.5587	148,515.9360	0° 08' 49.56"
2076	PI	12+43.840	33° 42' 40.77" LT	12° 35' 32.92"	455.000'	137.855'	267.710'	512,364.9126	148,653.7906	PI
TOURNA-1	CC							511,909.5602	148,517.1041	
2076B	PT	13+73.695						512,288.6965	148,768.6606	326° 26' 08.79"
MANKATO STREET										
2092	PI	7+20.183						512,366.0600	148,130.1365	
2091	PI	10+00.000						512,365.0386	148,409.9515	359° 47' 27.12"

PLOT DATE: Aug 19, 7:24am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ALT2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: LGJ DESIGN BY: SAW

CHKD. BY: SAW DWG. NAME: ALT2

DATE: AUGUST 18, 2005

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.0778 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY HIGHWAY DEPT.

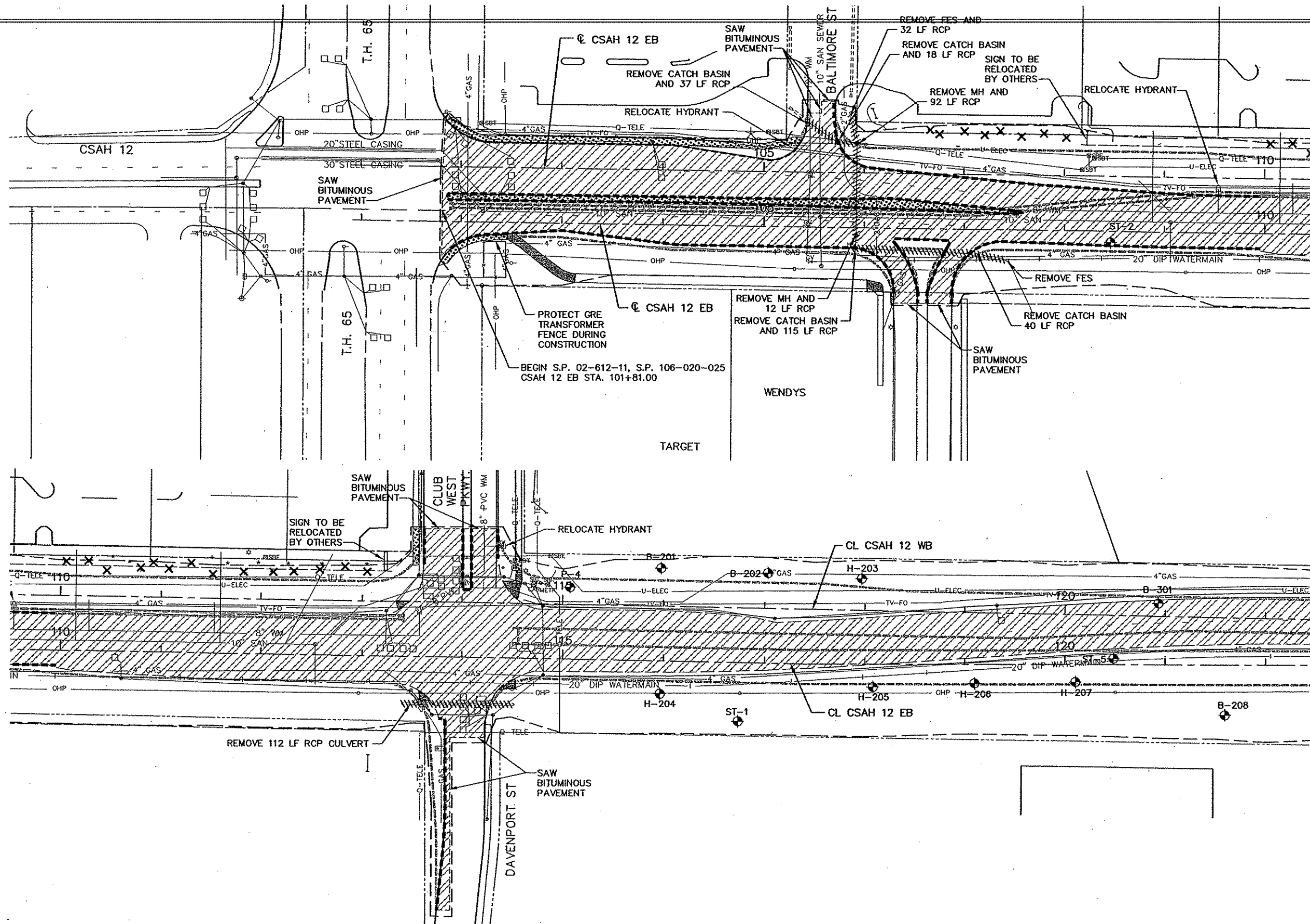
ANOKA COUNTY

CSAH 12 RECONSTRUCTION ALIGNMENT TABS

PROP. EB BIKE PATH, AND EX. BALTIMORE, CLUB WEST ST., DAVENPORT ST., MANKATO ST

S.P. 02-612-11	SHEET NO. 56
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 7:25am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\RM1.dwg



- REMOVAL LEGEND**
- BITUMINOUS PAVEMENT REMOVAL
 - MILL BITUMINOUS SURFACE (2.0")
 - CONCRETE REMOVAL
 - BITUMINOUS WALK REMOVAL
 - TREE REMOVAL
 - CONCRETE CURB AND GUTTER REMOVAL
 - CONSTRUCTION LIMITS
 - PROPOSED CURB AND/OR EDGE OF PAVEMENT (FOR REFERENCE ONLY)
 - REMOVE PIPE
 - M12 SOIL BORINGS

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

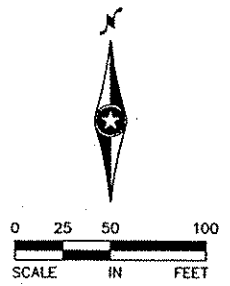
THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

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

THE CONTRACTOR SHALL REMOVE APRONS ON CULVERT PIPE INDICATED FOR REMOVAL (INCLUDED IN PIPE REMOVAL LENGTH).

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.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: LGJ
 DRAWN BY: CTN
 CHECKED BY: SAW
 DATE: AUGUST 18, 2005



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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545

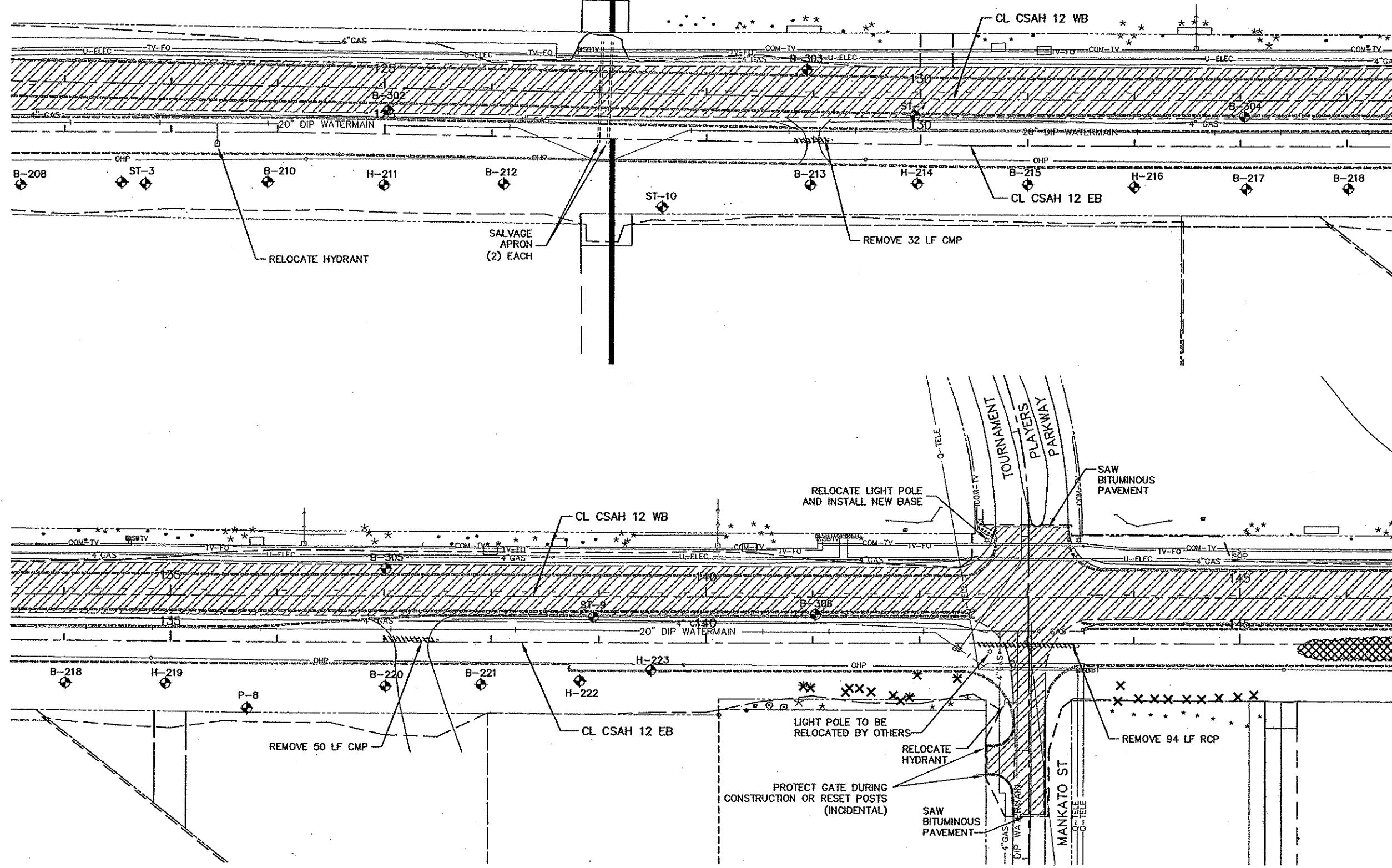


**ANOKA COUNTY
 HIGHWAY DEPT.**

**CSAH 12
 RECONSTRUCTION
 INPLACE TOPOGRAPHY
 AND REMOVAL PLAN**
 STA. 101+85.34 TO STA. 122+00

S.P. 02-612-11	SHEET NO. 57
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 9:55am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\RM2.dwg



REMOVAL LEGEND

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

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

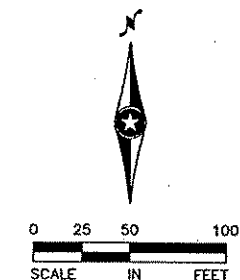
THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

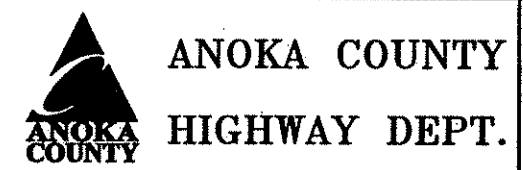
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DRAWN BY: CTN	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: RM2
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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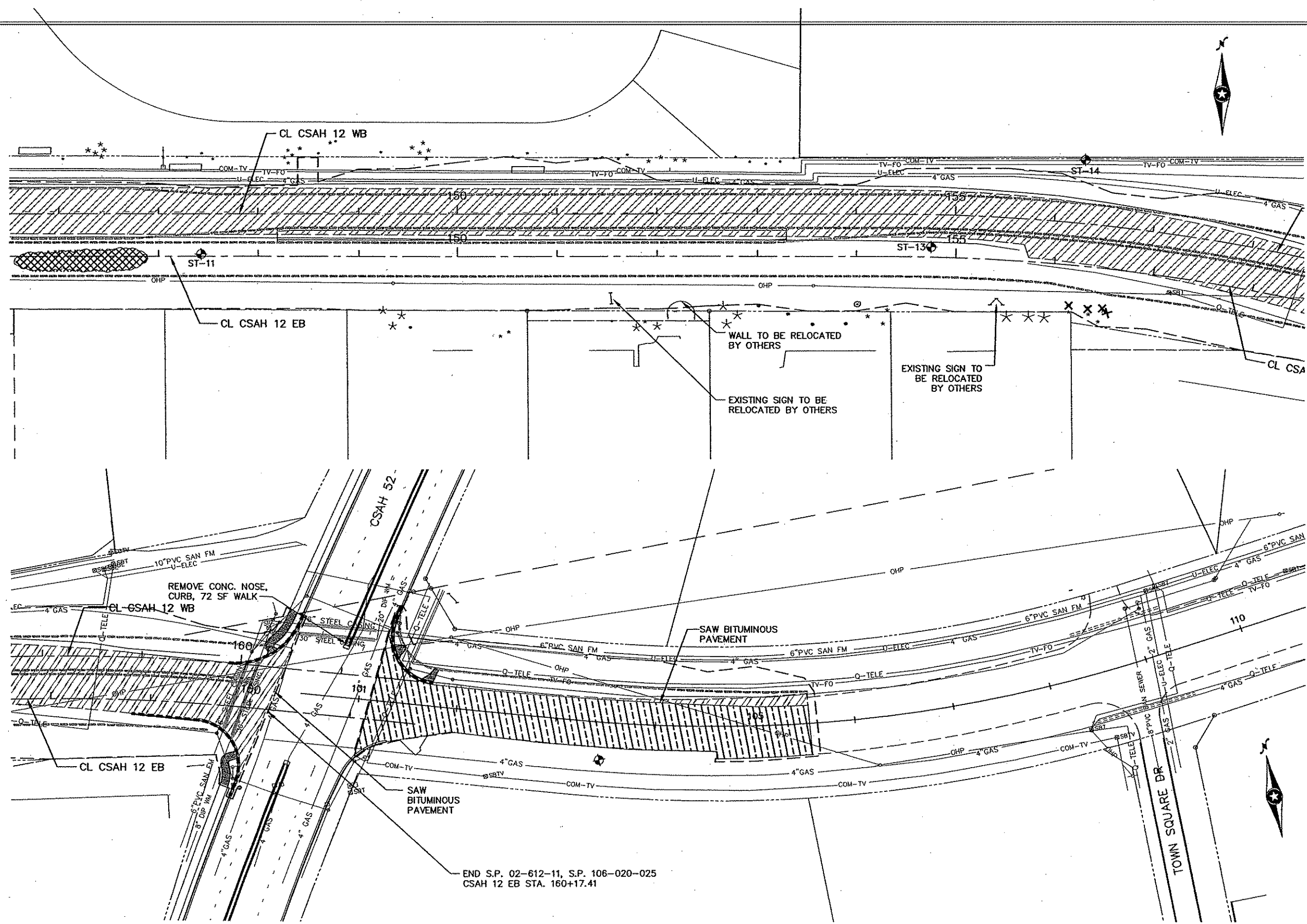
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



CSAH 12
RECONSTRUCTION
INPLACE TOPOGRAPHY
AND REMOVAL PLAN
STA. 122+00 TO STA. 146+00

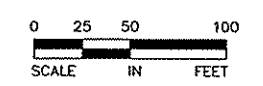
S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	58
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 7:27am DISK FILE NAME: (16.1) R: \31809791\PLAN-SHT-RM3.dwg



- REMOVAL LEGEND**
- BITUMINOUS PAVEMENT REMOVAL
 - MILL BITUMINOUS SURFACE (2.0")
 - CONCRETE REMOVAL
 - BITUMINOUS WALK REMOVAL
 - TREE REMOVAL
 - CONCRETE CURB AND GUTTER REMOVAL
 - CONSTRUCTION LIMITS
 - PROPOSED CURB AND/OR EDGE OF PAVEMENT (FOR REFERENCE ONLY)
 - REMOVE PIPE
 - 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 PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.
- THE CONTRACTOR SHALL REMOVE APRONS ON CULVERT PIPE INDICATED FOR REMOVAL (INCLUDED IN PIPE REMOVAL LENGTH).
- ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.
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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

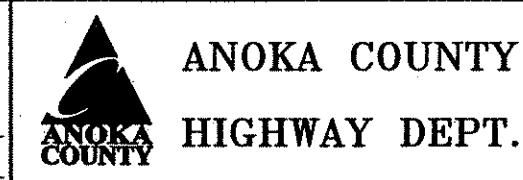
DESIGN FILE: LGJ	
DRAWN BY: CTN	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: RM3
DATE: AUGUST 18, 2005	



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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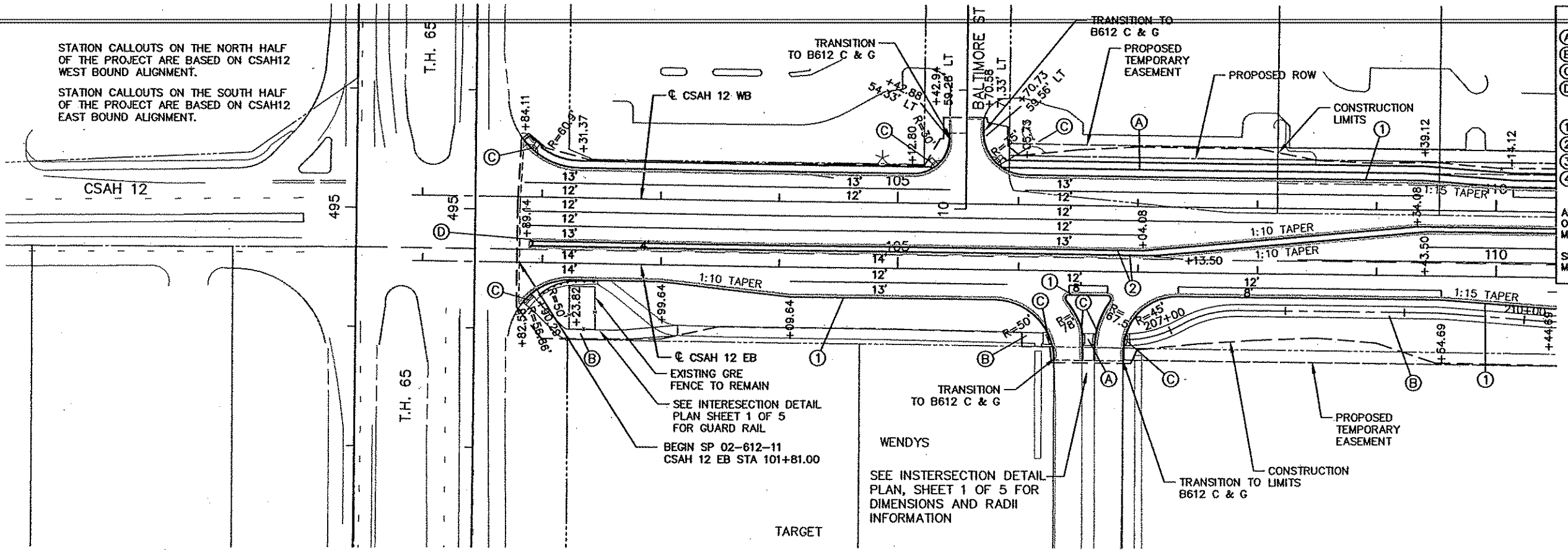
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



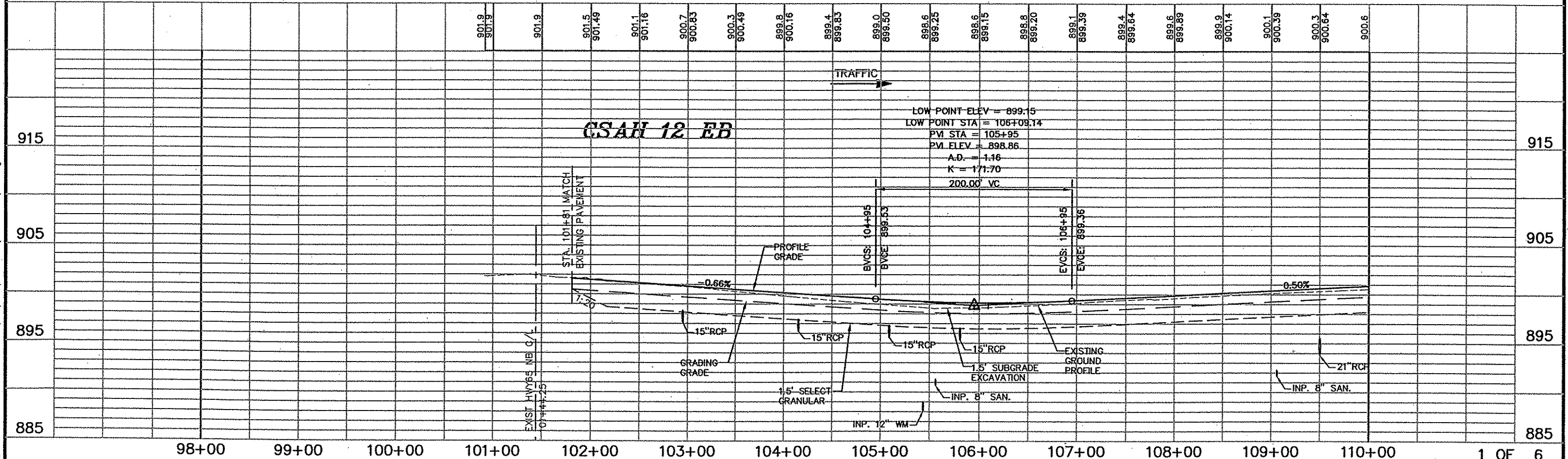
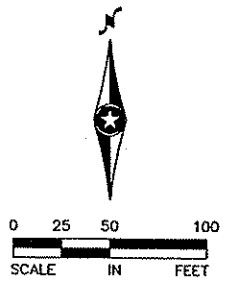
**CSAH 12
RECONSTRUCTION
INPLACE TOPOGRAPHY
AND REMOVAL PLAN**
STA. 146+00 TO STA. 161+66

S.P. 02-612-11	SHEET NO. 59
S.P. 106-020-025	
S.P.	211.
S.P.	

STATION CALLOUTS ON THE NORTH HALF OF THE PROJECT ARE BASED ON CSAH12 WEST BOUND ALIGNMENT.
STATION CALLOUTS ON THE SOUTH HALF OF THE PROJECT ARE BASED ON CSAH12 EAST BOUND ALIGNMENT.



- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - ① B424 CURB & GUTTER
 - ② B418 (MOD.) CURB & GUTTER
 - ③ B612 CURB & GUTTER
 - ④ B618 CURB & GUTTER
- ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
SEE STREETSCAPE PLANS FOR MEDIAN SIDEWALK.



PLOT DATE: Aug 22, 8:34am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: PP1	
DATE: AUGUST 18, 2005		



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

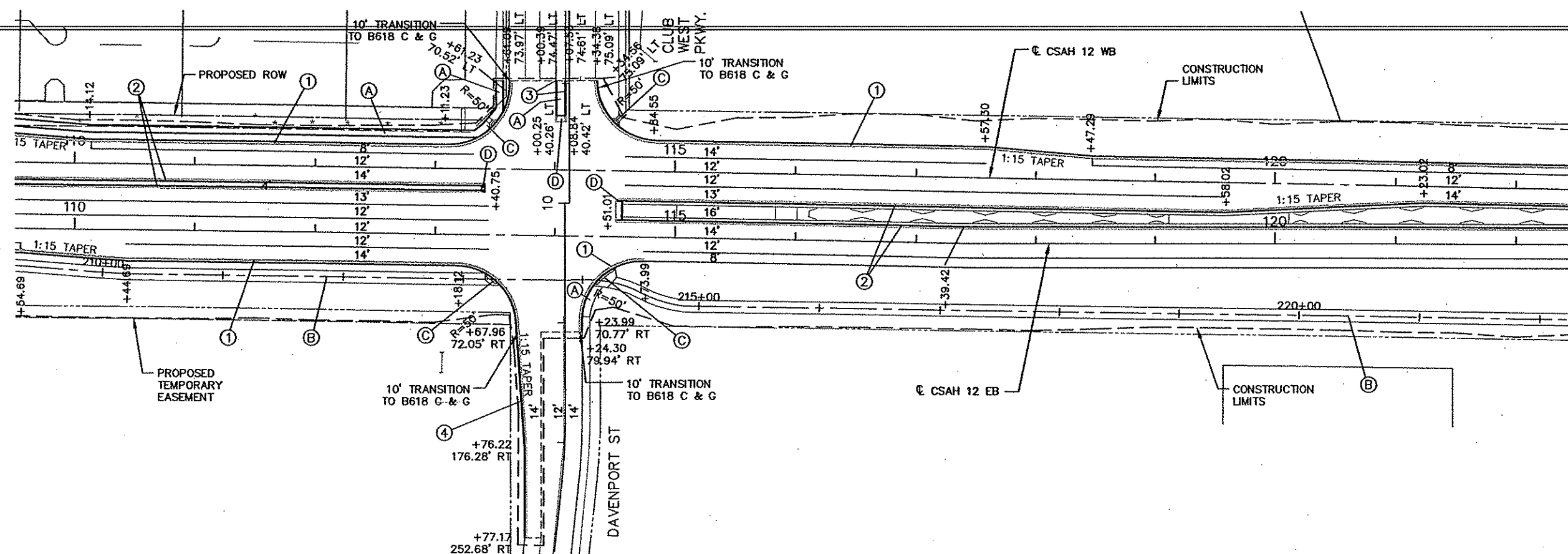


**ANOKA COUNTY
HIGHWAY DEPT.**

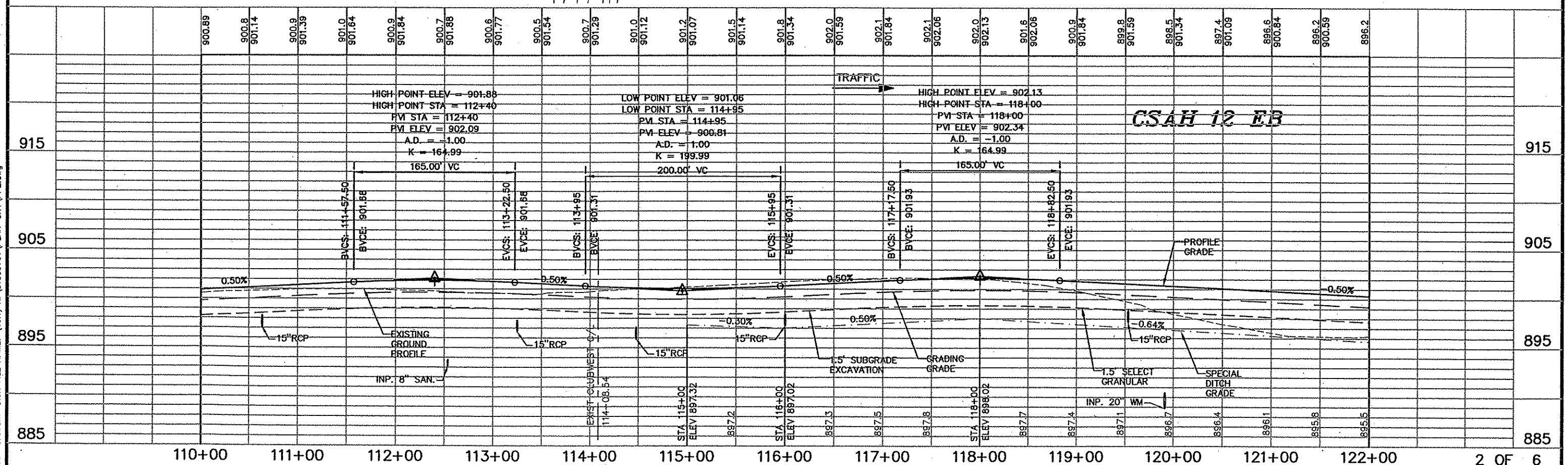
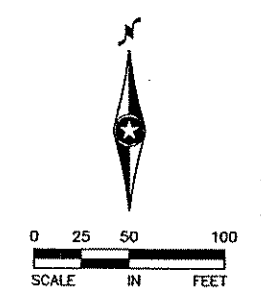
**CSAH 12
RECONSTRUCTION
CONSTRUCTION PLAN
AND PROFILE**
STA. 101+85 TO STA. 110+00

S.P. 02-612-11	SHEET NO. 60
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 8:35am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP2.dwg



- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - ① B424 CURB & GUTTER
 - ② B418 (MOD.) CURB & GUTTER
 - ③ B612 CURB & GUTTER
 - ④ B618 CURB & GUTTER
- ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
SEE STREETScape PLANS FOR MEDIAN SIDEWALK.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PP2
CHKD. BY: SAW	DATE: AUGUST 18, 2005

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION CONSTRUCTION PLAN AND PROFILE
STA. 110+00 TO STA. 122+00

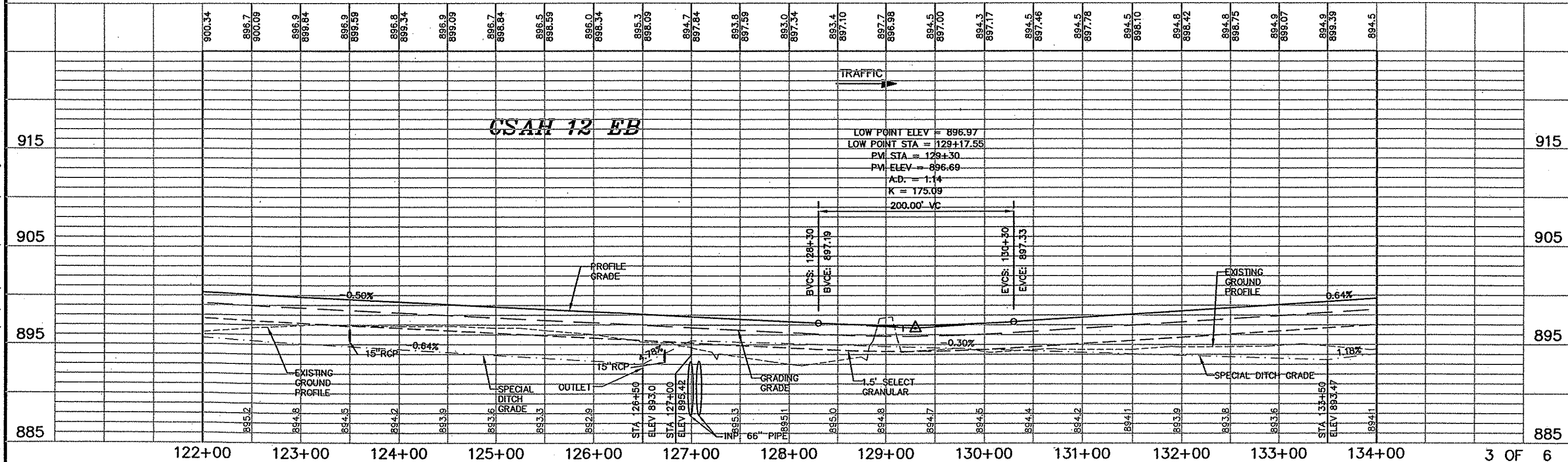
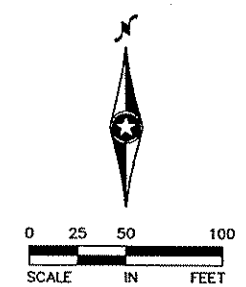
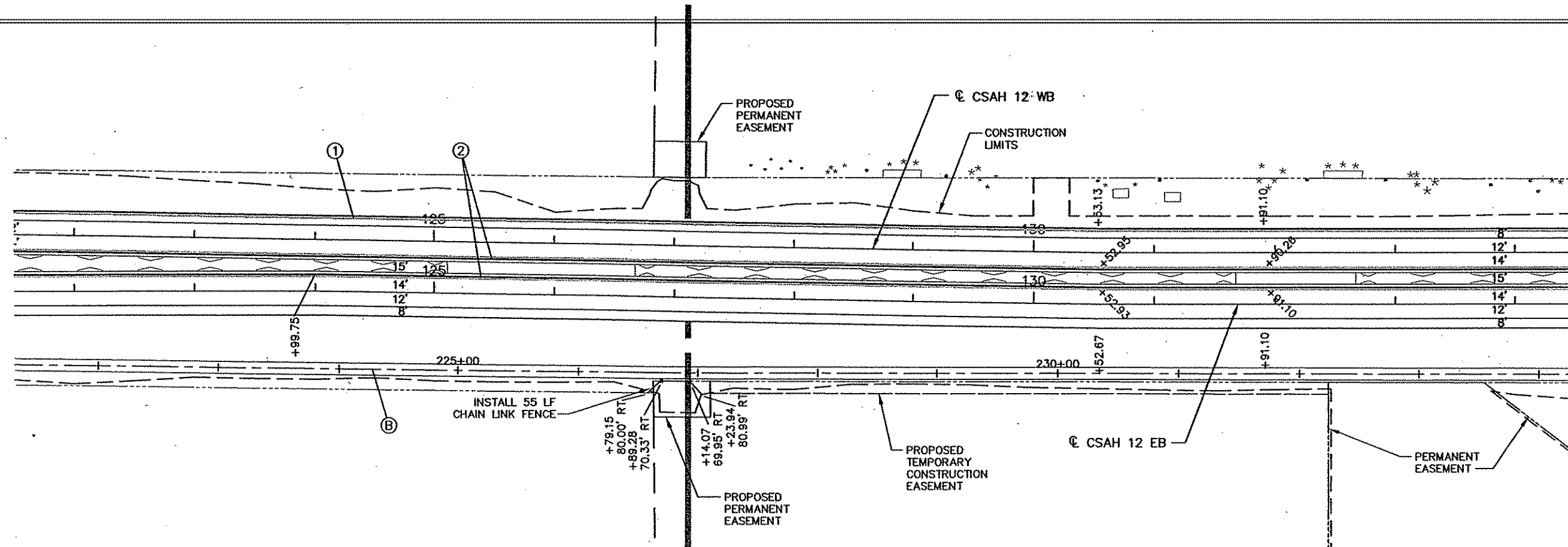
S.P. 02-612-11	SHEET NO. 61
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 8:38am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP3.dwg

CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) BITUMINOUS TRAIL
- (C) CONCRETE PEDESTRIAN RAMP
- (D) CONCRETE APPROACH NOSE STD. PLATE 7113
- ① B424 CURB & GUTTER
- ② B418 (MOD.) CURB & GUTTER
- ③ B612 CURB & GUTTER
- ④ B618 CURB & GUTTER

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
SEE STREETScape PLANS FOR MEDIAN SIDEWALK.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ
DESIGN BY: CTN

CHKD. BY: SAW
DWG. NAME: PP3

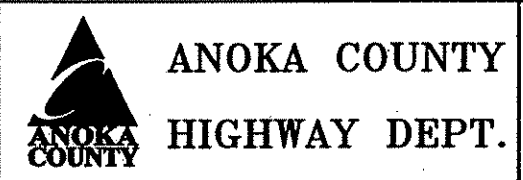
DATE:
AUGUST 18, 2005



Treasure Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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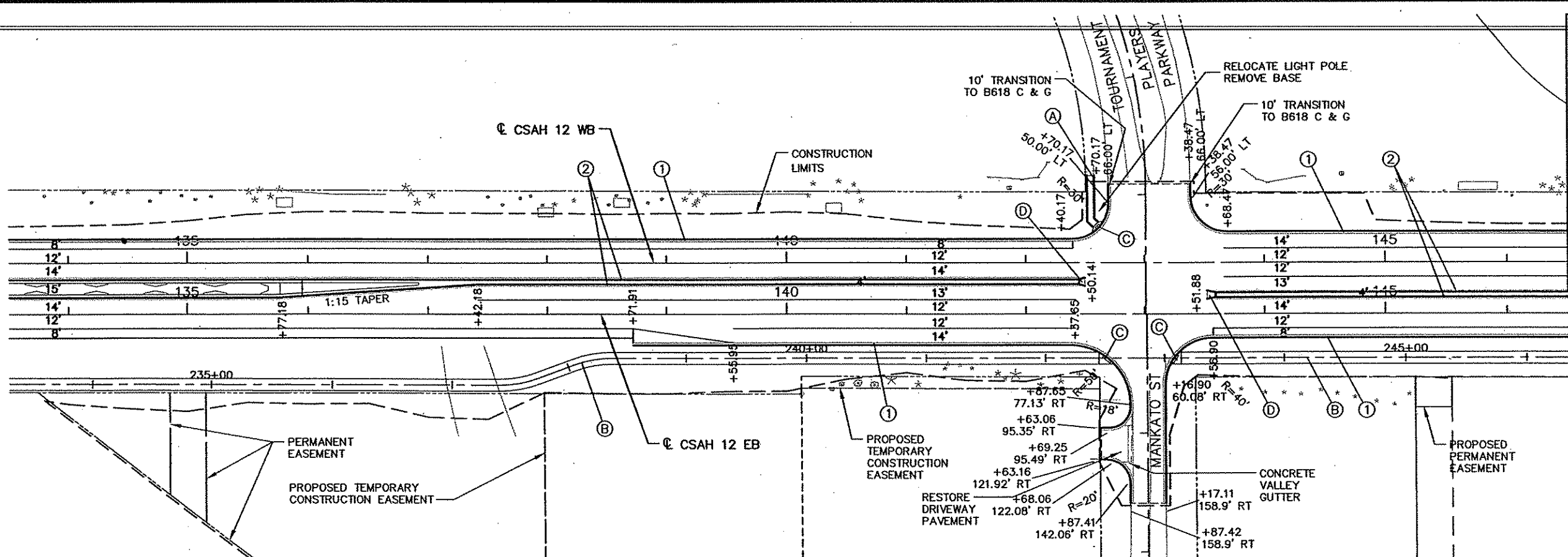
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



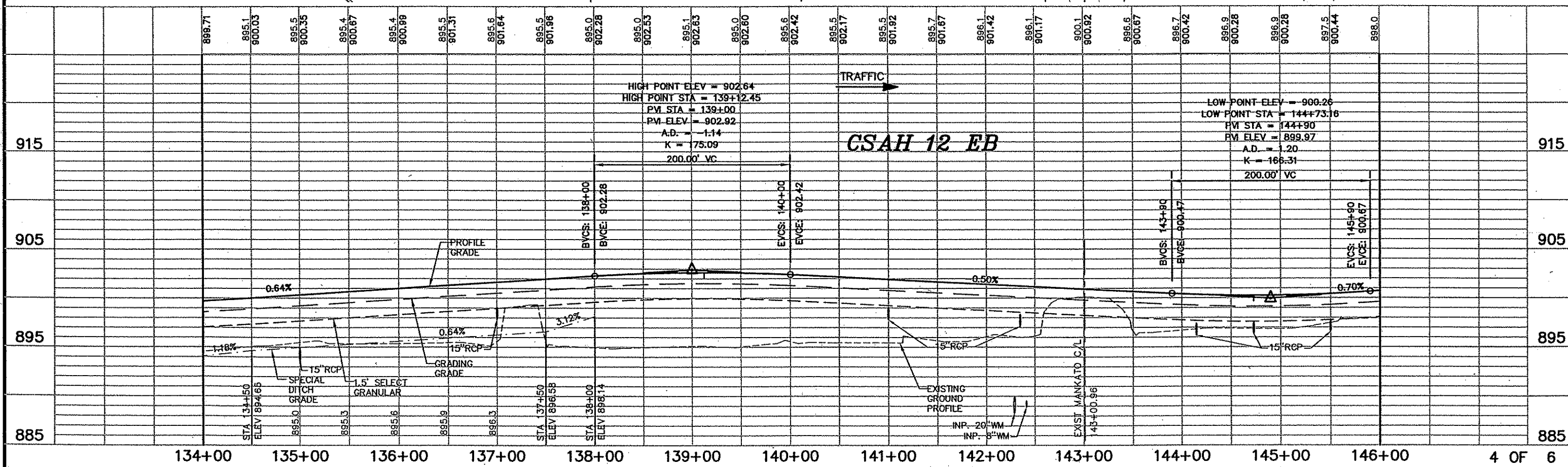
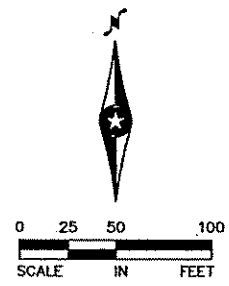
CSAH 12
RECONSTRUCTION
CONSTRUCTION PLAN
AND PROFILE
STA. 122+00 TO STA. 134+00

S.P. 02-612-11	SHEET NO.
S.P.106-020-025	62
S.P.	211
S.P.	

PLOT DATE: Aug 18, 2005 7:18pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP4.dwg



- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - ① B424 CURB & GUTTER
 - ② B418 (MOD.) CURB & GUTTER
 - ③ B612 CURB & GUTTER
 - ④ B618 CURB & GUTTER
- ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- SEE STREETSCAPE PLANS FOR MEDIAN SIDEWALK.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: LGJ DESIGN BY: CTN

CHKD. BY: SAW DWG. NAME: PP4

DATE: AUGUST 18, 2005

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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tx
612.370.1376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

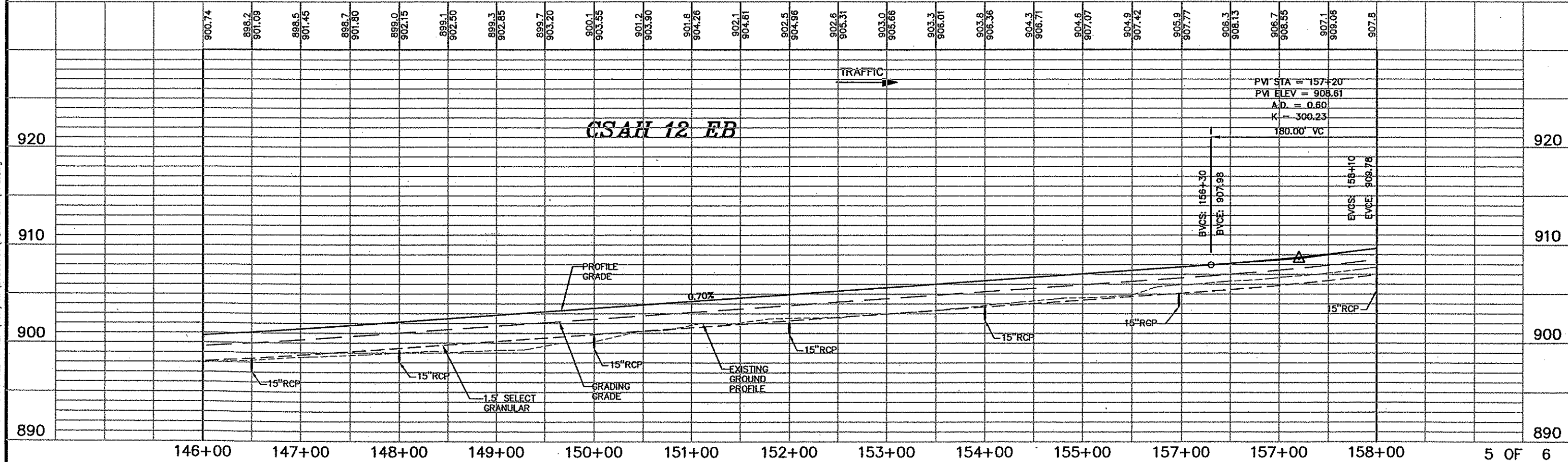
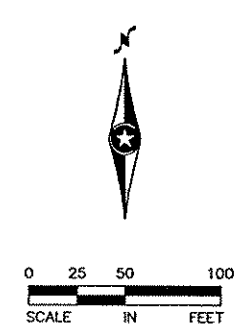
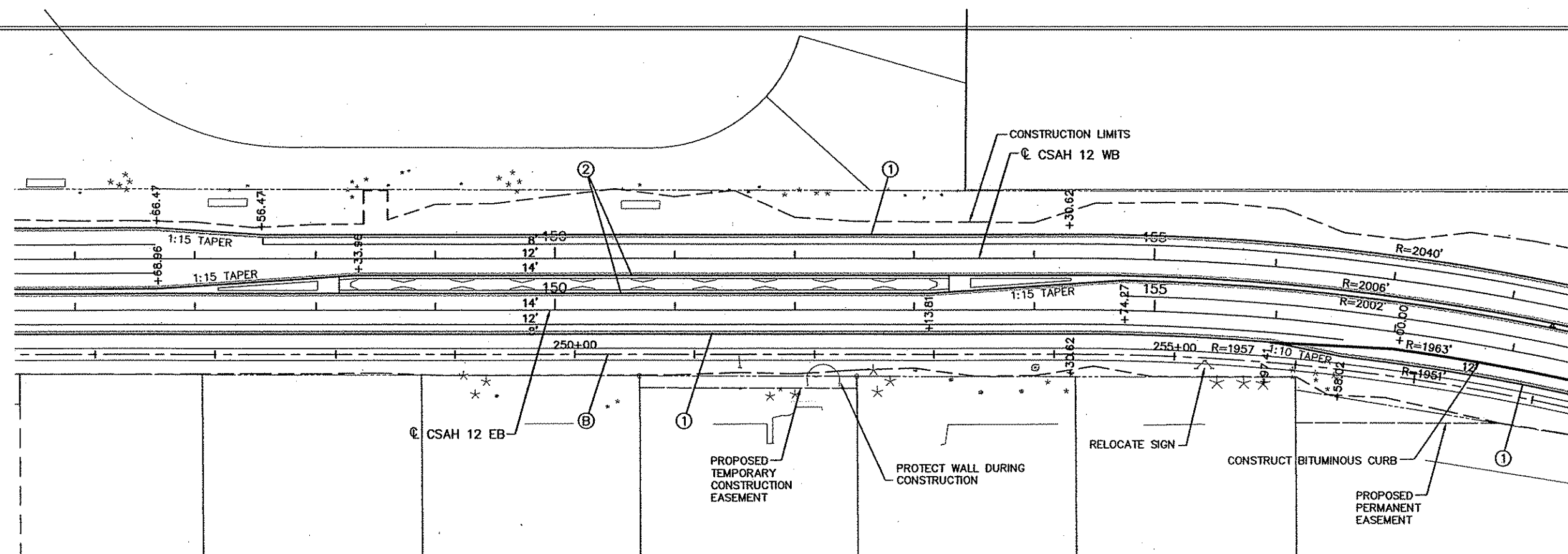
CSAH 12
RECONSTRUCTION
CONSTRUCTION PLAN
AND PROFILE
STA. 134+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO. 63
S.P. 106-020-025	
S.P.	211
S.P.	

CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) BITUMINOUS TRAIL
- (C) CONCRETE PEDESTRIAN RAMP
- (D) CONCRETE APPROACH NOSE STD. PLATE 7113
- ① B424 CURB & GUTTER
- ② B418 (MOD.) CURB & GUTTER
- ③ B612 CURB & GUTTER
- ④ B618 CURB & GUTTER

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
SEE STREETSCAPE PLANS FOR MEDIAN SIDEWALK.



PLOT DATE: Aug 22, 8:56am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP5.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PP5
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55410
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

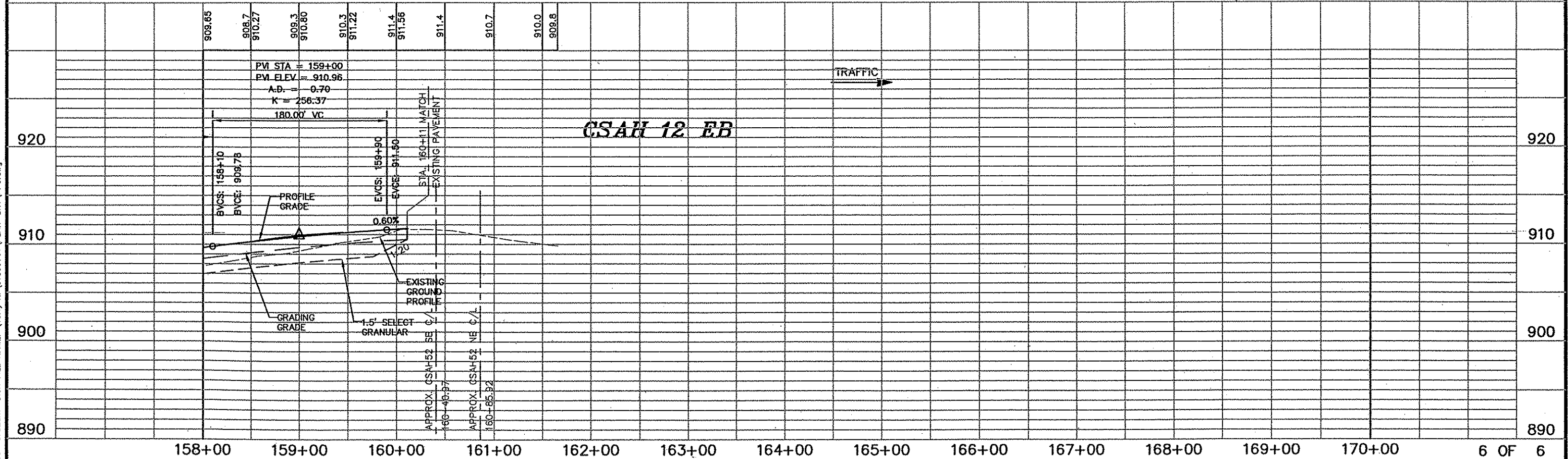
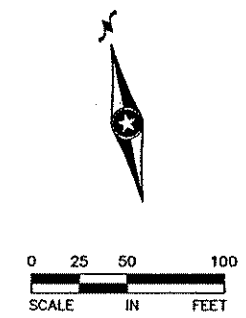
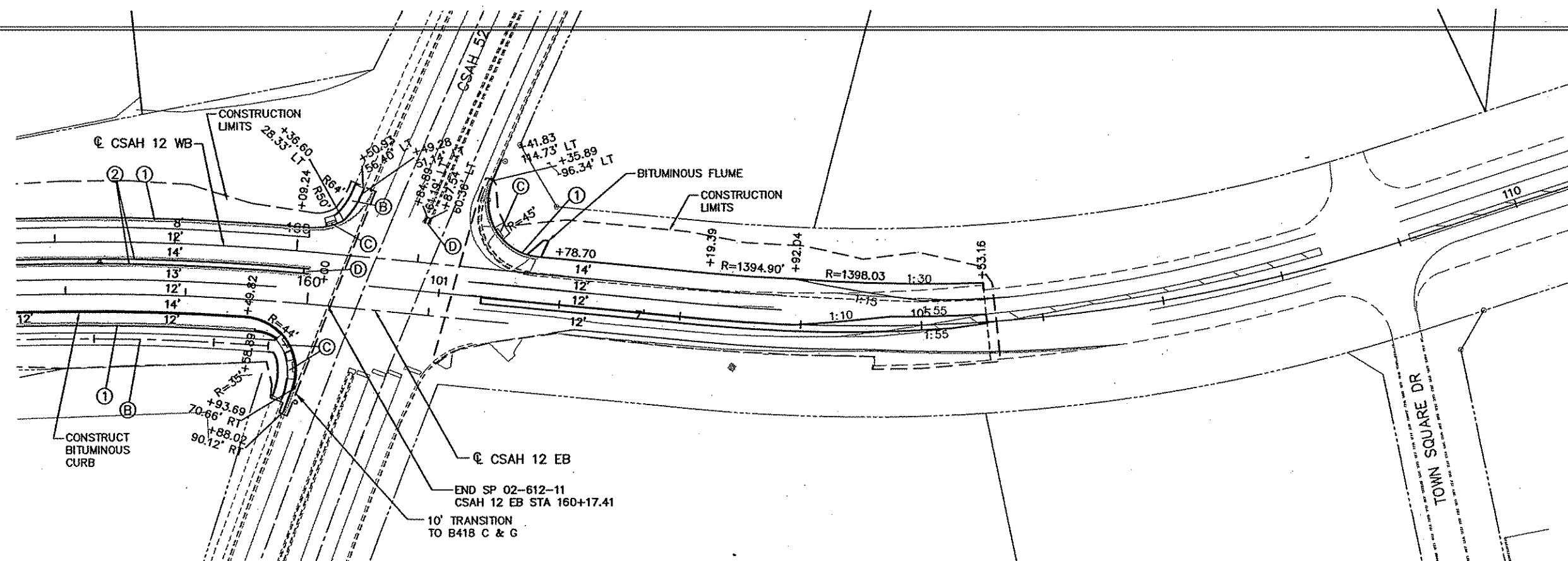


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION PLAN
AND PROFILE**
STA. 146+00 TO STA. 158+00

S.P. 02-612-11	SHEET NO. 64
S.P. 106-020-025	
S.P.	211
S.P.	

- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) BITUMINOUS TRAIL
 - (C) CONCRETE PEDESTRIAN RAMP
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - ① B424 CURB & GUTTER
 - ② B418 (MOD.) CURB & GUTTER
 - ③ B612 CURB & GUTTER
 - ④ B618 CURB & GUTTER
- ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- SEE STREETScape PLANS FOR MEDIAN SIDEWALK.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PP6
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



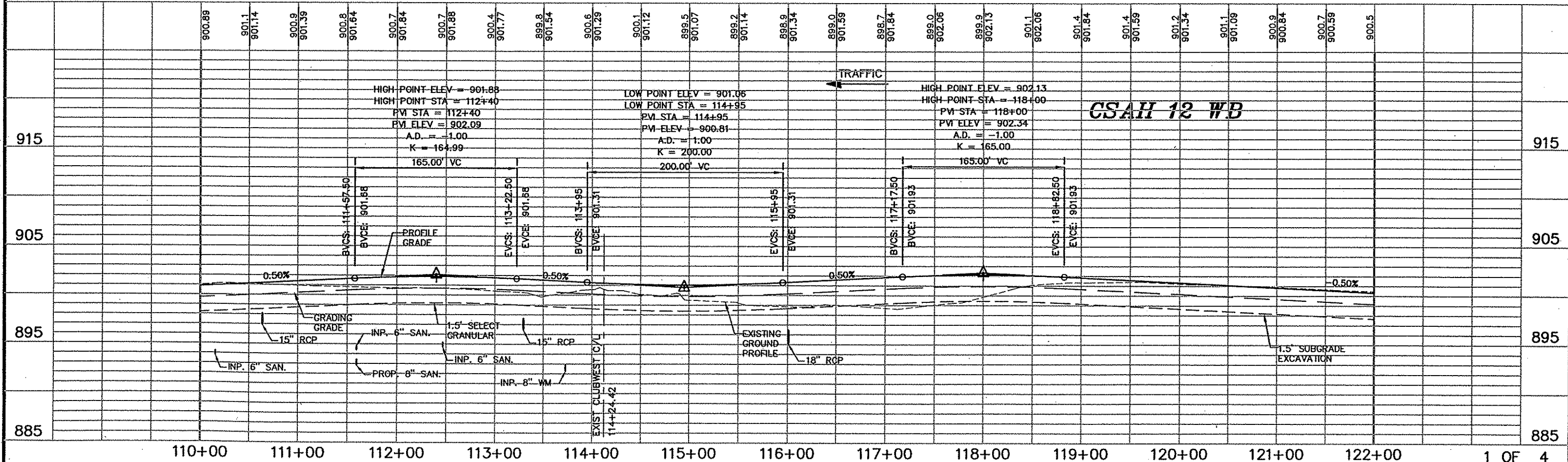
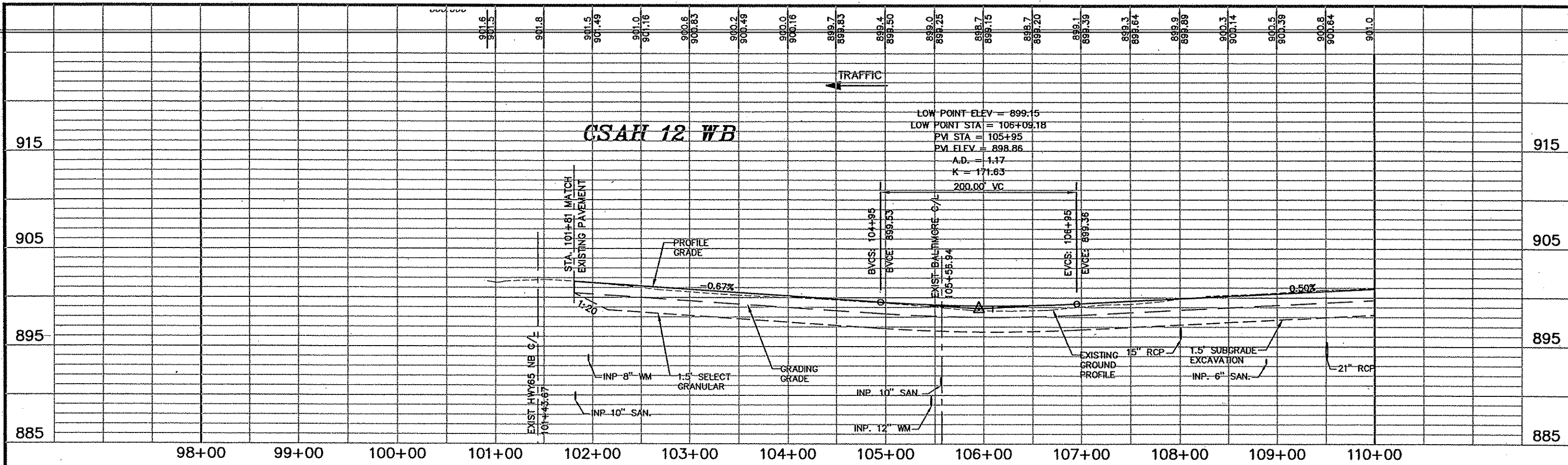
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
CONSTRUCTION PLAN
AND PROFILE**
STA. 158+00 TO TOWN SQUARE DR.

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	65
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 8:52am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PP6.dwg

PLOT DATE: Aug 19, 2005 7:47am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PF1.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PF1
CHKD. BY: SAW	DATE: AUGUST 18, 2005

URS

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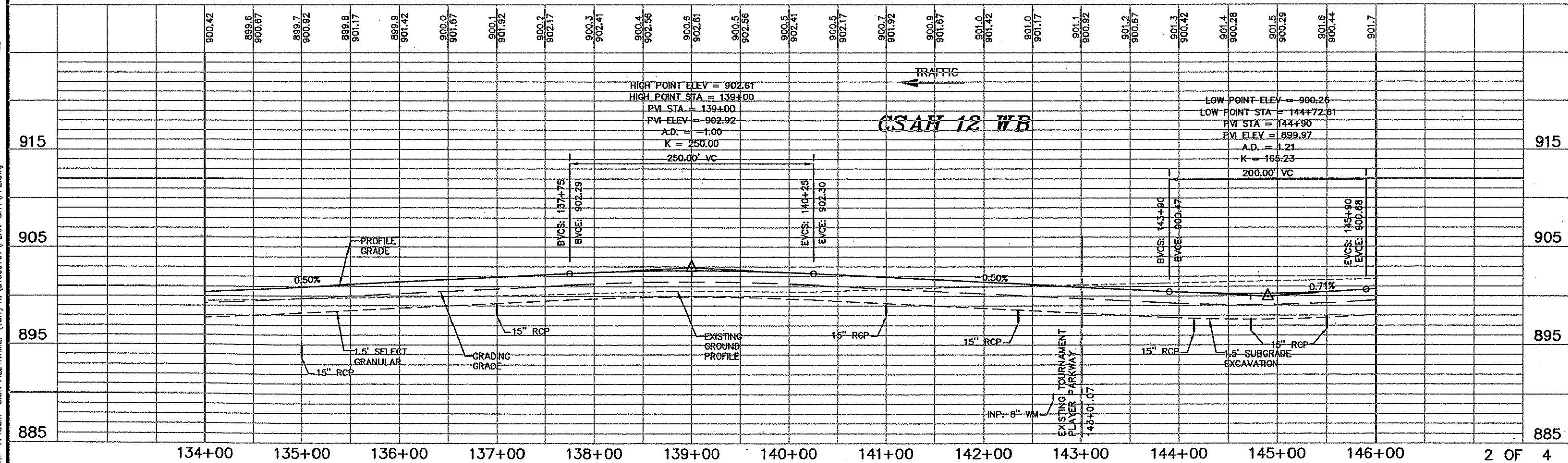
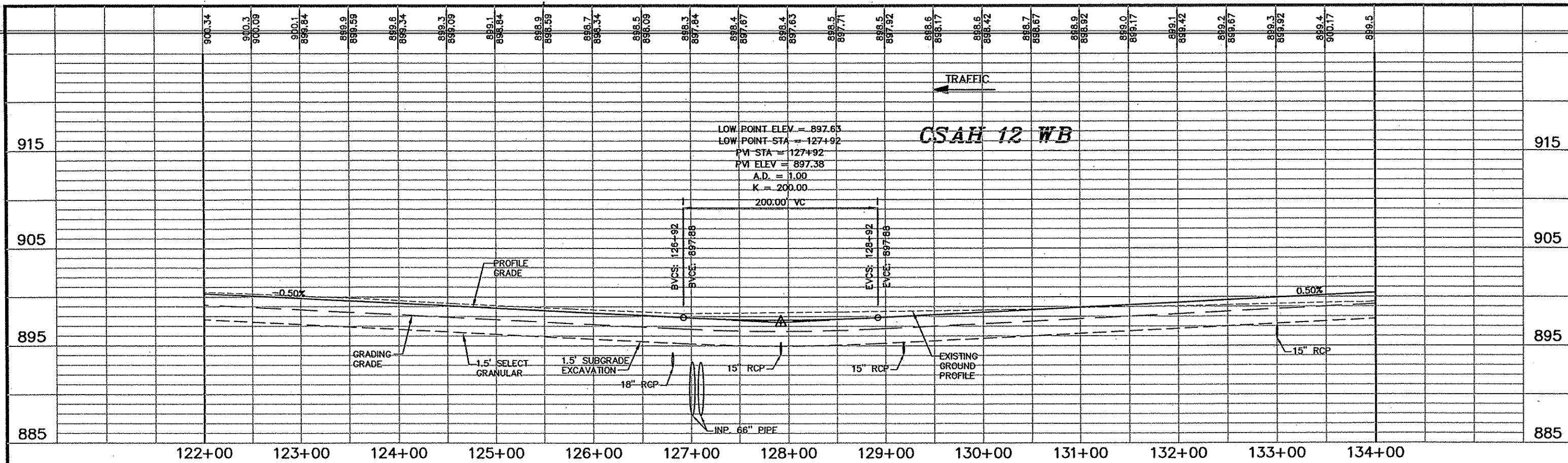
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
CSAH 12 WB PROFILE
STA. 100+49 TO STA. 122+00

S.P. 02-612-11	SHEET NO. 66
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 7:48am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PF2.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PF2
CHKD. BY: SAW	DATE: AUGUST 18, 2005

URS

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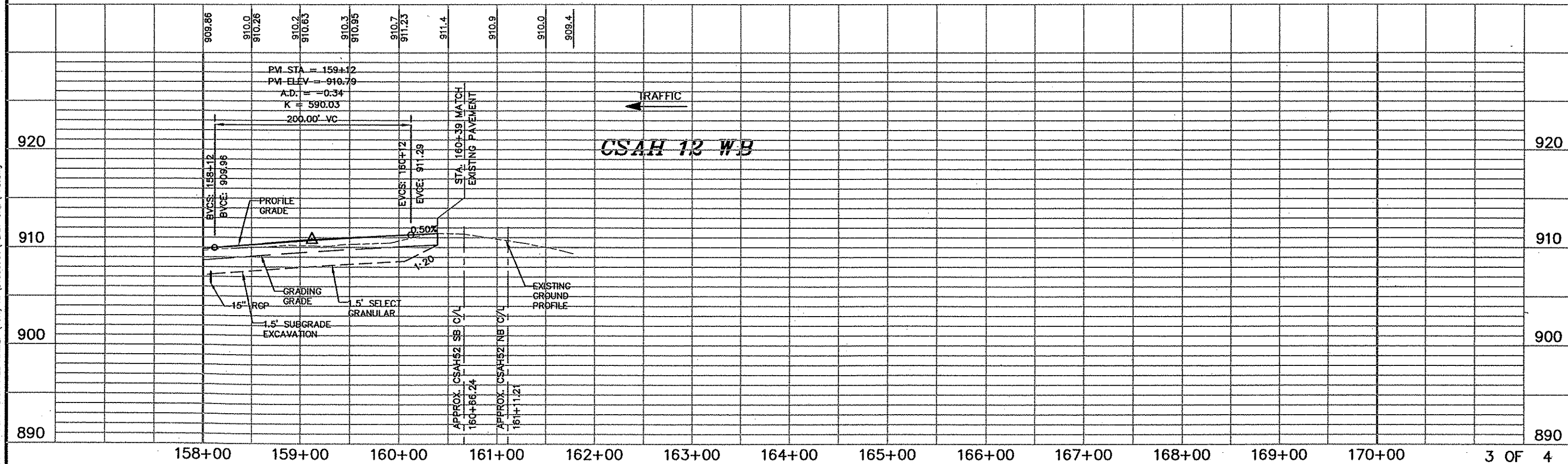
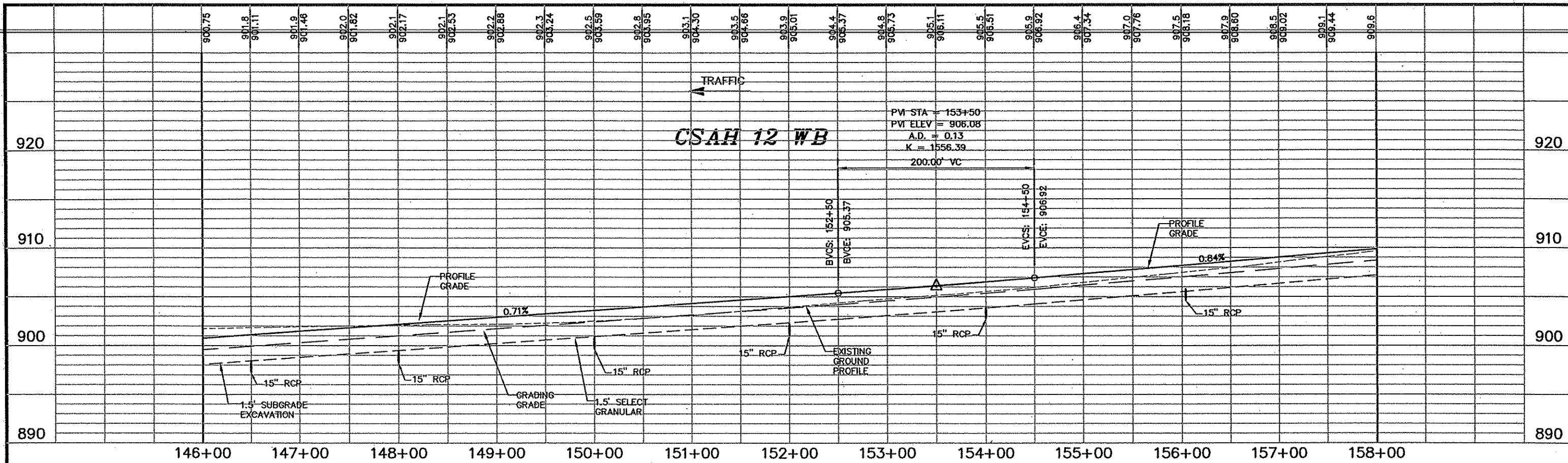
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
CSAH 12 WB PROFILE
STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	67
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 7:49am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PF3.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: PF3
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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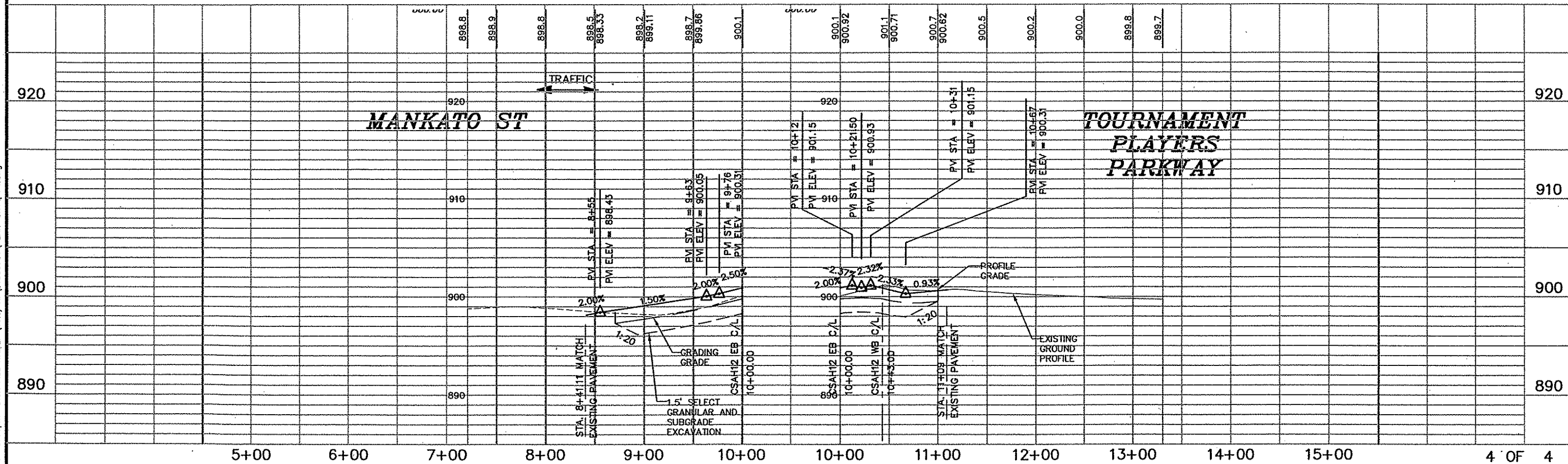
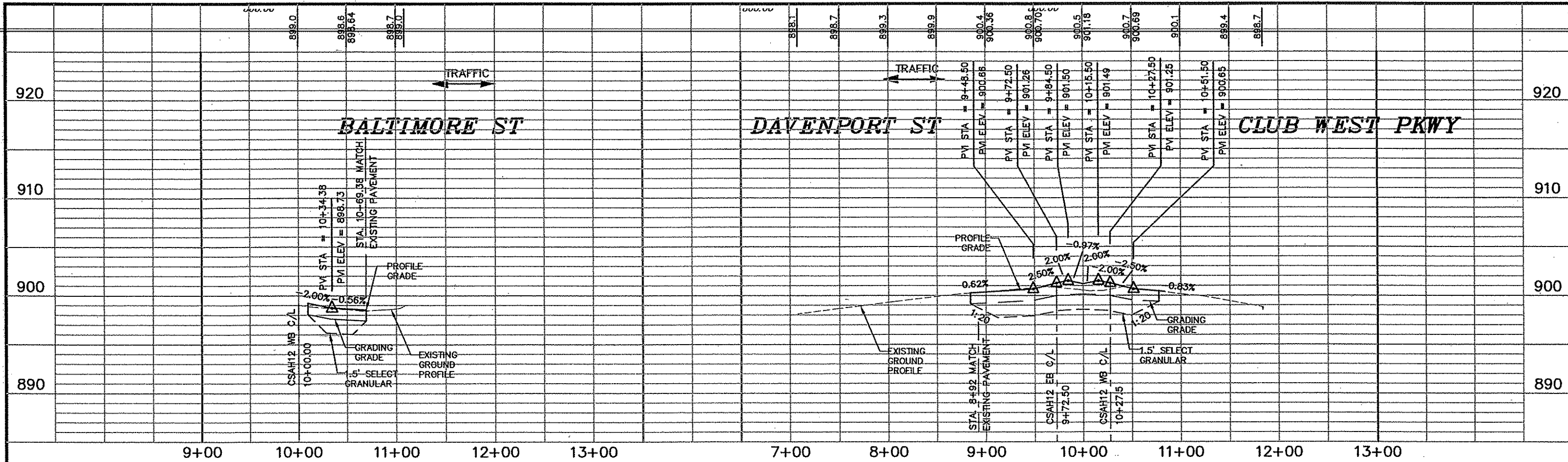
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
CSAH 12 WB PROFILE
STA. 146+00 TO STA. 158+00

S.P. 02-612-11	SHEET NO. 68
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 18, 2005 5:08pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PF4.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: L.G.J.	DWG. NAME: PF4
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

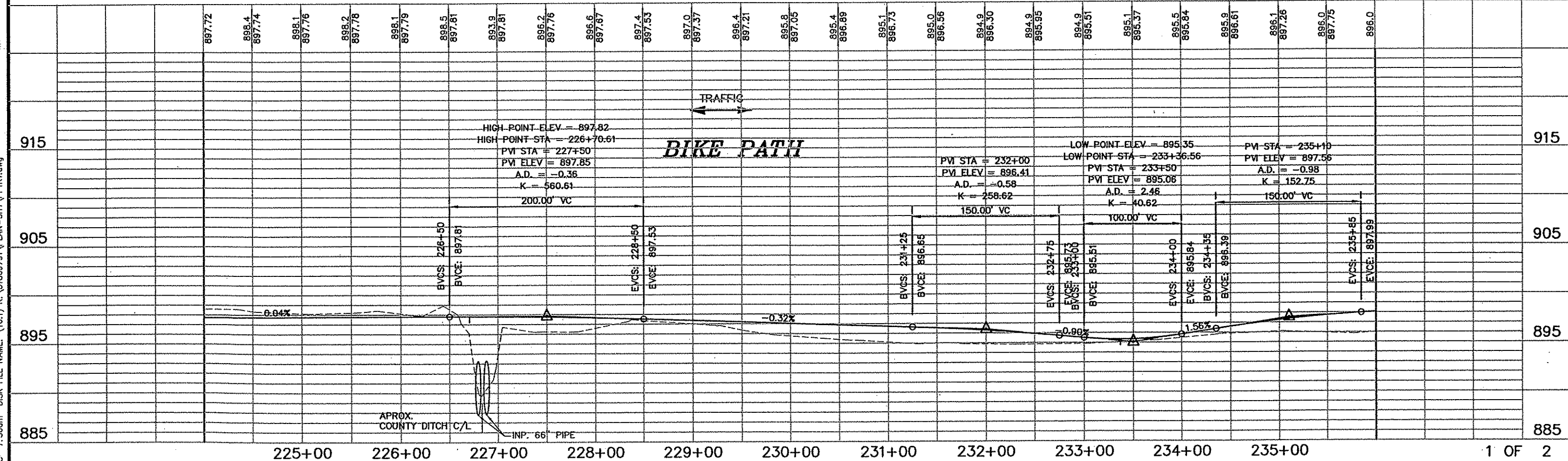
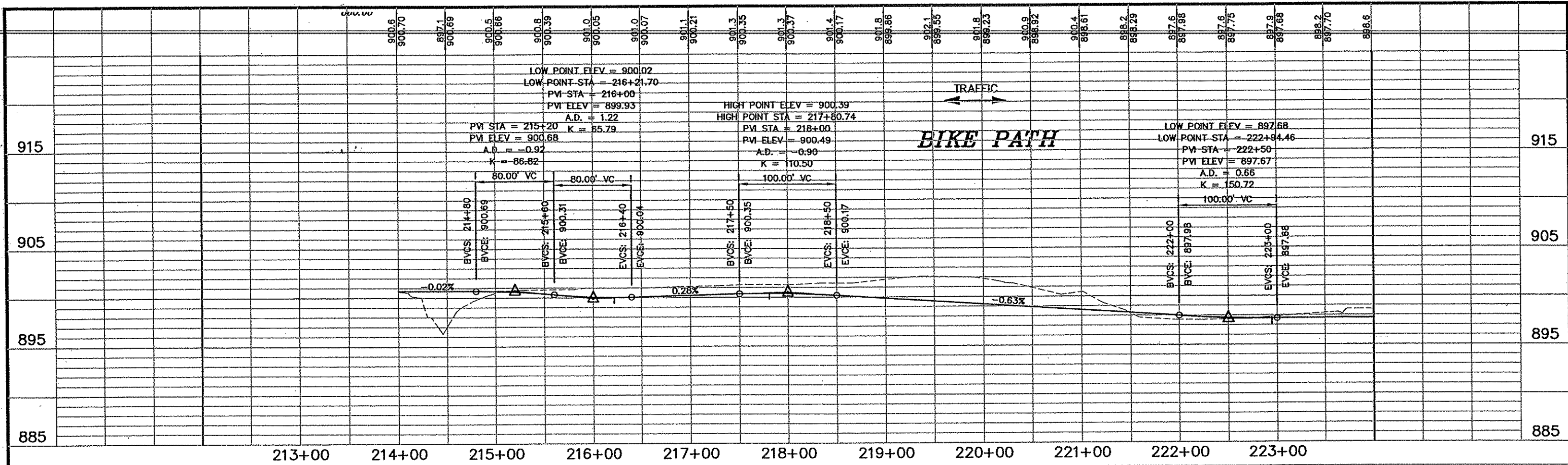
CSAH 12
RECONSTRUCTION
PROFILES

CROSS STREET PROFILES

S.P. 02-612-11	SHEET NO. 69
S.P. 106-020-025	
S.P.	211
S.P.	

4 OF 4

PLOT DATE: Aug 19, 2005 7:50am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\FTR1.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: PFTR1
DATE: AUGUST 18, 2005	



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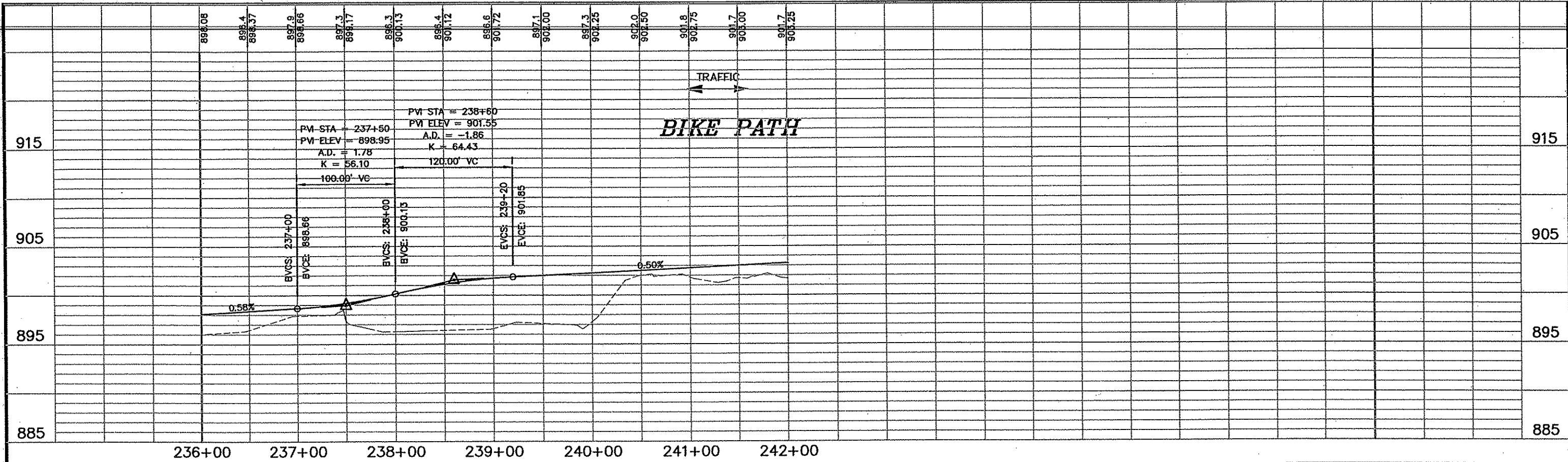
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
BIKE PATH PROFILE
STA. 214+00 TO STA. 236+00

S.P. 02-612-11	SHEET NO. 70
S.P. 106-020-025	
S.P.	211
S.P.	



PLOT DATE: Aug 19, 2005 7:51am DISK FILE NAME: (16.1) R:\31809781\PLAN-SHT\PFTR2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTN
CHECKED BY: SAW	DWG. NAME: PFTR1
DATE: AUGUST 18, 2005	



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612.370.0700 Tel
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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



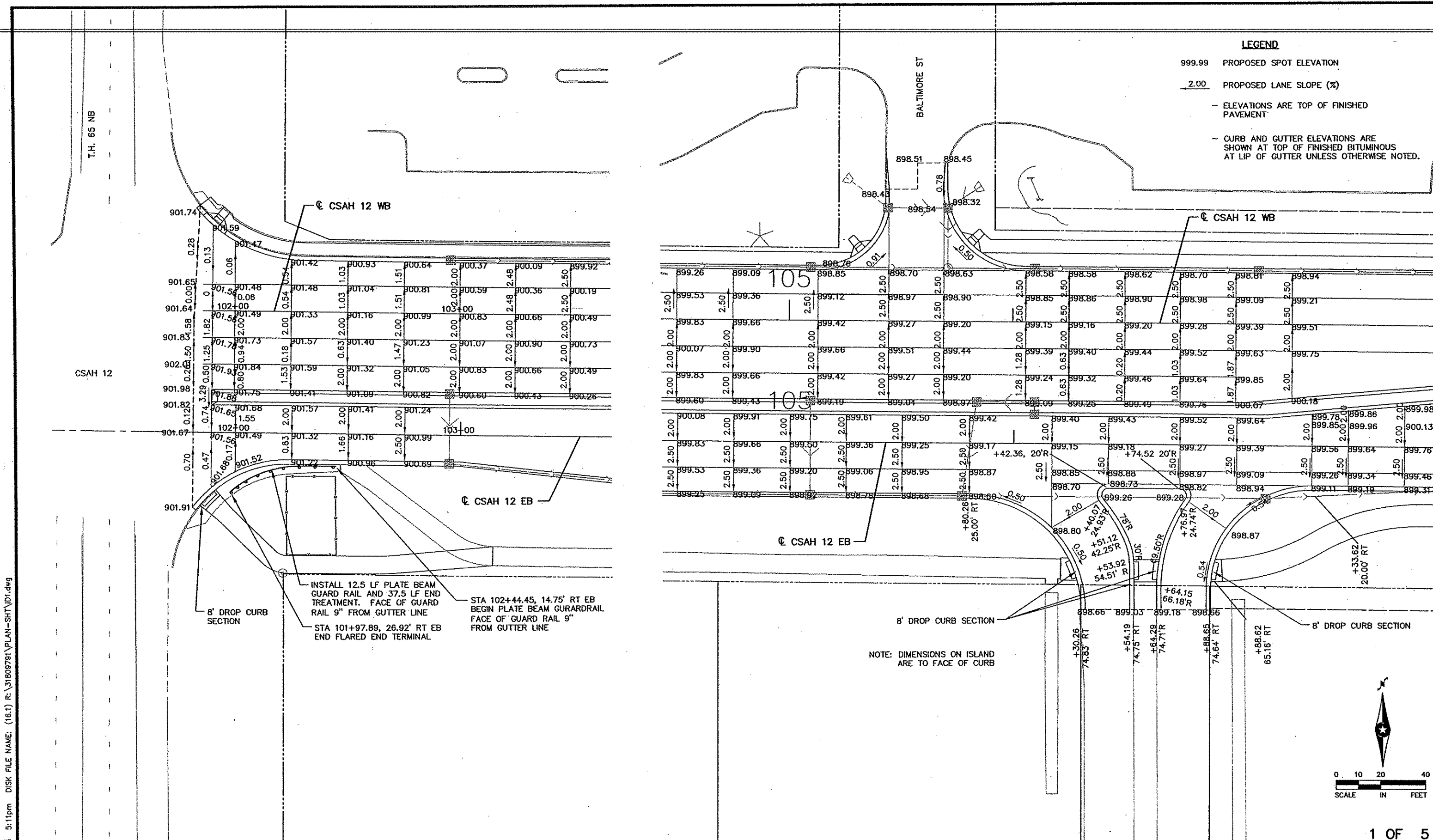
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
BIKE PATH PROFILE**
STA. 236+00 TO STA. 242+00

S.P. 02-612-11	SHEET NO. 71
S.P.106-020-025	
S.P.	211
S.P.	

LEGEND

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



PLOT DATE: Aug 19, 2005 5:11pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: JCD	DESIGN BY: JCD
CHKD. BY: SAW	DWG. NAME: ID1	
DATE: AUGUST 18, 2005		



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.3376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

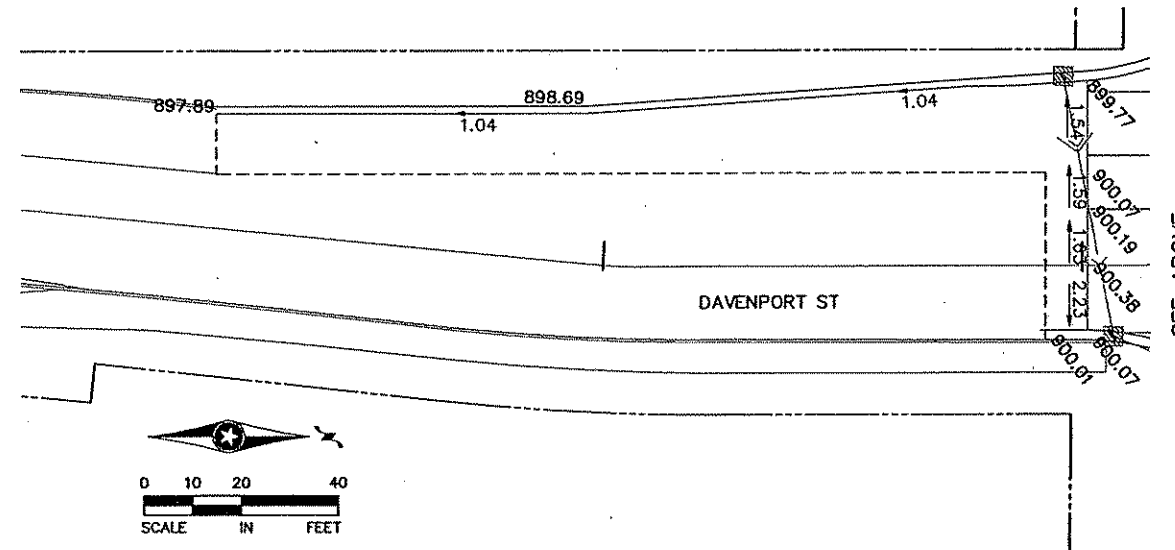
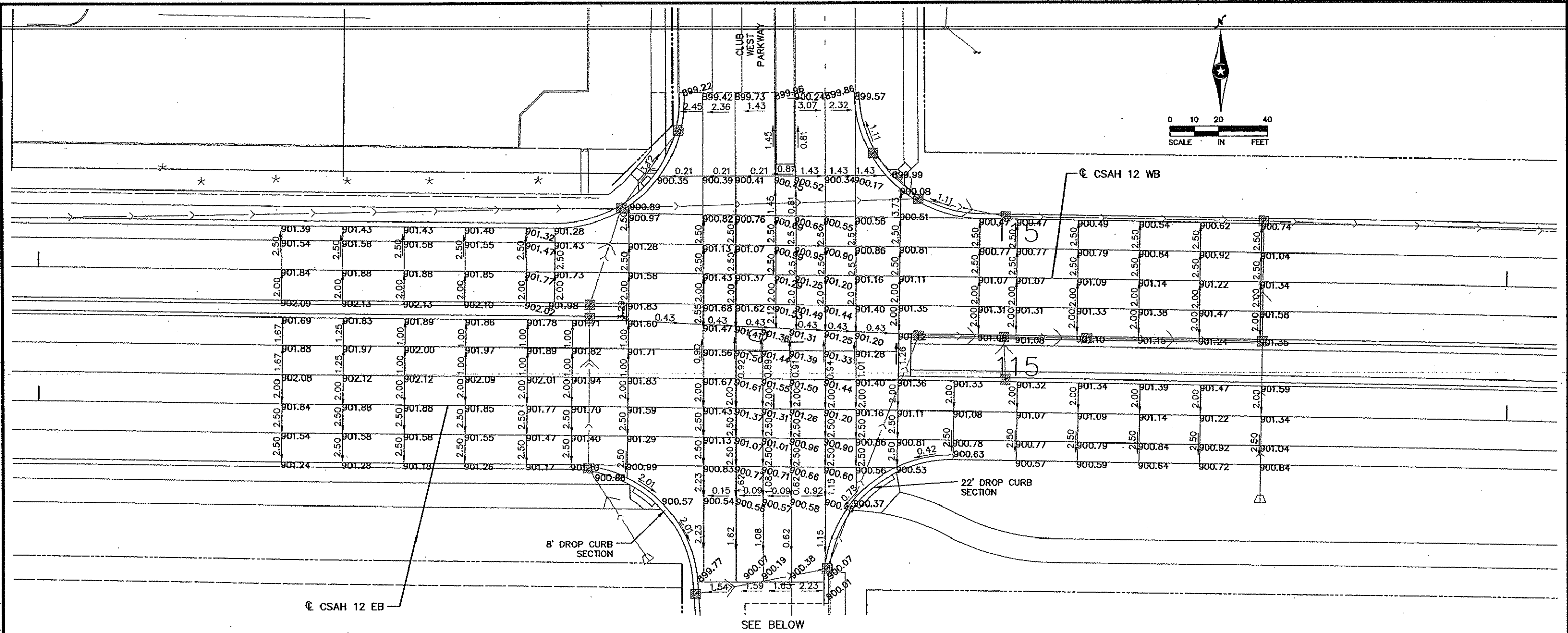


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
INTERSECTION DETAIL PLAN**
CSAH 12 & TH 65
CSAH 12 & BALTIMORE ST

S.P. 02-612-11	SHEET NO.
S.P.106-020-025	72
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 5:13pm DISK FILE NAME: (16.1) R:\31809781\PLAN-SHT\02.dwg



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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
JCD

DESIGN BY:
JCD

CHKD. BY:
SAW

DWG. NAME:
ID2

DATE:
AUGUST 18, 2005

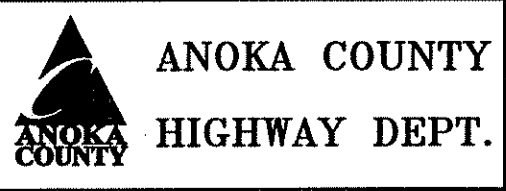


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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

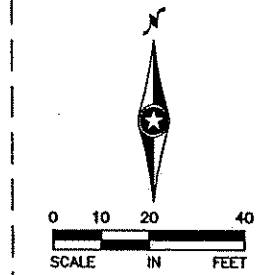
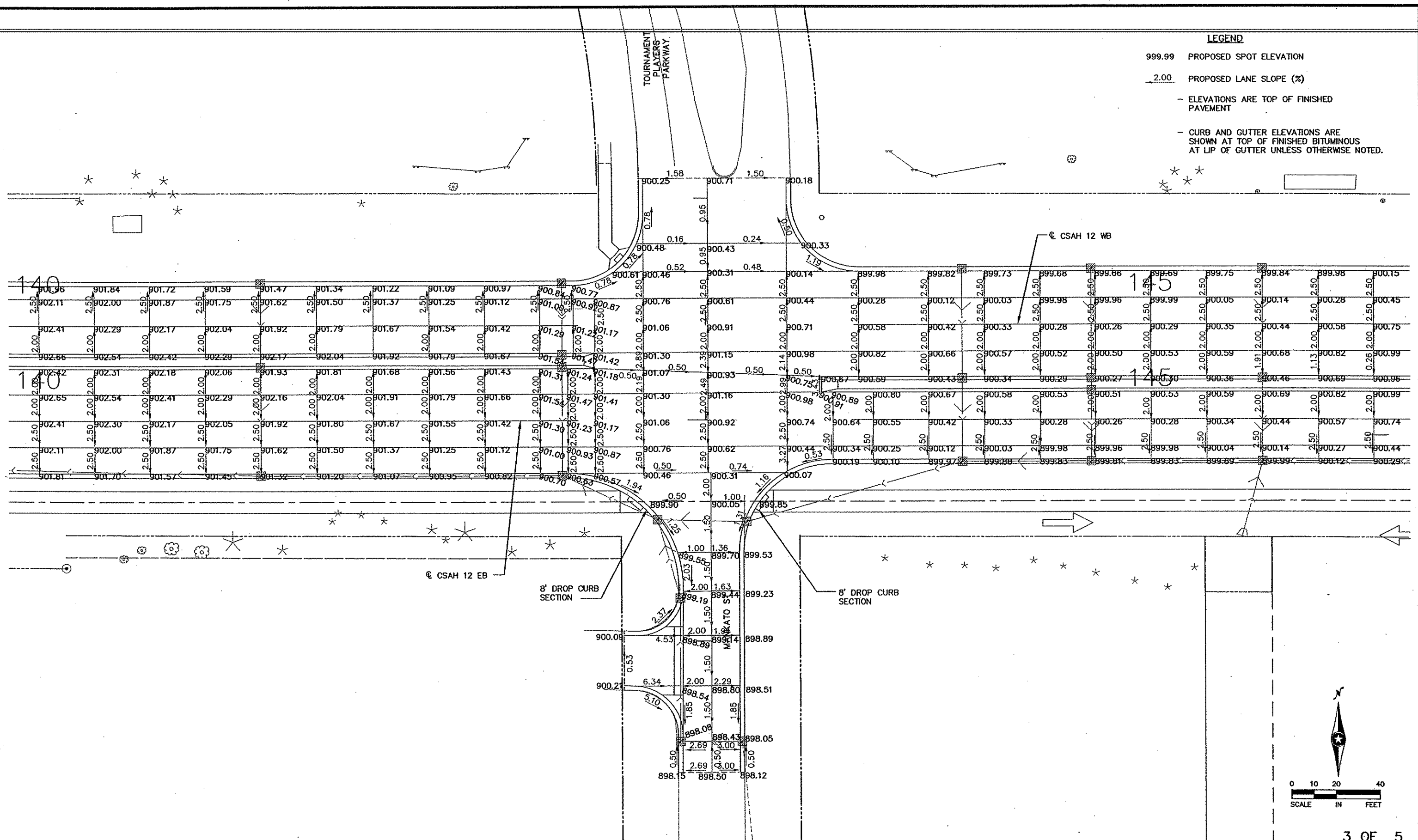


CSAH 12
RECONSTRUCTION
INTERSECTION DETAIL PLAN
DAVENPORT ST AND
CLUB WEST PARKWAY

S.P. 02-612-11	SHEET NO. 73
S.P. 106-020-025	
S.P.	211
S.P.	

LEGEND

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



3 OF 5

PLOT DATE: Aug 19, 2005 7:58am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ID3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWG. NAME: ID3

DATE:
AUGUST 18, 2005



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Steve Weser

STEVE WESER
DATE: 7/15/2005 MN LIC. NO. 40545



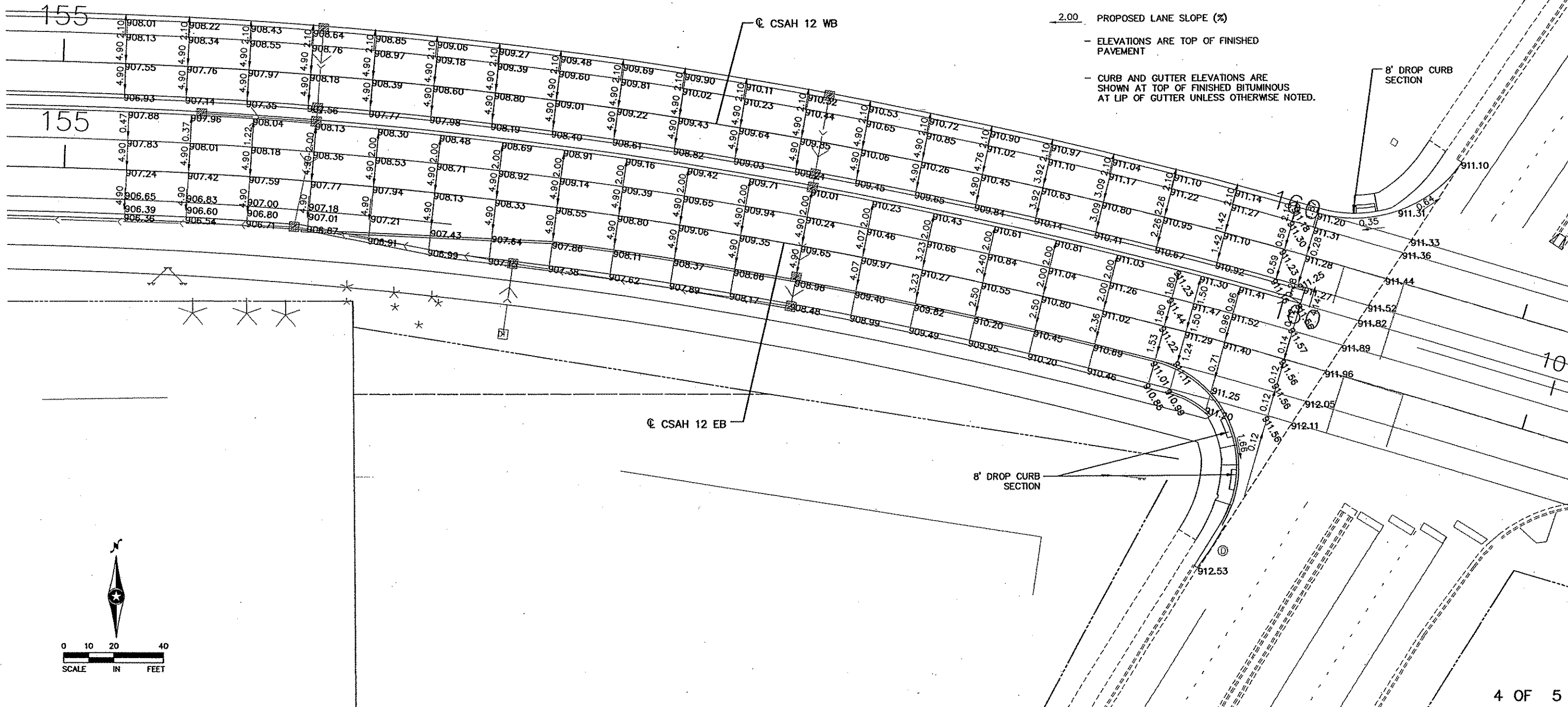
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
INTERSECTION DETAIL PLAN**

TOURNAMENT PLAYERS PARKWAY
AND MANKATO ST

S.P. 02-612-11	SHEET NO. 74
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 7:59am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ID4.dwg



LEGEND

999.99 PROPOSED SPOT ELEVATION

2.00 PROPOSED LANE SLOPE (%)

- ELEVATIONS ARE TOP OF FINISHED PAVEMENT

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

4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWG. NAME: ID4

DATE:
AUGUST 18, 2005



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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
INTERSECTION DETAIL PLAN**

CSAH 12
WEST APPROACH AT CSAH 52

S.P. 02-612-11

S.P. 106-020-025

S.P.

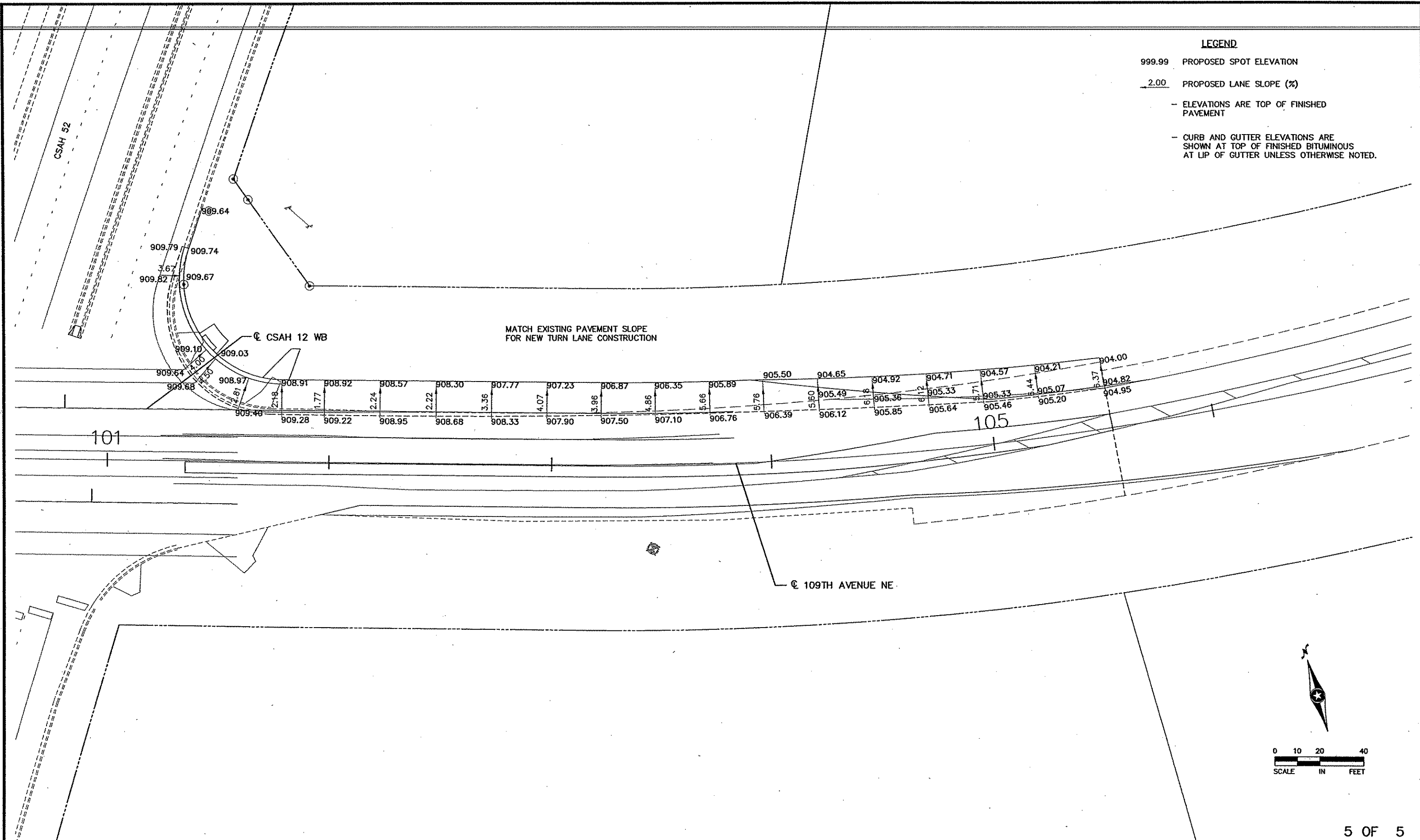
S.P.

SHEET NO.
75

211

LEGEND

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



PLOT DATE: Aug 19, 2005 8:00am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ID5.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCD	DESIGN BY: JCD
CHKD. BY: SAW	DWG. NAME: ID5
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



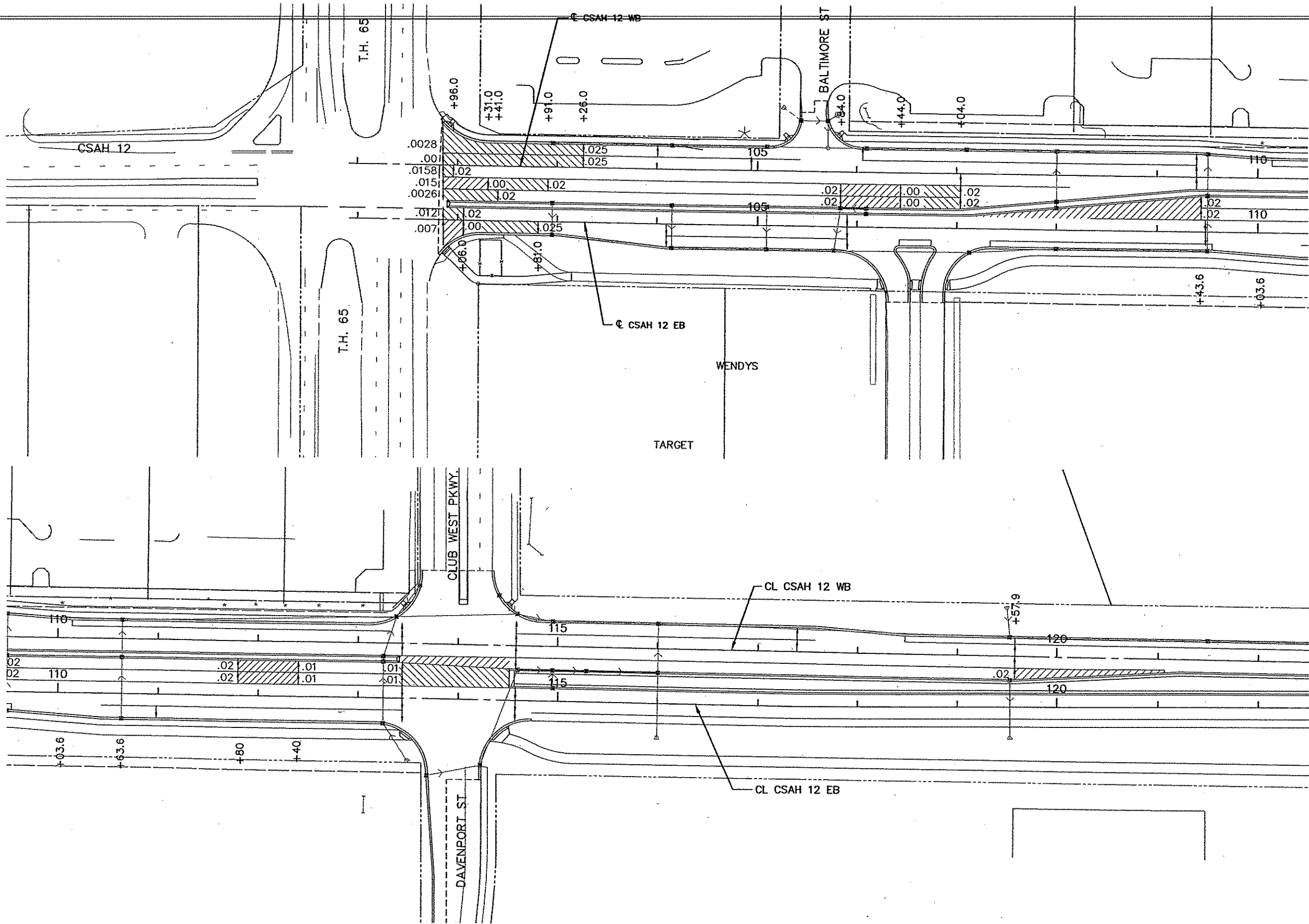
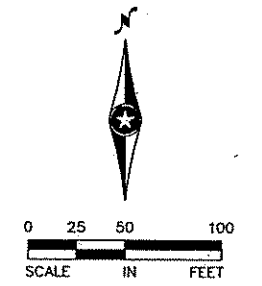
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
INTERSECTION DETAIL PLAN**
CSAH 12
EAST APPROACH AT CSAH 52

S.P. 02-612-11	SHEET NO. 76 211
S.P. 106-020-025	
S.P.	
S.P.	

- NOTES: 1. ALL CROSS SLOPES ARE IN FEET PER FEET.
2. STATIONING FOR EAST BOUND CSAH 12 BASED ON EAST BOUND ALIGNMENT.
- STATIONING FOR WEST BOUND CSAH 12 IS BASED ON WEST BOUND ALIGNMENT.
3. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

LEGEND:
 SUPERELEVATION TRANSITION



PLOT DATE: Aug 19, 2005 8:02am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SET1.dwg

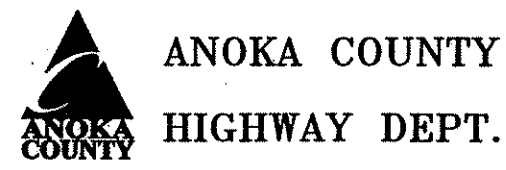
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: CTN
DRAWN BY: LGJ	DWG. NAME: SE1
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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 DATE: 8/18/2005 MN LIC. NO. 40545



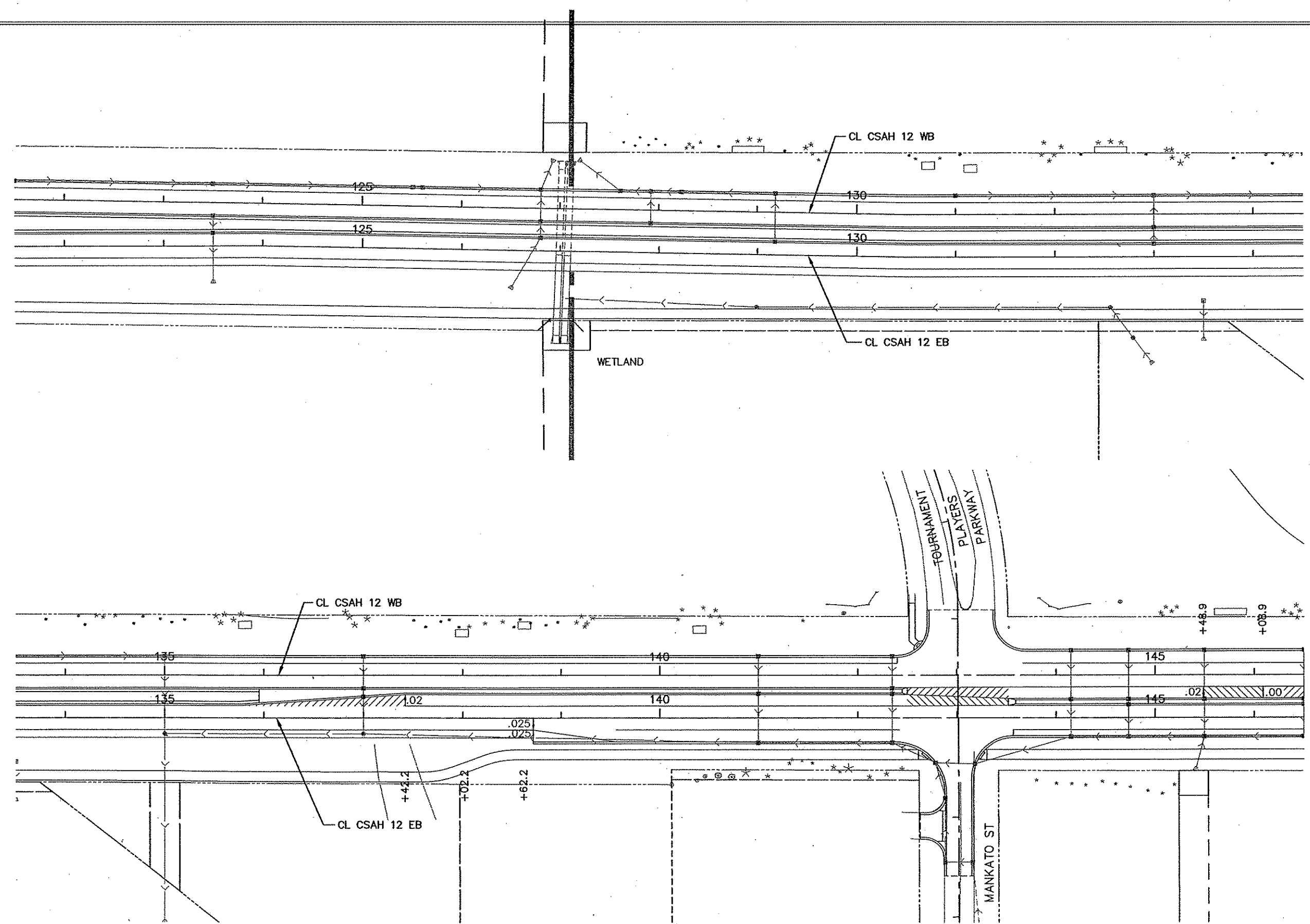
CSAH 12
 RECONSTRUCTION
 SUPERELEVATION PLANS

STA. 100+49 TO STA. 122+00

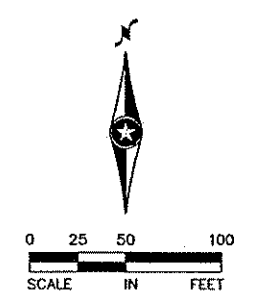
S.P. 02-612-11	SHEET NO. 77
S.P. 106-020-025	
S.P.	211
S.P.	

- NOTES:
1. ALL CROSS SLOPES ARE IN FEET PER FEET.
 2. STATIONING FOR EAST BOUND CSAH 12 BASED ON EAST BOUND ALIGNMENT.

STATIONING FOR WEST BOUND CSAH 12 IS BASED ON WEST BOUND ALIGNMENT.
 3. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.



LEGEND:
 SUPERELEVATION TRANSITION



2 OF 3

PLOT DATE: Aug 22, 2005 9:59am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT_SE2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: SE2
DATE: AUGUST 18, 2005	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

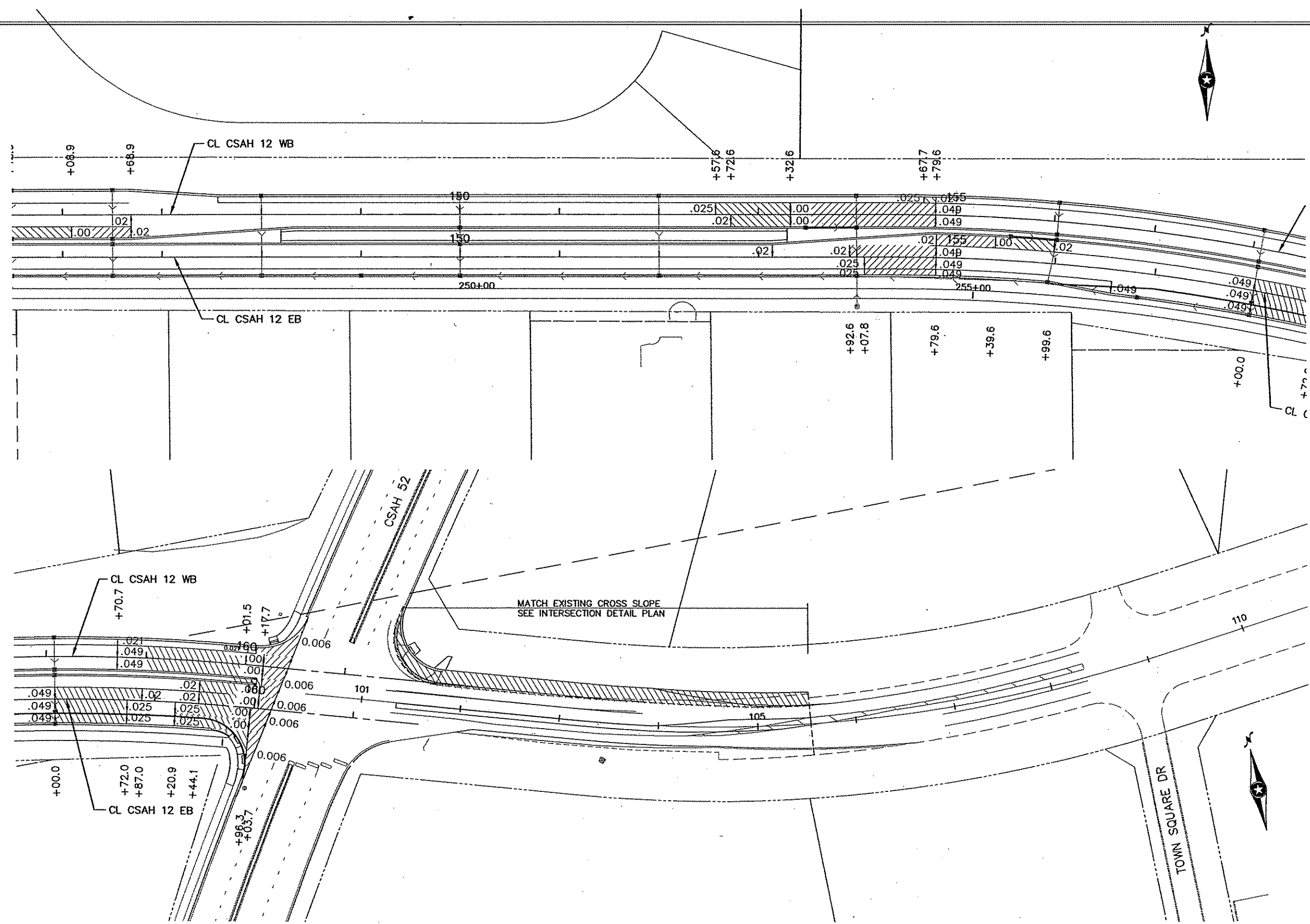


ANOKA COUNTY
HIGHWAY DEPT.

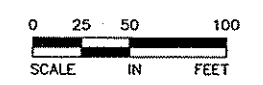
CSAH 12
RECONSTRUCTION
SUPERELEVATION PLANS
STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO. 78
S.P. 106-020-025	
S.P.	211
S.P.	

- NOTES: 1. ALL CROSS SLOPES ARE IN FEET PER FEET.
2. STATIONING FOR EAST BOUND CSAH 12 BASED ON EAST BOUND ALIGNMENT.
- STATIONING FOR WEST BOUND CSAH 12 IS BASED ON WEST BOUND ALIGNMENT.
3. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.



LEGEND:
 SUPERELEVATION TRANSITION



PLOT DATE: Aug 19, 2005 8:04am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SE3.dwg

3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ DESIGN BY: CTN

CHECKED BY: SAW DWG. NAME: SE3

DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



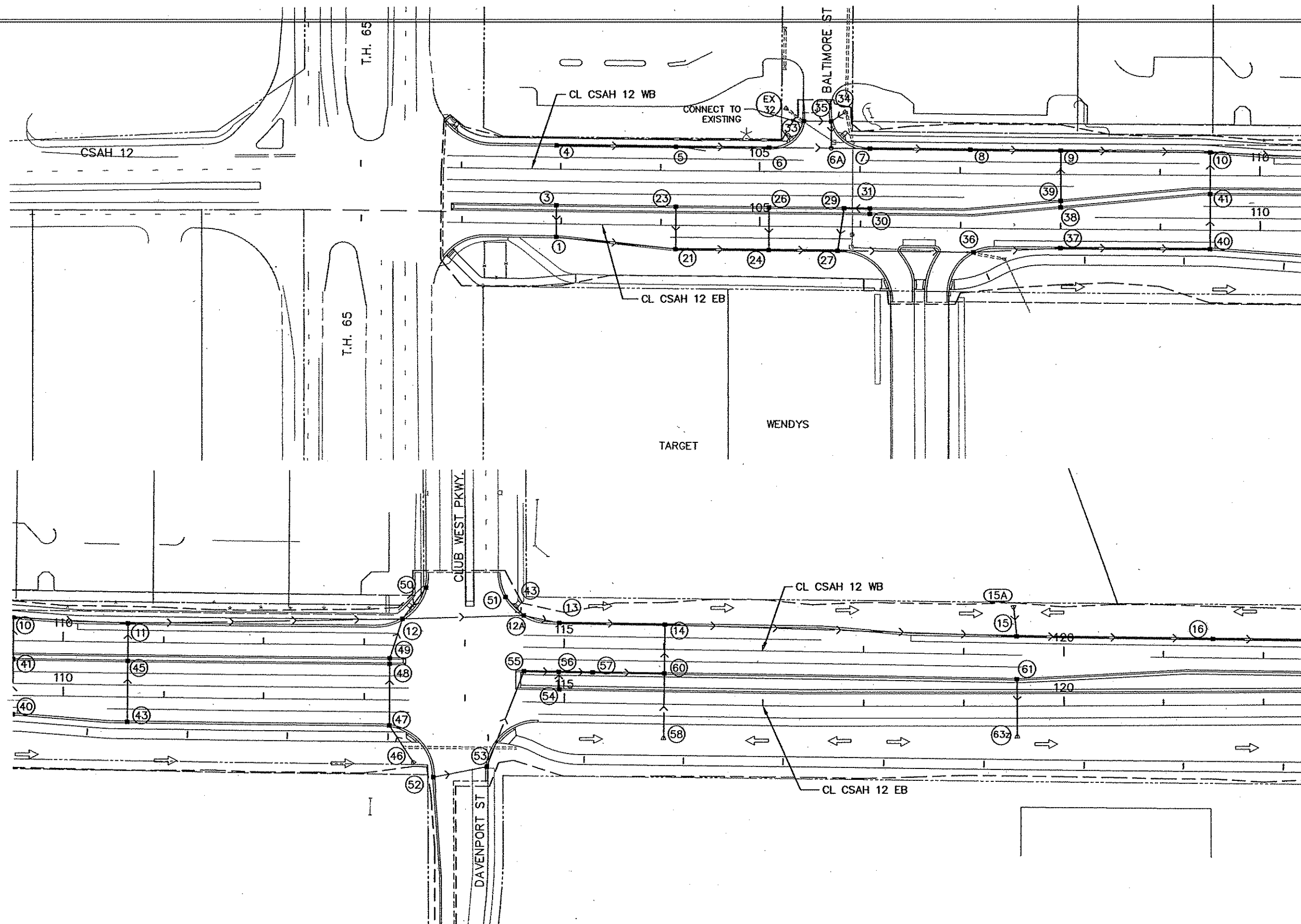
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
SUPERELEVATION PLANS
STA. 146+00 TO STA. 160+17

S.P.	02-612-11
S.P.	106-020-025
S.P.	
S.P.	

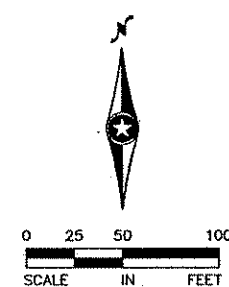
SHEET NO.
79
211

PLOT DATE: Aug 19, 2005 5:17pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST1.dwg



LEGEND

→ DRAINAGE DITCH FLOW DIRECTION



1 OF 8

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: JLB, BJK
DRAWN BY: LGJ	DWG. NAME: ST1
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

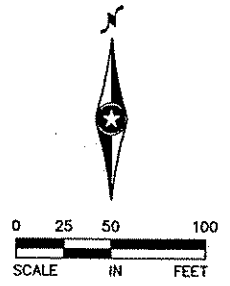
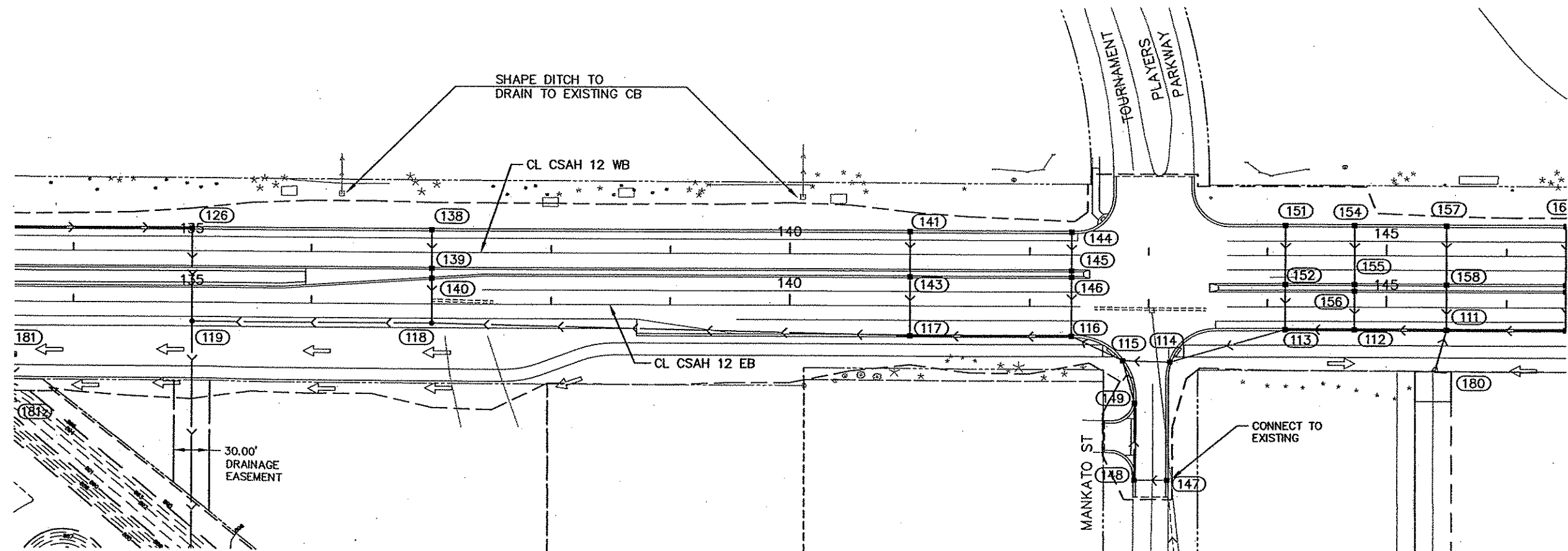
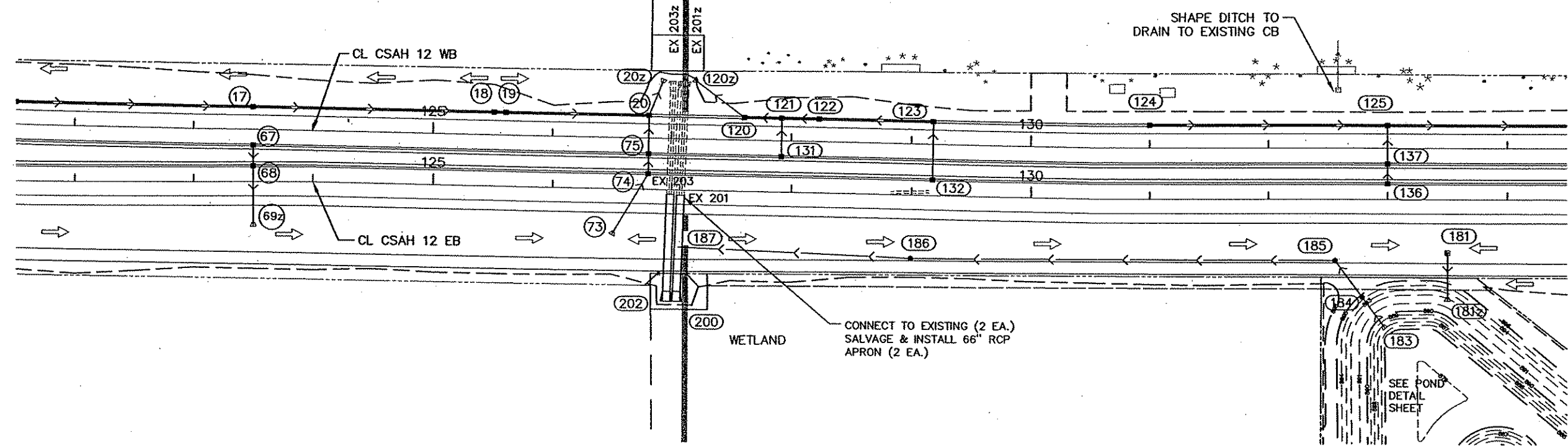
CSAH 12
RECONSTRUCTION
DRAINAGE PLAN

STA. 100+49 TO STA. 122+00

S.P.	02-612-11	SHEET NO. 80
S.P.	106-020-025	
S.P.		211
S.P.		

LEGEND

→ DRAINAGE DITCH FLOW DIRECTION



PLOT DATE: Aug 22, 2005 10:04am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: JLB, BJK
CHKD. BY: SAW	DWS. NAME: ST2
DATE: AUGUST 18, 2005	

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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

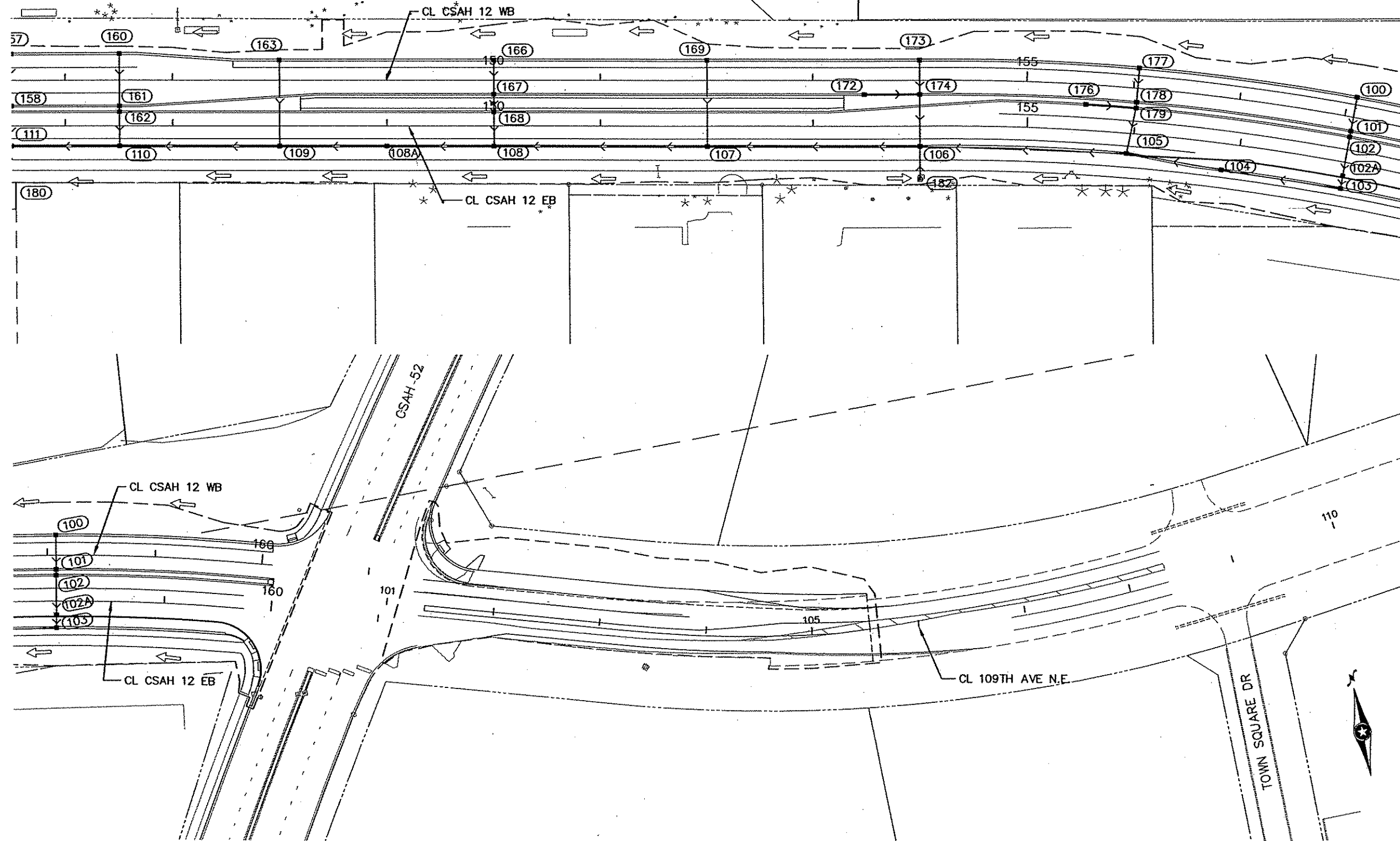
CSAH 12
RECONSTRUCTION
DRAINAGE PLAN

STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO.
S.P.106-020-025	81
S.P.	211
S.P.	

LEGEND

→ DRAINAGE DITCH FLOW DIRECTION



PLOT DATE: Aug 19, 2005 8:12am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST3.dwg

3 OF 8

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: JLB, BJK
CHKD. BY: SAW	DWG. NAME: ST3
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

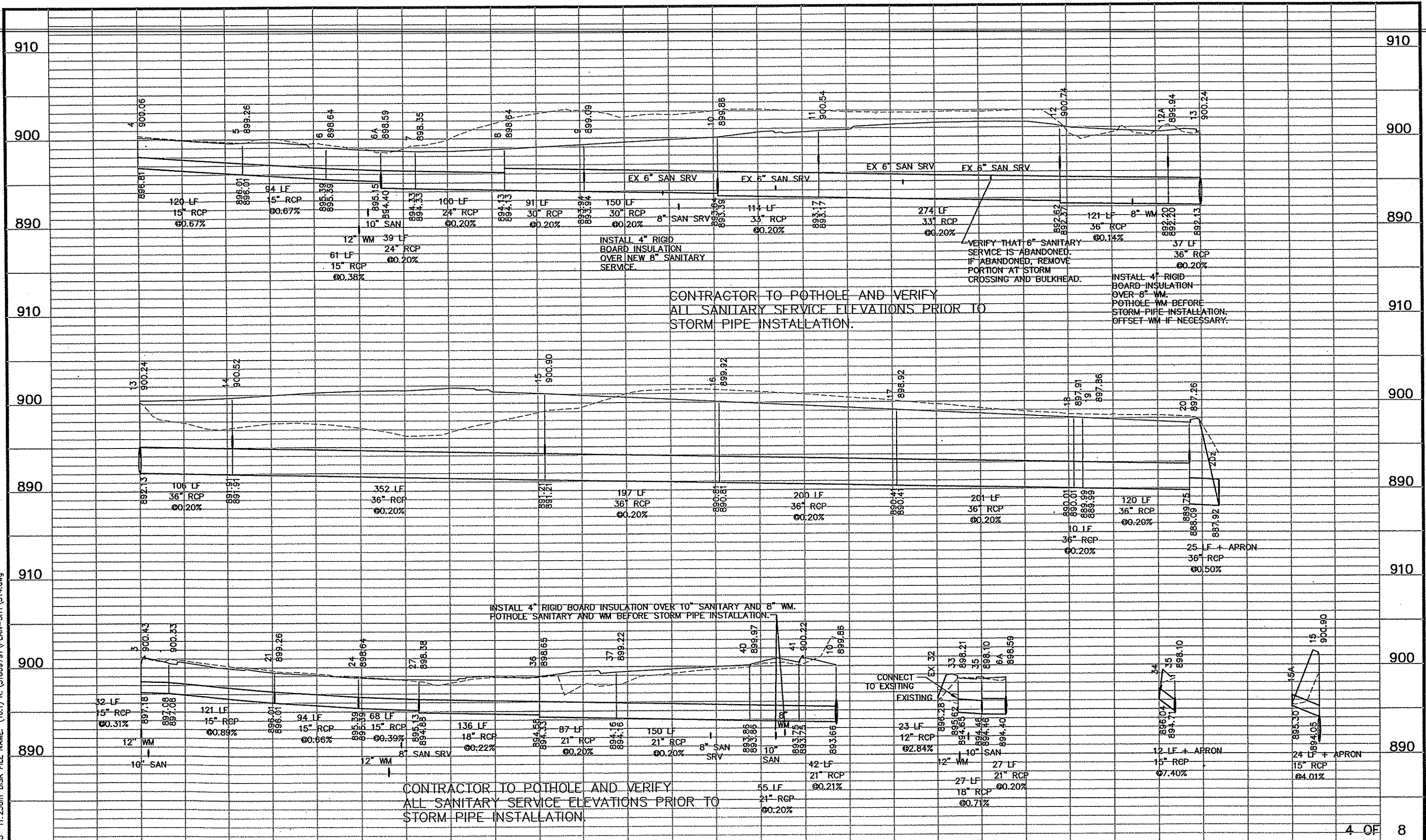


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
DRAINAGE PLAN
STA. 146+00 TO STA. 158+00

S.P. 02-612-11	SHEET NO. 82
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 11:23am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST4.dwg



CONTRACTOR TO POTHOLE AND VERIFY ALL SANITARY SERVICE ELEVATIONS PRIOR TO STORM PIPE INSTALLATION.

CONTRACTOR TO POTHOLE AND VERIFY ALL SANITARY SERVICE ELEVATIONS PRIOR TO STORM PIPE INSTALLATION.

INSTALL 4\"/>

VERIFY THAT 6\"/>

INSTALL 4\"/>

CONNECT TO EXISTING EXISTING

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: LGJ
 DESIGN BY: JLB, BJK
 CHECKED BY: SAW
 DATE: AUGUST 18, 2005



Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1376 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



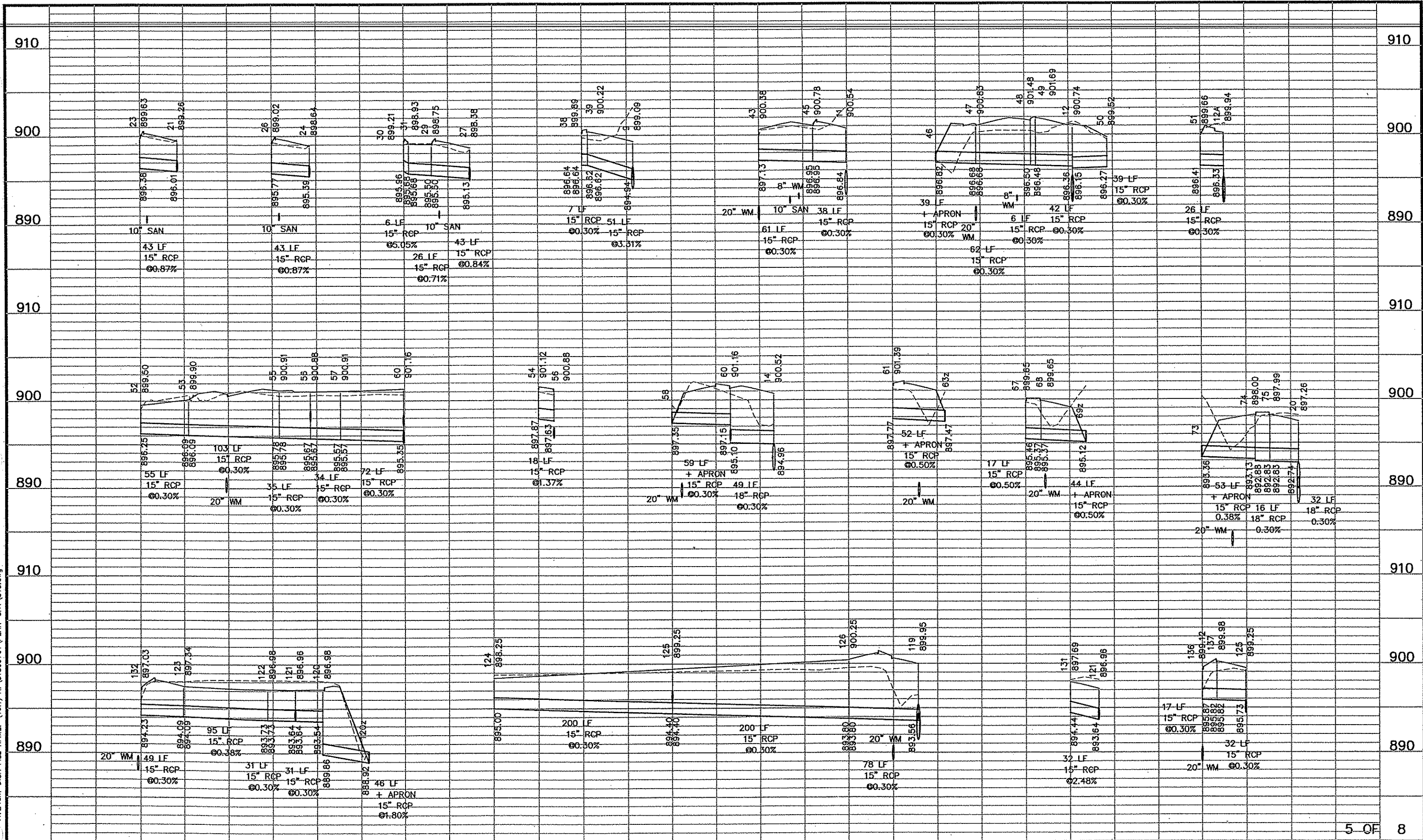
ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 DRAINAGE PROFILES

S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

SHEET NO.
 83
 211

PLOT DATE: Aug 22, 2005 11:24am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST5.dwg



5 OF 8

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: JLB, BJK
DRAWN BY: LGJ	DWG. NAME: ST5
CHKD. BY: SAW	DATE: AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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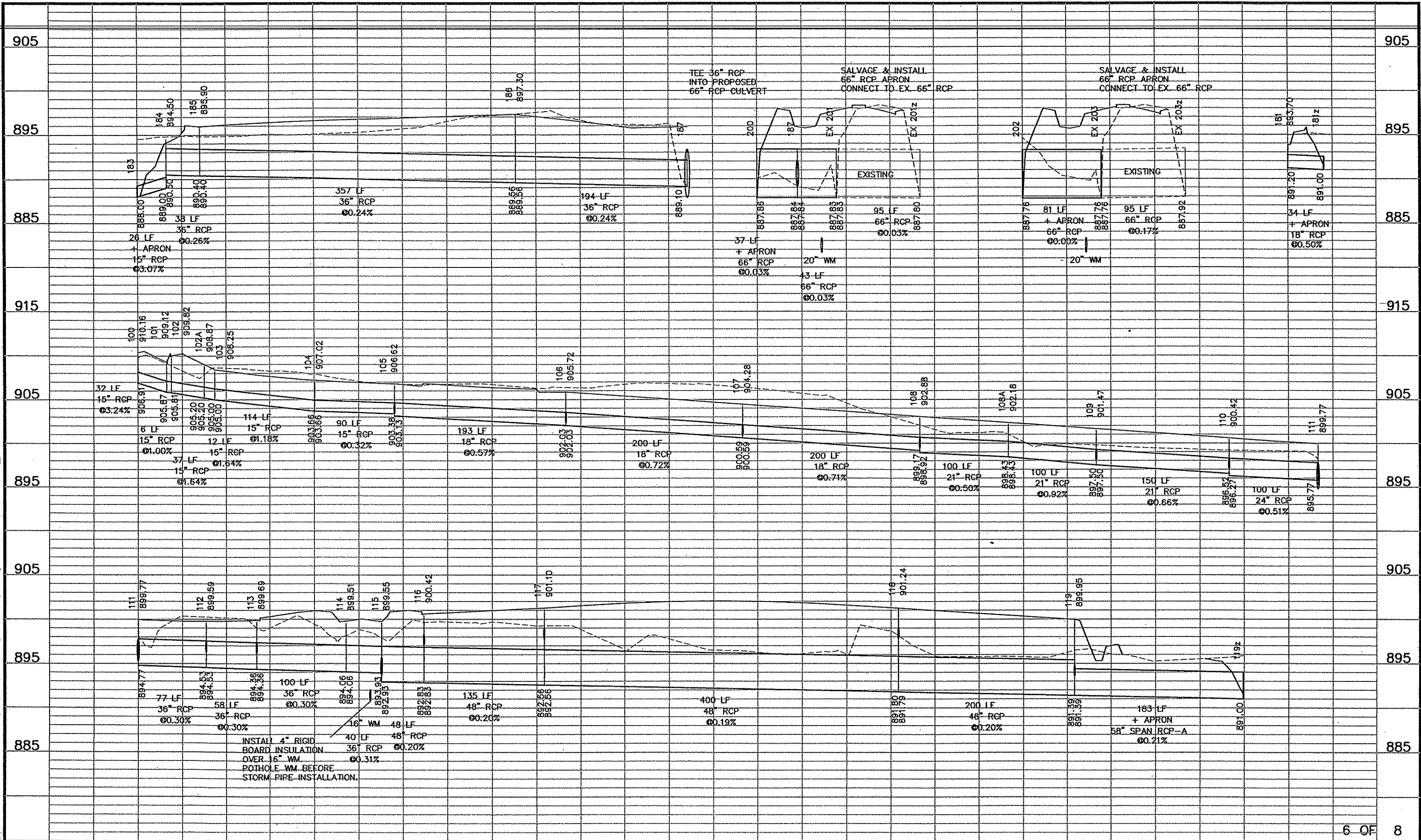
Steve Meser
STEVE MESER
DATE: 8/18/2005 MN LIC. NO. 40545

**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
DRAINAGE PROFILES**

S.P. 02-612-11	SHEET NO. 84
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 8:15am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST6.dwg



6 OF 8

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

CHKD. BY:
SAW

DATE:
AUGUST 18, 2005

DESIGN BY:
JLB, BJK

OWG. NAME:
STG



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700 Third Street South
Minneapolis, MN 55415
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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
DRAINAGE PROFILES

S.P. 02-612-11

S.P. 106-020-025

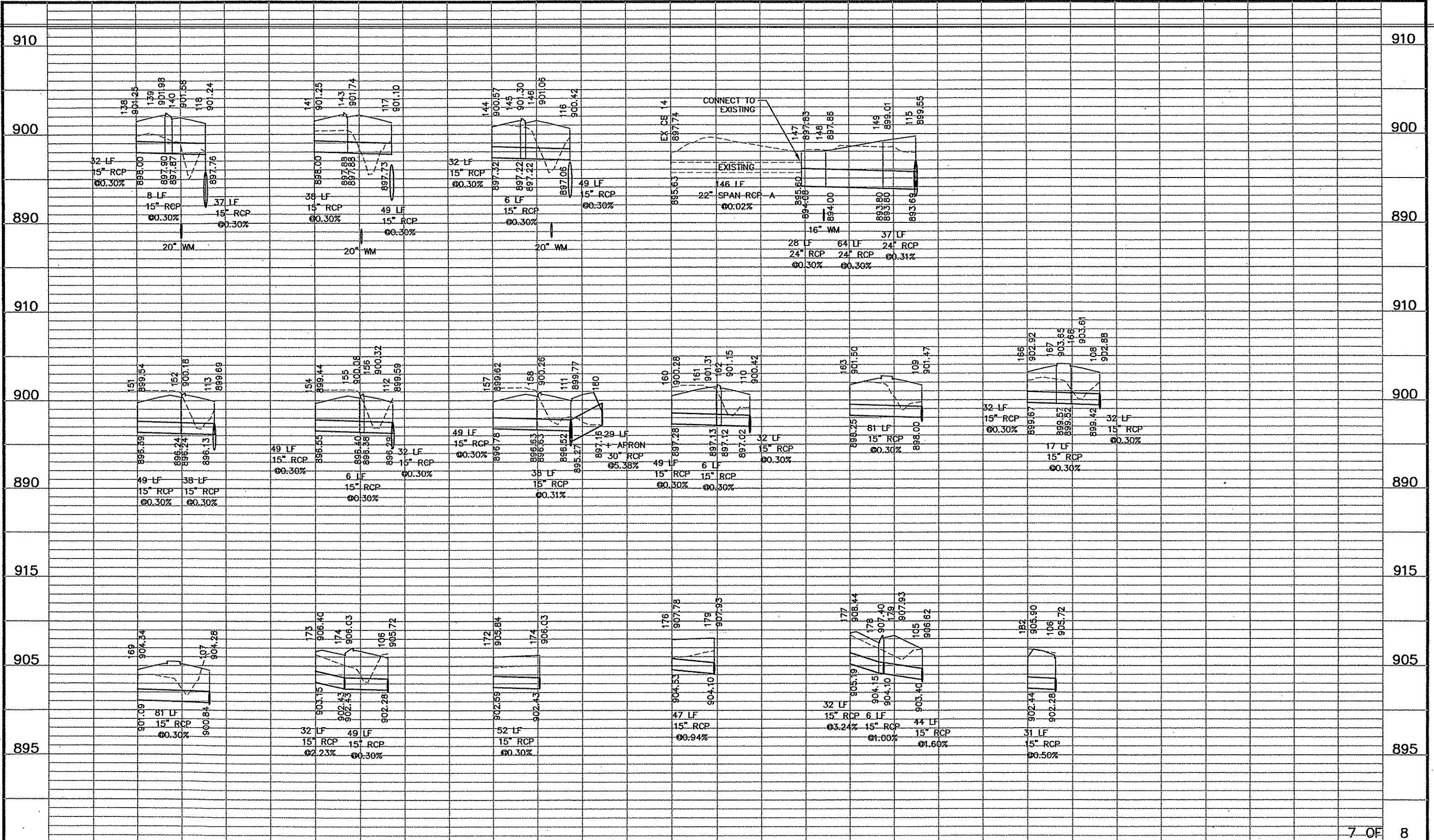
S.P.

S.P.

SHEET NO.
85

211


PLOT DATE: Aug 22, 11:24am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\ST7.dwg



7 OF 8

REV. NO.	BY	DATE	REVISIONS DESCRIPTION


DESIGN FILE: 31809-791	DRAWN BY: LGJ	DESIGN BY: JLB, BJK
CHKD. BY: SAW	DWG. NAME: ST7	DATE: AUGUST 18, 2005



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612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

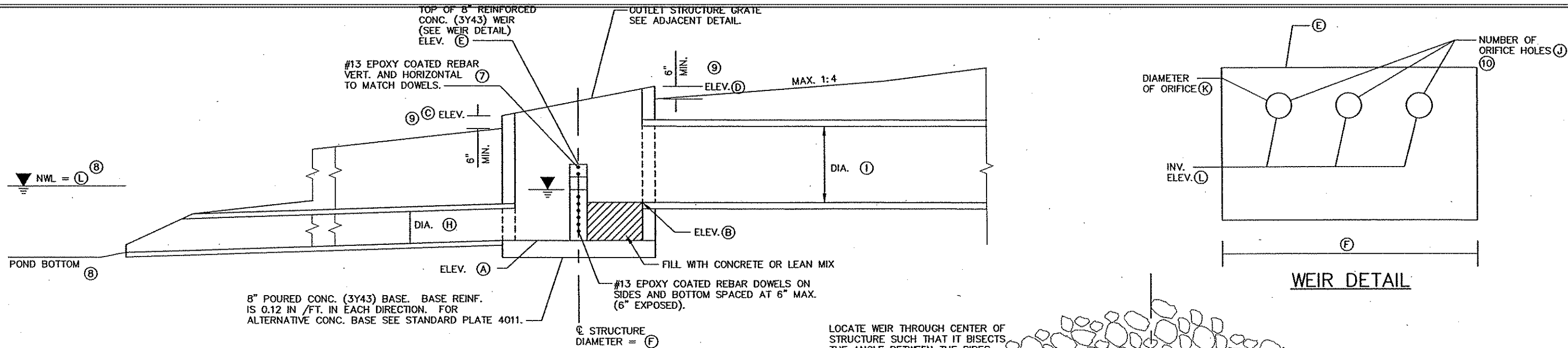


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
DRAINAGE PROFILES**

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	86
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 8:16am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\STB.dwg



8" POURED CONC. (3Y43) BASE. BASE REINF. IS 0.12 IN /FT. IN EACH DIRECTION. FOR ALTERNATIVE CONC. BASE SEE STANDARD PLATE 4011.

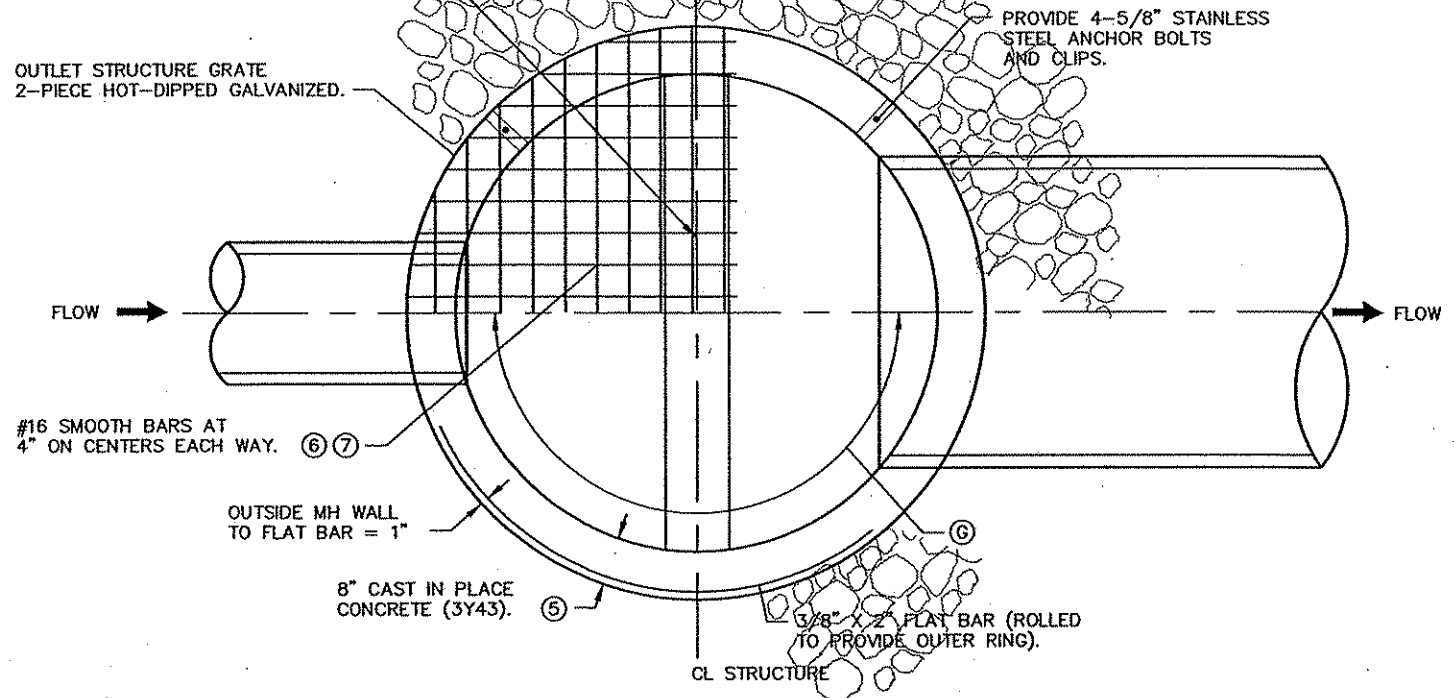
CL STRUCTURE DIAMETER = F

LOCATE WEIR THROUGH CENTER OF STRUCTURE SUCH THAT IT BISECTS THE ANGLE BETWEEN THE PIPES.

WEIR DETAIL

NOTES:

- ⑤ WALL CONSTRUCTION MAY BE CLASS II PRECAST RC PIPE. SEE STANDARD PLATE 3000.
- ⑥ PROVIDE FULL PENETRATION TACK WELD EVERY OTHER BAR - MINIMUM.
- ⑦ ALL REBAR SIZES ARE METRIC UNLESS OTHERWISE NOTED.
- ⑧ ELEVATIONS ARE SHOWN ON CONTOUR PLANS AND DRAINAGE PLANS.
- ⑨ ELEVATION (C) OCCURS INLINE WITH THE CENTERLINE OF PIPE (H). ELEVATION (D) OCCURS DIRECTLY ACROSS STRUCTURE FROM (C).
- ⑩ ORIFICE HOLES SHALL BE SPACED EVENLY ACROSS WEIR WALL WITH A MINIMUM OF 6 INCHES BETWEEN EACH HOLE AND EDGE OF WALL.



OUTLET STRUCTURE GRATE AND RIPRAP DETAIL

STRUCTURE	DESIGN SPECIFICATION	ELEV. (A)	ELEV. (B)	ELEV. (C)	ELEV. (D)	ELEV. (E)	DIA. (F) (IN)	ANGLE (G) (DEG)	DIA. (H) (IN)	DIA. (I) (IN)	POND	# OF HOLES (J)	DIA. (K) (IN)	ELEV. (L)
184		889.00	890.50	894.00	895.00	892.00	60	180	15	36	CSAH 12	3	6	891.00

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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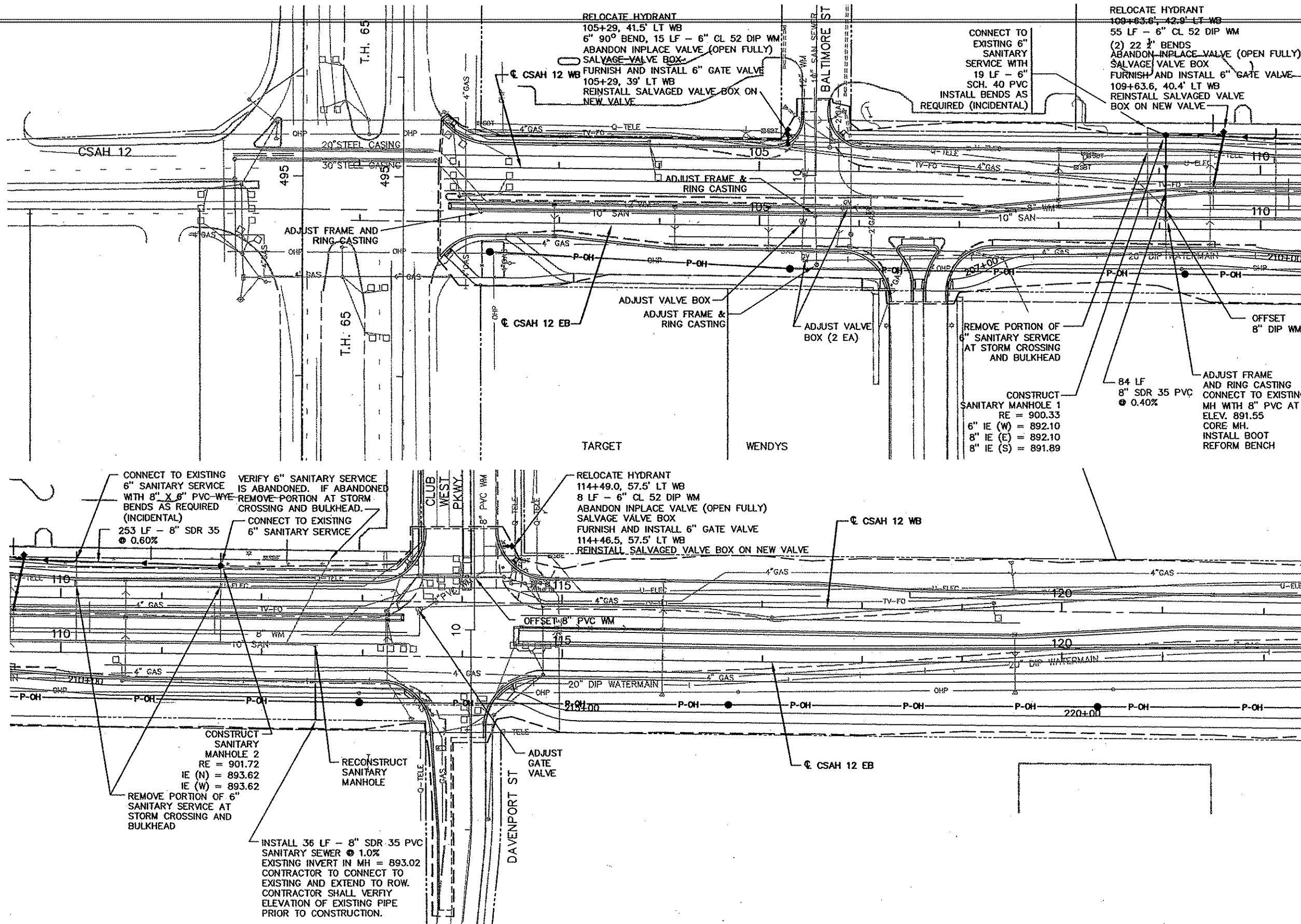
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

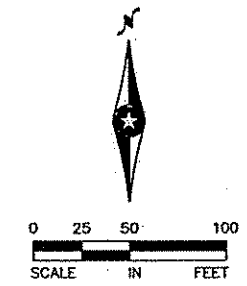
CSAH 12
RECONSTRUCTION
DRAINAGE PROFILES
STORM POND OUTLET STRUCTURE DETAIL

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	87
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 4:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PU1.dwg



LEGEND
 ● PROPOSED GREAT RIVER ENERGY POWER POLE (By Others)



1 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LCJ
DESIGN BY: BJK

CHKD. BY: SAW
DWG. NAME: UT1

DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55410
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



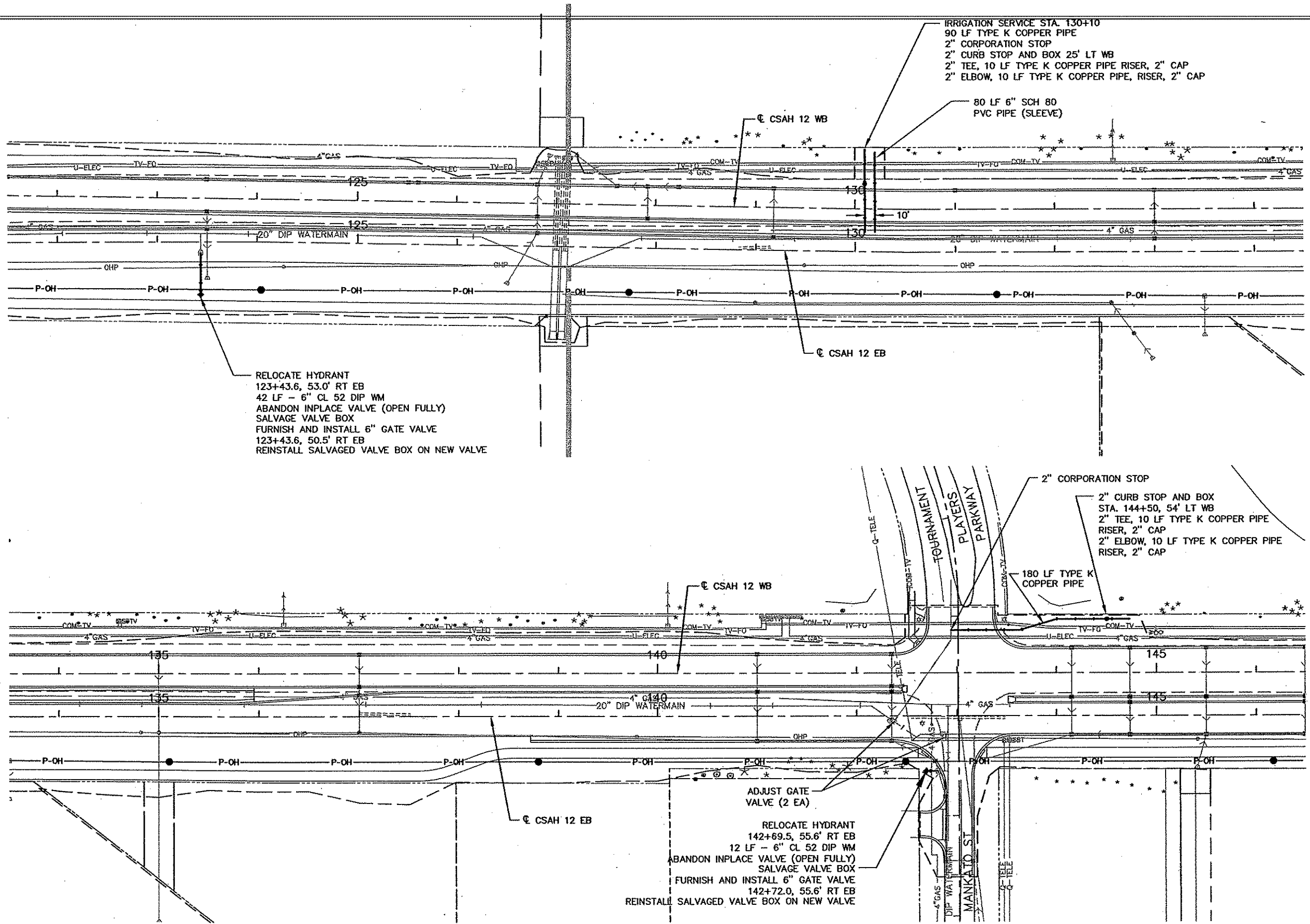
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
UTILITY PLAN**

STA. 100+49 TO STA. 122+00

S.P. 02-612-11	SHEET NO. 92
S.P. 106-020-025	
S.P.	211
S.P.	

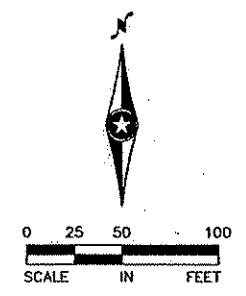
● PROPOSED GREAT RIVER ENERGY POWER POLE (By Others)



RELOCATE HYDRANT
123+43.6, 53.0' RT EB
42 LF - 6" CL 52 DIP WM
ABANDON INPLACE VALVE (OPEN FULLY)
SALVAGE VALVE BOX
FURNISH AND INSTALL 6" GATE VALVE
123+43.6, 50.5' RT EB
REINSTALL SALVAGED VALVE BOX ON NEW VALVE

ADJUST GATE VALVE (2 EA)
RELOCATE HYDRANT
142+69.5, 55.6' RT EB
12 LF - 6" CL 52 DIP WM
ABANDON INPLACE VALVE (OPEN FULLY)
SALVAGE VALVE BOX
FURNISH AND INSTALL 6" GATE VALVE
142+72.0, 55.6' RT EB
REINSTALL SALVAGED VALVE BOX ON NEW VALVE

2" CORPORATION STOP
2" CURB STOP AND BOX
STA. 144+50, 54' LT WB
2" TEE, 10 LF TYPE K COPPER PIPE
RISER, 2" CAP
2" ELBOW, 10 LF TYPE K COPPER PIPE
RISER, 2" CAP
180 LF TYPE K COPPER PIPE



PLOT DATE: Aug 22, 10:07am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PU2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: UT2
DATE: AUGUST 18, 2005	



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DATE: 8/18/2005 MN LIC. NO. 40545



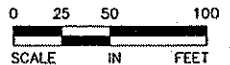
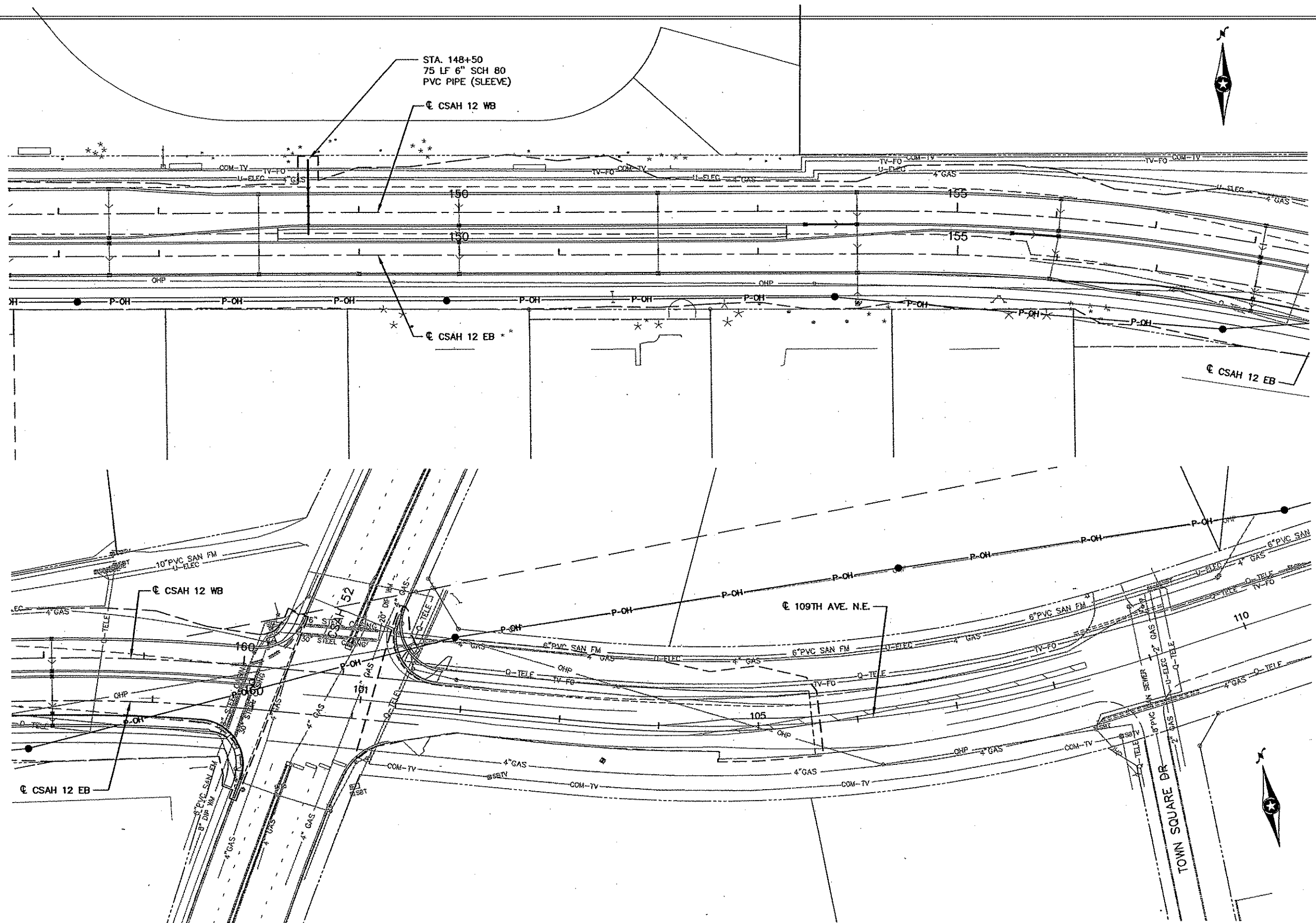
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
UTILITY PLAN
STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO. 93
S.P. 106-020-025	
S.P.	211
S.P.	

LEGEND

● PROPOSED GREAT RIVER ENERGY POWER POLE (By Others)



PLOT DATE: Aug 19, 2005 8:08am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\PU3.dwg

3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
SAW

CHKD. BY:
SAW

DWG. NAME:
UT3

DATE:
AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

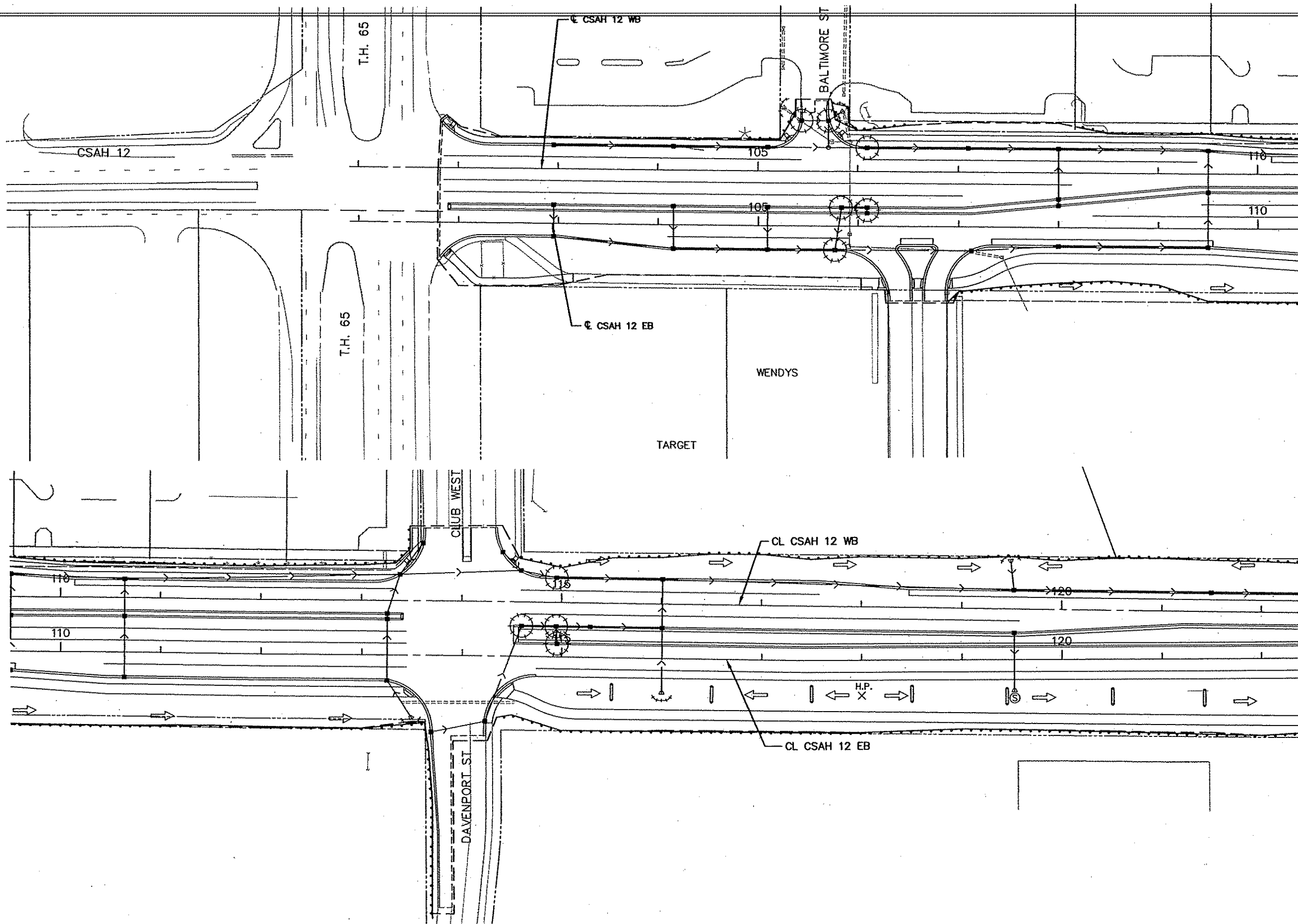
CSAH 12
RECONSTRUCTION
UTILITY PLAN

STA. 146+00 TO STA. 158+00

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
94
211

PLOT DATE: Aug 18, 2005 7:14pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\EC1.dwg



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▶ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- == INPLACE CULVERT
- SILT FENCE
- ⊗ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- ▬ BIOROLL
- ⇨ SURFACE FLOW ARROW
- ⊗ INLET PROTECTION
- - - 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 1/3 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 MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCD DESIGN BY: JCD

CHKD. BY: SAW DWG. NAME: EC1

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
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612.370.0376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
EROSION CONTROL PLAN

STA. 100+49 TO STA. 122+00

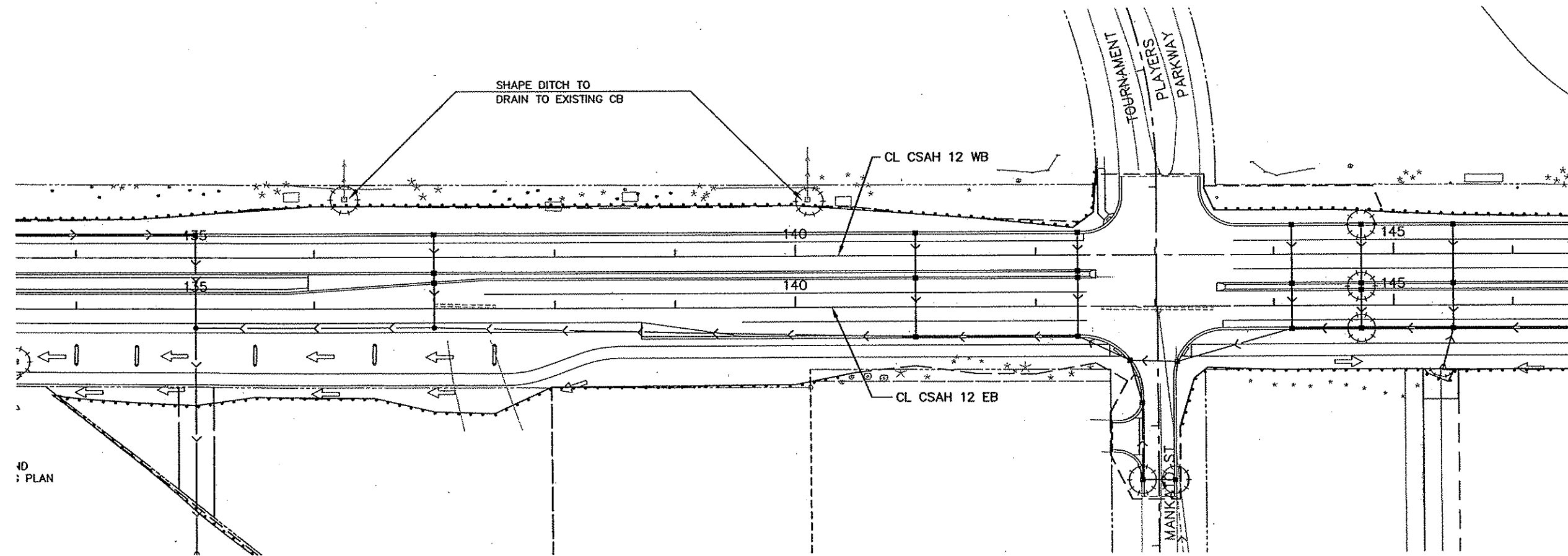
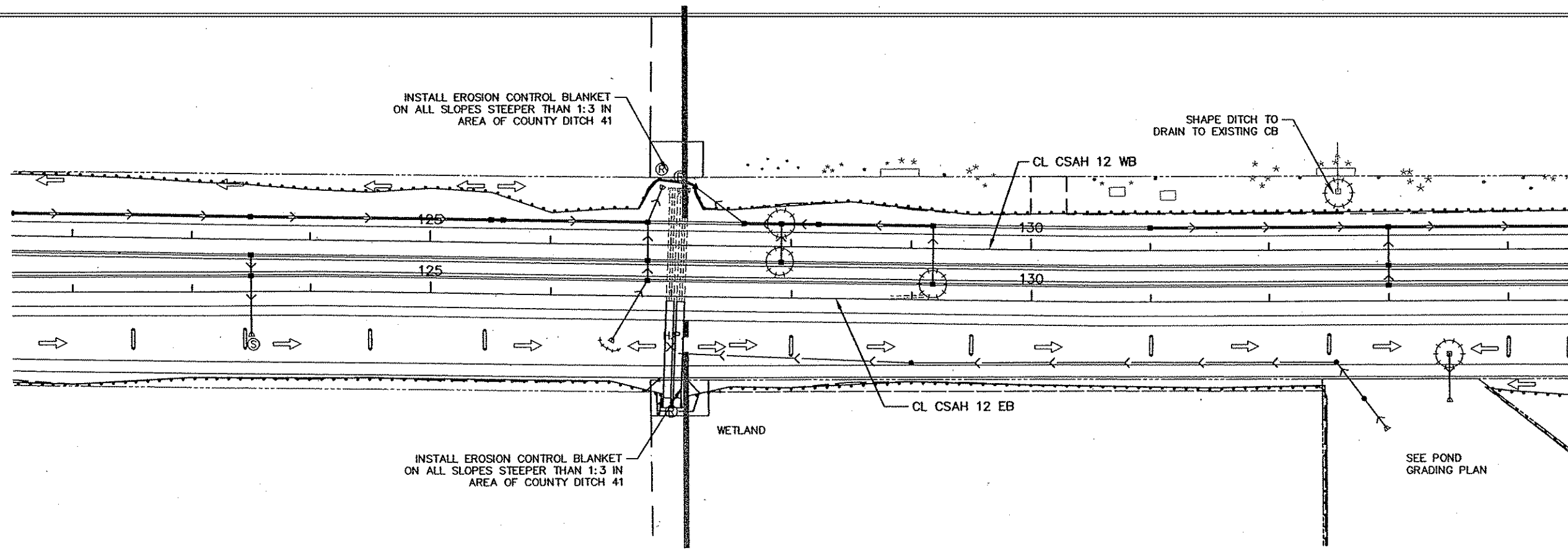
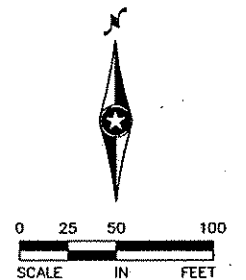
S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	95
S.P.	
S.P.	211

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▶ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- > INPLACE STORM SEWER
- INPLACE CULVERT
- SILT FENCE
- ⊗ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- BIOROLL
- SURFACE FLOW ARROW
- INLET PROTECTION
- 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 $\frac{1}{3}$ 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 MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.



PLOT DATE: Aug 18, 2005 7:15pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\EC2.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCD	DESIGN BY: JCD
CHKED. BY: SAW	DWG. NAME: EC2
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

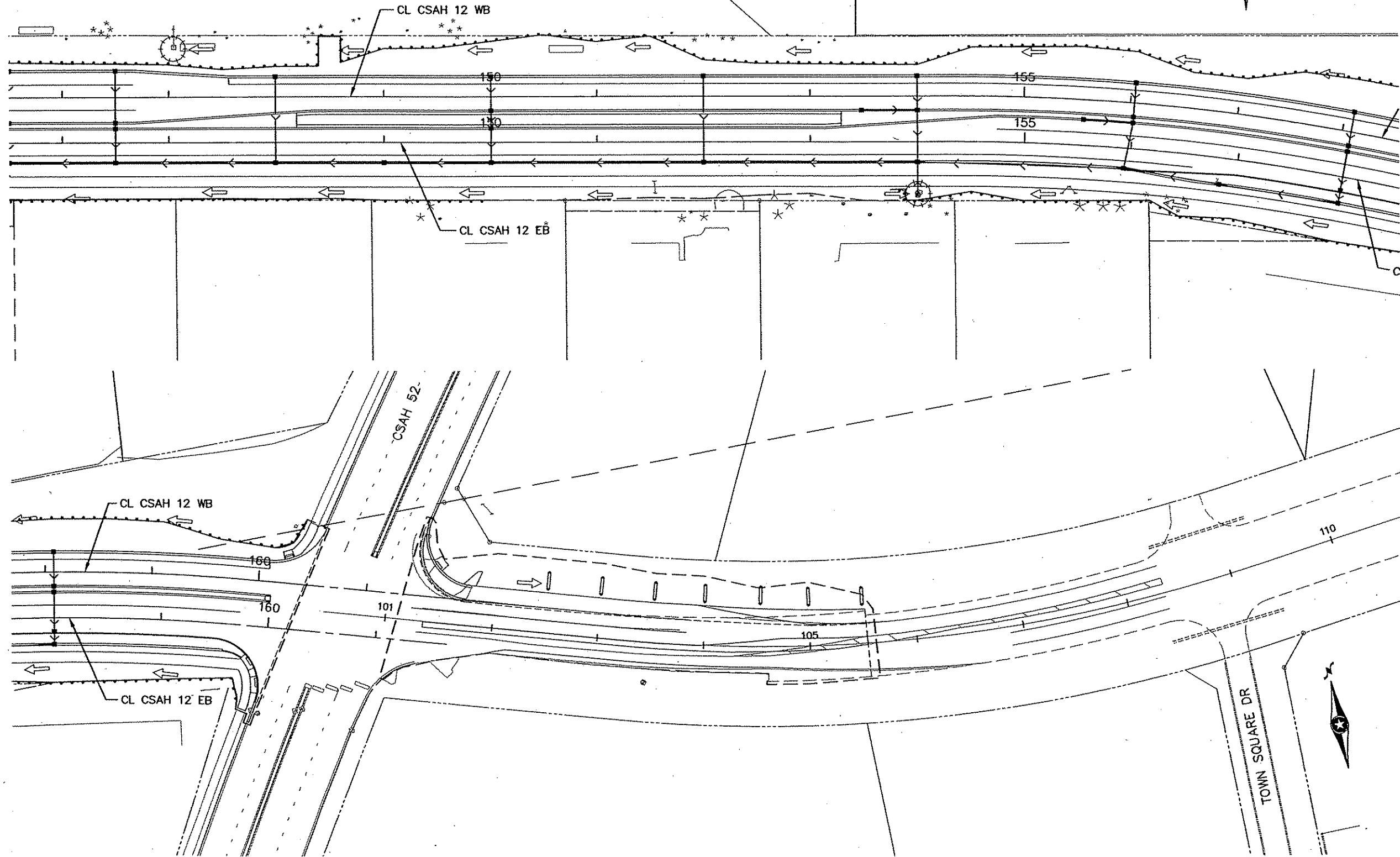
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
EROSION CONTROL PLAN

STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	96
S.P.	
S.P.	211

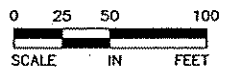
PLOT DATE: Aug 18, 2005 7:19pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\EC3.dwg



- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- ▶ PROPOSED APRON
- ▷ INPLACE APRON
- PROPOSED STORM SEWER
- > INPLACE STORM SEWER
- INPLACE CULVERT
- SILT FENCE
- ⊗ RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- ⊙ SOD APRON INLET OR OUTLET
- ▭ BIOROLL
- SURFACE FLOW ARROW
- INLET PROTECTION
- 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 1/3 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 MNDOT RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.



3 OF 3

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCD	DESIGN BY: JCD
CHKD. BY: SAW	DWG. NAME: EC3
DATE: AUGUST 18, 2005	



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Minneapolis, MN 55415
612.370.0700 Tel
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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



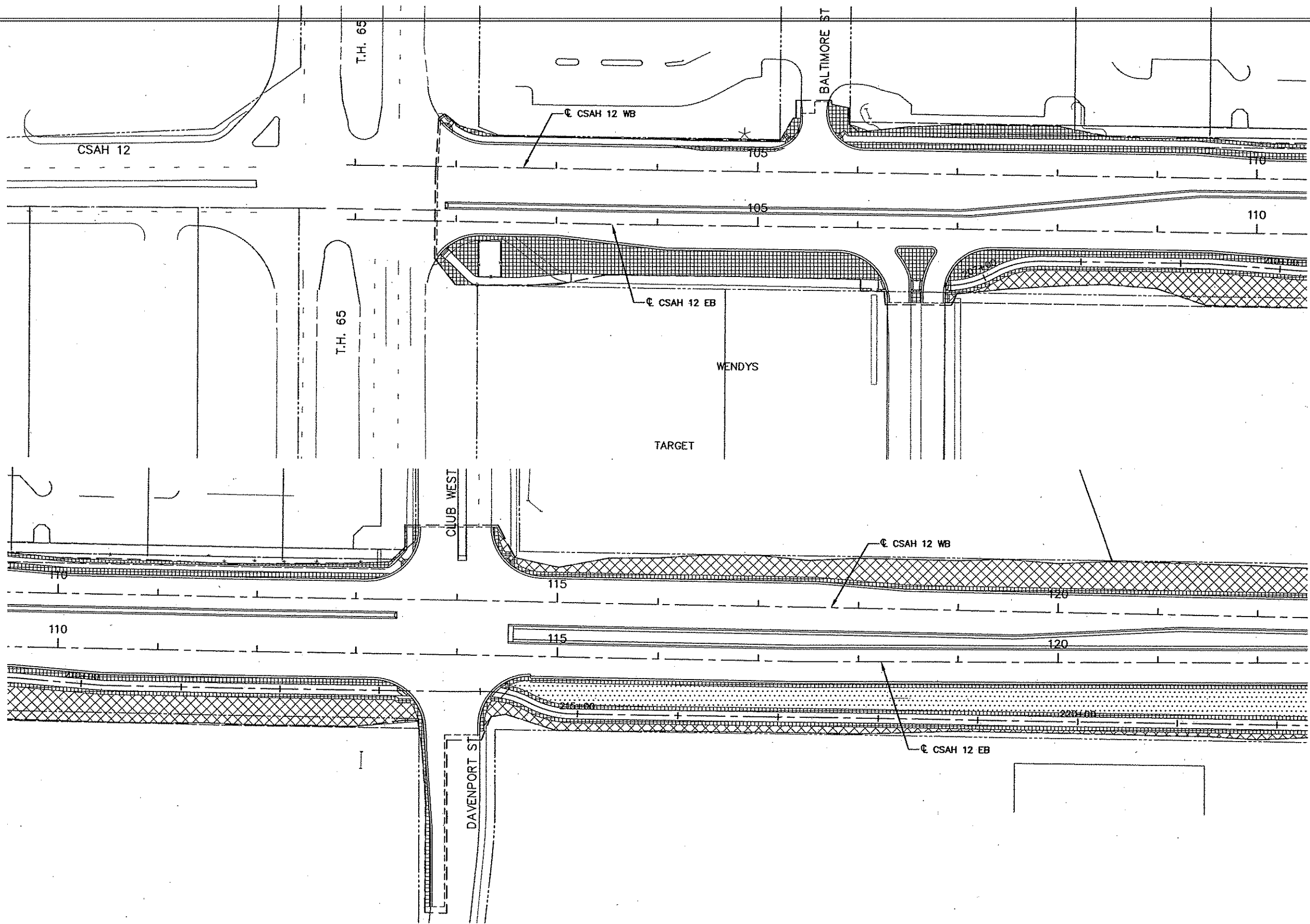
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
EROSION CONTROL PLAN**




STA. 146+00 TO STA. 158+00

S.P. 02-612-11	SHEET NO. 97
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 8:24am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TE1.dwg



LEGEND

	SOD - TYPE SALT RESISTANT
	SEED MIXTURE 350
	SEED MIXTURE 310

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: TE1
DATE: AUGUST 18, 2005	



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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545






**ANOKA COUNTY
HIGHWAY DEPT.**

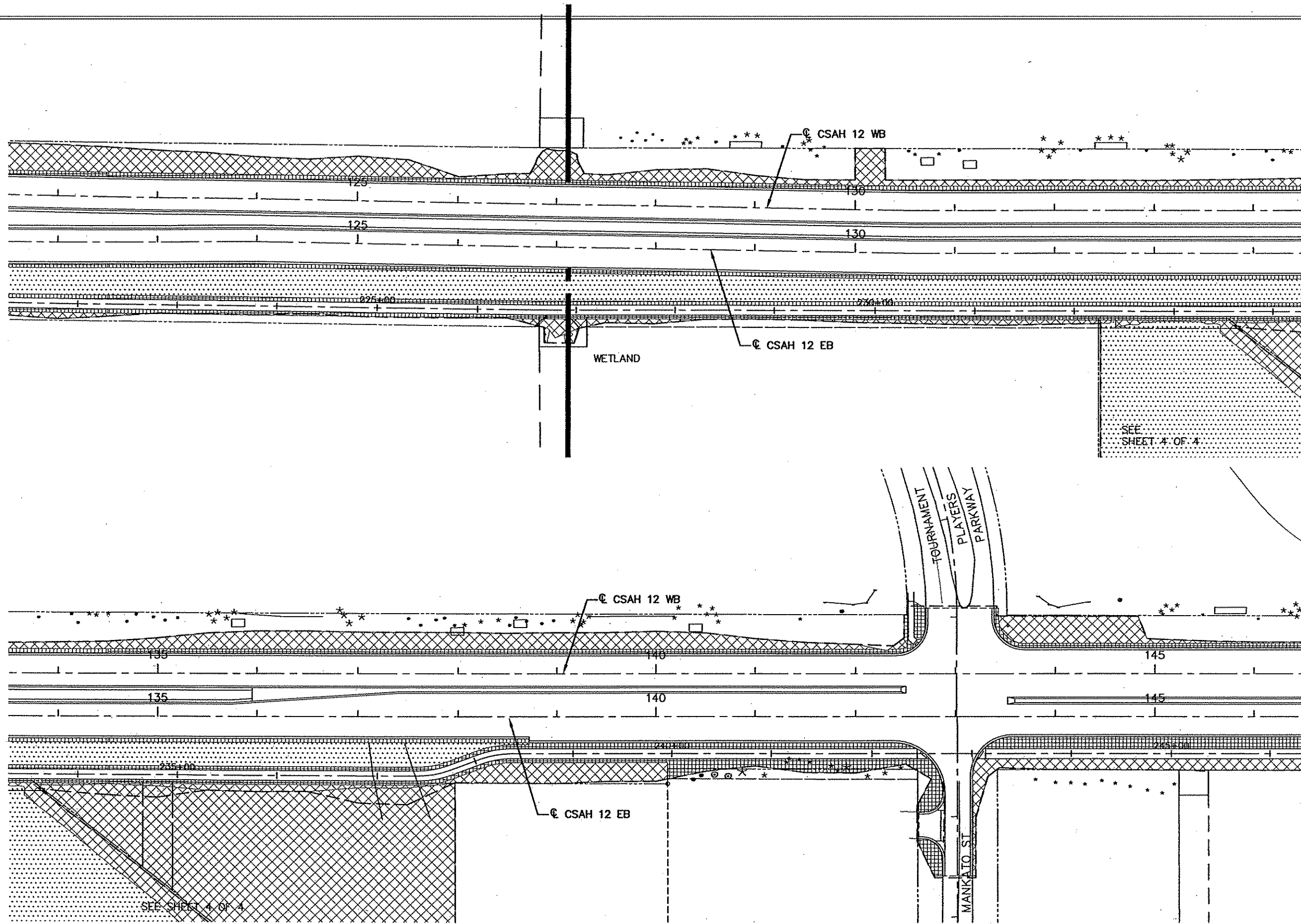
**CSAH 12
RECONSTRUCTION
TURF ESTABLISHMENT**
STA. 101+85 TO STA. 122+00

S.P. 02-612-11	SHEET NO. 98 211
S.P. 106-020-025	
S.P.	
S.P.	

PLOT DATE: Aug 22, 2005 10:12am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TE2.dwg

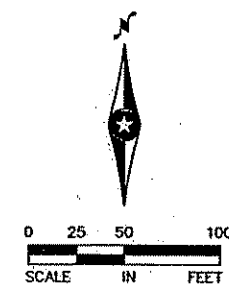
LEGEND

-  SOD - TYPE SALT RESISTANT
-  SEED MIXTURE 350
-  SEED MIXTURE 310



SEE SHEET 4 OF 4


SEE SHEET 4 OF 4



2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION


DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTH
CHKD. BY: SAW	DWG. NAME: TE2
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.




CSAH 12
RECONSTRUCTION
TURF ESTABLISHMENT

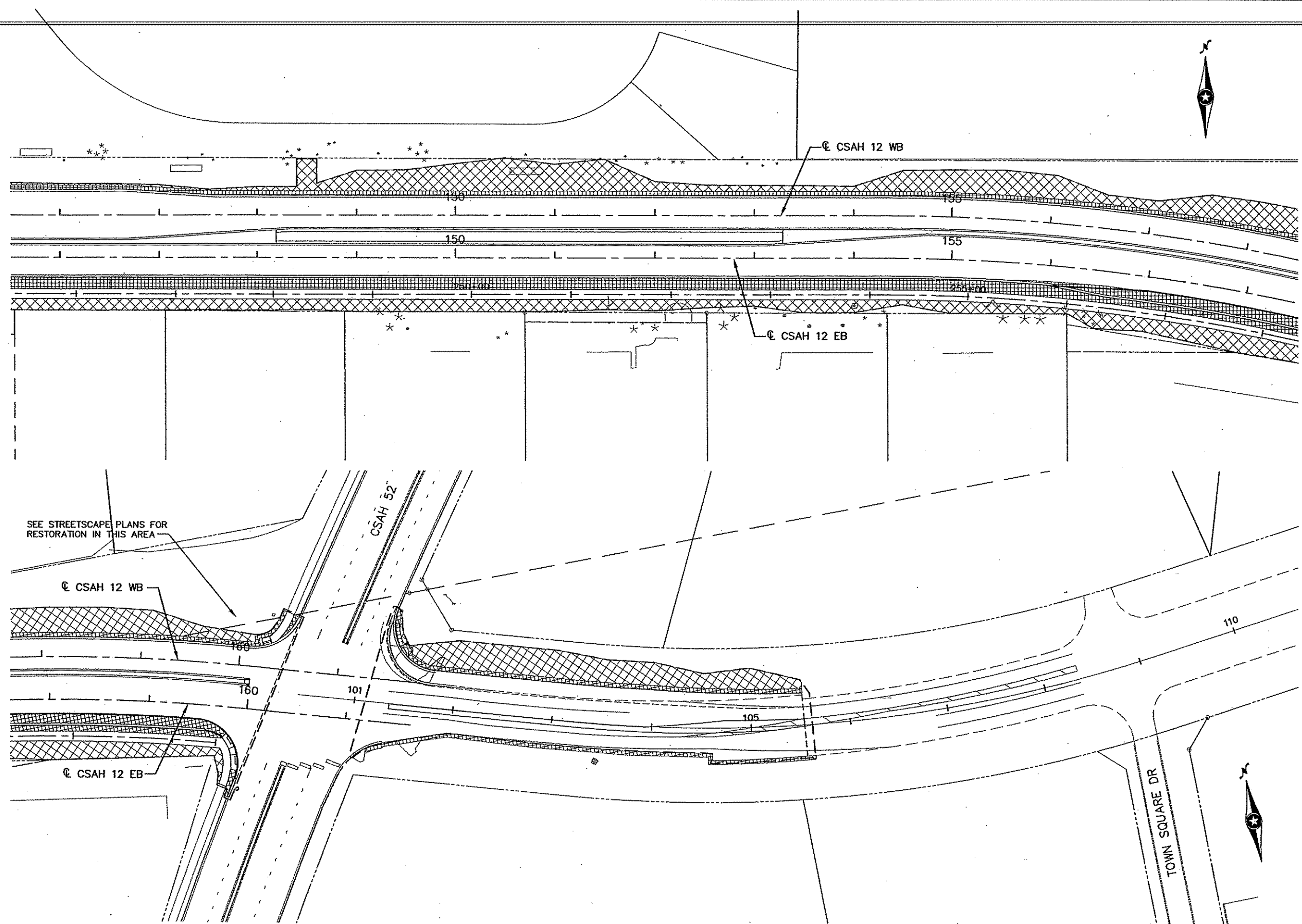
STA. 122+00 TO STA. 146+00

S.P. 02-612-11	SHEET NO. 99
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 9:26am DISK FILE NAME: (16.1) R: 31809791\PLAN-SHT\TE3.dwg

LEGEND

-  SOD - TYPE SALT RESISTANT
-  SEED MIXTURE 350
-  SEED MIXTURE 310



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: CTN
CHKD. BY: SAW	DWG. NAME: TE3
DATE: AUGUST 18, 2005	



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STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



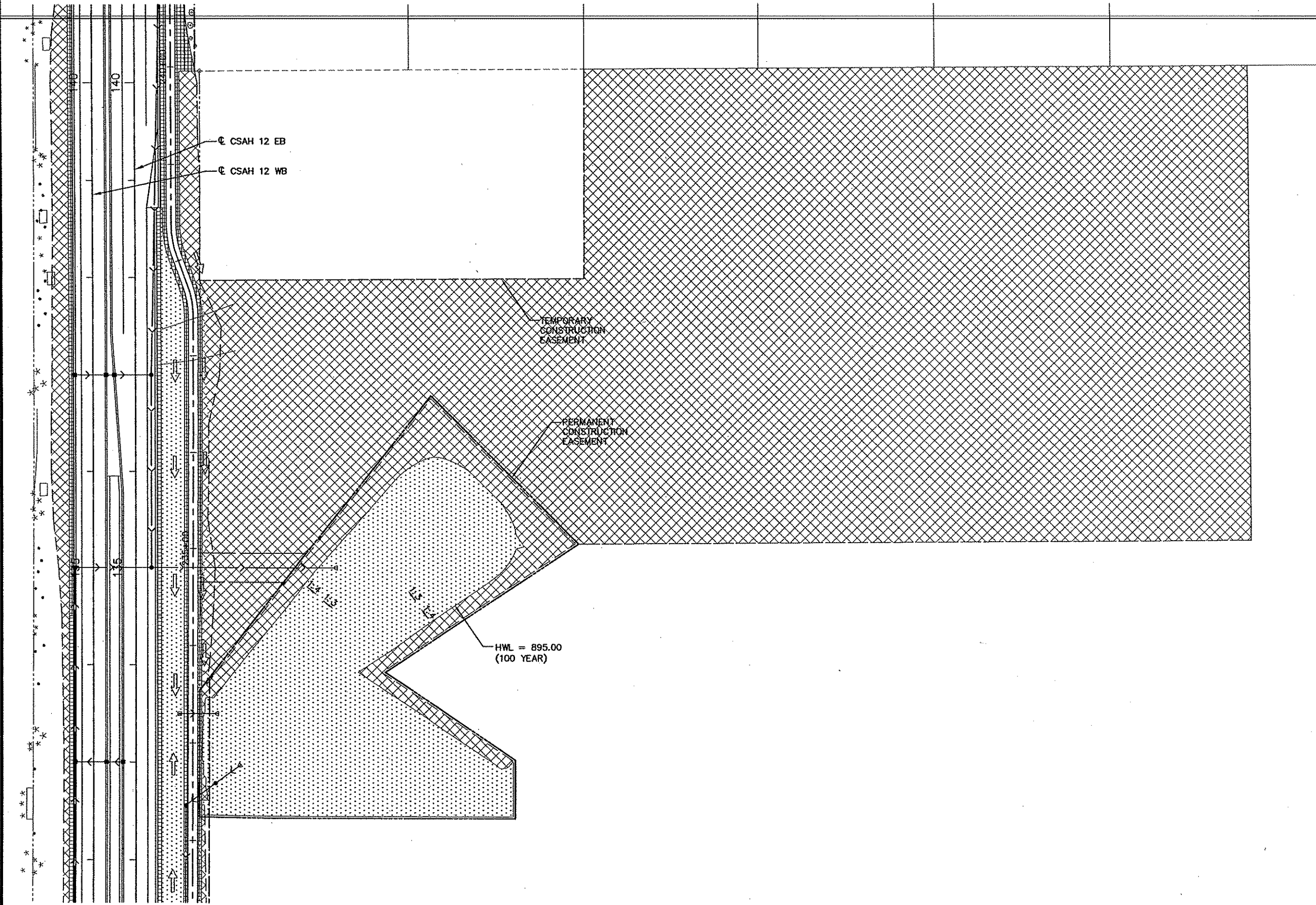
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TURF ESTABLISHMENT
STA. 146+00 TO STA. 158+00




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S.P.	
S.P.	

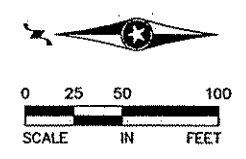
3 OF 4
211

PLOT DATE: Aug 22, 10:13am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TE4.dwg



LEGEND

-  SOD - TYPE SALT RESISTANT
-  SEED MIXTURE 350
-  SEED MIXTURE 310



4 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: TE4
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TURF ESTABLISHMENT PLAN

S.P. 02-612-11	SHEET NO. 101
S.P. 106-020-025	
S.P.	211
S.P.	

TRAFFIC CONTROL NOTES

GENERAL INFORMATION

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD AND THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL.
5. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING

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

PAVEMENT MARKING

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

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

(APPLIES TO ALL TRAFFIC CONTROL SHEETS)

SYMBOL	DESCRIPTION
	TRAFFIC CONTROL SIGN
	TYPE III BARRICADE =
	DRUM-LIKE CHANNELIZER =
	AREA UNDER CONSTRUCTION
	TYPE A OR B FLASHING WARNING LIGHT (SPECIFY HIGH INTENSITY)
	WATER FILLED BARRIER
	BID ITEM SIGN OR DEVICE
	PAVEMENT MESSAGE (PAINT UNLESS OTHERWISE NOTED)

TEMPORARY PAVEMENT MARKING LEGEND

SYMBOL	DESCRIPTION
	4" SOLID LINE WHITE REMOVABLE PREFORM PLASTIC MARKING
	4" BROKEN LINE WHITE REMOVABLE PREFORM PLASTIC MARKING
	8" BROKEN LINE WHITE REMOVABLE PREFORM PLASTIC MARKING
	8" DOTTED LINE WHITE REMOVABLE PREFORM PLASTIC MARKING
	4" SOLID LINE YELLOW REMOVABLE PREFORM PLASTIC MARKING
	4" DOUBLE SOLID LINE YELLOW REMOVABLE PREFORM PLASTIC MARKING
	24" SOLID LINE YELLOW REMOVABLE PREFORM PLASTIC MARKING
	4" SOLID LINE WHITE - PAINT
	4" BROKEN LINE WHITE - PAINT
	8" SOLID LINE WHITE - PAINT
	8" DOTTED LINE WHITE - PAINT
	24" SOLID LINE WHITE - PAINT
	4" SOLID LINE YELLOW - PAINT
	4" DOUBLE SOLID LINE YELLOW - PAINT
	24" SOLID LINE YELLOW - PAINT
	TEMPORARY RAISED PAVEMENT MARKERS (TRPMs) AT 10' SPACING

PLOT DATE: Aug 19, 2005 2:39pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TC1.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: LOM/SAW
DRAWN BY: LGJ	DWG. NAME: TC1
CHKED. BY: SAW	DATE: AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

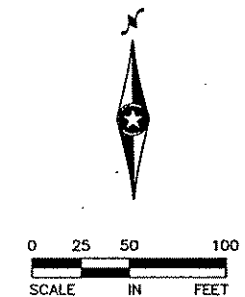
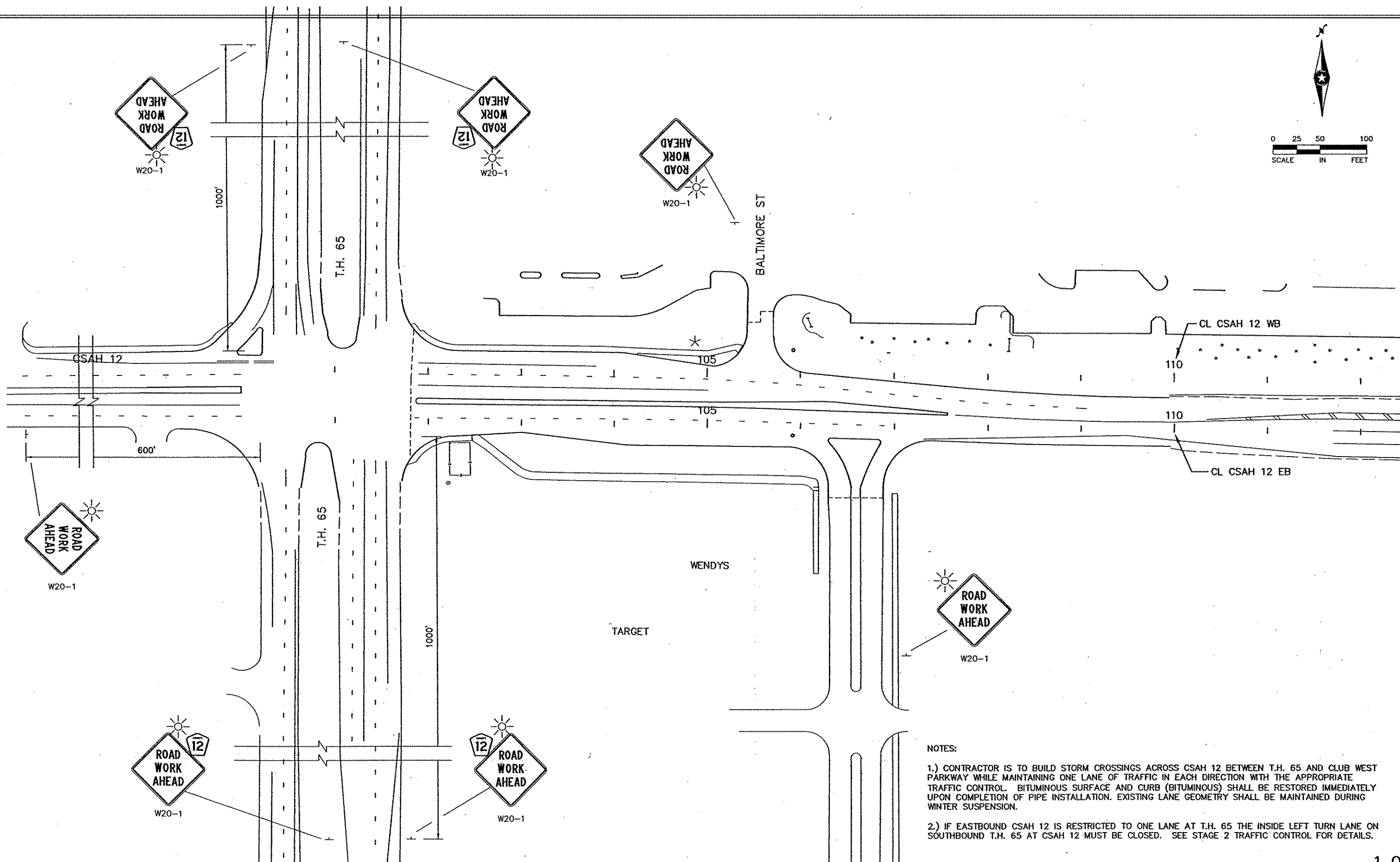


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL NOTES**

S.P. 02-612-11	SHEET NO. 102
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 8:49am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TSC12.dwg



NOTES:

- 1.) CONTRACTOR IS TO BUILD STORM CROSSINGS ACROSS CSAH 12 BETWEEN T.H. 65 AND CLUB WEST PARKWAY WHILE MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION WITH THE APPROPRIATE TRAFFIC CONTROL. BITUMINOUS SURFACE AND CURB (BITUMINOUS) SHALL BE RESTORED IMMEDIATELY UPON COMPLETION OF PIPE INSTALLATION. EXISTING LANE GEOMETRY SHALL BE MAINTAINED DURING WINTER SUSPENSION.
- 2.) IF EASTBOUND CSAH 12 IS RESTRICTED TO ONE LANE AT T.H. 65 THE INSIDE LEFT TURN LANE ON SOUTHBOUND T.H. 65 AT CSAH 12 MUST BE CLOSED. SEE STAGE 2 TRAFFIC CONTROL FOR DETAILS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
LOM/SAW

CHKD. BY:
SAW

DWG. NAME:
TSC12

DATE:
AUGUST 18, 2005

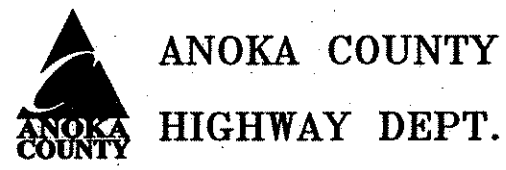


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DATE: 8/18/2005 MN LIC. NO. 40545

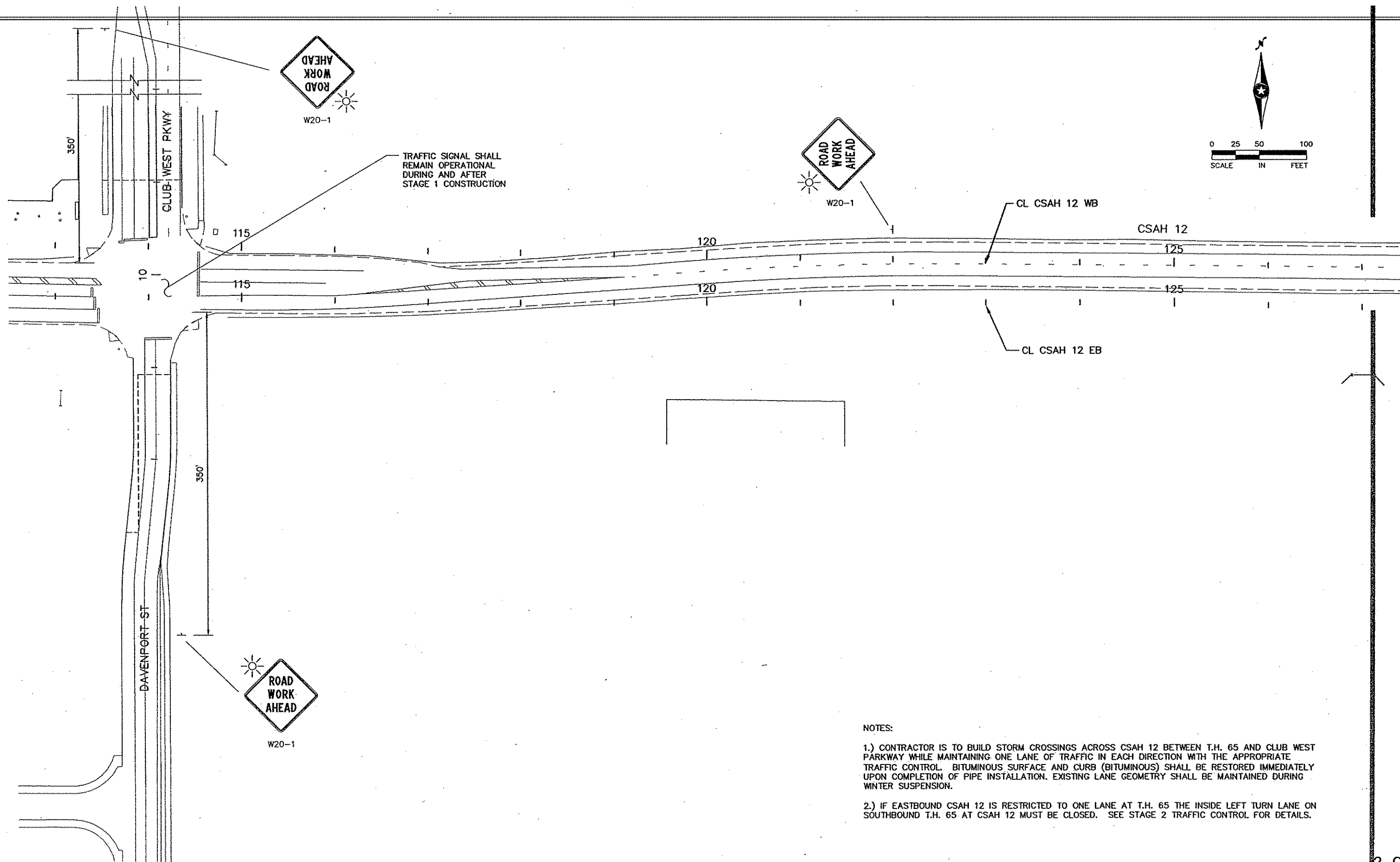


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN**
STAGE 1

S.P. 02-612-11	SHEET NO. 103
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 8:54am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSI3.dwg



NOTES:

- 1.) CONTRACTOR IS TO BUILD STORM CROSSINGS ACROSS CSAH 12 BETWEEN T.H. 65 AND CLUB WEST PARKWAY WHILE MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION WITH THE APPROPRIATE TRAFFIC CONTROL. BITUMINOUS SURFACE AND CURB (BITUMINOUS) SHALL BE RESTORED IMMEDIATELY UPON COMPLETION OF PIPE INSTALLATION. EXISTING LANE GEOMETRY SHALL BE MAINTAINED DURING WINTER SUSPENSION.
- 2.) IF EASTBOUND CSAH 12 IS RESTRICTED TO ONE LANE AT T.H. 65 THE INSIDE LEFT TURN LANE ON SOUTHBOUND T.H. 65 AT CSAH 12 MUST BE CLOSED. SEE STAGE 2 TRAFFIC CONTROL FOR DETAILS.

2 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: LOW/SAW
CHKED. BY: SAW	DWG. NAME: TCS13
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545

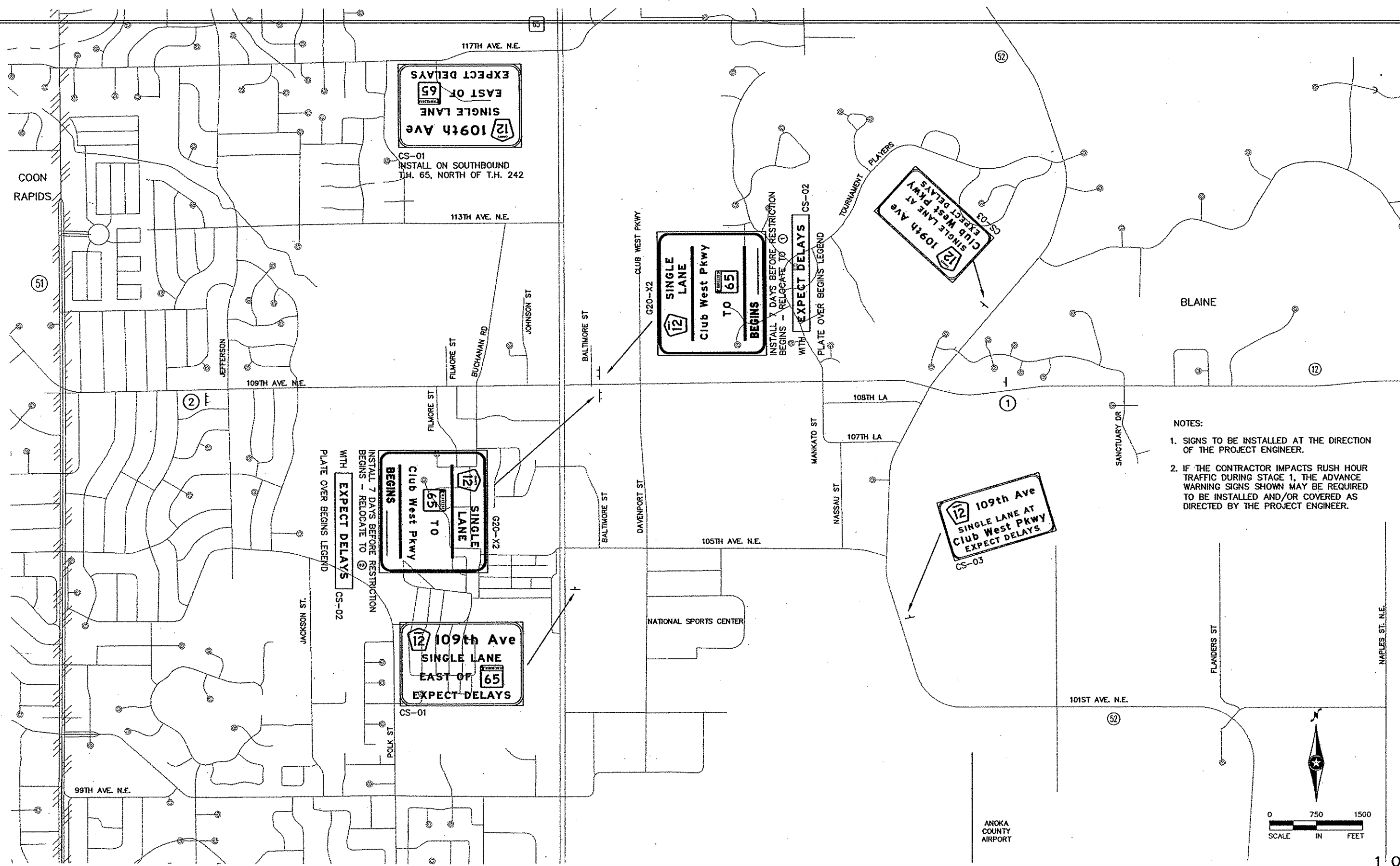


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HIGHWAY DEPT.

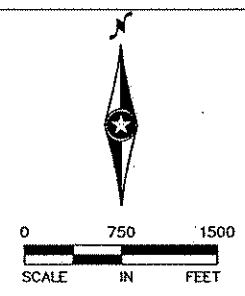
CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL
STAGE 1

S.P. 02-612-11	SHEET NO. 104 211
S.P. 106-020-025	
S.P.	
S.P.	

PLOT DATE: Aug 19, 2005 2:49pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS20.dwg



- NOTES:
1. SIGNS TO BE INSTALLED AT THE DIRECTION OF THE PROJECT ENGINEER.
 2. IF THE CONTRACTOR IMPACTS RUSH HOUR TRAFFIC DURING STAGE 1, THE ADVANCE WARNING SIGNS SHOWN MAY BE REQUIRED TO BE INSTALLED AND/OR COVERED AS DIRECTED BY THE PROJECT ENGINEER.



1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
LOM/SAW

CHKD. BY:
SAW

DWG. NAME:
TCS20

DATE:
AUGUST 18, 2005



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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

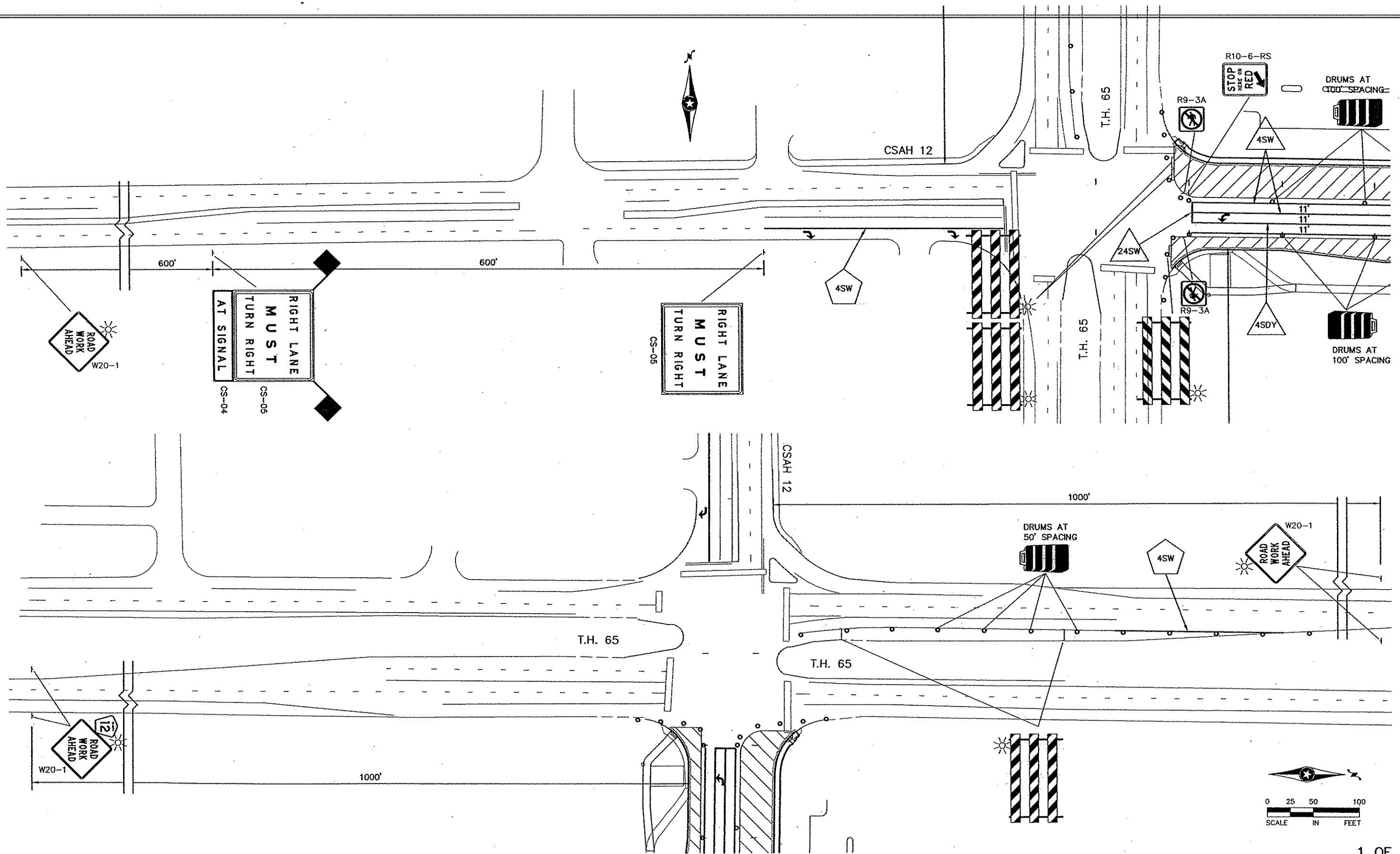


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
ADVANCED WARNING SIGNS
STAGES 2, 3, AND 4

S.P. 02-612-11	SHEET NO. 105
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 8:57am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS21.dwg



1 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHKD. BY: SAW	DWG. NAME: TCS21
DATE: AUGUST 18, 2005	



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

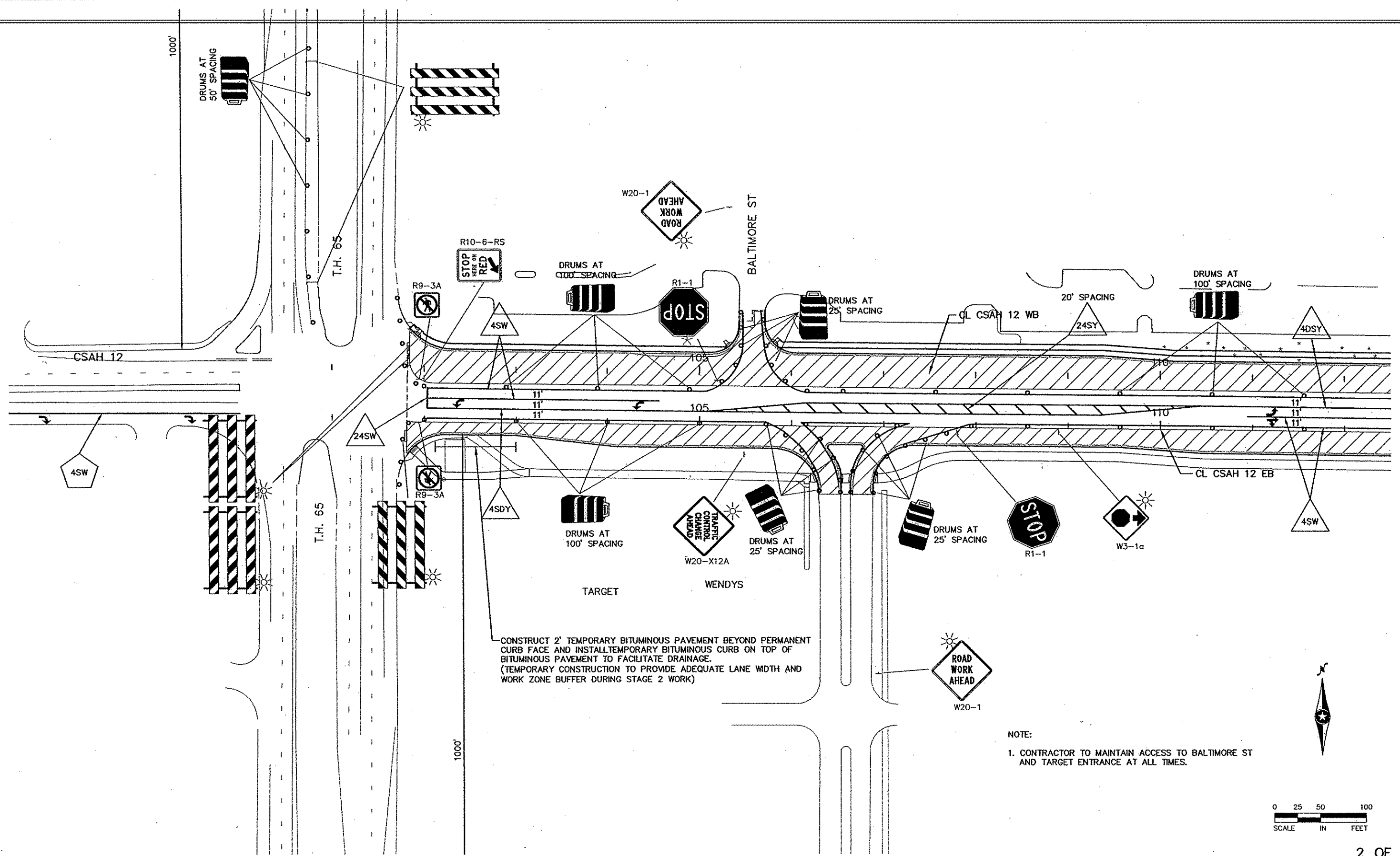


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL
CSAH 12 AND TH 65
STAGE 2

S.P. 02-612-11	SHEET NO. 106
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 9:24am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS22.dwg



NOTE:
1. CONTRACTOR TO MAINTAIN ACCESS TO BALTIMORE ST AND TARGET ENTRANCE AT ALL TIMES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

CHKD. BY:
SAW

DATE:
AUGUST 18, 2005

DESIGN BY:
LOM/SAW

DWG. NAME:
TCS22



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



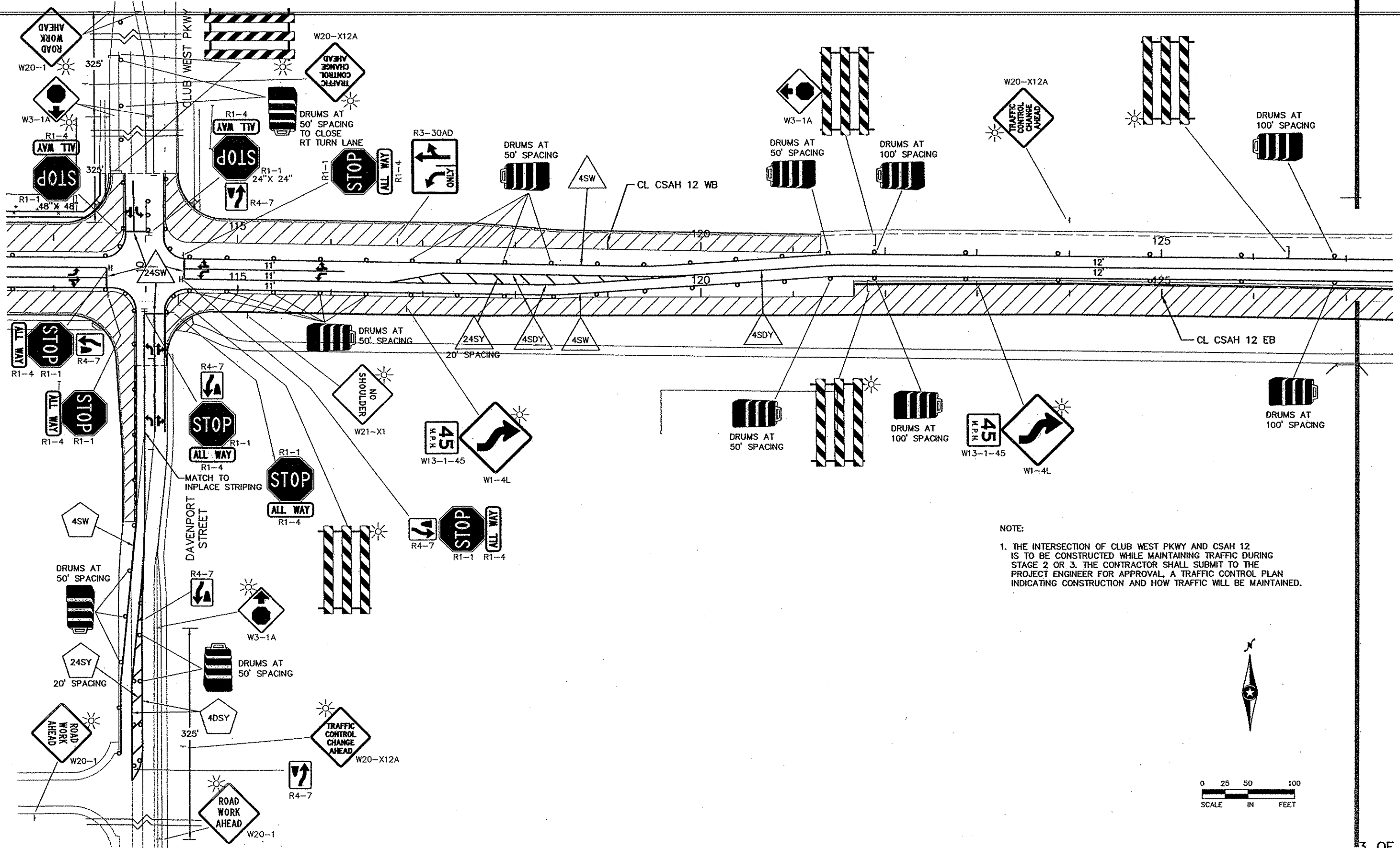
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 2

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

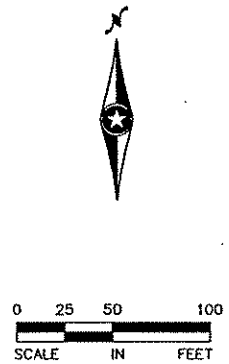
SHEET NO.
107
211

PLOT DATE: Aug 19, 2005 9:26am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS23.dwg



NOTE:

1. THE INTERSECTION OF CLUB WEST PKWY AND CSAH 12 IS TO BE CONSTRUCTED WHILE MAINTAINING TRAFFIC DURING STAGE 2 OR 3. THE CONTRACTOR SHALL SUBMIT TO THE PROJECT ENGINEER FOR APPROVAL, A TRAFFIC CONTROL PLAN INDICATING CONSTRUCTION AND HOW TRAFFIC WILL BE MAINTAINED.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ
DESIGN BY: LOM/SAW

CHKD. BY: SAW
DWG. NAME: TCS23

DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



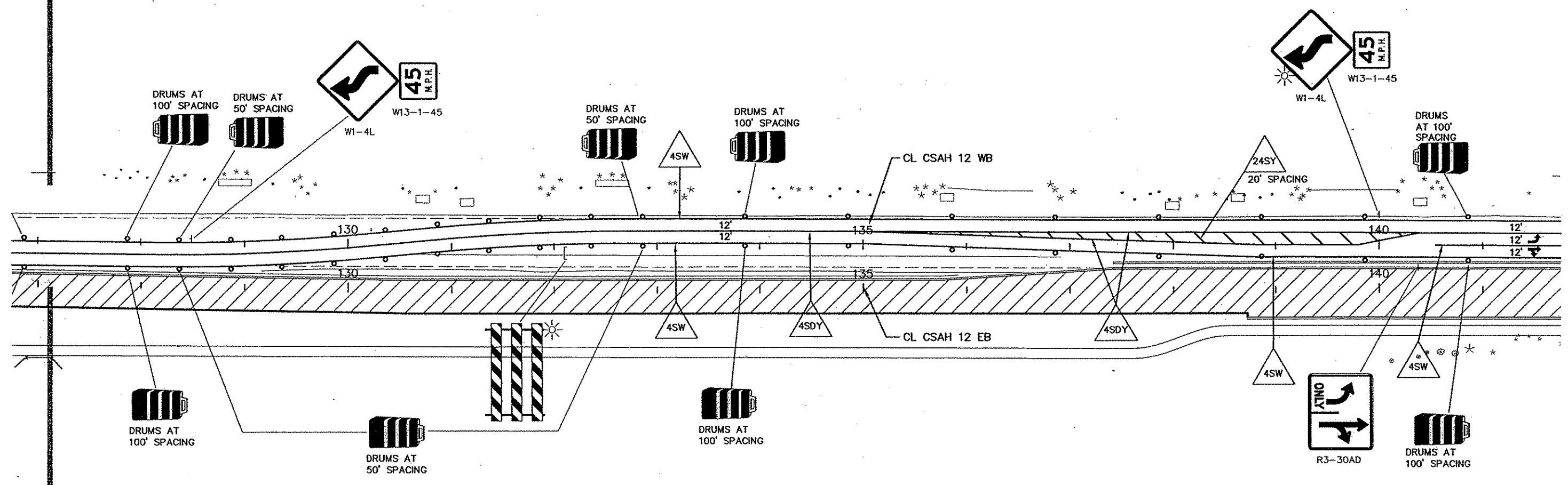
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL
STAGE 2**

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
108
211

PLOT DATE: Aug 19, 2005 9:32am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS24.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHKD. BY: SAW	DWG. NAME: TCS24
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

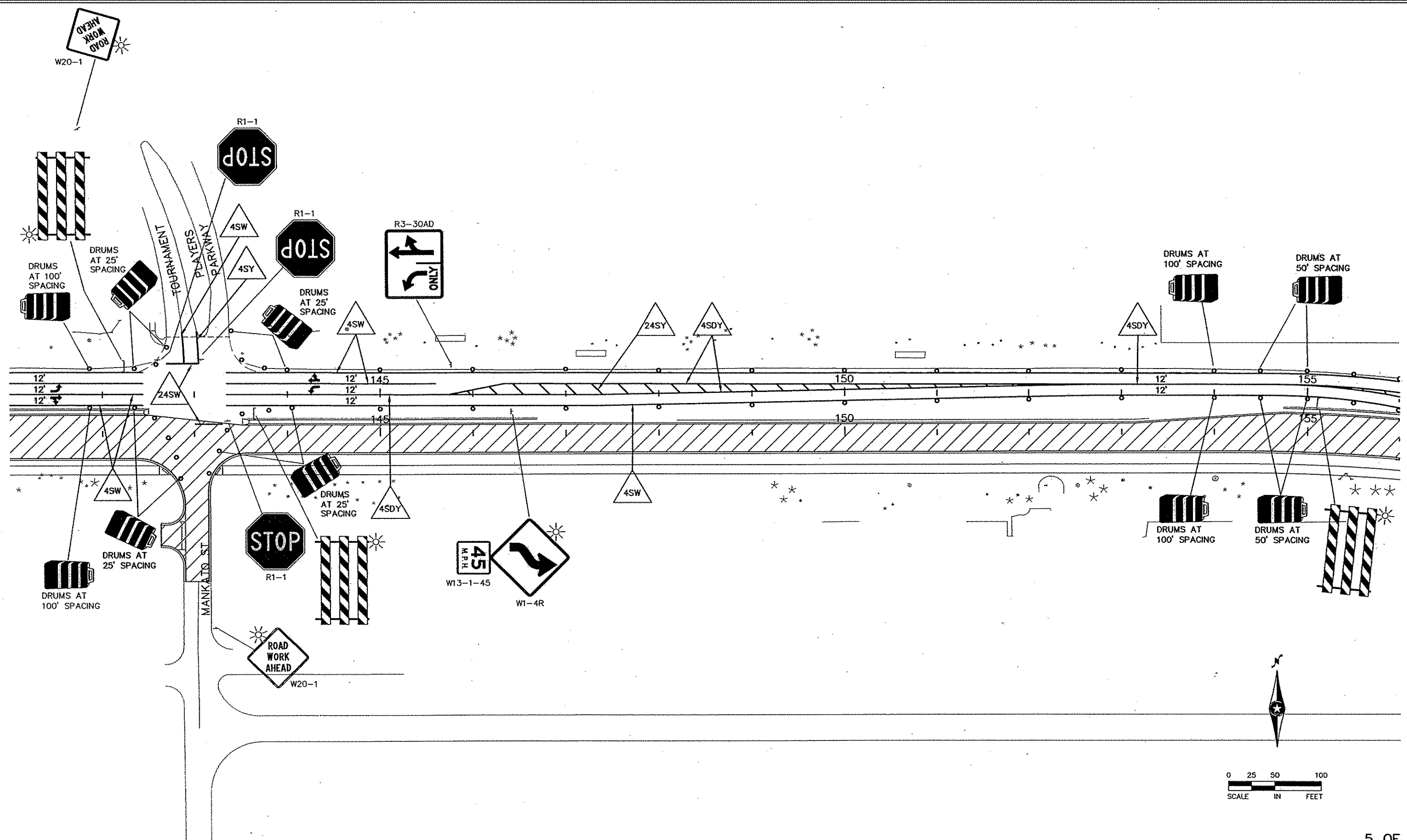


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 2

S.P. 02-612-11	SHEET NO. 109
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 2:57pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS25.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ
DESIGN BY: LOM/SAW

CHKD. BY: SAW
DWG. NAME: TCS25

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

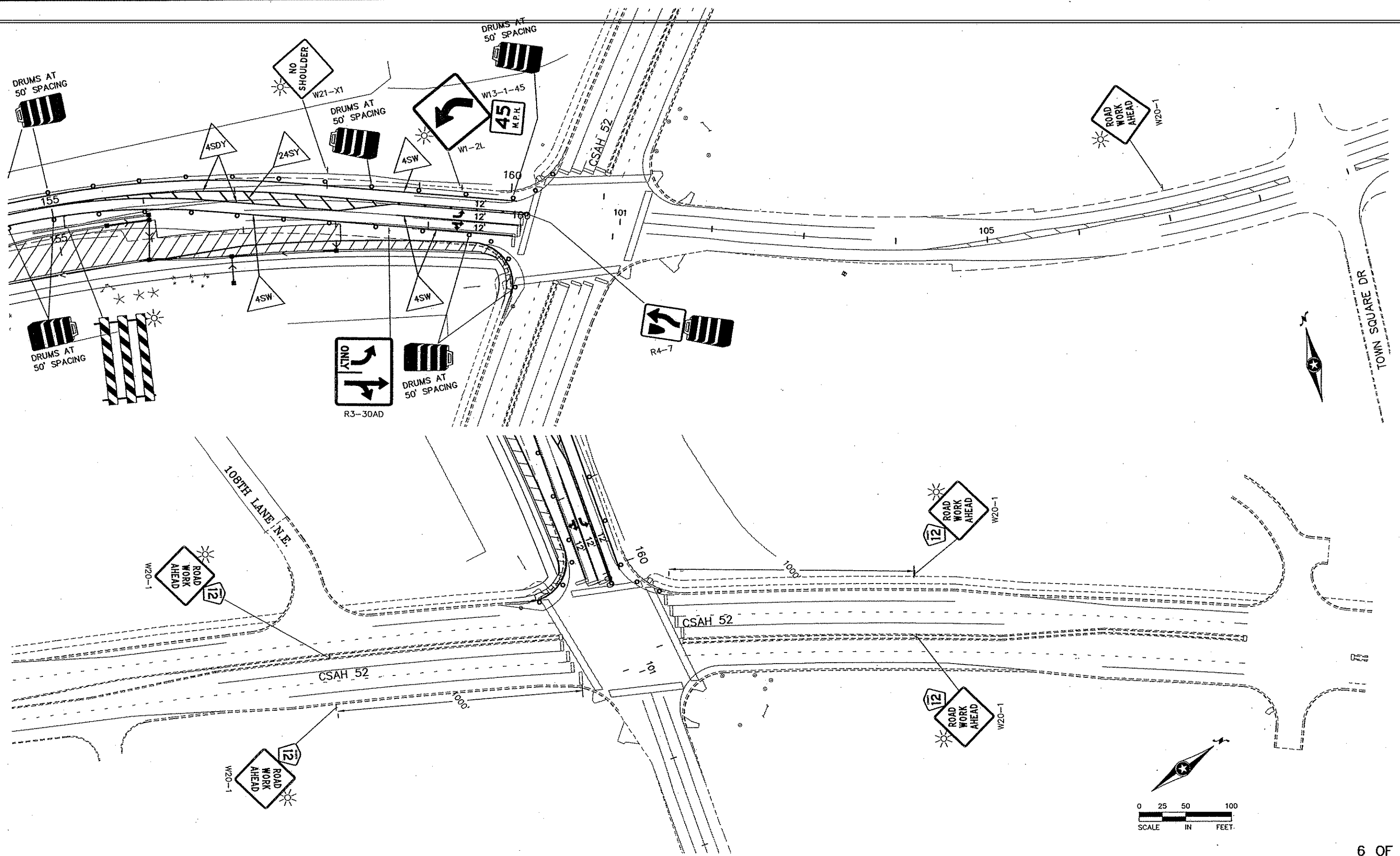


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 2

S.P. 02-612-11	SHEET NO. 110
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 2:59pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS26.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
L.G.J.

CHKD. BY:
SAW

DATE:
AUGUST 18, 2005

DESIGN BY:
LOM/SAW

DWG. NAME:
TCS26



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

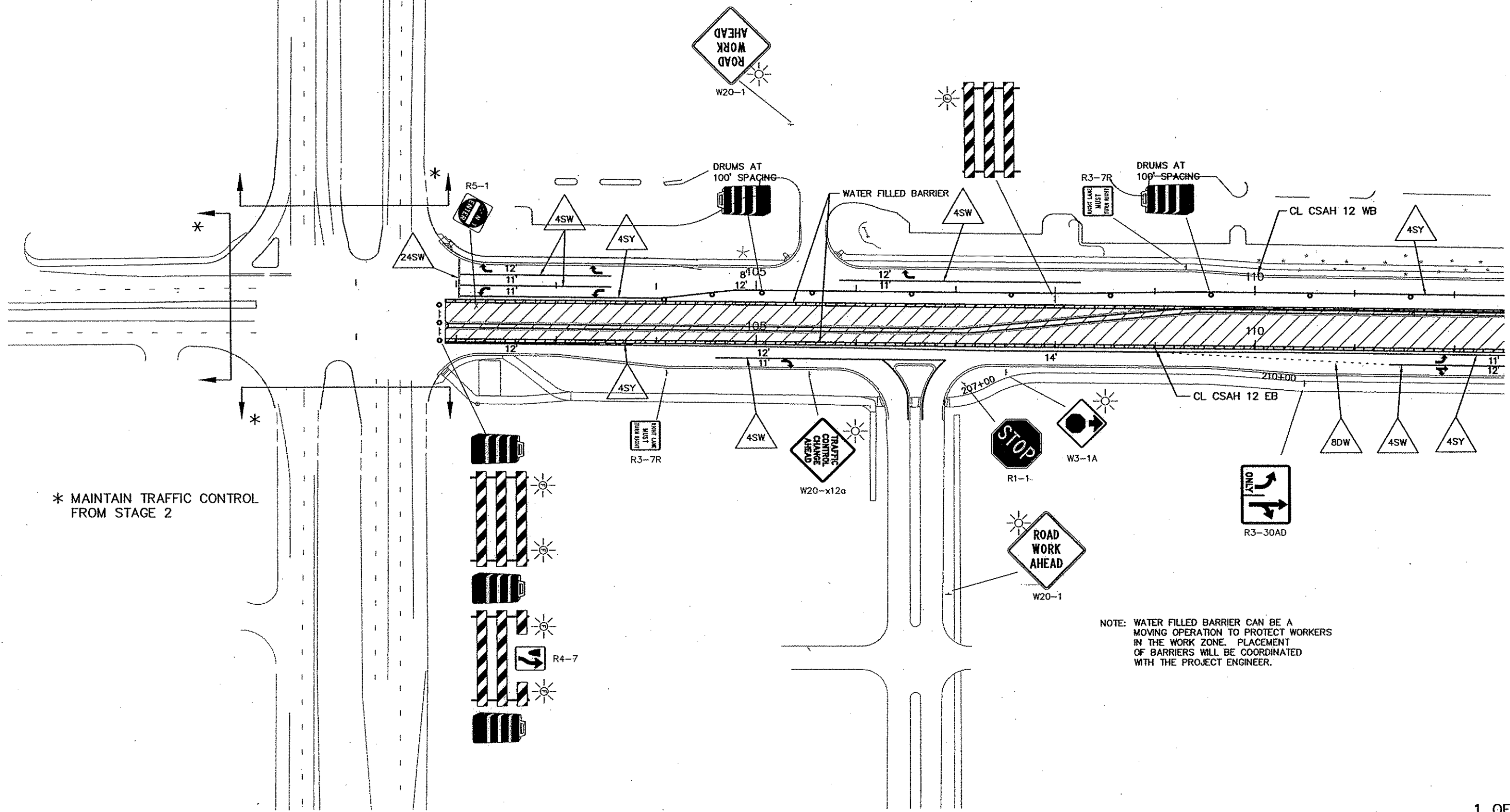


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 2

S.P. 02-612-11	SHEET NO. 111
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 3:17pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS31.dwg



NOTE: WATER FILLED BARRIER CAN BE A MOVING OPERATION TO PROTECT WORKERS IN THE WORK ZONE. PLACEMENT OF BARRIERS WILL BE COORDINATED WITH THE PROJECT ENGINEER.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHKD. BY: SAW	DWG. NAME: TCS31
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

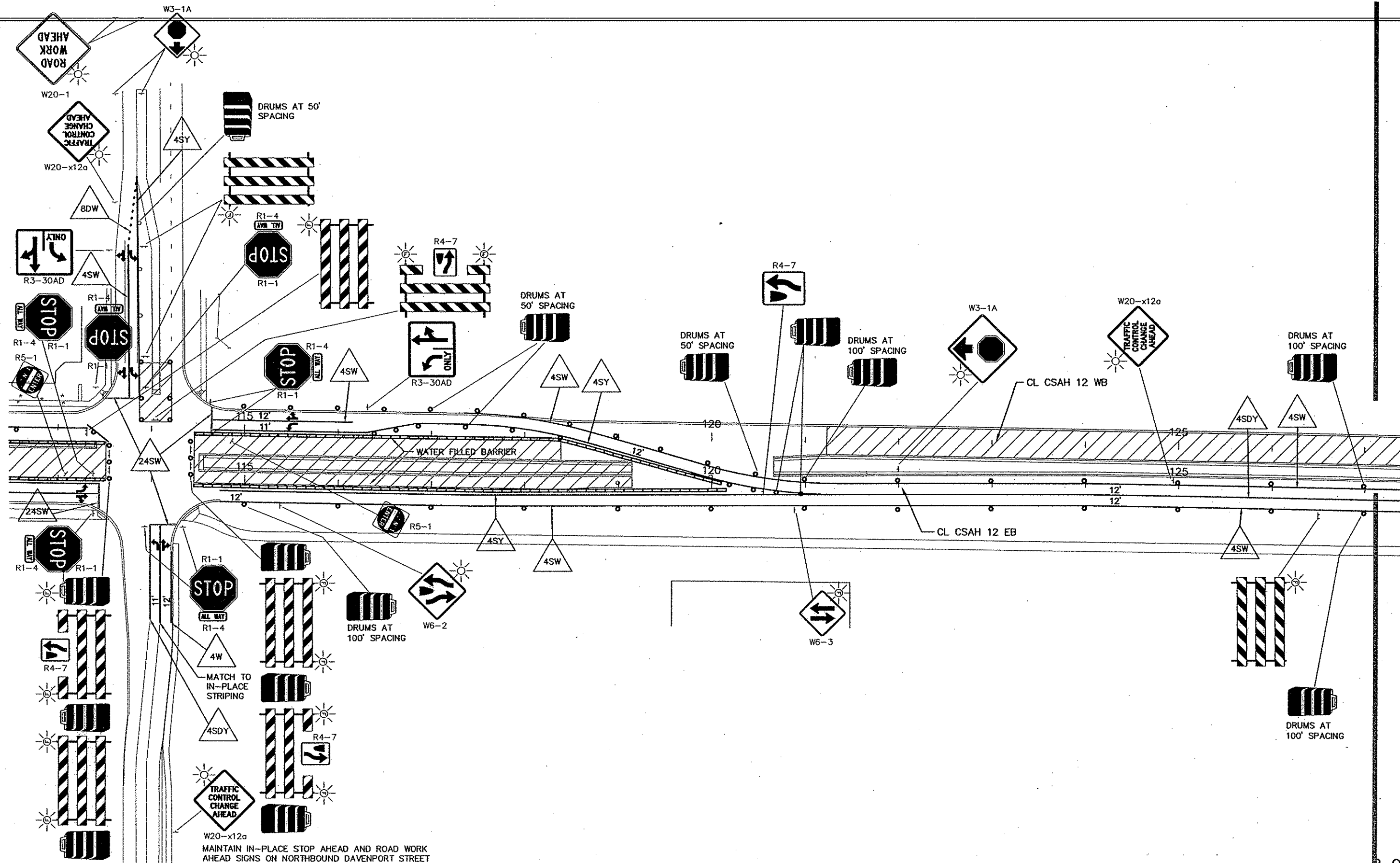


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 3

S.P. 02-612-11	SHEET NO. 112
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 3:18pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS32.dwg



2 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
LOM/SAW

CHKD. BY:
SAW

DWG. NAME:
TCS32

DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1578 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

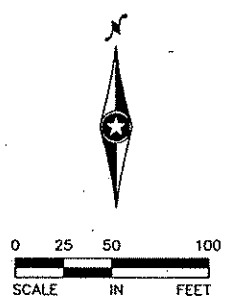
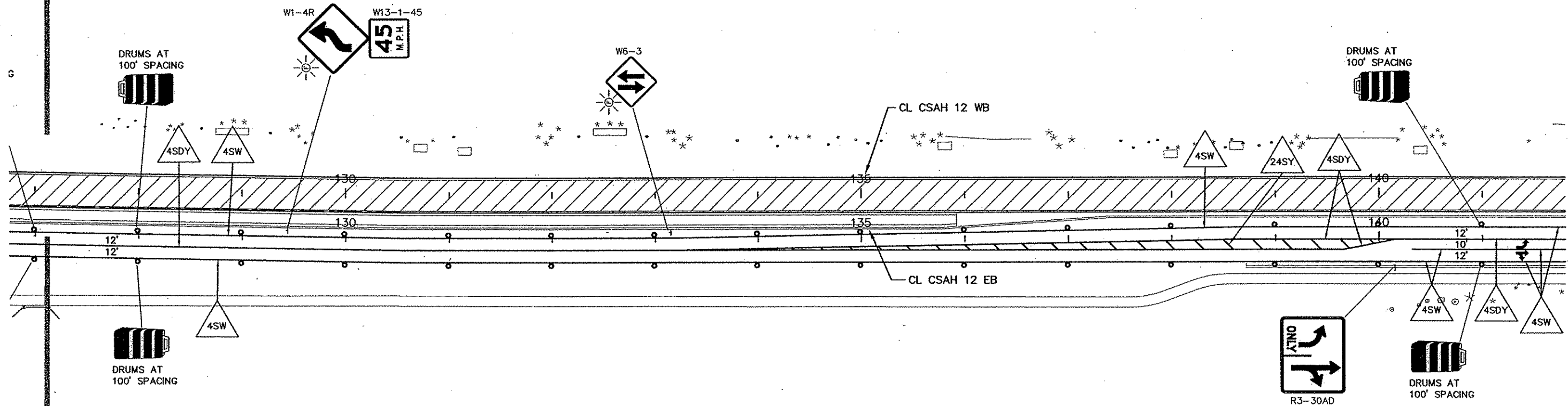


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 3

S.P. 02-612-11	SHEET NO. 113
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 3:19pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS33.dwg



3 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
LOM/SAW

CHKD. BY:
SAW

DWG. NAME:
TCS33

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser

STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 3

S.P. 02-612-11

S.P. 106-020-025

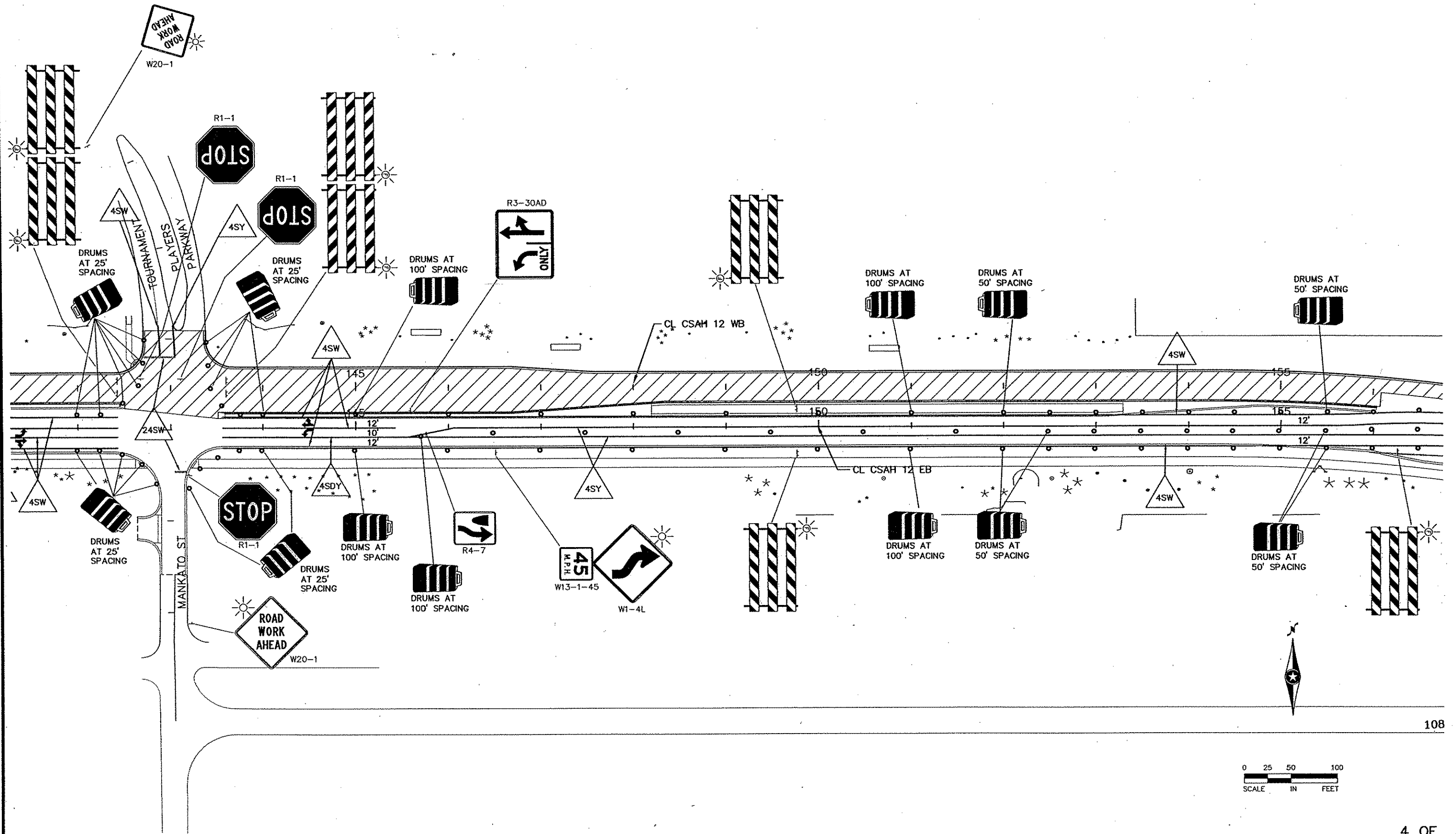
S.P.

S.P.

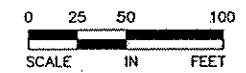
SHEET NO.
114

211

PLOT DATE: Aug 19, 2005 3:20pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TOS34.dwg



108



4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHECKED BY: SAW	DWG. NAME: TCS34
DATE: AUGUST 18, 2005	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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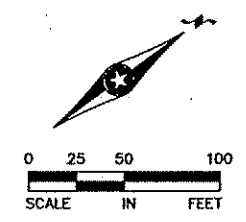
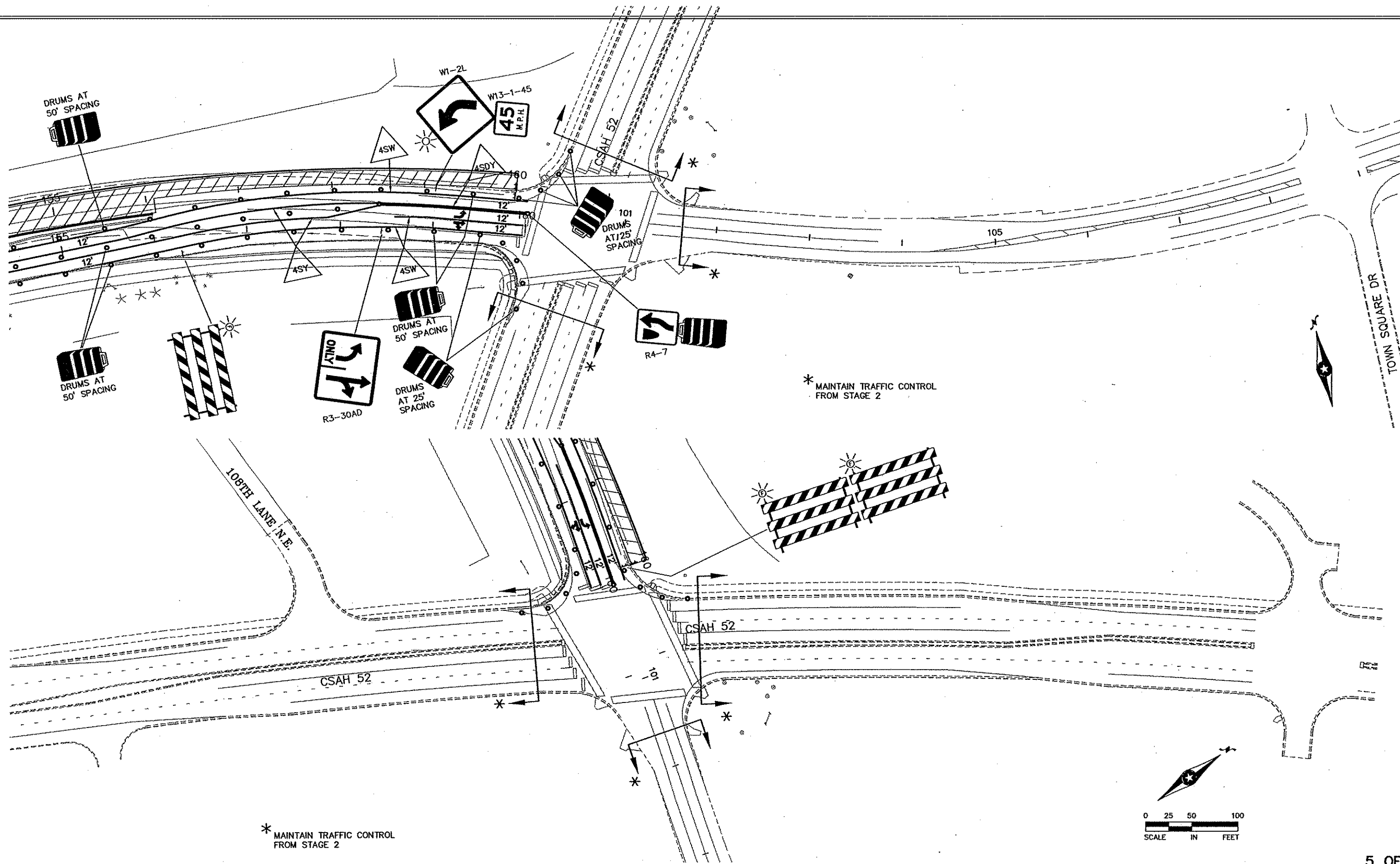
Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 3

S.P. 02-612-11	SHEET NO. 115
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 10:16am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS35.dwg



5 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHKD. BY: SAW	DWS. NAME: TCS35
DATE: AUGUST 18, 2005	



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.376.0700 Tel
612.376.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

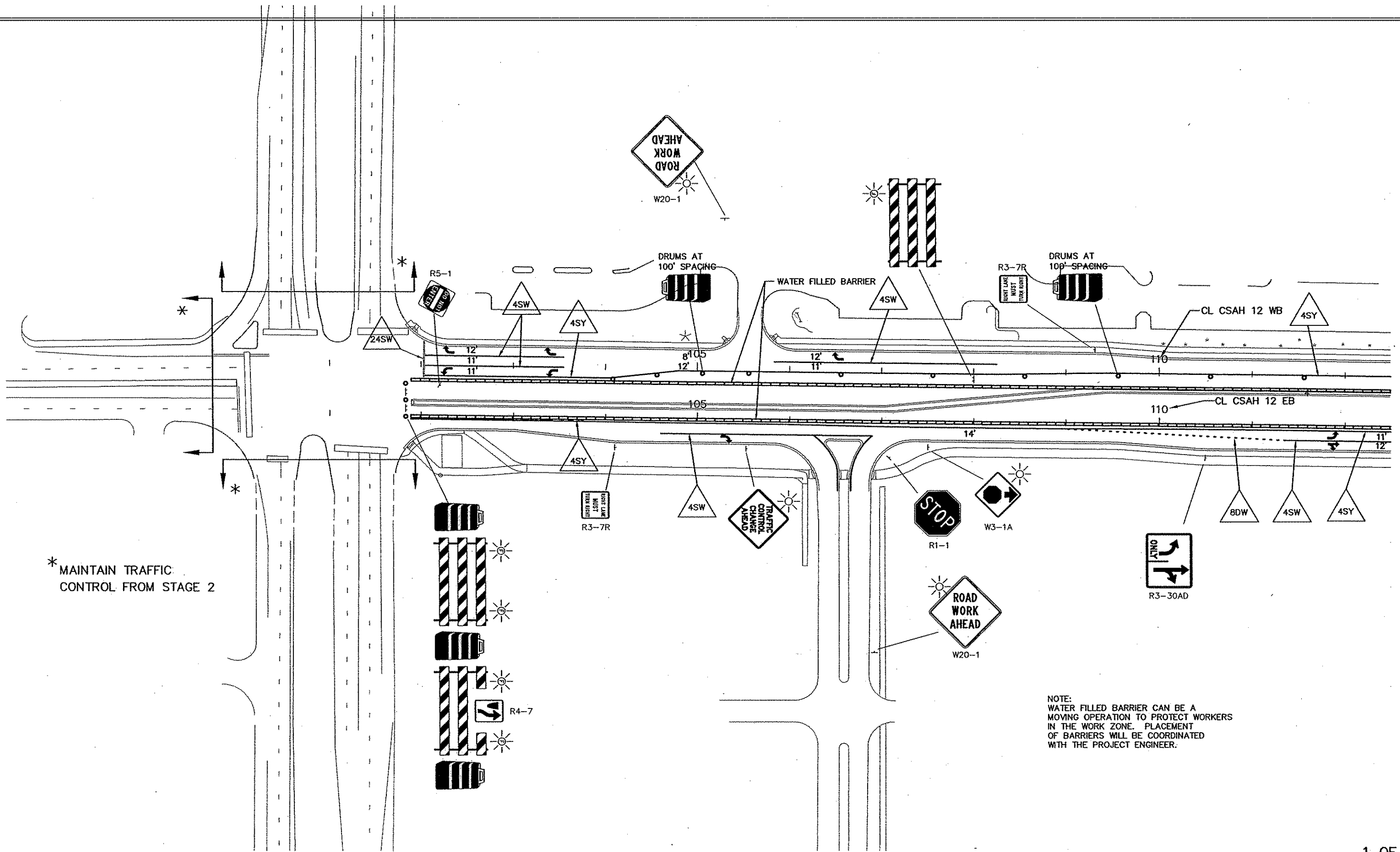


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 3**

S.P. 02-612-11	SHEET NO. 116
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 5:55pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS41.dwg



* MAINTAIN TRAFFIC CONTROL FROM STAGE 2

NOTE:
WATER FILLED BARRIER CAN BE A MOVING OPERATION TO PROTECT WORKERS IN THE WORK ZONE. PLACEMENT OF BARRIERS WILL BE COORDINATED WITH THE PROJECT ENGINEER.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791
DRAWN BY:
LCJ
DESIGN BY:
LOM/SAW
CHKD. BY:
SAW
DWS. NAME:
TCS41
DATE:
AUGUST 18, 2005



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

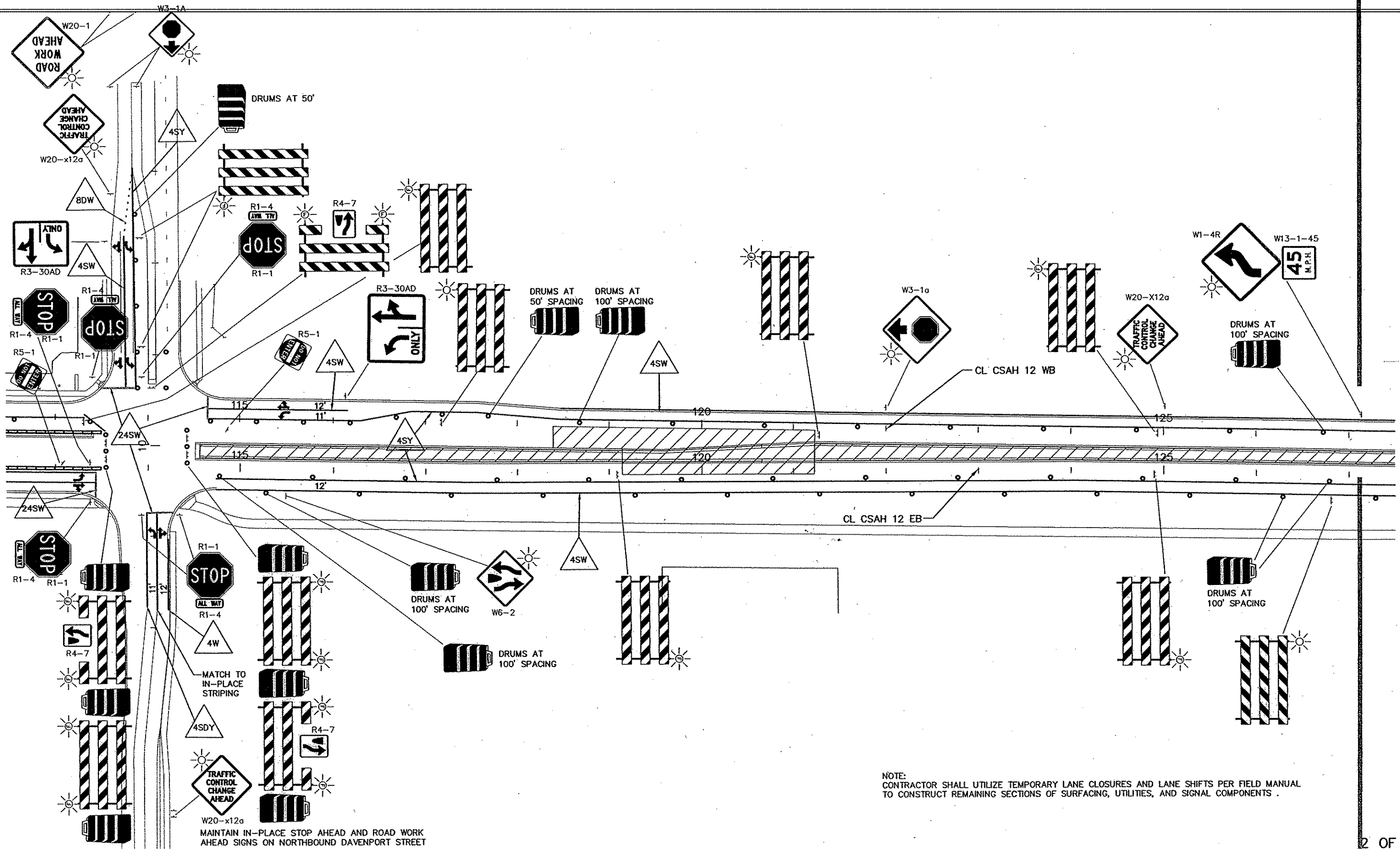


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 4

S.P. 02-612-11	SHEET NO. 117
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 4:25pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS42.dwg



MAINTAIN IN-PLACE STOP AHEAD AND ROAD WORK AHEAD SIGNS ON NORTHBOUND DAVENPORT STREET

NOTE: CONTRACTOR SHALL UTILIZE TEMPORARY LANE CLOSURES AND LANE SHIFTS PER FIELD MANUAL TO CONSTRUCT REMAINING SECTIONS OF SURFACING, UTILITIES, AND SIGNAL COMPONENTS .

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
DRAWN BY: LGM/SAW
DESIGN BY: LOM/SAW
CHKD. BY: SAW
DWS. NAME: TCS42
DATE: AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

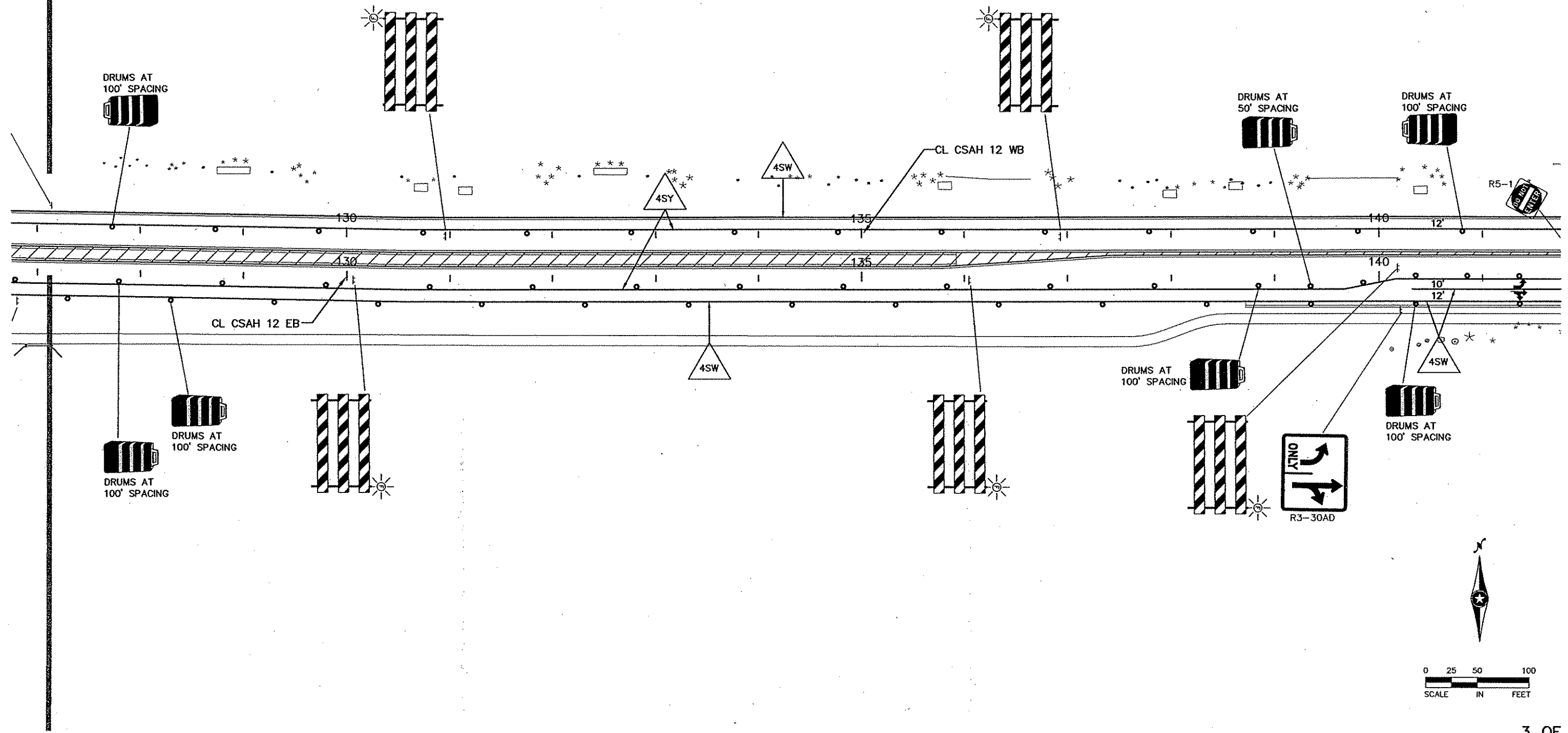


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 4

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	118
S.P.	211
S.P.	

PLOT DATE: Aug 19, 4:27pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS43.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: LGJ	DESIGN BY: LOM/SAW
CHKD. BY: SAW	DWG. NAME: TCS43
DATE: AUGUST 18, 2005	



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

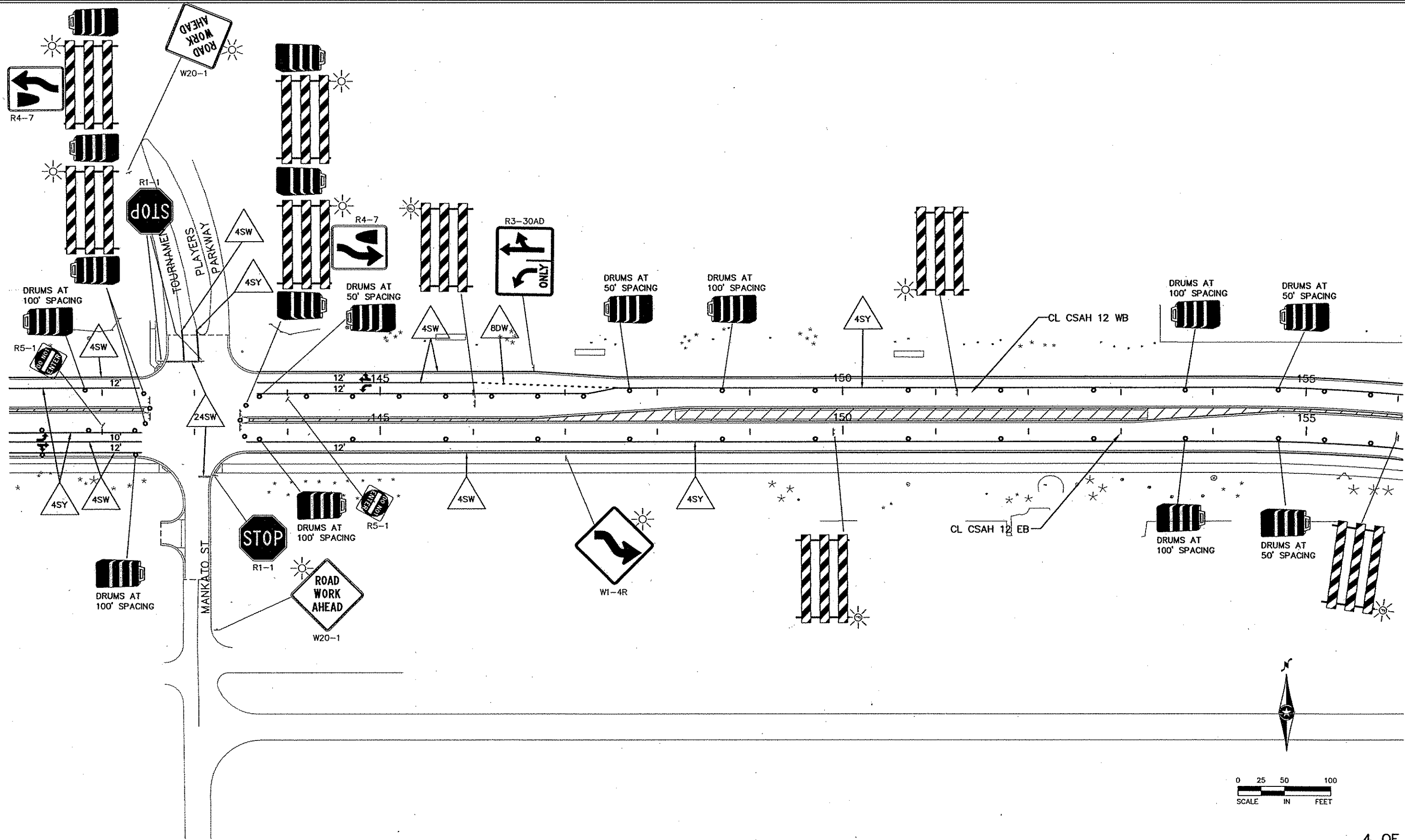


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 4**

S.P. 02-612-11	SHEET NO. 119
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 4:29pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS44.dwg



4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
L.G.J.

DESIGN BY:
LOW/SAW

CHKD. BY:
SAW

DWG. NAME:
TCS44

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



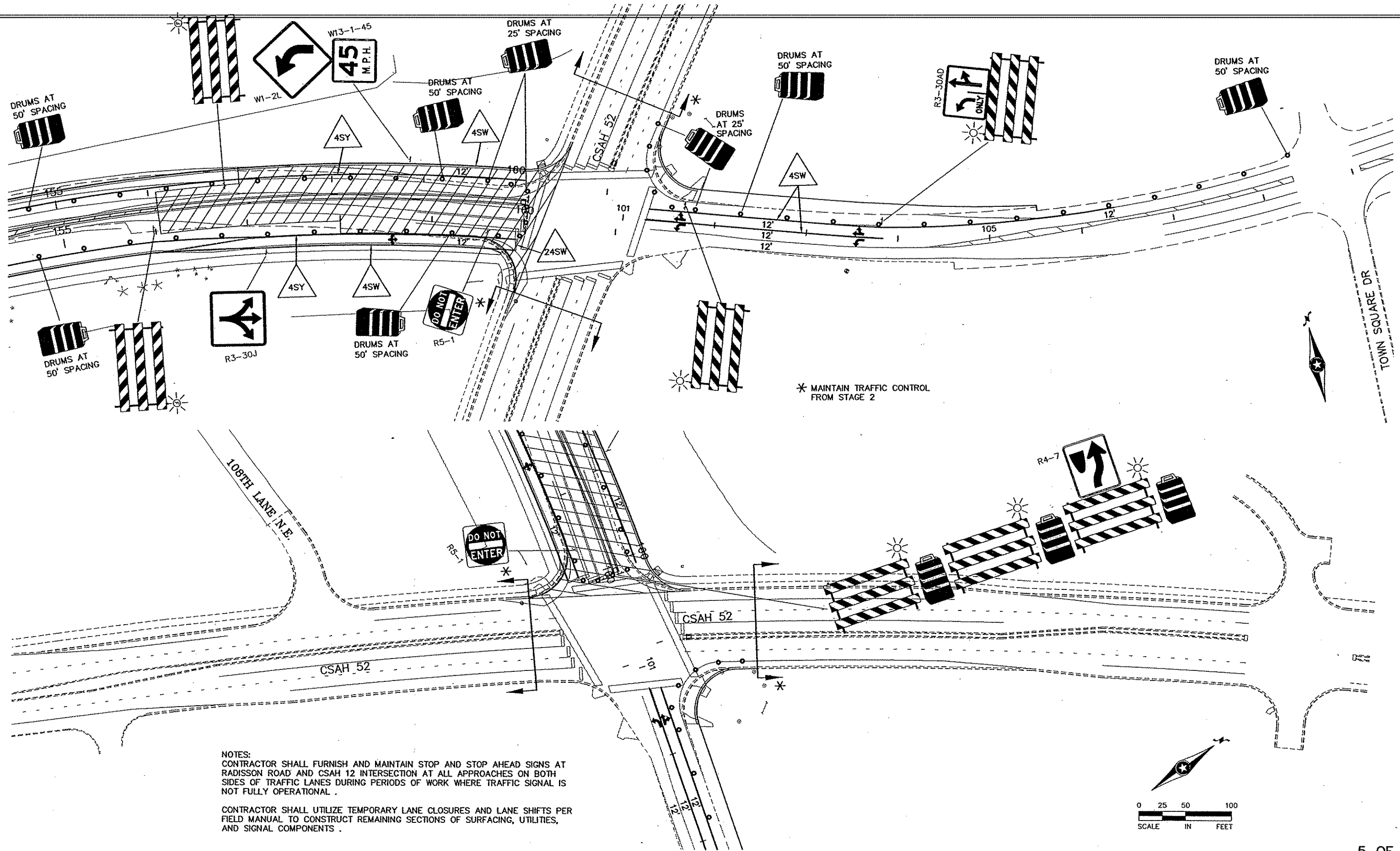
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
STAGE 4

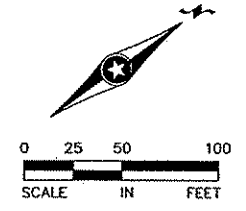
S.P.	02-612-11
S.P.	106-020-025
S.P.	
S.P.	

SHEET NO.	120
	211

PLOT DATE: Aug 19, 2005 4:31pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS45.dwg



NOTES:
 CONTRACTOR SHALL FURNISH AND MAINTAIN STOP AND STOP AHEAD SIGNS AT RADISSON ROAD AND CSAH 12 INTERSECTION AT ALL APPROACHES ON BOTH SIDES OF TRAFFIC LANES DURING PERIODS OF WORK WHERE TRAFFIC SIGNAL IS NOT FULLY OPERATIONAL .
 CONTRACTOR SHALL UTILIZE TEMPORARY LANE CLOSURES AND LANE SHIFTS PER FIELD MANUAL TO CONSTRUCT REMAINING SECTIONS OF SURFACING, UTILITIES, AND SIGNAL COMPONENTS .



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
DRAWN BY: LGJ
CHKD. BY: SAW
DATE: AUGUST 18, 2005
DESIGN BY: LOM/SAW
DWG. NAME: TCS45



Threeher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1376 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



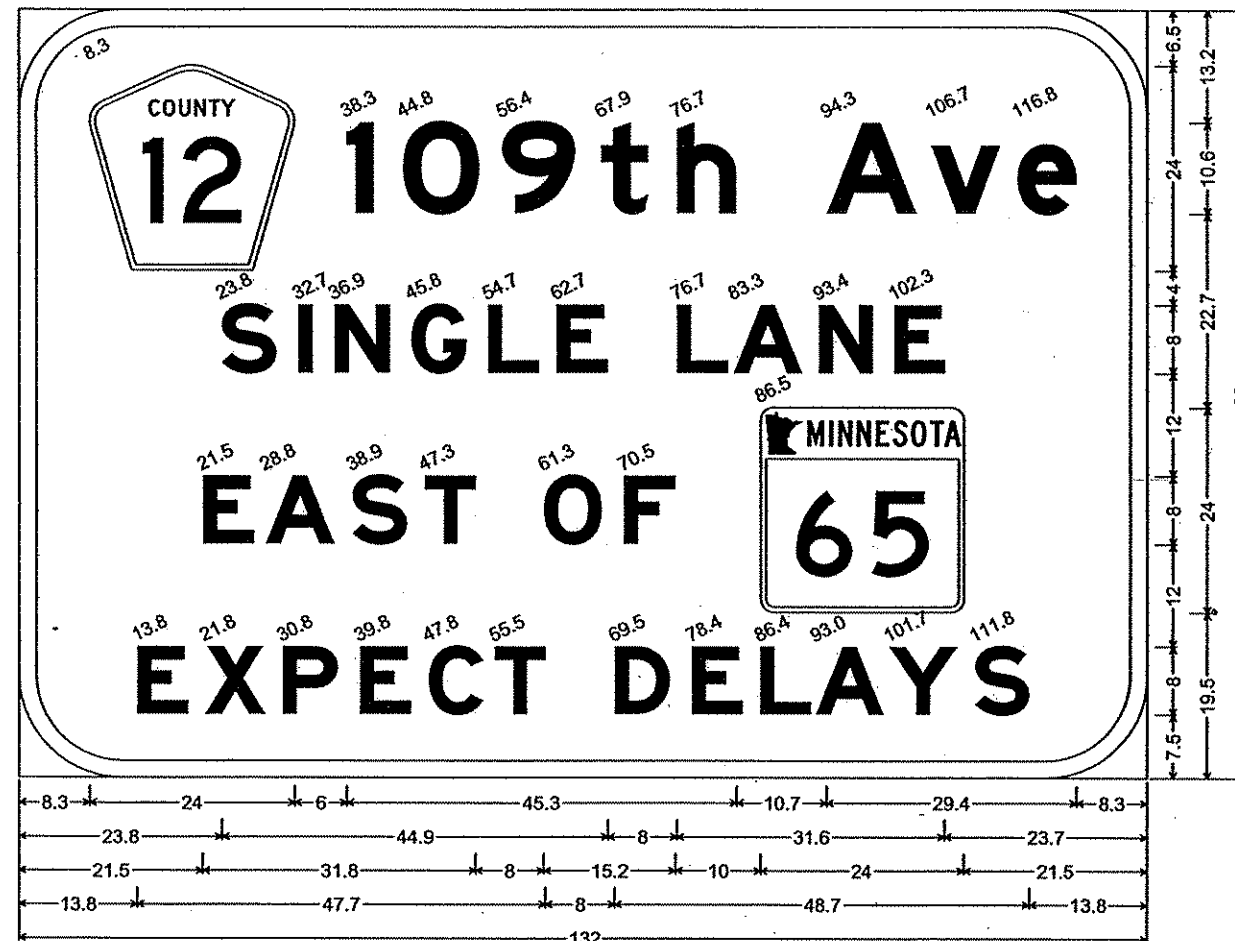
ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TRAFFIC CONTROL PLAN
 STAGE 4

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	121
S.P.	
S.P.	

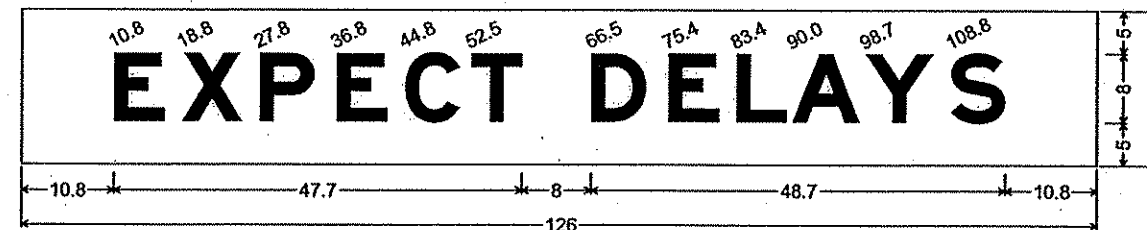
5 OF 5
 211

PLOT DATE: Aug 19, 2005 4:34pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SS1.dwg



CS-01; 12.0" Radius, 2.0" Border, Black on Orange;
[109th Ave] E Mod; [SINGLE LANE] E Mod; [EAST OF] E Mod; [EXPECT DELAYS] E Mod;

CS-01



CS-02; No border, None on Orange;
[EXPECT DELAYS] Black E Mod;

CS-02

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 31809-791
				DRAWN BY: LGJ
				DESIGN BY: LOM
				CHKD. BY: SAW
				DWG. NAME: SS1
				DATE: AUGUST 18, 2005



Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser
STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545

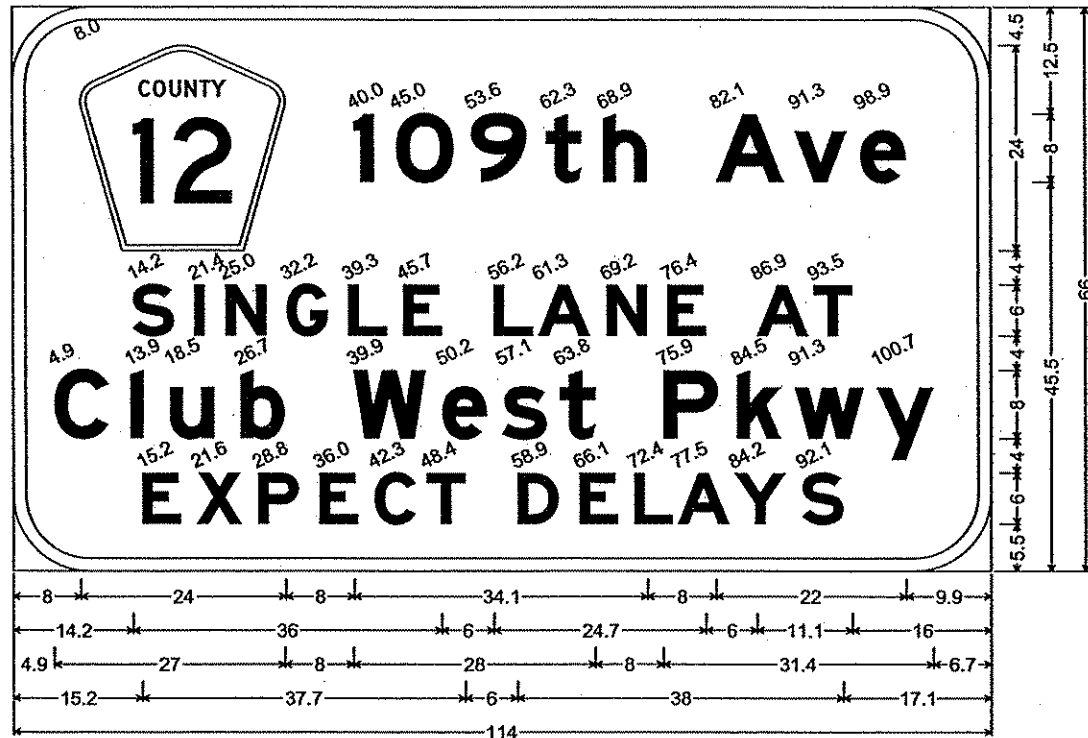


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL PLAN
SPECIAL SIGNS

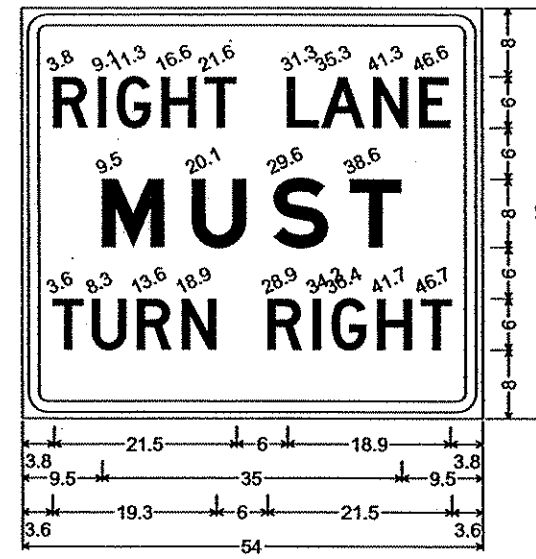
S.P. 02-612-11	SHEET NO. 122
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 4:35pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SS2.dwg



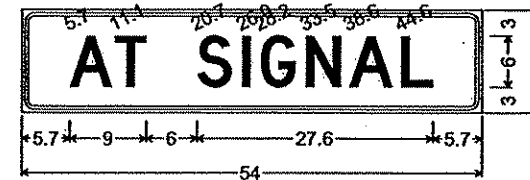
CS-03; 9.0" Radius, 1.5" Border, Black on Orange;
 [109th Ave] E Mod; [SINGLE LANE AT] E Mod 125% spacing; [Club West Pkwy] E Mod;
 [EXPECT DELAYS] E Mod 125% spacing;

CS-03



CS-05;
 3.0" Radius, 1.3" Border, 0.8" Indent, Black on White;
 [RIGHT LANE] D 90% spacing;
 [MUST] E Mod 125% spacing;
 [TURN RIGHT] D 90% spacing;

CS-05



CS-04;
 1.5" Radius, 0.4" Border, 0.4" Indent, Black on White;
 [AT SIGNAL] D 90% spacing;

CS-04

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: Iom
DRAWN BY: LGJ	CHKD. BY: SAW
DATE: AUGUST 18, 2005	DWG. NAME: SS2



Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.1378 Fax

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

Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545

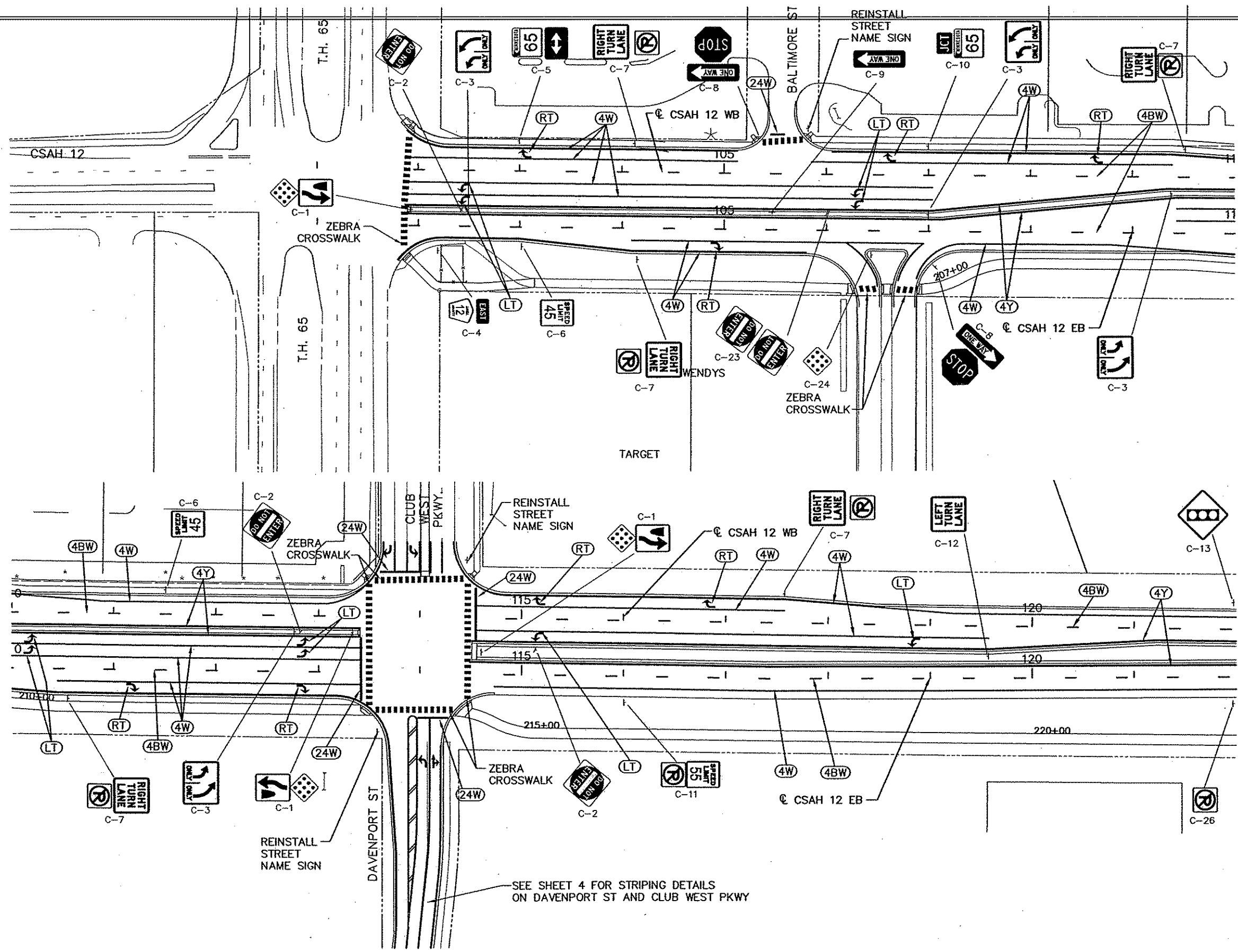


ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 TRAFFIC CONTROL PLAN
 SPECIAL SIGNS

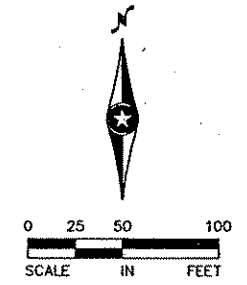
S.P. 02-612-11	SHEET NO. 123
S.P. 106-020-025	
S.P.	
S.P.	

11:53am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SP1.dwg PLOT DATE: Aug 19, 2005



- NOTES:**
- 1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.
 - 2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
 - 3) ALL SKIPSTRIPES, EDGELINE LINES AND LANE LINES SHALL BE EPOXY. PAVEMENT ARROWS, CROSSWALKS AND STOP BARS SHALL BE HOT TAPE.

- PERMANENT PAVEMENT MARKING SYMBOLS**
- (TH) PAVEMENT MESSAGE THRU
 - (RT) PAVEMENT MESSAGE, RT.
 - (LT) PAVEMENT MESSAGE, LT.
 - (T/RT) PAVEMENT MESSAGE, THRU/RT.
 - (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
 - (8DW) 8" DASHED LINE WHITE (3' STRIPE, 12' GAP)
 - (24W) 24" STOP LINE WHITE
 - (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)



SEE SHEET 4 FOR STRIPING DETAILS ON DAVENPORT ST AND CLUB WEST PKWY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: SP1
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



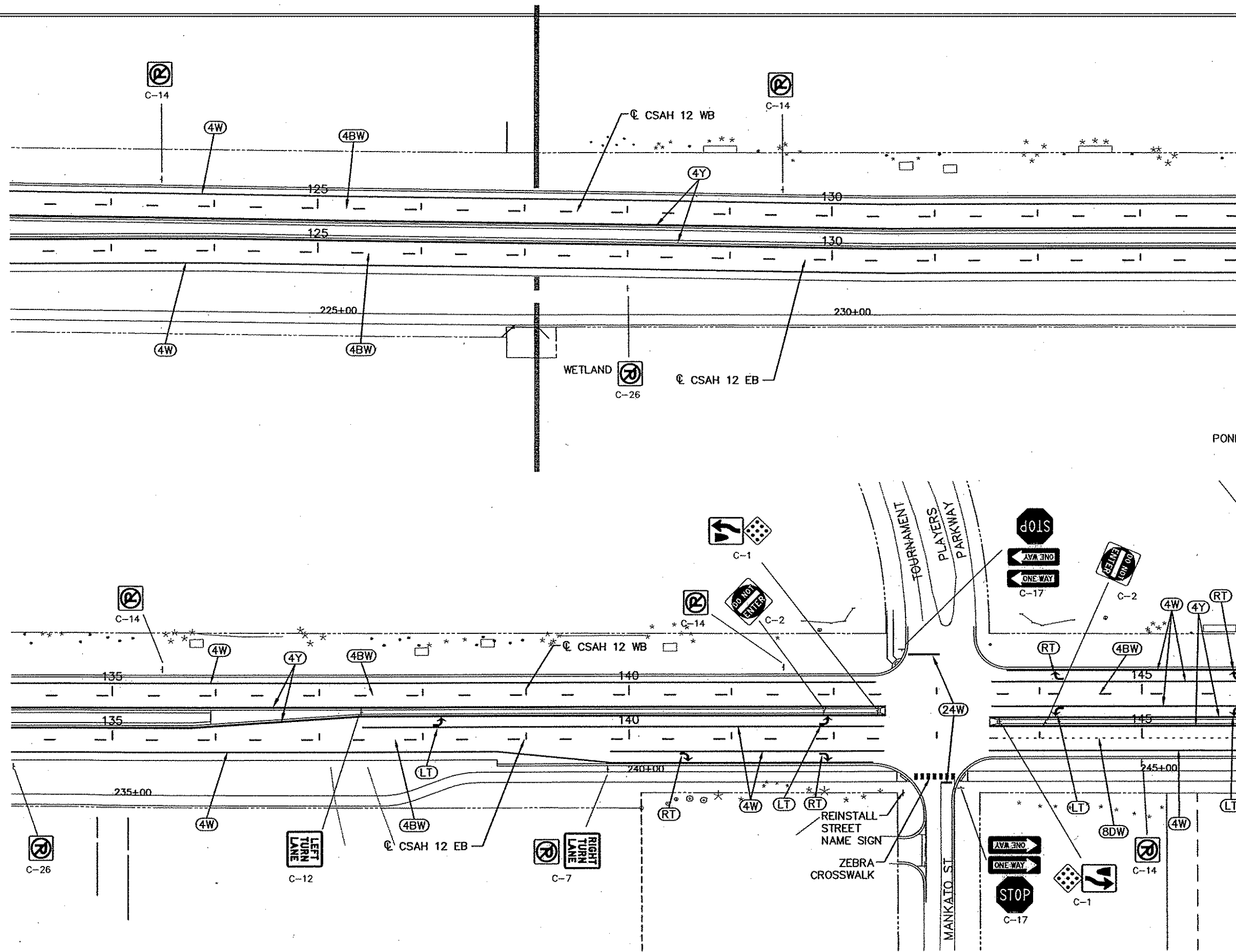
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLANS**

STA. 100+49 TO STA. 122+00

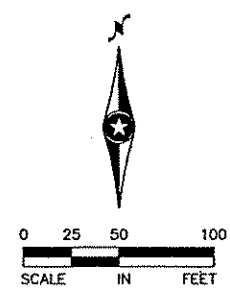
S.P. 02-612-11	SHEET NO. 124
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 11:54am DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\SP2.dwg



- NOTES:**
- 1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.
 - 2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
 - 3) ALL SKIPSTRIPES, EDGELINE LINES AND LANE LINES SHALL BE EPOXY. PAVEMENT ARROWS, CROSSWALKS AND STOP BARS SHALL BE HOT TAPE.

- PERMANENT PAVEMENT MARKING SYMBOLS**
- (TH) PAVEMENT MESSAGE THRU
 - (RT) PAVEMENT MESSAGE, RT.
 - (LT) PAVEMENT MESSAGE, LT.
 - (T/RT) PAVEMENT MESSAGE, THRU/RT.
 - (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
 - (8DW) 8" DASHED LINE WHITE (3' STRIPE, 12' GAP)
 - (24W) 24" STOP LINE WHITE
 - (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)



2 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
SAW

CHKD. BY:
SAW

DWG. NAME:
SP2

DATE:
AUGUST 18, 2005



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLAN**

STA. 122+00 TO STA. 146+00

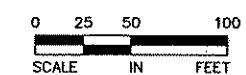
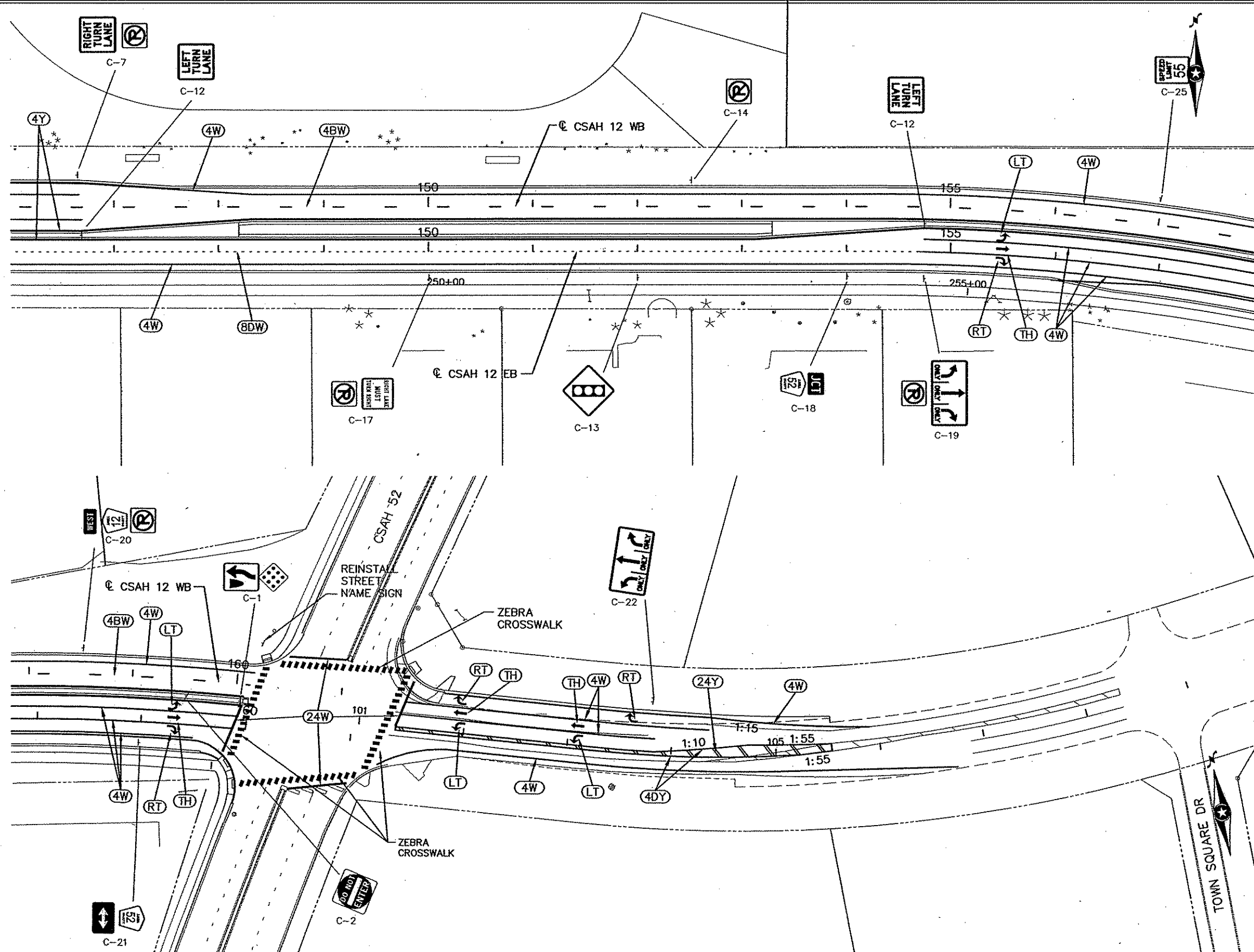
S.P. 02-612-11	SHEET NO. 125
S.P. 106-020-025	
S.P.	211
S.P.	

NOTES:

- 1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.
- 2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- 3) ALL SKIPSTRIPES, EDGELINE LINES AND LANE LINES SHALL BE EPOXY. PAVEMENT ARROWS, CROSSWALKS AND STOP BARS SHALL BE HOT TAPE.

PERMANENT PAVEMENT MARKING SYMBOLS

- (TH) PAVEMENT MESSAGE THRU
- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (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
- (8DW) 8" DASHED LINE WHITE (3' STRIPE, 12' GAP)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND:
24" SOLID LINE YELLOW
(20' SPACING @ 45°)



PLOT DATE: Aug 19, 2005 11:55am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SP3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
LGJ

DESIGN BY:
SAW

CHKD. BY:
SAW

DWG. NAME:
SP3

DATE:
AUGUST 18, 2005

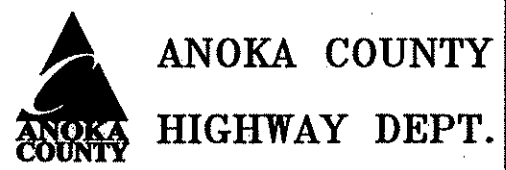


Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser

STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLAN**

STA. 146+00 TO STA. 161+66

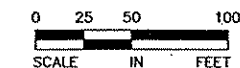
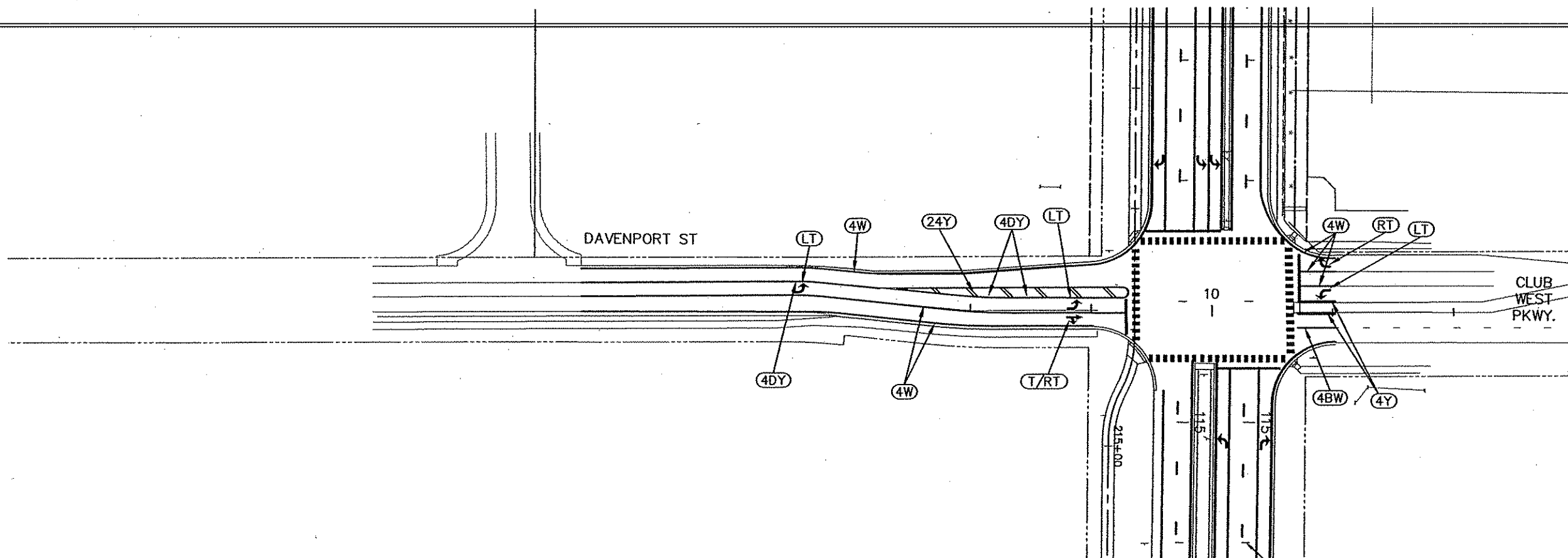
S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	126
S.P.	211
S.P.	

NOTES:

- 1) ALL SIGNS SHALL BE FURNISHED & INSTALLED UNLESS OTHERWISE NOTED.
- 2) SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- 3) ALL SKIPSTRIPES, EDGELINE LINES AND LANE LINES SHALL BE EPOXY. PAVEMENT ARROWS, CROSSWALKS AND STOP BARS SHALL BE HOT TAPE.

PERMANENT PAVEMENT MARKING SYMBOLS

- (TH) PAVEMENT MESSAGE THRU
- (RT) PAVEMENT MESSAGE, RT.
- (LT) PAVEMENT MESSAGE, LT.
- (T/RT) PAVEMENT MESSAGE, THRU/RT.
- (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
- (8DW) 8" DASHED LINE WHITE (3' STRIPE, 12' GAP)
- (24W) 24" STOP LINE WHITE
- (24Y) PAINTED ISLAND: 24" SOLID LINE YELLOW (20' SPACING @ 45°)



4 OF 4

PLOT DATE: Aug 19, 2005 11:56am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SP4.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: SAW
CHKD. BY: SAW	DWG. NAME: SP4
DATE: AUGUST 18, 2005	



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Steve Weser
STEVE WESER

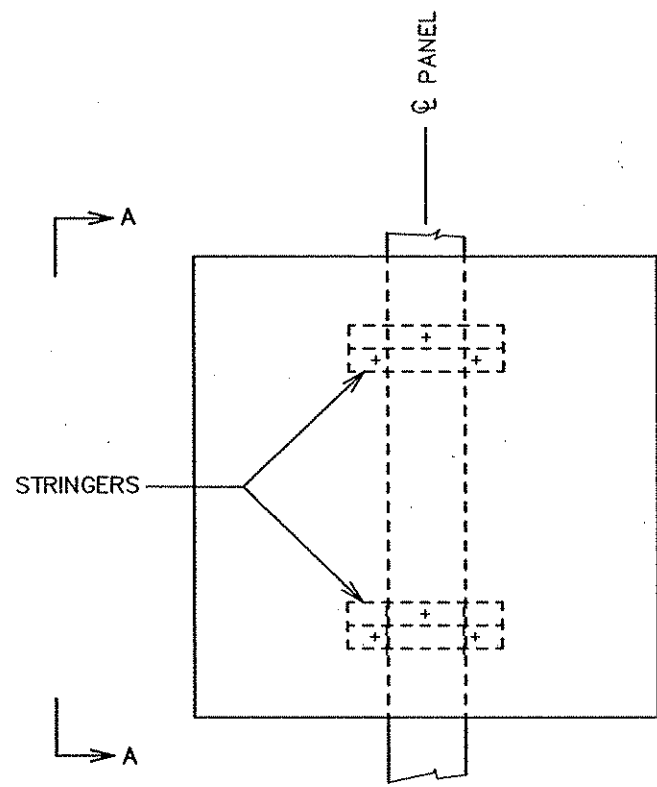
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

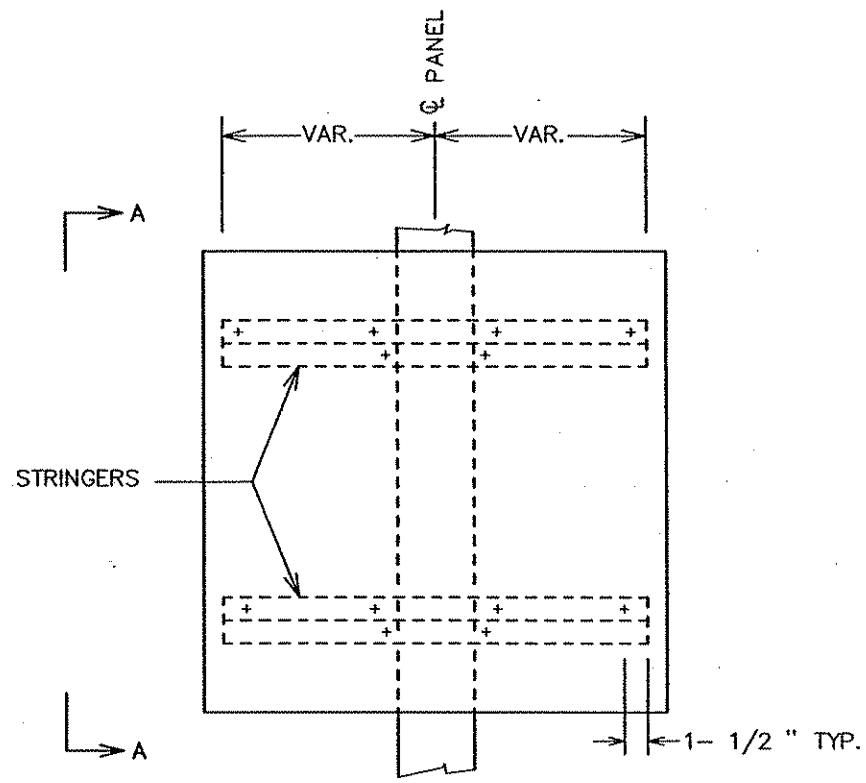
CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLANS
SIGNING AND STRIPING PLAN
DAVENPORT STREET / CLUB WEST PARKWAY

S.P. 02-612-11	SHEET NO. 127
S.P. 106-020-025	
S.P.	211
S.P.	



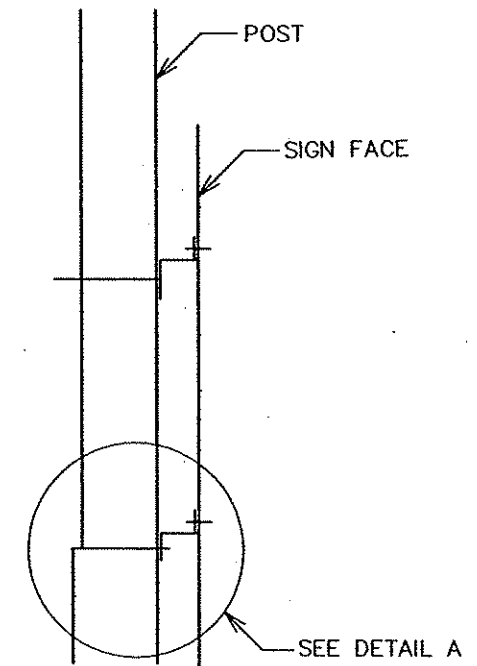
TYPE "C" SIGNS WITH SINGLE POST PUNCHING

ELEVATION

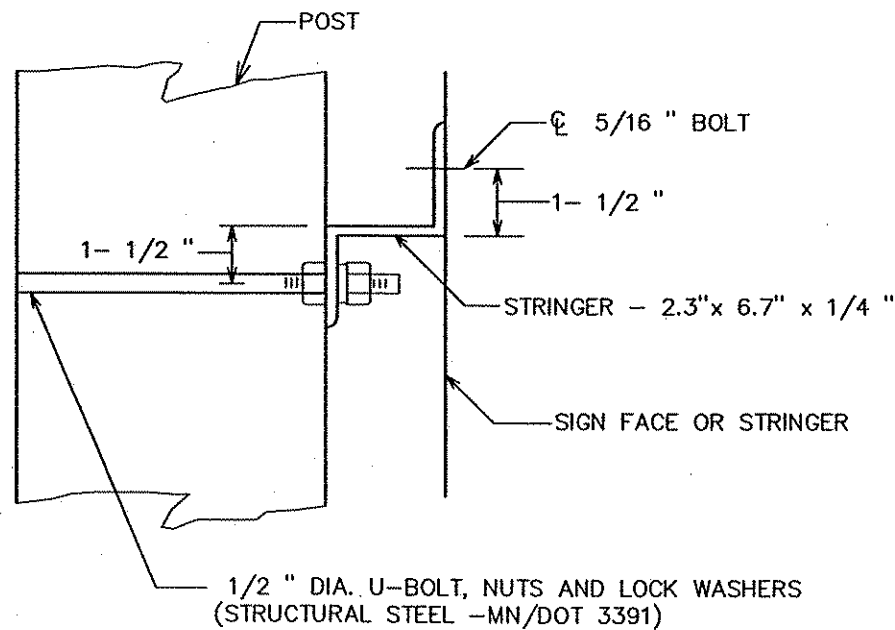


TYPE "C" SIGNS WITH 2-POST PUNCHING

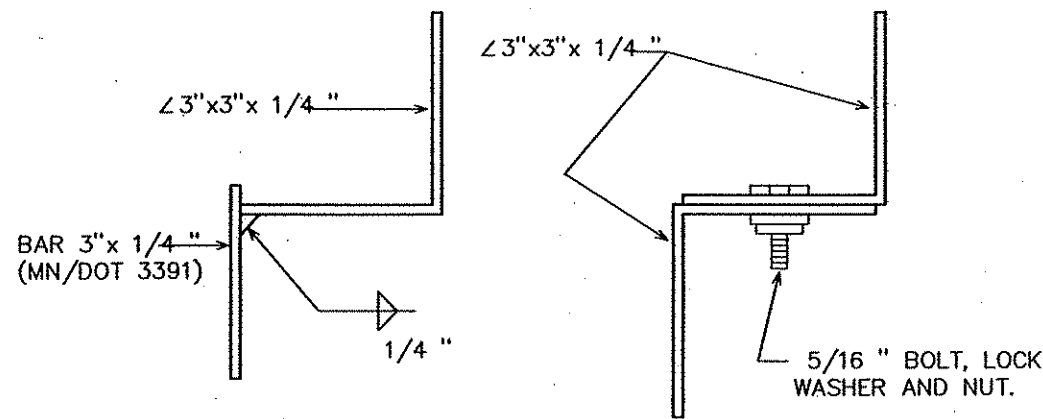
ELEVATION



VIEW A-A



DETAIL A



DETAIL A STRINGER ALTERNATES

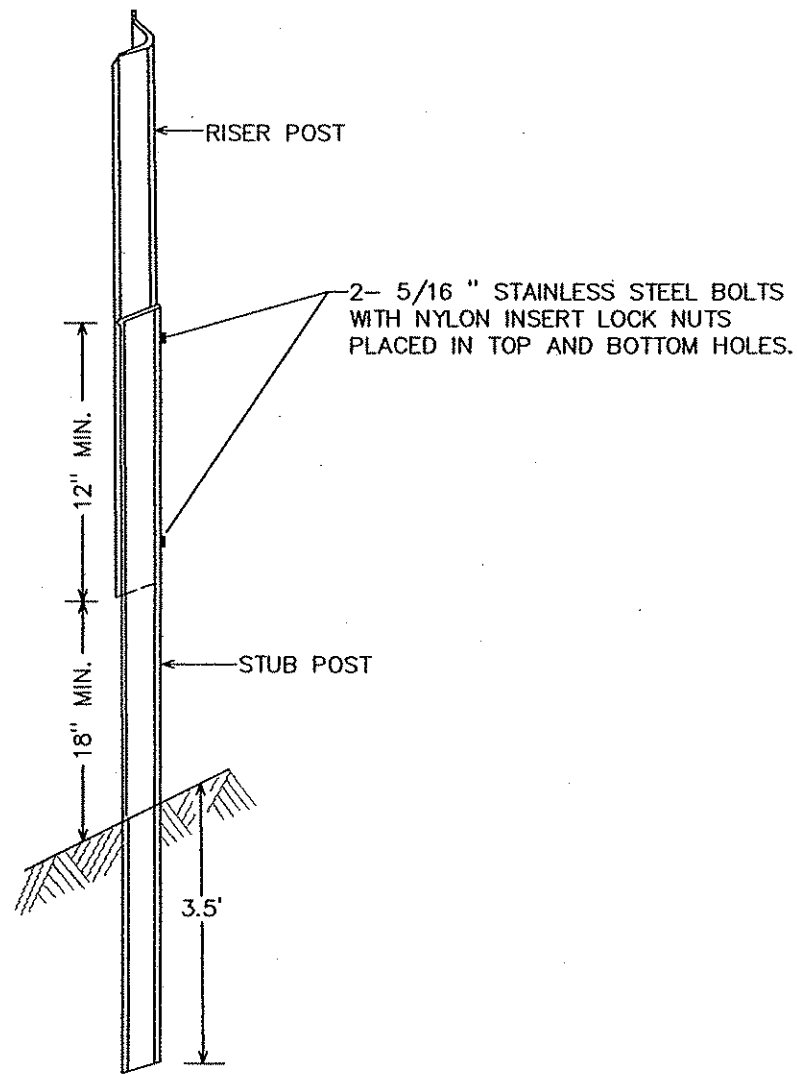
NOTES:

1. FOR DETAILS AND NOTES NOT SHOWN SEE "C" & "D" SIGN DETAILS.
2. FOR BACK TO BACK MOUNTINGS, ROTATE STRINGERS FOR ONE PANEL 180° FROM WHAT IS SHOWN SUCH THAT PANELS CAN BE MOUNTED AT SAME ELEVATION.
3. DETAIL A STRINGER MAY BE ONE OF THE THREE DESIGNS DETAILED OR AN APPROVED EQUAL. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394. FASTENERS SHALL BE IN ACCORDANCE WITH MN/DOT 3391.2B AND SHALL BE GALVANIZED EITHER BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, OR BY THE MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50 OR GREATER.

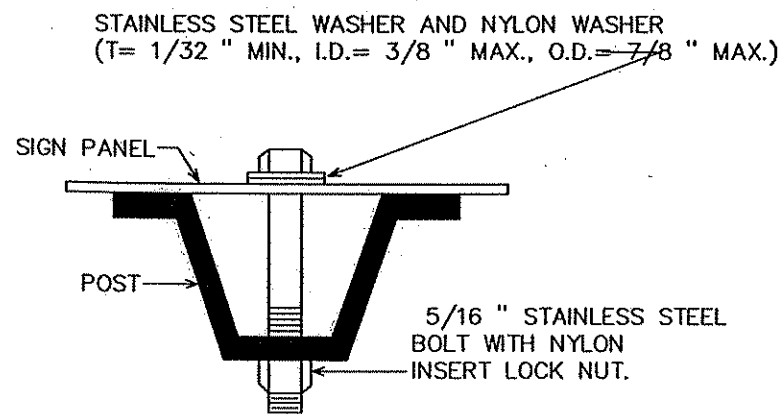
TYPE C SIGNS MOUNTED ON O-POSTS, OH SIGN POSTS OR SIGNAL STANDARDS

PLOT DATE: Aug 19, 2005 11:58am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSTD1.dwg

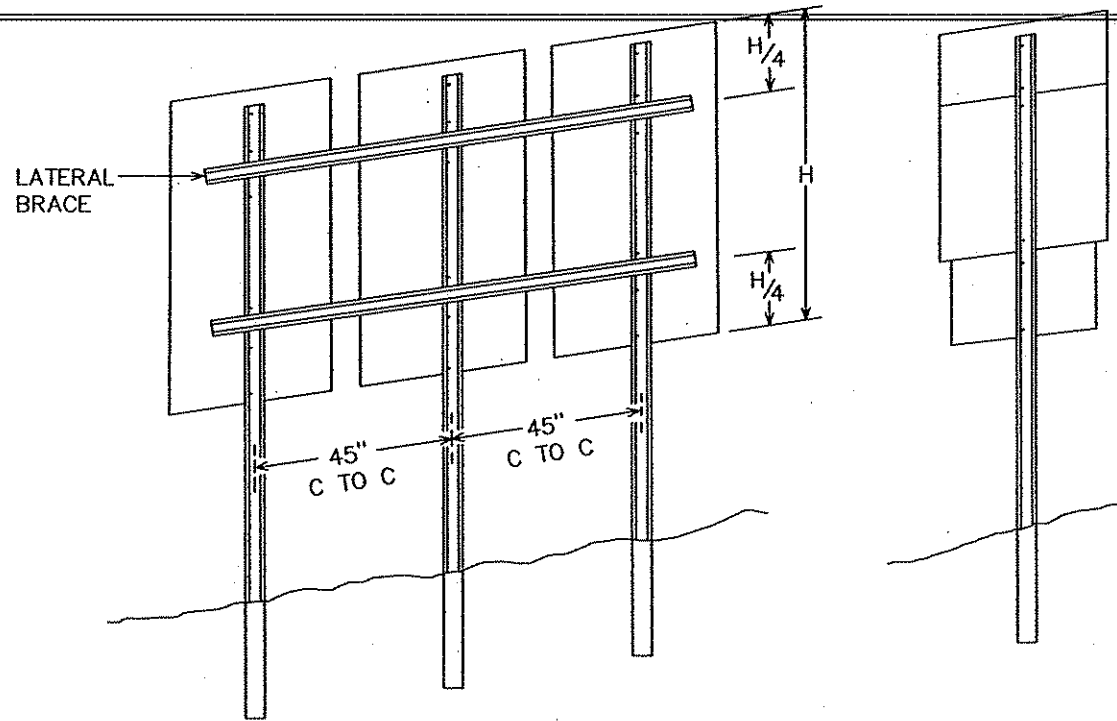
TYPE "C" & "D" POST



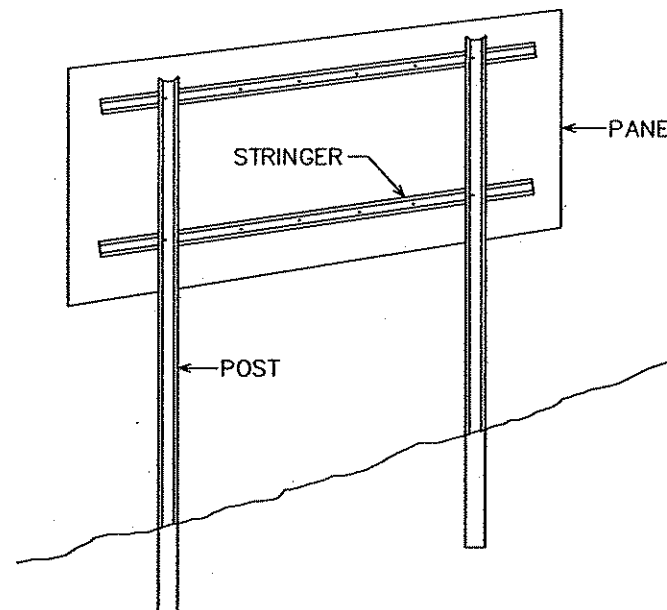
"U POST" SPLICE



"U POST" MOUNTING
TYPE "C" SIGNS



TYPICAL TYPE "C" INSTALLATIONS



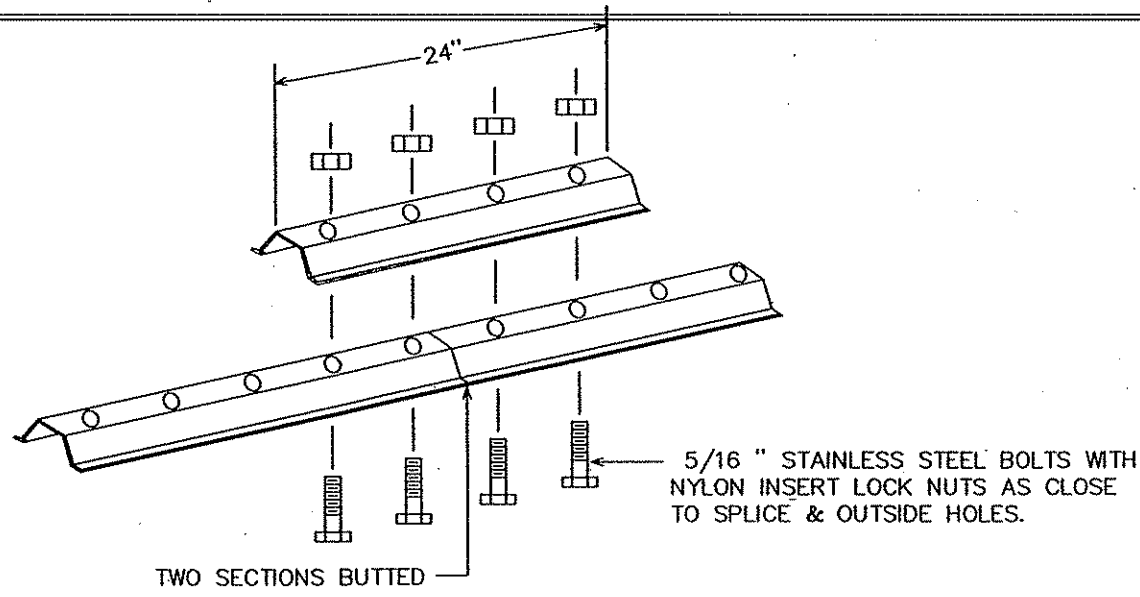
TYPICAL TYPE "D" INSTALLATION

NOTES:

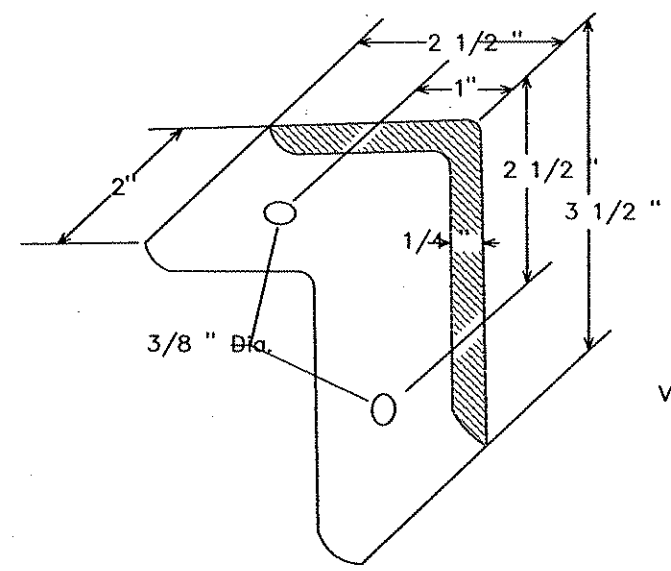
1. USE 3# STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE "D" SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE "D" SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) "U POSTS" SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 POST TYPE "C" SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

TYPE C & D SIGN
STRUCTURAL DETAILS

PLOT DATE: Aug 19, 2005 11:59am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSTD2.dwg

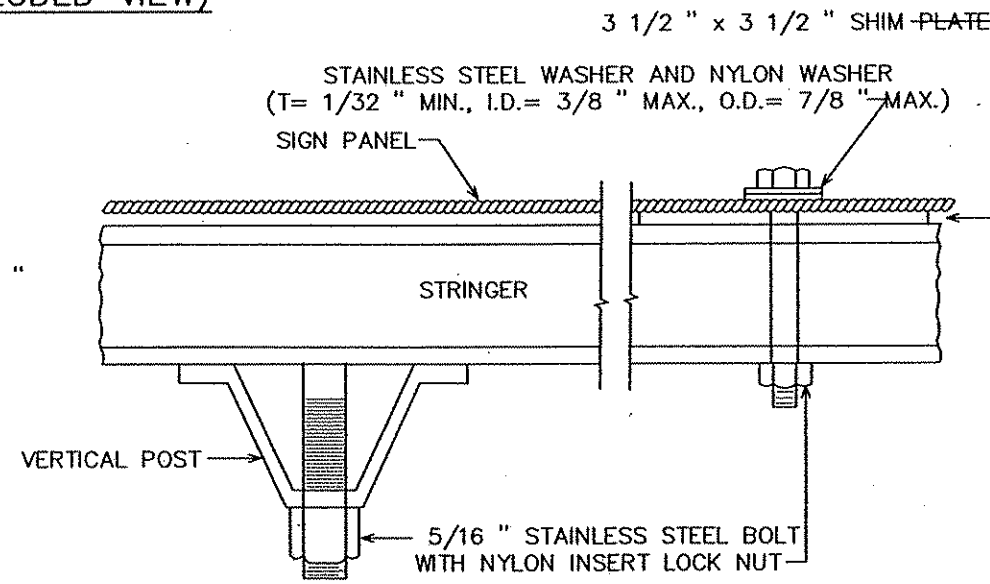


LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)

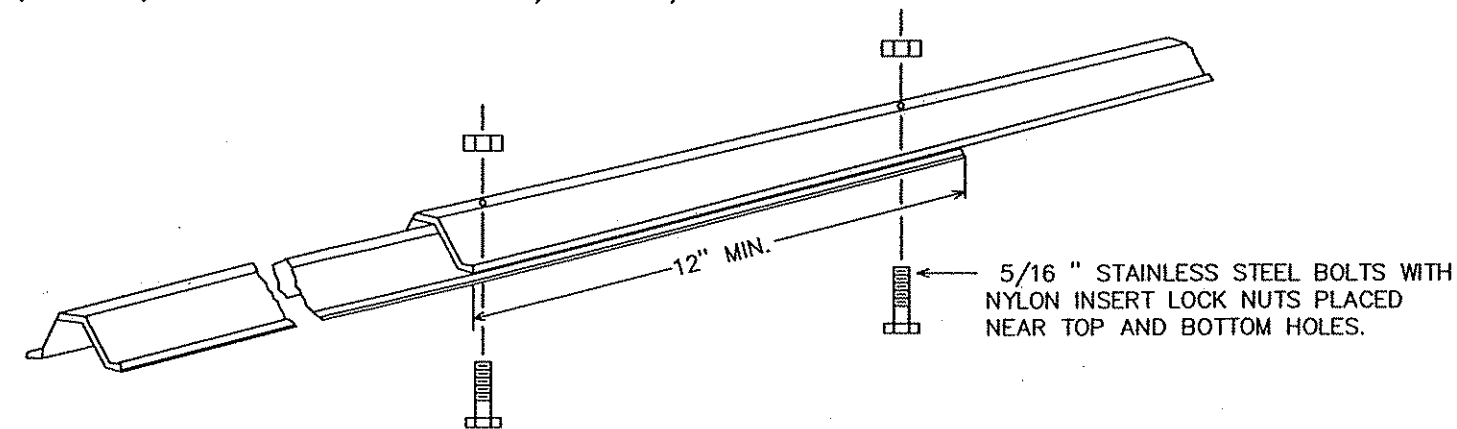


A-FRAME BRACKET

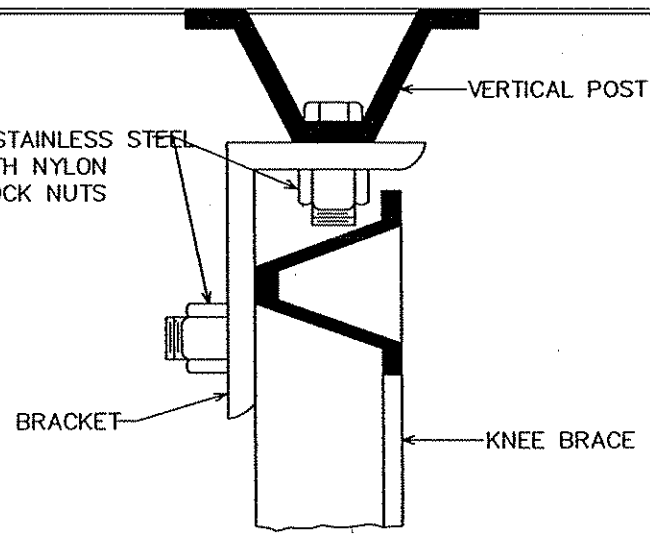
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



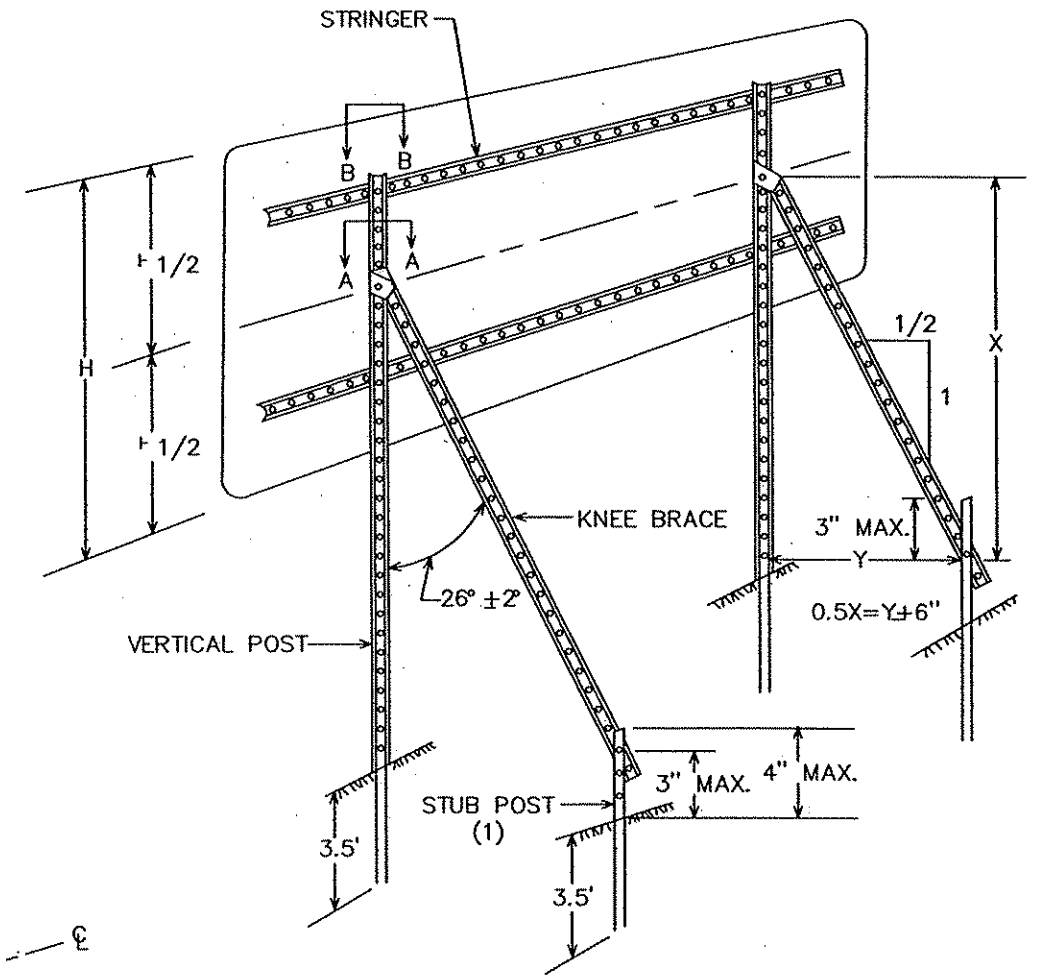
SECTION B-B



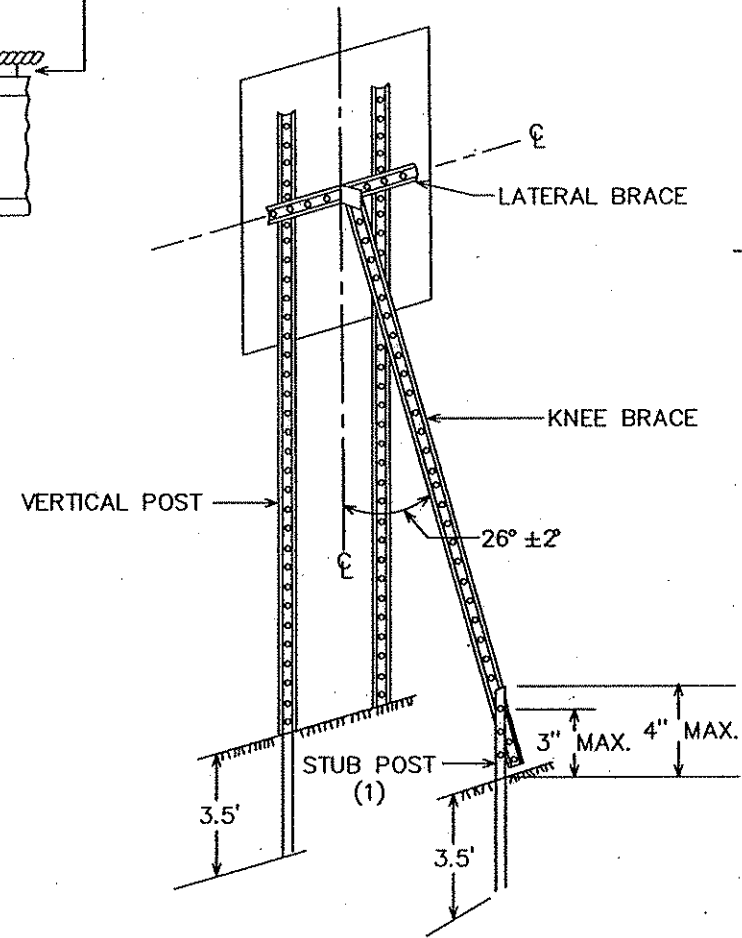
KNEE BRACE SPLICE



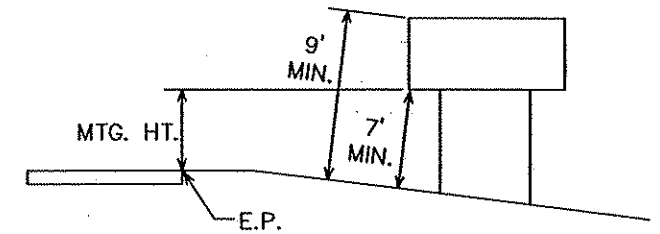
SECTION A-A



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



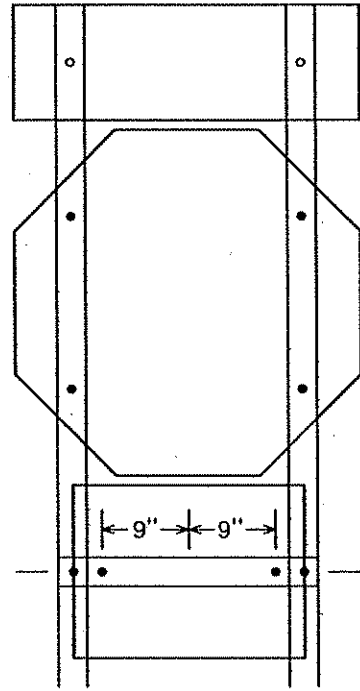
TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS



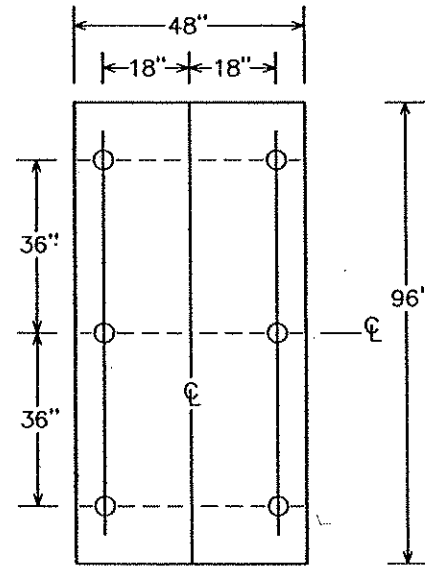
TYPICAL MOUNTING

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

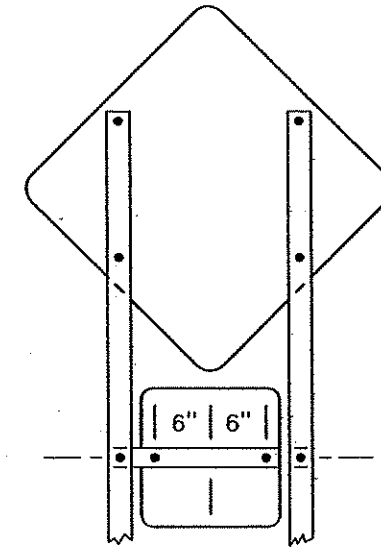
TYPICAL "A-FRAME" INSTALLATION TYPE "C" & "D" SIGN STRUCTURAL DETAILS



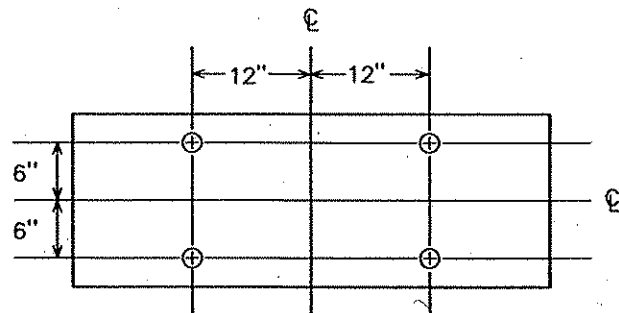
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



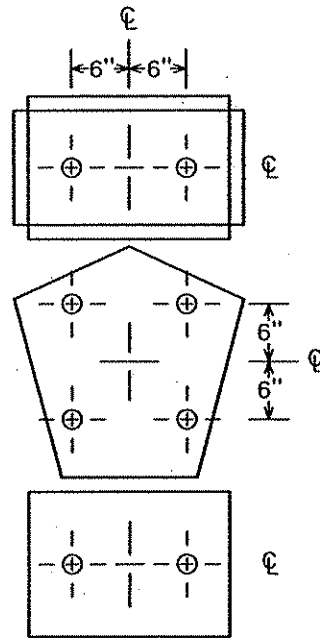
PUNCHING FOR R2-4b
SPEED LIMIT



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

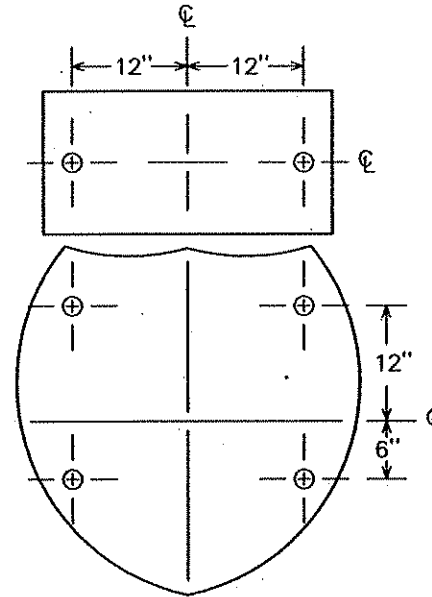


PUNCHING FOR R6-1(48"x18")

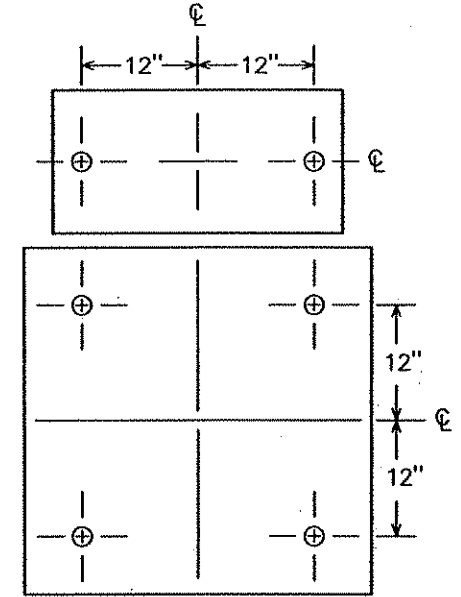


M2-1A [21"x15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24"x12"] AND
M1-6 [24"x24"] AND

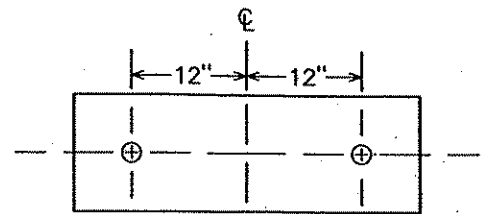
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21"x15"]
PUNCHING



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



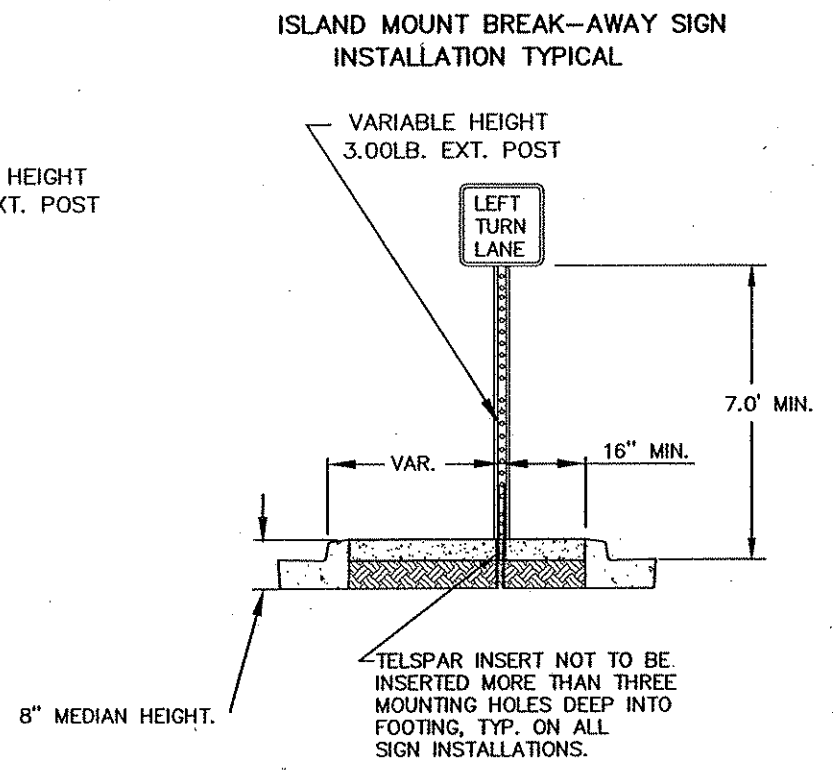
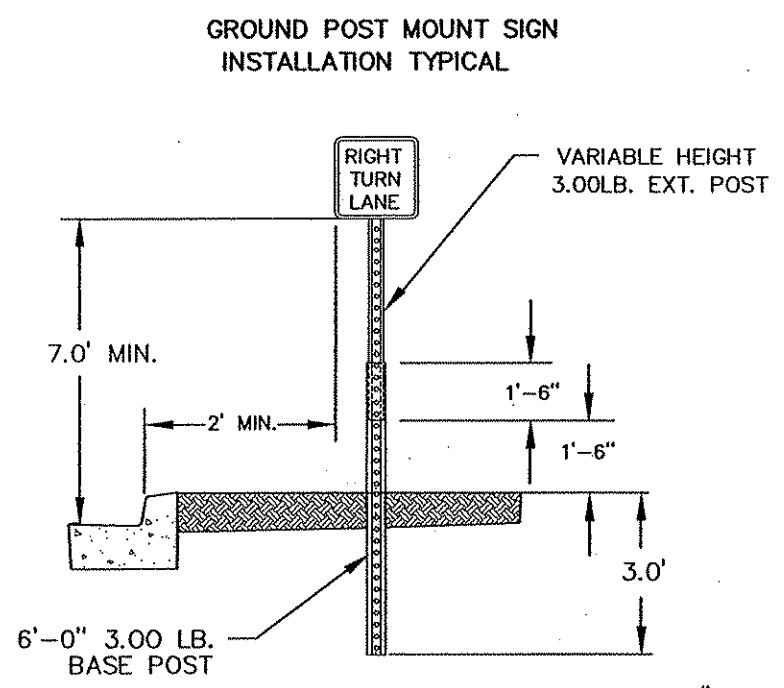
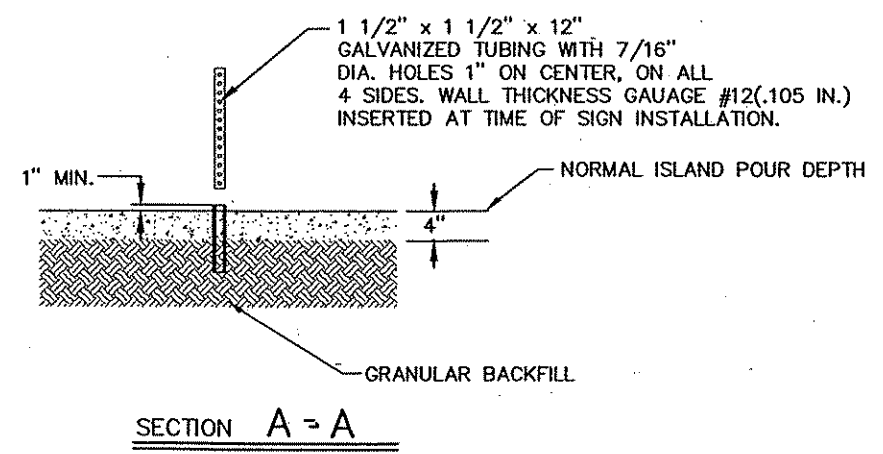
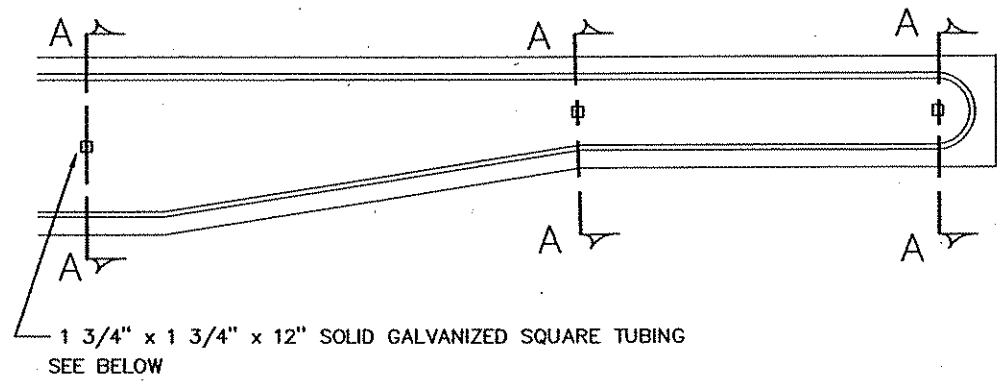
(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR
M3-4A) [30"x15"] AND (M1-4 OR M1-5A) [36"x36"]
PUNCHING



PUNCHING FOR R6-1(36"x12")

TYPE C & D SIGN
STRUCTURAL DETAILS

PLOT DATE: Aug 19, 2005 12:01pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSTDA.dwg



PLOT DATE: Aug 19, 2005 12:02pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSTD5.dwg

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CHKD. BY: SAW	DWG. NAME: TCSTD5
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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545

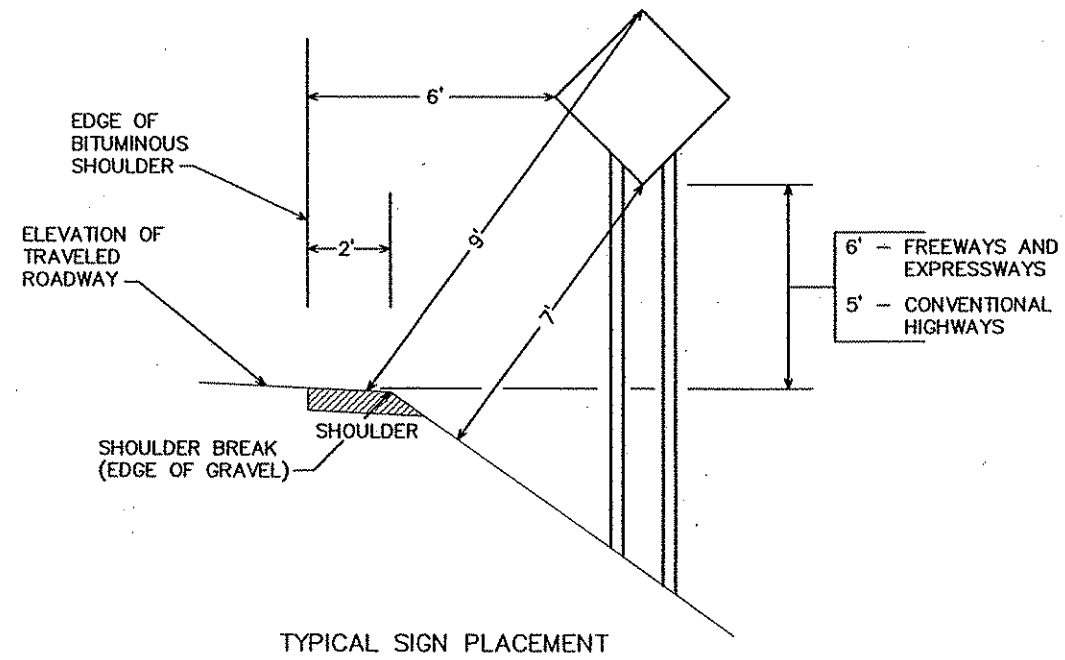


ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
SIGN DETAIL

S.P. 02-612-11	SHEET NO. 132
S.P. 106-020-025	
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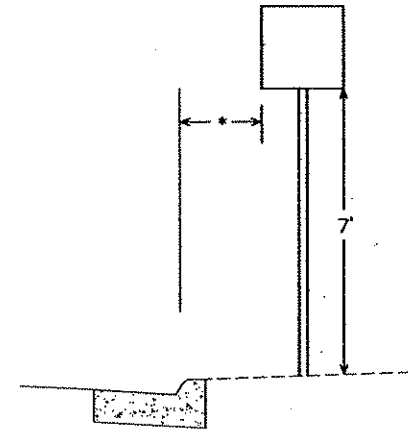
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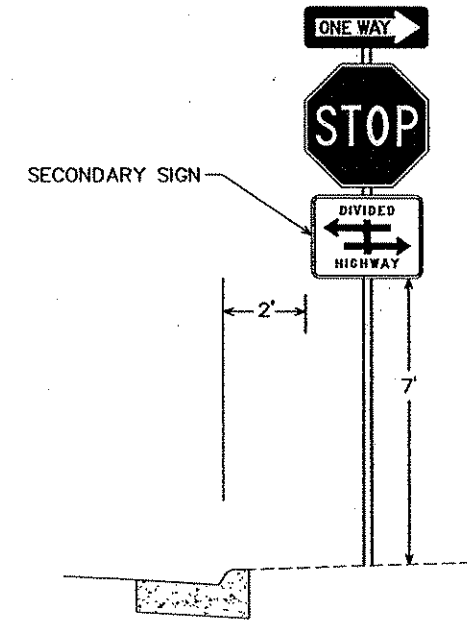
TYPICAL SIGN PLACEMENT

URBAN

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



TYPICAL SIGN PLACEMENT



NOTE:

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

PLOT DATE: Aug 19, 2005 12:03pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCSTD6.dwg

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Steve Weser
STEVE WESER

DATE: 8/18/2005 MN LIC. NO. 40545

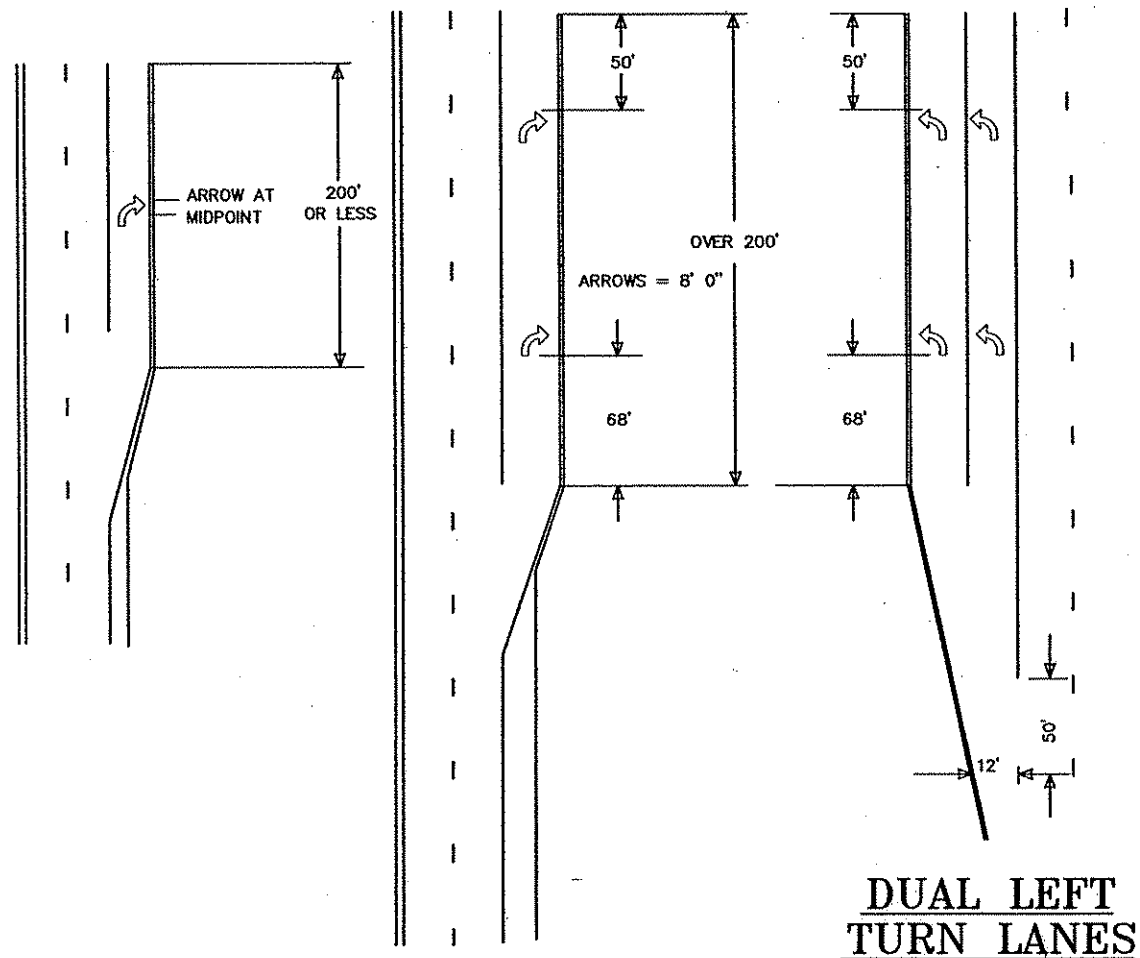


ANOKA COUNTY
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CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLANS
SIGN DETAILS

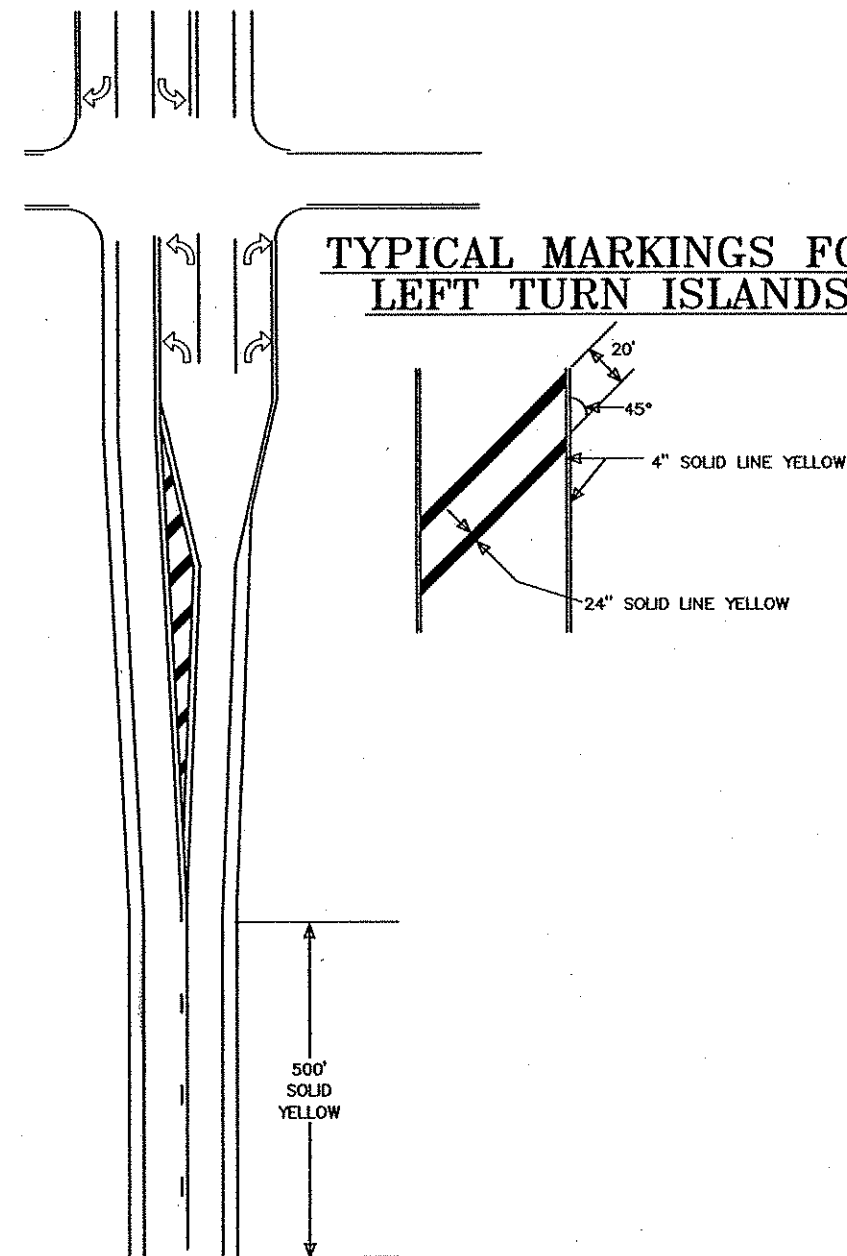
S.P. 02-612-11	SHEET NO. 133 211
S.P. 106-020-025	
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**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**DUAL LEFT
TURN LANES**

**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



PLOT DATE: Aug 19, 2005 12:04pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TCS1D7.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



**ANOKA COUNTY
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STRIPING DETAILS**

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211

MARKINGS FOR PEDESTRIAN CROSSWALKS

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.

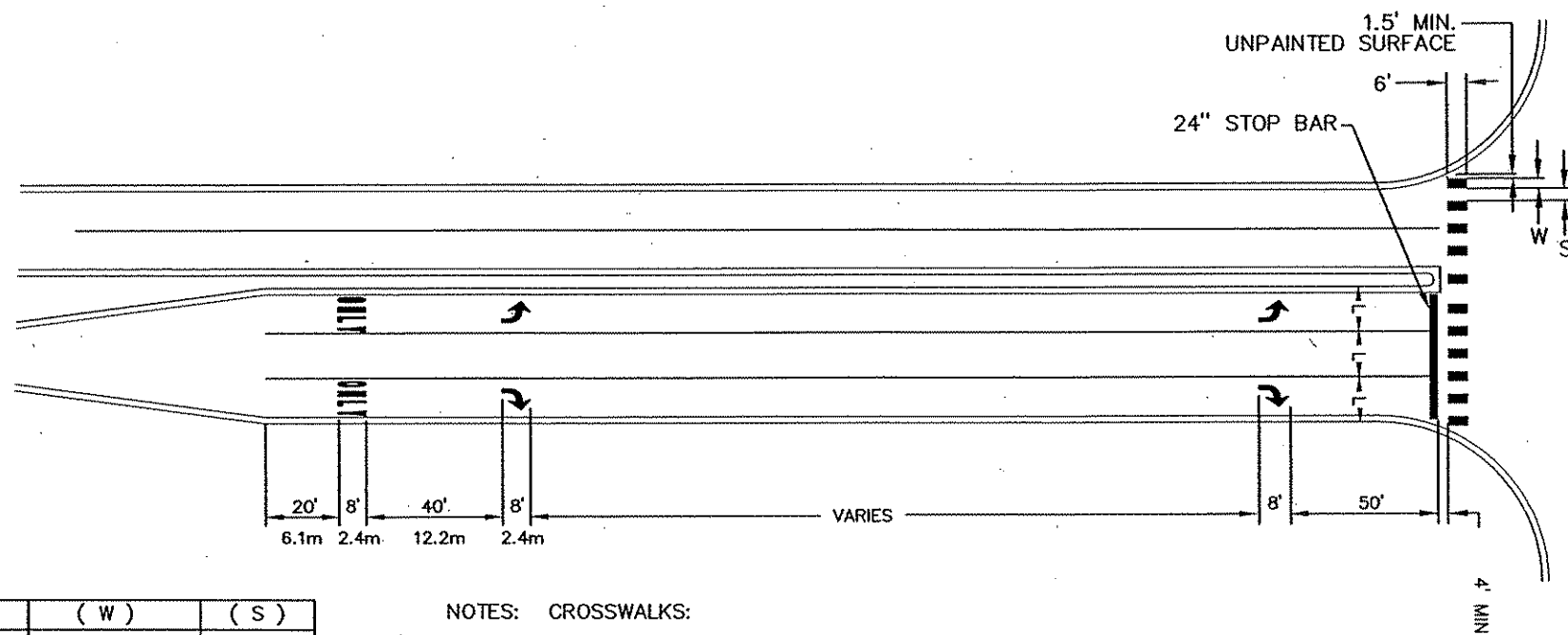
PAINT:

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.



(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 RAMPS 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' (3.3mm) INSIDE LANE.

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DESIGN FILE:
31809-791

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LGJ

DESIGN BY:
LGJ

CHKD. BY:
SAW

DWG. NAME:
TCSTD6

DATE:
AUGUST 18, 2005



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Steve Weser
STEVE WESER
DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
SIGNING AND STRIPING PLANS
STRIPING DETAILS

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S.P.

SHEET NO.
135
211

STANDARD PLATES	
THESE 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 K	PA85 POLE FOUNDATION
* 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 G	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

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

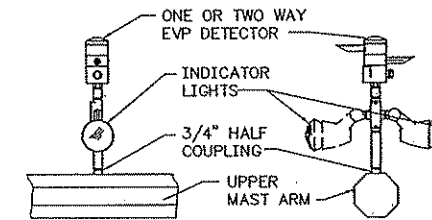
CONTROLLER AND SERVICE EQUIP. NO's	
SIGNAL BASE NO.	
SIGNAL FACE NO.	
LUMINAIRE NO.	
CONTROLLER AND CABINET	
CONTROLLER AND CABINET - IN PLACE	
HANDHOLE	
HANDHOLE - IN PLACE	
RIGID STEEL CONDUIT (RSC)	
RIGID STEEL CONDUIT (RSC) - IN PLACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE - IN PLACE	
PEDESTRIAN INDICATORS	
PEDESTRIAN INDICATORS - IN PLACE	
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	
PEDESTRIAN PUSH BUTTON STATION	
TRAFFIC SIGNAL PEDESTAL	
TRAFFIC SIGNAL PEDESTAL - IN PLACE	
TRAFFIC SIGNAL POLE AND MAST ARM	
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	
STREET LIGHT POLE AND LUMINAIRE	
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	
MAST ARM AND LUMINAIRE	
MAST ARM AND LUMINAIRE - IN PLACE	
WOOD POLE	
WOOD POLE - IN PLACE	
SOURCE OF POWER	
RAILROAD SIGNAL - IN PLACE	
RIGHT OF WAY LINE	
CENTERLINE	
EDGE OF ROADWAY	
SHOULDERLINE	
CURB LINE	
STOP BAR	
EMERGENCY VEHICLE PREEMPTION DETECTOR & LIGHT	
MICROWAVE DETECTION	
SONIC DETECTION	

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

EVP DETECTOR & LIGHT

MOUNTING DETAIL ON MAST ARM



FRONT VIEW

SIDE VIEW

SIGNAL SYSTEM SUMMARY

REVISE SIGNAL SYSTEM A: TH 65/CSAH 12 (109TH AVE.)
 REVISE SIGNAL SYSTEM B: CSAH 12 (109TH AVE.)/DAVENPORT ST.
 REVISE SIGNAL SYSTEM C: CSAH 12 (109TH AVE.)/CSAH 52 (RADISSON RD.)
 FUTURE SIGNAL SYSTEM: CSAH 12 (109TH AVE.)/MANKATO ST.

JURISDICTION

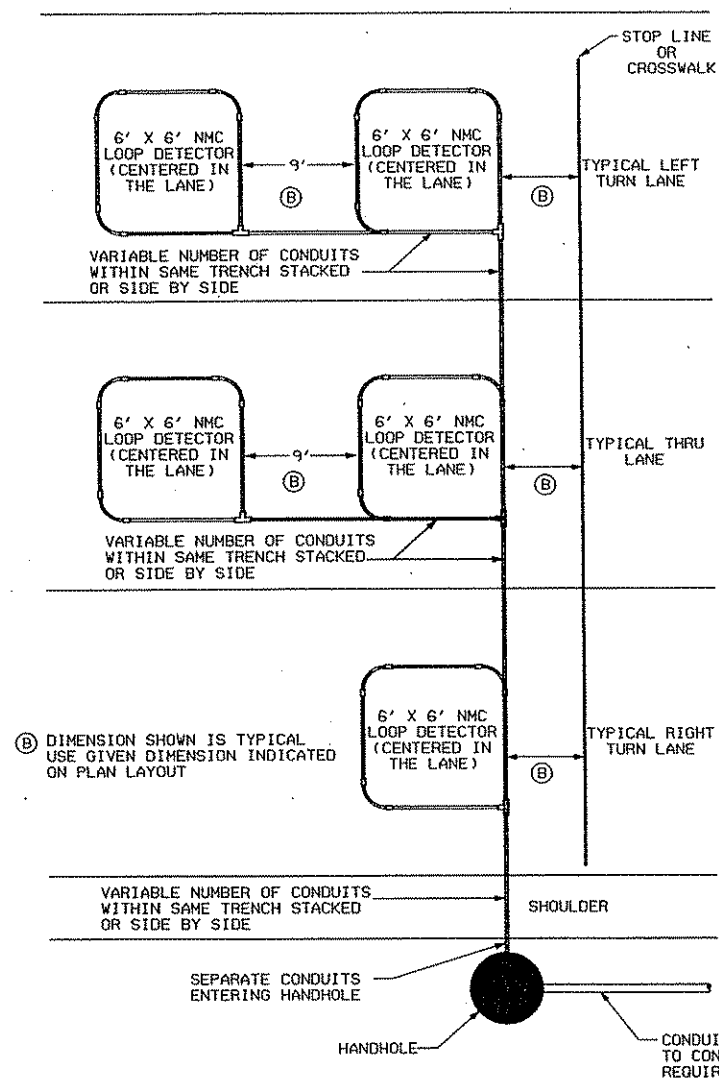
Mn/DOT
 ANOKA COUNTY
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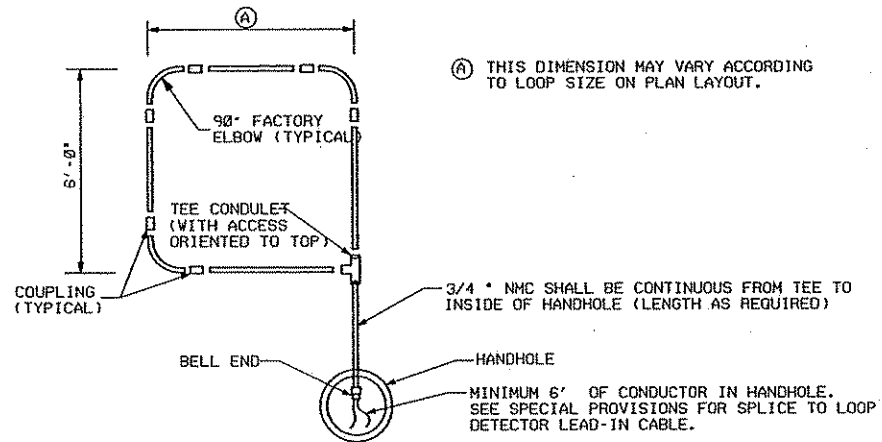
TRAFFIC SIGNALS
1 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 31809-791	 URS <small>Three Star Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tsp 612.370.0176 Fax</small> ALLIANT ENGINEERING <small>INCORPORATED 233 PARK AVENUE SOUTH SUITE 200 MINNEAPOLIS, MN 55415 (612) 728-3000 (612) 728-3099 FAX</small>	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. MICHAEL R. ANDERSON DATE: 8/18/05 MN LIC. NO. 42828	 ANOKA COUNTY HIGHWAY DEPT.	CSAH 12 RECONSTRUCTION TRAFFIC CONTROL SIGNAL SYSTEMS STANDARD PLATES AND SYMBOLS AND SYMBOLS	S.P. 02-612-11	SHEET NO. 136
				S.P. 106-020-025						
				S.P.						
				S.P.						
									211	

TYPICAL CROSS STREET NMC LOOP DETECTOR LAYOUT

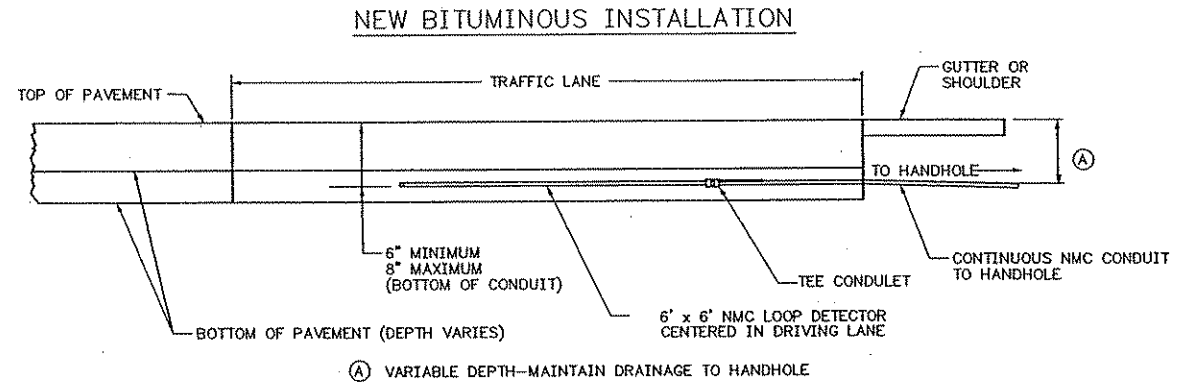


TYPICAL NMC LOOP DETECTOR DETAIL



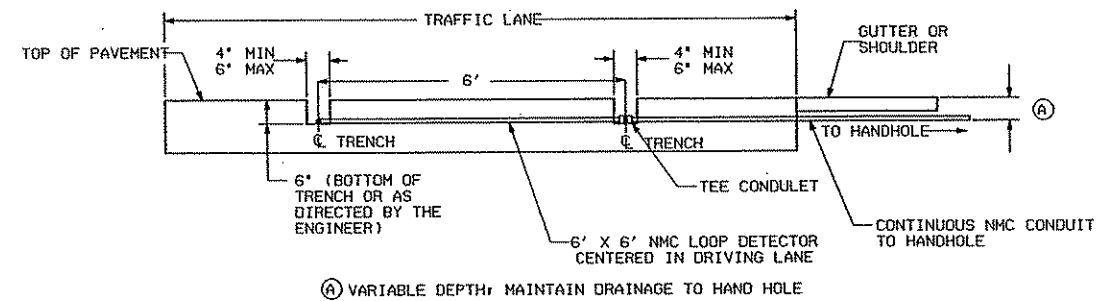
- NOTES:**
- ROADWAY LOOP DETECTOR CONDUCTORS AND LOOP DETECTOR LEAD IN CABLES SHALL BE IN ACCORDANCE WITH MN/DOT SPEC 3815.
 - THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
 - THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS). THE FOURTH SHALL BE AN NMC TEE CONDULET.
 - APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
 - ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
 - THE ROADWAY LOOP DETECTOR CONDUCTORS (1/C*14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
 - ATTACH A FERROUS METAL ITEM IN OR ADJACENT TO THE TEE CONDULET COVER OR AS DIRECTED BY THE ENGINEER.
 - EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
 - LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
 - THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL EXTEND 6' TO 10' INTO THE HAND HOLE FOR SPLICING.
 - NO SPLICES ALLOWED IN CONDUIT.
 - THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
 - SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).
 - TYPICAL SIZE OF LOOP DETECTORS ARE 6' X 6' AND 6' X 10'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
 - ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.
 - SEE SPECIAL PROVISIONS FOR APPROVED SPLICE KITS.
 - PRIOR TO INSTALLING THE APPROVED SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD IN CONDUCTOR AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO THE INSTALLATION OF THE SPLICE KITS.
 - IF BENDING OF THE NMC LOOP LEAD-IN IS REQUIRED, AN APPROPRIATE HEATING BLANKET OR DEVICE APPROVED BY THE ENGINEER SHALL BE USED. EXPOSED FLAME OR TORCHES ARE NOT ALLOWED.

TYPICAL NMC LOOP DETECTOR INSTALLATION



- NOTES:**
- WHEN INSTALLING NMC LOOPS INTO PRE-ROADWAY AGGREGATE BASE, DEPTH OF TOP OF CONDUIT TO TOP OF AGGREGATE SHALL NOT EXCEED 2".

INPLACE PAVEMENT - MILLED INSTALLATION



- NOTES:**
- USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
 - TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
 - PROVIDE A MINIMUM 5" CLEARANCE, MEASURED FROM THE TOP OF THE FINISHED PAVEMENT TO HIGHEST POINT OF N.M.C. CONDUIT.
 - AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
 - APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA. USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A
 - MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 2350 OR 2360. AGGREGATE SIZE 3 OR 4 WILL BE ALLOWED WHEN 2350 IS UTILIZED AND AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
 - THE USE OF PETROLEUM DISTILLATES AS AN ANTI-ADHESIVE AGENT IS NOT ALLOWED. REFER TO MN/DOT TECH. MEMO NO: 94-16-MRE-05 DATED 3/18/94 FOR ADDITIONAL INFORMATION.
 - COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTING THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
 - THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
 - APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTED MIXTURE TO PROVIDE AN ADDITIONAL SURFACE SEAL (EMULSIFIED ASPHALT 2355.2A). DRY SAND SHALL BE SPREAD ON THE FOG SEAL TO PREVENT MATERIAL PICKUP AND TRACKING.
 - WHEN LOOP DETECTORS ARE MILLED INTO CONCRETE SURFACES, THE TRENCHES SHALL BE FILLED USING A GROUTING MATERIAL WHICH MEETS MN/DOT SPEC 2520 OR OTHER MATERIAL AS APPROVED BY THE ENGINEER. BITUMINOUS FILL IS ACCEPTABLE WHEN OVERLAYING CONCRETE TRENCHES.
 - MILLING IS REQUIRED FOR ALL NMC LOOP INSTALLATIONS. WHEN LOOPS ARE MILLED INTO EXISTING MILLED SURFACE THAT WILL BE OVERLAYED WITH BITUMINOUS, THE MINIMUM TRENCH DEPTH SHALL BE NO LESS THAN THE HIGHEST CONDUIT IN THE TRENCH.

TRAFFIC SIGNALS
2 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS19.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: RJG	DWG. NAME: TS19	
DATE: AUG 18, 2005		

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(Signature)
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

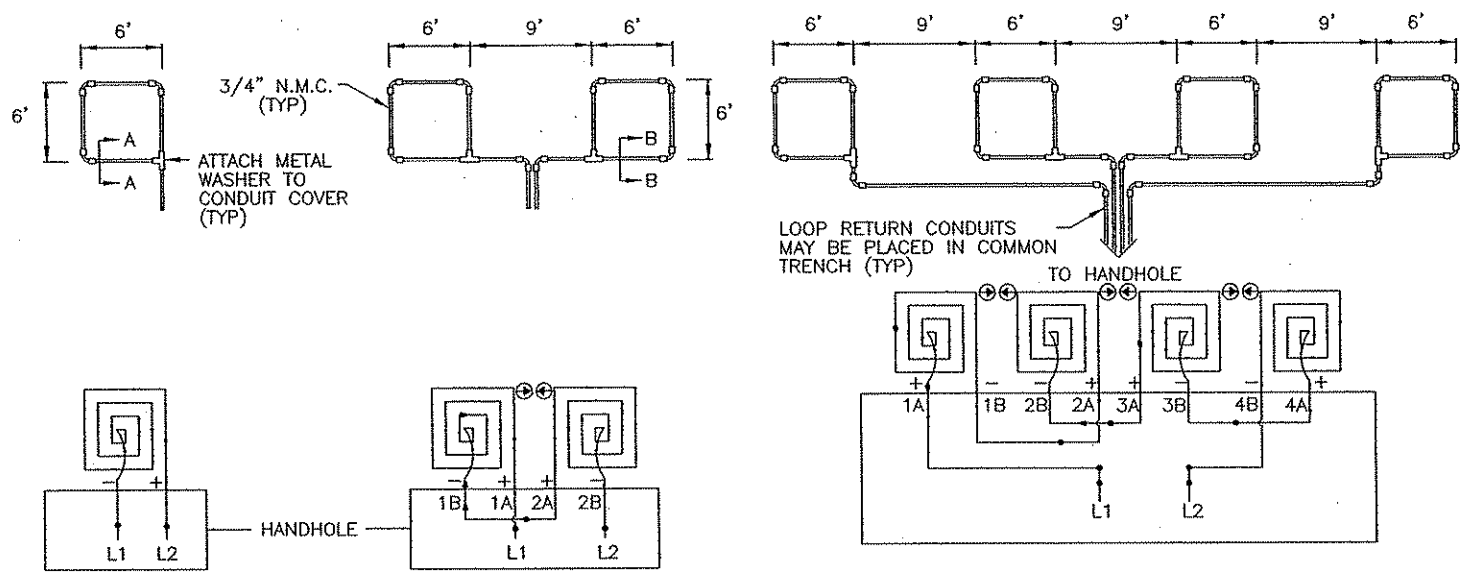
CSAH 12
RECONSTRUCTION
SIGNAL SYSTEM A
PERFORMED NON-METALLIC CONDUIT
(NMC) LOOP DETECTOR DETAILS

S.P.	02-612-11
S.P.	106-020-025
S.P.	
S.P.	

SHEET NO.
137

211

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS06.dwg



**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

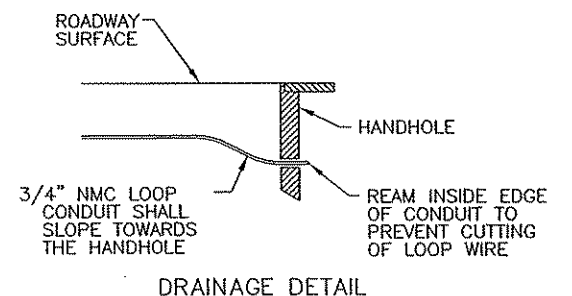
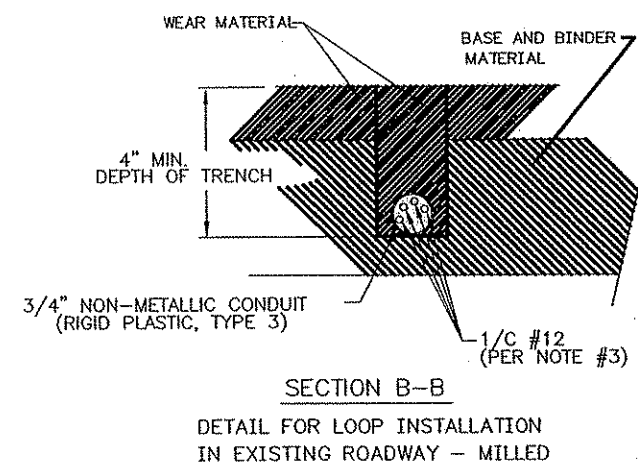
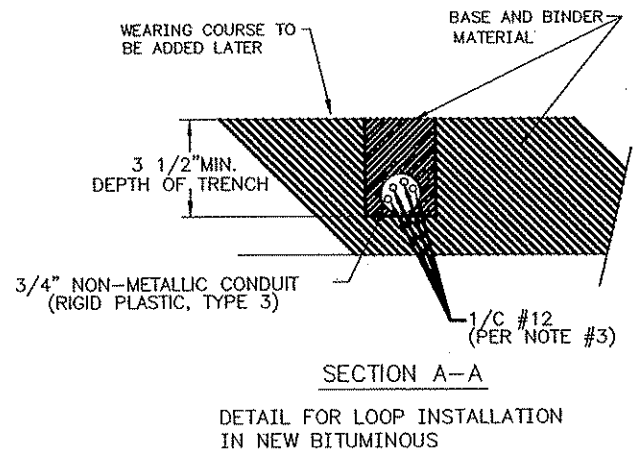
**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)

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)



- 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 0.3 METER (1 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 SIGNALS
3 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: RJG	DWG. NAME: TS06
DATE: AUG 18, 2005	

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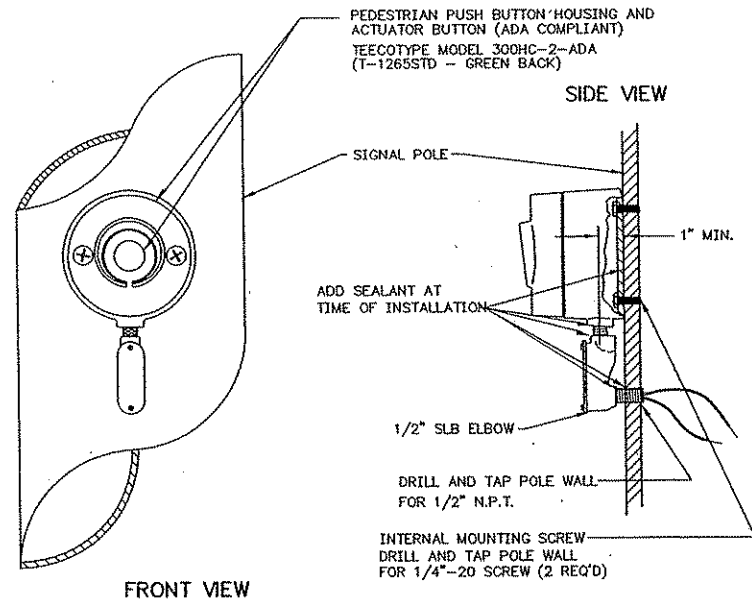
Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
SIGNAL SYSTEM B and C
PERFORMED NON-METALLIC CONDUIT
(NMC) LOOP DETECTOR DETAILS

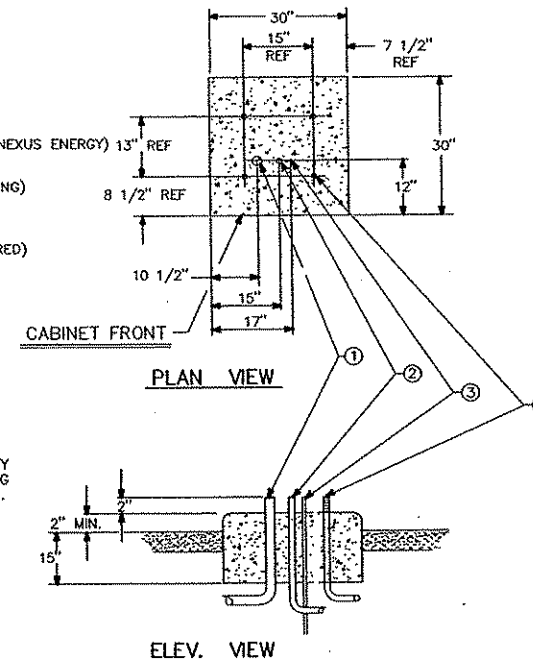
S.P. 02-612-11	SHEET NO. 138
S.P. 106-020-025	
S.P.	211
S.P.	

PEDESTRIAN PUSH BUTTON DETAIL

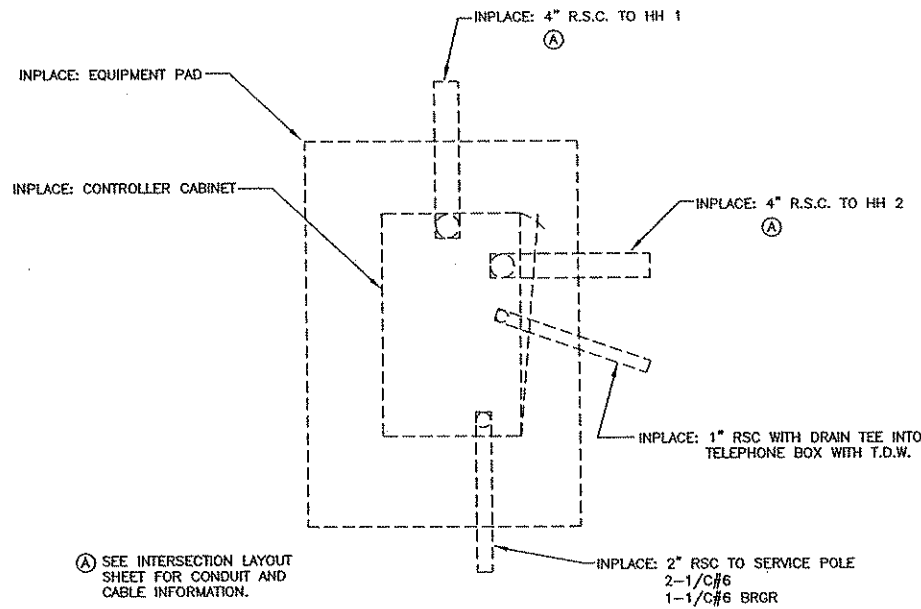


SIGNAL SERVICE CABINET FOUNDATION - SYSTEM B

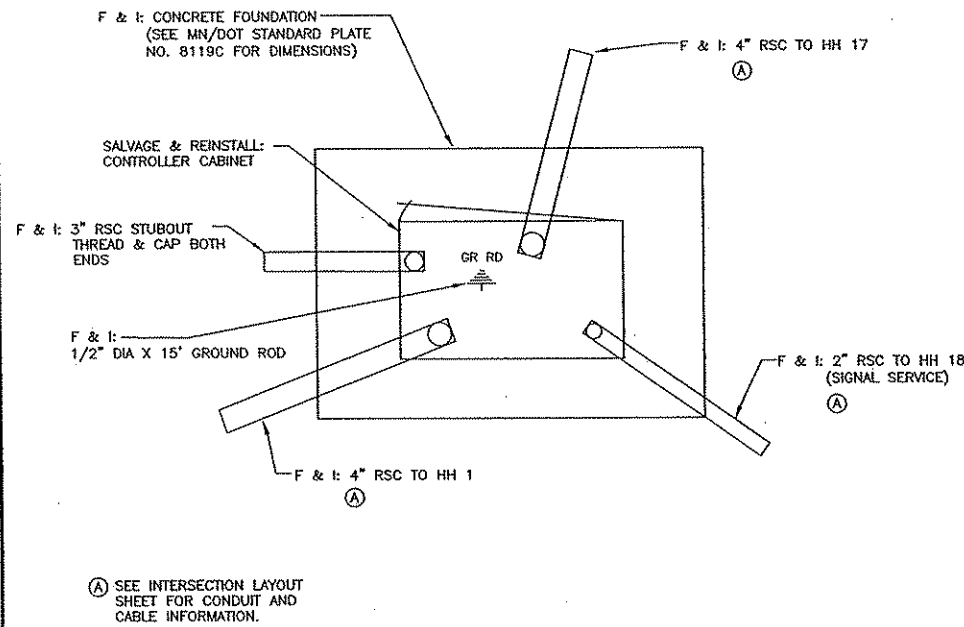
- ① 2" RSC STUB OUT (POWER BY CONNEXUS ENERGY) 13" REF
- ② 2" RSC TO HANDHOLE 18 (SIGNAL SERVICE AND STREET LIGHTING)
- ③ GROUNDING ROD
- ④ ANCHOR BOLT LOCATIONS (4 REQUIRED)



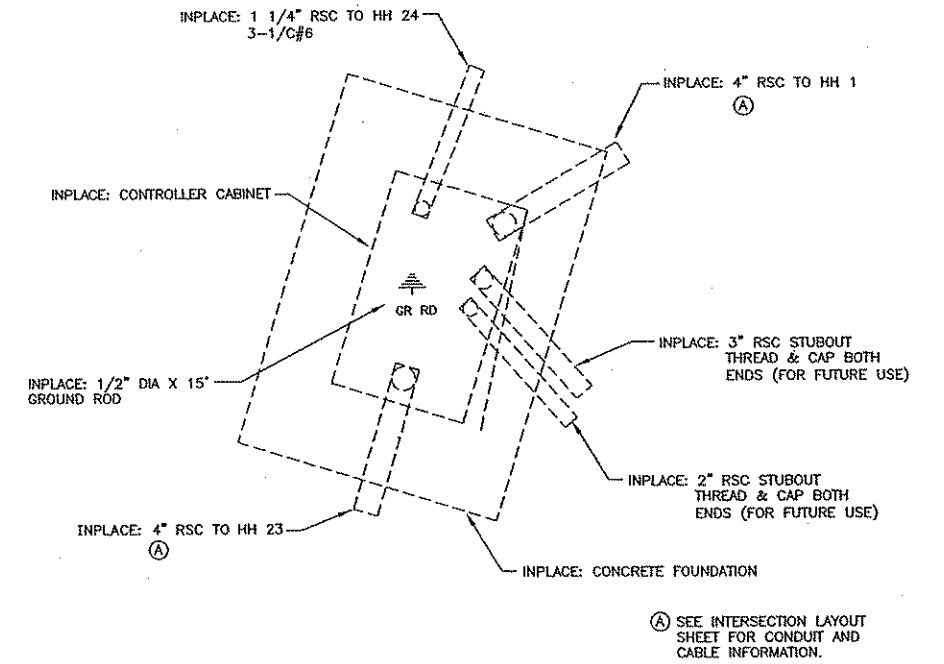
NOTE:
1. THE CONTRACTOR SHALL FIELD VERIFY SERVICE CABINET ANCHOR BOLT SPACING PRIOR TO INSTALLATION OF FOUNDATION.



CONTROLLER CABINET PAD LAYOUT
REVISE SIGNAL SYSTEM A
CSAH 12 (109TH AVE)/TH 65
NO SCALE



CONTROLLER CABINET PAD LAYOUT
REVISE SIGNAL SYSTEM B
CSAH 12 (109TH AVE)/DAVENPORT ST
NO SCALE



CONTROLLER CABINET PAD LAYOUT
REVISE SIGNAL SYSTEM C
CSAH 12 (109TH AVE)/CSAH 52 (RADISSON RD)
NO SCALE

TRAFFIC SIGNALS
4 OF 31

PLOT DATE: AUG 18, 2005 12:06 PM DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS10.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

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CHKD. BY: RJG DWG. NAME: TS10

DATE: AUG 18, 2005

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Michael R. Anderson
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DATE: 8/13/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

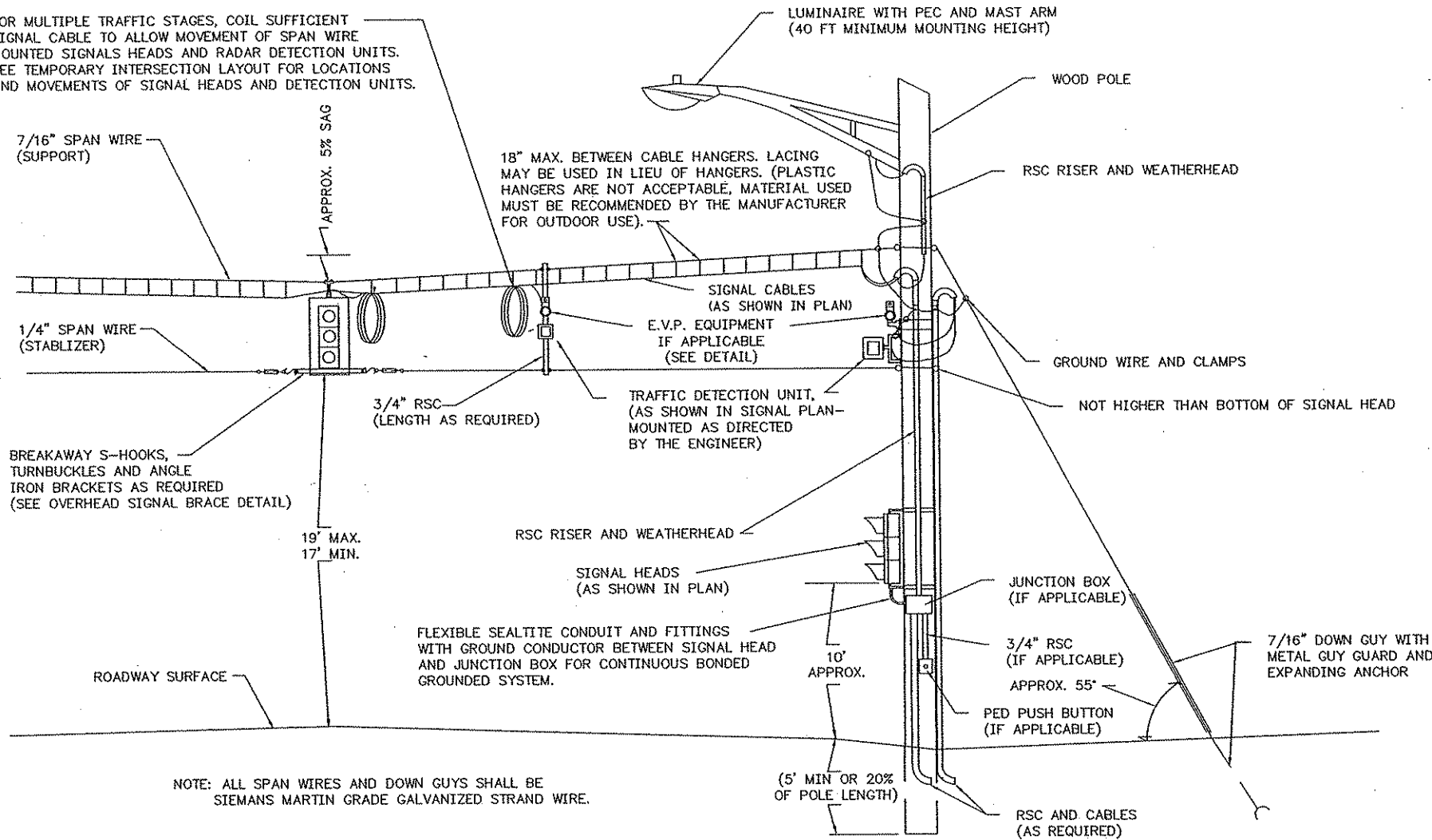
CSAH 12
RECONSTRUCTION
TRAFFIC CONTROL SIGNAL SYSTEMS
EQUIPMENT PAD LAYOUT & DETAILS

S.P. 02-612-11	SHEET NO. 139
S.P. 106-020-025	
S.P.	211
S.P.	

TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS

(NOT TO SCALE)

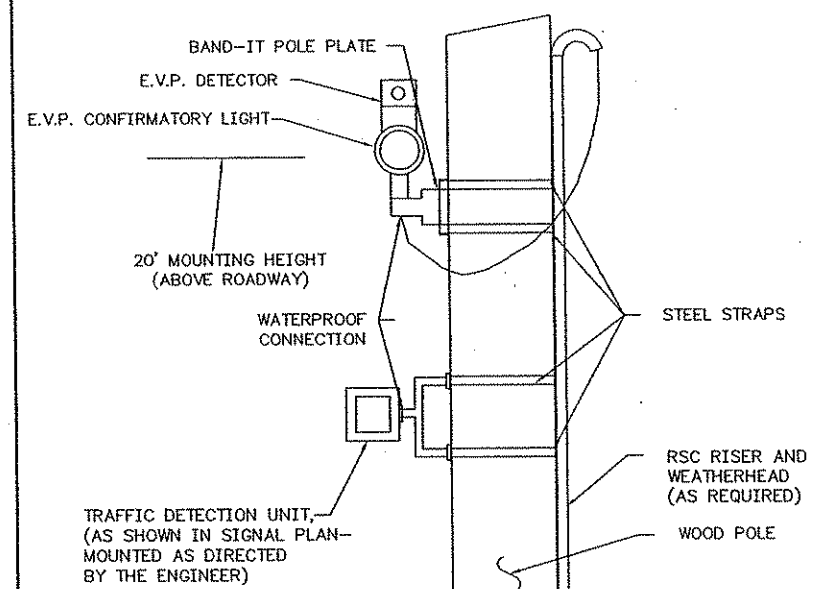
FOR MULTIPLE TRAFFIC STAGES, COIL SUFFICIENT SIGNAL CABLE TO ALLOW MOVEMENT OF SPAN WIRE MOUNTED SIGNALS HEADS AND RADAR DETECTION UNITS. SEE TEMPORARY INTERSECTION LAYOUT FOR LOCATIONS AND MOVEMENTS OF SIGNAL HEADS AND DETECTION UNITS.



NOTE: ALL SPAN WIRES AND DOWN GUYS SHALL BE SIEMANS MARTIN GRADE GALVANIZED STRAND WIRE.

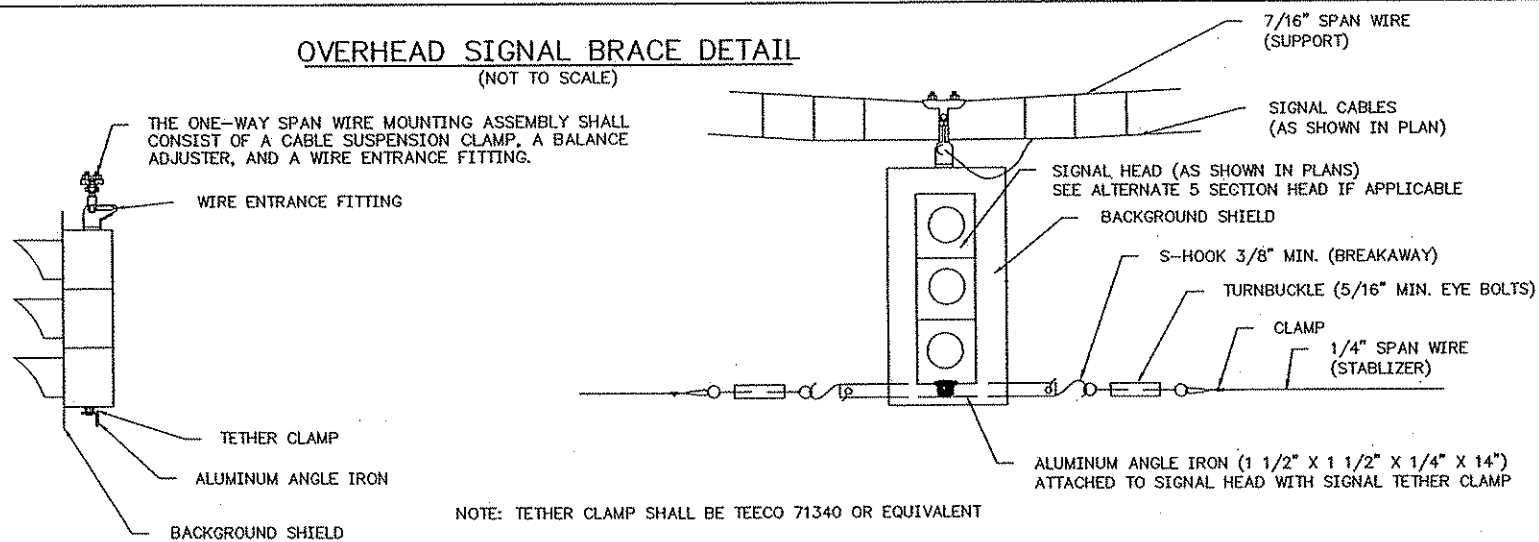
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT

(NOT TO SCALE)



OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



TRAFFIC SIGNALS
5 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS18.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: RJC	DWG. NAME: TS18
DATE: AUG 18, 2005	

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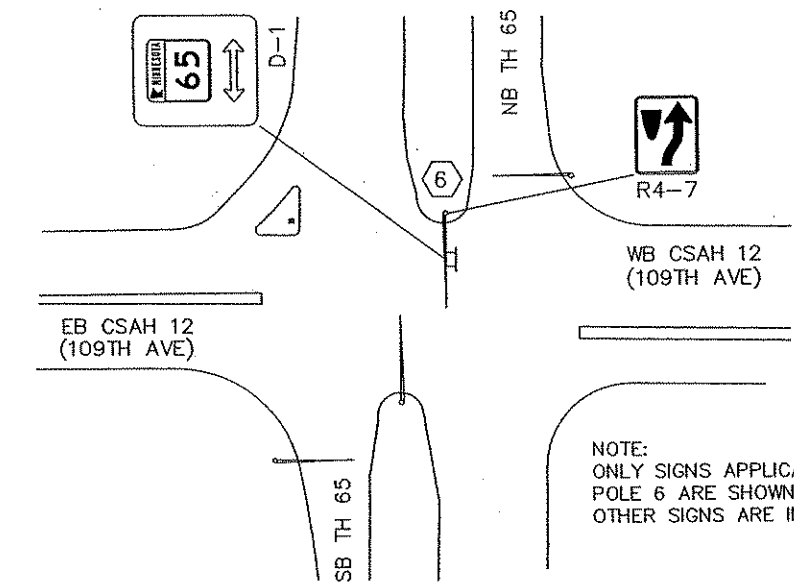
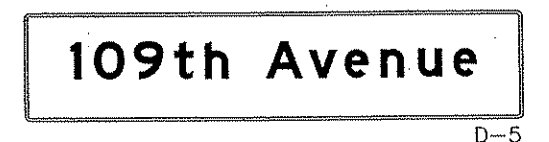
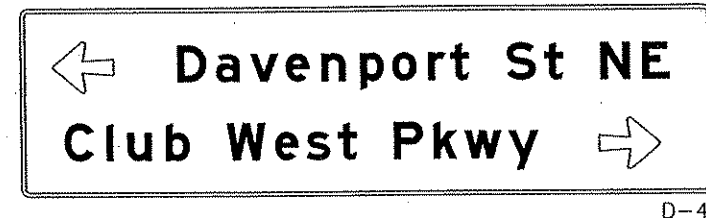
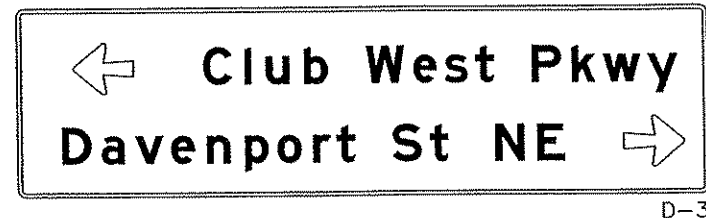
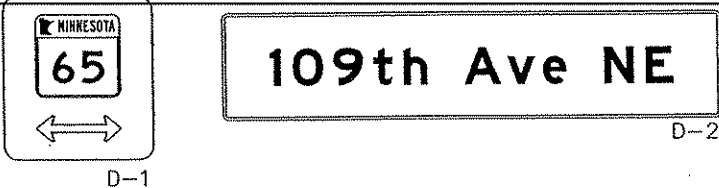
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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MIN LIC. NO. 42828

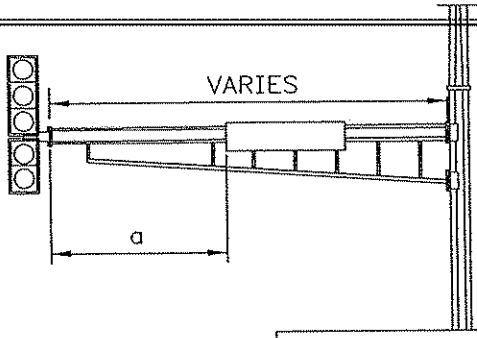
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TEMPORARY SIGNAL SYSTEM
TYPICAL WOOD POLE SPAN WIRE DETAIL
WITH BREAKAWAY STABILIZER BAR

S.P. 02-612-11	SHEET NO. 140
S.P. 106-020-025	
S.P.	211
S.P.	



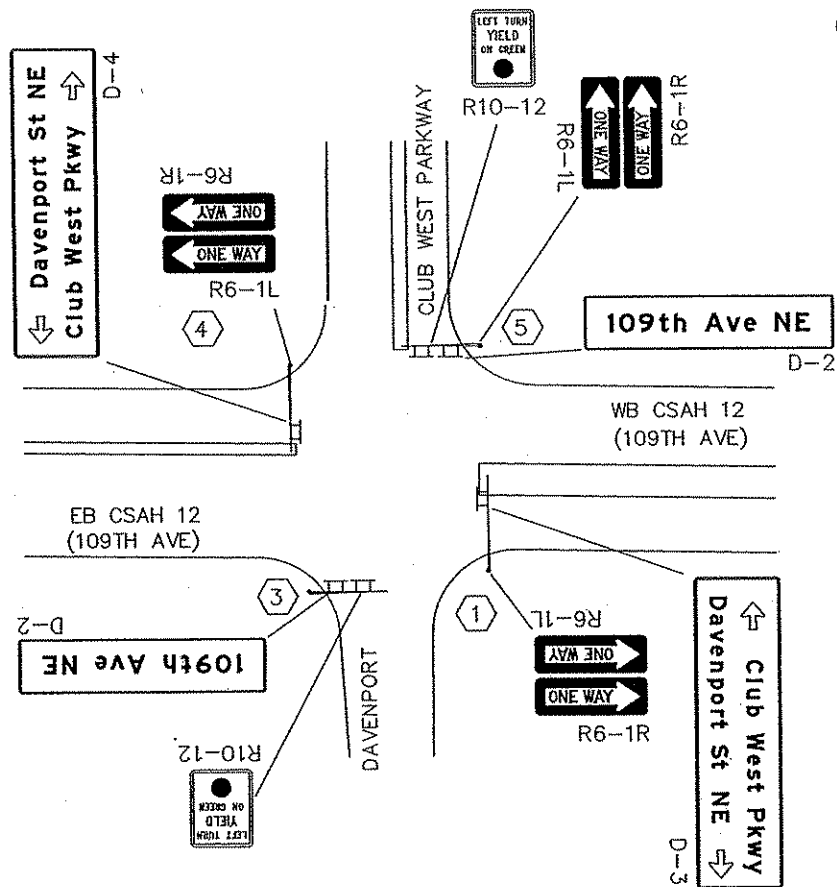
REVISE SIGNAL SYSTEM A
CSAH 12 (109TH AVE) & TH 65



POLE MOUNT
MAST ARM SIGN LOCATION

NOTES:

- 1.) FURNISHING AND INSTALLING POLE MOUNTED TYPE C SIGNS AND SALVAGING AND RE-INSTALLING TYPE C OR TYPE D SIGNS SHALL BE INCIDENTAL TO THE INDIVIDUAL SIGNAL SYSTEMS.
- 2.) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- 3.) ALL NEW TYPE C SIGNS SHALL BE FABRICATED USING VIP SHEETING. SEE SPECIAL PROVISIONS.
- 4.) EXACT LOCATION OF POST AND MAST ARM MOUNTED SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

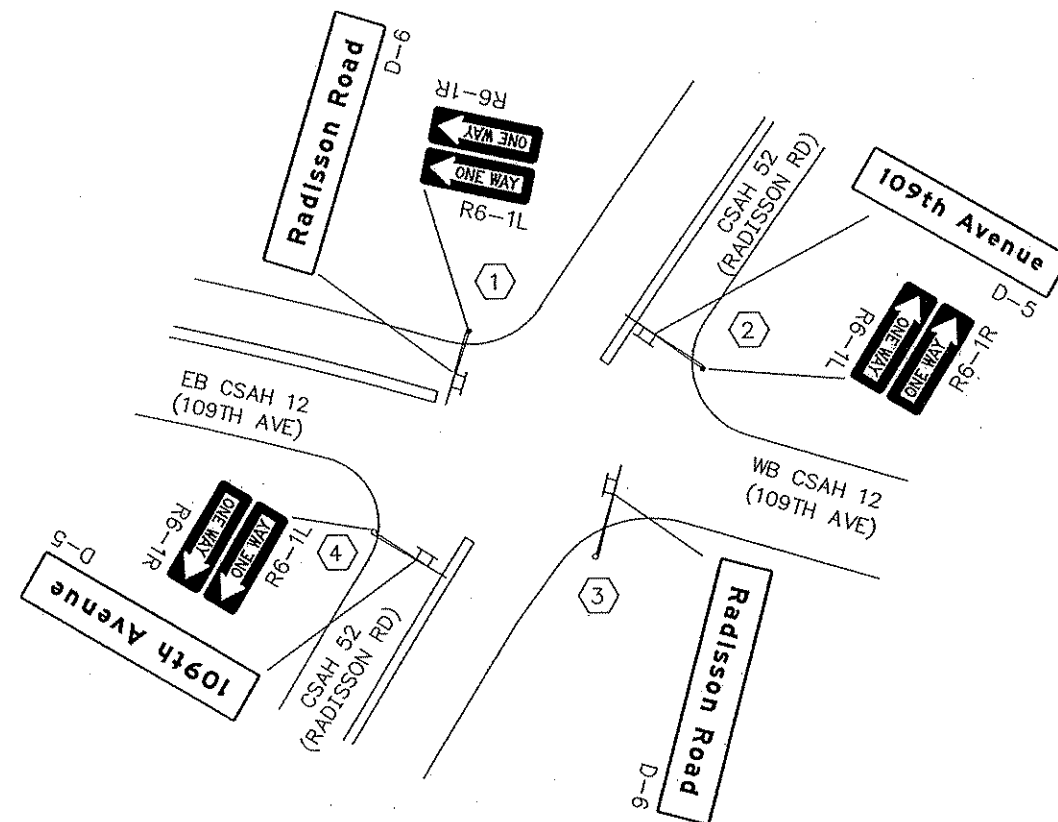


REVISE SIGNAL SYSTEM B
CSAH 12 (109TH AVE) & DAVENPORT ST

TYPE C AND D SIGNS									
STATUS PANEL PANEL	SIGN PANEL	SIGNAL SYSTEM	POLE NO.	a (FT)	SIZE (IN)	NO. BRACKETS PER SIGN	POST SPACING (**)	AREA/SIGN (SQ. FT.)	NO. REQ.
SALVAGE & REINSTALL	D-1	A	6	7	36"x48"	(1)	---	---	---
SALVAGE & REINSTALL	D-2	B	3,5	17, 17,5	102"x24"	(1)	---	---	---
SALVAGE & REINSTALL	D-3	B	1	34	138"x36"	(1)	---	---	---
SALVAGE & REINSTALL	D-4	B	4	28	138"x36"	(1)	---	---	---
INPLACE	D-5	C	4	---	102"x18"	---	---	---	---
SALVAGE & REINSTALL	D-5	C	2	28	102"x18"	(1)	---	---	---
SALVAGE & REINSTALL	D-6	C	1,3	19	108"x18"	(1)	---	---	---
INPLACE	R4-7	A	6	PL MT	---	---	---	---	---
SALVAGE & REINSTALL	R6-1L	B	5	PL MT	36"x12"	(1)	---	---	---
F & I	R6-1L	B	1,4	PL MT	36"x12"	(2)	---	3.0	2
SALVAGE & REINSTALL	R6-1R	B	5	PL MT	36"x12"	(1)	---	---	---
F & I	R6-1R	B	1,4	PL MT	36"x12"	(2)	---	3.0	2
SALVAGE & REINSTALL	R10-12	B	3,5	2	24"x30"	(1)	---	---	---
INPLACE	R6-1L	C	4	PL MT	36"x12"	---	---	---	---
SALVAGE & REINSTALL	R6-1L	C	2	PL MT	36"x12"	(1)	---	---	---
F & I	R6-1L	C	1	PL MT	36"x12"	(2)	---	3.0	1
INPLACE	R6-1R	C	4	PL MT	36"x12"	---	---	---	---
SALVAGE & REINSTALL	R6-1R	C	2	PL MT	36"x12"	(1)	---	---	---
F & I	R6-1R	C	1	PL MT	36"x12"	---	---	3.0	1

(**) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS FOR BRACKET SPACING REQUIREMENTS.

- ① REUSE EXISTING BRACKETS AND MOUNTING HARDWARE. SIGNS SHALL BE MASTARM OR POLE MOUNTED TO THE SATISFACTION OF THE ENGINEER. WHEN DIRECTED BY THE ENGINEER TO FURNISH AND INSTALL MOUNTING BRACKETS AND MOUNTING HARDWARE SEE STANDARD SIGN MANUAL PAGE PAGE 105A.
- ② MOUNT ON TRAFFIC SIGNAL MASTARM POLE TO THE SATISFACTION OF THE ENGINEER AND AS SPECIFIED IN THE SPECIAL PROVISIONS.



REVISE SIGNAL SYSTEM C
CSAH 12 (109TH AVE) & CSAH 52 (RADISSON RD) TRAFFIC SIGNALS
6 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS20.dwg

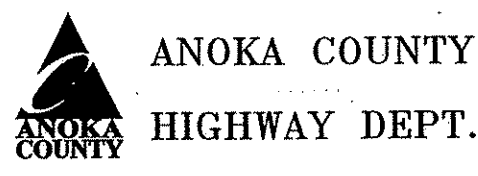
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: RJG
 DWG. NAME: TS20
 DATE: AUG 18, 2005



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Michael R. Anderson
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828



CSAH 12
 RECONSTRUCTION
 TRAFFIC CONTROL SIGNAL SYSTEMS
 SIGN DETAILS

S.P. 02-612-11	SHEET NO. 141
S.P. 106-020-025	
S.P.	
S.P.	211

LOOP DETECTOR CHART

	STATUS	NUMBER	NO. OF LOOPS	LOCATION
	INPLACE	D1-1, D1-2	2	5' & 35'
	INPLACE	D2-1, D2-2	1	475'
DISCONNECT	INPLACE	D3-1	2	5' & 35'
	INPLACE	D4-1	2	5' & 35'
	INPLACE	D4-2	2	200'
	INPLACE	D4-3	2	0' & 16'
	INPLACE	D4-4	2	5' & 35'
	INPLACE	D5-1, D5-2	2	5' & 35'
	INPLACE	D6-1, D6-2	1	475'
	INPLACE	D7-1	2	5' & 35'
DISCONNECT	INPLACE	D8-1	2	5' & 35'
DISCONNECT	INPLACE	D8-2	2	200'
DISCONNECT	INPLACE	D8-3	2	0' & 16'
DISCONNECT	INPLACE	D8-4	2	5' & 35'

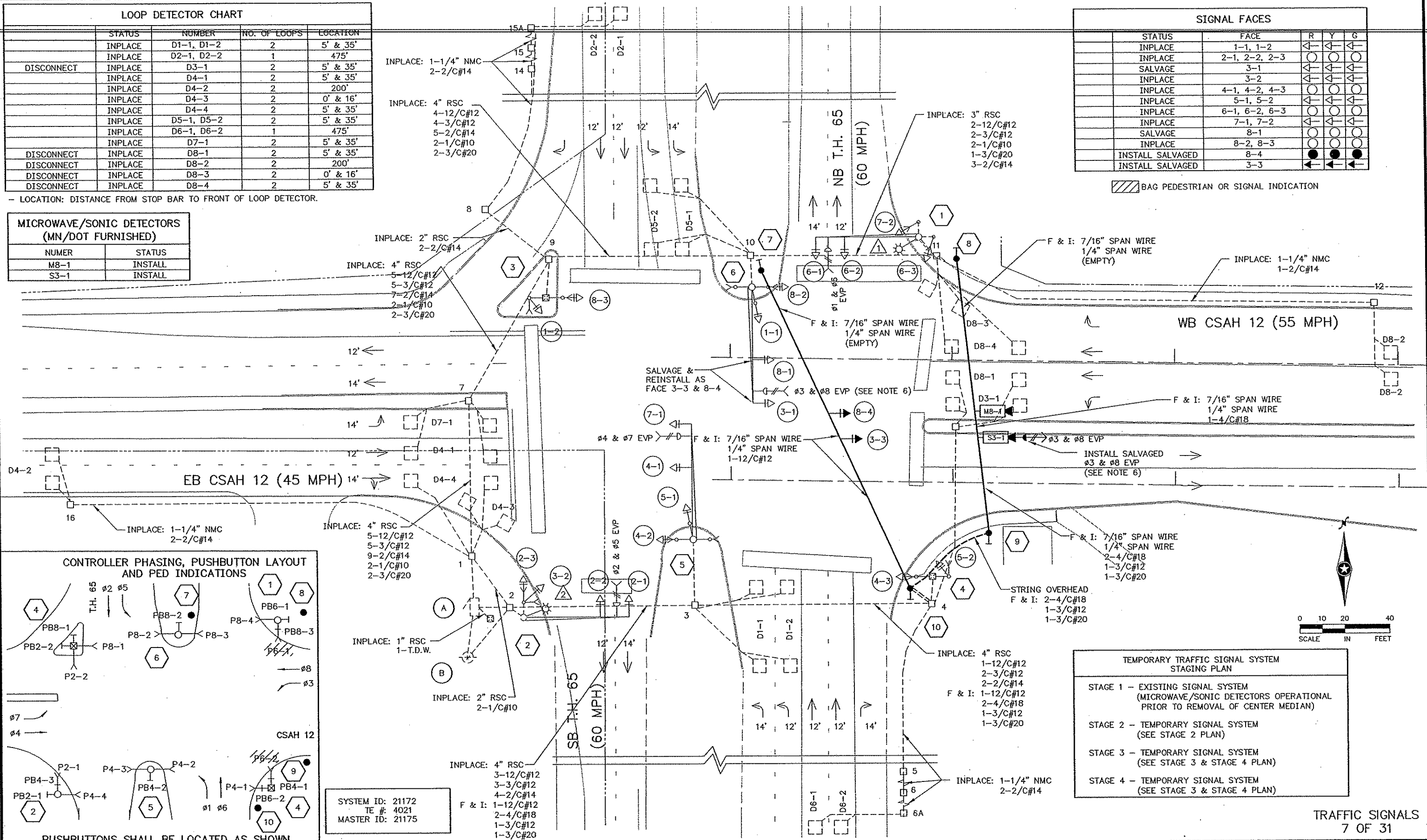
- LOCATION: DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

MICROWAVE/SONIC DETECTORS
(MN/DOT FURNISHED)

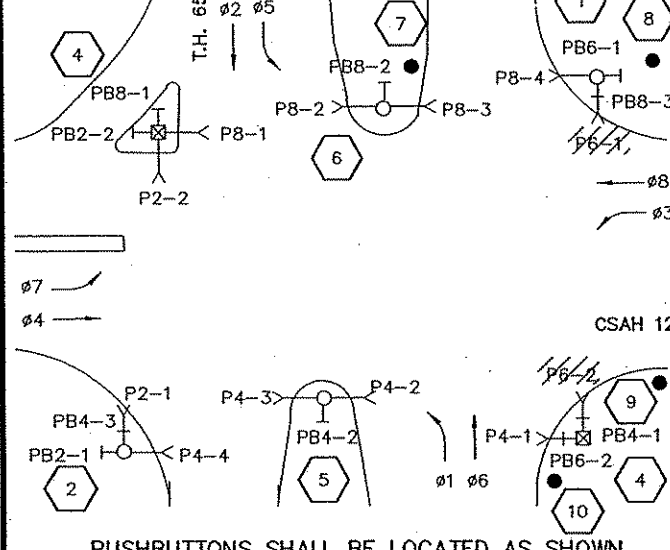
NUMER	STATUS
M8-1	INSTALL
S3-1	INSTALL

SIGNAL FACES				
STATUS	FACE	R	Y	G
INPLACE	1-1, 1-2	←	←	←
INPLACE	2-1, 2-2, 2-3	○	○	○
SALVAGE	3-1	○	○	○
INPLACE	3-2	←	←	←
INPLACE	4-1, 4-2, 4-3	○	○	○
INPLACE	5-1, 5-2	←	←	←
INPLACE	6-1, 6-2, 6-3	○	○	○
INPLACE	7-1, 7-2	←	←	←
SALVAGE	8-1	○	○	○
INPLACE	8-2, 8-3	○	○	○
INSTALL SALVAGED	8-4	●	●	●
INSTALL SALVAGED	3-3	←	←	←

▨ BAG PEDESTRIAN OR SIGNAL INDICATION

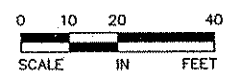


CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS



SYSTEM ID: 21172
TE #: 4021
MASTER ID: 21175

TEMPORARY TRAFFIC SIGNAL SYSTEM STAGING PLAN	
STAGE 1	- EXISTING SIGNAL SYSTEM (MICROWAVE/SONIC DETECTORS OPERATIONAL PRIOR TO REMOVAL OF CENTER MEDIAN)
STAGE 2	- TEMPORARY SIGNAL SYSTEM (SEE STAGE 2 PLAN)
STAGE 3	- TEMPORARY SIGNAL SYSTEM (SEE STAGE 3 & STAGE 4 PLAN)
STAGE 4	- TEMPORARY SIGNAL SYSTEM (SEE STAGE 3 & STAGE 4 PLAN)



TRAFFIC SIGNALS
7 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS11.dwg

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
TEMPORARY SIGNAL SYSTEM
INTERSECTION LAYOUT (1 OF 2)
CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	142
S.P.	211
S.P.	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS15.dwg

1 INPLACE: TYPE A100-A45-D40-9 WITH SWING AWAY HINGES
 2 - ONE WAY SIGNALS OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#1 & #6)
 LUMINAIRE AT 355'
 250W HPS WITH PEC AND CHECK SWITCH ON POLE
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 2 - TYPE D SIGNS MOUNTED OVERHEAD
 1 - TYPE R6-1L (ONE WAY) POLE MOUNTED
 1 - TYPE R6-1R (ONE WAY) POLE MOUNTED

INPLACE: 3" RSC TO HH 11:
 2-12/C#12
 2-3/C#12
 1-3/C#20
 2-1/C#10

2 INPLACE: TYPE A100-A45-D40-9 WITH SWING AWAY HINGES
 2 - ONE WAY SIGNALS OVERHEAD
 TYPE 20C AT 270°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#2 & #5)
 LUMINAIRE AT 355'
 250W HPS WITH PEC AND CHECK SWITCH ON POLE
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 2 - TYPE D SIGN MOUNTED OVERHEAD
 1 - TYPE R6-1L (ONE WAY) POLE MOUNTED
 1 - TYPE R6-1R (ONE WAY) POLE MOUNTED

INPLACE: 3" RSC TO HH 2:
 2-12/C#12
 2-3/C#12
 1-3/C#20
 2-1/C#10

3 INPLACE: PEDESTAL FOUNDATION
 PEDESTAL POLE AND BASE
 1 - TYPE 2C
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS

INPLACE: 3" RSC TO HH 9:
 1-12/C#12
 3-3/C#12

4 INPLACE: PEDESTAL FOUNDATION
 PEDESTAL POLE AND BASE
 1 - TYPE 2C
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS

INPLACE: 3" RSC TO HH 4:
 1-12/C#12
 2-3/C#12

5 INPLACE: TYPE A100-A50
 2 - ONE WAY SIGNALS OVERHEAD
 TYPE 10A AT 0°
 TYPE 30A AT 90°
 TYPE 10B AT 270°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#4 & #7)
 1 - PEDESTRIAN PUSHBUTTON AND SIGN
 1 - TYPE D SIGN MOUNED OVERHEAD
 1 - TYPE R4-7(R) POLE MOUNTED

INPLACE: 3" RSC TO HH 3:
 2-12/C#12
 3-3/C#12
 1-3/C#20

6 INPLACE: TYPE A100 POLE FOUNDATION
 TYPE 10A AT 0°
 TYPE 30A AT 90°
 TYPE 10B AT 270°
 1 - PEDESTRIAN PUSHBUTTON AND SIGN
 1 - TYPE D SIGN MOUNED OVERHEAD AT 5' FROM END OF MAST ARM
 1 - TYPE R4-7(R) POLE MOUNTED

SALVAGE: 2 - ONE WAY SIGNALS OVERHEAD AT 0' & 18' FROM END OF MAST ARM
 1 - ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#3 & #8)

INPLACE: 3" RSC TO HH 10:
 2-12/C#12
 2-3/C#12
 1-3/C#20

A INPLACE: EQUIPMENT PAD FOUNDATION
 CONTROLLER AND CABINET

INPLACE: 4" RSC INTO HH 2
 5-12/C#12
 5-3/C#12
 6-2/C#14
 2-3/C#20

INPLACE: 4" RSC INTO HH 1
 5-12/C#12
 6-3/C#12
 12-2/C#14
 2-3/C#20

F & I: 1-12/C#12
 2-4/C#18
 1-3/C#12
 1-3/C#20

B INPLACE: SOP 25' WOOD POLE-CLASS 2 WITH SERVICE EQUIPMENT

INPLACE: 2" RSC DRAIN TEE TO CONTROLLER WITH:
 2-1/C#6
 1-1/C#6 BRGR

INPLACE: 2" RSC TO HH 2 WITH:
 4-1/C#10

7 F & I: 45' WOOD POLE CL 2
 (@ WB CSAH 12 STA. 101+14, 39'LT.)
 2-DOWNGUYS, GUARDS AND ANCHORS

9 F & I: 45' WOOD POLE CL 2
 (@ EB CSAH 12 STA. 102+17, 23'RT.)
 2-DOWNGUYS, GUARDS AND ANCHORS

INPLACE: 1" RSC WITH DRAIN TEE INTO TELEPHONE BOX WITH T.D.W.

INPLACE: 2" RSC TO SERVICE POLE
 2-1/C#6
 1-1/C#6 BRGR.

8 F & I: 45' WOOD POLE CL 2
 (@ WB CSAH 12 STA. 102+02, 45'LT.)
 2-DOWNGUYS, GUARDS AND ANCHORS
 1-TYPE R9-3a (NO PED CROSSING) SIGN FACING POLE 10

10 F & I: 45' WOOD POLE CL 2
 (@ EB CSAH 12 STA. 101+81, 48'RT.)
 2-DOWNGUYS, GUARDS AND ANCHORS
 1-TYPE R9-3a (NO PED CROSSING) SIGN FACING POLE 8

1-2" RSC RISER AND WEATHERHEAD TO HH 4:
 1-12/C#12
 2-4/C#18
 1-3/C#12
 1-3/C#20

NOTES:

- SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
- EXACT LOCATIONS OF WOOD POLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS DETERMINED BY THE ENGINEER PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT SLACK IN THE CABLE TO ALLOW FOR RELOCATING VEHICLE HEADS, EVP EQUIPMENT AND VEHICLE DETECTORS AS SHOWN ON THE SIGNAL STAGING SHEETS.
- MOVING HEADS, EVP EQUIPMENT AND VEHICLE DETECTORS TO ACCOMMODATE CONSTRUCTION STAGING SHALL BE INCIDENTAL TO THE TEMPORARY SIGNAL SYSTEM PAY ITEM.
- THE CONTRACTOR SHALL REMOVE AND/OR SALVAGE ITEMS OF THE INPLACE SIGNAL SYSTEM NOT REUSED IN THE REVISED PERMANENT SIGNAL SYSTEM WHEN DIRECTED BY THE ENGINEER. REFER TO INTERSECTION LAYOUT, SHEETS 147 AND 148 FOR INFORMATION ON ITEMS TO BE REMOVED, SALVAGED, LEFT INPLACE OR TO BE REINSTALLED FOR FUTURE USE ON THE REVISED SIGNAL SYSTEM. REMOVING AND SALVAGING INPLACE ITEMS SHALL BE INCIDENTAL TO THE TEMPORARY SIGNAL SYSTEM PAY ITEM.
- PHASE 3 AND PHASE 8 EVP DETECTOR AND INDICATOR LIGHT SHALL BE SALVAGED AND REINSTALLED ON THE SPAN WIRE AS INDICATED IN THE PLAN.
- FOR SIGNAL SYSTEM SPAN WIRE MOUNTING, SEE DETAIL SHEET.
- THE CONTRACTOR SHALL LOCATE AND VERIFY UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL MOUNT SPAN WIRE TO WOOD POLES AT THE APPROPRIATE ELEVATIONS TO AVOID CONFLICT WITH OVERHEAD POWER LINES AND MAINTAIN APPROPRIATE ELEVATION ABOVE THE ROADWAY SURFACE.
- FURNISHING AND INSTALLING TYPE C SIGNS SHALL BE INCIDENTAL TO THE TEMPORARY SIGNAL SYSTEM PAY ITEM.
- THE CONTRACTOR SHALL COORDINATE SIGNAL CABINET MODIFICATIONS WITH MN/DOT ESS. SEE SPECIAL PROVISIONS.
- TRAFFIC DETECTORS, EVP DETECTOR AND INDICATOR LIGHT SHALL BE MOUNTED AS DIRECTED BY THE TRAFFIC OFFICE PERSONNEL. (SPAN WIRE MOUNT AS SHOWN IN DETAIL SHEET).
- HAULING OF SALVAGED MATERIAL SHALL BE INCIDENTAL TO THE HAUL SALVAGE PAY ITEM.

SYSTEM ID#: 21172
 TE#: 4021
 MASTER ID#: 21175

TRAFFIC SIGNALS
 8 OF 31

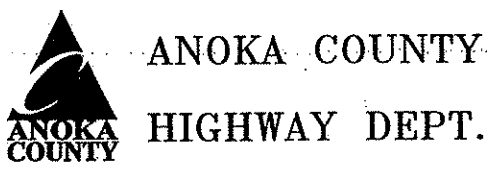
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: MRA
DRAWN BY: JAS	CHKD. BY: R/JG
DWG. NAME: TS15	DATE: AUG 18, 2005



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

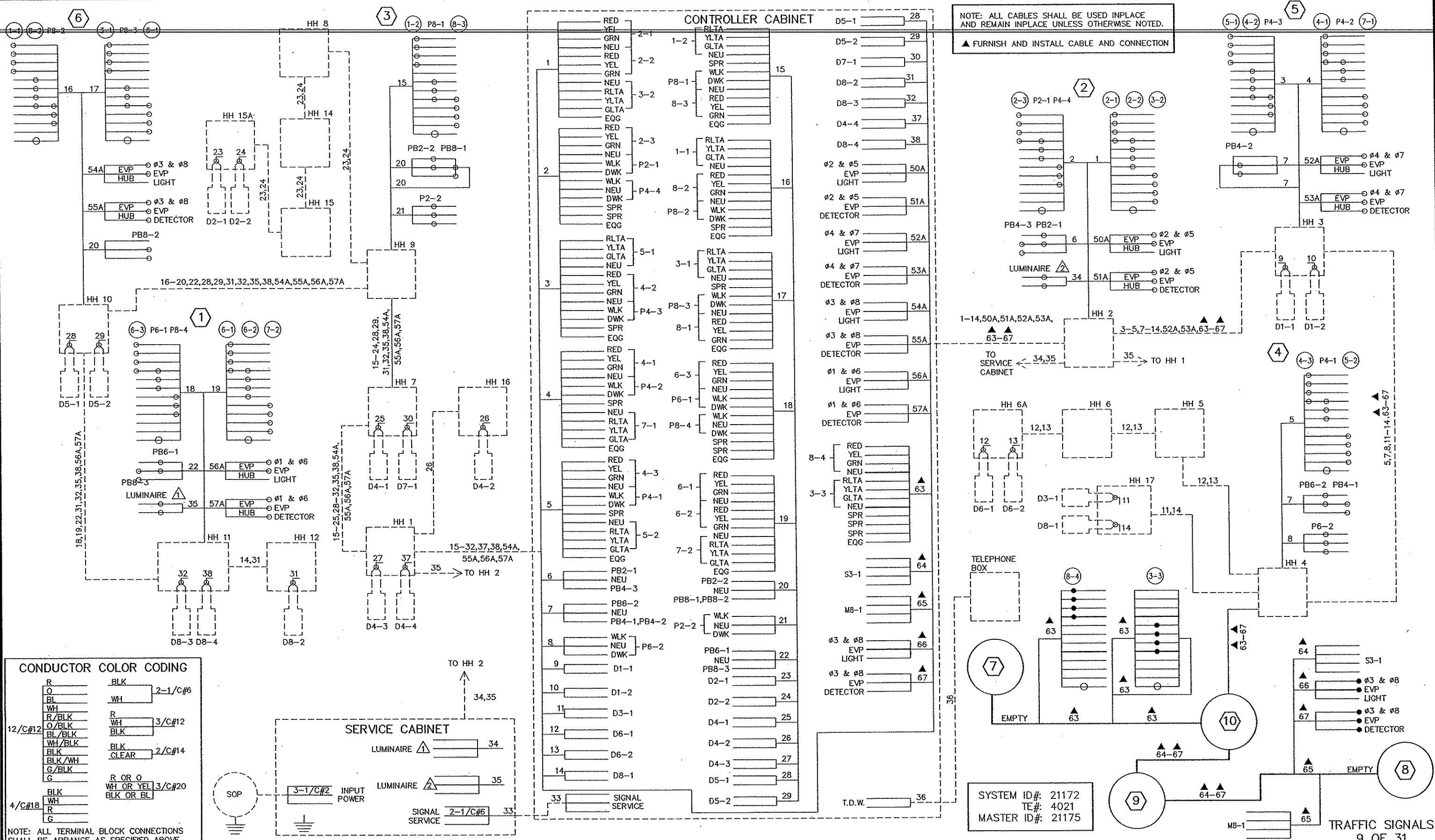
Michael R. Anderson
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828



CSAH 12
 RECONSTRUCTION
 TEMPORARY SIGNAL SYSTEM
 INTERSECTION LAYOUT (2 OF 2)
 CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 143
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS28.dwg



CONDUCTOR COLOR CODING

R	BLK	
O	WH	2-1/C#6
BL		
WH	R	3/C#12
R/BLK	WH	
O/BLK	BLK	
BL/BLK	BLK	
WH/BLK	BLK	
BLK/BLK	BLK	
BLK/WH	BLK	
G/BLK	BLK	
G		
	R OR O	3/C#20
BLK	WH OR YEL	
WH	BLK OR BL	
R		
G		

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: MRA
DRAWN BY: JAS	DWG. NAME: TS28
CHKD. BY: RJG	DATE: AUG 18, 2005

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

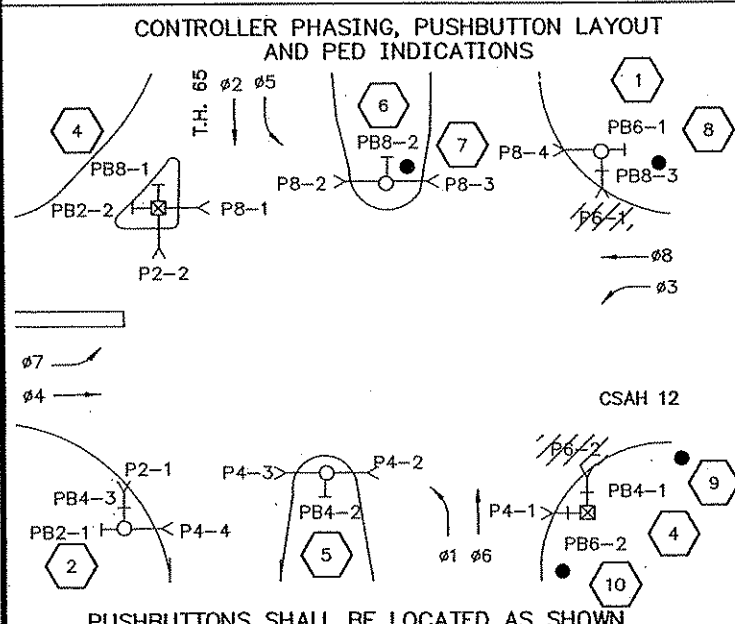
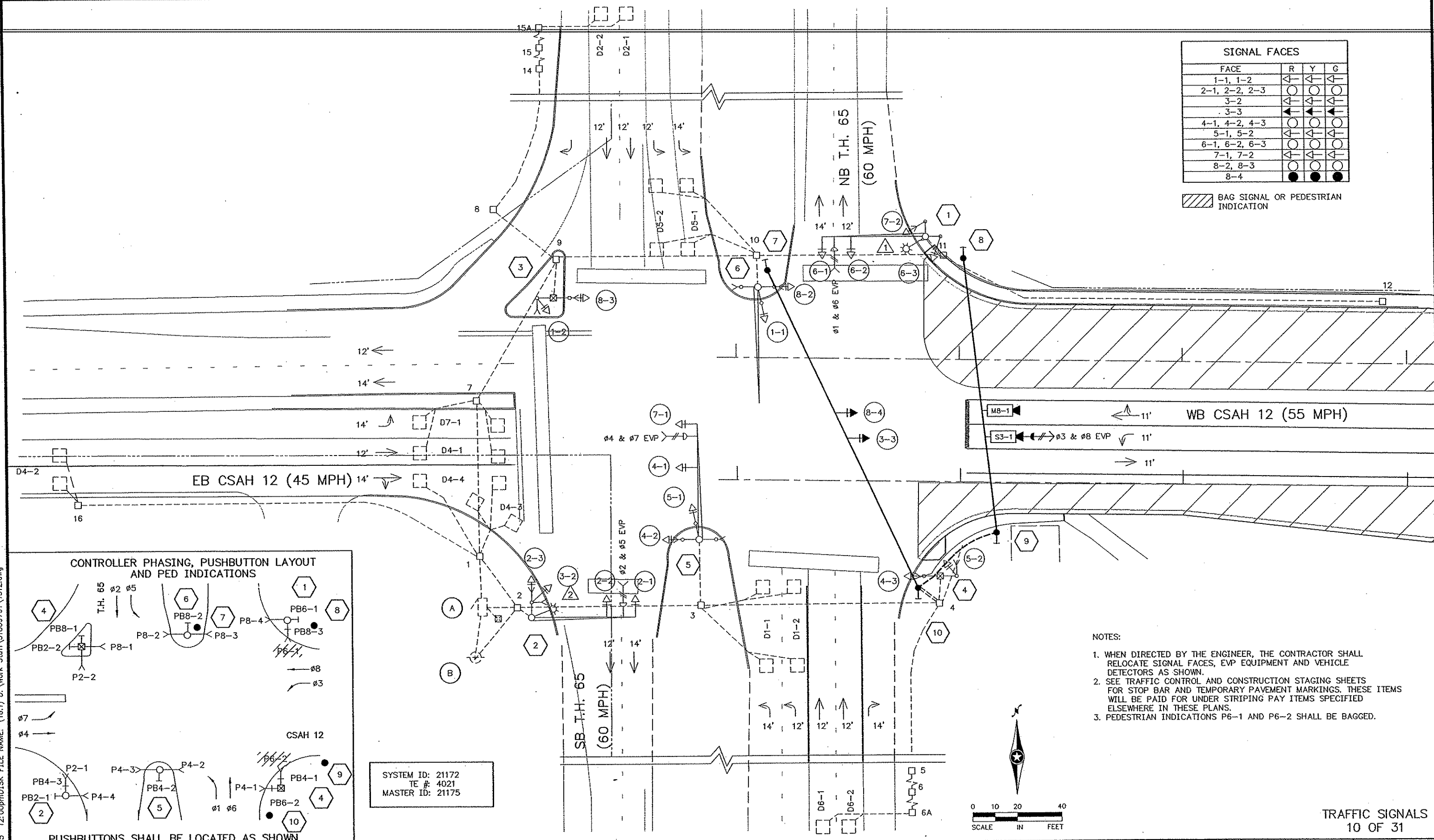
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TEMPORARY SIGNAL SYSTEM
WIRING DIAGRAM
CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 144
S.P. 106-020-025	211
S.P.	
S.P.	

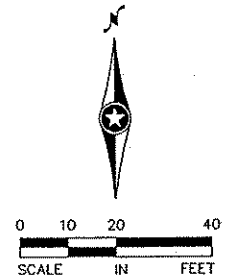
SIGNAL FACES			
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
3-2	←	←	←
3-3	←	←	←
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
7-1, 7-2	←	←	←
8-2, 8-3	○	○	○
8-4	●	●	●

▨ BAG SIGNAL OR PEDESTRIAN INDICATION



SYSTEM ID: 21172
TE #: 4021
MASTER ID: 21175

- NOTES:
1. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT AND VEHICLE DETECTORS AS SHOWN.
 2. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR STOP BAR AND TEMPORARY PAVEMENT MARKINGS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.
 3. PEDESTRIAN INDICATIONS P6-1 AND P6-2 SHALL BE BAGGED.



TRAFFIC SIGNALS
10 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) D:\Work Stuff\31809791\TS12.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: RJG DWG. NAME: TS12

DATE: AUG 18, 2005

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

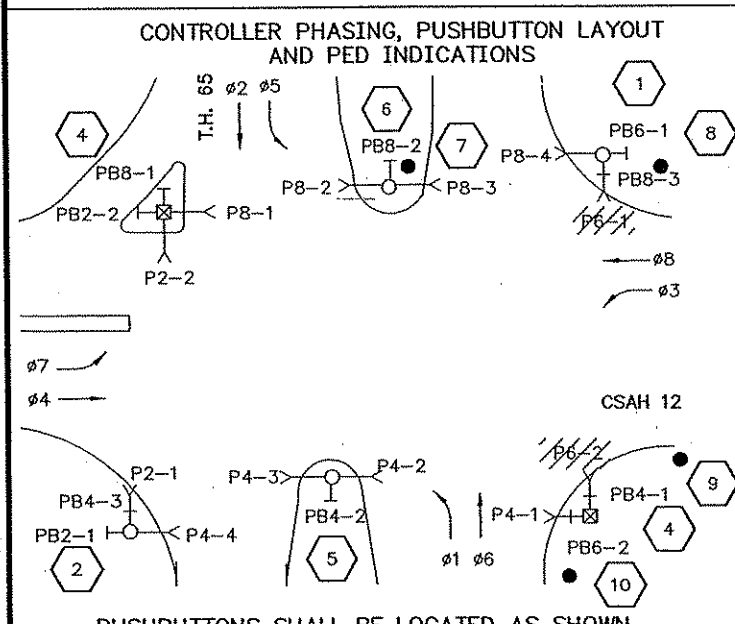
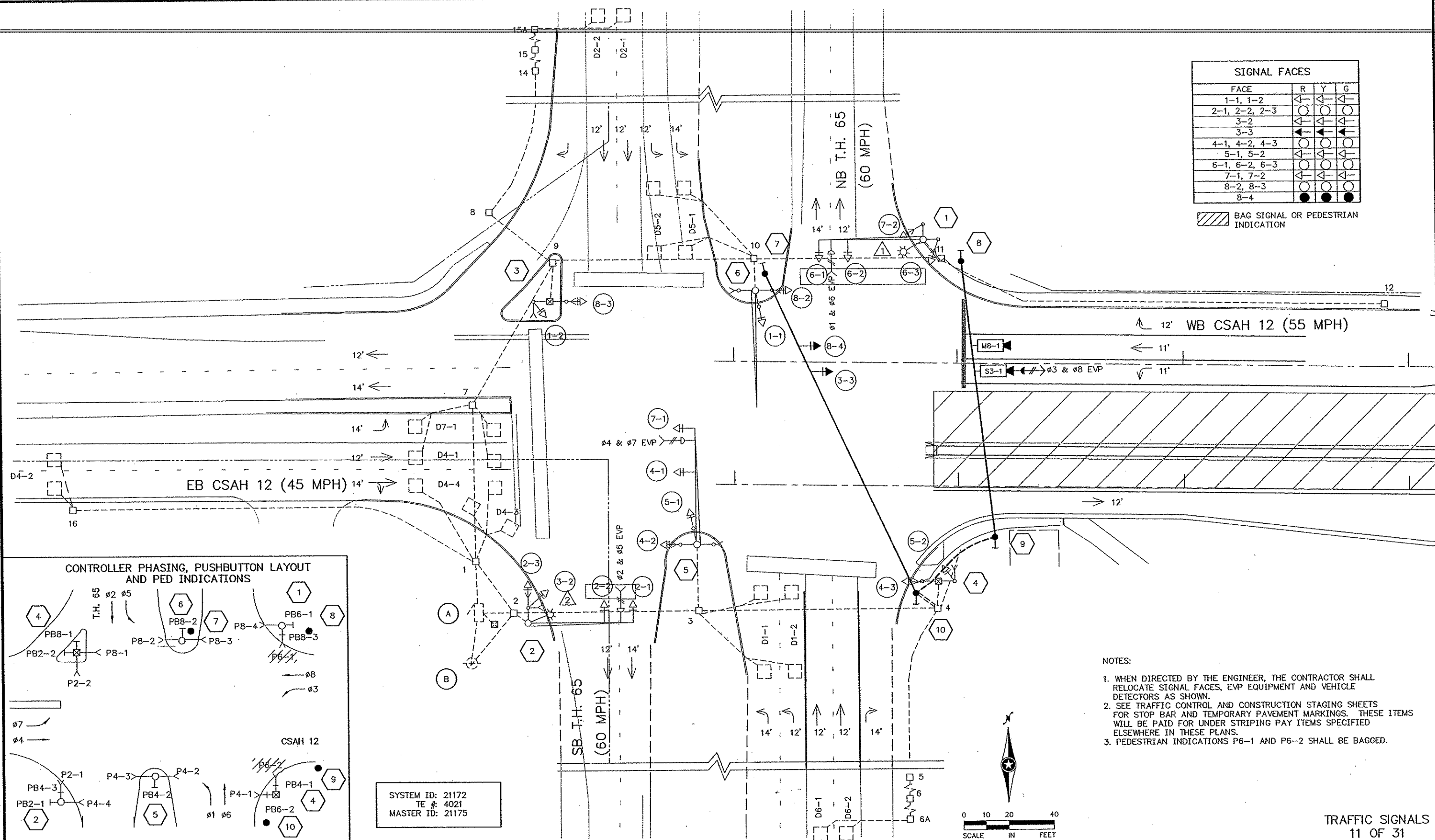
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
TEMPORARY SIGNAL SYSTEM
INTERSECTION LAYOUT - STAGE 2
CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 145
S.P. 106-020-025	
S.P.	211
S.P.	

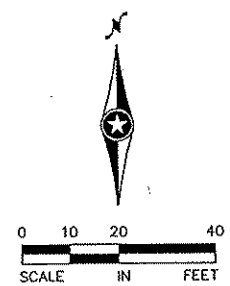
SIGNAL FACES			
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2, 2-3	○	○	○
3-2	←	←	←
3-3	←	←	←
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2, 6-3	○	○	○
7-1, 7-2	←	←	←
8-2, 8-3	○	○	○
8-4	●	●	●

▨ BAG SIGNAL OR PEDESTRIAN INDICATION



SYSTEM ID: 21172
TE #: 4021
MASTER ID: 21175

- NOTES:
1. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT AND VEHICLE DETECTORS AS SHOWN.
 2. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR STOP BAR AND TEMPORARY PAVEMENT MARKINGS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.
 3. PEDESTRIAN INDICATIONS P6-1 AND P6-2 SHALL BE BAGGED.



TRAFFIC SIGNALS
11 OF 31

PLOT DATE: AUG 18, 2005 12:00pm\DISK FILE NAME: (16.1) D:\Work Stuff\31809791\TS13.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: RJG DWG. NAME: TS13

DATE: AUG 18, 2005

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
TEMPORARY SIGNAL SYSTEM
INTERSECTION LAYOUT - STAGE 3 & STAGE 4
CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 146
S.P. 106-020-025	
S.P.	211
S.P.	

LOOP DETECTOR CHART

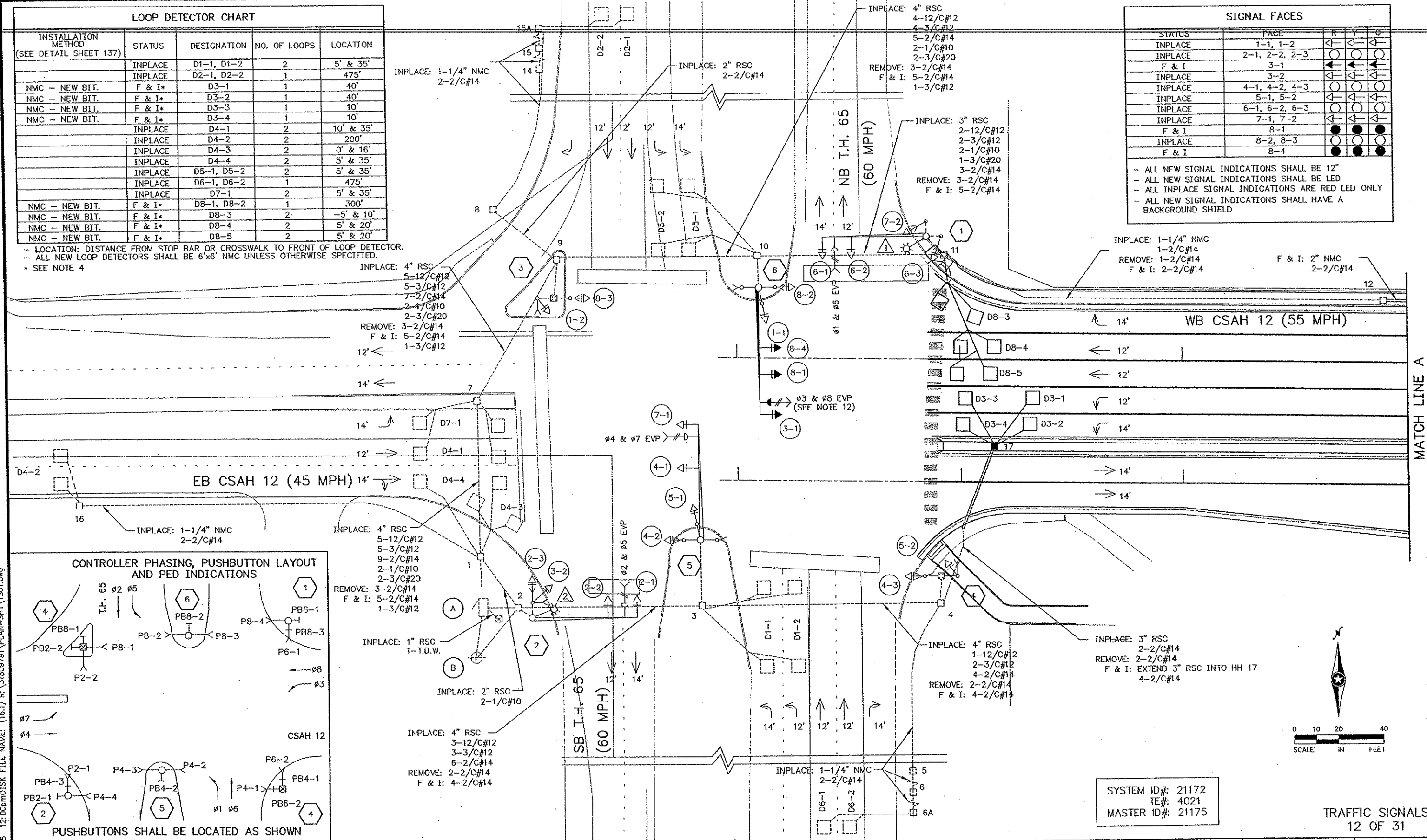
INSTALLATION METHOD (SEE DETAIL SHEET 137)	STATUS	DESIGNATION	NO. OF LOOPS	LOCATION
	INPLACE	D1-1, D1-2	2	5' & 35'
	INPLACE	D2-1, D2-2	1	475'
NMC - NEW BIT.	F & I*	D3-1	1	40'
NMC - NEW BIT.	F & I*	D3-2	1	40'
NMC - NEW BIT.	F & I*	D3-3	1	10'
NMC - NEW BIT.	F & I*	D3-4	1	10'
	INPLACE	D4-1	2	10' & 35'
	INPLACE	D4-2	2	200'
	INPLACE	D4-3	2	0' & 16'
	INPLACE	D4-4	2	5' & 35'
	INPLACE	D5-1, D5-2	2	5' & 35'
	INPLACE	D6-1, D6-2	1	475'
	INPLACE	D7-1	2	5' & 35'
NMC - NEW BIT.	F & I*	D8-1, D8-2	1	300'
NMC - NEW BIT.	F & I*	D8-3	2	-5' & 10'
NMC - NEW BIT.	F & I*	D8-4	2	5' & 20'
NMC - NEW BIT.	F & I*	D8-5	2	5' & 20'

- LOCATION: DISTANCE FROM STOP BAR OR CROSSWALK TO FRONT OF LOOP DETECTOR.
 - ALL NEW LOOP DETECTORS SHALL BE 6"x6" NMC UNLESS OTHERWISE SPECIFIED.
 * SEE NOTE 4

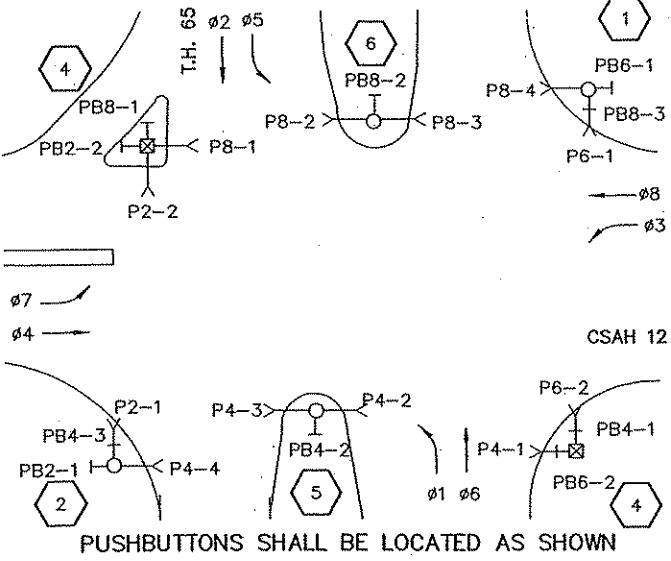
SIGNAL FACES

STATUS	FACE	R	Y	G
INPLACE	1-1, 1-2	◀	◀	◀
INPLACE	2-1, 2-2, 2-3	◀	◀	◀
F & I	3-1	◀	◀	◀
INPLACE	3-2	◀	◀	◀
INPLACE	4-1, 4-2, 4-3	◀	◀	◀
INPLACE	5-1, 5-2	◀	◀	◀
INPLACE	6-1, 6-2, 6-3	◀	◀	◀
INPLACE	7-1, 7-2	◀	◀	◀
F & I	8-1	●	●	●
INPLACE	8-2, 8-3	◀	◀	◀
F & I	8-4	●	●	●

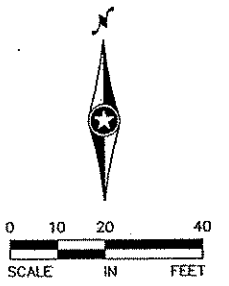
- ALL NEW SIGNAL INDICATIONS SHALL BE 12"
 - ALL NEW SIGNAL INDICATIONS SHALL BE LED
 - ALL INPLACE SIGNAL INDICATIONS ARE RED LED ONLY
 - ALL NEW SIGNAL INDICATIONS SHALL HAVE A BACKGROUND SHIELD



CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS



SYSTEM ID#: 21172
 TE#: 4021
 MASTER ID#: 21175



TRAFFIC SIGNALS
 12 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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

Michael R. Anderson
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
 REVISE SIGNAL SYSTEM A
 INTERSECTION LAYOUT (1 OF 2)
 CSAH 12 (109TH AVE) AND TH 65

S.P.	02-612-11	SHEET NO.
S.P.	106-020-025	147
S.P.		
S.P.		211

1 INPLACE: TYPE A100-A45-D40-9 WITH SWING AWAY HINGES
 2 - ONE WAY SIGNALS OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø1 & Ø6)
 LUMINAIRE AT 355'
 1 - 250W HPS WITH PEC AND CHECK SWITCH ON POLE
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 2 - TYPE D SIGNS MOUNTED OVERHEAD
 1 - TYPE R6-1L (ONE WAY) POLE MOUNTED
 1 - TYPE R6-1R (ONE WAY) POLE MOUNTED

INPLACE: 3" RSC TO HH 11:
 2-12/C#12
 2-3/C#12
 1-3/C#20
 2-1/C#10

2 INPLACE: TYPE A100-A45-D40-9 WITH SWING AWAY HINGES
 2 - ONE WAY SIGNALS OVERHEAD
 1 - TYPE 20C AT 270°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø2 & Ø5)
 LUMINAIRE AT 355'
 1 - 250W HPS WITH PEC AND CHECK SWITCH ON POLE
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 2 - TYPE D SIGN MOUNTED OVERHEAD
 1 - TYPE R6-1L (ONE WAY) POLE MOUNTED
 1 - TYPE R6-1R (ONE WAY) POLE MOUNTED

INPLACE: 3" RSC TO HH 2:
 2-12/C#12
 2-3/C#12
 1-3/C#20
 2-1/C#10

3 INPLACE: PEDESTAL FOUNDATION
 PEDESTAL POLE AND BASE
 1 - TYPE 2C
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 INPLACE: 3" RSC TO HH 9:
 1-12/C#12
 3-3/C#12

4 INPLACE: PEDESTAL FOUNDATION
 PEDESTAL POLE AND BASE
 1 - TYPE 2C
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 INPLACE: 3" RSC TO HH 4:
 1-12/C#12
 2-3/C#12

5 INPLACE: TYPE A100-A50
 2 - ONE WAY SIGNALS OVERHEAD
 TYPE 10A AT 0°
 TYPE 30A AT 90°
 TYPE 10B AT 270°
 1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø4 & Ø7)
 1 - PEDESTRIAN PUSHBUTTON AND SIGN
 1 - TYPE D SIGN MOUNED OVERHEAD
 1 - TYPE R4-7(R) POLE MOUNTED

INPLACE: 3" RSC TO HH 3:
 2-12/C#12
 3-3/C#12
 1-3/C#20

6 INPLACE: TYPE A100 POLE FOUNDATION
 TYPE A100 (POLE SHAFT AND TRANSFORMER BASE)
 1 - TYPE 10A AT 0°
 1 - TYPE 30A AT 90°
 1 - TYPE 10B AT 270°
 1 - PEDESTRIAN PUSHBUTTON AND SIGN
 1 - TYPE R4-7(R) POLE MOUNTED
 REMOVE: TYPE A50 MASTARM

SALVAGE & REINSTALL: 1 - TYPE D SIGN OVERHEAD (D-1)
 INSTALL SALVAGED: 1 - ONE WAY EVP DETECTOR AND INDICATOR LIGHT (Ø3 & Ø8)
 F & I: TYPE A-55 MASTARM WITH OVERHEADS AT 0°, 18° & 30° FROM END OF MASTARM
 3 - ONE WAY SIGNALS OVERHEAD

INPLACE: 3" RSC TO HH 10:
 2-12/C#12
 2-3/C#12
 1-3/C#20
 F & I: 1-3/C#12

A INPLACE: EQUIPMENT PAD FOUNDATION
 CONTROLLER AND CABINET

INPLACE: 4" RSC INTO HH 2
 5-12/C#12
 5-3/C#12
 6-2/C#14
 2-3/C#20
 REMOVE: 2-2/C#14
 F & I: 4-2/C#14

INPLACE: 1" RSC WITH DRAIN TEE INTO TELEPHONE BOX WITH T.D.W.

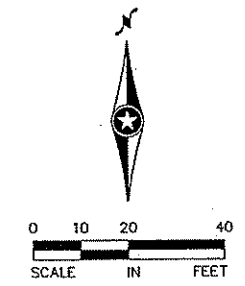
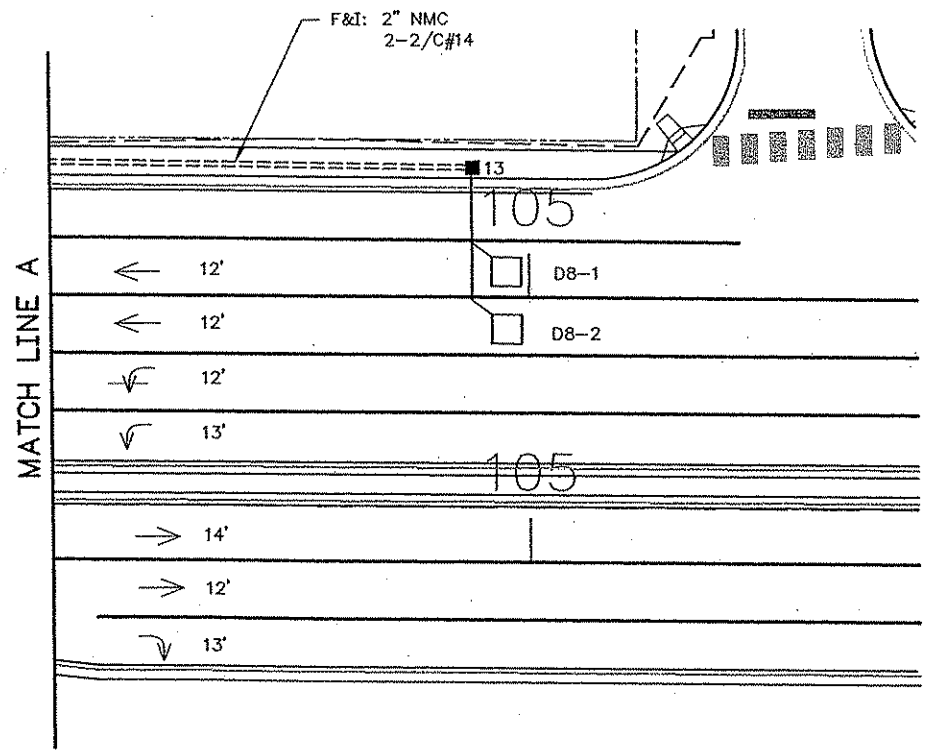
INPLACE: 4" RSC INTO HH 1
 5-12/C#12
 5-3/C#12
 12-2/C#14
 2-3/C#20
 REMOVE: 3-2/C#14
 F & I: 5-2/C#14
 1-3/C#12

INPLACE: 2" RSC TO SEVICE POLE
 2-1/C#6
 2-1/C#6 BRGR.

B INPLACE: SOP 25' WOOD POLE-CLASS 2 WITH SERVICE EQUIPMENT

INPLACE: 2" RSC DRAIN TEE TO CONTROLLER WITH:
 2-1/C#6
 1-1/C#6 BRGR

INPLACE: 2" RSC TO HH 2 WITH:
 4-1/C#10



SYSTEM ID#: 21172
 TE#: 4021
 MASTER ID#: 21175

NOTES:

1. ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE DENOTED BY "F & I", "REMOVE" OR "SALVAGE AND REINSTALL".
2. EXACT LOCATION OF LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFICE OFFICE PERSONNEL SHALL REVIEW THE LOCATIONS DETERMINED BY THE ENGINEER PRIOR TO INSTALLATION.
3. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE 8114.
4. ALL LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET 137. LOOP DETECTORS D8-1, D8-2, D8-3, D8-4, AND D8-5 SHALL BE INSTALLED DURING STAGE 2 CONSTRUCTION. LOOP DETECTORS D3-1, D3-2, D3-3 AND D3-4 SHALL BE INSTALLED DURING STAGE 3 & STAGE 4 CONSTRUCTION. INSTALLATION OF LOOP DETECTORS SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM A PAY ITEM.
5. REINSTALLATION OF THE TYPE D OVERHEAD SIGN SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM PAY ITEMS.
6. A 3/4" HALF COUPLING, A 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED & INSTALLED 6' FROM END OF MASTARM (POLE 6).
7. EVP DETECTOR AND INDICATOR LIGHT ON POLES 1, 2, AND 5 ARE LOCATED 4' FROM THE END OF MAST ARM AND SHALL BE USED INPLACE.
8. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE OR REMOVE & SALVAGE ALL ITEMS OF THE TEMPORARY SIGNAL SYSTEM (INCLUDING TEMPORARY SIGNAL CABLE). REMOVAL AND SALVAGE OF THE TEMPORARY SIGNAL SYSTEM EQUIPMENT SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM. REFER TO SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED.
9. ALL VEHICLE SIGNAL INDICATIONS TO BE FURNISHED & INSTALLED SHALL BE LED.
10. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE SIGNAL SYSTEM WITH THE CONSTRUCTION OF ROADWAY. SIGNAL REVISIONS WORK SHALL BE COORDINATED TO MINIMIZE THE OPERATIONAL DOWN TIME OF THE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
11. THE CONTRACTOR SHALL REMOVE AND FURNISH AND INSTALL NEW INTERNAL POLE WIRING (POLE 6) AS NECESSARY TO ACCOMMODATE THE NEW LENGTHENED MAST ARM.
12. THE EVP DETECTOR AND INDICATOR LIGHT USED IN THE TEMPORARY SIGNAL SYSTEM SHALL BE SALVAGED AND INSTALLED AS INDICATED IN THE PLAN.
13. THE CONTRACTOR SHALL COORDINATE SIGNAL CABINET MODIFICATIONS WITH MN/DOT ESS. SEE SPECIAL PROVISIONS.
14. HAULING OF SALVAGED MATERIAL SHALL BE INCIDENTAL TO THE HAUL SALVAGED MATERIAL PAY ITEM.

TRAFFIC SIGNALS
 13 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS30.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: R.JG
 DWG. NAME: TS30
 DATE: AUG 18, 2005

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 (612) 758-3099 FAX

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

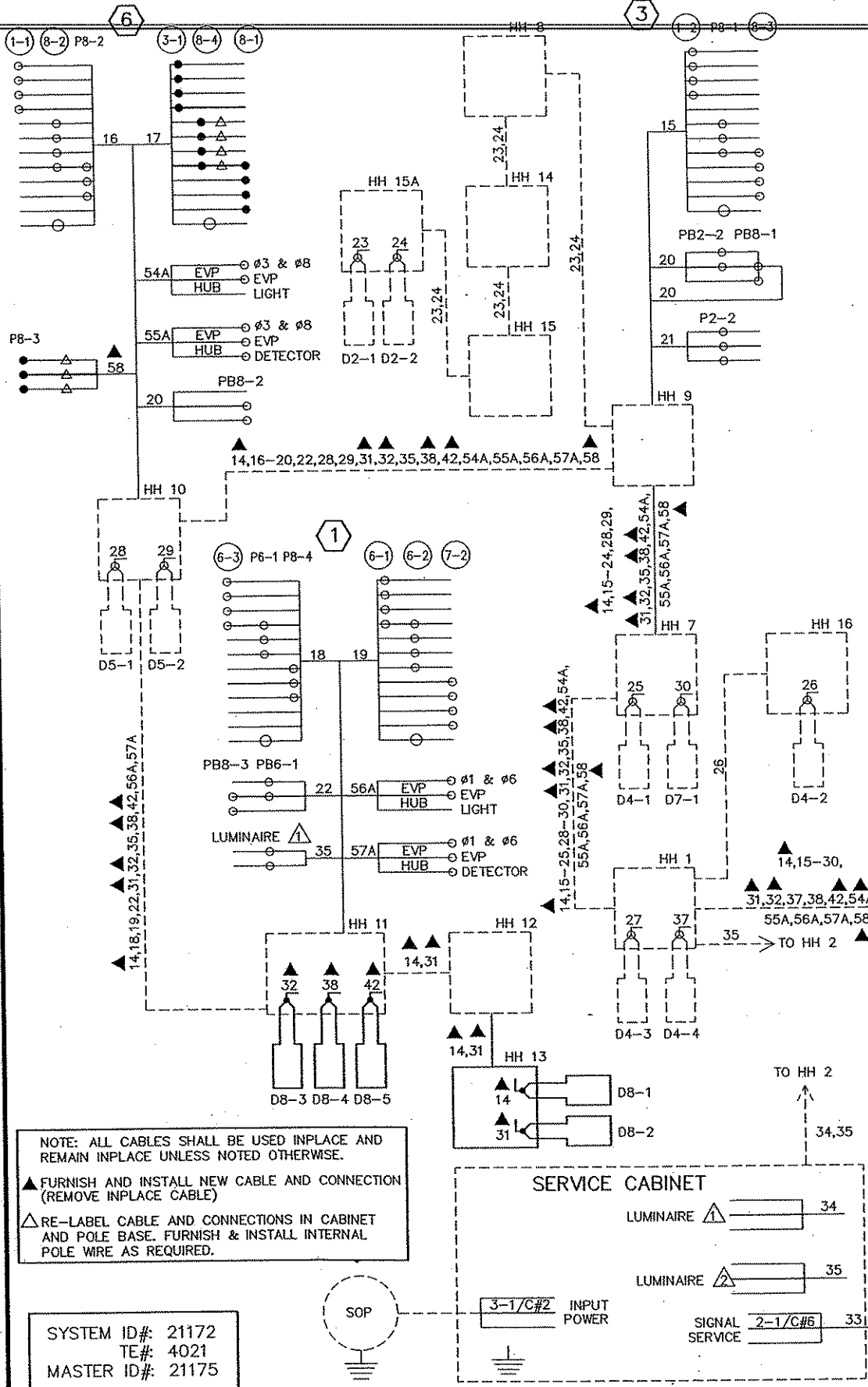
Michael R. Anderson
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
 HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 REVISE SIGNAL SYSTEM A
 INTERSECTION LAYOUT (2 OF 2)
 CSAH 12 (109TH AVE) AND TH 65

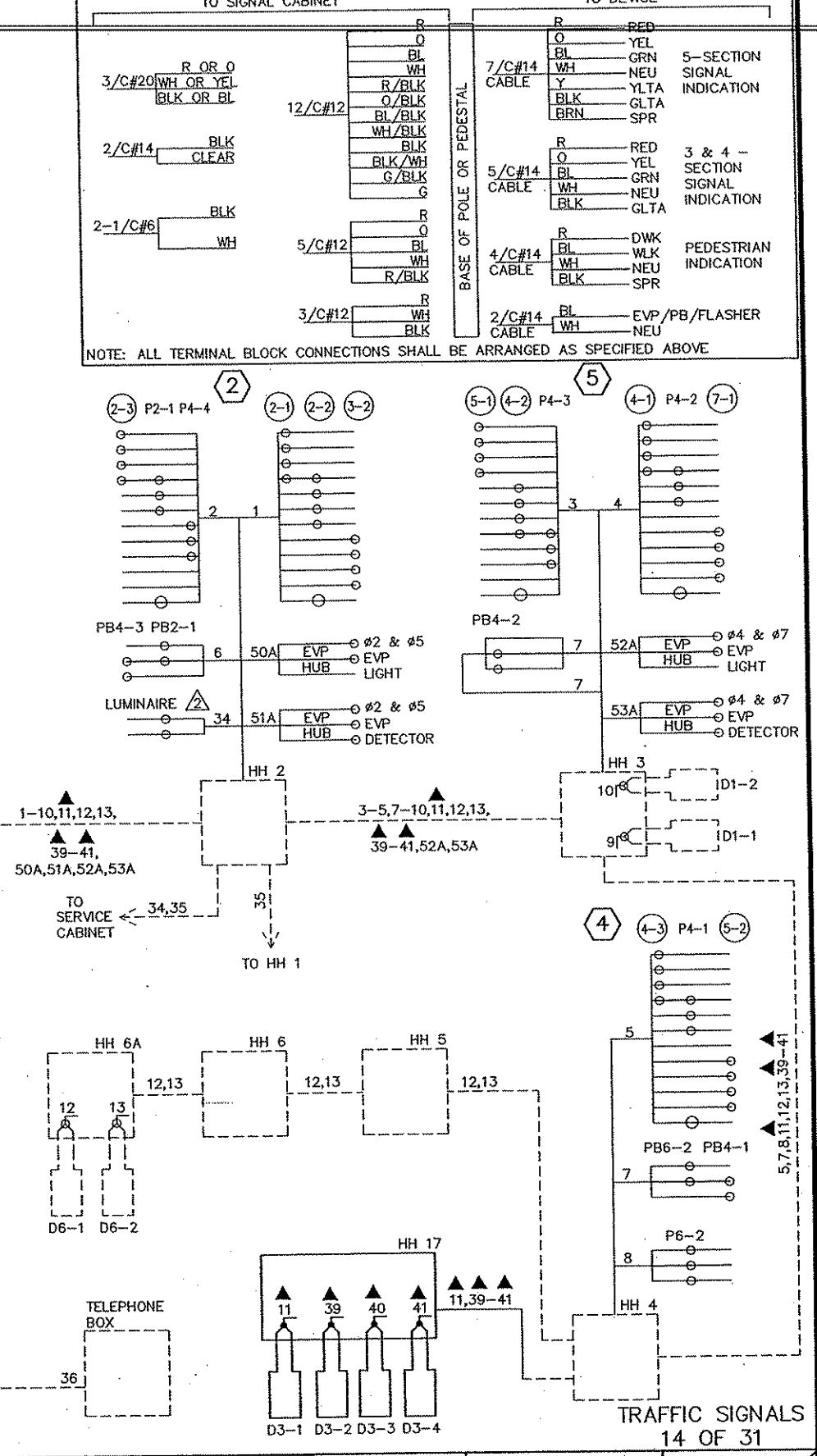
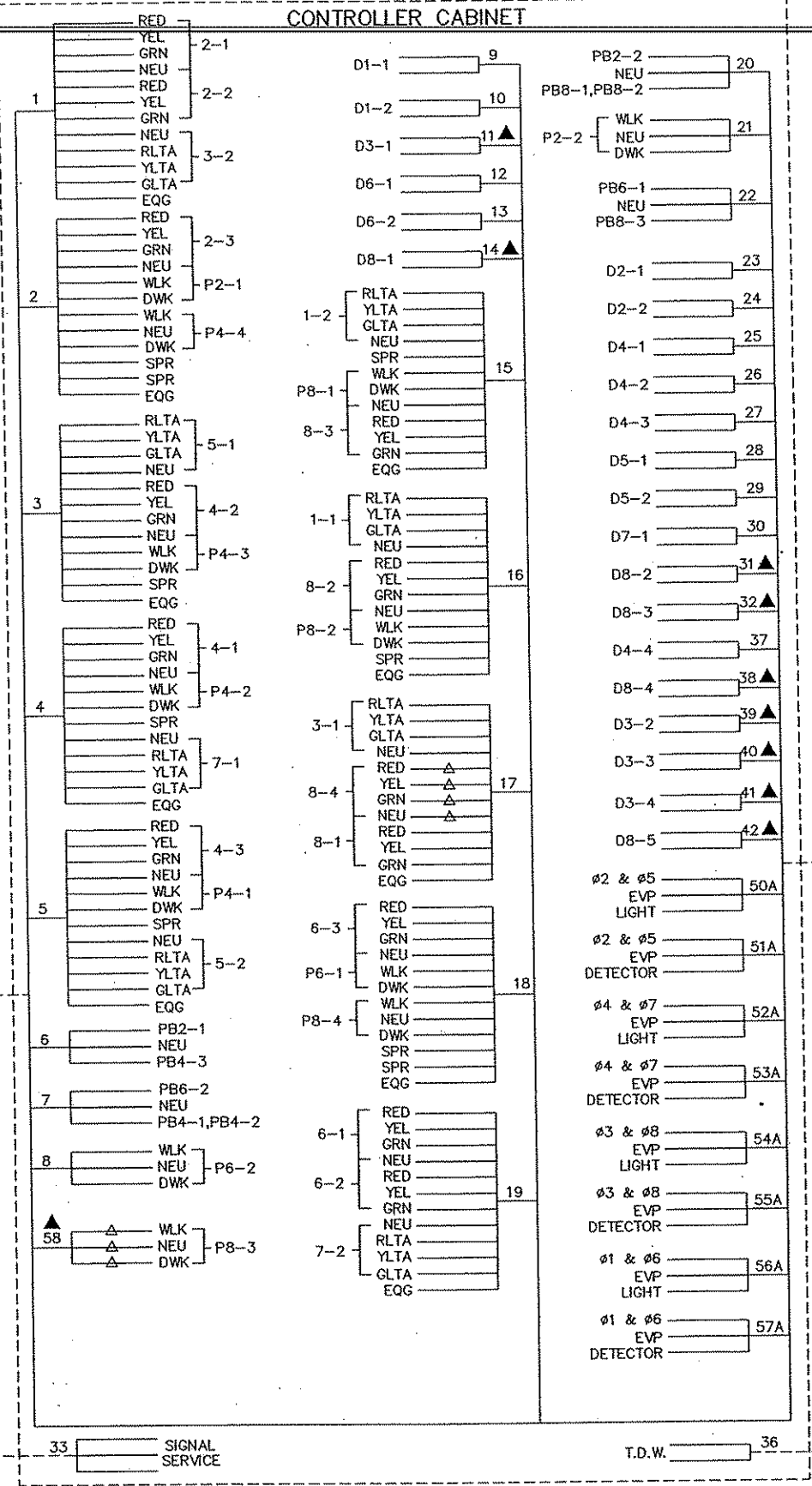
S.P. 02-612-11	SHEET NO. 148
S.P. 106-020-025	
S.P.	
S.P.	
211	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS05.dwg



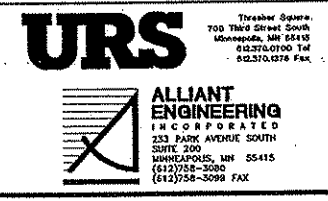
NOTE: ALL CABLES SHALL BE USED INPLACE AND REMAIN INPLACE UNLESS NOTED OTHERWISE.
 ▲ FURNISH AND INSTALL NEW CABLE AND CONNECTION (REMOVE INPLACE CABLE)
 △ RE-LABEL CABLE AND CONNECTIONS IN CABINET AND POLE BASE. FURNISH & INSTALL INTERNAL POLE WIRE AS REQUIRED.

SYSTEM ID#: 21172
 TE#: 4021
 MASTER ID#: 21175

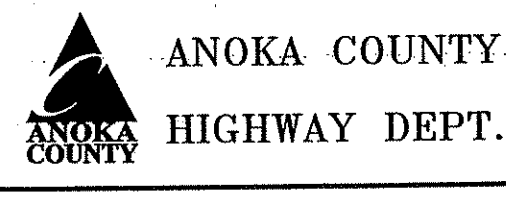


REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHECKED BY: RJG
 DWG. NAME: TS05
 DATE: AUG 18, 2005



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 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828



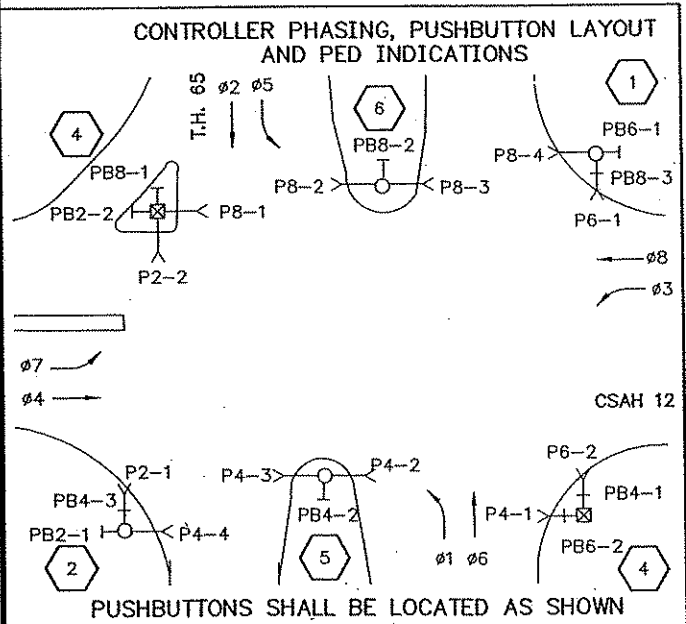
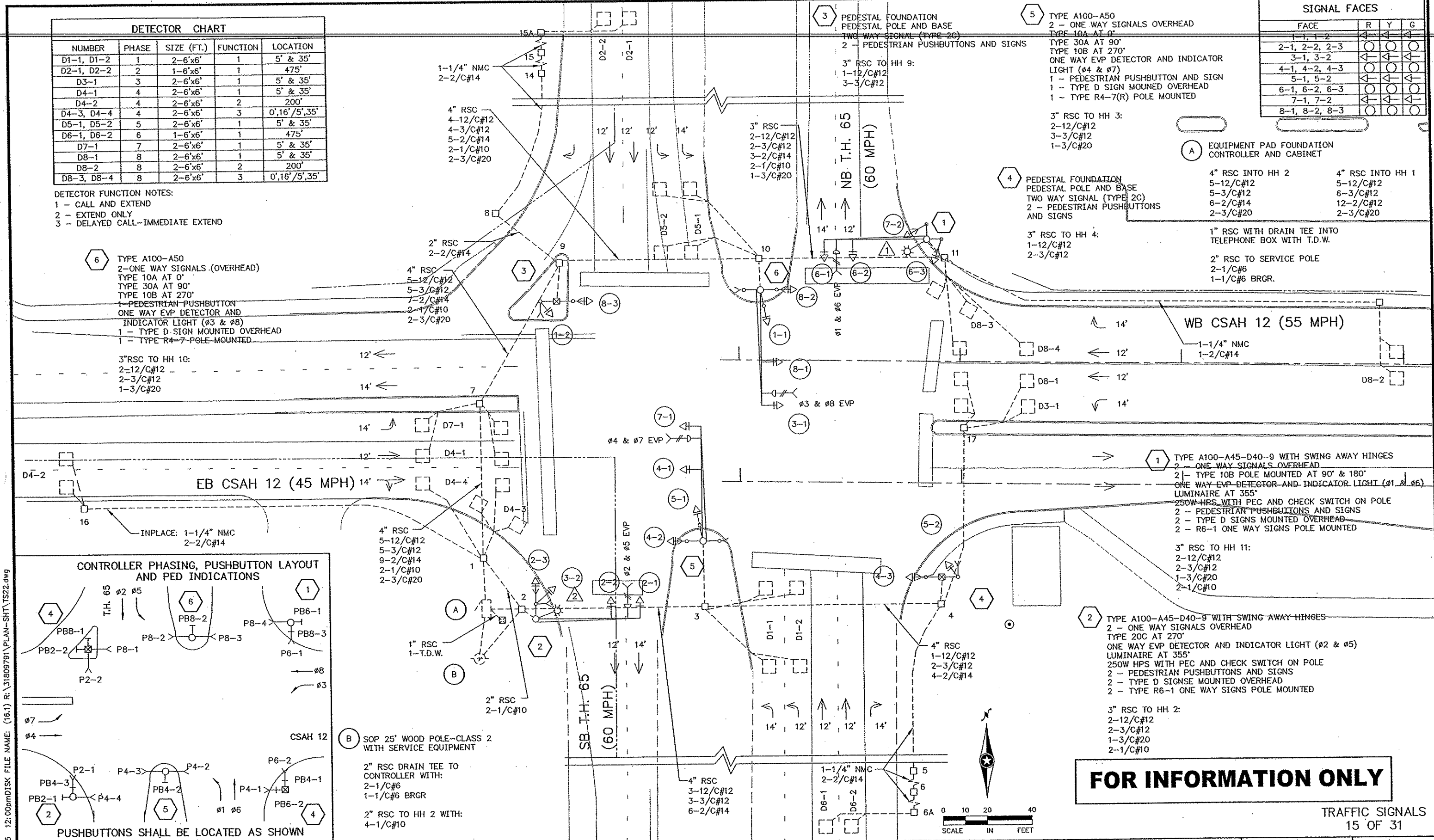
CSAH 12 RECONSTRUCTION
 REVISE SIGNAL SYSTEM A
 WIRING DIAGRAM
 CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 149
S.P. 106-020-025	
S.P.	211
S.P.	

DETECTOR CHART				
NUMBER	PHASE	SIZE (FT.)	FUNCTION	LOCATION
D1-1, D1-2	1	2-6'x6'	1	5' & 35'
D2-1, D2-2	2	1-6'x6'	1	475'
D3-1	3	2-6'x6'	1	5' & 35'
D4-1	4	2-6'x6'	1	5' & 35'
D4-2	4	2-6'x6'	2	200'
D4-3, D4-4	4	2-6'x6'	3	0', 16', 5', 35'
D5-1, D5-2	5	2-6'x6'	1	5' & 35'
D6-1, D6-2	6	1-6'x6'	1	475'
D7-1	7	2-6'x6'	1	5' & 35'
D8-1	8	2-6'x6'	1	5' & 35'
D8-2	8	2-6'x6'	2	200'
D8-3, D8-4	8	2-6'x6'	3	0', 16', 5', 35'

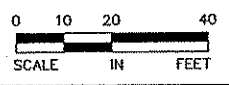
DETECTOR FUNCTION NOTES:
 1 - CALL AND EXTEND
 2 - EXTEND ONLY
 3 - DELAYED CALL-IMMEDIATE EXTEND

SIGNAL FACES			
FACE	R	Y	G
1-1, 1-2	○	○	○
2-1, 2-2, 2-3	○	○	○
3-1, 3-2	○	○	○
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	○	○	○
6-1, 6-2, 6-3	○	○	○
7-1, 7-2	○	○	○
8-1, 8-2, 8-3	○	○	○



(B) SOP 25' WOOD POLE-CLASS 2 WITH SERVICE EQUIPMENT
 2" RSC DRAIN TEE TO CONTROLLER WITH:
 2-1/C#6
 1-1/C#6 BRGR
 2" RSC TO HH 2 WITH:
 4-1/C#10

FOR INFORMATION ONLY



PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS22.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
 700 Third Street South
 Minneapolis, MN 55415
 612.376.0700
 612.376.0776 Fax

ALLIANT ENGINEERING
 1100 RICHMOND AVE. S.W.
 SUITE 200
 MINNEAPOLIS, MN 55415
 (612)758-3000
 (612)758-3000 FAX

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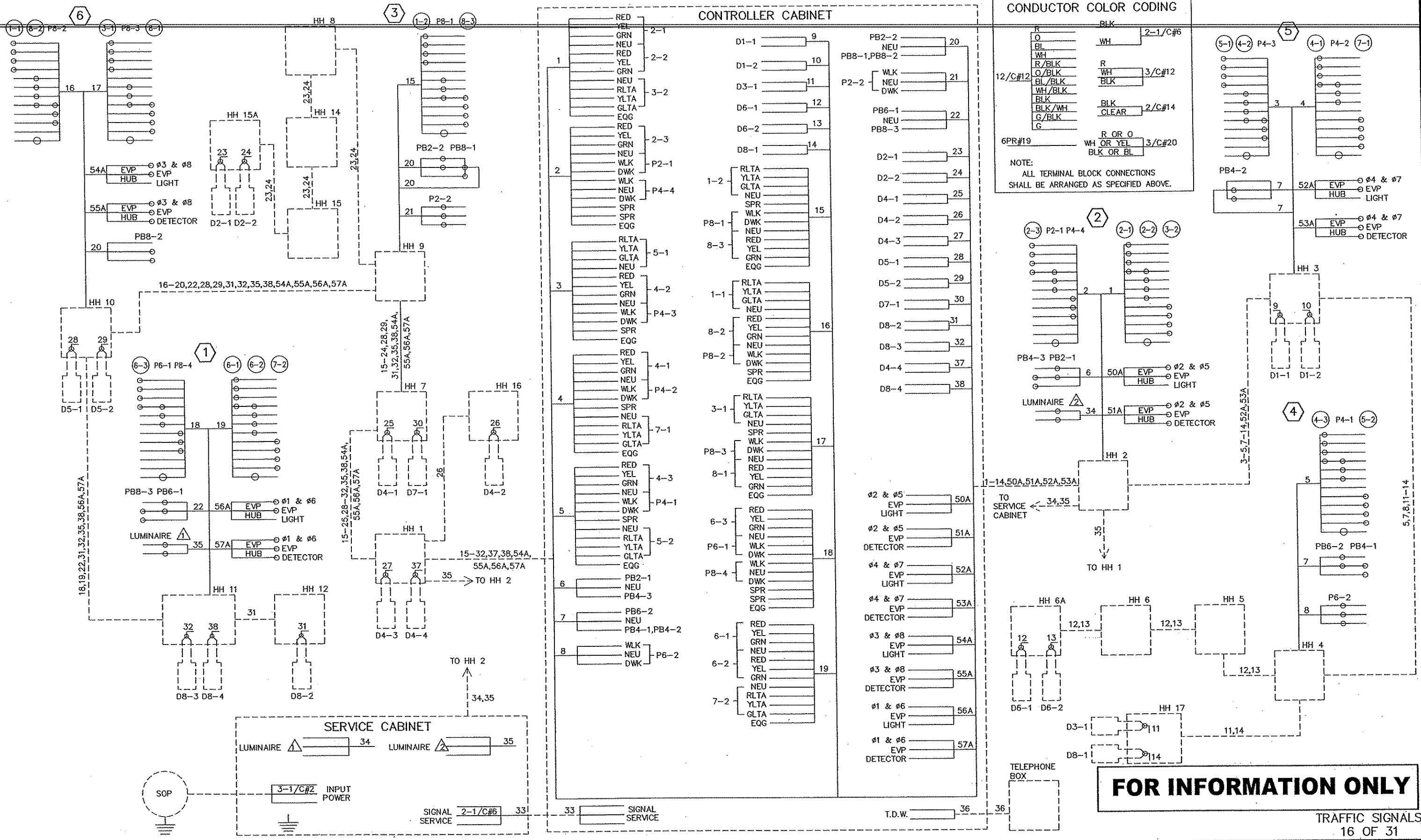
MICHAEL R. ANDERSON
 MN LIC. NO. 42828

ANOKA COUNTY HIGHWAY DEPT.

CSAH 12
 RECONSTRUCTION
 INPLACE SIGNAL SYSTEM A
 INTERSECTION LAYOUT
 CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO. 150
S.P. 106-020-025	211
S.P.	
S.P.	

PLOT DATE: AUG 1 3 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS23.dwg



CONDUCTOR COLOR CODING

R	BLK	2-1/C#6
O	WH	
BL		
WH	R	
R/BLK	WH	3/C#12
O/BLK	BLK	
BL/BLK		
WH/BLK	BLK	2/C#14
BLK/WH	BLK CLEAR	
G/BLK		
G	R OR O	
6PR#19	WH OR YEL	3/C#20
	BLK OR BL	

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

FOR INFORMATION ONLY

TRAFFIC SIGNALS
16 OF 31

EV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
JAS

DESIGN BY:
MKA

CHECKED BY:
RJG

DATE:
AUG 18, 2005

DWG. NAME:
TS23

URS

ALLIANT ENGINEERING
INCORPORATED
233 PARK AVENUE SOUTH
SUITE 200
MINNEAPOLIS, MN 55415
(612) 558-3000
(612) 558-3099 FAX

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MICHAEL R. ANDERSON
MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
INPLACE SIGNAL SYSTEM A
WIRING DIAGRAM
CSAH 12 (109TH AVE) AND TH 65

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	151
S.P.	
S.P.	211

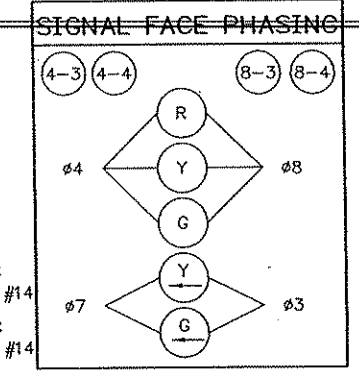
NMC LOOP DETECTORS

INSTALLATION METHOD (SEE DETAIL SHEET 138)	STATUS	NUMBER	PHASE	SIZE (ft)	FUNCTION	LOCATION
NMC - NEW BIT.	F & I	D1-1	1	6' x 6'	1	40'
NMC - NEW BIT.	F & I	D1-2	1	6' x 6'	1	10'
NMC - NEW BIT.	F & I	D2-1, D2-2	2	6' x 6'	1	300'
NMC - MILL	F & I	D3-1	3	2-6' x 6'	1	10' & 40'
NMC - MILL	F & I	D3-2	3	2-6' x 6'	1	-5' & 25'
NMC - MILL	F & I	D4-1	4	6' x 6'	1	120'
NMC - NEW BIT.	F & I	D4-2	4	2-6' x 6'	7	-5' & 10'
NMC - NEW BIT.	F & I	D4-3	4	2-6' x 6'	1	0' & 15'
NMC - NEW BIT.	F & I	D5-1	5	6' x 6'	1	40'
NMC - NEW BIT.	F & I	D5-2	5	6' x 6'	1	40'
NMC - NEW BIT.	F & I	D5-3	5	6' x 6'	1	10'
NMC - NEW BIT.	F & I	D5-4	5	6' x 6'	1	10'
NMC - NEW BIT.	F & I	D6-1, D6-2	6	6' x 6'	1	475'
NMC - MILL	F & I	D7-1	7	2-6' x 6'	1	10' & 40'
NMC - MILL	F & I	D7-2	7	2-6' x 6'	1	-5' & 25'
NMC - NEW BIT.	INPLACE	D8-1	8	6' x 6'	1	AS SHOWN
NMC - NEW BIT.	F & I	D8-2	8	1-6'x6' & 1-6'x10'	7	10' & -10'
NMC - NEW BIT.	F & I	D8-3	8	6' x 6'	1	-5'

SIGNAL FACES

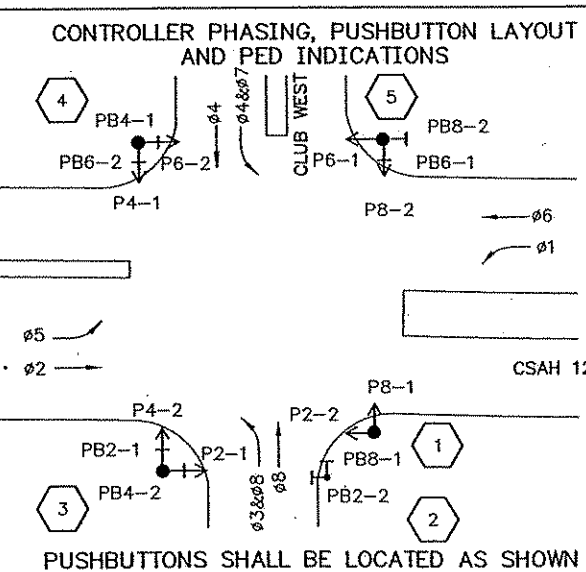
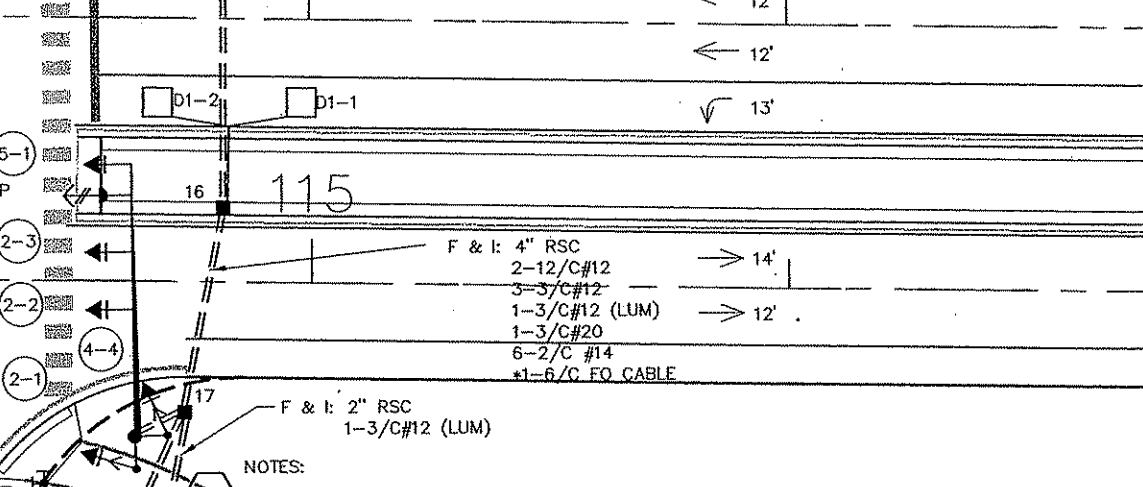
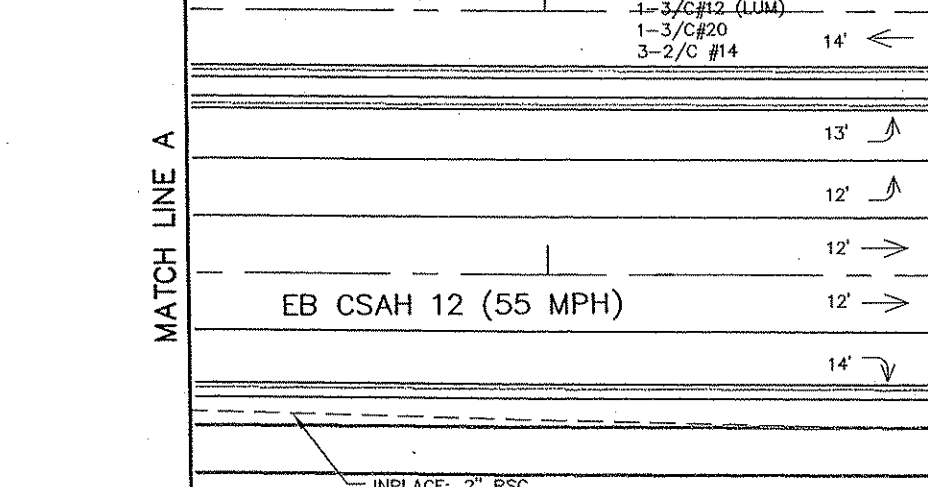
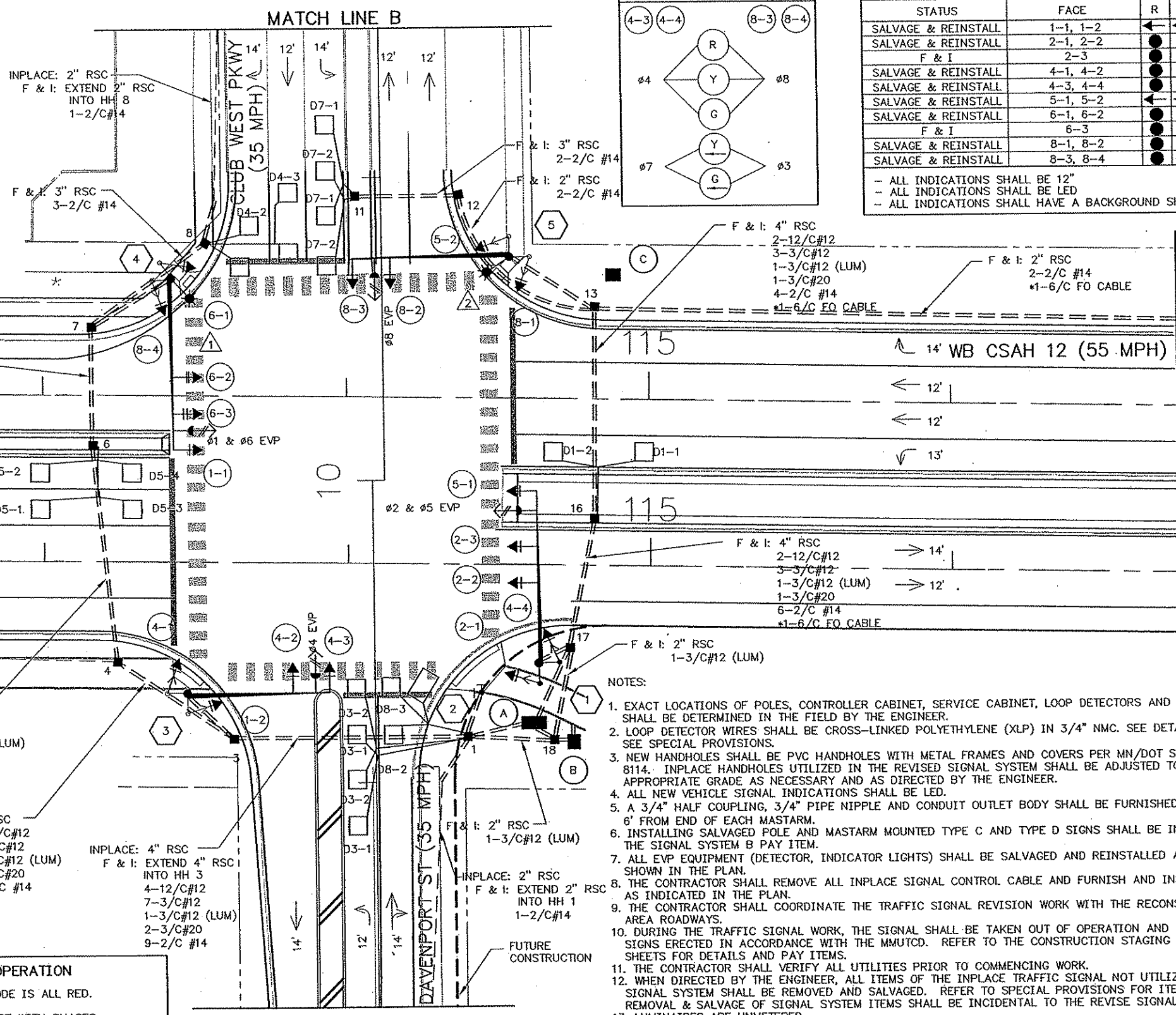
STATUS	FACE	R	Y	G	Y	G
SALVAGE & REINSTALL	1-1, 1-2	●	●	●		
SALVAGE & REINSTALL	2-1, 2-2	●	●	●	●	●
F & I	2-3	●	●	●	●	●
SALVAGE & REINSTALL	4-1, 4-2	●	●	●	●	●
SALVAGE & REINSTALL	4-3, 4-4	●	●	●	●	●
SALVAGE & REINSTALL	5-1, 5-2	●	●	●	●	●
SALVAGE & REINSTALL	6-1, 6-2	●	●	●	●	●
F & I	6-3	●	●	●	●	●
SALVAGE & REINSTALL	8-1, 8-2	●	●	●	●	●
SALVAGE & REINSTALL	8-3, 8-4	●	●	●	●	●

- ALL INDICATIONS SHALL BE 12"
- ALL INDICATIONS SHALL BE LED
- ALL INDICATIONS SHALL HAVE A BACKGROUND SHIELD



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

DETECTOR FUNCTION NOTES:
1 - CALL AND EXTEND
3 - EXTEND ONLY
5 - DELAY CALL ONLY
7 - DELAY CALL & IMMEDIATE EXTEND



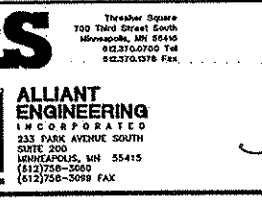
SIGNAL SYSTEM OPERATION

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

- NOTES:
- EXACT LOCATIONS OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" NMC. SEE DETAIL SHEET 138. SEE SPECIAL PROVISIONS.
 - NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MN/DOT STANDARD PLATE 8114. INPLACE HANDHOLES UTILIZED IN THE REVISED SIGNAL SYSTEM SHALL BE ADJUSTED TO THE APPROPRIATE GRADE AS NECESSARY AND AS DIRECTED BY THE ENGINEER.
 - ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM END OF EACH MASTARM.
 - INSTALLING SALVAGED POLE AND MASTARM MOUNTED TYPE C AND TYPE D SIGNS SHALL BE INCIDENTAL TO THE SIGNAL SYSTEM B PAY ITEM.
 - ALL EVP EQUIPMENT (DETECTOR, INDICATOR LIGHTS) SHALL BE SALVAGED AND REINSTALLED AT THE LOCATIONS SHOWN IN THE PLAN.
 - THE CONTRACTOR SHALL REMOVE ALL INPLACE SIGNAL CONTROL CABLE AND FURNISH AND INSTALL NEW CABLE AS INDICATED IN THE PLAN.
 - THE CONTRACTOR SHALL COORDINATE THE TRAFFIC SIGNAL REVISION WORK WITH THE RECONSTRUCTION OF THE AREA ROADWAYS.
 - DURING THE TRAFFIC SIGNAL WORK, THE SIGNAL SHALL BE TAKEN OUT OF OPERATION AND ALL-WAY STOP CONTROL SIGNS ERECTED IN ACCORDANCE WITH THE MMUTCD. REFER TO THE CONSTRUCTION STAGING AND TRAFFIC CONTROL SHEETS FOR DETAILS AND PAY ITEMS.
 - THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO COMMENCING WORK.
 - WHEN DIRECTED BY THE ENGINEER, ALL ITEMS OF THE INPLACE TRAFFIC SIGNAL NOT UTILIZED IN THE REVISED SIGNAL SYSTEM SHALL BE REMOVED AND SALVAGED. REFER TO SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL & SALVAGE OF SIGNAL SYSTEM ITEMS SHALL BE INCIDENTAL TO THE REVISED SIGNAL SYSTEM B PAY ITEM.
 - LUMINAIRES ARE UNMETERED.
 - ITEMS DENOTED BY AN * ARE INCIDENTAL TO THE INTERCONNECT PAY ITEM.
 - HAULING OF SALVAGED MATERIAL SHALL BE INCIDENTAL TO THE HAUL SALVAGED MATERIAL PAY ITEM.

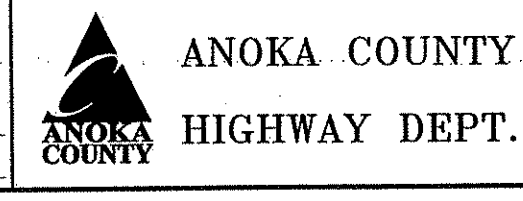
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
DRAWN BY: JAS
DESIGN BY: MRA
CHKD. BY: RJG
DWS. NAME: TS02
DATE: AUG 18, 2005



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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828



CSAH 12
RECONSTRUCTION
REVISE SIGNAL SYSTEM B
INTERSECTION LAYOUT
CSAH 12 (109TH AVE) & DAVENPORT ST (1 OF 2)

S.P.	02-612-11	SHEET NO.
S.P.106-020-025		152
S.P.		
S.P.		211

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) C:\Documents and Settings\jsharbone\My Documents\Work_stuff\31809791\Y502.dwg

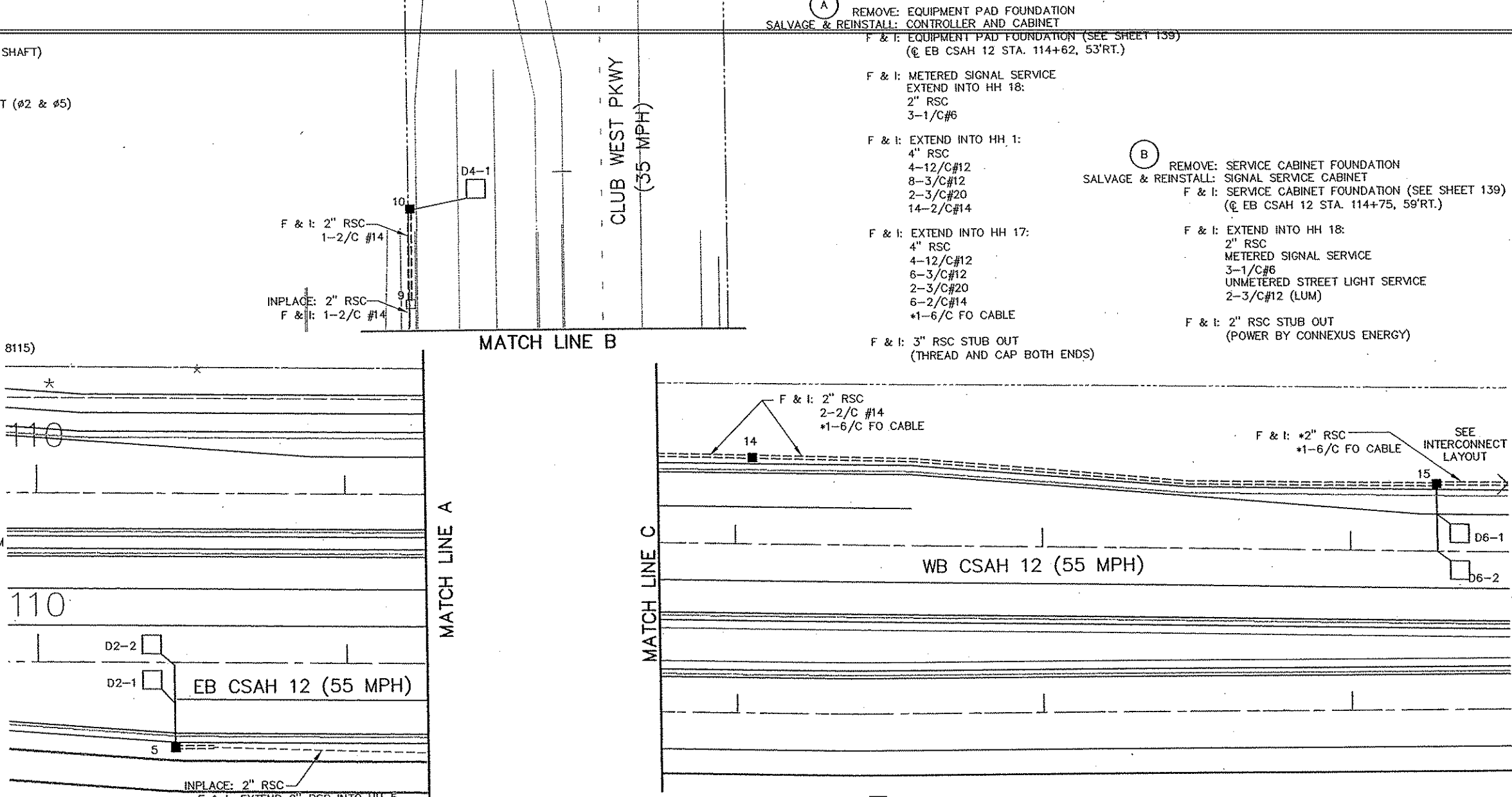
PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) C:\Documents and Settings\jsharbone\My Documents\Work - stuff\31809791\TS04.dwg

- 1** REMOVE: PA100 POLE FOUNDATION
SALVAGE: 1-TYPE A-40 MAST ARM
2-PEDESTRIAN PUSH BUTTONS AND SIGNS
SALVAGE & REINSTALL: 1-TYPE PA100-A (TRANSFORMER BASE & POLE SHAFT)
2-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN PANEL OVERHEAD (D-3)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#2 & #5)
F & I: PA100 POLE FOUNDATION
(@ EB CSAH 12 STA. 114+64, 32.6'RT.)
1-TYPE R6-1L (ONE WAY) POLE MOUNTED
1-TYPE R6-1R (ONE WAY) POLE MOUNTED
1-TYPE A-55 (MAST ARM-OVERHEADS AT 0', 17', & 29' FROM END OF MAST ARM)
1-ONE WAY SIGNAL-OVERHEAD
F & I: EXTEND INTO HH 17:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#20

- 2** F & I: PEDESTRIAN PUSH BUTTON STATION FOUNDATION
(@ EB CSAH 12 STA. 114+44.5, 42.4'RT.)
PEDESTRIAN PUSH BUTTON STATION (MNDOT STD. PLATE 8115)
2-PEDESTRIAN PUSH BUTTONS
F & I: EXTEND INTO HH 1:
1-1/4" RSC
1-3/C#12

- 3** REMOVE: PA100 POLE FOUNDATION
SALVAGE: 1-TYPE A-35 MAST ARM
2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: 1-TYPE PA100-A (TRANSFORMER BASE & POLE SHAFT)
2-ONE WAY SIGNALS-OVERHEAD (0' & 13' FROM END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN PANEL OVERHEAD (D-2)
1-R10-12 SIGN PANEL MOUNTED ADJACENT TO SIGNAL FACE 4-3
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#4)
F & I: PA100 POLE FOUNDATION
(@ EB CSAH 12 STA. 113+46.8, 43.5'RT.)
1-TYPE A-45 MAST ARM WITH OVERHEADS AT 0' & 11' FROM END OF MAST ARM
2-PEDESTRIAN PUSH BUTTONS
F & I: EXTEND INTO HH 3:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#20

- 4** REMOVE: PA100 POLE FOUNDATION
SALVAGE: 1-TYPE A-40 MAST ARM
2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: 1-TYPE PA100-A-D40-9 (TRANSFORMER BASE, POLE SHAFT & DAVIT AT 350°)
1-LUMINAIRE 200 W HPS
2-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN PANEL OVERHEAD (D-4)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#1 & #6)
F & I: PA100 POLE FOUNDATION
(@ WB CSAH 12 STA. 113+41.9, 38.5'LT.)
1-TYPE A-55 MAST ARM WITH OVERHEADS AT 0', 11' & 23' FROM END OF MAST ARM
1-TYPE R6-1L (ONE WAY) POLE MOUNTED
1-TYPE R6-1R (ONE WAY) POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
1-ONE WAY SIGNAL-OVERHEAD
F & I: EXTEND INTO HH 7:
3" RSC
2-12/C#12
4-3/C#12
1-3/C#12 (LUM)
1-3/C#20

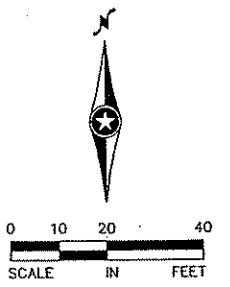


C PROPOSED GROUND MOUNTED TRANSFORMER PAD (SOP)
(RELOCATED BY CONNEXUS ENERGY)
(POWER BY CONNEXUS ENERGY)

- A** REMOVE: EQUIPMENT PAD FOUNDATION
SALVAGE & REINSTALL: CONTROLLER AND CABINET
F & I: EQUIPMENT PAD FOUNDATION (SEE SHEET 139)
(@ EB CSAH 12 STA. 114+62, 53'RT.)
F & I: METERED SIGNAL SERVICE
EXTEND INTO HH 18:
2" RSC
3-1/C#6
F & I: EXTEND INTO HH 1:
4" RSC
4-12/C#12
8-3/C#12
2-3/C#20
14-2/C#14
F & I: EXTEND INTO HH 17:
4" RSC
4-12/C#12
6-3/C#12
2-3/C#20
6-2/C#14
*1-6/C FO CABLE
F & I: 3" RSC STUB OUT
(THREAD AND CAP BOTH ENDS)

- B** REMOVE: SERVICE CABINET FOUNDATION
SALVAGE & REINSTALL: SIGNAL SERVICE CABINET
F & I: SERVICE CABINET FOUNDATION (SEE SHEET 139)
(@ EB CSAH 12 STA. 114+75, 59'RT.)
F & I: EXTEND INTO HH 18:
2" RSC
METERED SIGNAL SERVICE
3-1/C#6
UNMETERED STREET LIGHT SERVICE
2-3/C#12 (LUM)
F & I: 2" RSC STUB OUT
(POWER BY CONNEXUS ENERGY)

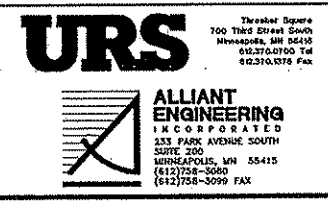
- 5** REMOVE: PA100 POLE FOUNDATION
SALVAGE: 1-TYPE A-45 MAST ARM
2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: 1-TYPE PA100-A-D40-9 (TRANSFORMER BASE, POLE SHAFT, & DAVIT AT 350°)
1-LUMINAIRE 200 W HPS
2-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED AT 90° & 180°
1-TYPE D SIGN PANEL OVERHEAD (D-2)
1-R10-12 SIGN PANEL MOUNTED ADJACENT TO SIGNAL FACE 8-3
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT (#8)
1-R6-1L (ONE WAY) POLE MOUNTED
1-R6-1R (ONE WAY) POLE MOUNTED
F & I: PA100 POLE FOUNDATION
(@ WB CSAH 12 STA. 114+53.7, 46.5'LT.)
1-TYPE A-50 MAST ARM WITH OVERHEADS AT 0' & 12' FROM THE END OF MAST ARM
2-PEDESTRIAN PUSH BUTTONS
F & I: EXTEND INTO HH 13:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM)
1-3/C#20



TRAFFIC SIGNALS
18 OF 31

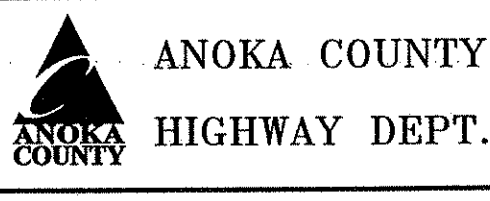
REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: RJC	DWG. NAME: TS04	
DATE: AUG 18, 2005		



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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

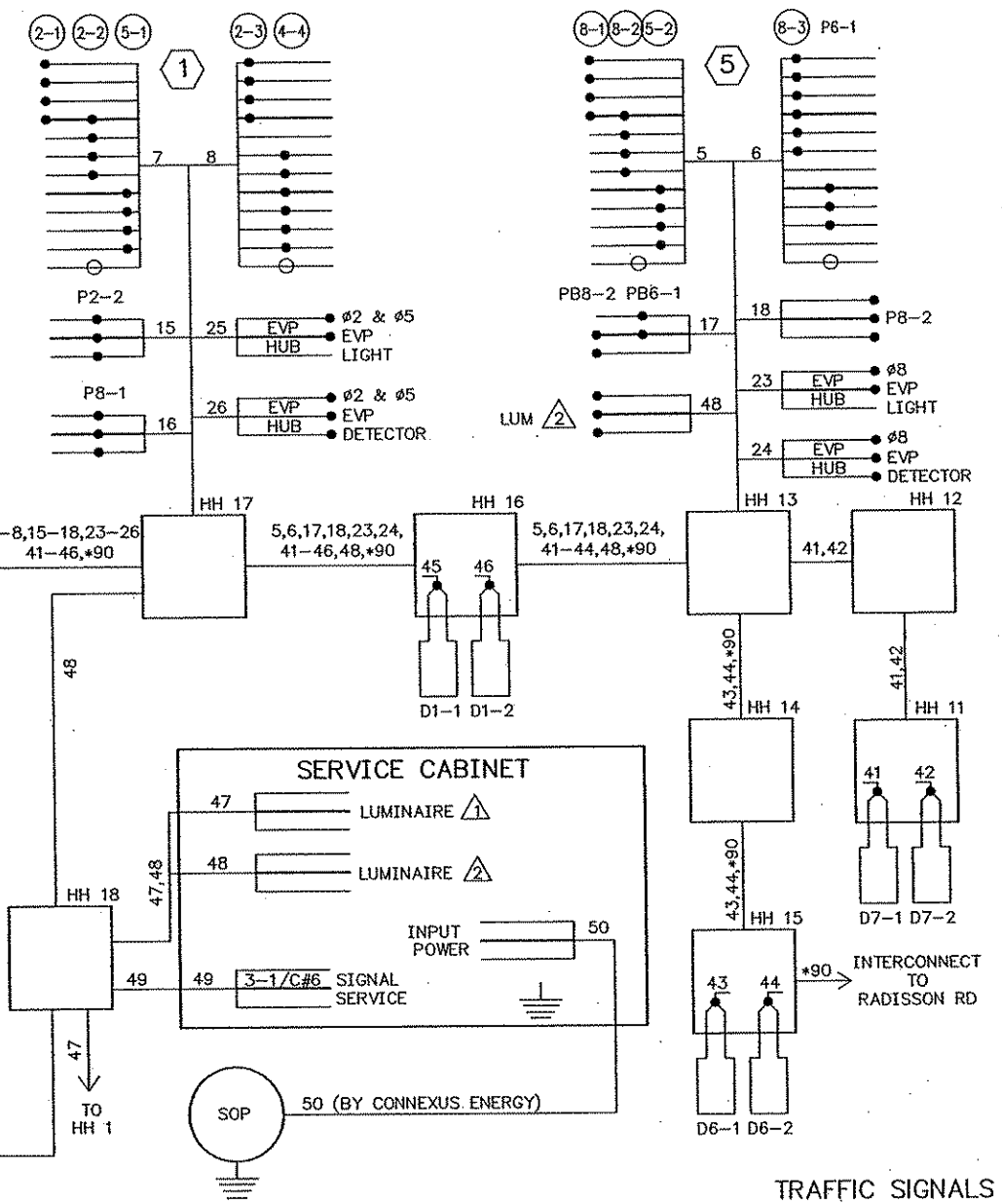
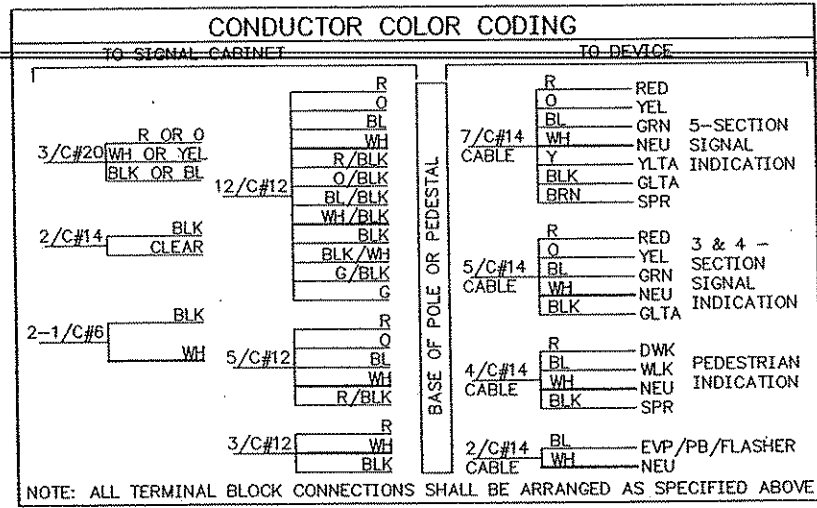
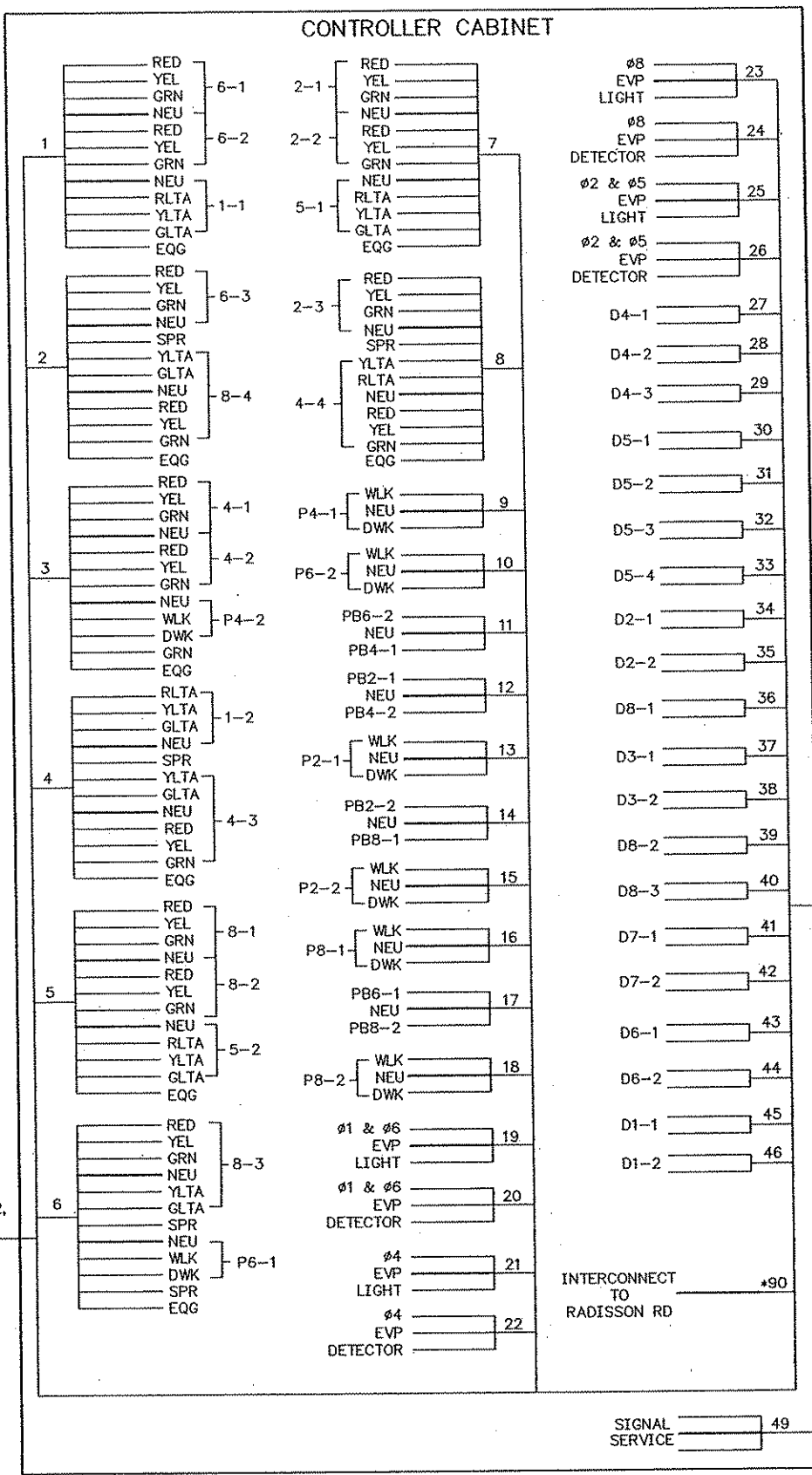
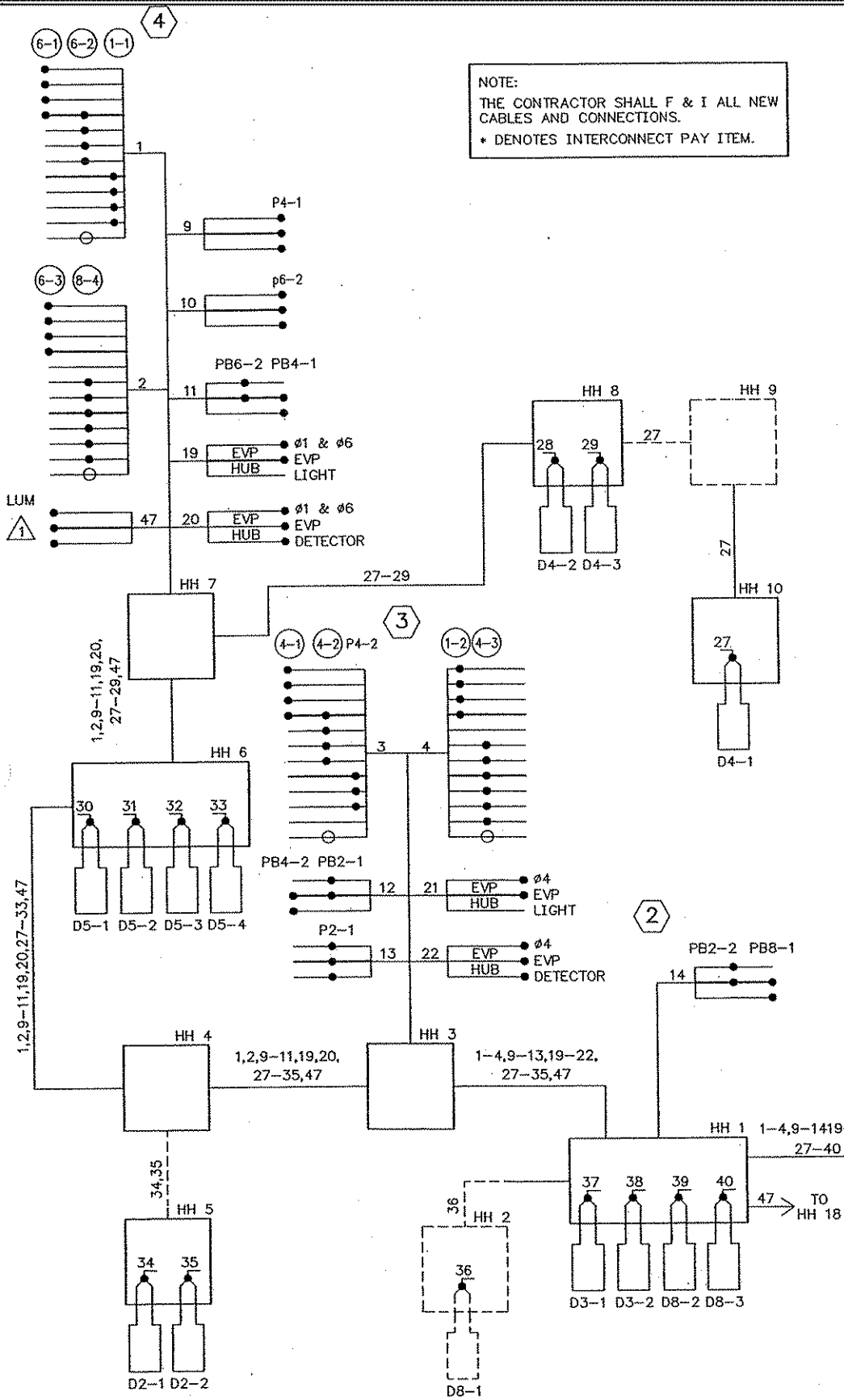


CSAH 12
RECONSTRUCTION
REVISE SIGNAL SYSTEM B
INTERSECTION LAYOUT - MATCH LINES
CSAH 12 (109TH AVE.) & DAVENPORT ST. (2 OF 2)

S.P. 02-612-11	SHEET NO. 153
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: AUG 1 12:00pm DISK FILE NAME: (16.1) C:\Documents and Settings\jsharbo\My Documents\W\1131809791\TS29.dwg

NOTE:
THE CONTRACTOR SHALL F & I ALL NEW CABLES AND CONNECTIONS.
* DENOTES INTERCONNECT PAY ITEM.



TRAFFIC SIGNALS
19 OF 31

EV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

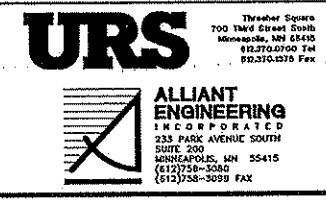
DRAWN BY:
JAS

DESIGN BY:
MRA

CHKD. BY:
RJG

DWG. NAME:
TS29

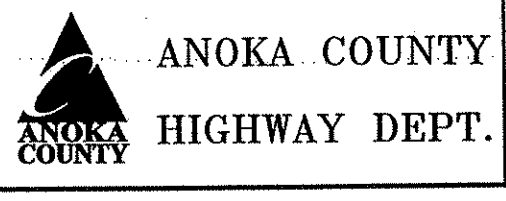
DATE:
AUG 18, 2005



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

Michael R. Anderson

MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828



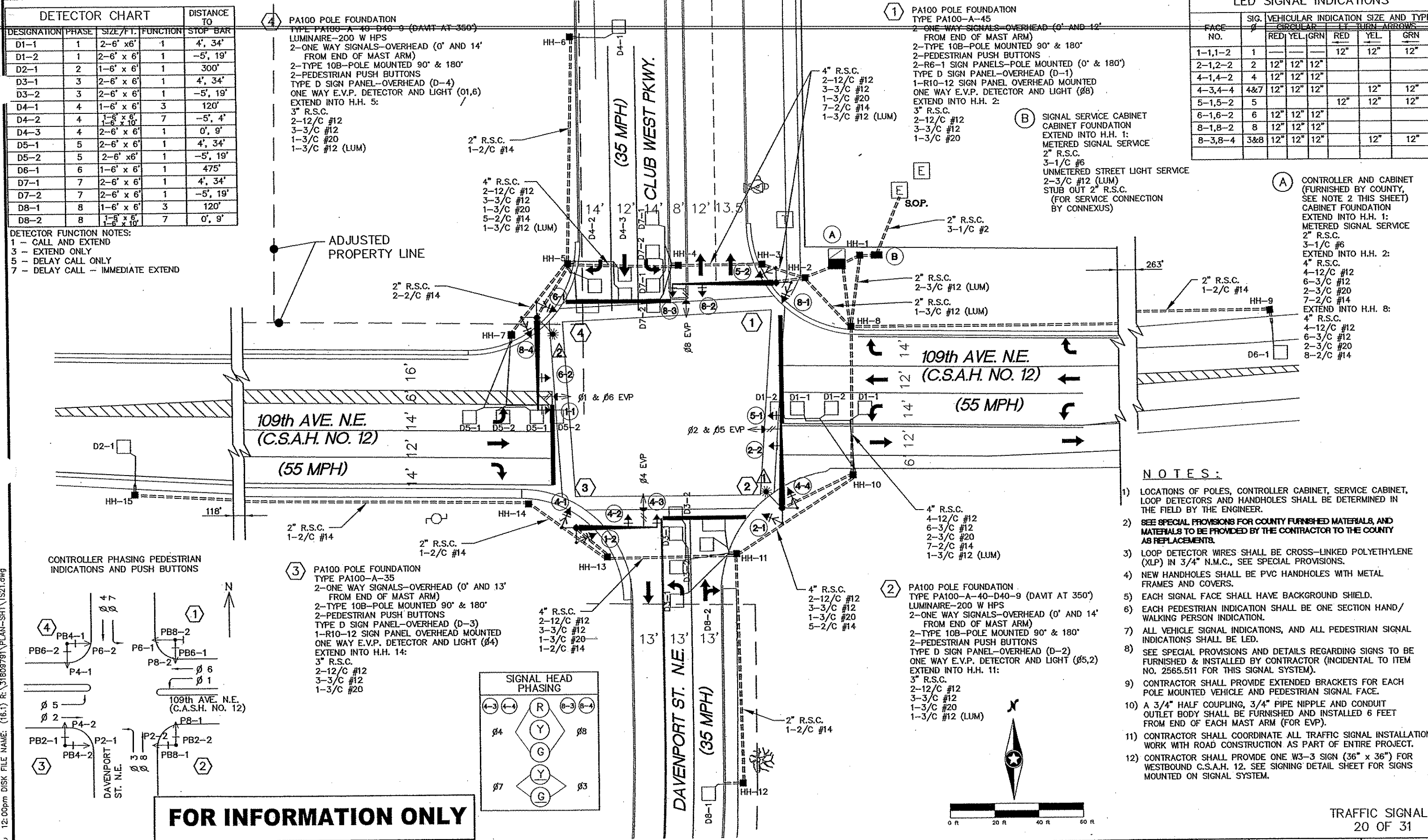
CSAH 12
RECONSTRUCTION
REVISE SIGNAL SYSTEM B
WIRING DIAGRAM
CSAH 12 (109TH AVE) AND DAVENPORT ST

S.P. 02-612-11	SHEET NO. 154
S.P. 106-020-025	
S.P.	211
S.P.	

DETECTOR CHART				DISTANCE TO STOP BAR
DESIGNATION	PHASE	SIZE/F.T.	FUNCTION	
D1-1	1	2-6' x 6'	1	4', 34'
D1-2	1	2-6' x 6'	1	-5', 19'
D2-1	2	1-6' x 6'	1	300'
D3-1	3	2-6' x 6'	1	4', 34'
D3-2	3	2-6' x 6'	1	-5', 19'
D4-1	4	1-6' x 6'	3	120'
D4-2	4	1-6' x 6'	7	-5', 4'
D4-3	4	2-6' x 6'	1	0', 9'
D5-1	5	2-6' x 6'	1	4', 34'
D5-2	5	2-6' x 6'	1	-5', 19'
D6-1	6	1-6' x 6'	1	475'
D7-1	7	2-6' x 6'	1	4', 34'
D7-2	7	2-6' x 6'	1	-5', 19'
D8-1	8	1-6' x 6'	3	120'
D8-2	8	1-6' x 6'	7	0', 9'

DETECTOR FUNCTION NOTES:
 1 - CALL AND EXTEND
 3 - EXTEND ONLY
 5 - DELAY CALL ONLY
 7 - DELAY CALL - IMMEDIATE EXTEND

LED SIGNAL INDICATIONS							
FACE NO.	SIG. #	VEHICULAR INDICATION		LEFT TURN ARROWS		RIGHT TURN ARROWS	
		RED	YEL/GRN	RED	YEL	GRN	GRN
1-1,1-2	1			12"	12"	12"	
2-1,2-2	2	12"	12"	12"			
4-1,4-2	4	12"	12"	12"			
4-3,4-4	4&7	12"	12"	12"	12"	12"	
5-1,5-2	5			12"	12"	12"	
6-1,6-2	6	12"	12"	12"			
8-1,8-2	8	12"	12"	12"			
8-3,8-4	3&8	12"	12"	12"	12"	12"	



(A) CONTROLLER AND CABINET (FURNISHED BY COUNTY, SEE NOTE 2 THIS SHEET) CABINET FOUNDATION EXTEND INTO H.H. 1: METERED SIGNAL SERVICE 2" R.S.C. 3-1/C #6 UNMETERED STREET LIGHT SERVICE 2-3/C #12 (LUM) STUB OUT 2" R.S.C. (FOR SERVICE CONNECTION BY CONNEXUS)

(B) SIGNAL SERVICE CABINET CABINET FOUNDATION EXTEND INTO H.H. 1: METERED SIGNAL SERVICE 2" R.S.C. 3-1/C #6 UNMETERED STREET LIGHT SERVICE 2-3/C #12 (LUM) STUB OUT 2" R.S.C. (FOR SERVICE CONNECTION BY CONNEXUS)

(E) S.O.P.

- NOTES:**
- LOCATIONS OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS, AND MATERIALS TO BE PROVIDED BY THE CONTRACTOR TO THE COUNTY AS REPLACEMENTS.
 - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C., SEE SPECIAL PROVISIONS.
 - NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION HAND/WALKING PERSON INDICATION.
 - ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511 FOR THIS SIGNAL SYSTEM).
 - CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACE.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
 - CONTRACTOR SHALL COORDINATE ALL TRAFFIC SIGNAL INSTALLATION WORK WITH ROAD CONSTRUCTION AS PART OF ENTIRE PROJECT.
 - CONTRACTOR SHALL PROVIDE ONE W3-3 SIGN (36" x 36") FOR WESTBOUND C.S.A.H. 12. SEE SIGNING DETAIL SHEET FOR SIGNS MOUNTED ON SIGNAL SYSTEM.

FOR INFORMATION ONLY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31800-791
 DRAWN BY: JAS
 DESIGN BY: MKR
 CHKD. BY: RJG
 DNG. NAME: TS21
 DATE: AUG 18, 2005

URS
 700 Third Street South
 Minneapolis, MN 55415
 (612)755-3000
 (612)755-3099 FAX

ALLIANT ENGINEERING
 INCORPORATED
 233 PARK AVENUE SOUTH
 SUITE 200
 MINNEAPOLIS, MN 55415
 (612)755-3000
 (612)755-3099 FAX

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT 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.

MICHAEL R. ANDERSON
 MN LIC. NO. 42828

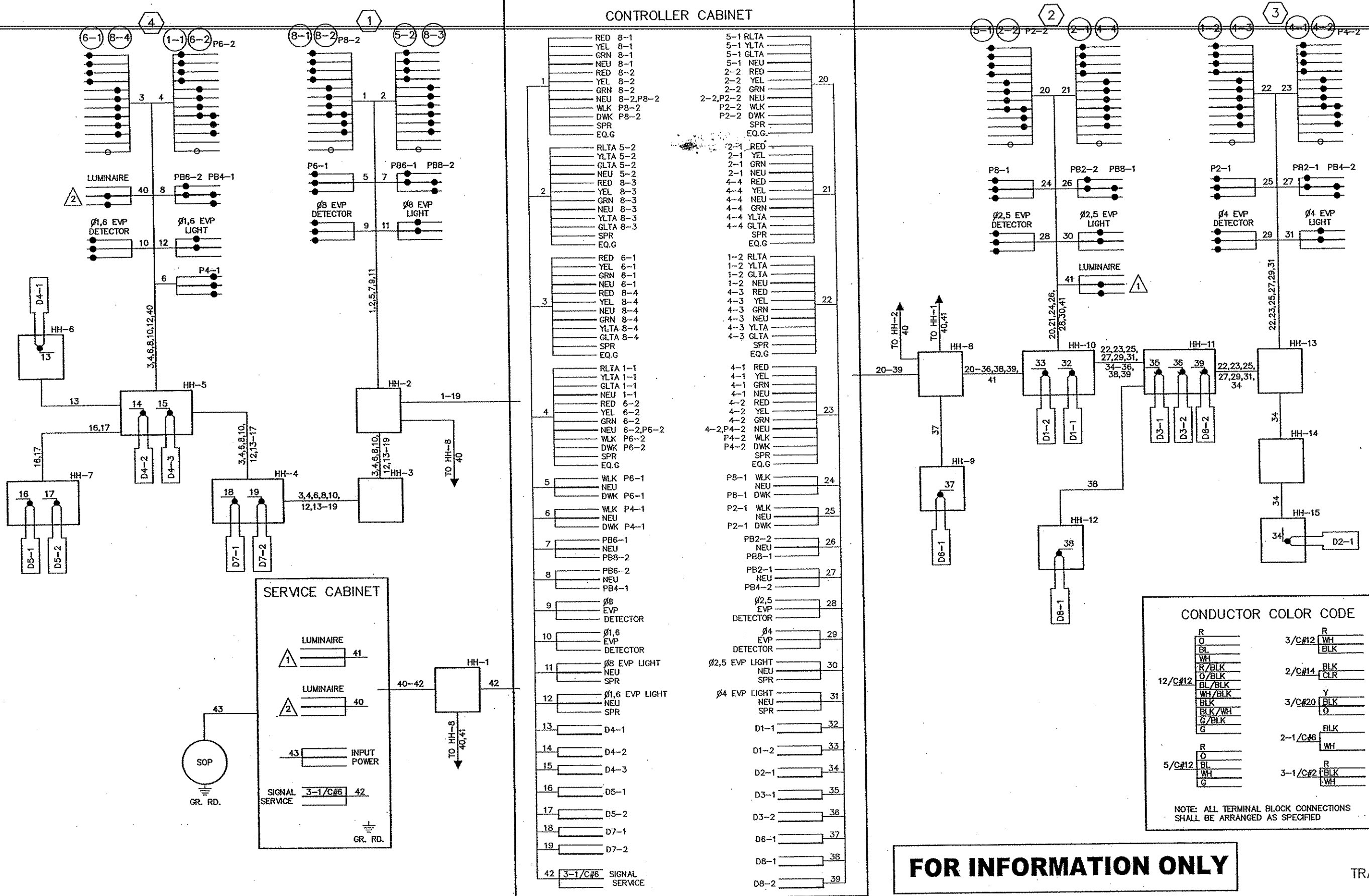
ANOKA COUNTY HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
 INPLACE SIGNAL SYSTEM B
 INTERSECTION LAYOUT
 CSAH 12 (109TH AVE) AND DAVENPORT ST.

S.P. 02-612-11	SHEET NO. 155
S.P. 106-020-025	211
S.P.	
S.P.	

PLOT DATE: AUG 11 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS21.dwg

PLOT DATE: AUG 1 3 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS24.dwg



CONTROLLER CABINET

- 1 RED 8-1
- 1 YEL 8-1
- 1 GRN 8-1
- 1 NEU 8-1
- 2 RED 8-2
- 2 YEL 8-2
- 2 GRN 8-2
- 2 NEU 8-2
- 2 PB8-2
- 2 WK P8-2
- 2 DWK P8-2
- 2 SPR
- 2 EQ.G
- 2-1 RLTA 5-2
- 2-1 YLTA 5-2
- 2-1 GLTA 5-2
- 2-1 NEU 5-2
- 4-4 RED 8-3
- 4-4 YEL 8-3
- 4-4 GRN 8-3
- 4-4 NEU 8-3
- 4-4 YLTA 8-3
- 4-4 GLTA 8-3
- 4-4 SPR
- 4-4 EQ.G
- 3 RED 6-1
- 3 YEL 6-1
- 3 GRN 6-1
- 3 NEU 6-1
- 4-3 RED 8-4
- 4-3 YEL 8-4
- 4-3 GRN 8-4
- 4-3 NEU 8-4
- 4-3 YLTA 8-4
- 4-3 GLTA 8-4
- 4-3 SPR
- 4-3 EQ.G
- 4-1 RED 1-1
- 4-1 YLTA 1-1
- 4-1 GLTA 1-1
- 4-1 GRN 1-1
- 4-1 NEU 1-1
- 4-2 RED 6-2
- 4-2 YEL 6-2
- 4-2 GRN 6-2
- 4-2 NEU 6-2
- 4-2 P4-2
- 4-2 WK P6-2
- 4-2 DWK P6-2
- 4-2 SPR
- 4-2 EQ.G
- 5 WK P6-1
- 5 NEU P6-1
- 5 DWK P6-1
- 6 WK P4-1
- 6 NEU P4-1
- 6 DWK P4-1
- 7 PB6-1
- 7 NEU PB8-2
- 7 PB8-2
- 8 PB6-2
- 8 NEU PB4-1
- 8 PB4-1
- 9 ø8 EVP DETECTOR
- 10 ø1,6 EVP DETECTOR
- 11 ø8 EVP LIGHT
- 12 ø1,6 EVP LIGHT
- 13 D4-1
- 14 D4-2
- 15 D4-3
- 16 D5-1
- 17 D5-2
- 18 D7-1
- 19 D7-2
- 42 3-1/C#6 SIGNAL SERVICE

CONDUCTOR COLOR CODE

R	R
O	3/C#12 WH
BL	BLK
WH	2/C#14 BLK
R/BLK	CLR
O/BLK	Y
BL/BLK	3/C#20 BLK
WH/BLK	O
BLK	BLK
BLK/WH	2-1/C#6 WH
G/BLK	3-1/C#2 R
G	BLK
R	WH
O	3-1/C#2 FBLK
BL	WH
WH	
G	

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED

FOR INFORMATION ONLY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MKR
 CHKD. BY: R.JG
 DWG. NAME: TS24
 DATE: AUG 18, 2005

URS
 700 Third Street South
 Minneapolis, MN 55415
 612.725.1234

ALLIANT ENGINEERING
 11100 Park Avenue
 Suite 200
 Minneapolis, MN 55415
 612.725-3000

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

MICHAEL R. ANDERSON
 MN LIC. NO. 42828

ANOKA COUNTY HIGHWAY DEPT.

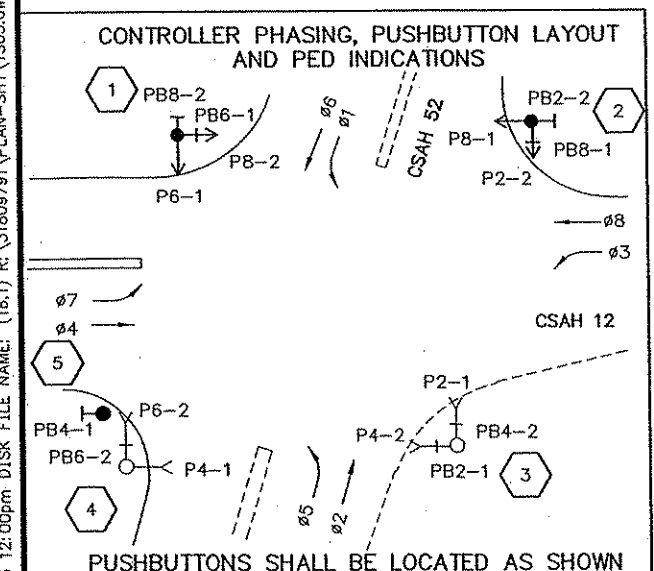
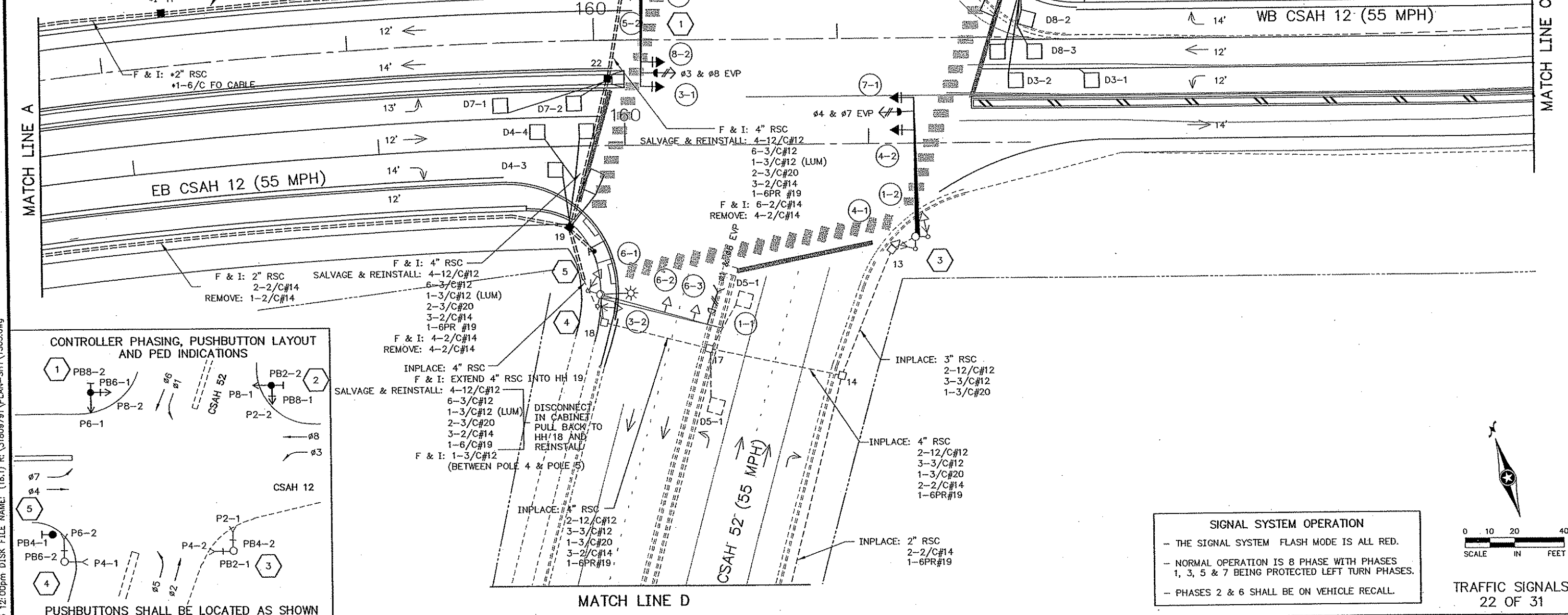
CSAH 12 RECONSTRUCTION
 INPLACE SIGNAL SYSTEM B
 WIRING DIAGRAM
 CSAH 12 (109TH AVE) AND DAVENPORT ST.

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	156
S.P.	
S.P.	211

NMC LOOP DETECTORS						
INSTALLATION METHOD (SEE DETAIL SHEET 138)	STATUS	NUMBER	PHASE	SIZE (ft)	FUNCTION	LOCATION
NMC - MILL	F & I	D1-1	1	6' x 6'	1	AS SHOWN
NMC - MILL	F & I	D1-2	1	6' x 6'	1	10'
NMC - MILL	F & I	D2-1, D2-2	2	6' x 6'	1	AS SHOWN
NMC - MILL	F & I	D3-1	3	6' x 6'	1	40'
NMC - MILL	F & I	D3-2	3	6' x 6'	1	10'
NMC - NEW BIT.	F & I	D4-1, D4-2	4	6' x 6'	3, 8	475'
NMC - NEW BIT.	F & I	D4-3	4	1-6'x6' & 1-6'x10'	7	-5' & 10'
NMC - NEW BIT.	F & I	D4-4	4	2-6' x 6'	1	0' & 15'
NMC - NEW BIT.	F & I	D5-1	5	2-6' x 6'	1	AS SHOWN
NMC - NEW BIT.	F & I	D6-1, D6-2	6	6' x 6'	1	AS SHOWN
NMC - NEW BIT.	F & I	D7-1	7	6' x 6'	1	40'
NMC - NEW BIT.	F & I	D7-2	7	6' x 6'	1	10'
NMC - NEW BIT.	F & I	D8-1	8	6' x 6'	3, 8	AS SHOWN
NMC - NEW BIT.	F & I	D8-2	8	1-6'x6' & 1-6'x10'	7	-5' & 10'
NMC - MILL	F & I	D8-3	8	2-6' x 6'	1	0' & 15'

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.
 DETECTOR FUNCTION NOTES:
 1 - CALL AND EXTEND
 3 - EXTEND ONLY
 5 - DELAY CALL ONLY
 7 - DELAY CALL & IMMEDIATE EXTEND
 8 - STRETCH

SIGNAL FACES				
STATUS	FACE	R	Y	G
INPLACE	1-1	◀	◀	◀
INPLACE	1-2	◀	◀	◀
SALVAGE & REINSTALL	2-1, 2-2, 2-3	◀	◀	◀
SALVAGE & REINSTALL	3-1	◀	◀	◀
INPLACE	3-2	◀	◀	◀
INPLACE	4-1	◀	◀	◀
SALVAGE & REINSTALL	4-2	◀	◀	◀
SALVAGE & REINSTALL	5-1, 5-2	◀	◀	◀
INPLACE	6-1, 6-2, 6-3	◀	◀	◀
SALVAGE & REINSTALL	7-1, 7-2	◀	◀	◀
SALVAGE & REINSTALL	8-1, 8-2	◀	◀	◀



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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: RJG
 DWG. NAME: TS03
 DATE: AUG 18, 2005

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828

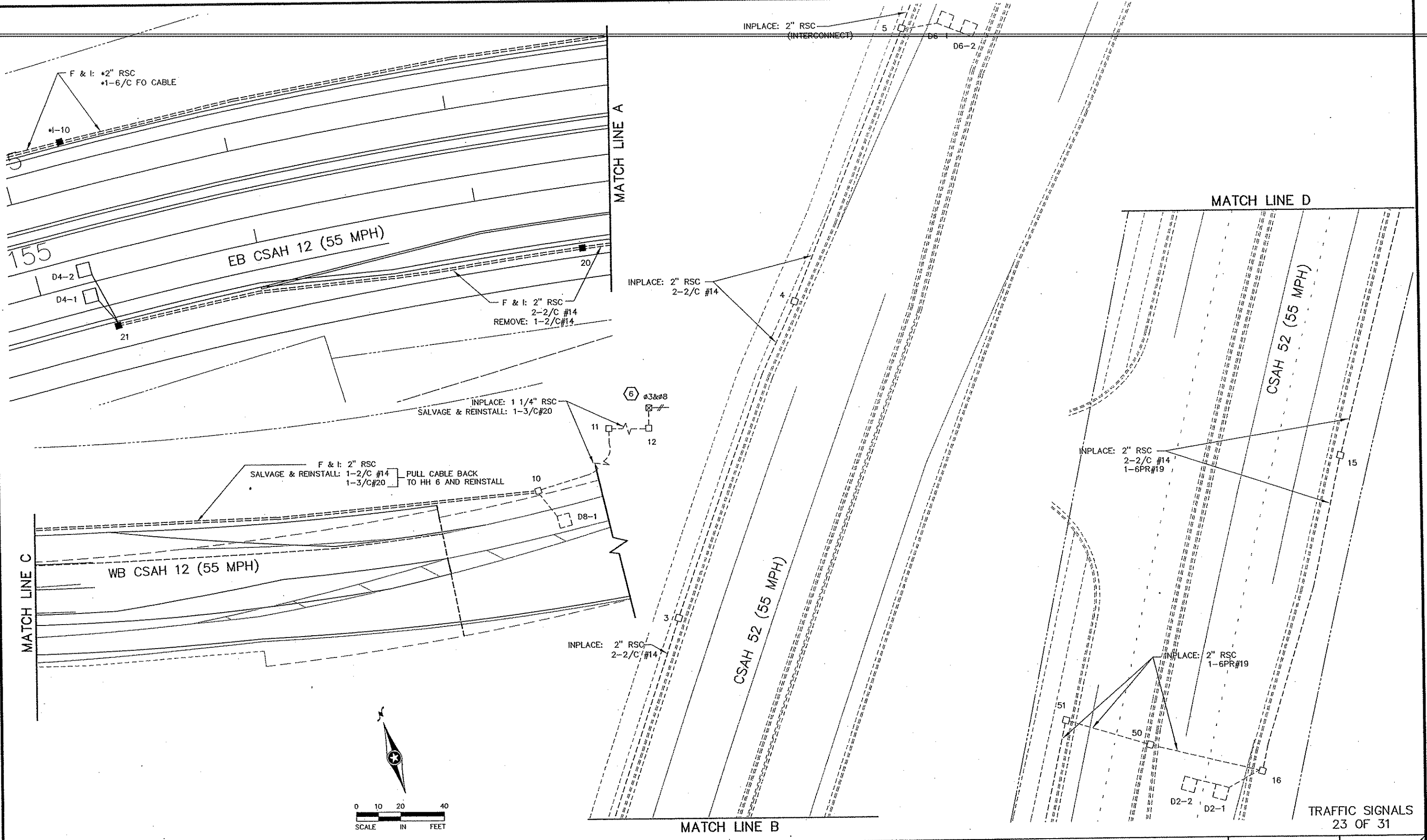
ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
 REVISE SIGNAL SYSTEM C
 INTERSECTION LAYOUT (1 OF 3)
 CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)

S.P. 02-612-11	SHEET NO. 157
S.P. 106-020-025	211
S.P.	
S.P.	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS03.dwg

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TSOB.dwg



TRAFFIC SIGNALS
23 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY:
JAS

DESIGN BY:
MRA

CHKD. BY:
RJG

DWG. NAME:
TSOB

DATE:
AUG 18, 2005

URS
700 Third Street South
Minneapolis, MN 55415
612.370.0100 Tel
612.370.0170 Fax

ALLIANT ENGINEERING
INCORPORATED
233 PARK AVENUE SOUTH
SUITE 200
MINNEAPOLIS, MN 55415
(612) 758-3000
(612) 758-3059 FAX

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
REVISE SIGNAL SYSTEM C
INTERSECTION LAYOUT (2 OF 3)
CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)

S.P. 02-612-11	SHEET NO. 158
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS14.dwg

1 REMOVE: PA100 POLE FOUNDATION
SALVAGE: 2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: TYPE PA100-A-45
2-ONE WAY SIGNALS-OVERHEAD (0, 9' FROM END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 90° AND 180°
1-TYPE D SIGN PANEL OVERHEAD (D-6)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT OVERHEAD (#8 & #3)
F & I: PA100 POLE FOUNDATION (WB CSAH 12 STA. 160+20.7, 27.5'LT.)
1-TYPE R6-1L (ONE WAY) POLE MOUNTED
1-TYPE R6-1R (ONE WAY) POLE MOUNTED
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 1:
3" RSC
F & I: 2-12/C#12 } PULL CABLE
3-3/C#12 } BACK TO HH 1
1-3/C#20 } & REINSTALL

2 REMOVE: PA100 POLE FOUNDATION
SALVAGE: 2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: TYPE PA100-A-55-D30-9 (DAVIT AT 350')
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
3-ONE WAY SIGNALS-OVERHEAD (0, 11' AND 23' FROM LEFT END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 90° AND 180°
1-TYPE R6-1L (ONE WAY) POLE MOUNTED
1-TYPE R6-1R (ONE WAY) POLE MOUNTED
1-TYPE D SIGN PANEL OVERHEAD (D-5)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT OVERHEAD (#2 & #5)
F & I: PA100 POLE FOUNDATION (WB CSAH 12 STA. 161+63.9, 40.9'LT.)
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 7:
3" RSC
F & I: 2-12/C#12 } PULL CABLE
3-3/C#12 } BACK TO HH 6
1-3/C#12 (LUM) } & REINSTALL
1-3/C#20 }

3 INPLACE: PA100 POLE FOUNDATION
TYPE PA100 (POLE SHAFT & TRANSFORMER BASE)
2-TYPE 10B-POLE MOUNTED 90° AND 180°
SALVAGE: 1-TYPE A50 MAST ARM
2-PEDESTRIAN PUSH BUTTONS
SALVAGE & REINSTALL: 2-ONE WAY SIGNALS OVERHEAD
1-TYPE D SIGN PANEL OVERHEAD (D-6)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT OVERHEAD (#4 & #7)
F & I: 1-TYPE A-55 MAST ARM WITH OVERHEADS AT 0' & 11' FROM END OF MAST ARM
1-WELD OVERHEAD MID MOUNT AND PLUG AT 23' FROM END OF MAST ARM (FUTURE SIGNAL OVERHEAD)
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 13
INPLACE: 3" RSC
2-12/C#12
3-3/C#12
1-3/C#20

4 INPLACE: PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350')
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
3-ONE WAY SIGNALS-OVERHEAD (0, 11' AND 23' FROM END OF MAST ARM)
2-TYPE 10B-POLE MOUNTED 90° AND 180°
1-PEDESTRIAN PUSH BUTTON AND SIGN
1-TYPE R6-1L (ONE WAY) POLE MOUNTED
1-TYPE R6-1R (ONE WAY) POLE MOUNTED
1-TYPE "D" SIGN PANEL OVERHEAD (D-5)
1-ONE WAY EVP DETECTOR AND INDICATOR LIGHT OVERHEAD (#6 & #1)
SALVAGE: 2-PEDESTRIAN PUSH BUTTONS
F & I: 2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 18
INPLACE: 3" RSC
2-12/C#12
3-3/C#12
1-3/C#12 (LUM)
1-3/C#20
F & I: 1-3/C#12 (TO POLE 5)

5 F & I: PEDESTRIAN PUSH BUTTON STATION FOUNDATION
(EB CSAH 12 STA. 159+86.2, 43'RT.)
PEDESTRIAN PUSH BUTTON STATION (MNDOT STD. PLATE 8115)
1-PEDESTRIAN PUSH BUTTON
F & I: EXTEND INTO HH 19
1 1/4" RSC
1-3/C#12 (TO POLE 4)

A INPLACE: EQUIPMENT PAD FOUNDATION
CONTROLLER CABINET AND CONTROLLER
INPLACE: METERED SIGNAL SERVICE
1 1/4" RSC TO HH 24:
3-1/C#6
INPLACE: 4" RSC TO HH 1:
4-12/C #12
6-3/C #12
2-3/C #20
7-2/C #14
F & I: 2-2/C#14
INPLACE: 4" RSC
F & I: EXTEND 4" RSC INTO HH 23
6-2/C#14
*1-6/C FO CABLE
SALVAGE & REINSTALL: 4-12/C#12 } DISCONNECT AND
6-3/C#12 } PULL CABLE BACK
2-3/C#20 } TO HH 18
3-2/C#14 } & REINSTALL
1-6PR#19 }
REMOVE: 4-2/C#14
INPLACE: 1-2" RSC AND 1-3" RSC CONDUIT STUB OUTS
(BOTH ENDS THREADED AND CAPPED)

B INPLACE: SERVICE CABINET
SERVICE CABINET FOUNDATION
EXTEND INTO HH 1:
UNMETERED STREET LIGHT SERVICE
INPLACE: 1 1/4" RSC
1-3/C #12 (LUM)
SALVAGE & REINSTALL: 1-3/C#12 (LUM)
(DISCONNECT & PULL BACK TO HH 18
AND REINSTALL)
EXTEND INTO HH 24:
METERED SIGNAL SERVICE
INPLACE: 1 1/4" RSC
3-1/C#6
INPLACE: STUB OUT 2" RSC
POWER CABLES TO POLE C




C SOP-GROUND MOUNTED TRANSFORMER PAD
(INPLACE)

6 INPLACE: PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
1-ONE WAY EVP DETECTOR (#3 & #8)
INPLACE: 2" RSC TO HH 12
SALVAGE & REINSTALL: 1-3/C#20 } PULL CABLE BACK TO
HH 6 AND REINSTALL

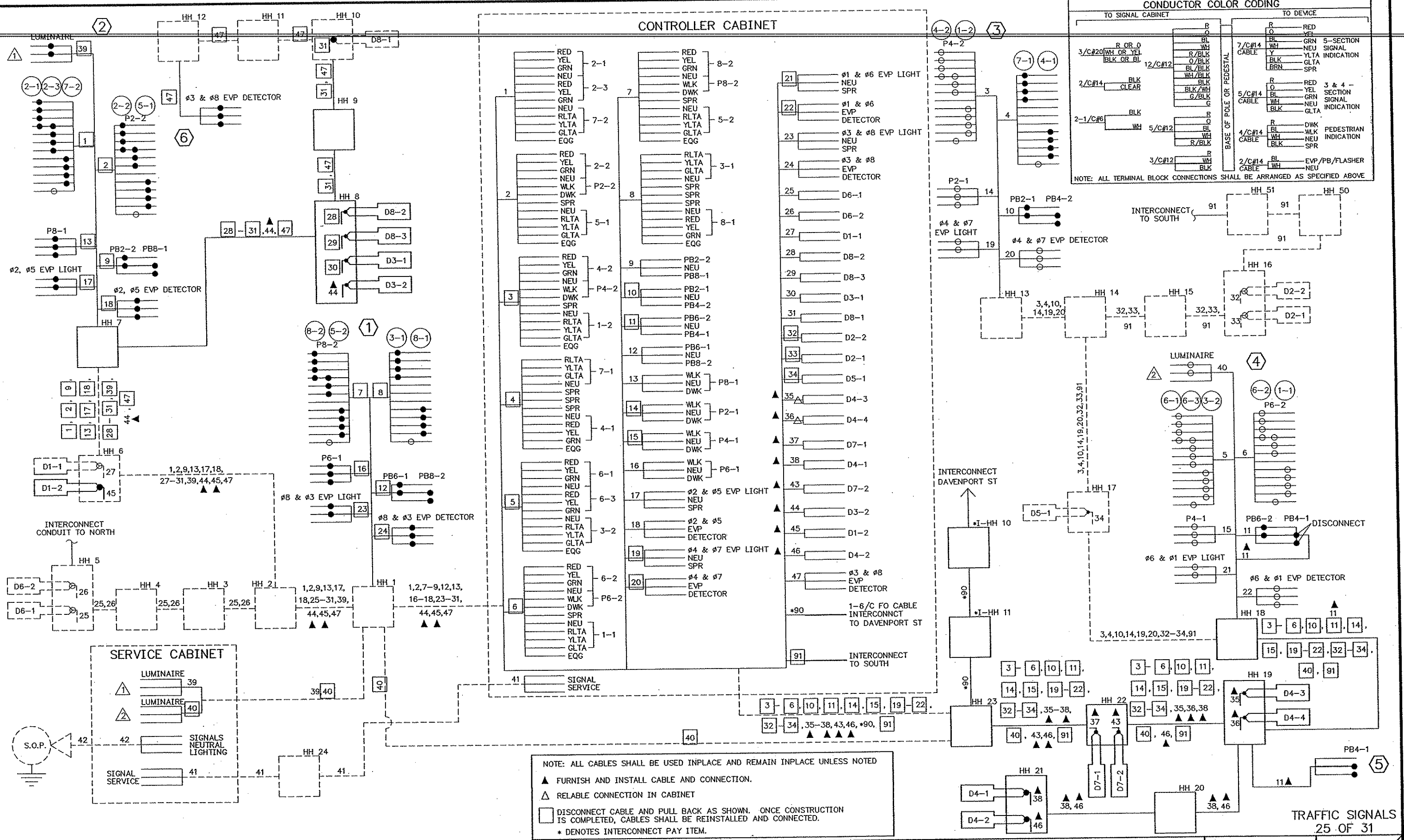
NOTES:

- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE DENOTED BY "F & I", "REMOVE" OR "SALVAGE & REINSTALL".
- EXACT LOCATION OF LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- A 3/4" HALF COUPLING, A 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISH & INSTALL 6' FROM END OF MASTARM.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE SIGNAL SYSTEM WITH THE CONSTRUCTION OF THE ROADWAY. SIGNAL REVISION WORK SHALL BE COORDINATED TO MINIMIZE THE OPERATIONAL DOWN TIME OF THE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
- LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" NMC (SEE DETAIL SHEET 138). SEE SPECIAL PROVISIONS.
- NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MN/DOT STANDARD PLATE 8114. INPLACE HANDHOLES UTILIZED IN THE REVISED SIGNAL SYSTEM SHALL BE ADJUSTED TO THE APPROPRIATE GRADE WHERE NECESSARY AND AS DIRECTED BY THE ENGINEER.
- REINSTALLING SALVAGED OR FURNISHING AND INSTALLING POLE AND MAST ARM MOUNTED TYPE C AND TYPE D SIGNS SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM C PAY ITEM.
- THE CONTRACTOR SHALL REMOVE AND FURNISH & INSTALL NEW INTERNAL POLE WIRING (POLE 3) AS NECESSARY TO ACCOMMODATE THE NEW LENGTHENED MAST ARM.
- THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO COMMENCING WORK.
- ITEMS DENOTE BY AN * ARE INCIDENTAL TO THE INTERCONNECT PAY ITEM.
- ALL LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET.
- WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE OR REMOVE AND SALVAGE ITEMS OF THE INPLACE TRAFFIC SIGNAL SYSTEM NOT REUSED IN THE REVISE SIGNAL SYSTEM. REMOVAL AND SALVAGING SIGNAL SYSTEM ITEMS SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM C PAY ITEM.
- HAULING OF SALVAGED MATERIAL SHALL BE INCIDENTAL TO THE HAUL SALVAGED MATERIAL PAY ITEM.

TRAFFIC SIGNALS
24 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 31809-791	 Thrasher Square 700 Third Street South Minneapolis, MN 55415 612.724.0200 Tlx 612.724.0278 Fax	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  MICHAEL R. ANDERSON DATE: 8/17/05 MN LIC. NO. 42828	 ANOKA COUNTY HIGHWAY DEPT.	CSAH 12 RECONSTRUCTION REVISE SIGNAL SYSTEM C INTERSECTION LAYOUT (3 OF 3) CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)	S.P. 02-612-11	SHEET NO. 159 211
			DRAWN BY: JAS	DESIGN BY: MRA					S.P. 106-020-025	
			CHKD. BY: RJK	DWG. NAME: TS14					S.P.	
			DATE: AUG. 18, 2005						S.P.	

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS09.dwg



CONDUCTOR COLOR CODING

TO SIGNAL CABINET	TO DEVICE
R OR 0	R RED
BL	B BLK
WH	W WHI
R/BLK	R/BLK
O/BLK	O/BLK
BL/BLK	BL/BLK
WH/BLK	WH/BLK
BLK/WH	BLK/WH
G/BLK	G/BLK
G	G GRN
R	R RED
O	O YEL
BL	BL BLK
WH	WH WHI
R/BLK	R/BLK
R	R RED
BL	BL BLK
WH	WH WHI
R/BLK	R/BLK
R	R RED
BL	BL BLK
WH	WH WHI
R/BLK	R/BLK

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
 100 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0778 Fax

ALLIANT ENGINEERING
 IN CORPORATION
 233 PARK AVENUE SOUTH
 SUITE 200
 MINNEAPOLIS, MN 55415
 (612)725-3000
 (612)725-3099 FAX

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Michael R. Anderson
 MICHAEL R. ANDERSON
 DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
 REVISE SIGNAL SYSTEM C
 WIRING DIAGRAM
 CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD.)

S.P. 02-612-11	SHEET NO. 160
S.P. 106-020-025	
S.P.	211
S.P.	

LOOP DETECTORS					
NUMBER	SIZE (FEET)	FUNCTION	LOCATION	ACTION	
D1-1	2-6 x 6	1	5' & 50'	2	
D2-1	6 x 6	1	400'	2	
D2-2	6 x 6	1	400'	2	
D3-1	2-6 x 6	1	5' & 50'	2	
D4-1	6 x 6	3,8	EXISTING	1	
D4-2	6 x 10, 6 x 6	7	AS SHOWN	2	
D4-3	2-6 x 6	1	5'	2	
D5-1	2-6 x 6	1	5' & 50'	2	
D6-1	6 x 6	1	475'	2	
D6-2	6 x 6	1	475'	2	
D7-1	2-6 x 6	1	5' & 50'	2	
D8-1	6 x 6	3,8	EXISTING	1	
D8-2	6 x 10, 6 x 6	7	AS SHOWN	2	
D8-3	2-6 x 6	1	5'	2	

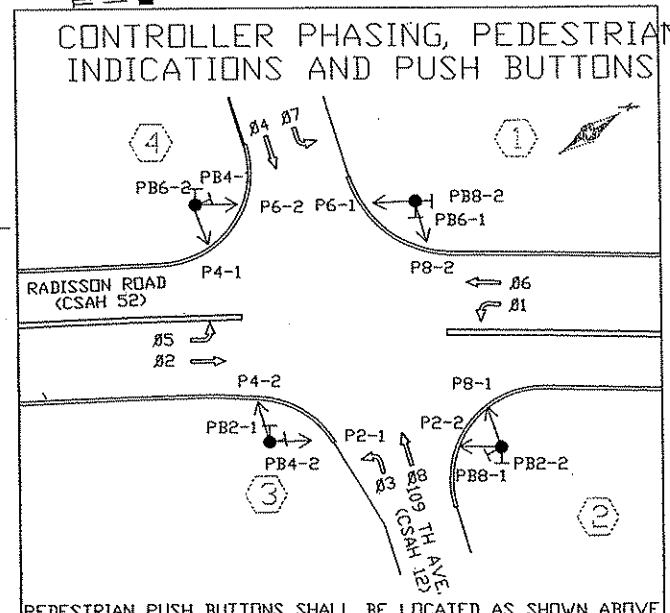
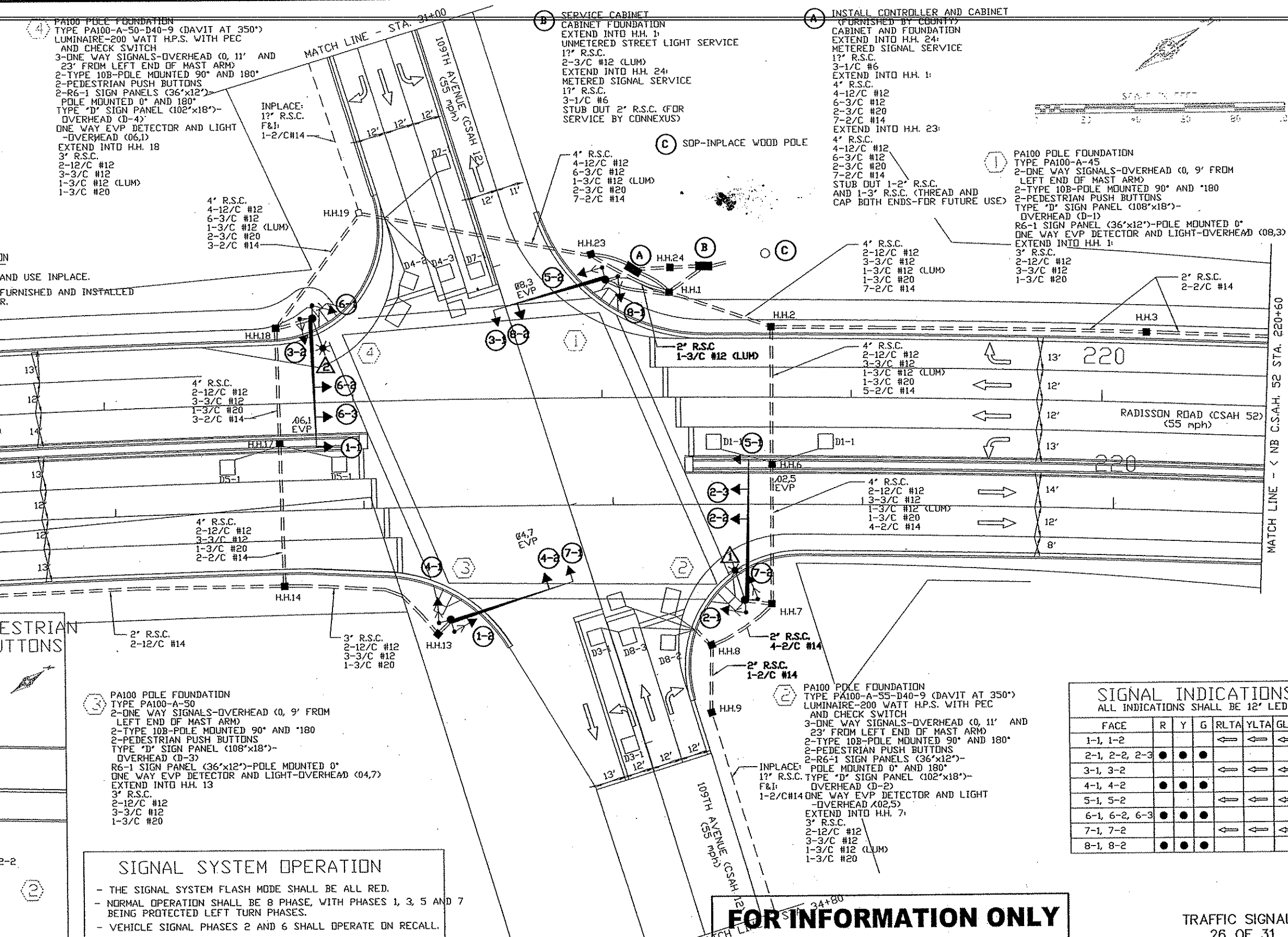
LOOP DETECTORS FUNCTIONS

1) CALL AND EXTEND
 3) EXTEND ONLY
 7) DELAY CALL - IMMEDIATE EXTEND BY THE CONTRACTOR.
 8) CARRY OVER (STRETCH)

LOOP DETECTORS ACTION

1) INPLACE-PROTECT AND USE INPLACE.
 2) PVC LOOP TO BE FURNISHED AND INSTALLED

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



SIGNAL SYSTEM OPERATION

- THE 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.

SIGNAL INDICATIONS						
ALL INDICATIONS SHALL BE 12" LED						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1, 1-2				←		←
2-1, 2-2, 2-3	●	●	●			
3-1, 3-2				←	←	←
4-1, 4-2	●	●	●			
5-1, 5-2				←		←
6-1, 6-2, 6-3	●	●	●			
7-1, 7-2				←		←
8-1, 8-2	●	●	●			

FOR INFORMATION ONLY

TRAFFIC SIGNALS
26 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31800-791

DRAWN BY:
JAS

CHECKED BY:
R.JG

DATE:
AUG 18, 2005

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DATE: _____

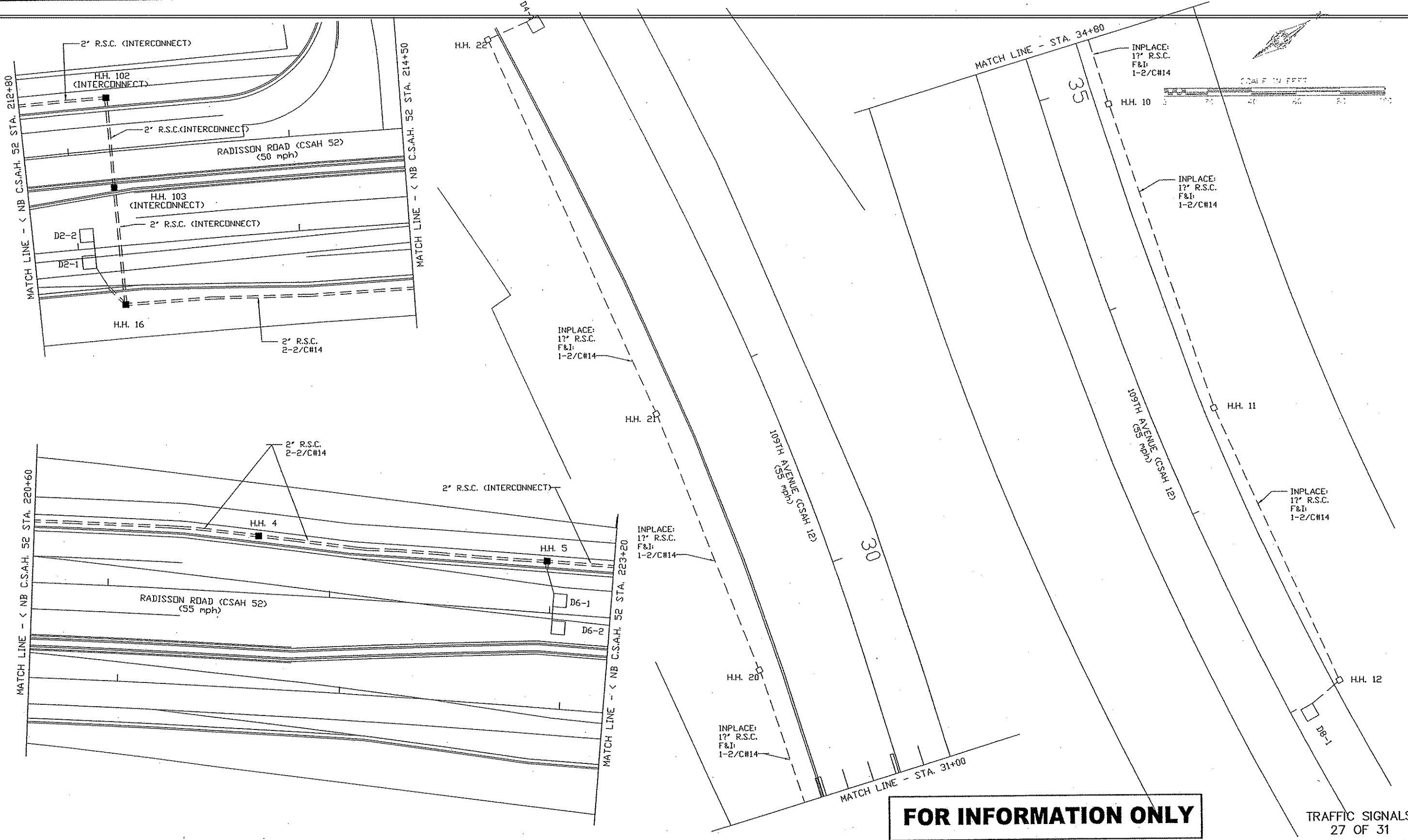
MICHAEL R. ANDERSON
MN LIC. NO. 42828

CSAH 12 RECONSTRUCTION
INPLACE SIGNAL SYSTEM C
 INTERSECTION LAYOUT
 CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	161
S.P.	
S.P.	211

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31800\791\PLAN-SHT\TS25.dwg

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS26.dwg



FOR INFORMATION ONLY

TRAFFIC SIGNALS
27 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31800-791

DRAWN BY:
JAS

DESIGN BY:
MRA

CHKD. BY:
RJG

ENG. NAME:
TS26

DATE:
AUG 18, 2005

URS

ALLIANT ENGINEERING

333 PARK AVENUE SOUTH
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MINNEAPOLIS, MN 55415
(612) 758-3000
(612) 758-3009 FAX

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DATE: _____ MN LIC. NO. 42828

ANOKA COUNTY

HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
INPLACE SIGNAL SYSTEM C
MATCHLINES
CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)

S.P.	02-612-11
S.P.	106-020-025
S.P.	
S.P.	

SHEET NO.
162

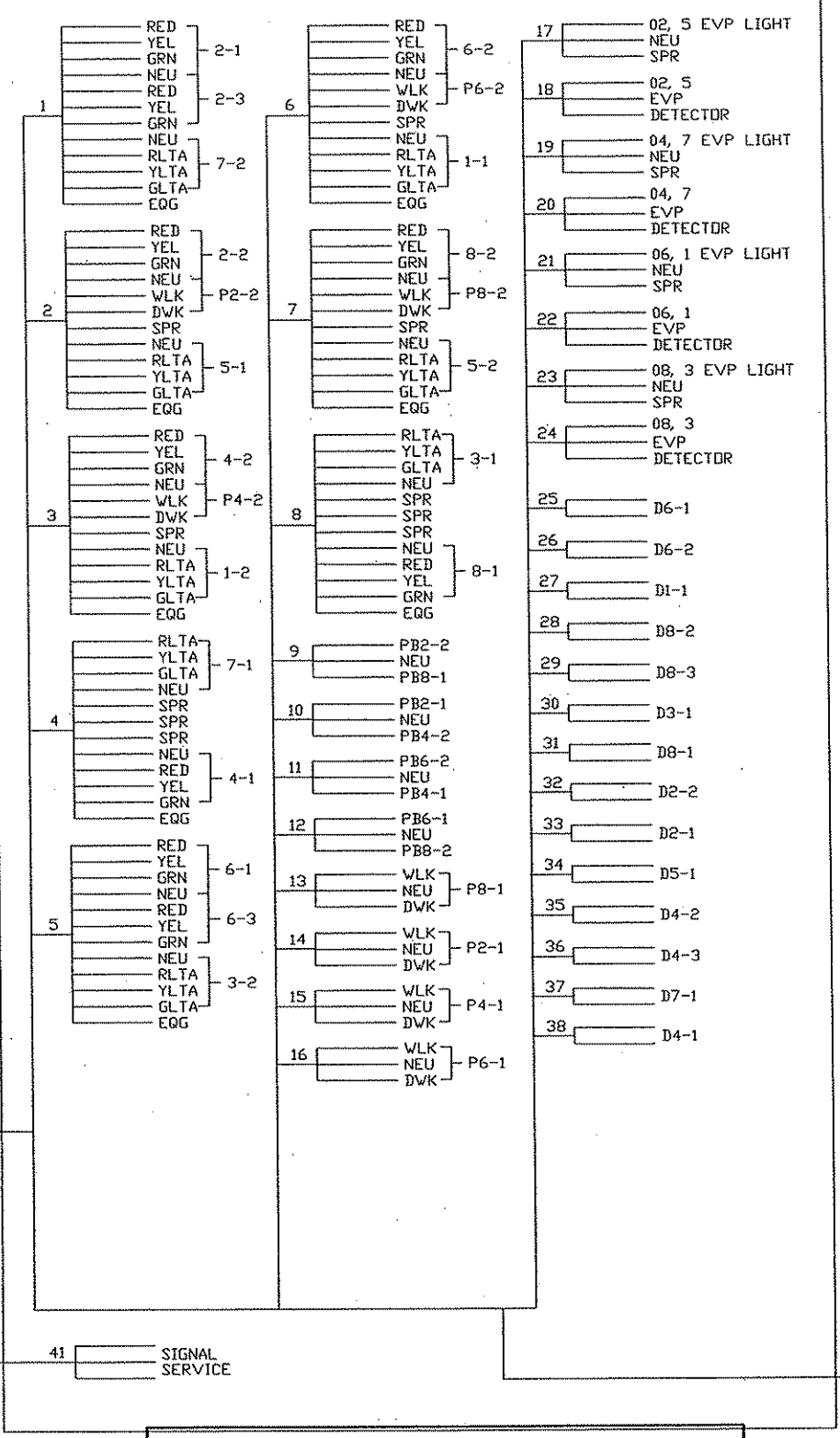
211

CONDUCTOR COLOR CODING

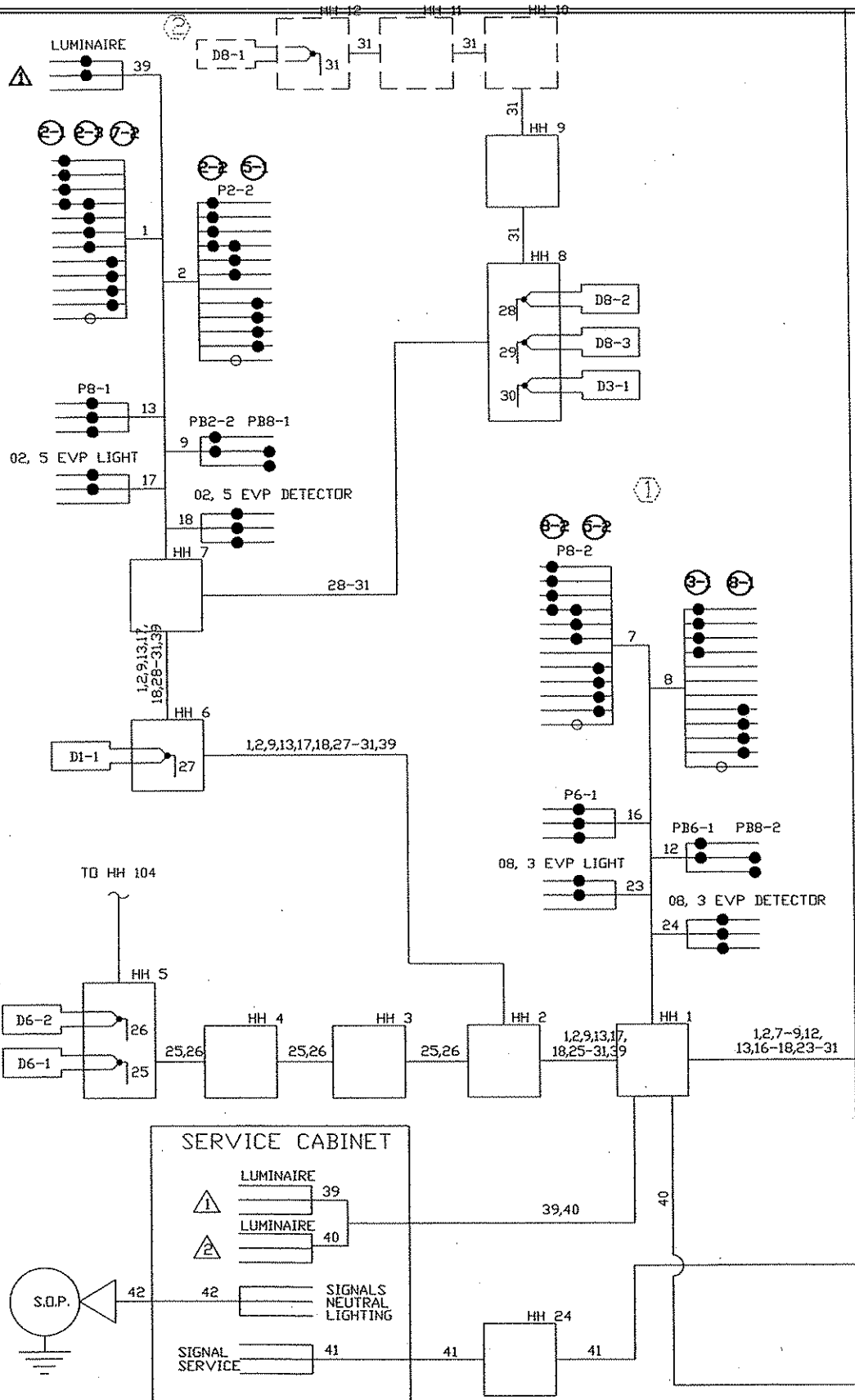
R	R		
U	U		
BL	BL	5/C #12	
WH	WH		
R/BLK			
O/BLK			
BL/BLK			
WH/BLK			
BLK		3/C #12	
BLK/WH			
G/BLK			
G			
	R DR U		
	WH DR YEL	3/C #20	
	BLK DR B4		
2-1/C #6	BLK		
	BLK CLEAR	2/C #14	

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

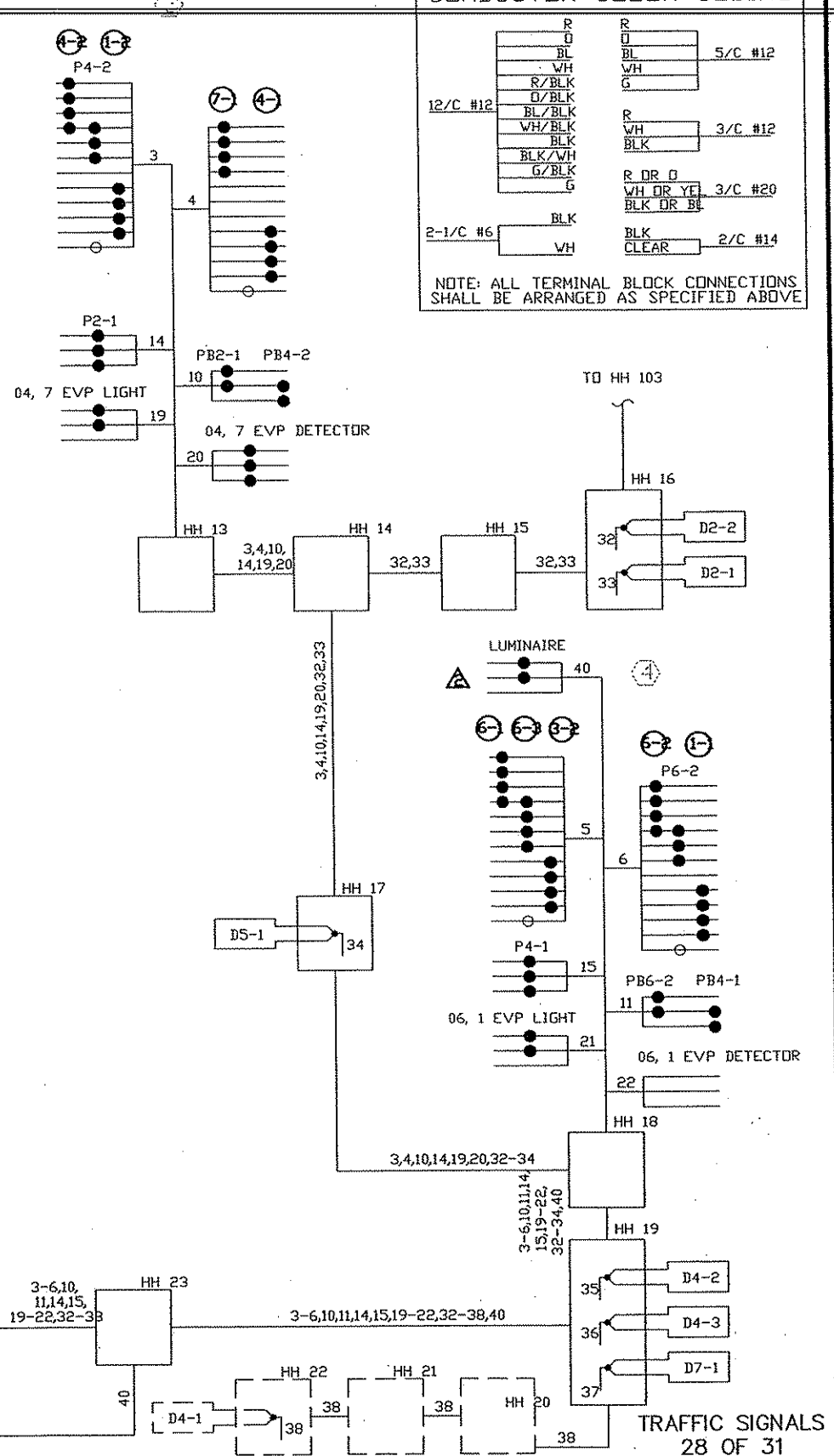
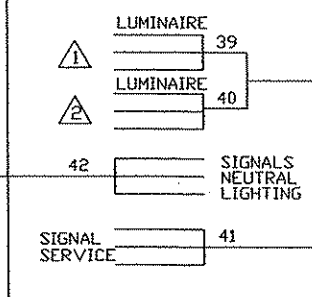
CONTROLLER CABINET



FOR INFORMATION ONLY



SERVICE CABINET

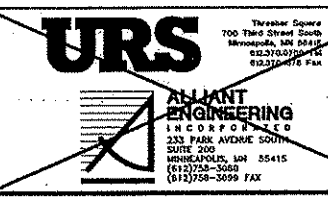


TRAFFIC SIGNALS 28 OF 31

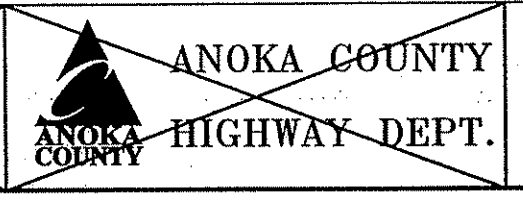
PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS27.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791
 DRAWN BY: JAS
 DESIGN BY: MKA
 CHKED. BY: RJG
 DWG. NAME: TS27
 DATE: AUG 18, 2005



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 MICHAEL R. ANDERSON
 MN LIC. NO. 42828

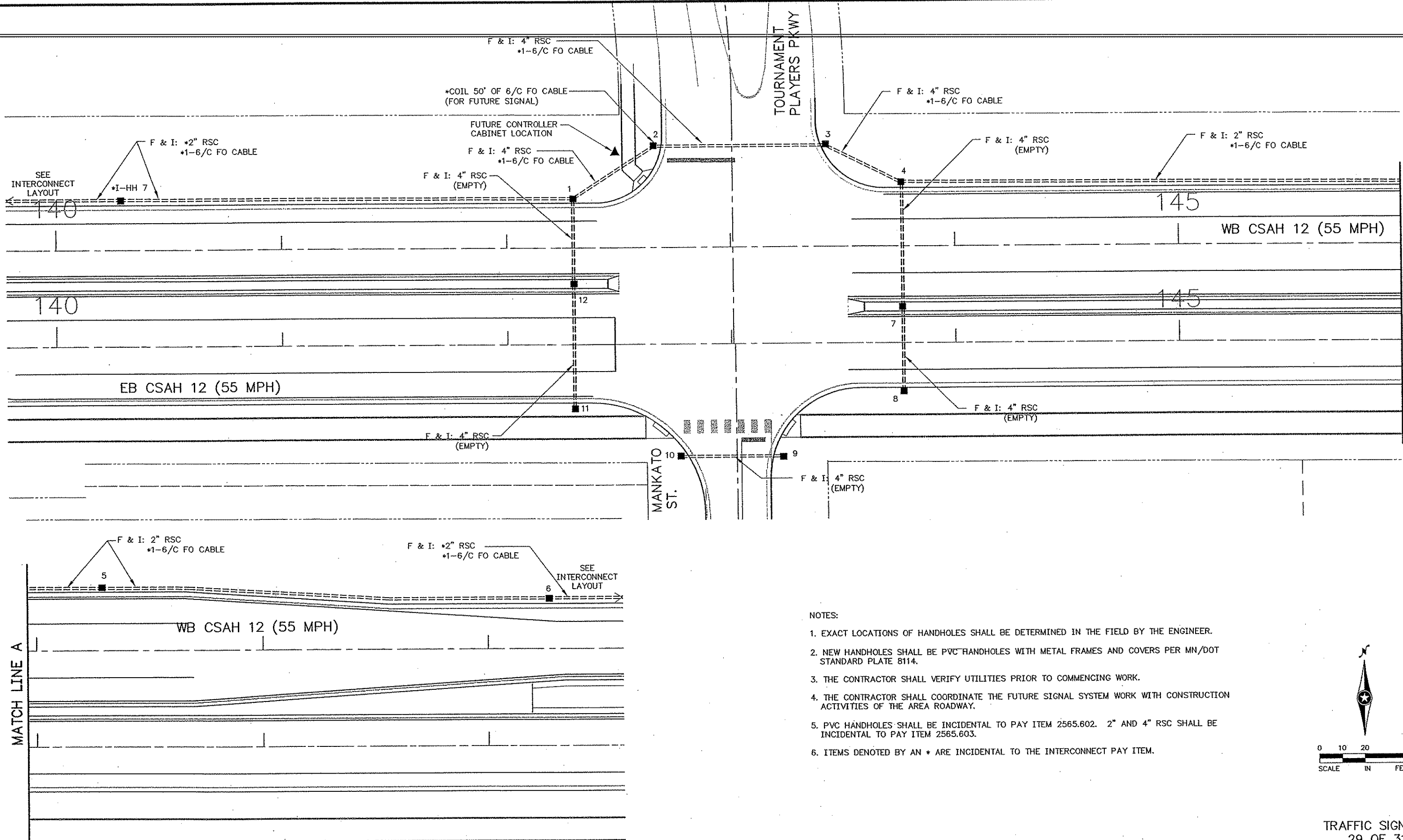


CSAH 12 RECONSTRUCTION
 INPLACE SIGNAL SYSTEM C
 WIRING DIAGRAM
 CSAH 12 (109TH AVE) AND CSAH 52 (RADISSON RD)

S.P. 02-612-11
 S.P. 106-020-025
 S.P.
 S.P.

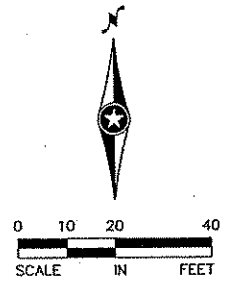
SHEET NO. 163
 211

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) c:\Documents and Settings\jsharbone\My Documents\Work\31809791\TS31.dwg



NOTES:

1. EXACT LOCATIONS OF HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MN/DOT STANDARD PLATE 8114.
3. THE CONTRACTOR SHALL VERIFY UTILITIES PRIOR TO COMMENCING WORK.
4. THE CONTRACTOR SHALL COORDINATE THE FUTURE SIGNAL SYSTEM WORK WITH CONSTRUCTION ACTIVITIES OF THE AREA ROADWAY.
5. PVC HANDHOLES SHALL BE INCIDENTAL TO PAY ITEM 2565.602. 2" AND 4" RSC SHALL BE INCIDENTAL TO PAY ITEM 2565.603.
6. ITEMS DENOTED BY AN * ARE INCIDENTAL TO THE INTERCONNECT PAY ITEM.



TRAFFIC SIGNALS
29 OF 31

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: R/JG	DWG. NAME: TS31
DATE: AUG 18, 2005	

URS

ALLIANT ENGINEERING
INCORPORATED
235 PARK AVENUE SOUTH
SUITE 200
MINNEAPOLIS, MN 55415
(612) 754-3000
(612) 752-3000 FAX

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/14/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12 RECONSTRUCTION
FUTURE SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 12 (109TH AVE) & MANKATO ST.

S.P. 02-612-11	SHEET NO. 164
S.P. 106-020-025	
S.P.	211
S.P.	

SEE REVISE SIGNAL SYSTEM B
INTERSECTION LAYOUT

CLUB WEST PKWY

DAVENPORT ST
(35 MPH)

- 4" RSC (1)
- 2-12/C#12 (1)
- 3-3/C#12 (1)
- 1-3/C#12 (LUM) (1)
- 1-3/C#20 (1)
- 4-2/C#14 (1)
- *1-6/C FO CABLE

- 2" RSC (1)
- 2-2/C#14 (1)
- *1-6/C FO CABLE

- F & I: *2" RSC
- *1-6/C FO CABLE

13(1)
115

14(1)

15(1)

*I-HH 1

16(1)
115

120

125

CSAH 12

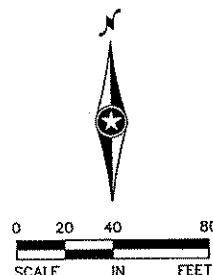
- 4" RSC (1)
- 2-12/C#12 (1)
- 3-3/C#12 (1)
- 1-3/C#12 (LUM) (1)
- 1-3/C#20 (1)
- 6-2/C#14 (1)
- *1-6/C FO CABLE

- EQUIPMENT PAD (1)
- CONTROLLER CABINET (1)
- CONTROLLER (1)

- 4" RSC (1)
- 4-12/C#12 (1)
- 6-3/C#12 (1)
- 2-3/C#20 (1)
- 6-2/C#14 (1)
- *1-6/C FO CABLE

NOTES:

1. ITEMS DENOTED WITH A (1) ARE INSTALLED AS PART OF THE SIGNAL SYSTEMS AND ARE INCIDENTAL TO THE REVISE SIGNAL SYSTEM B, REVISE SIGNAL SYSTEM C AND FUTURE SIGNAL SYSTEM PAY ITEMS. REFER TO INTERSECTION LAYOUT SHEETS.
2. ITEMS DENOTED WITH AN * SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE INTERCONNECT PAY ITEMS.
3. IT SHALL BE THE CONTRACTOR'S OWN RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (PHONE 651-454-0002, THIS IS REQUIRED BY STATE STATUTE 2160).
4. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF INTERCONNECT ITEMS WITH CONSTRUCTION OF THE AREA ROADWAYS AND SIGNAL SYSTEMS.



- F & I: *2" RSC
- *1-6/C FO CABLE

- F & I: *2" RSC
- *1-6/C FO CABLE

- F & I: *2" RSC
- *1-6/C FO CABLE

*I-HH 2

*I-HH 3

*I-HH 4

*I-HH 5

*I-HH 6

130

135

CSAH 12

1:15 TAPER

TRAFFIC SIGNALS
30 OF 31

PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS16.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: R/JG	DWG. NAME: TS16
DATE: AUG 18, 2005	

URS
100 Third Street South
Shneapolis, MN 55415
612.370.0700 Tel
612.370.0710 Fax

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233 PERRY AVENUE SOUTH
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MINNEAPOLIS, MN 55415
(612) 758-3000
(612) 758-3009 FAX

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Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
DAVENPORT ST TO RADISSON RD
TRAFFIC CONTROL SIGNAL SYSTEM
INTERCONNECT LAYOUT (1 OF 2)

S.P. 02-612-11	SHEET NO. 165
S.P. 106-020-025	
S.P.	211
S.P.	

SEE FUTURE SIGNAL SYSTEM INTERSECTION LAYOUT

SEE REVISE SIGNAL SYSTEM C INTERSECTION LAYOUT

MATCH LINE B

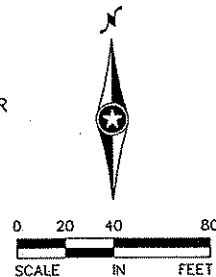
MATCH LINE C

MATCH LINE C

TOURNAMENT PLAYERS PKWY
WANKATO ST

CSAH 52 (RADISSON RD)

- NOTES:
1. ITEMS DENOTED WITH A (1) ARE INSTALLED AS PART OF THE SIGNAL SYSTEMS AND ARE INCIDENTAL TO THE REVISE SIGNAL SYSTEM B, REVISE SIGNAL SYSTEM C AND FUTURE SIGNAL SYSTEM PAY ITEMS. REFER TO INTERSECTION LAYOUT SHEETS.
 2. ITEMS DENOTED WITH AN * SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE INTERCONNECT PAY ITEMS.
 3. IT SHALL BE THE CONTRACTORS OWN RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (PHONE 651-454-0002, THIS IS REQUIRED BY STATE STATUTE 2160).
 4. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF INTERCONNECT ITEMS WITH CONSTRUCTION OF THE AREA ROADWAYS AND SIGNAL SYSTEMS.



PLOT DATE: AUG 18, 2005 12:00pm DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\TS17.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: RJG	DWG. NAME: TS17
DATE: AUG 18, 2005	

URS
Thresholt Square
700 Third Street South
Sunnyvale, MN 55406
612.376.0700 Tel
612.376.0718 Fax

ALLIANT ENGINEERING
14 C O 2 P D R A T Y C D
233 PARK AVENUE SOUTH
SUITE 200
MINNEAPOLIS, MN 55415
(612)558-3080
(612)558-3099 FAX

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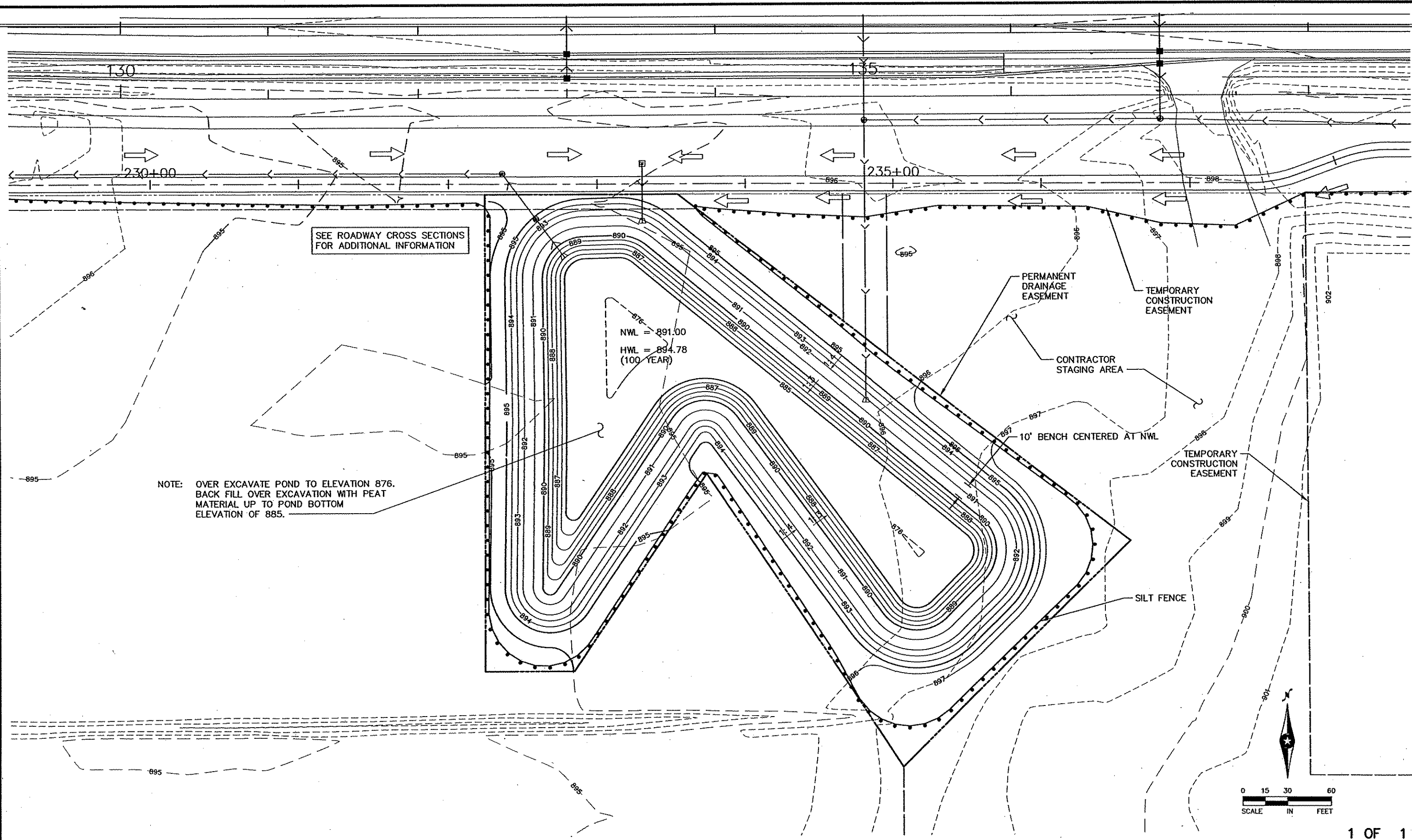
Michael R. Anderson
MICHAEL R. ANDERSON
DATE: 8/18/05 MN LIC. NO. 42828

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
DAVENPORT ST TO RADISSON RD
TRAFFIC CONTROL SIGNAL SYSTEM
INTERCONNECT LAYOUT (2 OF 2)

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	166
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 10:46am DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\PD1.dwg



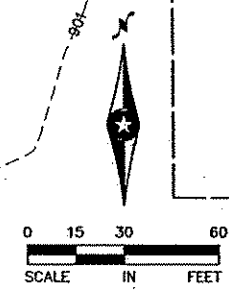
NOTE: OVER EXCAVATE POND TO ELEVATION 876. BACK FILL OVER EXCAVATION WITH PEAT MATERIAL UP TO POND BOTTOM ELEVATION OF 885.

SEE ROADWAY CROSS SECTIONS FOR ADDITIONAL INFORMATION

NWL = 891.00
 HWL = 894.78
 (100 YEAR)

PERMANENT DRAINAGE EASEMENT
 TEMPORARY CONSTRUCTION EASEMENT
 CONTRACTOR STAGING AREA
 10' BENCH CENTERED AT NWL
 TEMPORARY CONSTRUCTION EASEMENT

SILT FENCE



1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: LGJ	DESIGN BY: B.J.K
CHKD. BY: SAW	DWG. NAME: PD1
DATE: AUGUST 18, 2005	



Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.0378 Fax

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Steve Weser
 STEVE WESER
 DATE: 8/18/2005 MN LIC. NO. 40545



ANOKA COUNTY
 HIGHWAY DEPT.

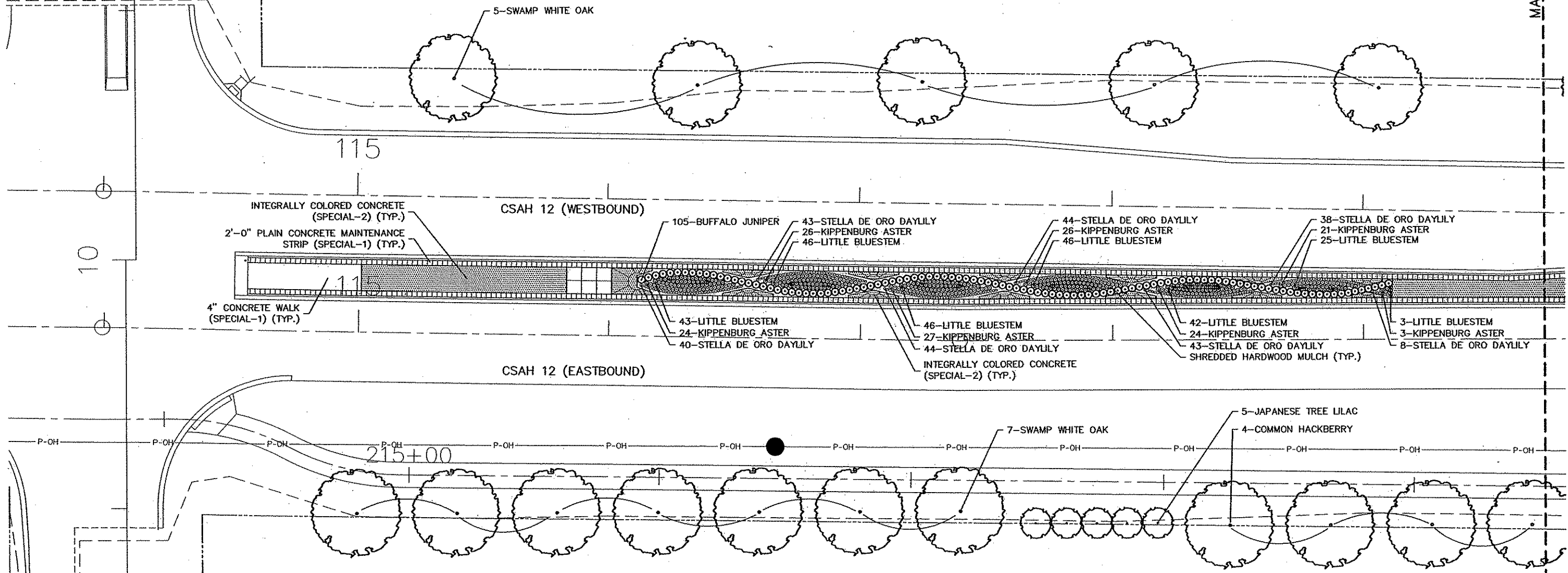
CSAH 12
 RECONSTRUCTION
 POND GRADING PLAN

S.P. 02-612-11	SHEET NO. 167
S.P. 106-020-025	
S.P.	211
S.P.	

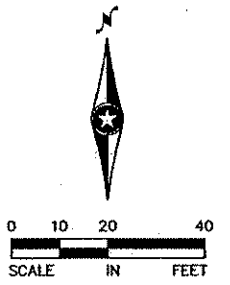
PLOT DATE: Aug 19, 2005 9:56am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC01.dwg

CLUB WEST PKWY.

MATCH LINE



- NOTES:**
1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
 2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.



1 OF 11

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

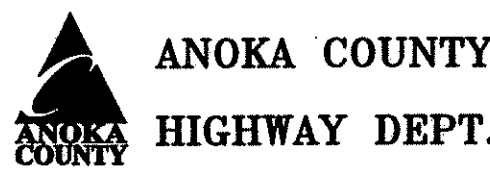
DESIGN FILE: 31809-791	
DRAWN BY: JCO	DESIGN BY: SCW/JCO
CHECKED BY: SCW	DWG. NAME: SC01
DATE: AUGUST 18, 2005	



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612.370.0700 Tel
612.370.1578 Fax

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STEVE WYCZAWSKI
STEVE WYCZAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958



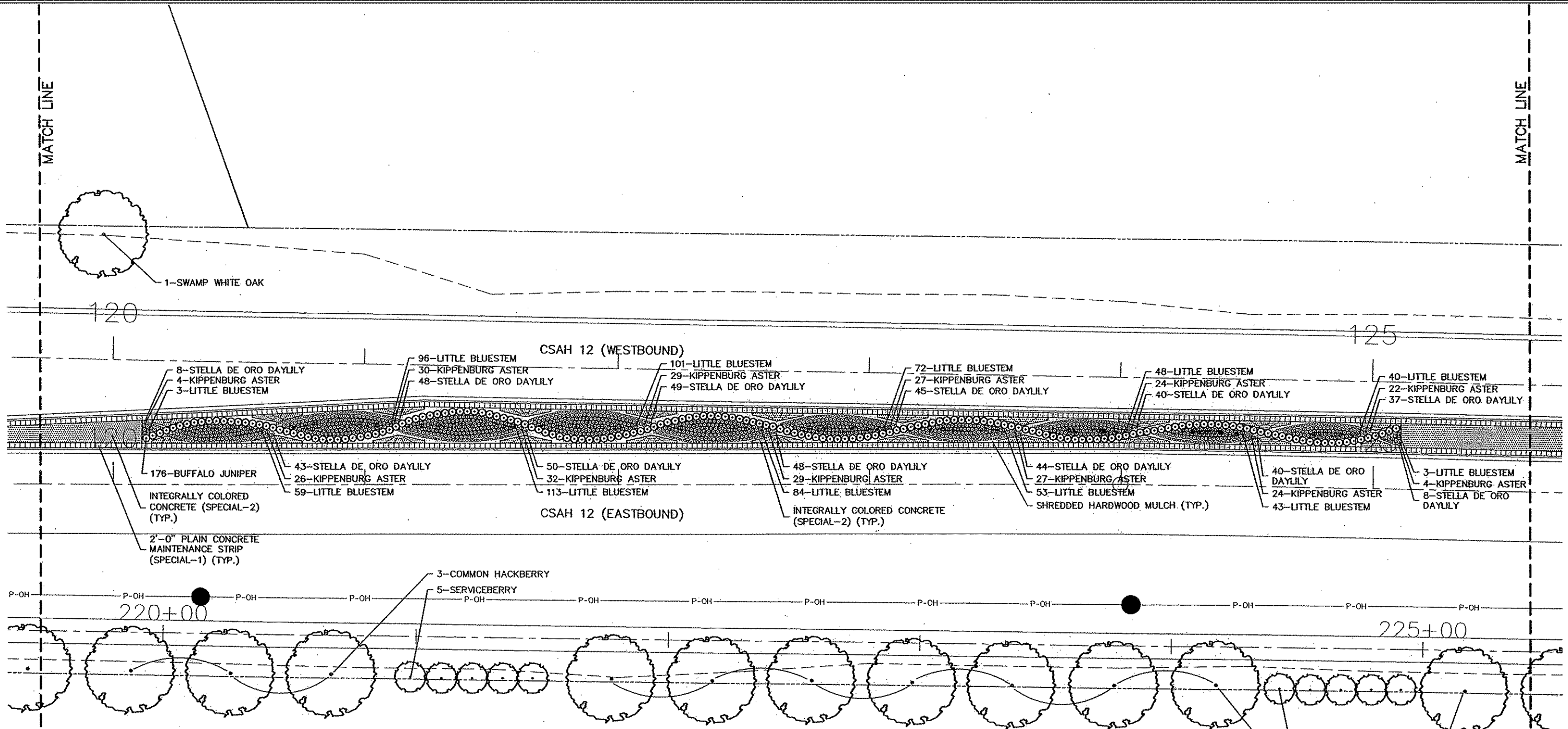
**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS**

STA. 100+49 TO STA. 119+50

S.P. 02-612-11	SHEET NO. 168
S.P. 106-020-025	
S.P.	211
S.P.	

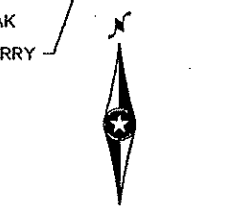
PLOT DATE: Aug 19, 2005 10:18am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC02.dwg



NOTES:

1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.

- 5-JAPANESE TREE LILAC
- 7-SWAMP WHITE OAK
- 1-COMMON HACKBERRY



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCO	DESIGN BY: SCW/JCO
CHKD. BY: SCW	DWG. NAME: SC02
DATE: AUGUST 18, 2005	



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STEVEN C. WYCAWSKI
STEVEN WYCAWSKI
DATE: 8/18/2005, MN LIC. NO. 16958

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS

STA. 119+50 TO STA. 125+50

S.P. 02-612-11	SHEET NO.
S.P. 106-020-025	169
S.P.	211
S.P.	

MATCH LINE

MATCH LINE

CSAH 12 (WESTBOUND)

130

40-STELLA DE ORO DAYLILY

23-KIPPENBURG ASTER
42-LITTLE BLUESTEM

8-STELLA DE ORO DAYLILY
4-KIPPENBURG ASTER
3-LITTLE BLUESTEM

42-LITTLE BLUESTEM
24-KIPPENBURG ASTER
42-STELLA DE ORO DAYLILY

42-LITTLE BLUESTEM
24-KIPPENBURG ASTER
42-STELLA DE ORO DAYLILY

42-LITTLE BLUESTEM
24-KIPPENBURG ASTER
42-STELLA DE ORO DAYLILY

42-LITTLE BLUESTEM
24-KIPPENBURG ASTER
42-STELLA DE ORO DAYLILY

171-BUFFALO JUNIPER
40-STELLA DE ORO DAYLILY
23-KIPPENBURG ASTER
41-LITTLE BLUESTEM
INTEGRALLY COLORED
CONCRETE (SPECIAL-2) (TYP.)

42-STELLA DE ORO DAYLILY
24-KIPPENBURG ASTER
42-LITTLE BLUESTEM
CSAH 12 (EASTBOUND)

INTEGRALLY COLORED CONCRETE
(SPECIAL-2) (TYP.)
42-STELLA DE ORO DAYLILY
24-KIPPENBURG ASTER
42-LITTLE BLUESTEM

42-STELLA DE ORO DAYLILY
24-KIPPENBURG ASTER
42-LITTLE BLUESTEM
SHREDDED HARDWOOD MULCH (TYP.)

42-STELLA DE ORO
DAYLILY
24-KIPPENBURG
ASTER
42-LITTLE BLUESTEM

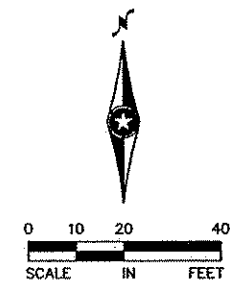
2'-0" PLAIN CONCRETE
MAINTENANCE STRIP
(SPECIAL-1) (TYP.)

3-COMMON HACKBERRY

230+00

NOTES:

1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.



3 OF 11

PLOT DATE: Aug 19, 2005 10:22am DISK FILE NAME: (16:1) R:\31809791\PLAN-SHT\SC03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: JCO	DESIGN BY: SCW/JCO
	CHKD. BY: SCW	DWG. NAME: SC03
	DATE: AUGUST 18, 2005	



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STEVEN C. WYCLAWSKI
STEVEN C. WYCLAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958



ANOKA COUNTY
HIGHWAY DEPT.

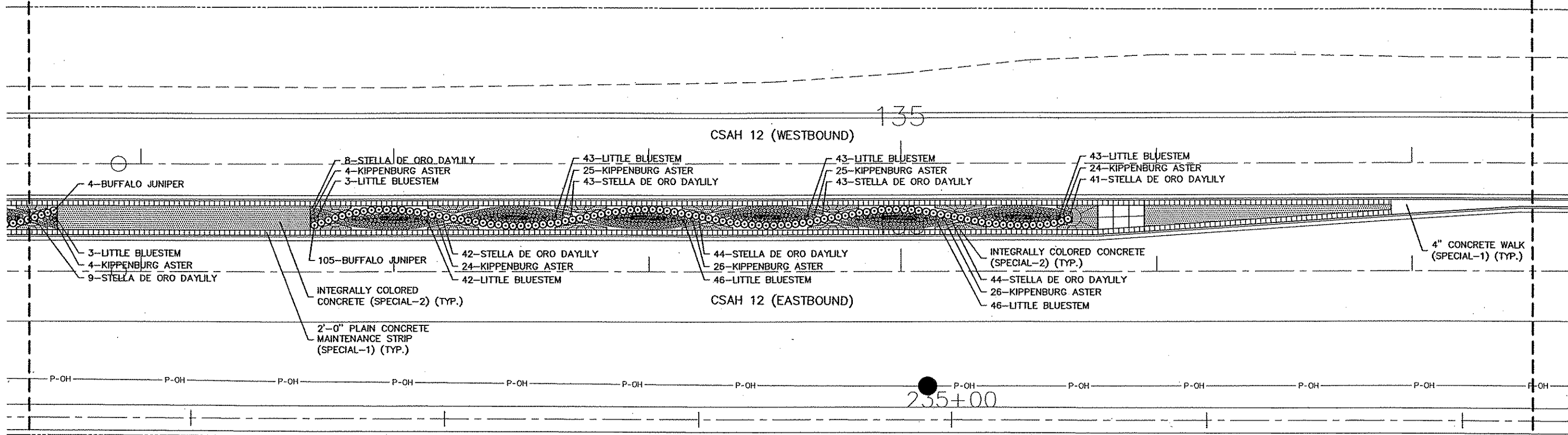
CSAH 12
RECONSTRUCTION
STREETScape PLANS

STA. 125+50 TO STA. 131+50

S.P. 02-612-11	SHEET NO. 170
S.P. 106-020-025	
S.P.	211
S.P.	

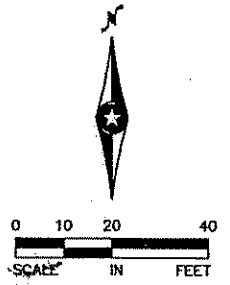
MATCH LINE

MATCH LINE



NOTES:

1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.



PLOT DATE: Aug 22, 2005 10:27am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCO	DESIGN BY: SCW/JCO
CHKD. BY: SCW	DWG. NAME: SC04
DATE: AUGUST 18, 2005	



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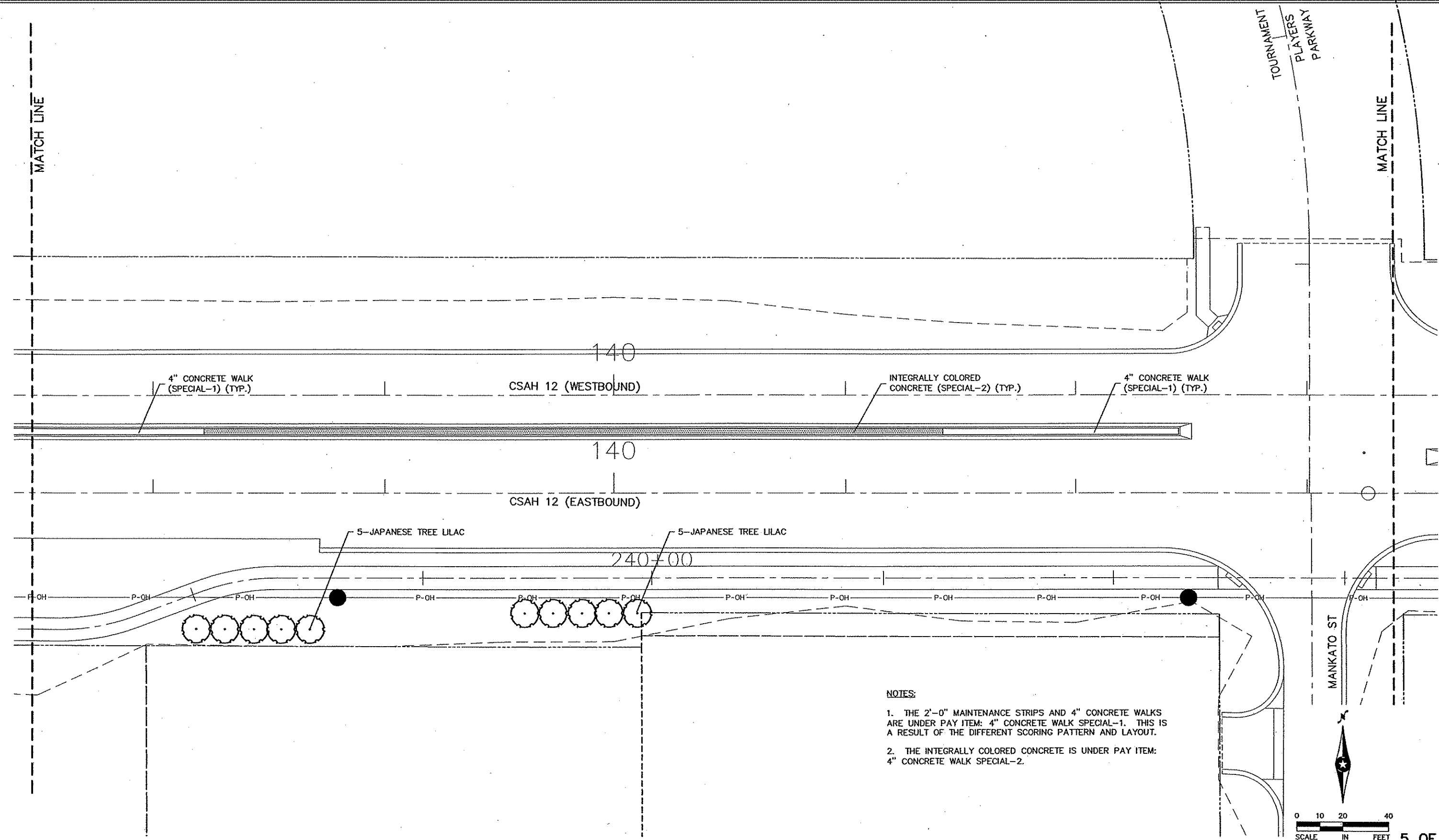
STEVEN C. WYCLAWSKI
STEVEN C. WYCLAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS
STA. 131+50 TO STA. 137+50

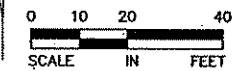
S.P. 02-612-11	SHEET NO. 171
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 22, 2005 10:28am DISK FILE NAME: (16.1) R:\31808791\PLAN-SHT\SC05.dwg



NOTES:

1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	
DRAWN BY: JCO	DESIGN BY: SCW/JCO
CHKD. BY: SCW	DWG. NAME: SC05
DATE: AUGUST 18, 2005	



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Steve Wyciawski
STEVE WYCIAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958

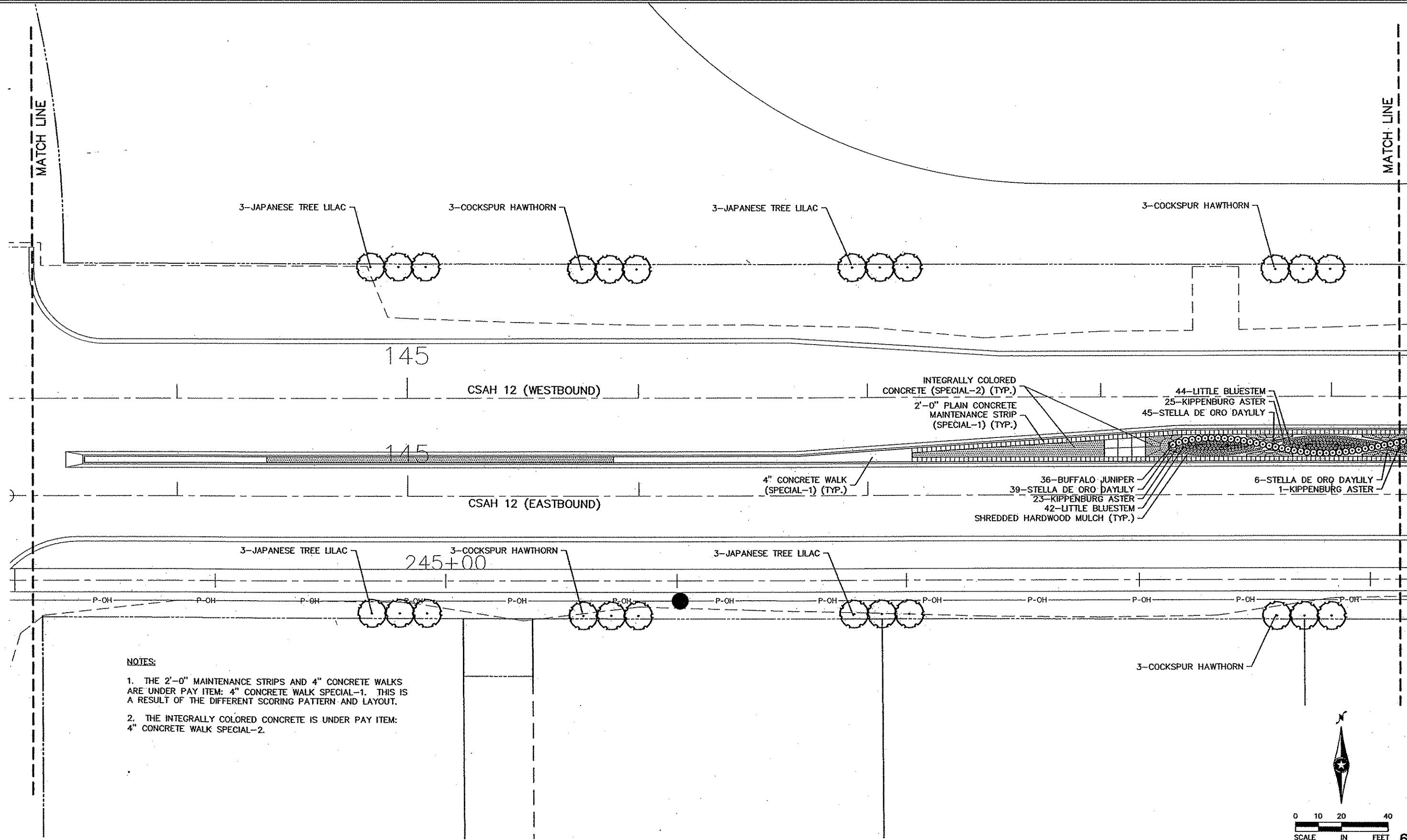


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS**
STA. 137+50 TO STA. 143+50

S.P. 02-612-11	SHEET NO. 172
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 19, 2005 10:31am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC06.dwg



- NOTES:**
1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
 2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DESIGN BY: SCW/JCO
DRAWN BY: JCO	DWG. NAME: SC06
CHKD. BY: SCW	DATE: AUGUST 18, 2005



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STEVEN C. WYCLAWSKI
STEVEN C. WYCLAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958

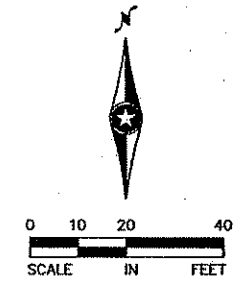


**ANOKA COUNTY
HIGHWAY DEPT.**

**CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS**

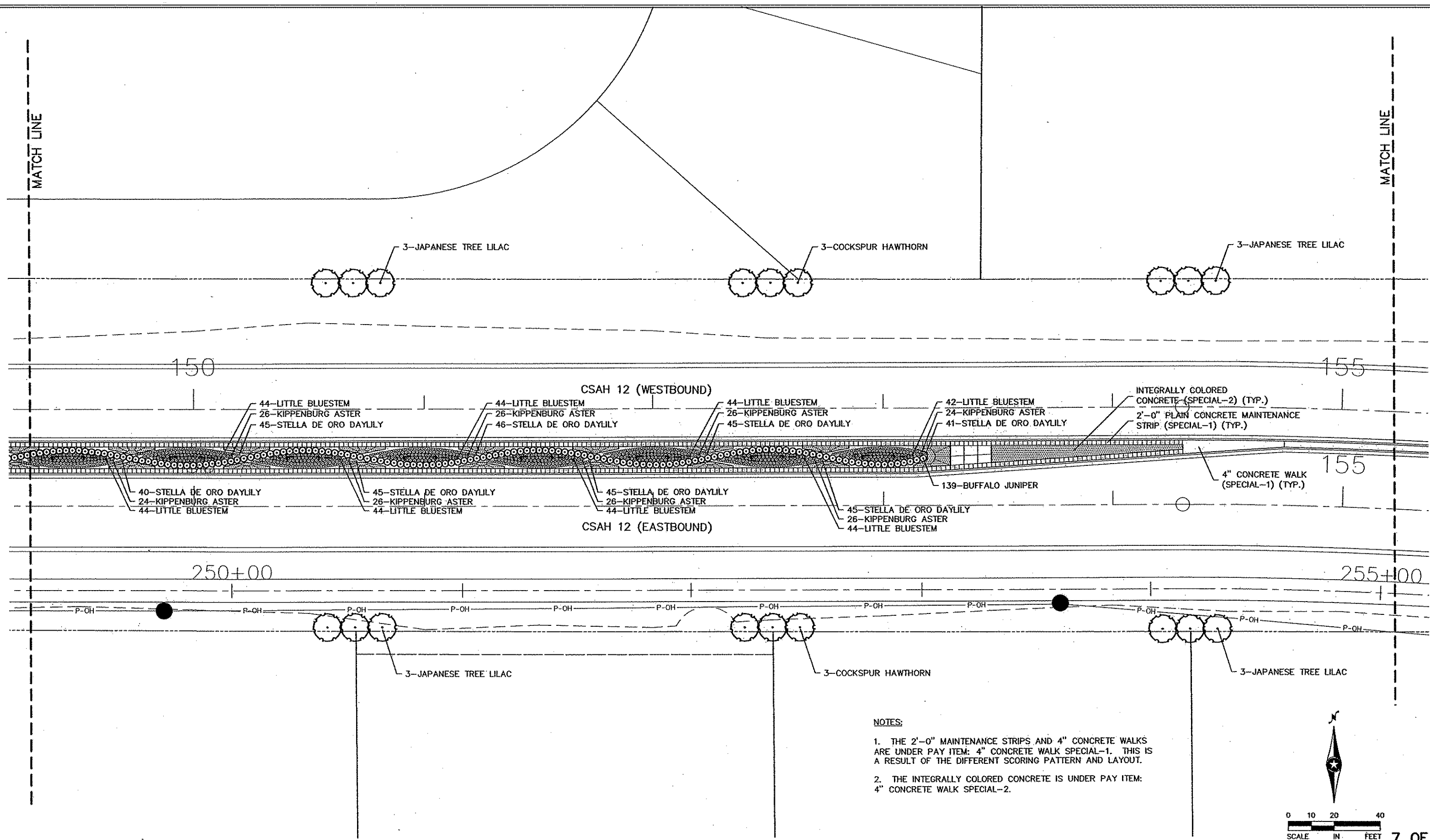
STA. 143+50 TO STA. 149+50

S.P. 02-612-11	SHEET NO. 173
S.P. 106-020-025	
S.P.	211
S.P.	



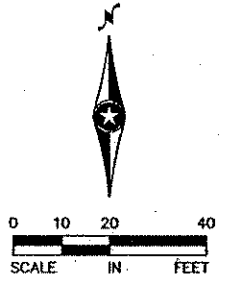
MATCH LINE

MATCH LINE



NOTES:

- 1. THE 2'-0" MAINTENANCE STRIPS AND 4" CONCRETE WALKS ARE UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-1. THIS IS A RESULT OF THE DIFFERENT SCORING PATTERN AND LAYOUT.
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PLOT DATE: Aug 18, 2005 10:34am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791	DRAWN BY: JCO	DESIGN BY: SCW/JCO
	CHKD. BY: SCW	DWG. NAME: SC07
	DATE: AUGUST 18, 2005	

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STEVEN C. WYCLAWSKI
STEVEN C. WYCLAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958

ANOKA COUNTY
HIGHWAY DEPT.

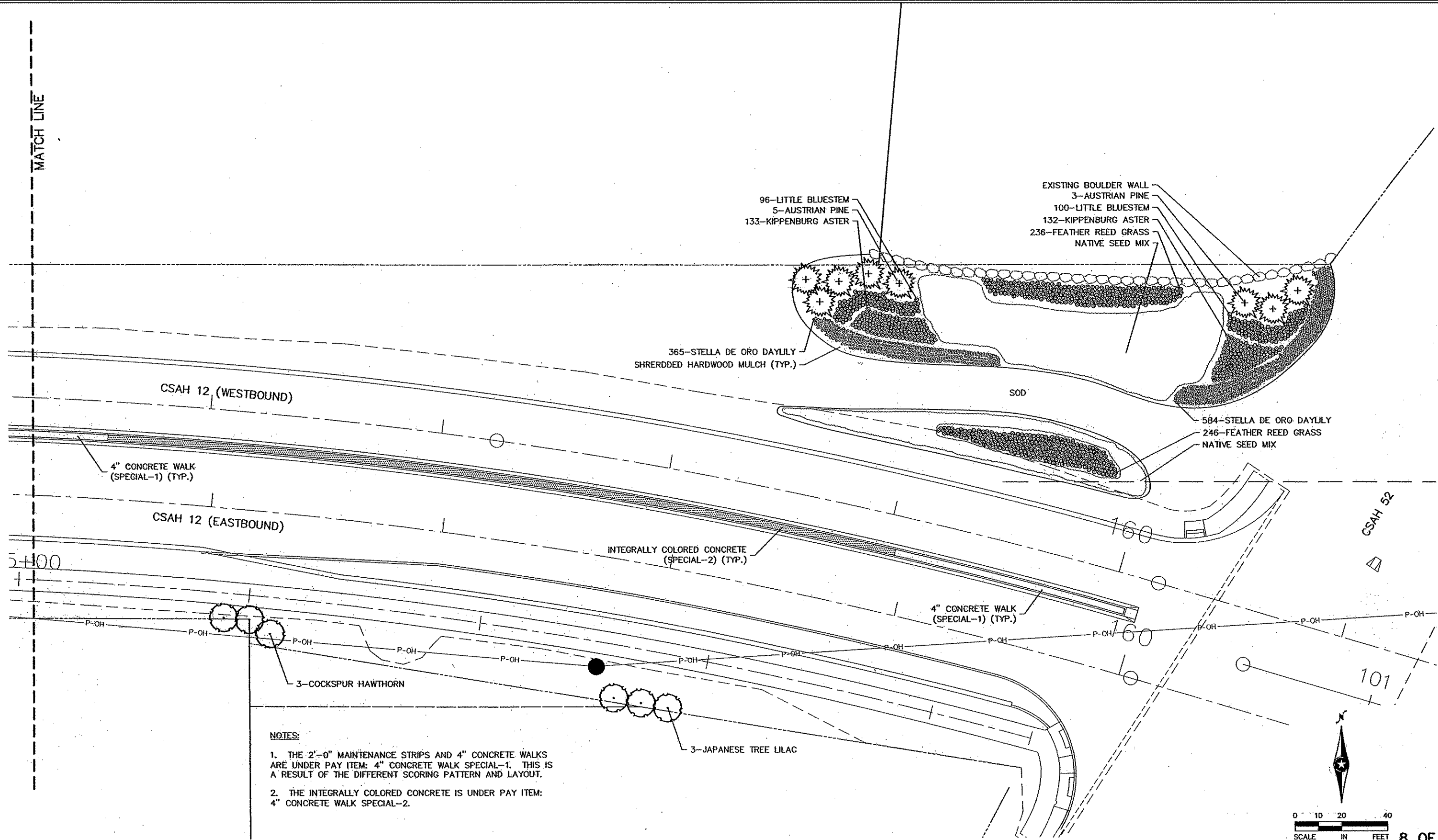
CSAH 12
RECONSTRUCTION
STREETSCAPE PLANS

STA. 149+50 TO STA. 155+50

S.P. 02-612-11	SHEET NO. 174
S.P. 106-020-025	
S.P.	211
S.P.	

PLOT DATE: Aug 18, 2005 11:49am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC08.dwg

MATCH LINE



- NOTES:**
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 2. THE INTEGRALLY COLORED CONCRETE IS UNDER PAY ITEM: 4" CONCRETE WALK SPECIAL-2.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

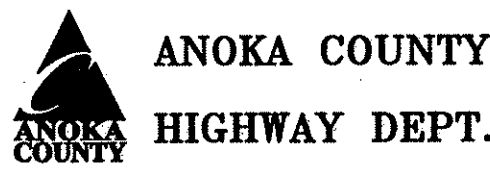
DESIGN FILE: 31809-791	DESIGN BY: SCW/JCO
DRAWN BY: JCO	DWG. NAME: SCDB
CHKD. BY: SCW	DATE: AUGUST 18, 2005



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STEVE WYCLAWSKI
STEVE WYCLAWSKI
DATE: 8/18/2005, MN LIC. NO. 16958



CSAH 12 RECONSTRUCTION STREETScape PLANS		S.P. 02-612-11	SHEET NO. 175
		S.P. 106-020-025	
STA. 155+50 TO STA. 160+50		S.P.	211
		S.P.	

PLOT DATE: Aug 19, 2005 10:47am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC09.dwg

PLANT SCHEDULE

QTY.	COMMON NAME	BOTANICAL NAME	SIZE	COND.	REMARKS
	OVERSTORY TREES				
20	SWAMP WHITE OAK	Quercus bicolor	2.5" cal.	B&B	
11	COMMON HACKBERRY	Celtis occidentalis	2.5" cal.	B&B	
	UNDERSTORY TREES				
21	THORNLESS COCKSPUR HAWTHORN	Crataegus crus-galli var. inermis	8'-10' ht.	B&B	
47	JAPANESE TREE LILAC	Syringa reticulata	8'-10' ht.	B&B	
5	SERVICEBERRY	Amelanchier x grandiflora 'Autumn Brilliance'	8'-10' ht.	B&B	
	CONIFEROUS TREES				
8	AUSTRIAN PINE	Pinus nigra	6' ht.	B&B	
	SHRUBS				
597	BUFFALO JUNIPER	Juniperus sabina 'Buffalo'	#5 cont.	2 yr old	3' O.C.
	PERENNIALS				
1346	KIPPENBURG ASTER	Aster 'Prof. Anton Kippenburg'	#1 cont.	2 yr old	18" O.C.
2809	STELLA DE ORO DAYLILY	Hemerocallis 'Stella de Oro'	#1 cont.	2 yr old	12" O.C.
	ORNAMENTAL GRASSES				
2289	LITTLE BLUESTEM	Andropogon scoparius	#1 cont.	2 yr old	18" O.C.
482	FEATHER REED GRASS	Calamagrostis acutiflora 'Karl Foerster'	#1 cont.	2 yr old	18" O.C.
5600 SF	NATIVE SEED MIX	MNDOT 330 MIXTURE W/FORBS			84.5 lb/ac

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
31809-791

DRAWN BY: JCO DESIGN BY: SCW/JCO

CHKD. BY: SCW DWG. NAME: SC09

DATE:
AUGUST 18, 2005



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Steven C. Wyciawski
STEVEN WYCIAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958



ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STREETScape DETAILS

S.P. 02-612-11
S.P. 106-020-025
S.P.
S.P.

SHEET NO.
176
211

PLOT DATE: Aug 19, 2005 12:52am DISK FILE NAME: (16.1) R:\31809791\PLAN-SHT\SC10.dwg

GENERAL NOTES

(SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS)

PLANTING HOLE AND BED CULTIVATION: ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 10". SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.

BACKFILL SOIL: USE CULTIVATED AND AMENDED SOIL EXCAVATED FROM PLANTING HOLES. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 3" DIA.

FERTILIZER: NONE
 MN/DOT 3881

COMPOST: NONE
 Mn/DOT 3890

MULCH MATERIAL: Mn/DOT 3882 TYPE 6, MODIFIED

TREE STAKING: TREE STAKING (ALL SIZES) IS NOT ANTICIPATED, BUT MAY BE NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER.

TREE WRAPPING: WRAP OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES, AND MOUNTAIN ASHES PER SPECIAL PROVISIONS.

RODENT PROTECTION: PROVIDE ON ALL DECIDUOUS TREES AND PINE TREES ONLY IN AREAS SPECIFIED. PROTECTION IS NOT ANTICIPATED.

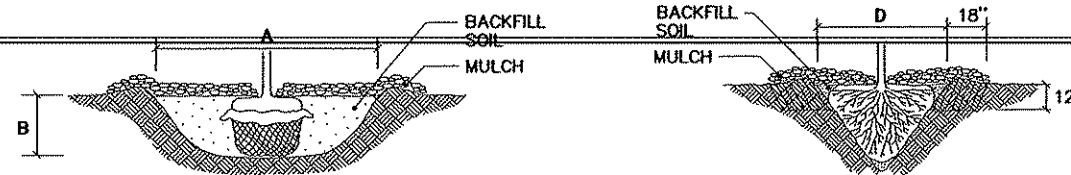
MASS PLANTINGS: PLANT SPACING OF 8' OR LESS SHALL BE MASS CULTIVATED BY TILLING. PLANT IN STAGGERED ROWS ON THE PERMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS (CLEARANCE) SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF 8' OR LESS SHALL BE MASS MULCHED.

PLANTING PLAN: RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

WATERING GUIDELINES:	PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION (GALLONS)
	MACHINE TRANSPLANTED TREES (3" CALIPER+)	50-100
	BALLED & BURLAPPED TREES	20 ±
	BARE ROOT TREES	15 ±
	BALLED & BURLAPPED SHRUBS	10 ±
	BARE ROOT OR CONTAINER SHRUBS	7 ±
	WOODY SEEDLINGS	4 ±
	HERBACEOUS GROUNDCOVERS AND VINES	3 ±

1) THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON FOR THE FIRST TWO YEARS FOLLOWING PLANTING. WATERING MAY BE REQUIRED WEEKLY OR INFREQUENTLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.

2) THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING OR FAILURE TO COMPENSATE FOR EXCESSIVE SOIL MOISTURE AND DRAINAGE PROBLEMS MAY RESULT IN UNACCEPTABLE PLANTS LEADING TO REDUCED OR NO PAYMENT.

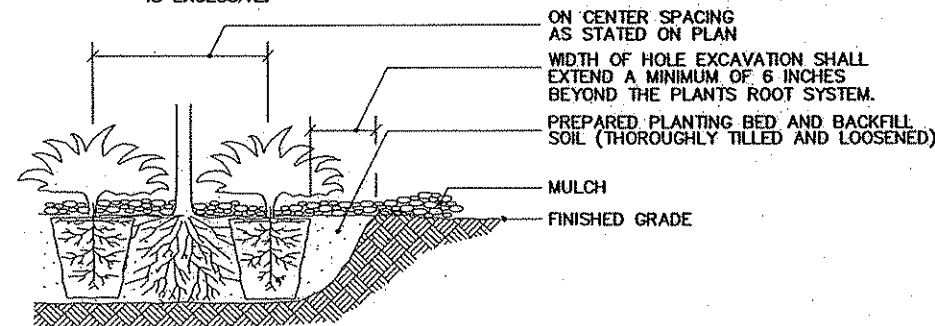


BALLED & BURLAPPED STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
3. SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
4. PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 12" OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
5. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
6. APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 3" DEPTH WATERING BASIN.
7. WATER THOROUGHLY WITHIN 2 HOURS.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
9. BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR, THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

MACHINE-TRANSPLANT STOCK (TREE SPADE)

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. SET PLANT ON UNDISTURBED NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
3. PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED, FILLING ALL VOIDS AND ACCOMPLISHING SETTLEMENT BY WATERING.
4. AFTER PLANTING, THE SOIL IMMEDIATELY ADJACENT TO THE SPADE MOVED SOIL, FOR A MINIMUM DISTANCE OF 18" SHALL BE TURNED OVER AND/OR ROTOTILLED TO A MINIMUM DEPTH OF 12".
5. CONSTRUCT 3" DEPTH WATERING BASIN.
6. WATER THOROUGHLY WITHIN 2 HOURS.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING. UNLESS SOIL MOISTURE IS EXCESSIVE.

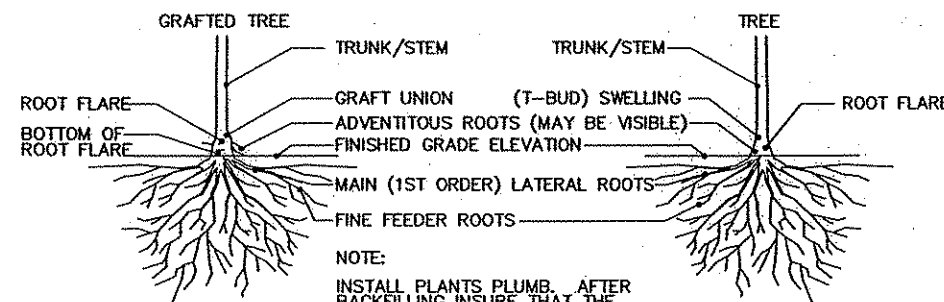


PLANTING DETAIL FOR MASS PLANTING BEDS

NOTES:

1. THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS, THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 1"-3" HIGHER IN POORLY DRAINED SOILS.
2. ON 2:1 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
3. ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
5. PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 4" OF SOIL IN THE TOP OF THE BALL.
6. DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.

MINIMUM TREE SPADE SIZE REQUIREMENTS			
SPADE SIZE (DIAMETER) "D"	OAK TREES (CALIPER)	DECIDUOUS TREES (CALIPER)	EVERGREEN TREES (HEIGHT)
42"	1.0" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
78"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5.0"	6" to 8"	14' to 18'



NOTE:
 INSTALL PLANTS PLUMB. AFTER BACKFILLING INSURE THAT THE ROOT FLARE IS ABOVE FINISHED-GRADE ELEVATION.

PLANTING DEPTH DETAIL

PLANTING HOLE DIMENSIONS (MINIMUM WIDTH DOES NOT APPLY IN MASS PLANTING BEDS)				
PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM HOLE WIDTH (INCHES) A	APPROX. HOLE DEPTH (INCHES) B	
EVERGREEN TREES	3' B.B.	42	11	
	4' B.B.	51	13	
	5' B.B.	60	13	
	6' B.B.	66	15	
	7' B.B.	72	16	
	8' B.B.	81	18	
SHADE & FLOWERING TREES	1" B.R.	54	14	
	1 1/4" B.R.	60	14	
	1 1/2" B.R.	66	15	
	1 3/4" B.R.	72	16	
	2" B.R.	84	19	
	2 1/2" B.R.	84	19	
EVERGREEN SHRUBS (UPRIGHT)	2' B.B.	36	9	
	3' B.B.	48	12	
	4' B.B.	63	14	
	EVERGREEN SHRUBS (SPREADING)	18" spread B.B.	30	8
		2' spread B.B.	36	9
		2 1/2' spread B.B.	42	11
3' spread B.B.		48	12	
DECIDUOUS SHRUBS	18" B.R.	30	8	
	2' B.R.	33	9	
	3' B.R.	42	11	
	4' B.R.	48	12	
	5' B.R.	54	14	
	6' B.R.	60	14	
	18" B.B.	27	7	
	2' B.B.	30	8	
CONTAINER GROWN PLANTS	Cellpacks	6	2.5	
	2.25" cont.	7	3	
	3.5" cont.	10	3	
	4.0" cont.	11	4	
	4.5" cont.	13	4	
	1 Quart cont.	15	5.5	
	#1 cont.	18	6	
	#2 cont.	23	7.5	
	#3 cont.	29	8.5	
	#5 cont.	30	11	
	#7 cont.	37	11	
	#10 cont.	44	14	
	#15 cont.	45	15	
	#20 cont.	60	17	
	#25 cont.	72	16	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: JCO DESIGN BY: SCW/JCO

CHKD. BY: SCW DWG. NAME: SC10

DATE: AUGUST 18, 2005

Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

Steven C. Wyciawski

STEVEN WYCIAWSKI
 LICENSED LANDSCAPE ARCHITECT
 DATE: 8/18/2005 MN LIC. NO. 16958

**ANOKA COUNTY
 HIGHWAY DEPT.**

**CSAH 12
 RECONSTRUCTION
 STREETScape DETAILS**

S.P. 02-612-11	SHEET NO. 177
S.P. 106-020-025	
S.P.	211
S.P.	



ZONE 1	BELOW -50 F
ZONE 2	-50 to -40
ZONE 3	-40 to -30
ZONE 4	-30 to -20

STATE INSPECTED PLANTS GROWN WITHIN ZONES 1-4 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE USED ON ALL PROJECTS UNLESS OTHERWISE SPECIFIED.

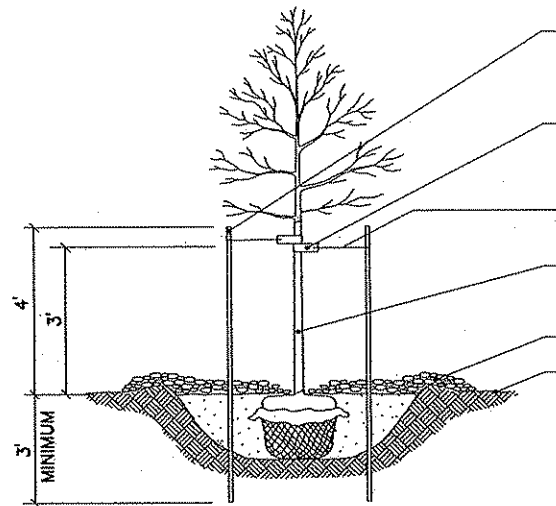
ZONE 5	-20 to -10
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STATE INSPECTED PLANTS GROWN WITHIN ZONE 5 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA UNLESS CERTIFIED AS MINNESOTA ZONE HARDY IN ZONES 3 AND 2.

PLANT STOCK NOT GROWN WITHIN THE ACCEPTABLE ZONES AND GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE ACCEPTED IF THE SEED SOURCE OR ROOT AND GRAFT STOCK IS CERTIFIED AND DOCUMENTED AS MIDWEST AND NORTHERN GROWN AND MINNESOTA ZONE HARDY.

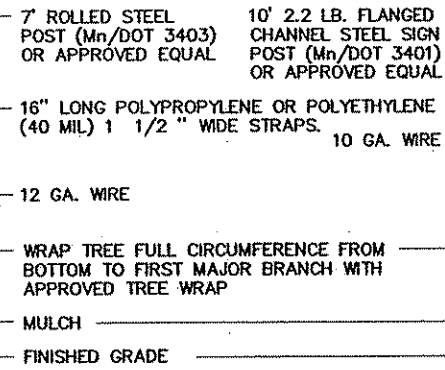
ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK

1 NOT TO SCALE



STANDARD TREE STAKING / GUYING AND WRAPPING DETAIL

2 NOT TO SCALE



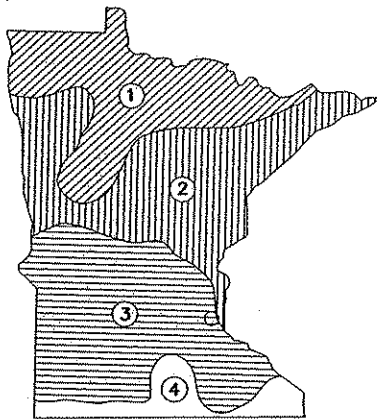
LARGE MACHINE - TRANSPLANT TREE STAKING / GUYING AND WRAPPING DETAIL

3 NOT TO SCALE

NOTES:

- STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
- REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.

SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP



	SPRING			FALL	
	SEEDLING	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 15 TO MAY 15	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 7 TO MAY 15	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15
3	APRIL 1 TO MAY 15	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15
4	APRIL 1 TO MAY 15	APRIL 1 TO MAY 25	APRIL 1 TO MAY 15	OCT. 15 TO NOV. 20	SEPT. 5 TO OCT. 1

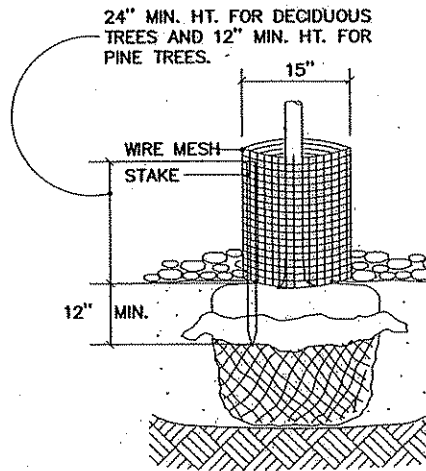
NOTES:

- SEEDLING INCLUDES DECIDUOUS AND EVERGREEN STOCK.
- ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER.
- FALL PLANTING IS NOT RECOMMENDED OR ALLOWED. SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS. THE FOLLOWING PLANTS ARE NOT RECOMMENDED FOR FALL INSTALLATION. HAWTHORNE, RUSSIAN OLIVE, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, SUMAC.

○ - INDICATES PROJECT LOCATION

OPTIMUM PLANTING DATE ZONES IN MINNESOTA

4 NOT TO SCALE

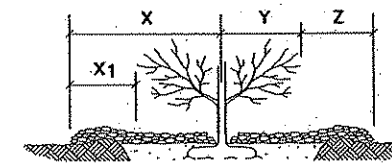


NOTE:

THE BOTTOM WHORL OF BRANCHES MAY HAVE TO BE REMOVED TO PERMIT INSTALLATION OF 12\"/>

RODENT PROTECTION DETAIL

5 NOT TO SCALE



SUBSIDENCE OR DETERIORATION OF MULCH THROUGHOUT THE CONTRACT IS ACCEPTABLE TO THE EXTENT THAT THE MULCH DEPTH IS MAINTAINED AT A MINIMUM DEPTH OF 3\"/>

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X1 EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH		Z DEPTH OF MULCH	
			MIN.	MAX.	MIN.	MAX.
EVERGREEN TREES	VARIABLES	3' MIN.	4"	6"	4"	6"
DECIDUOUS TREES	3' MIN.	N/A	4"	6"	4"	6"
EVERGREEN SHRUBS	VARIABLES	3' MIN.	3"	4"	4"	6"
DECIDUOUS SHRUBS	3' MIN.	N/A	4"	6"	4"	6"
VINES	2' MIN.	N/A	4"	6"	4"	6"
GROUNDCOVERS	VARIABLES	2' MIN.	2"	2"	2"	2"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE		4"	6"	4"	6"

NOTE:

REMOVE MULCH PLACED TO A DEPTH GREATER THAN THAT SPECIFIED WHEN DIRECTED BY THE ENGINEER.

MULCH PLACEMENT DETAIL

6 NOT TO SCALE

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 31809-791

DRAWN BY: JCO DESIGN BY: SCW/JCO

CHKD. BY: SCW DWG. NAME: SC11

DATE: AUGUST 18, 2005



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

STEVEN C. WYCLAWSKI

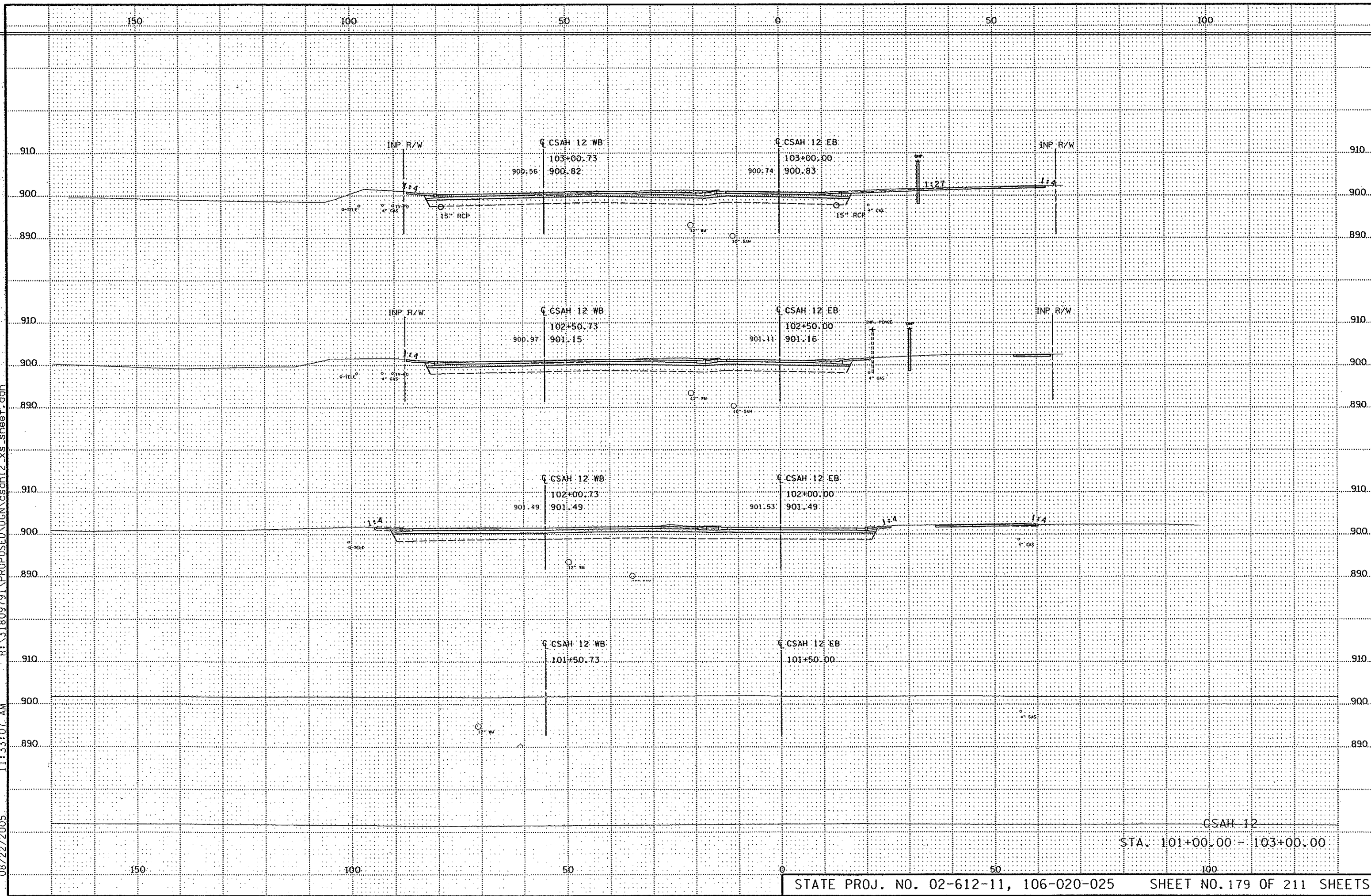
STEVEN WYCLAWSKI
DATE: 8/18/2005 MN LIC. NO. 16958

ANOKA COUNTY
HIGHWAY DEPT.

CSAH 12
RECONSTRUCTION
STREETScape DETAILS

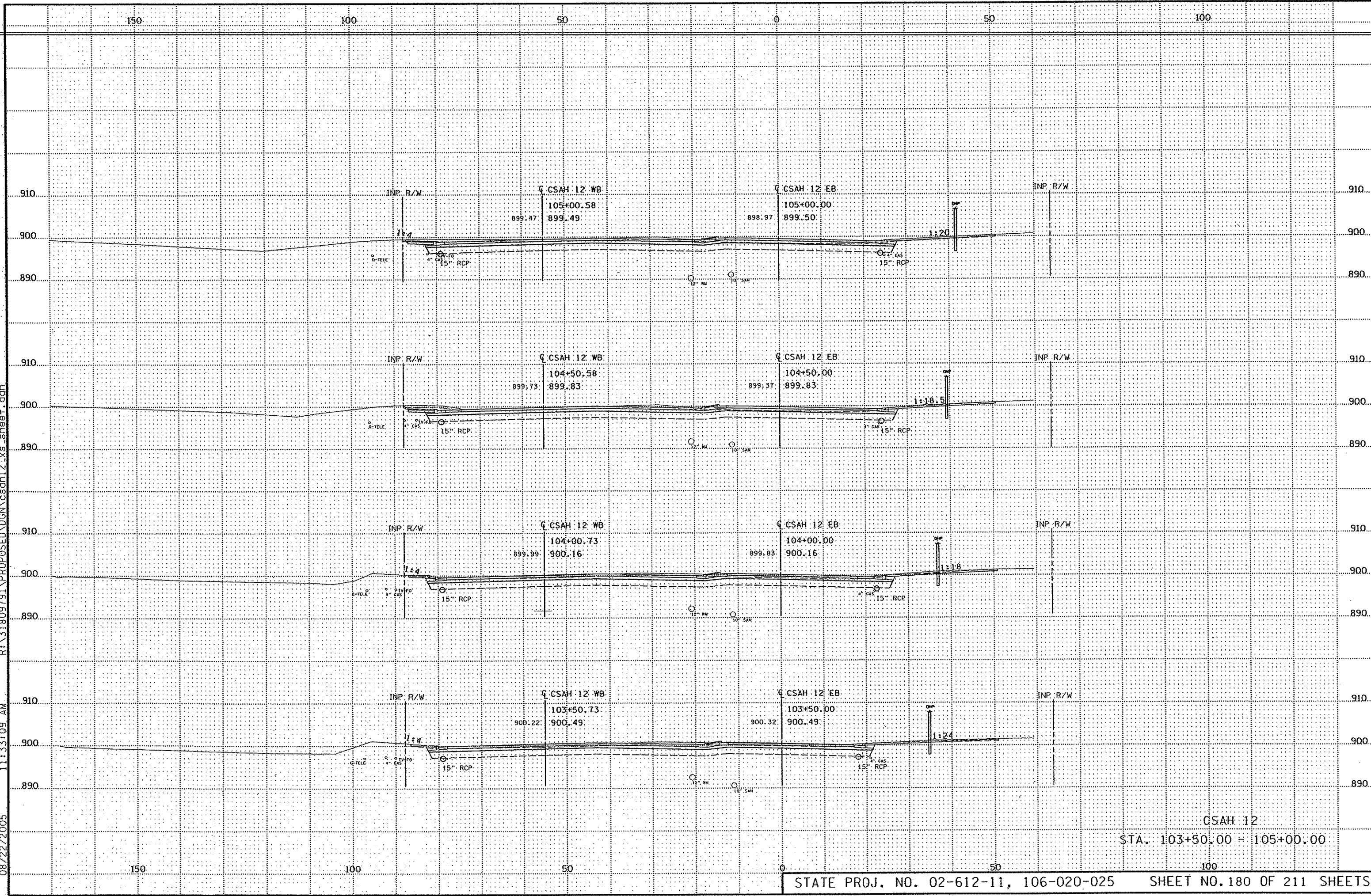
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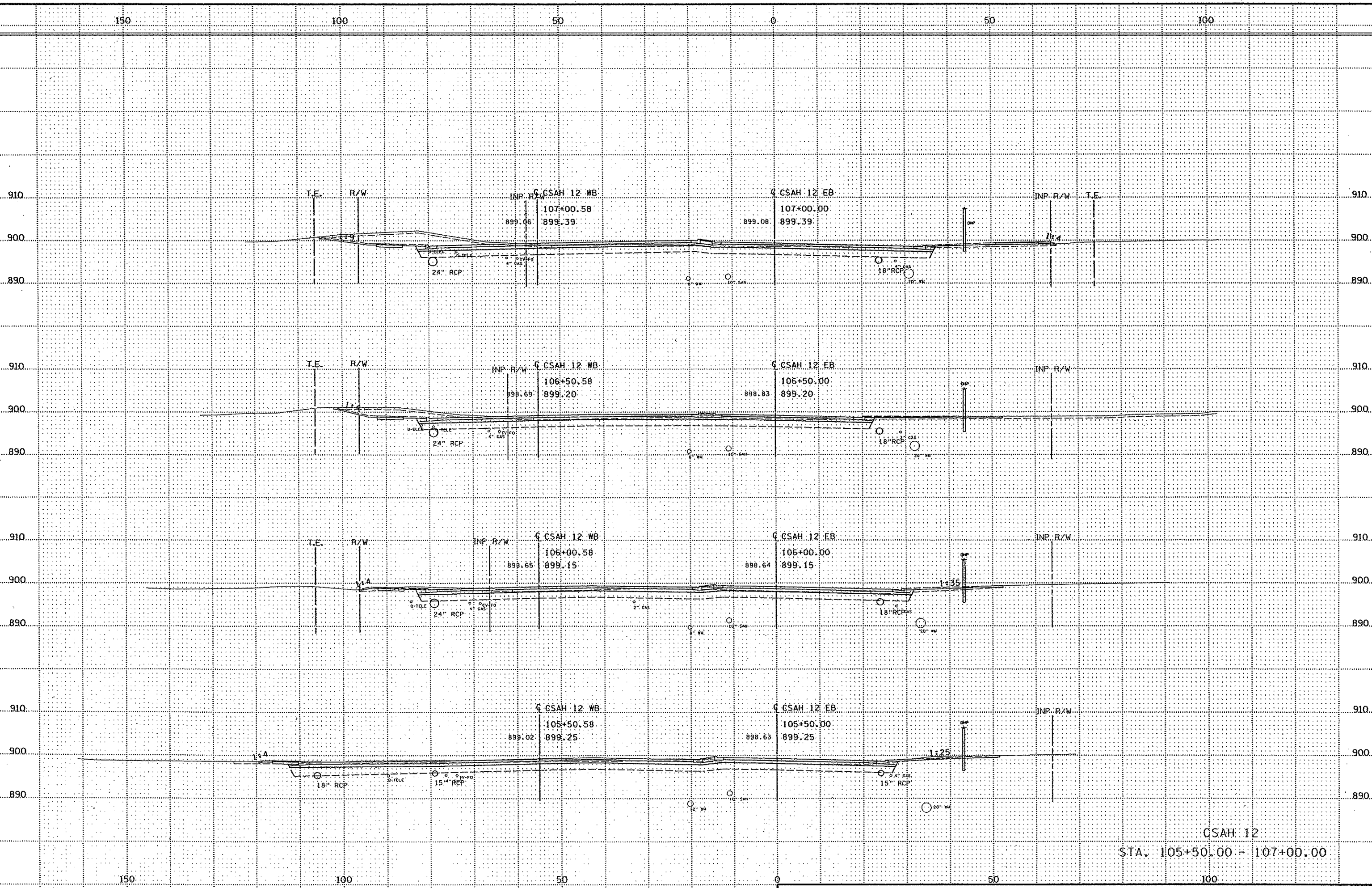
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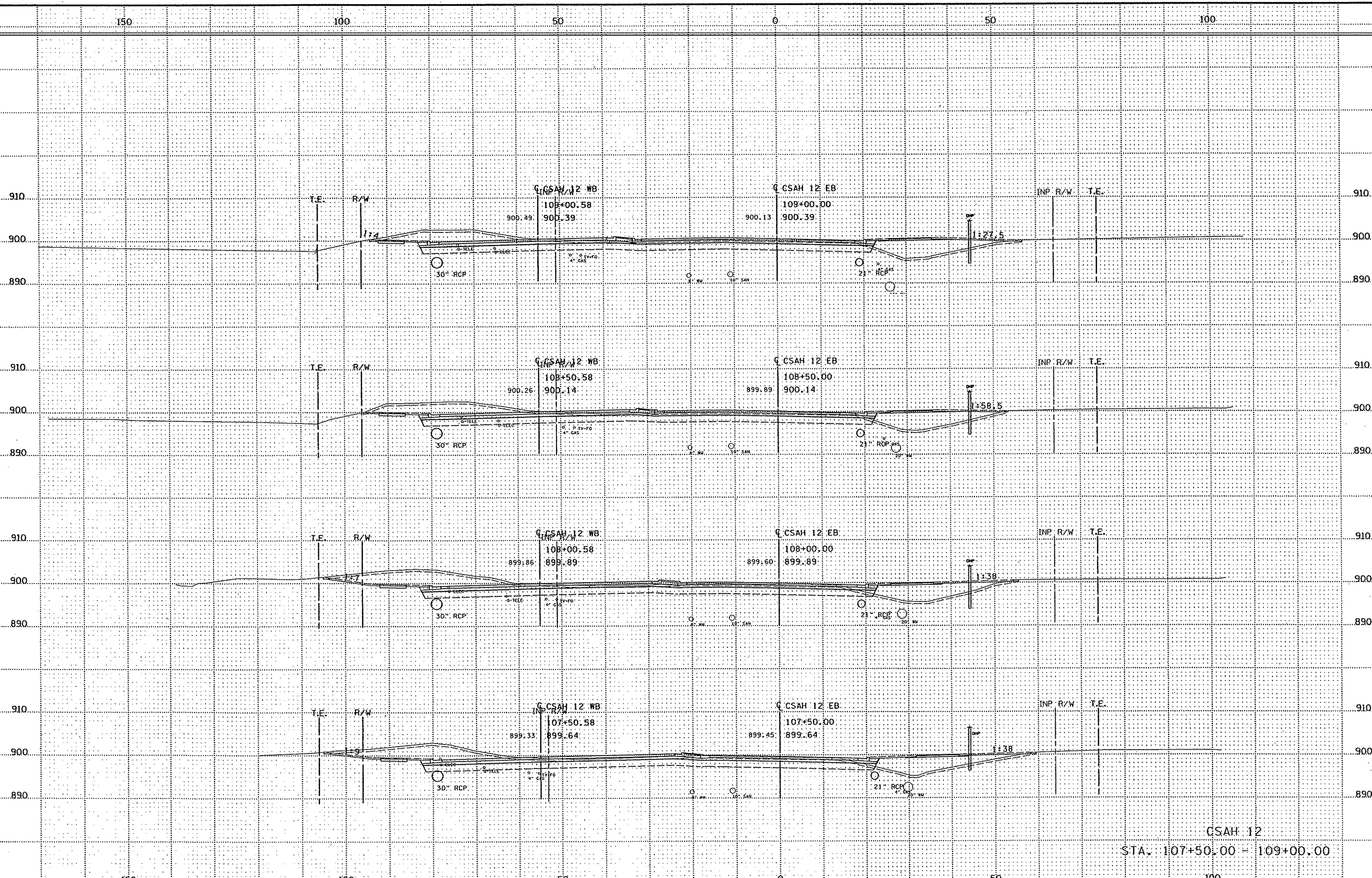
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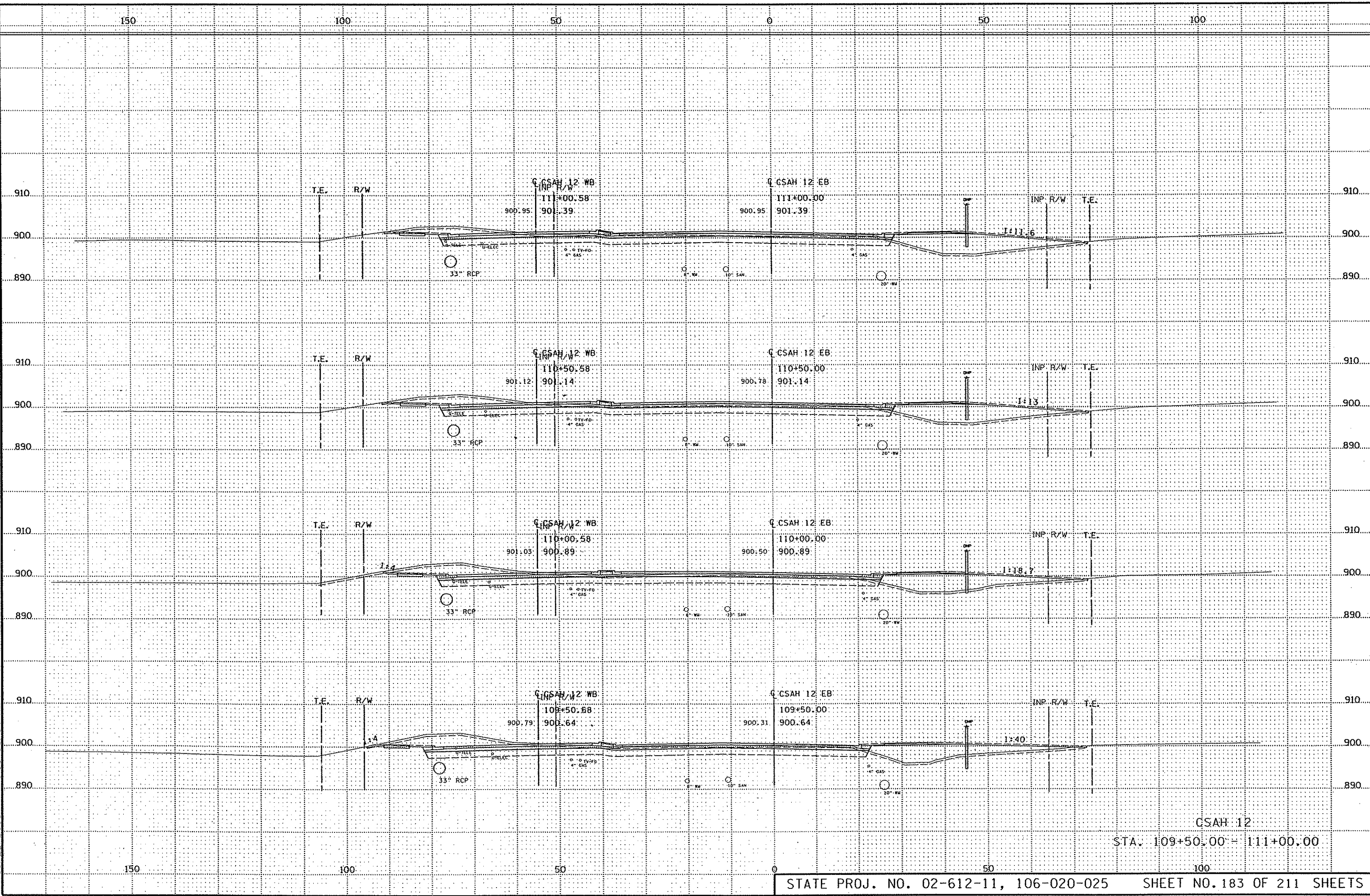
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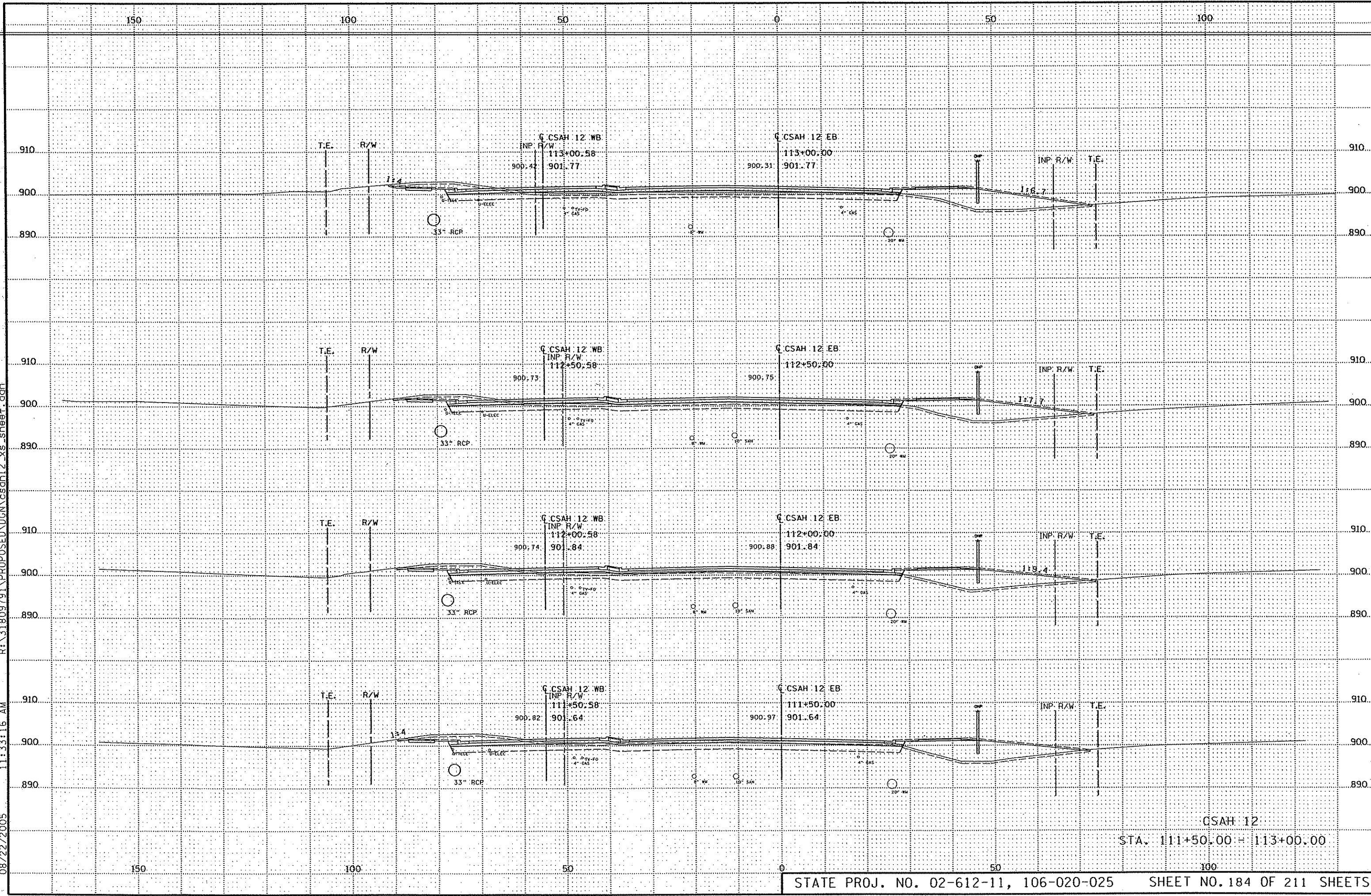
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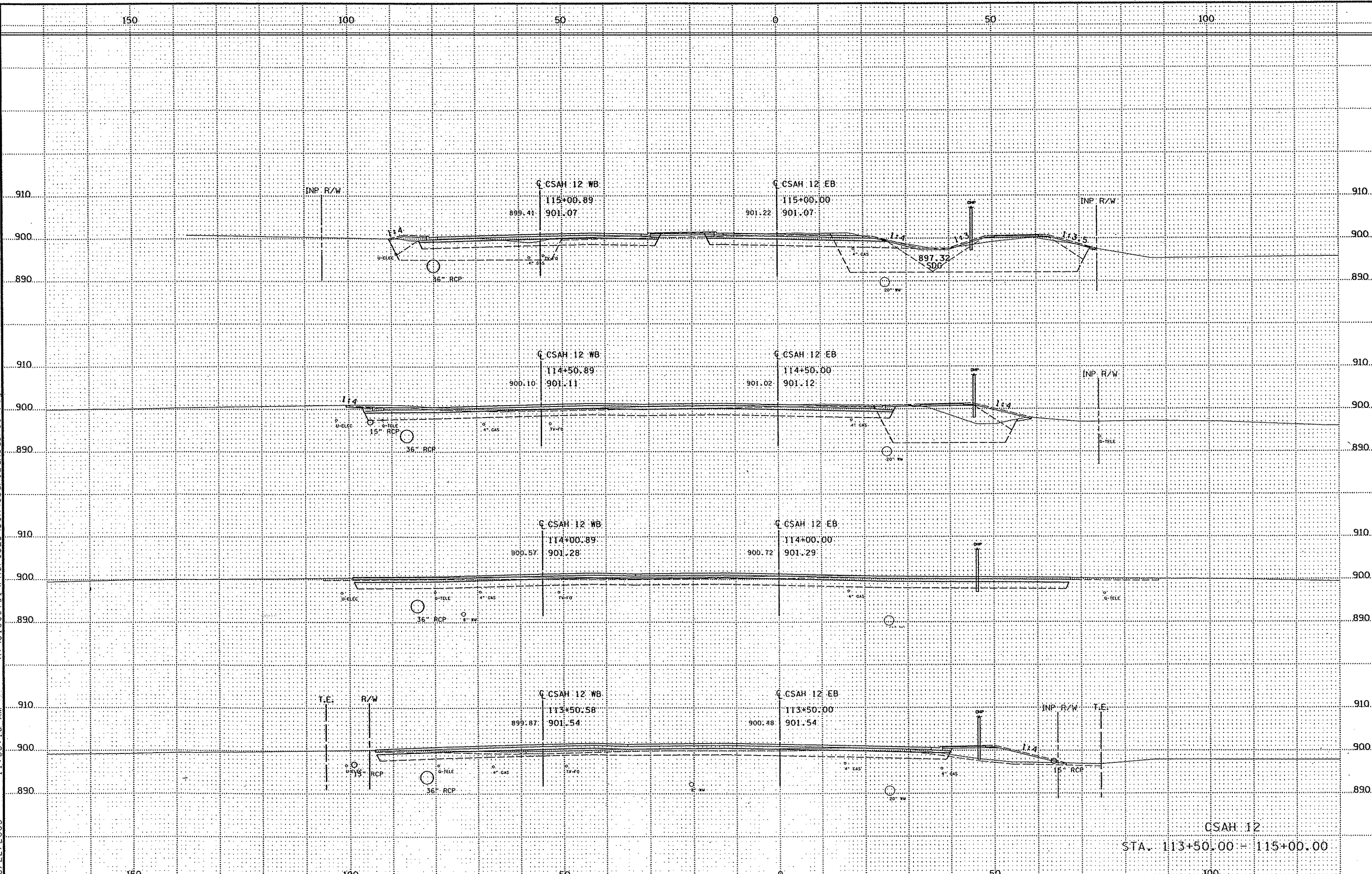
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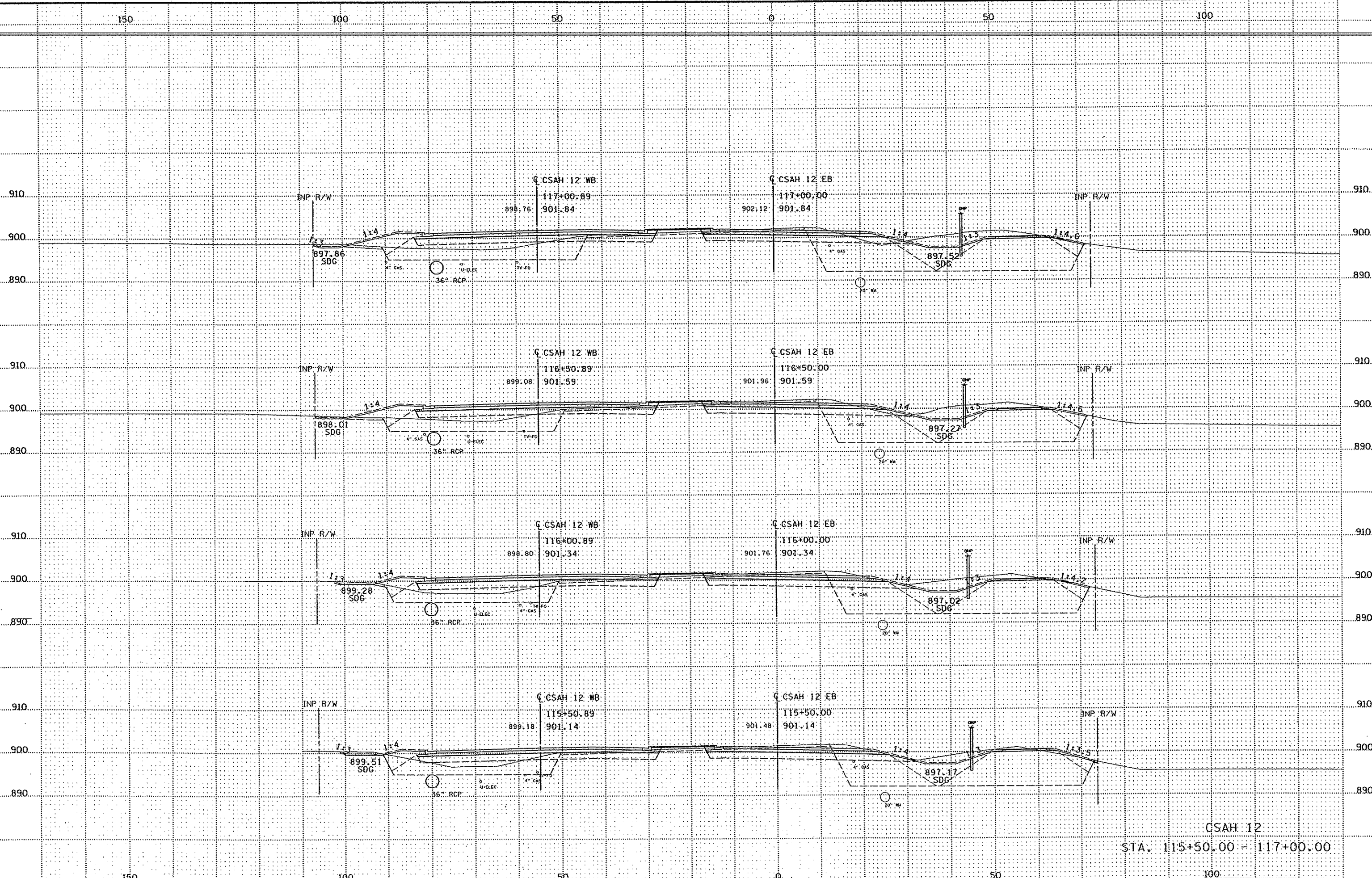
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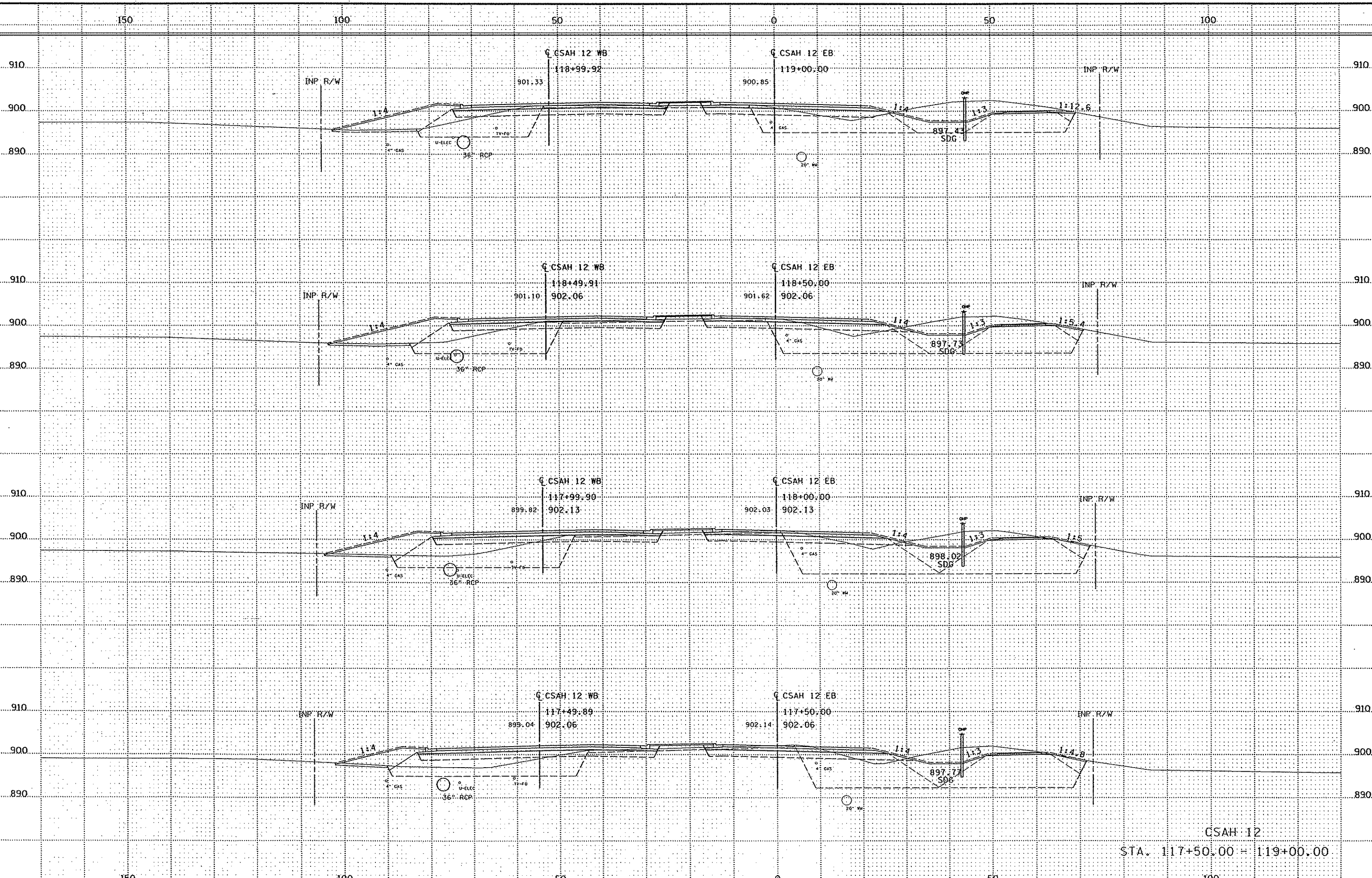
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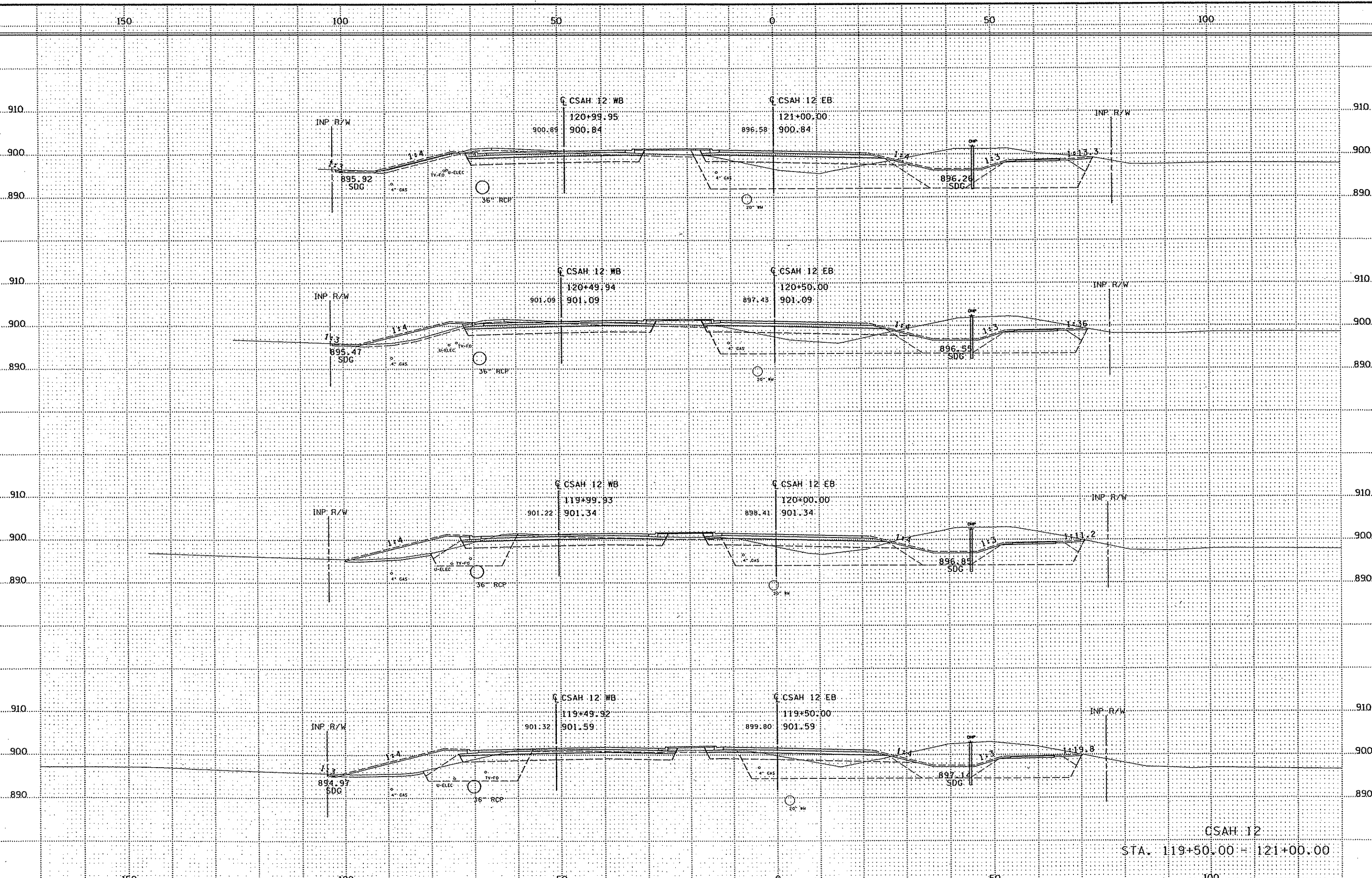
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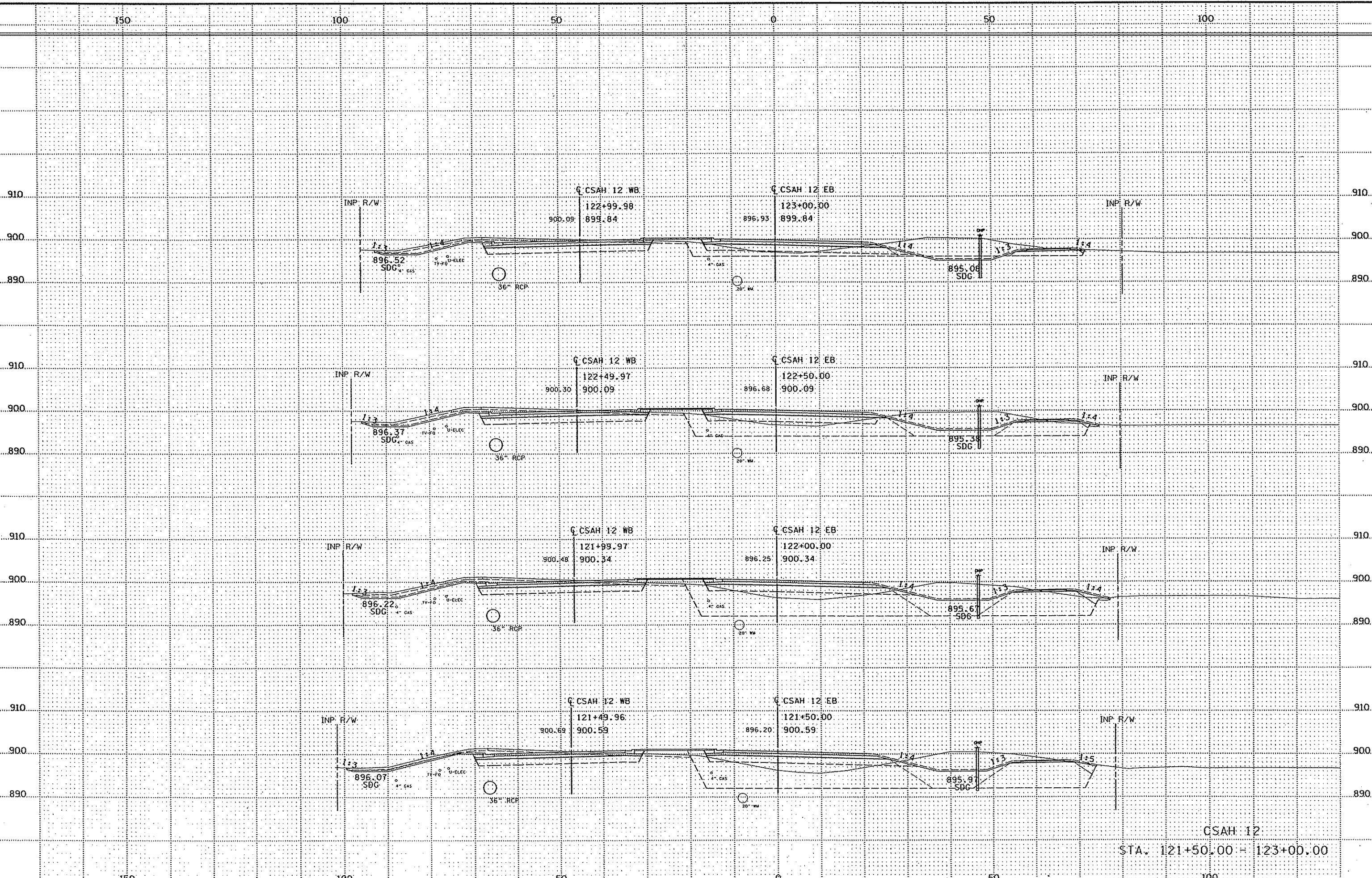
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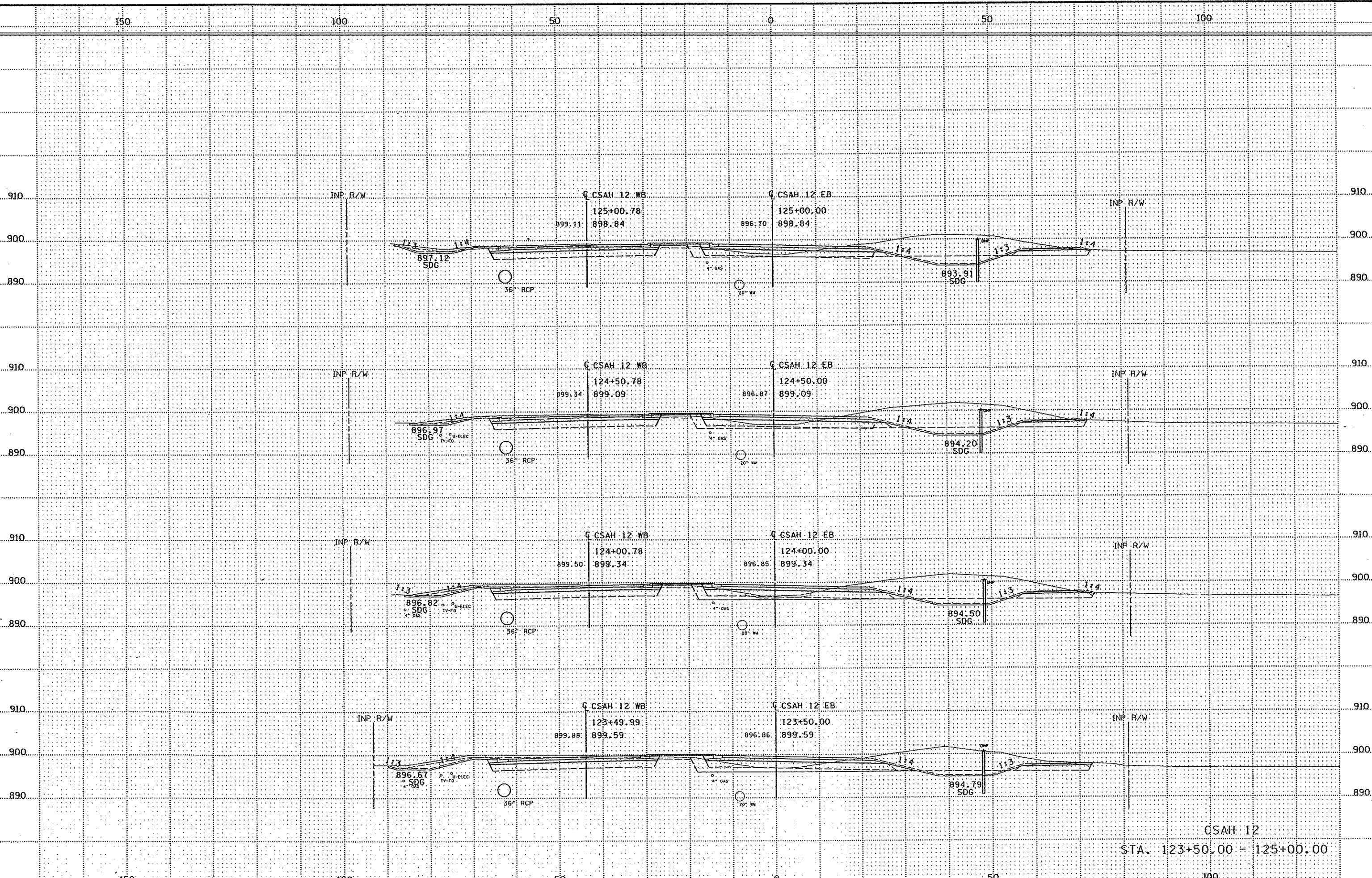
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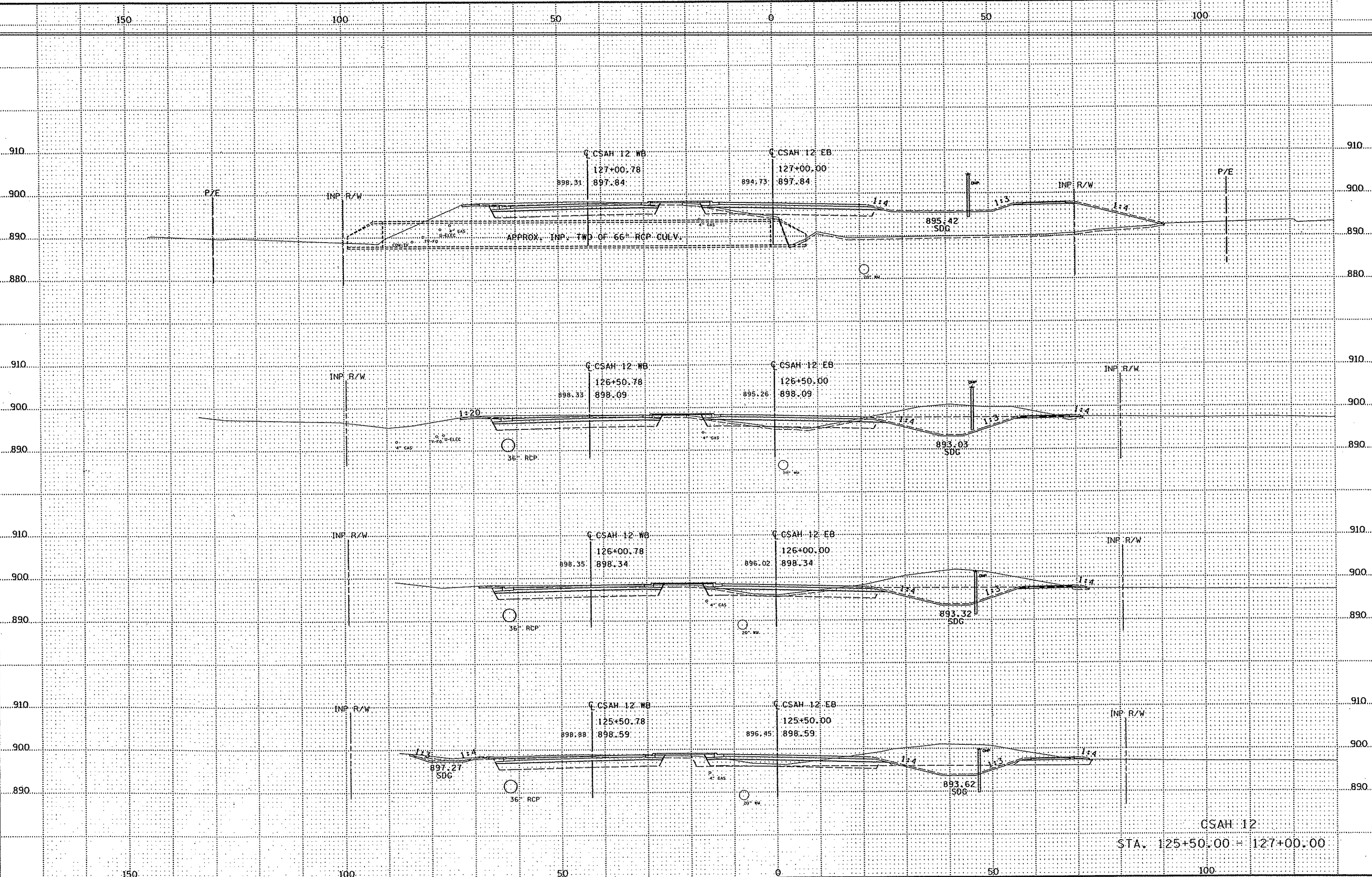
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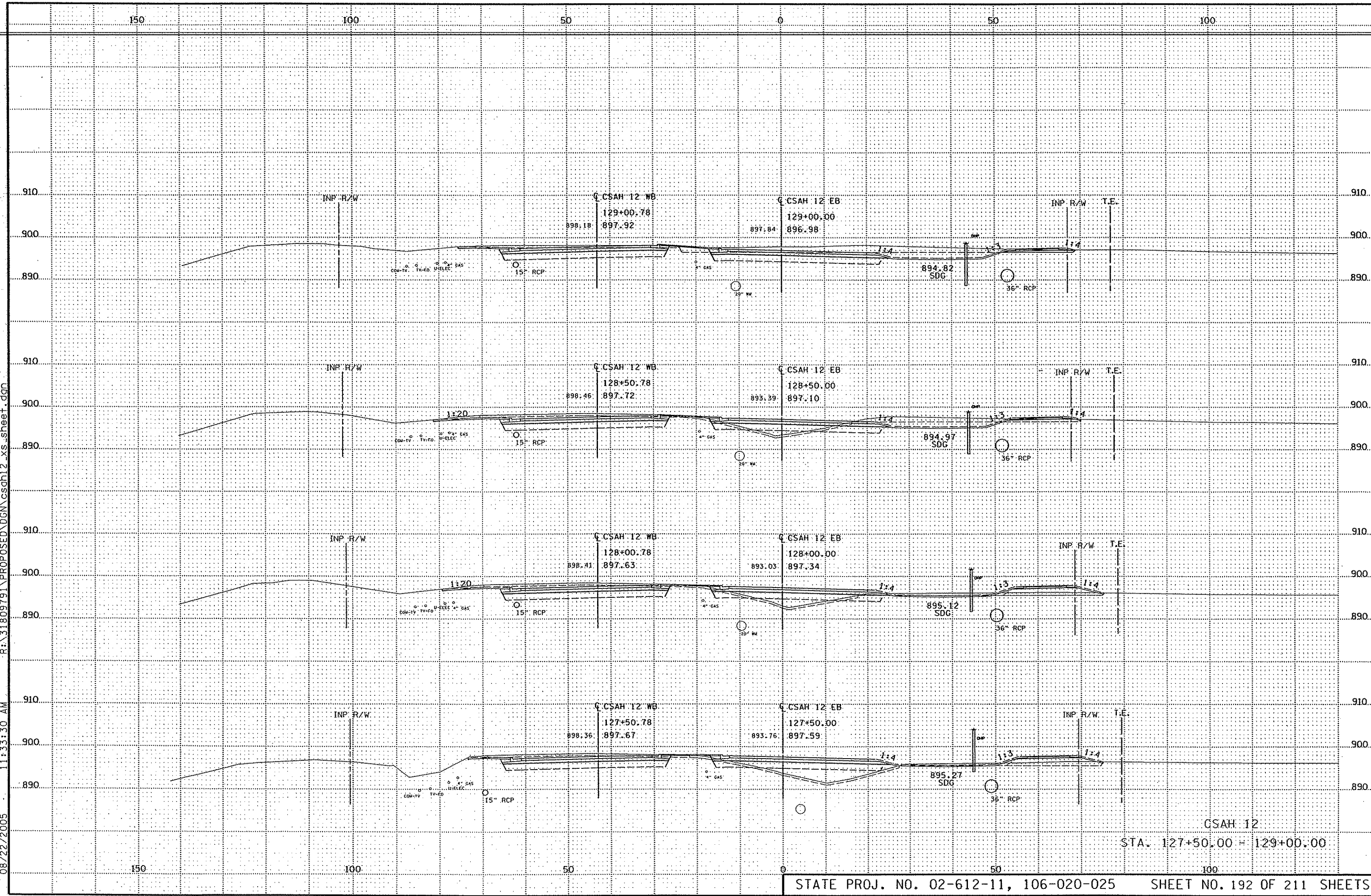
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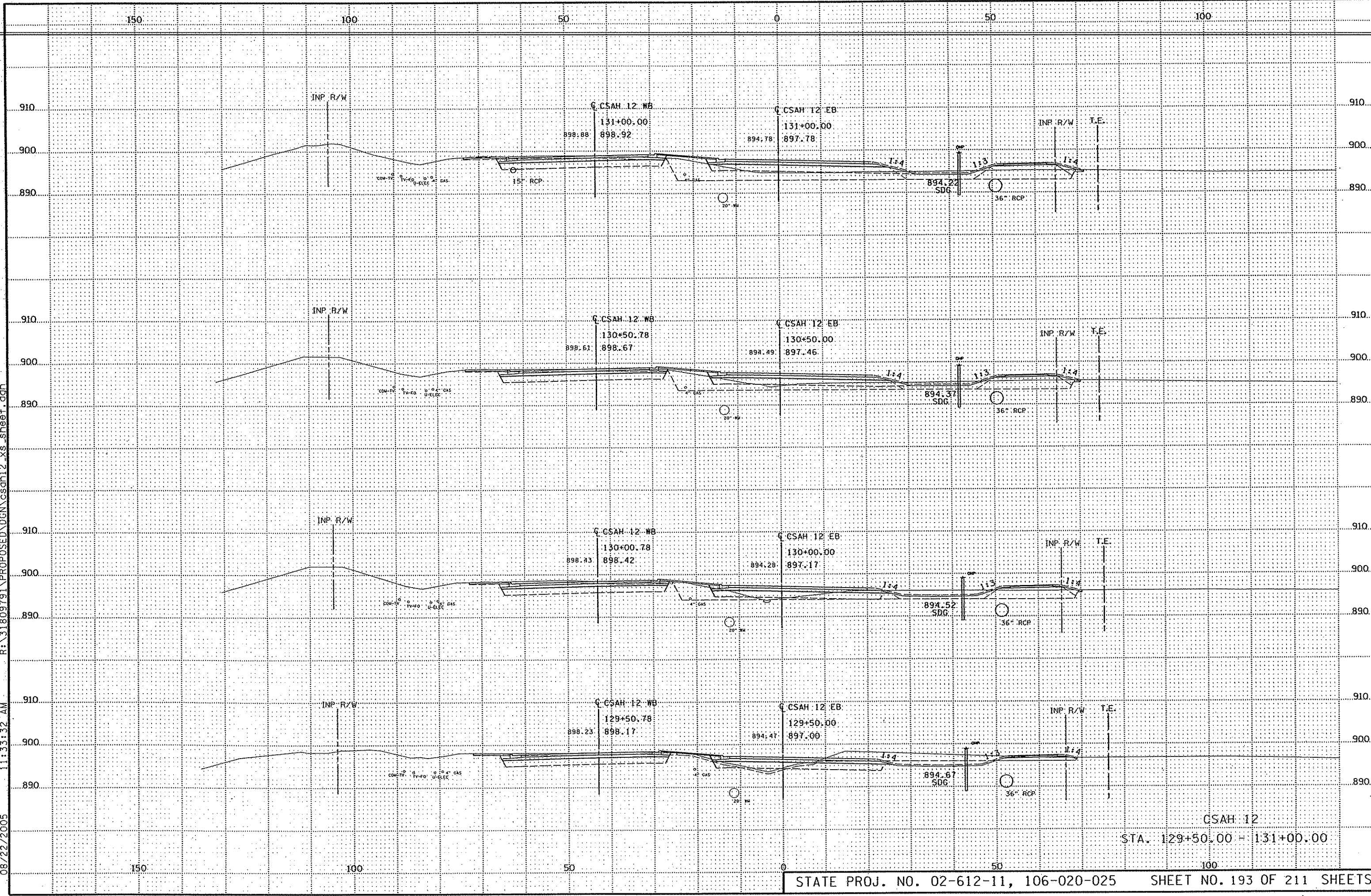
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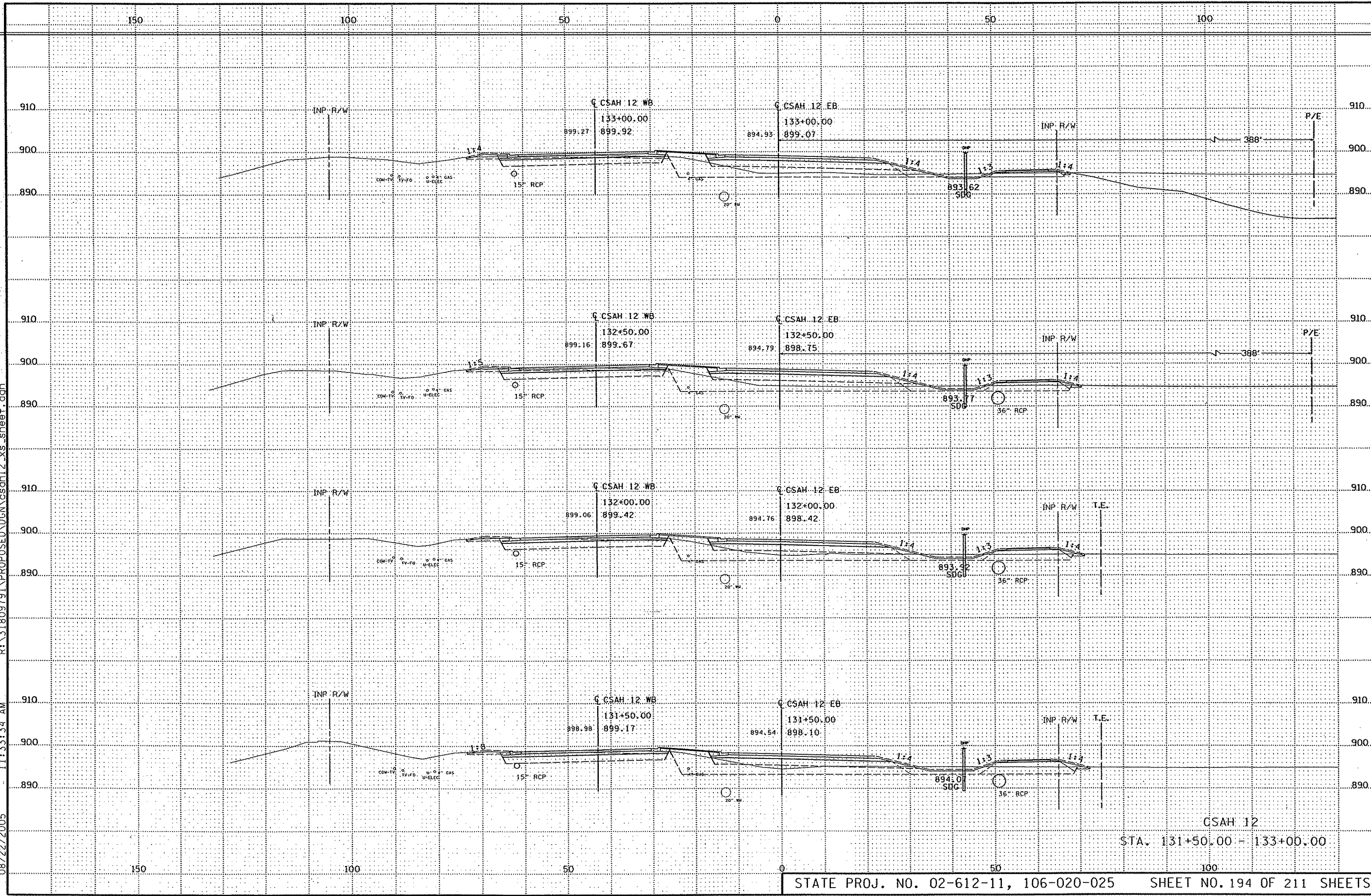
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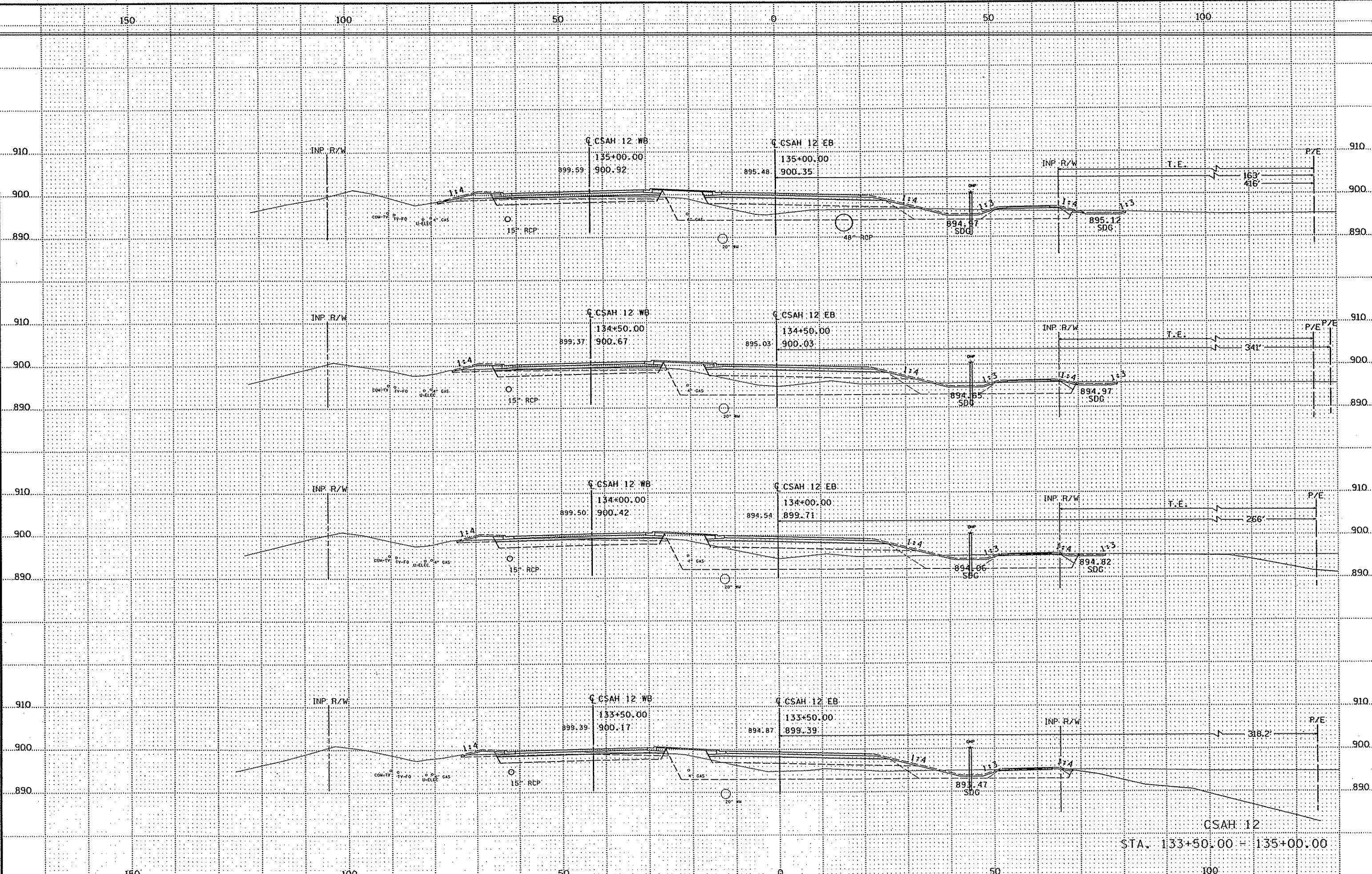
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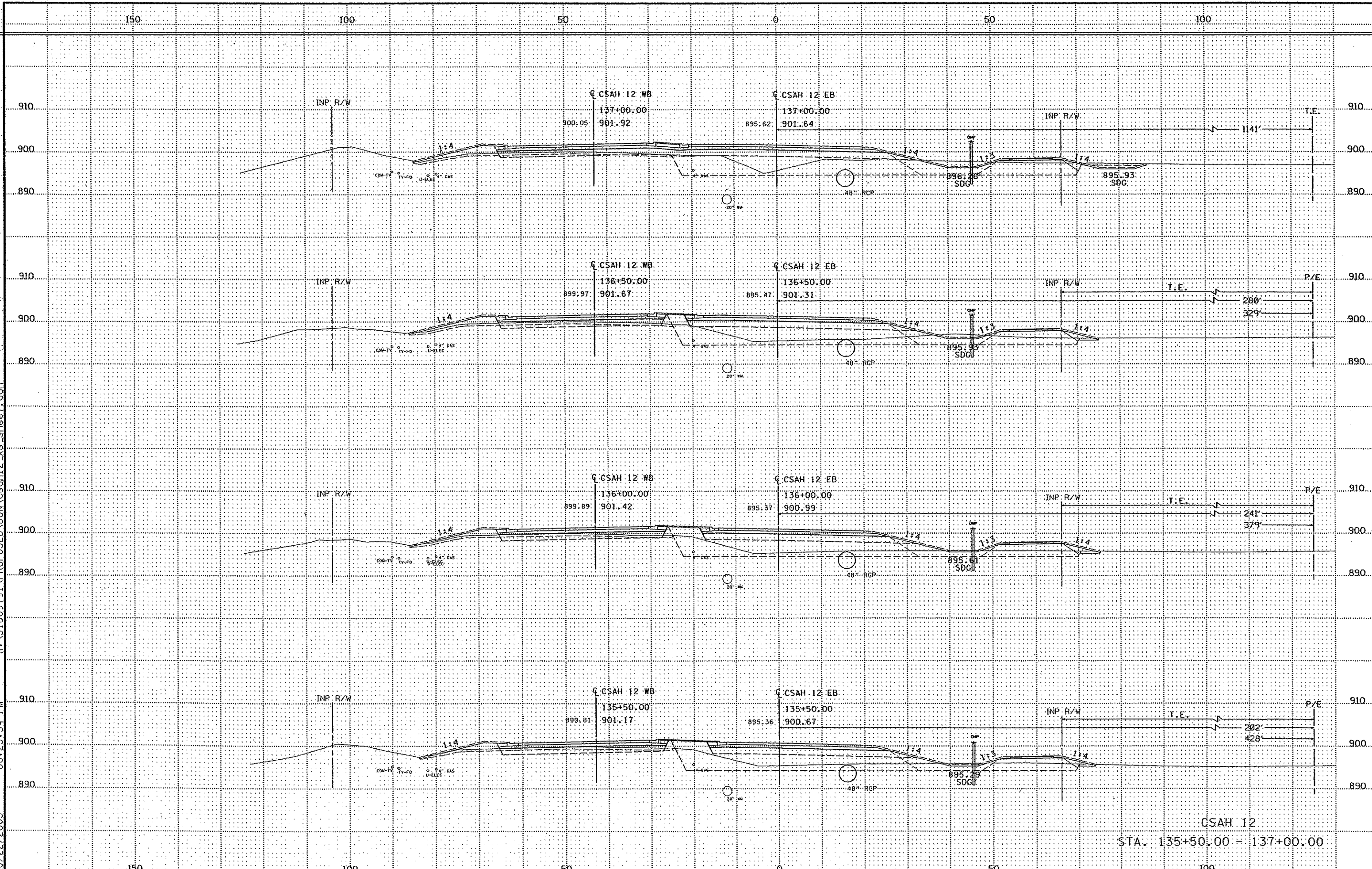
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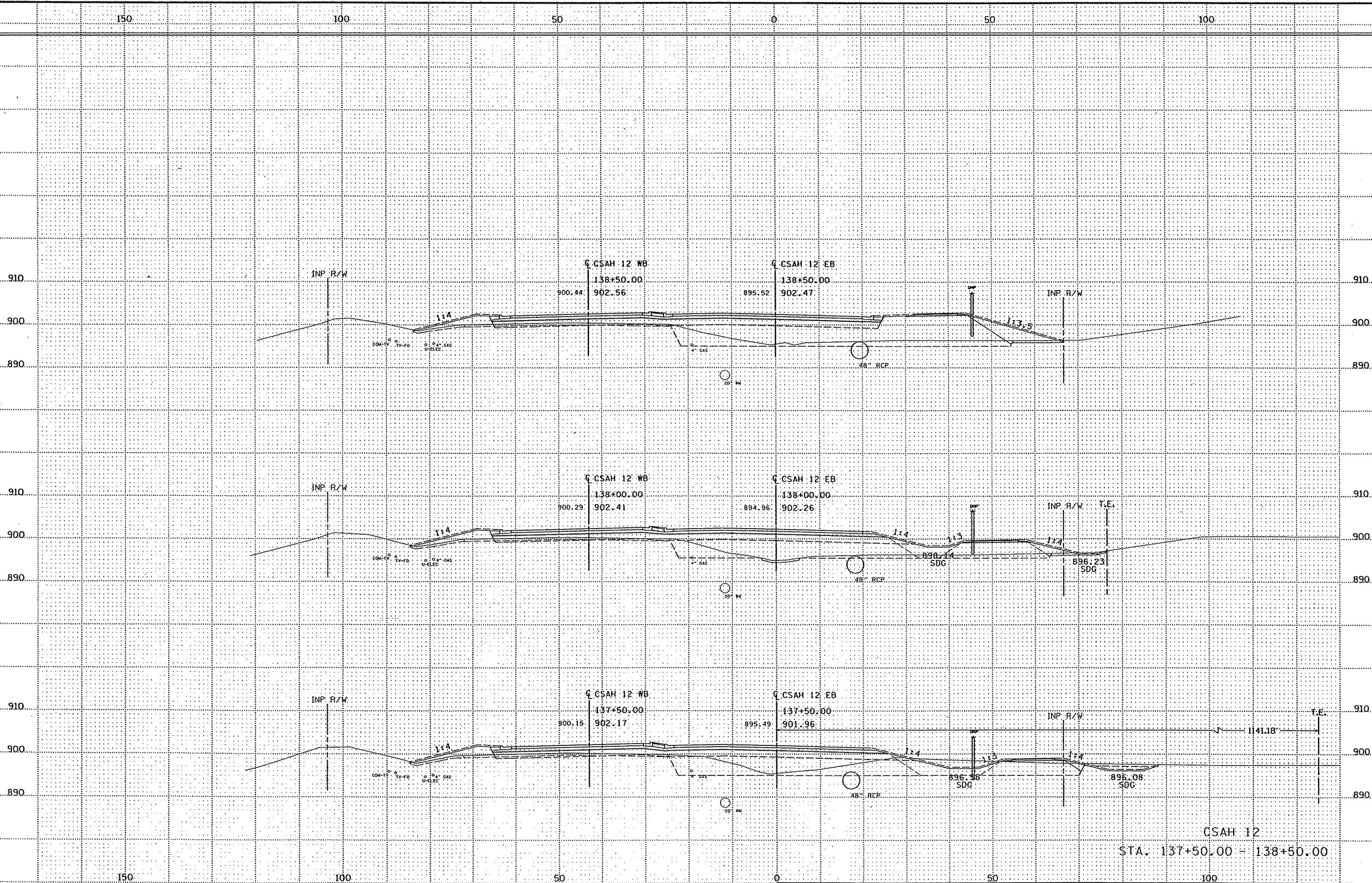
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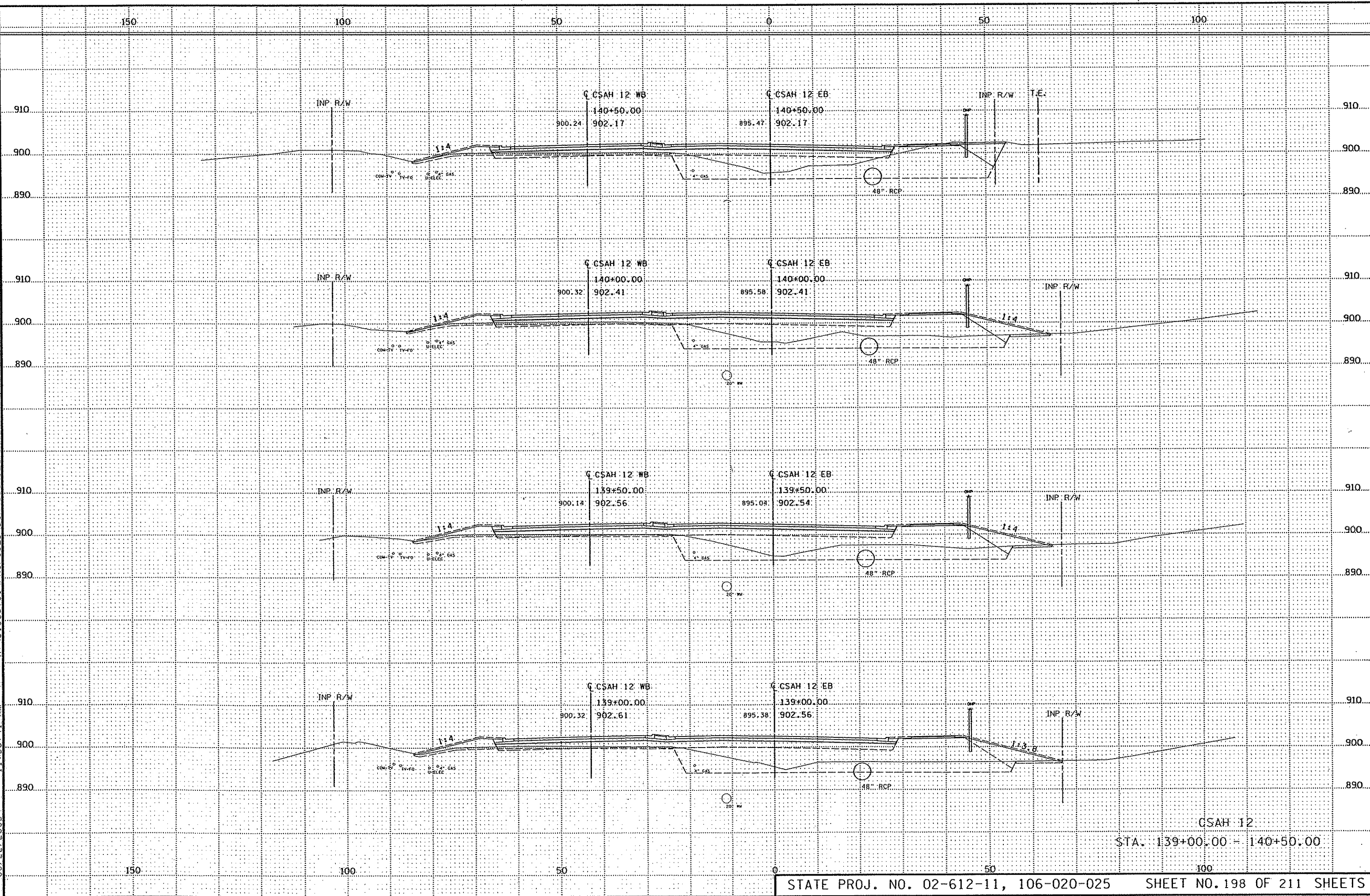
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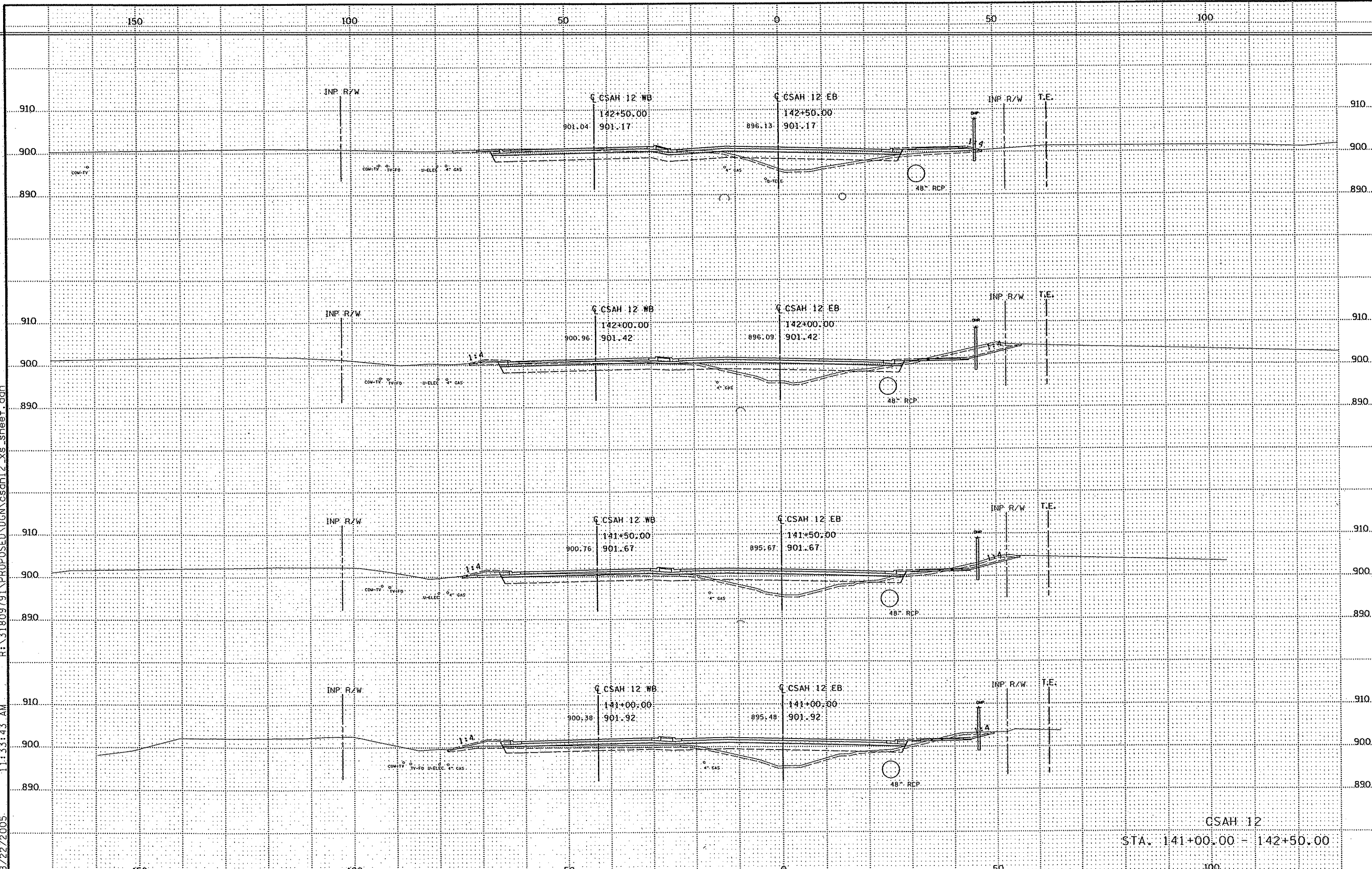
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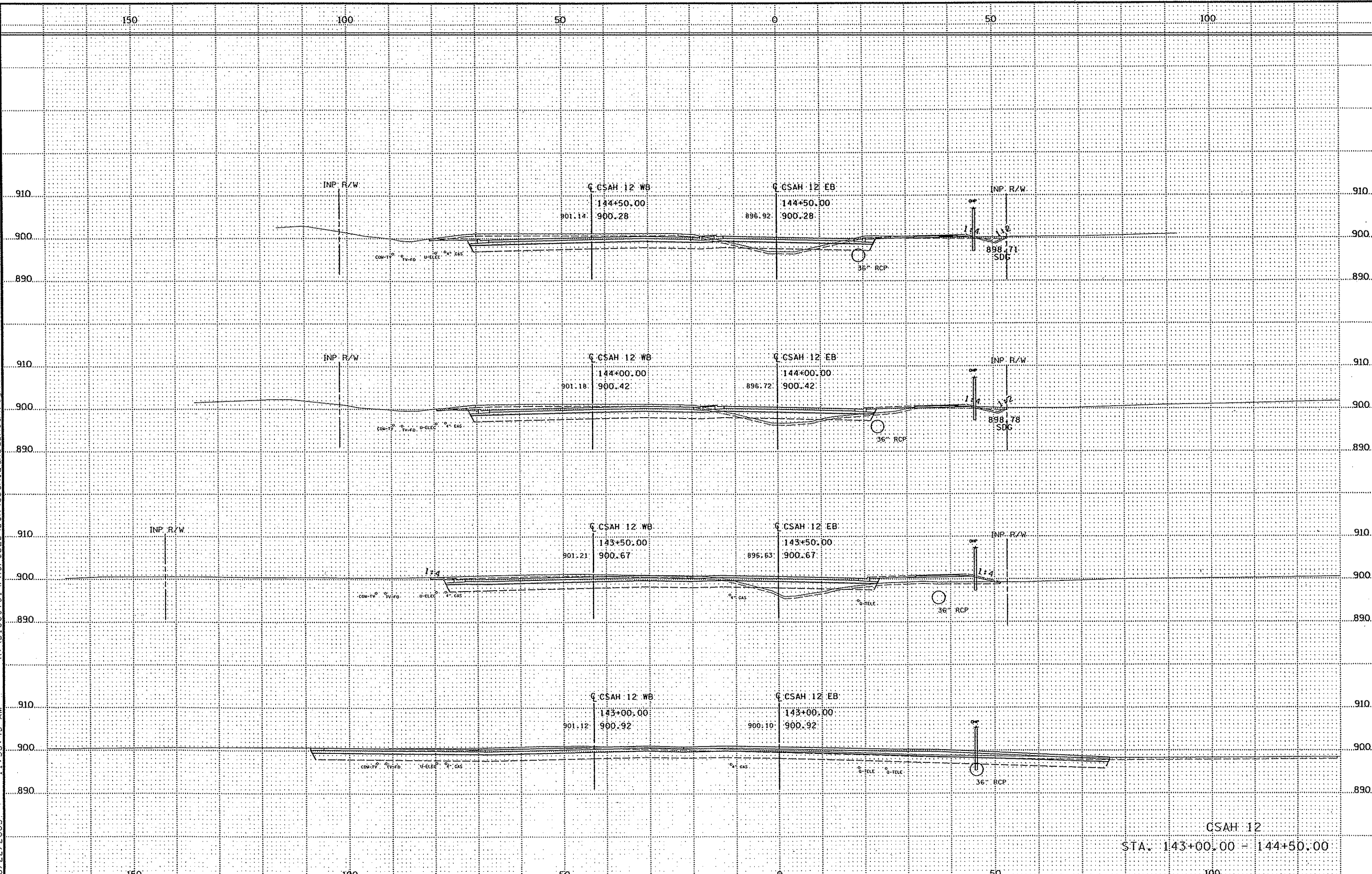
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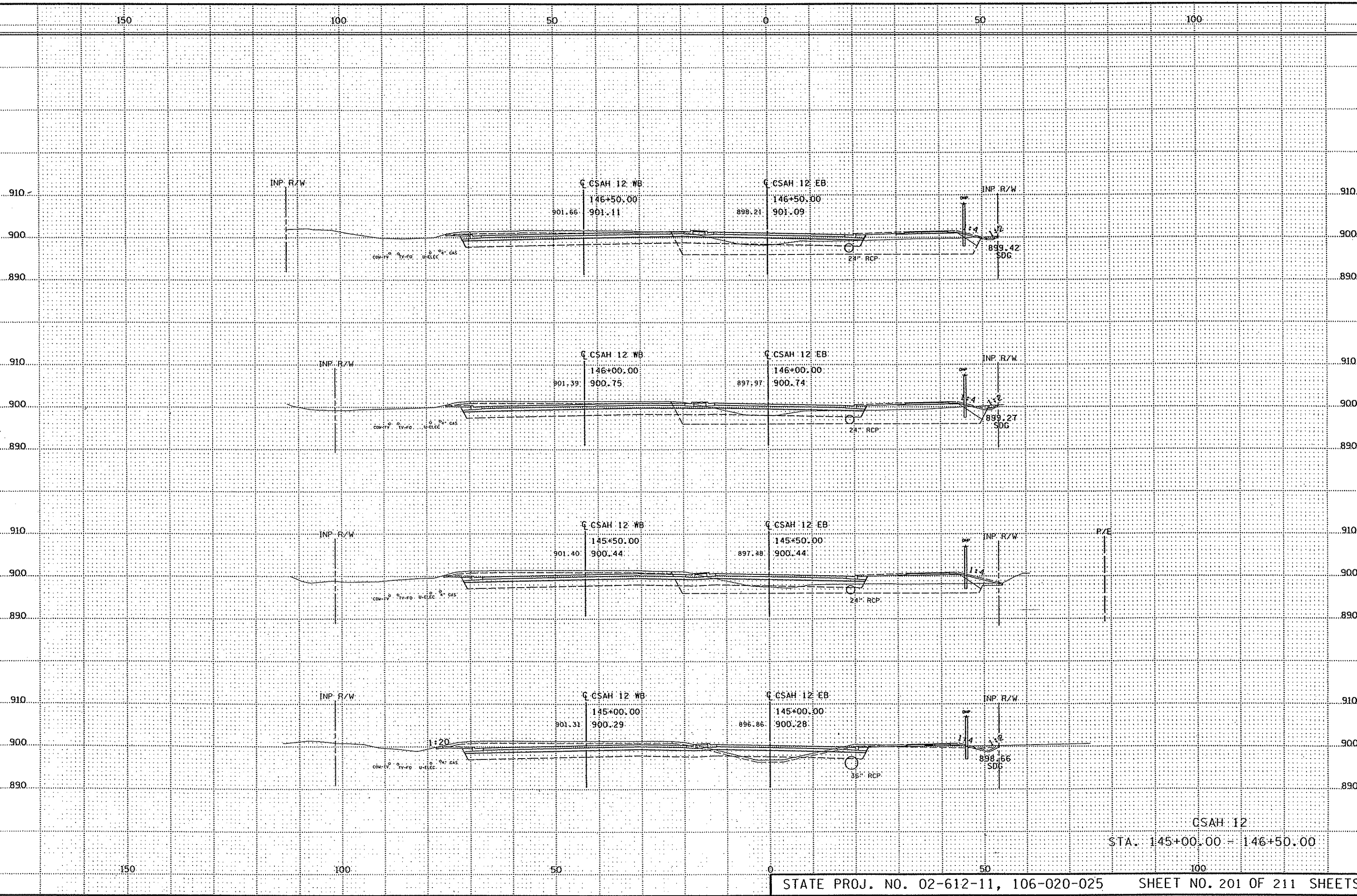
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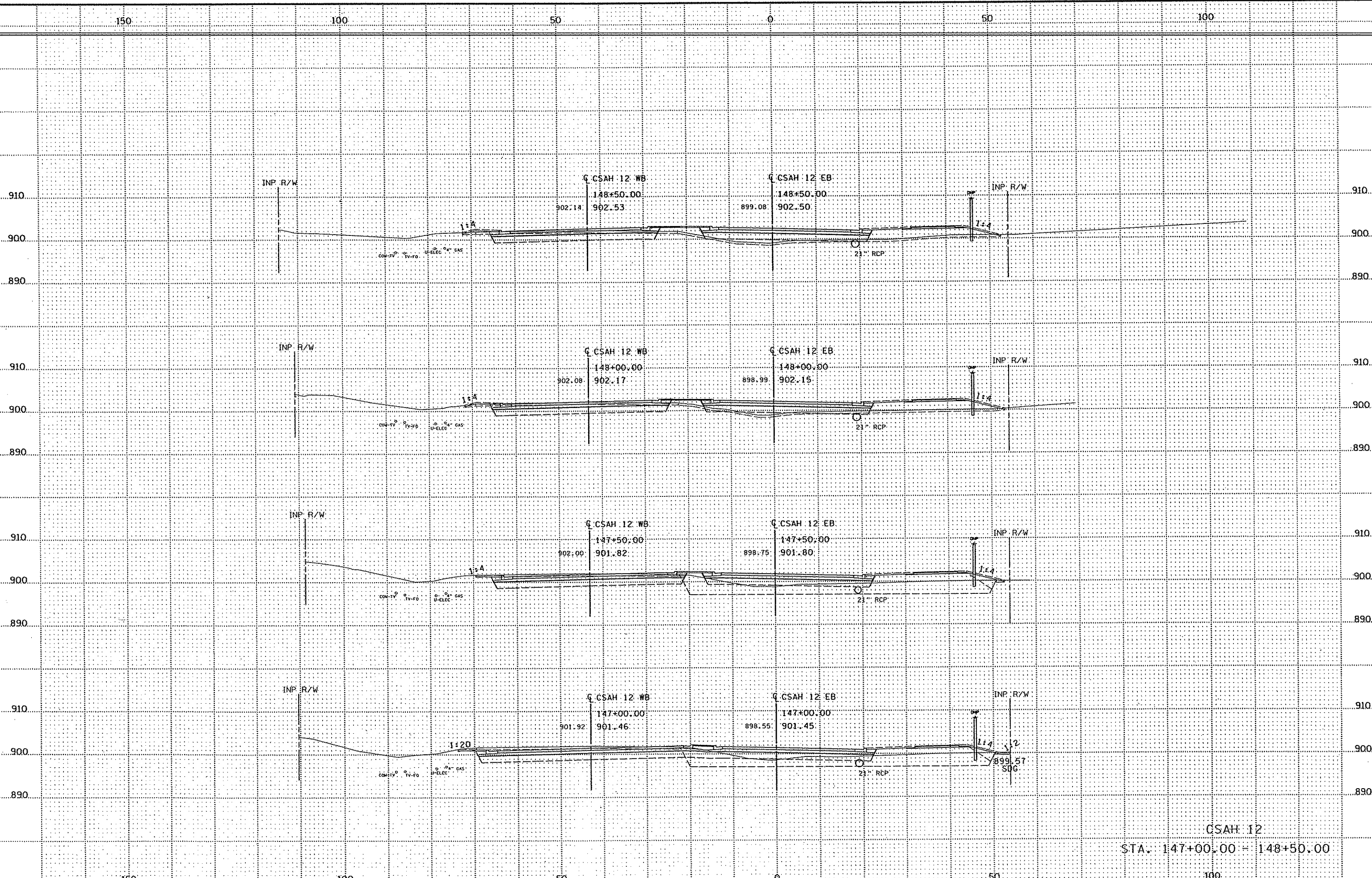
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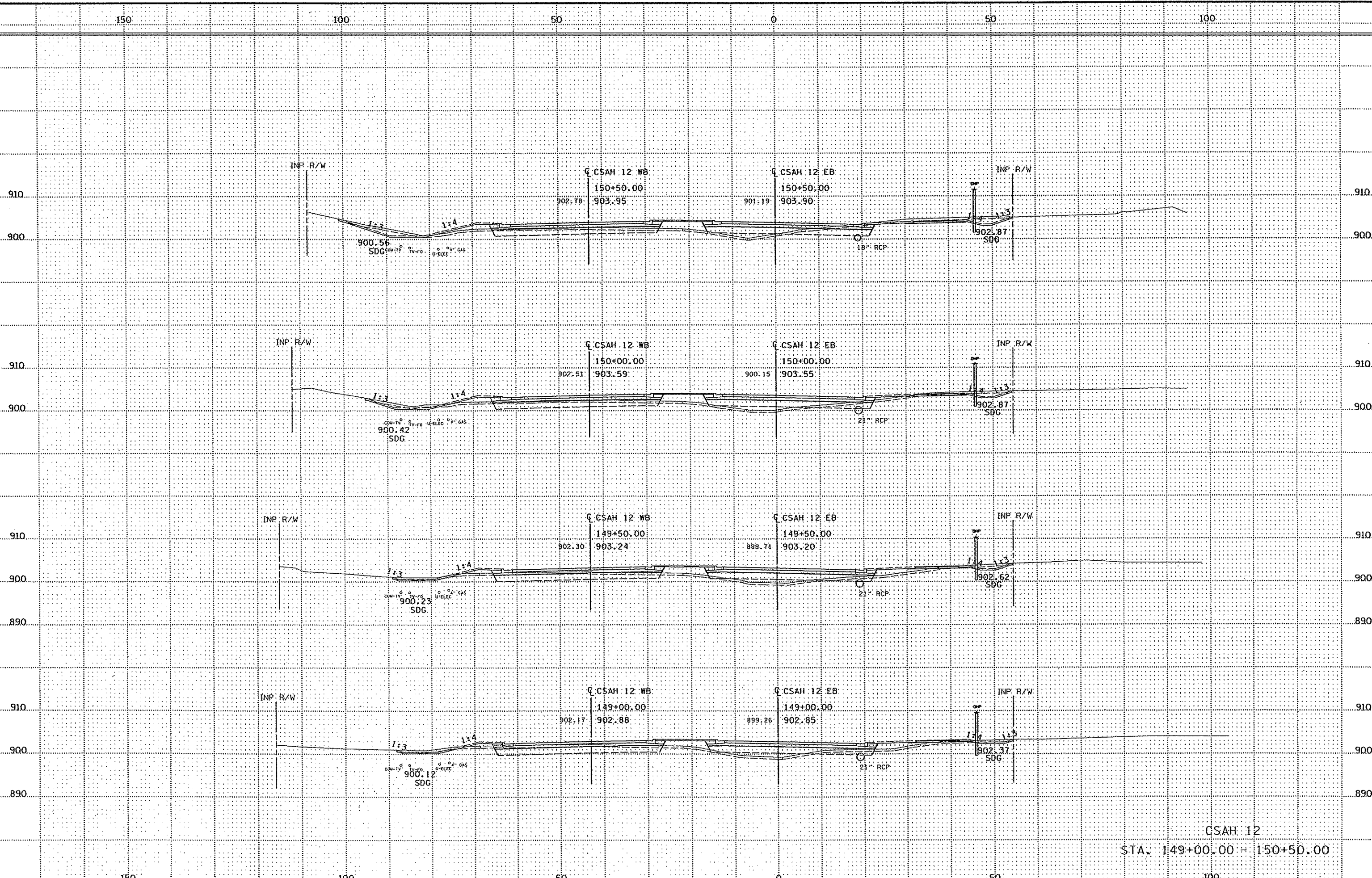
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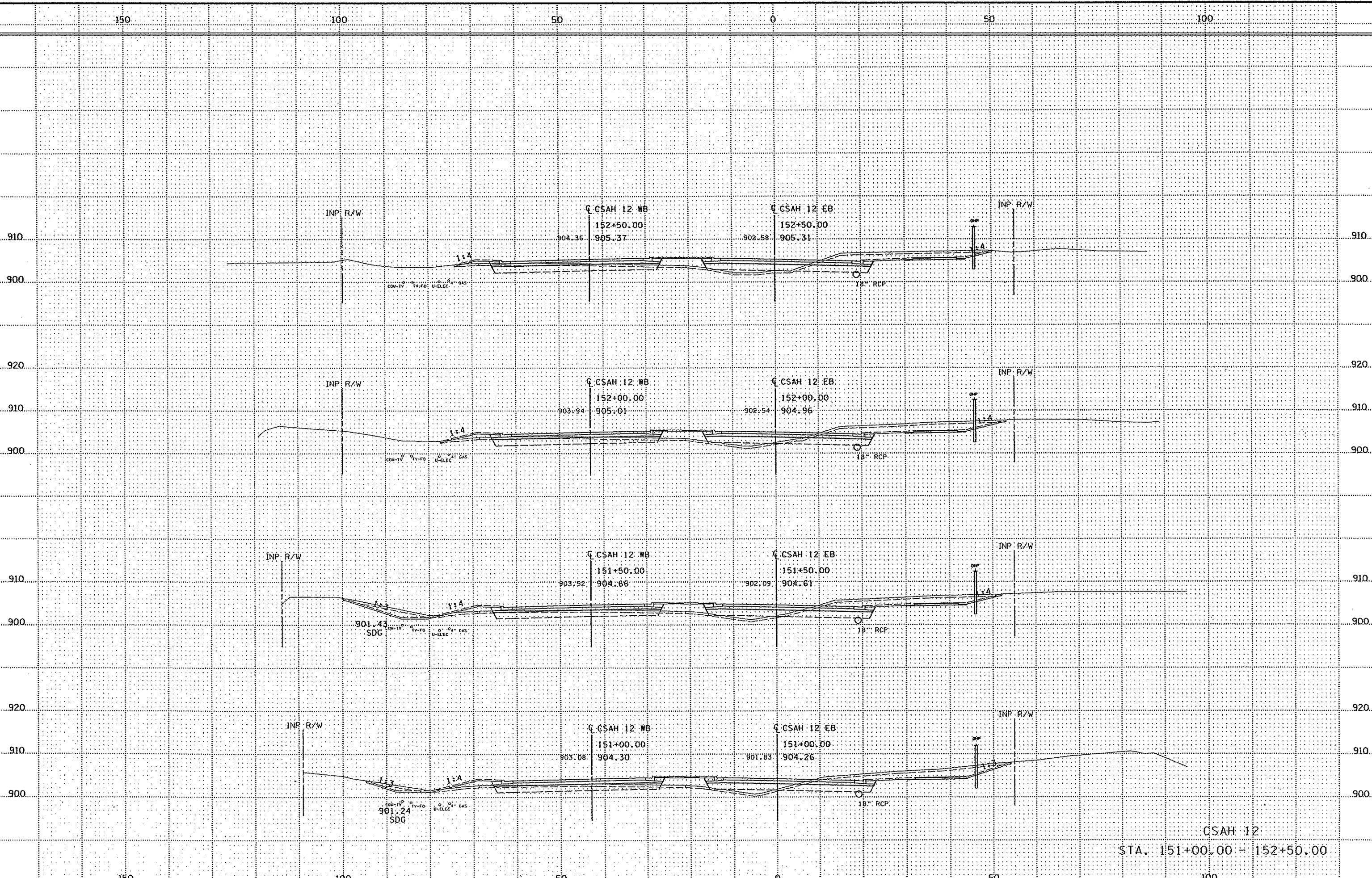
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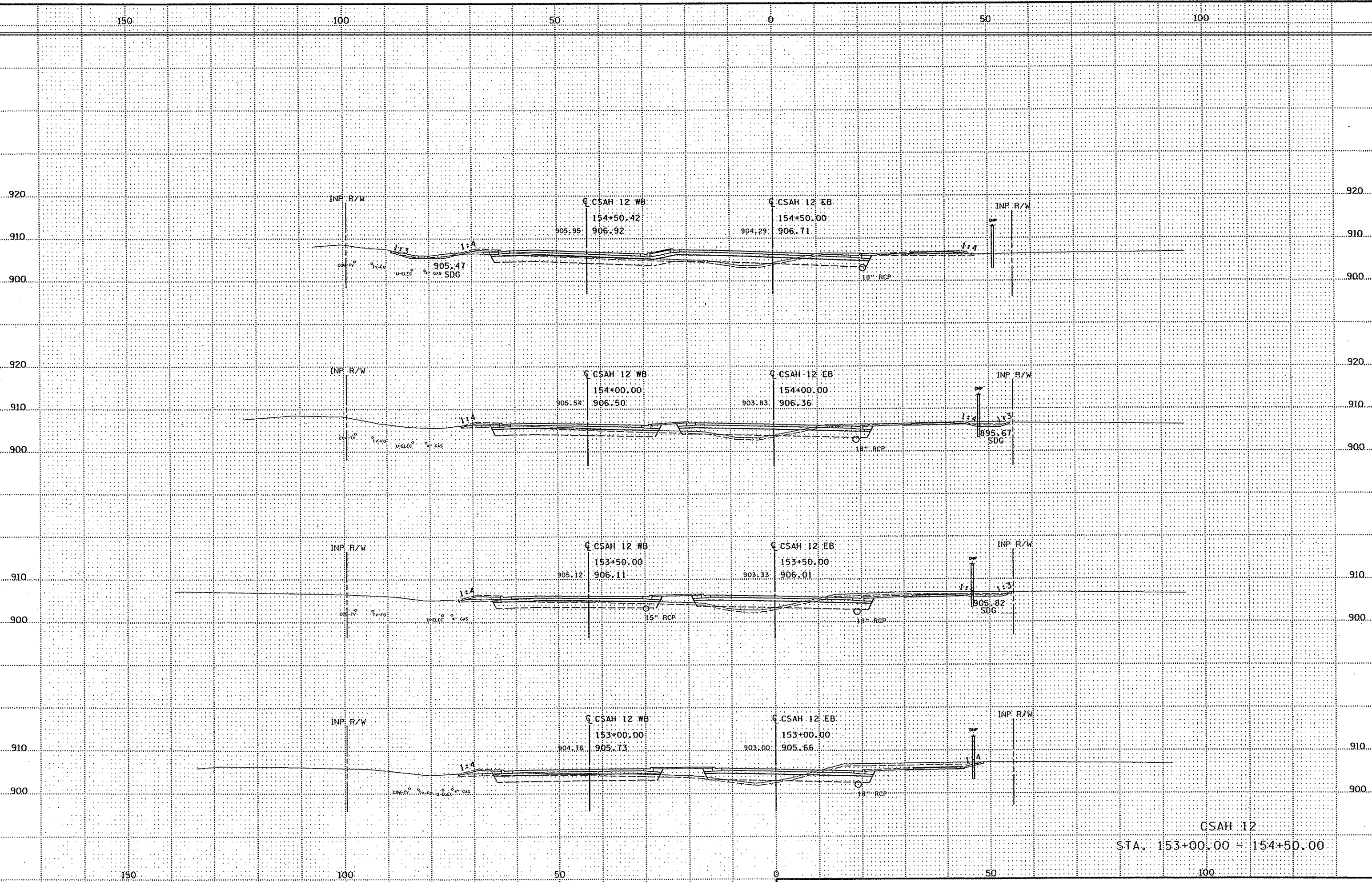
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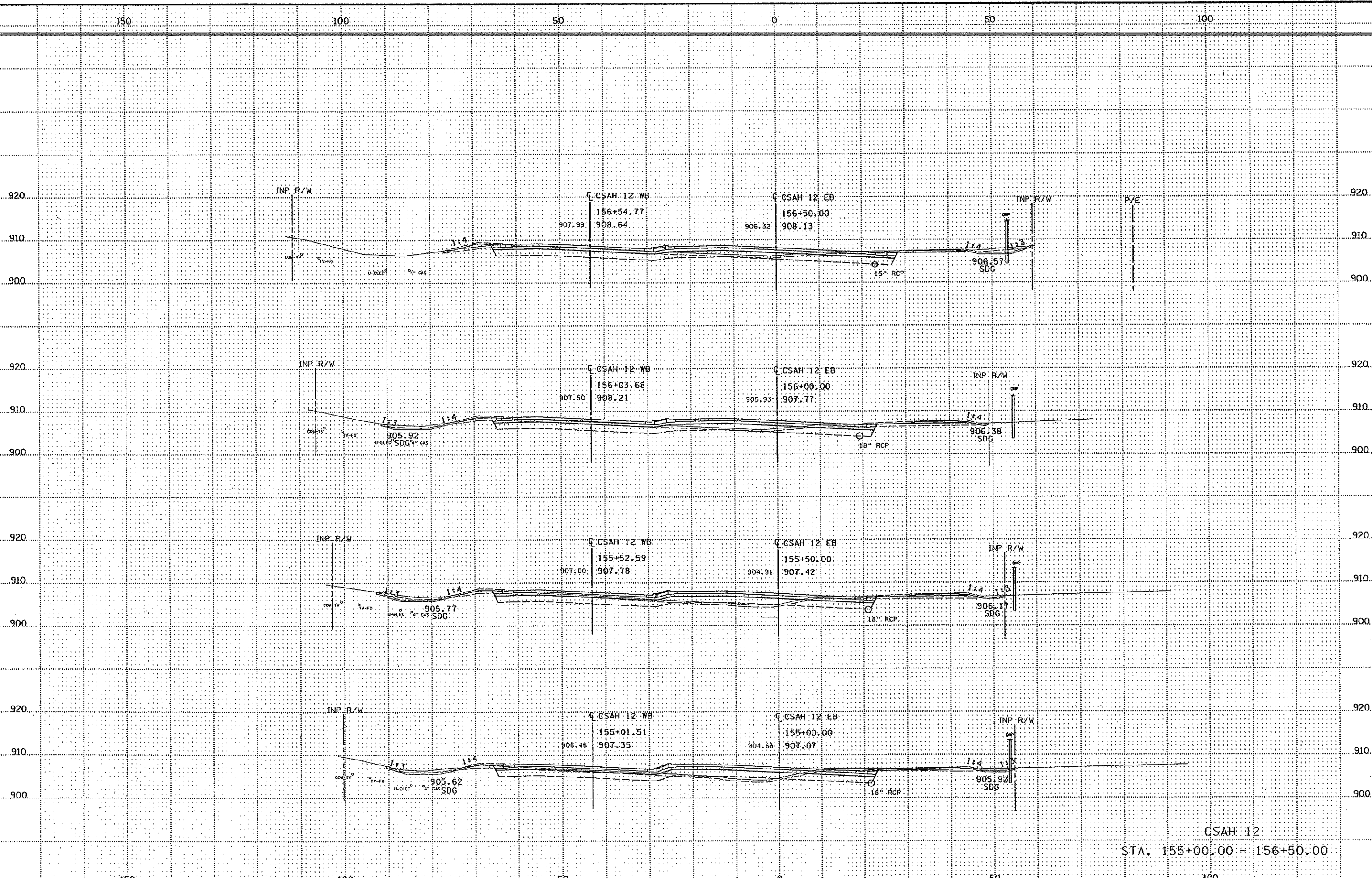
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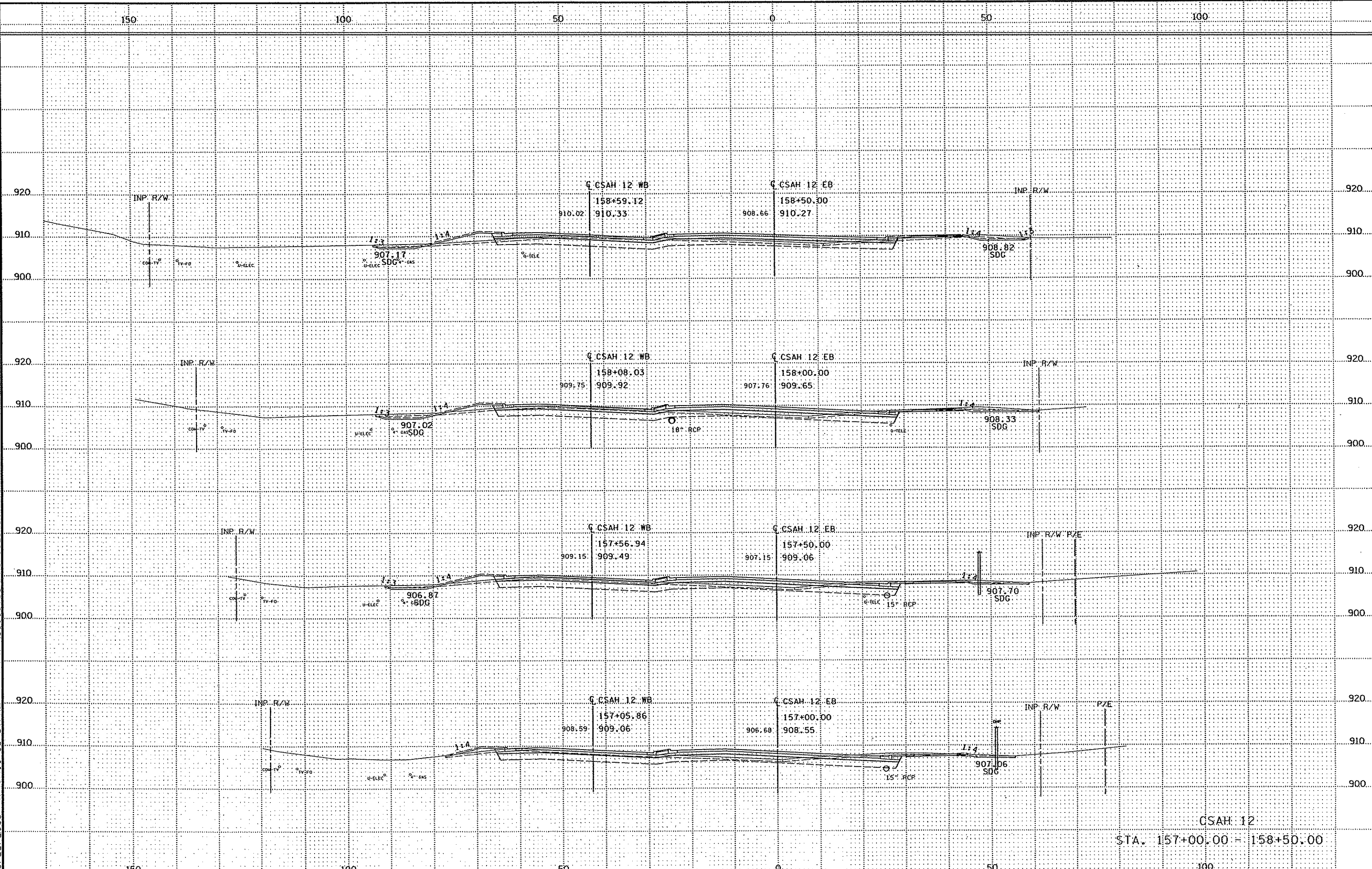
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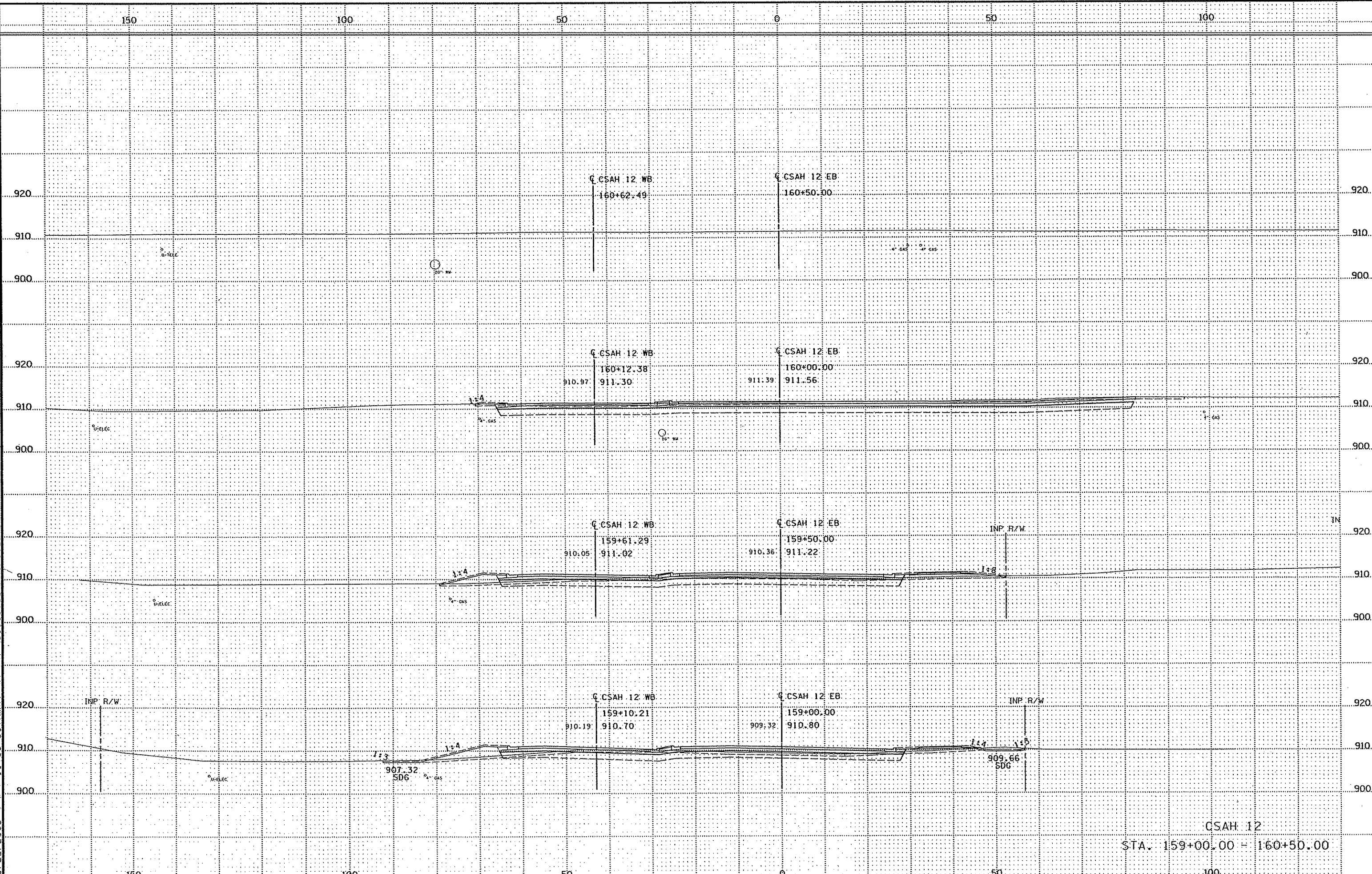
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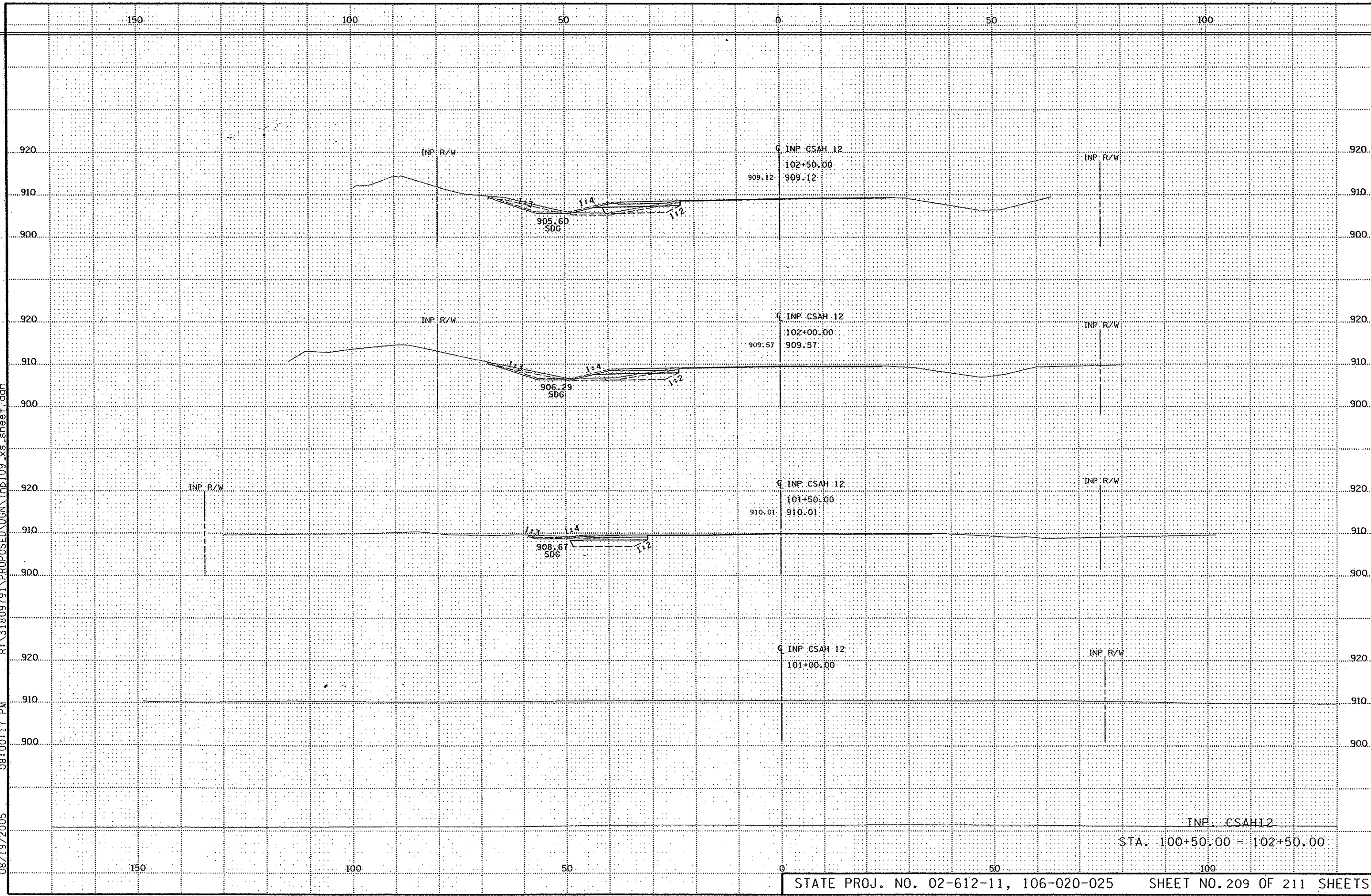
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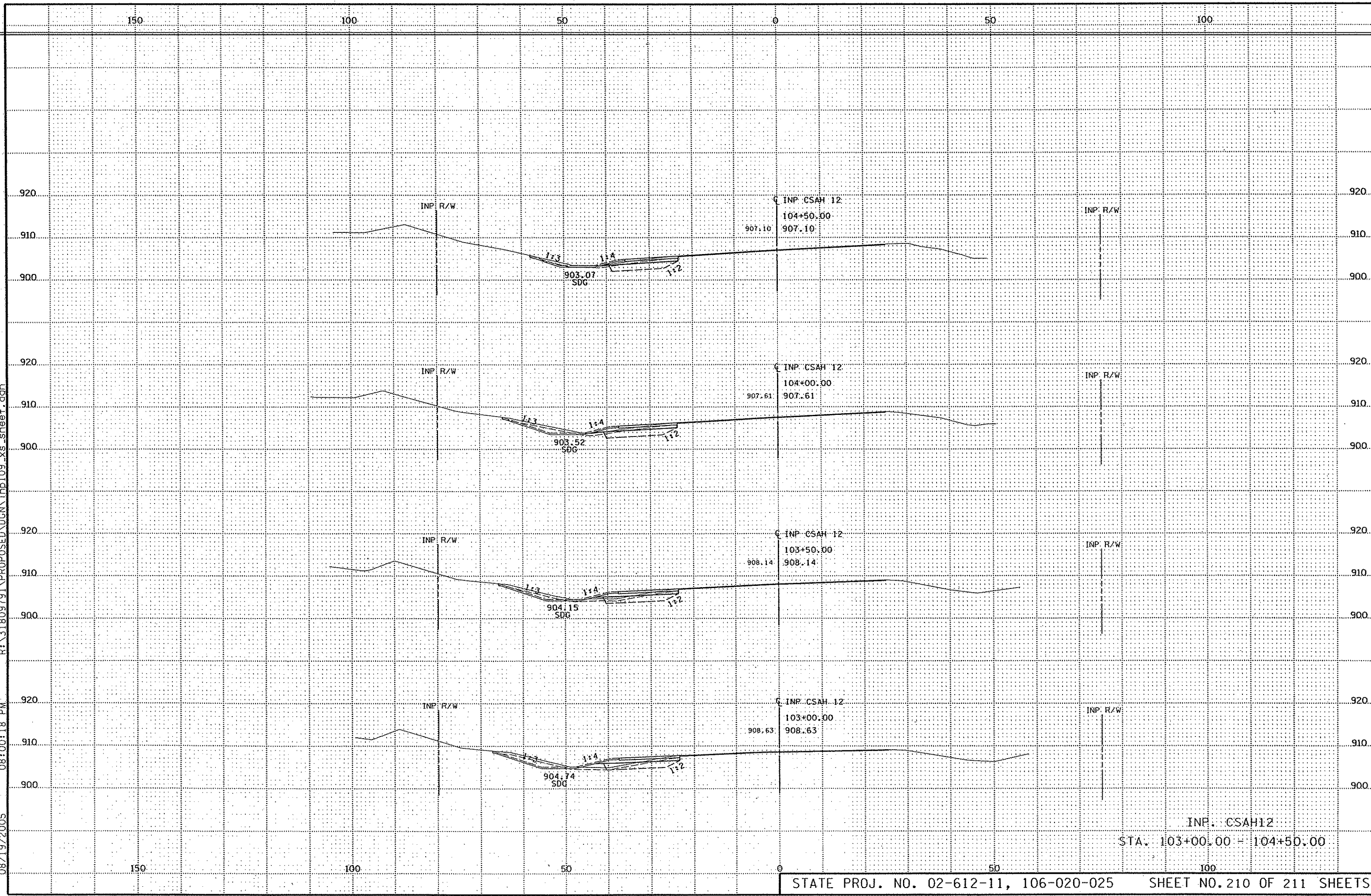
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INP. CSAH12
STA. 100+50.00 - 102+50.00

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INP. CSAH12
STA. 103+00.00 - 104+50.00

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08/19/2005 08:00:20 PM

