MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR ROUNDABOUT, GRADING, AGG.BASE, BIT. SURFACING, DRAINAGE, CURB & GUTTER, AND LIGHTING SYSTEMS

LOCATED ON C.S.A.H. 18 FROM 500' WEST OF C.R. 62 TO 650' EAST OF C.R. 62

LOCATED ON C.R. 62 FROM 650' SOUTH OF C.S.A.H. 18 TO 550' NORTH OF C.S.A.H. 18

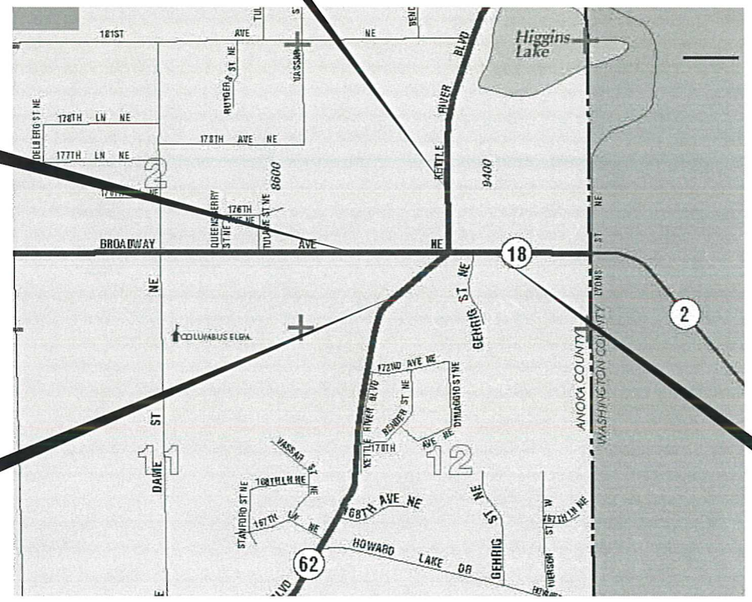
STATE PROJ. NO. 002-618-030

CSAH 18				CR 62			
GROSS LENGTH	1270.00	FEET	0.241 MILES	1340.00	FEET	0.254 MILES	
BRIDGES-LENGTH	0.00	FEET	0.000 MILES	0.00	FEET	0.000 MILES	
EXCEPTIONS-LENGTH	0.00	FEET	0.000 MILES	0.00	FEET	0.000 MILES	
NET LENGTH	1270.00	FEET	0.241 MILES	1340.00	FEET	0.254 MILES	

END CONSTRUCTION
N.B. C.R. 62 STA. 555+47.41

THE PROJECT LENGTH AND DESCRIPTION ARE BASED ON EB C.S.A.H. 18 ALIGNMENTS AND NB CR 62 ALIGNMENTS

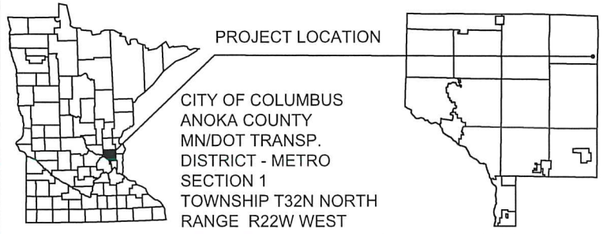
BEGIN S.P. 002-618-030
E.B. C.S.A.H. 18 STA. 100+84.60



END S.P. 002-618-030
E.B. C.S.A.H. 18 STA. 306+39.68

END CONSTRUCTION
N.B. C.R. 62 STA. 501+00.00

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



PROJECT LOCATION

CITY OF COLUMBUS
ANOKA COUNTY
MN/DOT TRANSP.
DISTRICT - METRO
SECTION 1
TOWNSHIP T32N NORTH
RANGE R22W WEST

CSAH 18 AND CR 62 DESIGN DESIGNATION	
ESAL 20	1,220,000
R VALUE	40
ADT (2014) =	8,100
Proj. ADT (2034) =	11,340
Proj. HCADT (2034) =	669
Soil Factor	NA
10 TON DESIGN	
Functional Classification	A MINOR EXPANDER
No. of Traffic Lanes 2	No. of Parking Lanes 0
Design Speed 55 MPH	EAST, WEST, NORTH LEGS
Design Speed 50 MPH	SOUTH LEG
Based on Stopping Sight Distance	N/A
Height of eye 3.5'	Height of object 2.0'
Design Speed not achieved at:	
STA. ____ TO STA. ____	MPH ____

PLAN SYMBOLS

COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
SLOPE EASEMENT
EXISTING RIGHT OF WAY
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY
RIVER OR CREEK
DRAINAGE DITCH
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
STONE WALL OR FENCE
HEDGE
LOWLAND
TIMBER
ORCHARD
BRUSH
NURSERY
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
RAILROAD CROSSING BELL
RAILROAD CROSSING GATE
MANHOLE M.H.
CATCH BASIN C.B.
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE & POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (Cable Terminal)
GAS MAIN G
WATERMAIN W
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
T-AE
SEWER (Sanitary or Storm)
SEWER MANHOLE

SCALES

PLAN	0'	100'
PROFILE HORIZONTAL	0'	100'
VERTICAL	0'	10'
X-SECTIONS HORIZONTAL	0'	10'
VERTICAL	0'	10'
INDEX MAP	0'	2000'

MINN. PROJ. NO. HSIP 0215 (119)

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 142 SHEETS

Approved _____ 6/8/ ,20 15
ANOKA COUNTY ENGINEER

Approved _____ 6/9 ,20 15
CITY OF COLUMBUS ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AID AND FEDERAL AID RULES/POLICY _____ ,20___
DISTRICT STATE AID ENGINEER

APPROVED FOR STATE AID AND FEDERAL AID FUNDING _____ ,20___
STATE AID ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TSH.dgn 06/01/2015 12:58:08 PM

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

PRINT NAME: NICHOLAS J DOBDA
SIGNATURE: _____
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TITLE SHEET

Sheet 1 of 142 Sheets

END CR 62 TEMP CONST.
S.P. 002-618-030
STA. 108+84.30

END CR 62 PERM. CONST.
S.P. 002-618-030
STA. 555+47.41

PS62_1N

PN62_1N

TEMPNB

BEGIN CSAH 18 CONST.
S.P. 002-618-030
STA. 100+84.60

END CSAH 18 CONST.
S.P. 002-618-030
STA. 306+39.68

PW18_1E

PW18_1W

PE18_1W

PE18_1E

PRND1

PS62_1S

PN62_1S

BEGIN CR 62 CONST.
S.P. 002-618-030
STA. 501+00.00

CR 62

CSAH 18

CSAH 18

GEHRIG ST

LEGEND

- PROPOSED CONSTRUCTION AREA
- XX — REMOVAL PLAN
- XX — CONSTRUCTION PLAN
- XX — DRAINAGE PLAN
- XX — EROSION CONTROL PLAN

SCALE 0 100 IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_GEN1.dgn 06/08/2015 10:16:11 AM

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

PRINT NAME: NICHOLAS J DOBDA

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DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

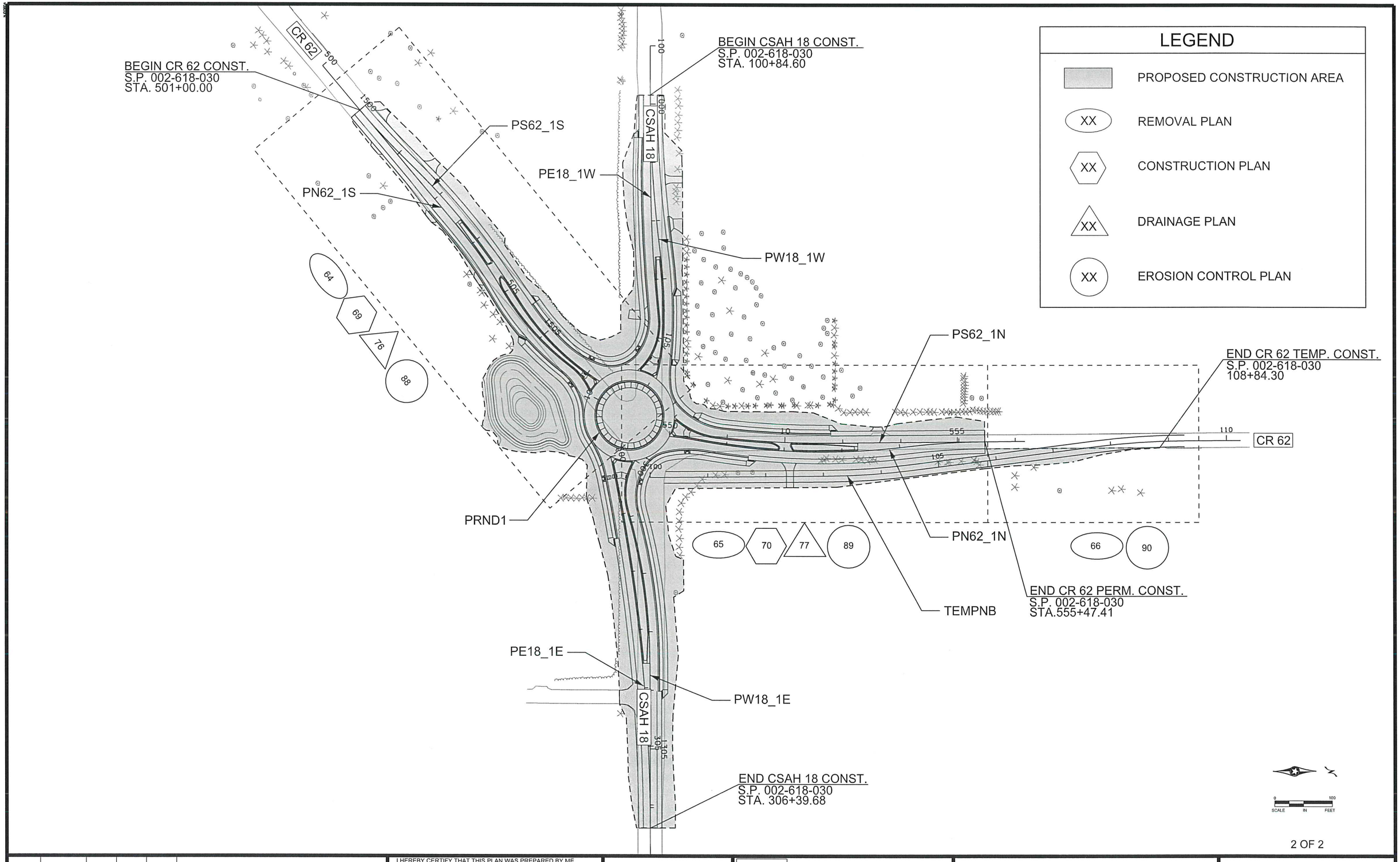
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

GENERAL LAYOUT

Sheet 2 of 142 Sheets



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_GEN2.dgn 06/08/2015 10:16:27 AM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

GENERAL LAYOUT

Sheet 3 of 142 Sheets

					PARTICIPATING- FEDERAL FUNDS		
TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITES ESTIMATED	ANOKA COUNTY 002-618-030 ROADWAY QUANTITIES ESTIMATED	CITY OF COLUMBUS 01200 ROADWAY QUANTITIES ESTIMATED	DRAINAGE QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1	0.920	.080	
	2031.501	FIELD OFFICE TYPE D	EACH	1	1		
A	2101.501	CLEARING	ACRE	0.76	0.76		
A	2101.502	CLEARING	TREE	56	56		
A	2101.506	GRUBBING	ACRE	0.76	0.76		
A	2101.507	GRUBBING	TREE	56	56		
B	2104.501	REMOVE PIPE CULVERTS	LIN FT	536	536		
B	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	12016	12016		
B	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	255	255		
[3]	2104.509	REMOVE SIGN TYPE C	EACH	32	32		
DD	2105.501	COMMON EXCAVATION (EV)	CU YD	8882	8882		
DD	2105.507	SUBGRADE EXCAVATION (EV)	CU YD	3997	3997		
DD	2105.511	CHANNEL AND POND EXCAVATION (EV)	CU YD	1400	1400		
DD	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	2770	2770		
DD	2105.523	COMMON BORROW (LV)	CU YD	54	54		
DD	2105.607	EXCAVATION SPECIAL	CU YD	1205	1205		
	2123.503	MOTOR GRADER	HOUR	80	80		
	2130.501	WATER	M GALLONS	200	200		
C	2211.501	AGGREGATE BASE CLASS 5	TON	77	77		
EE	2211.502	AGGREGATE BASE (LV) CLASS 5	CU YD	37	37		
BB , FF	2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	3229	3229		
C	2221.503	SHOULDERING BASE AGGREGATE (CV) CLASS 5	CU YD	48	48		
B	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	65	65		
D	2301.504	CONCRETE PAVEMENT 7.0"	SQ YD	432	432		
D	2301.541	INTEGRANT CURB DESIGN B6	LIN FT	282	282		
D	2301.602	1.0" DOWEL BAR	EACH	330	330		
D	2301.602	NO 4 REINF TIE BAR (EPOXY COATED)	EACH	150	150		
E	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1036	1036		
E	2360.501	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TON	283	283		
E	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E)	TON	2635	2635		
E	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)	TON	1067		1067	
E	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (4,B) (TEMP WIDENING)	TON	60	60		
H	2501.511	15" CS PIPE CULVERT	LIN FT	142	142		
H	2501.567	15" CS SAFETY APR & GRATE DES 3128	EACH	8	8		
F	2501.515	15" RC PIPE APRON	EACH	9			9
F	2105.515	21" RC PIPE APRON	EACH	1			1
F	2501.525	36" SPAN RC PIPE-ARCH APRON	EACH	1			1
F	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	5			5
F	2503.511	15" RC PIPE SEWER CLASS V	LIN FT	906.5			906.5
F	2503.511	18" RC PIPE SEWER CLASS III	LIN FT	158.0			158.0
F	2503.511	21" RC PIPE SEWER CLASS III	LIN FT	87.1			87.1
F	2503.521	36" SPAN RC PIPE-ARCH SEWER CLASS III	LIN FT	206.8			206.8
F	2506.501	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL	LIN FT	5.2			5.2
F	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H	LIN FT	39.7			39.7
F	2506.501	CONST. DRAINAGE STRUCTURE DES 48-4020	LIN FT	81.0			81.0
F	2506.501	CONST. DRAINAGE STRUCTURE DES 60-4020	LIN FT	4.3			4.3
F	2506.501	CONST. DRAINAGE STRUCTURE DES 72-4020	LIN FT	9.1			9.1
F	2506.516	CASTING ASSEMBLY	EACH	36			36
F	2506.516	CASTING ASSEMBLY	EACH	36			36

GENERAL NOTES:

[1] ITEM TO INCLUDE 3'X6' CROSSWALK - PREFORMED THERMOPLASTIC, PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC, & PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC

[2] SEE SHEET 52 FOR LOCATION OF THIS BARRIER (EAST LEG STAGE 2)

[3] SEE PAGES 45 - 46 FOR LOCATION OF THESE SIGNS.

NO	DATE	BY	CKD	APPR	REVISION
1	07/16/2015	JF	NJD	GMP	REMOVED 11,725 SY OF 2215.501 FULL DEPTH RECLAMATION
					ADDED 11,725 SY TO 2104.505 REMOVE BITUMINOUS PAVEMENT
					CHANGED TYPE SP 12.5 WEAR 2,B TO TYPE SP 9.5 WEAR 2,B
1	07/20/2015	JF	NJD	GMP	REMOVED 365 LIN FEET OF 2301.503 DOWELLED EXPANSION JOINTS

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 07/20/2015 3:12:28 PM

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 7/20/15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STATEMENT OF ESTIMATED QUANTITIES

Sheet 4 of 142 Sheets

					PARTICIPATING- FEDERAL FUNDS		
TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITES ESTIMATED	ANOKA COUNTY 002-618-030 ROADWAY QUANTITIES ESTIMATED	CITY OF COLUMBUS 01200 ROADWAY QUANTITIES ESTIMATED	DRAINAGE QUANTITIES ESTIMATED
F	2511.501	RANDOM RIPRAP CLASS III	CU YD	42.3			42.3
F	2511.511	GRANULAR FILTER	CU YD	3.2			3
F	2511.515	GEOTEXTILE FILTER TYPE IV (MOD)	SQ YD	172.9			172.9
D	2521.501	4" CONCRETE WALK	SQ FT	17063	17063		
D	2521.501	6" CONCRETE WALK	SQ FT	2629	2629		
D	2531.501	CONCRETE CURB & GUTTER DESIGN B418 (MOD)	LIN FT	2406	2406		
D	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	2461	1231	1231	
D	2531.502	CONCRETE CURB & GUTTER DESIGN SPECIAL	LIN FT	358	358		
D	2531.618	TRUNCATED DOMES	SQ FT	416	416		
[2]	2533.507	PORTABLE PRECAST CONC BARRIER DES 8337	LIN FT	400	400		
I	2540.602	MAIL BOX SUPPORT	EACH	9	9		
I	2540.602	RELOCATE MAIL BOX SUPPORT	EACH	9	9		
O	2545.511	LIGHTING UNIT TYPE SPECIAL	EACH	16	16		
O	2545.515	LIGHT FOUNDATION DESIGN E	EACH	16	16		
O	2545.523	2" NON-METALLIC CONDUIT	LIN FT	2300	2300		
O	2545.531	UNDERGROUND WIRE 1 COND NO 8	LIN FT	9900	9900		
O	2545.541	SERVICE CABINET TYPE L1	EACH	1	1		
O	2545.544	SERVICE EQUIPMENT	EACH	1	1		
O	2545.545	EQUIPMENT PAD B	EACH	1	1		
O	2545.553	HAND HOLE	EACH	2	2		
[2]	2554.602	CONNECTING PIN 2554	EACH	33	33		
[2]	2554.615	IMPACT ATTENUATOR	ASSEMBLY	4	4		
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	1		
L	2563.601	TRAFFIC CONTROL (STAGE 2)	LUMP SUM	1	0.919	.081	
L	2563.601	TRAFFIC CONTROL (STAGE 3)	LUMP SUM	1	0.919	.081	
K	2563.601	DETOUR SIGNING (CSAH 18)	LUMP SUM	1	0.919	.081	
K	2563.601	DETOUR SIGNING (CR 62)	LUMP SUM	1	0.919	.081	
M	2564.531	SIGN PANELS TYPE C	SQ FT	965.5	965.5		
G	2573.502	SILT FENCE, TYPE MS	LIN FT	3976	3976		
G	2573.530	STORM DRAIN INLET PROTECTION	EACH	36	36		
G	2573.533	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	576	576		
G	2573.560	CULVERT END CONTROLS	EACH	9	9		
G	2574.508	FERTILIZER TYPE 3	POUND	158	158		
G	2575.501	SEEDING	ACRE	2.91	2.91		
G	2575.502	SEED MIXTURE 25-121	POUND	161.0	161.0		
G	2575.502	SEED MIXTURE 33-261	POUND	9.6	9.6		
G	2575.511	MULCH MATERIAL TYPE 3	TON	5.8	5.8		
G	2575.519	DISK ANCHORING	ACRE	2.91	2.9		
F , G	2573.523	EROSION CONTROL BLANKETS CATEGORY 0	SQ YD	143	143		
G	2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	1827	1827		
G	2575.571	RAPID STABILIZATION METHOD 3	MGAL	15	15		
N	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	6860	6860		
N	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	3310	3310		
N	2582.502	4" BROKEN LINE YELLOW-EPOXY	LIN FT	120	120		
N	2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	LIN FT	2150	2150		
N [1]	2582.618	PAVEMENT MARKING SPECIAL	SQ FT	264	264		

GENERAL NOTES:

[1] ITEM TO INCLUDE 3'X6' CROSSWALK - PREFORMED THERMOPLASTIC, PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC, & PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC

[2] SEE SHEET 52 FOR LOCATION OF THIS BARRIER (EAST LEG STAGE 2)

[3] SEE PAGES 45 - 46 FOR LOCATION OF THESE SIGNS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/08/2015 1:06:36 PM

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STATEMENT OF ESTIMATED QUANTITIES

Sheet 5 of 142 Sheets

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3022C	PRECAST CONCRETE SAFETY APRON
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE TIES
4005M	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4018B	MANHOLE OR CATCH BASIN (REDUCER CONE SECTION PRECAST) - DESIGN D
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS)
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4125D	CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) – CASTING NO. 806
4134A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS)- CASTING NO. 825
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING NO. 731
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7020K	CONCRETE CURB (DESIGN B, DESIGN V, DESIGN S, DESIGN DR AND DESIGN BR)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7109C	MEDIAN NOSE AND ISLAND (UNDIVIDED TO DIVIDED ROADWAY)
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8106C	EQUIPMENT PAD B (CAST-IN-PLACE OR PRECAST)
8117G	PRECAST CONCRETE HAND HOLE (OR PULL BOX)
8127D	LIGHT BASE - DESIGN E (40 FT. POLE OR LESS)
8150C	INSTALLATION OF CULVERT MARKERS
8337C	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F")
9102E	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

INDEX OF TABULATION CHARTS

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL * SQ YD * LIFT
2360.501	TYPE SP12.5 WEARING COURSE MIXTURE	115 LBS * SQ YD * IN / 2000
2360.502	TYPE SP12.5 NON-WEARING COURSE MIXTURE	115 LBS * SQ YD * IN / 2000
2575.502	SEED MIXTURE 25-121	61 LBS / ACRE
2575.502	SEED MIXTURE 33-261	35 LBS / ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS / ACRE
2574.528	FERTILIZER TYPE 3	60 LBS / ACRE
2575.571	RAPID STABILIZATION METHOD 3	6MGAL/ACRE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/08/2015 12:59:43 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STANDARD PLATES & TABULATION INDEX

Sheet 6 of 142 Sheets

CLEARING & GRUBBING SPEC (2101)

A

ALIGNMENT	STATION TO STATION		OFFSET LEFT	OFFSET RIGHT	CLEARING (TREE)	GRUBBING (TREE)	CLEARING (ACRE)	GRUBBING (ACRE)
PS62_1S	1502+04		-31		1	1		
PS62_1S	1502+08		-37		1	1		
PS62_1S	1502+20		-37		1	1		
PS62_1S	1502+33		-34		1	1		
PS62_1S	1502+33		-36		1	1		
PS62_1S	1502+45		-35		1	1		
PS62_1S	1502+57		-34		1	1		
PS62_1S	1502+67		-35		1	1		
PS62_1S	1502+81		-35		1	1		
PS62_1S	1502+92		-32		1	1		
PS62_1S	1502+95		-37		1	1		
PS62_1S	1503+09		-37		1	1		
PS62_1S	1503+13		-34		1	1		
PS62_1S	1503+24		-38		1	1		
PS62_1S	1505+45		-44		1	1		
PS62_1S	1505+55		-44		1	1		
PS62_1S	1505+65		-43		1	1		
PS62_1S	1505+72		-52		1	1		
PS62_1S	1505+90		-48		1	1		
PS62_1S	1506+09		-33		1	1		
PS62_1S	1506+20		-41		1	1		
PS62_1S	1506+21		-30		1	1		
PS62_1S	1506+24		-38		1	1		
PN62_1S	506+00	303+78	172	64			0.76	0.76
PE18_1E	300+62			54	1	1		
PE18_1E	300+64			45	1	1		
PW18_1E	1302+39		-52		1	1		
				SUB TOTAL "A"	26	26	0.76	0.76

ALIGNMENT	STATION TO STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING (TREE)	GRUBBING (TREE)	CLEARING (ACRE)	GRUBBING (ACRE)
PN62_1N	550+61		77	1	1		
PN62_1N	550+68		64	1	1		
PN62_1N	550+89		53	1	1		
PN62_1N	551+03		50	1	1		
PN62_1N	551+25		44	1	1		
PN62_1N	551+49		40	1	1		
PN62_1N	552+64		15	1	1		
PN62_1N	552+70		15	1	1		
PN62_1N	552+74		11	1	1		
PN62_1N	552+89		13	1	1		
PN62_1N	553+00		14	1	1		
PN62_1N	553+24		14	1	1		
PN62_1N	553+33		15	1	1		
PN62_1N	553+43		18	1	1		
PN62_1N	553+50		15	1	1		
PN62_1N	553+56		18	1	1		
PN62_1N	554+64		31	1	1		
PN62_1N	554+80		33	1	1		
PN62_1N	554+83		33	1	1		
PN62_1N	555+05		33	1	1		
PN62_1N	555+28		31	1	1		
PN62_1N	555+29		32	1	1		
PN62_1N	555+32		35	1	1		
PN62_1N	555+37		39	1	1		
PW18_1W	1000+87	-48		1	1		
PW18_1W	1001+14	-43		1	1		
PW18_1W	1001+45	-39		1	1		
PW18_1W	1001+52	-37		1	1		
PW18_1W	1001+61	-37		1	1		
PW18_1W	1001+70	-38		1	1		
			SUB TOTAL "B"	30	30	0.00	0.00
			SUB TOTAL "A"	26	26	0.76	0.76
			SUB TOTAL "B"	30	30	0.00	0.00
			PROJECT TOTAL	56	56	0.76	0.76

CLEARING & GRUBBING GENERAL NOTES:

TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER.

REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/08/2015 11:33:49 AM

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TABULATIONS

Sheet 7 of 142 Sheets

REMOVALS, SAWING AND MILLING — B

ALIGNMENT / LOCATION	STATION TO STATION	REMOVALS (SPEC. 2104)		SAWING (SPEC. 2104)	MILLING (SPEC. 2232)	NOTES
		BIT. PAVEMENT	PIPE CULVERTS	BIT. PAVEMENT	BIT. SURFACE (2")	
		(SQ YD)	(LIN FT)	(LIN FT)	(SQ YD)	
CSAH 18	100+84.57 - 306+39.68	6476				[1]
CSAH 18	100+84.57			41	18	[3]
CSAH 18	306+39.68			42	18	[3]
CR 62	501+00.00 - 555+47.41	5249				[2]
CR 62	501+00.00			41	18	[3]
CR 62	555+47.41			24	11	[3]
EASTBOUND 18						
PE18_1W	104+57.86		40			[5] [6]
PE18_1E	301+61.18 301+76.62		73			[9]
PE18_1E	304+11.20		71			[10]
WESTBOUND 18						
PW18_1W	1001+32.23	33	26	12		[4] [6]
PW18_1W	1002+03.85	63	34	20		[4] [6]
PW18_1E	1302+05.74		32			[5] [6]
NORTHBOUND 62						
PN62_1S	503+18.76	22		15		[4]
PN62_1S	504+55.88	21		11		[4]
PN62_1N	550+11.09 - 550+24.32		67			[8]
PN62_1N	552+15.89	63	38	13		[4] [6]
SOUTHBOUND 62						
PS62_1S	1500+31.40	24	31	11		[4] [6]
PS62_1S	1501+60.47	47	32	12		[4] [6]
PS62_1N	11+62.93	18		13		[4]
ROUNDABOUT						
PRND_1	9+25.81 - 10+48.71		92			[7]
PROJECT TOTAL		**12016**	**536**	**255**	**65**	

REMOVALS NOTES:
[1] ALL OF CSAH 18 , INCLUDES ALL OF INTERSECTION WITH CR 62.
[2] ALL OF CR 62, DOES NOT INCLUDE INTERSECTION WITH CSAH 18.
[3] SAWCUT AND 4' MILL JOINT AT BEGINNING AND END OF PROJECT.
[4] BITUMINOUS ENTRANCE.
[5] GRAVEL ENTRANCE.
[6] DRIVEWAY CULVERT.
[7] CR 62 CROSS CULVERT SOUTH OF CSAH 18.
[8] CR 62 CROSS CULVERT NORTH OF CSAH 18.
[9] CSAH 18 CROSS CULVERT EAST OF CR 62.
[10] GEHRIG ST CROSS CULVERT. NO NEW CULVERT TO BE INSTALLED.

AGGREGATE — C

ADDRESS	ALIGNMENT	STATION TO STATION	DESCRIPTION	AGGREGATE		NOTES
				BASE CLASS 5 (DRWAYS)	SHOULDER BASE CLASS 5	
				TON	CU YD	
EASTBOUND 18						
	PE18_1W	100+84.70 101+43.25	GRVL SHLDR		1	[2]
#9326	PE18_1W	104+57.86 -	GRVL DRWAY	7		[1]
	PE18_1E	301+54.31 306+39.68	GRVL SHLDR		12	[2]
WESTBOUND 18						
	PW18_1W	999+85 - 1001+94.85	GRVL SHLDR		5	[2]
#9311	PW18_1W	1001+32.23 -	BIT DRWAY	7		[1]
#9331	PW18_1W	1002+03.85 -	BIT DRWAY	7		[1]
#9409	PW18_1E	1302+05.74 -	GRVL DRWAY	7		[1]
	PW18_1E	1304+15.59 1306+35.22	GRVL SHLDR		5	[2]
NORTHBOUND 62						
	PN62_1S	501+00.00 503+09.27	GRVL SHLDR		5	[2]
#17425	PN62_1S	501+71.58 -	GRVL DRWAY	7		[1]
#17439	PN62_1S	503+18.76 -	BIT DRWAY	7		[1]
#17451	PN62_1S	504+55.88 -	BIT DRWAY	7		[1]
	PN62_1N	551+53.89 555+47.41	GRVL SHLDR		10	[2]
#9409	PN62_1N	552+15.89 -	BIT DRWAY	7		[1]
SOUTHBOUND 62						
	PS62_1S	1500+00.00 1504+19.82	GRVL SHLDR		10	[2]
#17418	PS62_1S	1500+31.40 -	BIT DRWAY	7		[1]
#17418	PS62_1S	1501+60.47 -	BIT DRWAY	7		[1]
	PS62_1N	10+92.17 13+45.28	GRVL SHLDR			[2]
#17540	PS62_1N	11+62.93 -	BIT DRWAY	7		[1]
		-				
			TOTAL	**77**	**48**	

[1] 7 TONS CLASS 5 ADDED TO GRAVEL AND BITUMINOUS DRIVEWAYS TO TRANSITION TO NEW ROADWAY.
[2] 2' WIDE X 4" DEPTH CLASS 5 SHOULDERING, NON-CURB SHOULDERS.

NO	DATE	BY	CKD	APPR	REVISION
1	07/16/2015	JF	NJD	GMP	REMOVED 11,725 SY OF 2215.501 FULL DEPTH RECLAMATION
					ADDED 11,725 SY TO 2104.505 REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 07/16/2015 11:03:45 AM

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PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 7-16-15 LICENSE NO. 49046

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CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
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CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TABULATIONS

Sheet 8 of 142 Sheets

CONCRETE

D

LOC.	ALI. TO ALI.	STA. TO STA.	2301				2521		2531				NOTES
			INTEGRANT DES. B6 C & G	CONCRETE PAVEMENT IRREGULAR WIDTH 7"	1" DOWEL BAR	NO. 4 REINF.TIE BAR EPOXY COATED	6" CONCRETE WALK	4" CONCRETE WALK	B418 MOD C & G	B424 C & G	SPECIAL C & G [14]	TRUNCATED DOMES	
			LIN FT	SQ YDS	EACH	EACH	SQ FT	SQ FT	LIN FT	LIN FT	LIN FT	SQ FT	
SHLDR	PE18_1W - PS62_1S	101+57.39 - 1503+31.46								695			[1]
SHLDR	PW18_1W - PS62_1N	1001+94.85 - 10+79.51								567			[2]
SHLDR	PN62_1S - PE18_1E	503+00.00 - 301+40.10								641			[3]
SHLDR	PN62_1N - PW18_1E	551+39.90 - 1304+01.44								558			[4]
MEDIAN	PE18_1W	103+66.95 - 105+61.88						2811	412				[5]
MEDIAN	PN62_1S	503+60.75 - 507+23.62						4107	670				[6]
MEDIAN	PE18_1E	301+61.18 - 303+53.23						5885	713				[7]
MEDIAN	PN62_1N	550+03.90 - 553+21.93						4260	611				[8]
CENTER	ROUNDABOUT		282	432	330	150					358		[9]
SHLDR	PE18_1W	101+43.25					84					20	[10]
SHLDR	PE18_1W	105+27.90					61					16	[10]
MEDIAN	PE18_1W	105+31.24					166					32	[10] [11]
SHLDR	PW18_1W	1003+29.89					111					20	[10]
SHLDR	PW18_1W	1004+34.89					105					16	[10]
SHLDR	PS62_1S	1504+31.34					85					20	[10]
SHLDR	PS62_1S	1505+90.94					60					16	[10]
SHLDR	PN62_1S	505+86.27					147					20	[10]
SHLDR	PN62_1S	506+90.16					60					16	[10]
MEDIAN	PN62_1S	506+98.72					80					32	[10] [11]
SHLDR	PE18_1E	300+34.69					60					16	[10]
MEDIAN	PE18_1E	300+36.86					184					32	[10] [11]
SHLDR	PE18_1E	301+45.70					119					20	[10]
SHLDR	PW18_1E	1300+33.35					60					16	[10]
SHLDR	PW18_1E	1304+01.44					119					20	[10]
MEDIAN	PN62_1N	550+33.49					142					32	[10] [11]
SHLDR	PN62_1N	550+34.69					60					16	[10]
SHLDR	PN62_1N	551+45.40					119					20	[10]
SHLDR	PS62_1N	8+39.57					109					16	[10]
SHLDR	PS62_1N	10+84.33					103					20	[10]
SHLDR	PW18_1W	1002+03.85					140						[12]
SHLDR	PS62_1S	1503+58.33					130						[12]
SHLDR	PN62_1S	503+18.76					165						[12]
SHLDR	PN62_1S	504+55.88					160						[12]
MEDIAN	PE18_1W	103+66.95											[13]
MEDIAN	PW18_1W	1004+65.74											[13]
MEDIAN	PS62_1S	1506+20.56											[13]
MEDIAN	PS62_1S	1503+47.28											[13]
MEDIAN	PN62_1S	503+60.75											[13]
MEDIAN	PE18_1E	300+05.10											[13]
MEDIAN	PW18_1E	1303+53.95											[13]
MEDIAN	PN18_1N	550+03.90											[13]
MEDIAN	PS62_1N	11+25.93											[13]
		PROJECT TOTAL	282	432	330	150	2629	17063	2406	2461	358	416	

CONCRETE NOTES:

[1] SHOULDER CURB, SOUTHWEST QUAD OF INTERSECTION.
[2] SHOULDER CURB, NORTHWEST QUAD OF INTERSECTION.
[3] SHOULDER CURB, NORTHEAST QUAD OF INTERSECTION.
[4] SHOULDER CURB, SOUTHEAST QUAD OF INTERSECTION.
[5] MEDIAN CURB, INCLUDES ALL MEDIAN CURB WEST OF INTERSECTION.
[6] MEDIAN CURB, INCLUDES ALL MEDIAN SOUTH OF INTERSECTION.
[7] MEDIAN CURB, INCLUDES ALL MEDIAN CURB EAST OF INTERSECTION.

CONCRETE NOTES CONT. :

[8] MEDIAN CURB, INCLUDES ALL MEDIAN CURB NORTH OF INTERSECTION.
[9] TRUCK APRON CENTER OF ROUNDABOUT.
[10] PEDESTRIAN RAMP TRANSITIONS FROM BITUMINOUS TRAIL TO CURB FOR TRUNCATED DOMES.
[11] INCLUDES BOTH SIDES OF MEDIAN PEDESTRIAN RAMPS.
[12] DRIVEWAY APRONS BEHIND CONCRETE CURB.
[13] CONCRETE MEDIAN APPROACH NOSE ,PAID FOR AS CONCRETE WALK.
[14] SEE TRUCK APRON CONCRETE CURB & GUTTER TYPE SPECIAL DETAIL - SHEET 35

NO	DATE	BY	CKD	APPR	REVISION
1	07/20/2015	JF	NJD	GMP	REMOVED EXPANSION JOINTS DESIGN E1H-D

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 07/20/2015 3:15:04 PM

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ANOKA COUNTY
HIGHWAY DEPT.

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TABULATIONS

BITUMINOUS SUMMARY

E

LOCATION / ADDRESS	ALI. TO ALI.	STA. TO STA.	BITUMINOUS					NOTES
			2360 TYPE SP 12.5 WEAR (4,E)	2360 TYPE SP 12.5 NON-WEAR (4,B)	2360 TYPE SP 12.5 WEAR (2,B)	TEMP BIT. SP 12.5 NON WEAR (4,B)	2357 BIT. TACK COAT	
			TON	TON	TON	TONS	GALLON	
CSAH 18 / CR 62	PROJECT BOUNDRY	PROJECT BOUNDRY	2134	1067			928	[1]
CSAH 18	PE18_1W	100+84.70 - 101+57.39	15				3	[2]
CSAH 18	PW18_1W	1000+00.00 - 1001+94.85	62				14	[2]
CSAH 18	PE18_1E	301+37.41 - 306+39.68	120			60	26	[2] [5]
CSAH 18	PW18_1E	1303+98.76 1306+35.22	48				10	[2]
CR 62	PN62_1S	501+00.00 - 503+09.27	43				9	[2]
CR 62	PS62_1S	1500+00.00 - 1504+46.20	75				16	[2]
CR 62	PN62_1N	551+39.90 - 555+47.51	84				18	[2]
CR 62	PS62_1N	10+76.79 - 13+45.28	54				12	[2]
SW QUAD	PE18_1W - PS62_1S	101+57.39 - 1504+46.20			73			[3]
SE QUAD	PN62_1S - PE18_1E	505+86.27 - 301+37.41			49			[3]
NW QUAD	PW18_1W - PS62_1N	1003+29.89 - 10+76.79			59			[3]
NE QUAD	PN62_1N - PW18_1E	551+39.90 - 1303+98.76			71			[3]
#9311	PW18_1W	1001+32.23			6			[4]
#9331	PW18_1W	1002+25.44			5			[4]
#17418	PS62_1S	1500+31.40			4			[4]
#17418	PS62_1S	1501+60.47			5			[4]
#9409	PN62_1N	551+99.05			9			[4]
#17540	PS62_1N	11+62.93			2			[4]
		PROJECT TOTAL	2635	1067	283	60	1036	

BITUMINOUS SUMMARY NOTES:

[1] 6" BITUMINOUS SECTION, 3 - LIFTS, MAINLINE AND SHOULDERS IN SHOULDER CURB AREAS.
[2] 4" BITUMINOUS SECTION, 2 - LIFTS, SHOULDERS WITH NO CURB.
[3] 2.5" BITUMINOUS TRAIL, 1 - LIFT. 4" OF AGGREGATE BASE TO COME FROM TEMORARY WIDENG, SEE TAB XXX FOR DETAILS.
[4] 2.5" BITUMINOUS DRIVEWAY, 1 - LIFT
[5] 2" BITUMINOUS, TEMPORARY WIDENING.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/01/2015 2:28:41 PM

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TABULATIONS

Sheet 10 of 142 Sheets

TURF ESTABLISHMENT AND EROSION CONTROL

G

LOCATION										TEMPORARY EROSION CONTROL					PERMANENT EROSION CONTROL							
										SILT FENCE TYPE MACHINE SLICED [10]	CULVERT END CONTROLS [9]	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL LOG TYPE WOOD FIBER [11]	RAPID STABILIZATION METHOD 3 [1] [2] [12]	FERTILIZER TYPE 3 0-10-20 [4]	SEEDING	SEED MIXTURE 25-121 [5]	SEED MIXTURE 33-261 [3]	DISK ANCHORING	EROSION CONTROL BLANKET CAT. 3 [7]	EROSION CONTROL BLANKET CAT. 0 [8]	MULCH MATERIAL TYPE 3 [6]
QUAD.	ALI.	STA.	-	STA.	TO	ALI.	STA.	-	STA.	LIN FT	EACH	EACH	LIN FT	MGAL	POUND	ACRE	POUND	POUND	ACRE	SQ YD	SQ YD	TON
S.W.	LEB	100+84	-	105+66	TO	LSB	1500+00	-	1506+24	665	3	9	112	3	30	0.49	30.0		0.49	98	66	1.0
S.E.	LNB	501+00	-	507+28	TO	LEB	300+00	-	306+40	1422	1	10	160	3	33	0.83	33.9	9.6	0.83	1463		1.7
N.E.	LWB	1300+00	-	1306+40	TO	LNB	550+00	-	555+50	1233	1	7	240	7	61	1.02	62.3		1.02	210		2.0
N.W.	LWB	999+85	-	1004+72	TO	LSB	8+00	-	13+50	656	4	10	64	2	25	0.41	24.9		0.41	56	50	0.8
RDBT		CENTER OF ROUNDABOUT													10	0.16	9.9		0.16			0.3
								PROJECT TOTAL		3976	9	36	576	15	158	2.91	161.0	9.6	2.91	1827	116	5.8

NOTES:

*** QUANTITIES FOR RANDOM RIPRAP CLASS III (PERMANENT EROSION CONTROL) ARE LOCATED IN DRAINAGE TAB "G".**

[1] FOR USE AS DIRECTED BY THE ENGINEER.

[2] APPLICATION RATE 6 MGAL/ACRE. TEMPORARY SEED USED IN ITEM "RAPID STABILIZATION METHOD 3" SHALL BE INCIDENTAL TO THE ITEM. NO ADDITIONAL PAYMENT WILL BE MADE FOR TEMPORARY SEED.

[3] APPLICATION RATE 35 LB/ACRE. (POND SLOPES)

[4] APPLICATION RATE 60 LB/ACRE - FERTILIZER ANALYSIS 0-10-20 (NPK).

[5] APPLICATION RATE 61 LB/ACRE.

[6] APPLICATION RATE 2 TONS/ACRE.

[7] FOR USE ON POND SLOPES AND UNDERLAYMENT BELOW SEDIMENT CONTROL LOGS AS SHOWN IN MNDOT STANDARD PLAN SHEET 5-297.405 (3 OF 7).

[8] APPLICATION RATE OF 7 SQ YDS INLET APRONS 9 SQ YDS OUTLET APRONS OF CMP DRIVEWAY CULVERTS AS SHOWN IN MNDOT STANDARD PLATE 9102E. AND 9 SQ YDS PER RCP APRON AS SHOWN IN DRAINAGE TAB "F".

[9] CULVERT PROTECTION TO BE PLACED ON INLET APRONS OF CULVERTS AND INLET APRONS OF STORM SEWER AS SOON AS POSSIBLE AFTER INSTALLATION. QTY OF 1 - AT THE HIGH INVERT OF APRON.

[10] SILT FENCE LOCATION TO BE LAYED OUT BY THE ENGINEER PRIOR TO INSTALLATION - FOLLOWING CLEARING AND GRUBBING.

[11] SEDIMENT CONTROL LOGS TO BE INSTALLED AS SHOWN IN MNDOT STANDARD PLAN SHEET 5-297.405 (3 OF 7). LENGTH OF LOG USED FOR CALCULATION 16' EACH.

[12] TO BE USED TO STABILIZE SLOPES OF TEMP CR 62 NB ROAD, ADDITIONAL AREA OF 6536 SQ FT IS INCLUDED IN N.E. QUAD TOTAL.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/08/2015 12:54:49 PM

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TABULATIONS

Sheet 11 of 142 Sheets

CULVERT TABULATION — H

ADDRESS	ALIGNMENT	STA.	OFFSET	TO	STA.	OFFSET	15" CS PIPE CULVERT	15" CS SAFETY APR & GRT DES 3128	NOTES
							LIN FT	EACH	
WESTBOUND 18									
#9311	PW18_1W	1001+15.66	-37.92	-	1001+48.28	-37.94	32	2	[1] [2] [3]
SOUTHBOUND 62									
#17418	PS62_1S	1500+16.44	-31.76	-	1500+49.32	-32.30	32	2	[1] [2] [3]
#17418	PS62_1S	1501+40.75	-31.39	-	1501+71.93	-31.34	32	2	[1] [2] [3]
#9326	PS62_1S	1503+35.92	-31.35	-	1503+80.77	-30.52	46	2	[1] [2] [3]
					PROJECT TOTAL		**142**	**8**	

CULVERT SUMMARY NOTES:

[1] CULVERT ENDS TO HAVE BLANKET CAT 0 INSTALLED AS PER STANDARD PLATE 9102 E.

[2] HIGH INVERT OF APRONS TO HAVE CULVERT END CONTROLS (CULVERT PROTECTION) FOLLOWING INSTALLATION. QTY'S CAN BE FOUND IN TURF ESTABLISHMENT AND EROSION CONTROL , TAB "F".

[3] STATION / OFFSET ARE TO THE END OF APRON.

MAIL BOXES — I

ADDRESS	ALIGNMENT	STATION	DRWAY LOC.	BOX LOC.	MAIL BOX SUPPORT	RELOCATE MAIL BOX SUPPORT	NOTES
#9326	PE18_1W	104+75	RT	RT	1	1	
#17418	PN62_1S	502+00	LT	RT	1	1	
#17425	PN62_1S	502+00	RT	RT	1	1	
#17439	PN62_1S	503+50	RT	RT	1	1	
#17451	PN62_1S	504+25	RT	RT	1	1	
#9311	PW18_1W	1001+00	LT	RT	1	1	
#9331	PW18_1W	1002+00	LT	RT	1	1	
#9409	PN62_1N	552+00	RT	RT	1	1	
#17540	PS62_1N	11+50	LT	RT	1	1	
				TOTALS	**9**	**9**	

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STATE PROJECT NO. 002-618-030
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TABULATIONS

Sheet 12 of 142 Sheets

UTILITY OWNERS

J

CENTERPOINT ENERGY
700 WEST LINDEN AVE
P.O. BOX 1165 MINNAPOLIS, MN 55440-1165
CONTACT ERIC YANG
TEL 763-498-4339
E-MAIL ERIC.YANG@CENTERPOINTENERGY.COM

CENTURYLINK
390 COMMERCE DRIVE
WOODBURY, MN 55125
CONTACT ERIK LORENZ
TEL. 651-730-1375
E-MAIL ERIK.LORENZ@CENTURYLINK.COM

CONNEXUS ENERGY
14601 RAMSEY BLVD NW
RAMSEY, MN 55303
CONTACT MAT RAUSCHENDORFER
TEL. 612-321-5421
E-MAIL MAT.RAUSCHENDORFER@CONNEXUSENERGY.COM

MIDCONTINENT COMMUNICATIONS
210 N. MCKINLEY STREET
CAMBRIDGE, MINNESOTA 55008
CONTACT JEREMY FRAHM
TEL. 763-645-1021
E-MAIL JEREMY_FRAHM@MMI.NET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TABS.dgn 06/01/2015 2:28:44 PM

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TABULATIONS

Sheet 13 of 142 Sheets

1. FOR THIS PROJECT, IT IS ASSUMED THAT ALL INPLACE SOILS BENEATH THE ASSUMED 4 INCHES OF INPLACE TOPSOIL MEET THE REQUIREMENTS FOR GRANULAR MATERIAL.

2. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.

3. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPECIFICATION 3877 THAT WOULD BE SUITABLE FOR REUSE.

4. SUITABLE GRADING MATERIAL CONSISTS OF MINERAL SOILS WHICH ARE FREE OF ORGANIC CONTENT AND DEBRIS, ARE NON-EXPANSIVE, AND ARE IN A CONDITION WHICH CAN MEET SPECIFIED COMPACTION LEVELS.

5. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF. THESE SOILS MAY NOT MEET THE MINIMUM ORGANIC CONTENT AND OTHER REQUIREMENTS FOR TOPSOIL BORROW

6. IN ALL AREAS OF NEW OR RECONSTRUCTED MAINLINE ROADWAY RECONSTRUCTION, PROVIDE FOR A MINIMUM 12 INCH COMPACTION SUBCUT UNLESS OTHERWISE NOTED. BACKFILL WITH INPLACE GRANULAR MATERIAL OR GRANULAR MATERIAL TAKEN FROM ELSEWHERE WITHIN THE PROJECT LIMITS. ANY UNCONTAMINATED SUITABLE GRANULAR MATERIAL REMOVED FROM THE EXISTING SUBGRADE AREA MAY BE USED IN OTHER AREAS DESIGNATED FOR THE SAME MATERIAL.

7. 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.

8. WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 1:2 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

9. 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 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

10. 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 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

11. 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.

12. PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.

13. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF THE INPLACE TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES.

14. EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE TOP OF SUBGRADE. QUANTITIES REQUIRED ABOVE THE TOP OF SUBGRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE BITUMINOUS, AGGREGATE SUMMARY, OR TEMPORARY WIDENING TABS.

15. 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.

16. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.

17. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.

18. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.

19. FOR ESTIMATING PURPOSES, INPLACE BITUMINOUS PAVEMENT HAS BEEN ASSUMED TO BE 6". FOR INFORMATION ONLY, CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID.

20. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.

21. COMPACTION OF ALL AGGREGATE BASE, GRANULAR, AND SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MN/DOT "MODIFIED PENETRATION INDEX METHOD"

22. EMBANKMENT CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY MN/DOT SPECIFICATION 2105

23. COMPACTION OF ALL PERMANENT BITUMINOUS MIXTURES SHALL BE THE "MAXIMUM DENSITY METHOD"

24. NO OVER-EXCAVATION WILL BE ALLOWED INSIDE THE COUNTY'S RIGHT OF WAY OF THIS PROJECT.

25. EXCESS GRANULAR MATERIAL MUST BE DEEMED EXCESS BY THE PROJECT ENGINEER PRIOR TO REMOVING IT FROM THE PROJECT.

26. ADDITIONAL SUBGRADE PREPARATION RECOMMENDATIONS CAN BE FOUND IN SECTION D OF THE GEOTECHNICAL EVALUATION REPORT FOUND IN THE SPECIAL PROVISIONS OF THIS PLAN SET (D.1.a - D.1.f)

NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
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CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOILS & CONSTRUCTION NOTES

EARTHWORK SUMMARY — AA

STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
EAST					
300+50.00					
301+00.00	319	60	37	79	97
301+50.00	296	58	31	45	95
302+00.00	273	76	24	10	105
302+50.00	218	91	21	12	108
303+00.00	160	99	18	24	106
303+50.00	144	95	19	37	102
304+12.76	183	121	20	22	123
304+50.00	105	70	11	6	70
305+00.00	116	89	17	10	89
305+50.00	95	85	15	3	85
306+00.00	85	82	13	0	88
EAST SUBTOTAL (A)	**1,994**	**926**	**226**	**248**	**1,068**
SOUTH					
501+10.00					
501+65.00	116	91	10	0	91
502+00.00	93	60	8	0	60
502+50.00	129	93	7	0	93
503+18.00	210	138	9	0	138
503+50.00	116	68	7	0	68
504+00.00	156	105	11	5	107
504+50.00	140	106	6	32	108
505+00.00	175	110	5	39	110
505+50.00	194	104	12	23	107
506+00.00	167	92	19	54	95
506+50.00	149	86	23	104	86
507+00.00	99	63	18	103	63
SOUTH SUBTOTAL (B)	**1,744**	**1,116**	**135**	**360**	**1,126**

EARTHWORK SUMMARY — AA

STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
NORTH					
550+09.25					
550+33.50	114	35	19	35	60
550+50.00	63	24	13	24	34
551+00.00	263	80	39	106	92
551+50.00	331	91	37	87	94
552+11.60	408	119	33	56	121
552+50.00	212	74	16	29	77
553+00.00	218	101	22	17	108
553+68.25	209	129	18	13	146
554+00.00	55	52	6	16	63
554+50.00	70	80	15	39	93
555+00.00	77	77	21	39	86
555+47.25	73	73	19	34	77
NORTH SUBTOTAL (C)	**2,093**	**935**	**258**	**495**	**1,051**
WEST					
100+84.60					
101+00.00	19	25	1	0	25
101+50.00	70	82	5	0	82
102+00.00	82	78	13	19	78
102+30.90	55	44	11	22	44
102+68.00	76	56	12	23	56
103+06.00	111	65	11	13	65
103+50.00	145	77	12	9	82
104+00.00	169	88	17	7	98
104+59.30	233	97	23	0	108
105+00.00	168	62	19	3	70
105+32.00	130	58	15	20	65
105+50.00	61	27	7	19	40
WEST SUBTOTAL (D)	**1,319**	**759**	**146**	**135**	**813**
ROUNDABOUT TOTAL (E)	**527**	**261**	**179**	**1,332**	**635**
PROJECT TOTAL (A+B+C+D+E)	**7,677**	**3,997**	**944**	**2,570**	**4,693**

TEMP WIDENING — CC

ALIGNMENT	STATION	TOTALS COMMON (2) CY
NORTH		
TEMPNB	550+09.25	
TEMPNB	550+33.50	59
TEMPNB	550+50.00	63
TEMPNB	551+00.00	128
TEMPNB	551+50.00	41
TEMPNB	552+11.60	0
TEMPNB	552+50.00	8
TEMPNB	553+00.00	10
TEMPNB	553+68.25	61
TEMPNB	554+00.00	66
TEMPNB	554+50.00	105
TEMPNB	555+00.00	80
TEMPNB	555+47.25	66
TEMPNB	556+00.00	75
TEMPNB	556+50.00	69
TEMPNB	557+00.00	55
TEMPNB	557+50.00	23
TEMPNB	558+00.00	2
SUBTOTAL (A)		**911**
EAST		
PE18_1E	302+00.00	
PE18_1E	302+50.00	15
PE18_1E	303+00.00	44
PE18_1E	303+50.00	58
PE18_1E	304+12.16	61
PE18_1E	304+50.00	28
PE18_1E	305+00.00	41
PE18_1E	305+50.00	35
PE18_1E	306+00.00	12
SUBTOTAL (B)		**295**
PROJECT TOTAL (A + B)		**1,205**

EARTHWORK TABULATION TOTAL (AA + CC)

	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
PROJECT TOTAL	**8,882**	**3,997**	**944**	**2,570**	**4,693**

7,677 + 1,205 = 8,882

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EARTHWORK SUMMARY
EARTHWORK TABULATIONS

Sheet 15 of 142 Sheets

AGGREGATE SUMMARY	BB
STATION	AGGREGATE AGGREGATE SUBBASE CY
EAST	
300+50.00	0
301+00.00	67
301+50.00	69
302+00.00	79
302+50.00	82
303+00.00	80
303+50.00	76
304+12.76	91
304+50.00	53
305+00.00	69
305+50.00	67
306+00.00	64
EAST SUBTOTAL (A)	**797**
SOUTH	
501+10.00	0
501+65.00	71
502+00.00	47
502+50.00	72
503+18.00	103
503+50.00	49
504+00.00	80
504+50.00	82
505+00.00	84
505+50.00	79
506+00.00	67
506+50.00	60
507+00.00	43
SOUTH SUBTOTAL (B)	**837**

AGGREGATE SUMMARY	BB
STATION	AGGREGATE AGGREGATE SUBBASE CY
NORTH	
550+09.25	0
550+33.50	43
550+50.00	24
551+00.00	63
551+50.00	66
552+11.60	89
552+50.00	56
553+00.00	81
553+68.25	110
554+00.00	48
554+50.00	72
555+00.00	67
555+47.25	61
NORTH SUBTOTAL (C)	**780**
WEST	
100+84.60	0
101+00.00	20
101+50.00	66
102+00.00	63
102+30.90	33
102+68.00	41
103+06.00	47
103+50.00	54
104+00.00	65
104+59.30	73
105+00.00	47
105+32.00	44
105+50.00	22
WEST SUBTOTAL (D)	**575**
ROUNDABOUT TOTAL (E)	**423**
PROJECT TOTAL (A+B+C+D+E)	**2,989**

TEMP WIDENING AGG	FF
STATION	AGGREGATE BASE CL V [1] CY
TEMP NB 550+09.25 - 558+00.00	180
PE18_1E 302+00.00 - 306+00.00	60
PROJECT TOTAL	**240**

TEMP WIDENING NOTES

[1] AGGREGATE BASE USED DURING TEMPORARY WIDENING TO BE RE-USED BENEATH PROPOSED BITUMINOUS WALK AND DRIVEWAYS. REMAINDER OF CLASS 5 TO BECOME PROPERTY OF CONTRACTOR.

AGGREGATE NARRATIVE

6.0" OF AGGREGATE TO BE TRUCKED IN AND PLACED ATOP TEMPORARY ROAD UPON COMPLETION OF TEMPORARY ROAD EARTHWORK (240 CY CV)

8.0" OF AGGREGATE TO BE TRUCKED IN AND PLACED ATOP COMPLETED SUBGRADE WITHIN ROUNDABOUT (2,989 CY CV)

ONCE THE TEMPORARY ROAD IS NO LONGER NECESSARY, THE 6.0" OF AGGREGATE MATERIAL LEFT BEHIND WILL BE STRIPPED OFF AND USED BENEATH THE PROPOSED TRAIL (240 CY CV). ADDITIONAL AGGREGATE TO BE TRUCKED IN TO COMPLETE TRAIL CONSTRUCTION (37 CY LV)

EE

TRAIL AGGREGATE BALANCE [CY]

AVAILABLE AGGREGATE FROM WIDENING STAGE ——— 240 (CV)

BITUMINOUS TRAIL SURFACE AREA (SY)		DEPTH OF AGGREGATE (IN)		YARDS / INCH		WIDTH AGG / WIDTH TRAIL		NEEDED AGGREGATE FOR TRAIL [CY]
1918	X	4	X	1 / 36	X	10 / 8	=	266

NEEDED AGGREGATE		AVAILABLE AGGREGATE					AGGREGATE BORROW
266 [CV]	-	240 [CV]	=	26	X	1.4	= 37 (LV)

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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COUNTY PROJECT NO.

AGGREGATE SUMMARY
AND AGGREGATE BALANCE

Sheet 16 of 142 Sheets

EARTHWORK TABULATION TOTAL (AA + CC)

	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
PROJECT TOTAL	8,882	3,997	944	2,570	4,693

DD

EARTHWORK BALANCE

COMMON (EV)(1) — 8,882

POND EXCAVATION (EV)(14) — 1,400

SUBGRADE EXCAVATION (EV)(2) — 3,997

AVAILABLE EXCAVATION (CY)

COMMON	7,433 (EV) /	1.2	=	6,194 (CV)		(6)
EXISTING TOPSOIL	1,449 (EV) /	1	=	1,449 (CV)		
POND EXCAVATION (8)	1,400 (EV) /	1.2	=	1,167 (CV)		(13)
SUBGRADE EXCAVATION (5)	3,997 (EV)/	1.2	=	3,331 (CV)		(5)

ITEM (#) — #,###

GRAY BOXES INDICATE PAY ITEM

NEEDED EMBANKMENT (CY)

(10) SUITABLE GRADING	2,570 (CV)		2,570 (CV)
TOPSOIL	944 (CV)		944 (CV)
SELECT GRANULAR	4,693 (CV)	X 1.3 =	6,101 (LV)

EXCESS (CY)

	NEEDED		AVAILABLE		
TOPSOIL	944 (CV)	-	1,449 (CV)	=	505 (CV) (3)
SUITABLE GRADING (10)	2,570 (CV)	-	6,194 (CV)	=	3,624 (CV) (7)

BORROW (CY)

EXCAVATION SPECIAL	TEMPORARY WIDENING (9)		POND EXCAVATION (8)				
SUITABLE GRADING (11)	1,205 (CV)	-	1,167 (CV)	=	39 X 1.4	=	54 — COMMON BORROW (LV)(12)

	NEEDED		AVAILABLE		
SELECT GRANULAR	6,101 (LV)	-	3,331 (LV)	=	2,770 — SELECT GRANULAR BORROW (LV) (4)

EARTHWORK NARRATIVE

EXCAVATED MATERIAL FROM THE POND TO BE USED AS SUITABLE GRADING MATERIAL FOR THE TEMPORARY ROAD (1,167CY CV). ADDITIONAL SUITABLE GRADING MATERIAL TO BE TRUCKED IN TO COMPLETE TEMPORARY ROAD (54 CY LV)

IT IS ASSUMED THAT SUBGRADE EXCAVATION FOR THIS PROJECT CAN BE RE-USED AS A SUBGRADE MATERIAL.

ADDITIONAL SELECT GRANULAR MATERIAL MUST BE TRUCKED IN TO COMPLETE THE SUBGRADE WORK (2,770 CY LV)

ONCE THE TEMPORARY ROAD IS NO LONGER NECESSARY, THE GRANULAR MATERIAL LEFT BEHIND WILL BECOME THE PROPERTY OF THE CONTRACTOR, TO BE REMOVED FROM THE PROJECT (1,205 CY EV). THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE REMOVAL OF THIS MATERIAL.

(1) TOTAL COMMON EXCAVATION FOR PROJECT (INCLUDING TOPSOIL). PAID FOR AS 2105.501 COMMON EXCAVATION (EV)
(2) TOTAL SUBGRADE EXCAVATION FOR PROJECT. PAID FOR AS 2105.507 SUBGRADE EXCAVATION (EV)
(3) EXCESS TOPSOIL TO BE DISTRIBUTED WITHIN PROJECT CONSTRUCTION LIMITS AT ENGINEERS DISCRETION
(4) TOTAL SELECT GRANULAR BORROW FOR PROJECT. PAID FOR AS 2105.522 SELECT GRANULAR BORROW (LV)

(5) SUBGRADE EXCAVATION MATERIAL IS ASSUMED TO MEET REQUIREMENTS FOR SUITABLE GRADING MATERIAL AND CAN THEREFORE BE RE-USED AS EMBANKMENT WITHIN THE PROJECT AS SUITABLE GRADING MATERIAL.
(6) WITH THE EXCEPTION OF TOPSOIL, IT IS ASSUMED THAT COMMON EXCAVATION WILL MEET REQUIREMENTS FOR SUITABLE GRADING
(7) EXCESS SUITABLE GRADING TO BECOME PROPERTY OF CONTRACTOR AND DISPOSED OF OFF SITE.
(8) IT IS ASSUMED ALL POND EXCAVATION CAN BE USED AS SUITABLE GRADING MATERIAL. POND EXCAVATION TO OCCUR PRIOR OR CONCURRENT TO TEMPORARY WIDENING
(9) ALL TEMPORARY WIDENING SUITABLE GRADING MATERIAL TO BECOME PROPERTY OF CONTRACTOR AND DISPOSED OF OFF SITE AT THE END OF STAGE 1. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE REMOVAL OF THIS MATERIAL
(10) SUITABLE GRADING ASSOCIATED WITH ROUNDABOUT CONSTRUCTION (SEE SHEETS 67 - 70 FOR ROUNDABOUT CONSTRUCTION PLAN, AND SHEETS 111 - 136 FOR X-SECTIONS)
(11) SUITABLE GRADING ASSOCIATED WITH TEMPORARY ROADWAY CONSTRUCTION (SEE SHEET 54 FOR TEMPORARY ROAD CONSTRUCTION PLAN, AND SHEETS 137 - 142 FOR TEMPORARY ROAD X-SECTIONS) PAID FOR AS 2105.607 - EXCAVATION SPECIAL. THIS ITEM IS TO COVER COSTS ASSOCIATED WITH PLACING SUITABLE GRADING MATERIAL FOR TEMPORARY ROAD WHETHER IT BE FROM MATERIAL REMOVED FROM THE POND OR BROUGHT IN AS COMMON BORROW.
(12)NECESSARY SUITABLE GRADING FOR TEMPORARY ROAD - PAID FOR AS 2105.501 COMMON BORROW
(13) THIS IS THE COMPACTED VOLUME ASSUMED TO BE RE-USED AS SUITABLE GRADING FOR THE TEMPORARY ROAD (SEE SHEET 54 FOR TEMPORARY ROAD CONSTRUCTION PLAN)
(14) PAID FOR AS 2105.511 CHANNEL AND POND EXCAVATION (EV).

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EW.dgn 06/08/2015 11:39:51 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

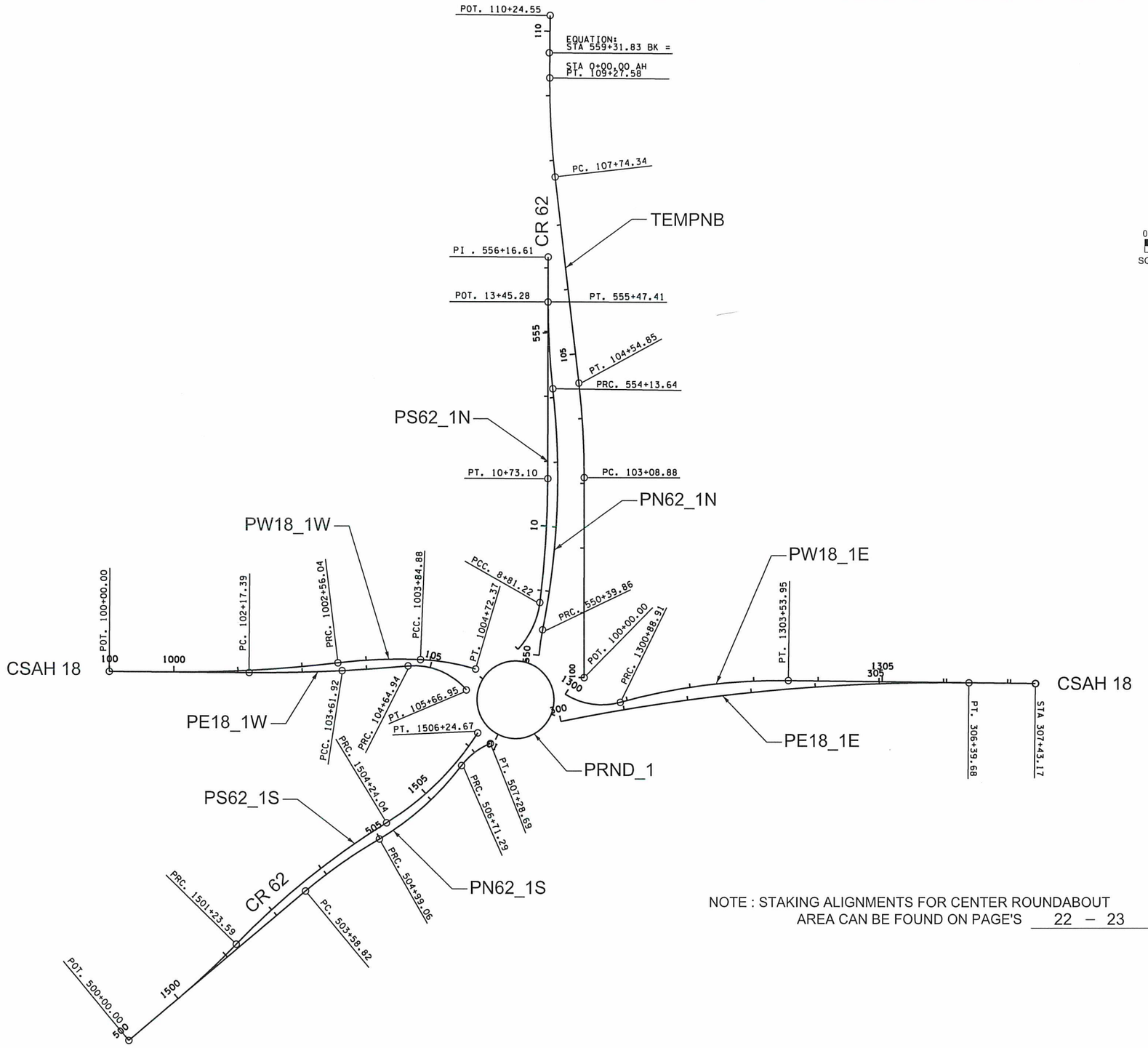
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EARTHWORK SUMMARY
EARTHWORK BALANCE

Sheet 17 of 142 Sheets



NOTE : STAKING ALIGNMENTS FOR CENTER ROUNDABOUT AREA CAN BE FOUND ON PAGE'S 22 – 23

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_ALI.dgn 06/01/2015 12:50:11 PM

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STATE PROJECT NO. 002-618-030
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COUNTY PROJECT NO.

ALIGNMENTS

Sheet 18 of 142 Sheets

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 18 <PE18_1W>										
100	POT	100+00.000						560,307.0860	191,711.2868	
	PC	102+17.394						560,524.4747	191,709.8325	S 89° 37' 00.13" E
PE18_1W-1	PI	102+89.675	3° 18' 43.95" LT	2° 17' 30.59"	2,500.000'	72.281'	144.522'	560,596.7544	191,709.3490	PI
	CC							560,541.1992	194,209.7766	
	PCC	103+61.916						560,668.9413	191,713.0423	N 87° 04' 15.92" E
	PCC	103+61.916						560,668.9413	191,713.0423	N 87° 04' 15.92" E
PE18_1W-2	PI	104+13.434	2° 21' 39.92" LT	2° 17' 30.59"	2,500.000'	51.518'	103.022'	560,720.3923	191,715.6747	PI
	CC							560,541.1992	194,209.7766	
	PRC	104+64.938						560,771.6911	191,720.4246	N 84° 42' 36.00" E
	PRC	104+64.938						560,771.6911	191,720.4246	N 84° 42' 36.00" E
PE18_1W-3	PI	105+20.193	54° 37' 26.06" RT	53° 32' 50.85'	107.000'	55.255'	102.010'	560,826.7109	191,725.5189	PI
	CC							560,781.5562	191,613.8803	
	PT	105+66.948						560,862.7178	191,683.6068	S 40° 39' 57.93" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 18 <PE18_1E>										
	PC	300+00.000						561,009.8542	191,635.5080	N 78° 30' 34.28" E
PE18_1E-1	PI	303+21.043	12° 09' 07.59" RT	1° 53' 59.02"	3,016.000'	321.043'	639.676'	561,324.4624	191,699.4613	PI
	CC							561,610.6567	188,679.9552	
	PT	306+39.676						561,645.4836	191,695.7541	S 89° 20' 18.13" E
106	POT	307+43.166						561,748.9660	191,694.5591	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 18 <P18W_1W>										
	PC	1000+00.000						560,407.0837	191,710.6179	S 89° 37' 00.13" E
PW18_1W-1	PI	1001+28.195	7° 17' 28.88" LT	2° 50' 51.73"	2,012.000'	128.195'	256.043'	560,535.2756	191,709.7603	PI
	CC							560,420.5435	193,722.5728	
	PRC	1002+56.043						560,662.5398	191,725.1791	N 83° 05' 30.99" E
	PRC	1002+56.043						560,662.5398	191,725.1791	N 83° 05' 30.99" E
PW18_1W-2	PI	1003+20.602	9° 13' 38.64" RT	7° 09' 43.10"	800.000'	64.559'	128.839'	560,726.6301	191,732.9440	PI
	CC							560,758.7609	190,930.9867	
	PCC	1003+84.882						560,791.1362	191,730.3314	S 87° 40' 50.37" E
	PCC	1003+84.882						560,791.1362	191,730.3314	S 87° 40' 50.37" E
PW18_1W-3	PI	1004+28.855	14° 19' 18.62" RT	16° 22' 12.80"	350.000'	43.973'	87.487'	560,835.0730	191,728.5518	PI
	CC							560,776.9720	191,380.6181	
	PT	1004+72.369						560,877.2040	191,715.9590	S 73° 21' 31.75" E

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_ALI-TAB.dgn 06/01/2015 12:50:13 PM

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

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COUNTY PROJECT NO.

ALIGNMENT TAB

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 18 <PW18_1E>										
	PC	1300+00.000						561,016.8116	191,677.3482	S 57° 59' 20.73" E
PW18_1E-1	PI	1300+47.203	47° 36' 35.02" LT	53° 32' 50.85"	107.000'	47.203'	88.911'	561,056.8377	191,652.3266	PI
	CC							561,073.5303	191,768.0786	
	PRC	1300+88.911						561,102.3026	191,665.0196	N 74° 24' 04.24" E
	PRC	1300+88.911						561,102.3026	191,665.0196	N 74° 24' 04.24" E
PW18_1E-2	PI	1302+22.344	16° 24' 49.32" RT	6° 11' 34.70"	925.174'	133.433'	265.037'	561,230.8205	191,700.8996	PI
	CC							561,351.0819	190,773.9215	
	PT	1303+53.949						561,364.2395	191,699.0019	S 89° 11' 06.44" E
106	POT	307+43.166						561,748.9660	191,694.5591	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.R. 62 <PN62_1S>										
108	POT	500+00.000						560,336.2753	191,143.7552	
	PC	503+58.819						560,611.6583	191,373.7877	N 50° 07' 38.56" E
PN18_1S-1	PI	504+29.117	10° 01' 42.12" RT	7° 09' 03.47"	801.232'	70.299'	140.238'	560,665.6104	191,418.8549	PI
	CC							561,125.3142	190,758.8652	
	PRC	504+99.056						560,726.5861	191,453.8385	N 60° 09' 20.68" E
	PRC	504+99.056						560,726.5861	191,453.8385	N 59° 33' 23.50" E
PN18_1S-2	PI	505+86.242	21° 55' 47.87" LT	12° 43' 56.77"	449.999'	87.185'	172.237'	560,801.7512	191,498.0144	PI
	CC							560,498.5772	191,841.7956	
	PRC	506+71.293						560,854.9790	191,567.0658	N 37° 37' 35.63" E
	PRC	506+71.293						560,854.9790	191,567.0658	N 37° 37' 35.63" E
PN18_1S-3	PI	507+00.702	30° 44' 09.10" RT	53° 32' 49.04"	107.001'	29.409'	57.400'	560,872.9333	191,590.3576	PI
	CC							560,939.7246	191,501.7404	
	PT	507+28.693						560,900.2696	191,601.2016	N 68° 21' 44.73" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.R. 62 <PN62_1N>										
	PC	550+00.000						560,976.0740	191,737.5214	N 4° 57' 54.57" E
PN18_1N-1	PI	550+19.951	6° 31' 30.12" RT	16° 22' 12.80"	350.000'	19.951'	39.859'	560,977.8007	191,757.3977	PI
	CC							561,324.7606	191,707.2289	
	PRC	550+39.859						560,981.7750	191,776.9490	N 11° 29' 24.69" E
	PRC	550+39.859						560,981.7750	191,776.9490	N 11° 22' 01.16" E
PN18_1N-2	PI	552+28.275	17° 50' 40.88" LT	4° 46' 26.75"	1,200.139'	188.416'	373.782'	561,018.9105	191,961.6695	PI
	CC							559,805.1770	192,013.4874	
	PRC	554+13.641						560,997.6540	192,148.8828	N 6° 28' 39.72" W
	PRC	554+13.641						560,997.6540	192,148.8828	N 6° 17' 51.61" W
PN18_1N-3	PI	554+80.595	6° 23' 13.47" RT	4° 46' 28.73"	1,200.000'	66.955'	133.771'	560,990.3095	192,215.4334	PI
	CC							562,190.4125	192,280.5155	
	PT	555+47.411						560,990.4140	192,282.3880	N 0° 05' 21.85" E
110	POT	556+16.612						560,990.5219	192,351.5889	
50	POT	0+00.000						560,991.9480	192,666.8000	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_ALI-TAB.dgn 06/01/2015 12:50:14 PM

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

ALIGNMENT
TAB

Sheet 20 of 142 Sheets

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.R. 62 <PS62_1S>										
	PC	1500+00.000						560,413.0224	191,207.8635	N 50° 07' 38.59" E
PS18_1S-1	PI	1500+61.851	5° 54' 04.03" LT	4° 46' 28.76"	1,199.998'	61.851'	123.593'	560,460.4913	191,247.5151	PI
	CC							559,643.7242	192,128.8280	
	PRC	1501+23.593						560,503.6319	191,291.8369	N 44° 13' 34.56" E
	PRC	1501+23.593						560,503.6319	191,291.8369	N 44° 13' 34.56" E
PS18_1S-2	PI	1502+74.606	14° 20' 43.10" RT	4° 46' 28.73"	1,200.000'	151.013'	300.447'	560,608.9629	191,400.0518	PI
	CC							561,363.5413	190,454.8442	
	PRC	1504+24.040						560,737.8214	191,478.7952	N 58° 34' 17.66" E
	PRC	1504+24.040						560,737.8214	191,478.7952	N 58° 34' 17.66" E
PS18_1S-3	PI	1505+26.052	25° 32' 43.10" LT	12° 43' 56.65"	450.000'	102.012'	200.632'	560,824.8671	191,531.9874	PI
	CC							560,503.1767	191,862.7765	
	PT	1506+24.672						560,880.4658	191,617.5161	N 33° 01' 34.56" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.R. 62 <PS62_1N>										
	PC	8+00.000						560,943.2623	191,746.6393	N 43° 13' 02.28" E
PS18_1N-1	PI	8+41.987	35° 47' 55.37" LT	44° 04' 25.24"	130.000'	41.987'	81.225'	560,972.0138	191,777.2380	PI
	CC							560,848.5233	191,835.6591	
	PCC	8+81.225						560,977.4351	191,818.8738	N 7° 25' 06.90" E
	PCC	8+81.225						560,977.4351	191,818.8738	N 7° 25' 06.90" E
PS18_1N-2	PI	9+77.294	7° 19' 45.05" LT	3° 49' 10.99"	1,500.000'	96.070'	191.877'	560,989.8393	191,914.1394	PI
	CC							559,489.9911	192,012.5497	
	PT	10+73.102						560,989.9892	192,010.2091	N 0° 05' 21.85" E
104	POT	13+45.281						560,990.4140	192,282.3880	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.R.62 <TEMPNB>										
61	POT	100+00.000						561,046.2537	191,703.1182	
	PC	103+08.877						561,046.6220	192,011.9950	N 0° 04' 06.01" E
TEMPNB-1	PI	103+81.947	6° 44' 15.59" LT	4° 36' 56.73"	1,241.308'	73.070'	145.971'	561,046.7092	192,085.0646	PI
	CC							559,805.3151	192,013.4755	
	PT	104+54.848						561,038.2230	192,157.6398	N 6° 40' 09.58" W
	PC	107+74.344						561,001.1169	192,474.9743	N 6° 40' 09.58" W
TEMPNB-2	PI	108+51.061	7° 04' 29.48" RT	4° 37' 00.85"	1,241.000'	76.717'	153.238'	560,992.2072	192,551.1718	PI
	CC							562,233.7191	192,619.1029	
	PT	109+27.583						560,992.7501	192,627.8864	N 0° 24' 19.91" E
62	POT	110+24.555						560,993.4365	192,724.8561	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ ROUNDABOUT <PRND_1>										
	PC	8+00.000						560,955.8830	191,726.4001	S 73° 56' 37.25" E
PRND_1-1	PI	8+00.000	359° 59' 59.46" RT	95° 29' 34.68"	60.000'	0.000'	376.991'	560,955.8829	191,726.4001	PI
	CC							560,939.2880	191,668.7407	
	PT	11+76.991						560,955.8828	191,726.4001	S 73° 56' 37.79" E

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_ALI-TAB.dgn 06/01/2015 12:50:15 PM

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ANOKA COUNTY HIGHWAY DEPT.

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COUNTY PROJECT NO.

ALIGNMENT TAB

Sheet 21 of 142 Sheets

NOTE : SEE INTERSECTION DETAIL SHEET 73

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ LIP OF CURB <NWCURB> - THROUGH THE TRANSITION										
	PC	100+00.000						560,828.3126	191,742.0099	S 85° 05' 54.33" E
NWCURB-1	PI	100+12.256	1° 43' 30.83" RT	7° 02' 19.66"	814.000'	12.256'	24.510'	560,840.5239	191,740.9627	PI
	CC							560,758.7609	190,930.9867	
	PRC	100+24.510						560,852.6981	191,739.5483	S 83° 22' 23.49" E
	PRC	100+24.510						560,852.6981	191,739.5483	S 83° 22' 23.49" E
NWCURB-2	PI	100+45.229	12° 59' 21.03" LT	31° 28' 52.31"	182.000'	20.719'	41.260'	560,873.2785	191,737.1573	PI
	CC							560,873.7012	191,920.3323	
	PCC	100+65.770						560,893.8698	191,739.4533	N 83° 38' 15.47" E
	PCC	100+65.770						560,893.8698	191,739.4533	N 83° 38' 15.47" E
NWCURB-3	PI	100+83.223	35° 12' 38.02" LT	104° 10' 26.92"	55.000'	17.453'	33.800'	560,911.2149	191,741.3873	PI
	CC							560,887.7749	191,794.1145	
	PCC	100+99.570						560,924.2714	191,752.9684	N 48° 25' 37.45" E
	PCC	100+99.570						560,924.2714	191,752.9684	N 48° 25' 37.45" E
NWCURB-4	PI	101+06.832	6° 45' 28.32" LT	46° 34' 54.97"	123.000'	7.262'	14.507'	560,929.7043	191,757.7874	PI
	CC							560,842.6520	191,844.9861	
	PT	101+14.078						560,934.5324	191,763.2122	N 41° 40' 09.14" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ LIP OF CURB <NECURB> - THROUGH THE TRANSITION										
	PC	100+00.000						560,999.4580	191,794.1785	S 8° 15' 10.74" W
NECURB-1	PI	100+33.802	21° 02' 34.99" LT	31° 28' 52.31"	182.000'	33.802'	66.843'	560,994.6059	191,760.7261	PI
	CC							561,179.5732	191,768.0534	
	PCC	100+66.843						561,002.0890	191,727.7624	S 12° 47' 24.25" E
	PCC	100+66.843						561,002.0890	191,727.7624	S 12° 47' 24.25" E
NECURB-2	PI	100+89.813	44° 36' 17.77" LT	102° 18' 50.01"	56.000'	22.970'	43.596'	561,007.1741	191,705.3622	PI
	CC							561,056.6996	191,740.1596	
	PCC	101+10.439						561,026.5243	191,692.9849	S 57° 23' 42.02" E
	PCC	101+10.439						561,026.5243	191,692.9849	S 57° 23' 42.02" E
NECURB-3	PI	101+27.265	19° 06' 04.47" LT	57° 17' 44.81"	100.000'	16.825'	33.338'	561,040.6978	191,683.9188	PI
	CC							561,080.4087	191,777.2255	
	PT	101+43.777						561,057.0578	191,679.9900	S 76° 29' 46.49" E

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_INT-ALI.dgn 06/01/2015 12:51:07 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

INTERSECTION CURB LINE ALIGNMENT STAKING TAB

Sheet 22 of 142 Sheets

NOTE : SEE INTERSECTION DETAIL SHEET 73

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ LIP OF CURB <SWCURB> - THROUGH THE TRANSITION										
	PC	100+00.000						560,832.1767	191,686.4327	S 53° 29' 59.12" E
SWCURB-1	PI	100+01.027	1° 10' 36.57" RT	57° 17' 44.81"	100.000'	1.027'	2.054'	560,833.0023	191,685.8219	PI
	CC							560,772.6941	191,606.0473	
	PCC	100+02.054						560,833.8151	191,685.1941	S 52° 19' 22.55" E
	PCC	100+02.054						560,833.8151	191,685.1941	S 52° 19' 22.55" E
SWCURB-2	PI	100+42.825	70° 12' 37.49" RT	98° 47' 08.98"	58.000'	40.771'	71.073'	560,866.0840	191,660.2745	PI
	CC							560,798.3649	191,639.2890	
	PCC	100+73.127						560,853.5613	191,621.4744	S 17° 53' 14.94" W
	PCC	100+73.127						560,853.5613	191,621.4744	S 17° 53' 14.94" W
SWCURB-3	PI	100+79.364	4° 27' 51.30" RT	35° 48' 35.50"	160.000'	6.236'	12.467'	560,851.6458	191,615.5394	PI
	CC							560,701.2954	191,670.6181	
	PT	100+85.594						560,849.2741	191,609.7715	S 22° 21' 06.24" W
112	POT	101+07.380						560,866.8623	191,596.9141	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ LIP OF CURB <SECURB> - THROUGH THE TRANSITION										
	PC	100+00.000						560,901.3600	191,582.9744	N 67° 16' 05.20" E
SECURB-1	PI	100+19.893	22° 30' 07.50" RT	57° 17' 44.81"	100.000'	19.893'	39.274'	560,919.7079	191,590.6615	PI
	CC							560,940.0020	191,490.7421	
	PRC	100+39.274						560,939.6009	191,590.7413	N 89° 46' 12.70" E
	PRC	100+39.274						560,939.6009	191,590.7413	N 89° 46' 12.70" E
SECURB-2	PI	100+61.806	32° 13' 30.52" LT	73° 27' 22.06"	78.000'	22.532'	43.870'	560,962.1328	191,590.8317	PI
	CC							560,939.2880	191,668.7407	
	PRC	100+83.143						560,981.1457	191,602.9232	N 57° 32' 42.18" E
	PRC	100+83.143						560,981.1457	191,602.9232	N 57° 32' 42.18" E
SECURB-3	PI	101+06.294	14° 29' 53.92" RT	31° 28' 52.31"	182.000'	23.151'	46.054'	561,000.6804	191,615.3466	PI
	CC							561,078.8135	191,449.3491	
	PT	101+29.197						561,022.7034	191,622.4839	N 72° 02' 36.10" E

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_INT-ALI.dgn 06/01/2015 12:51:07 PM

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

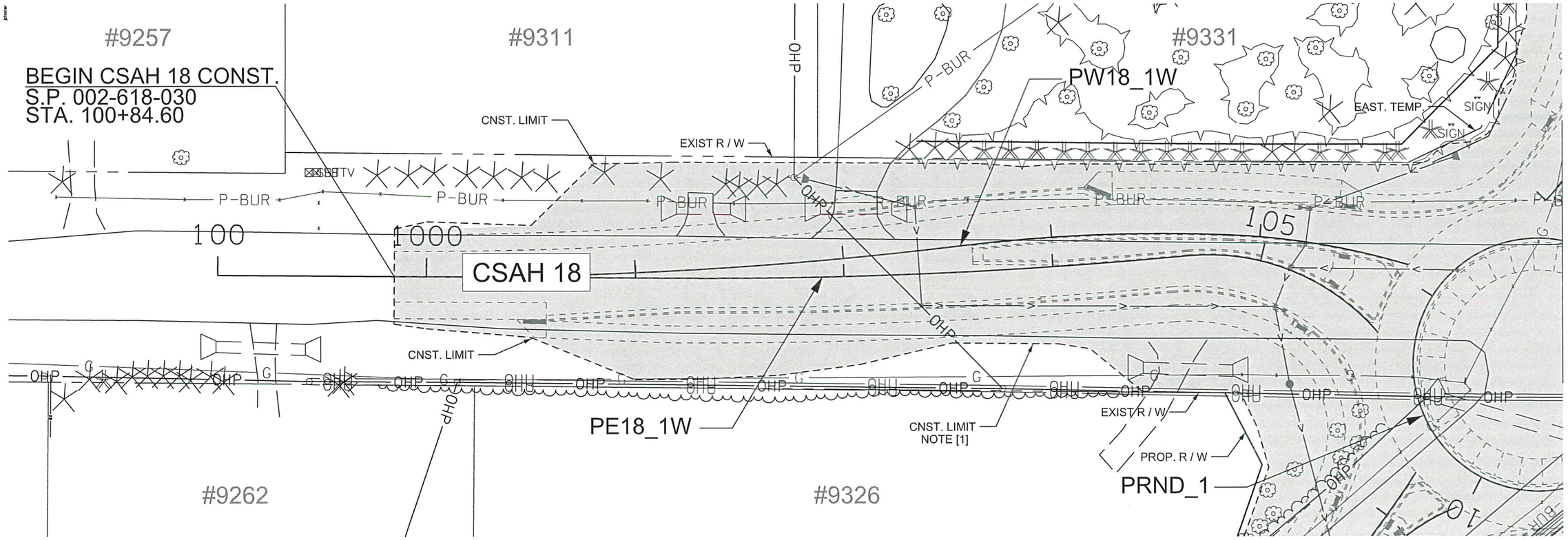
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

INTERSECTION CURB LINE ALIGNMENT STAKING TAB

Sheet 23 of 142 Sheets

LEGEND					
C	CENTERPOINT ENERGY		PROPOSED STORM DRAIN	SBT	SPLICE BOX
OHP P-BUR	CONNEXUS ENERGY		EXISTING R/W		POWER POLE
TV-BUR	CENTURYLINK		PROPOSED R/W		CONSTRUCTION AREA
T-BUR	MEGELLAN MIDSTREAM		CONSTRUCTION LIMITS		PROPOSED CONSTRUCTION
T-BUR	MIDCONTINENT COMM.		EXISTING CULVERT		



NOTE [1] E.B. STA. 102+70 - 104+30 CONSTRUCTION TOUCHDOWN FOLLOWS CNST. LIMIT LINE.
SILT FENCE TO FOLLOW BACKSLOPE OF DITCH INSIDE R/W TO ALLOW FOR DITCH DRAINAGE.
AREA TO BE RE-ESTABLISHED WITH REST OF DITCH.

N

SCALE 0 50 IN FEET

1 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_UTIL1.dgn 06/01/2015 12:58:26 PM

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

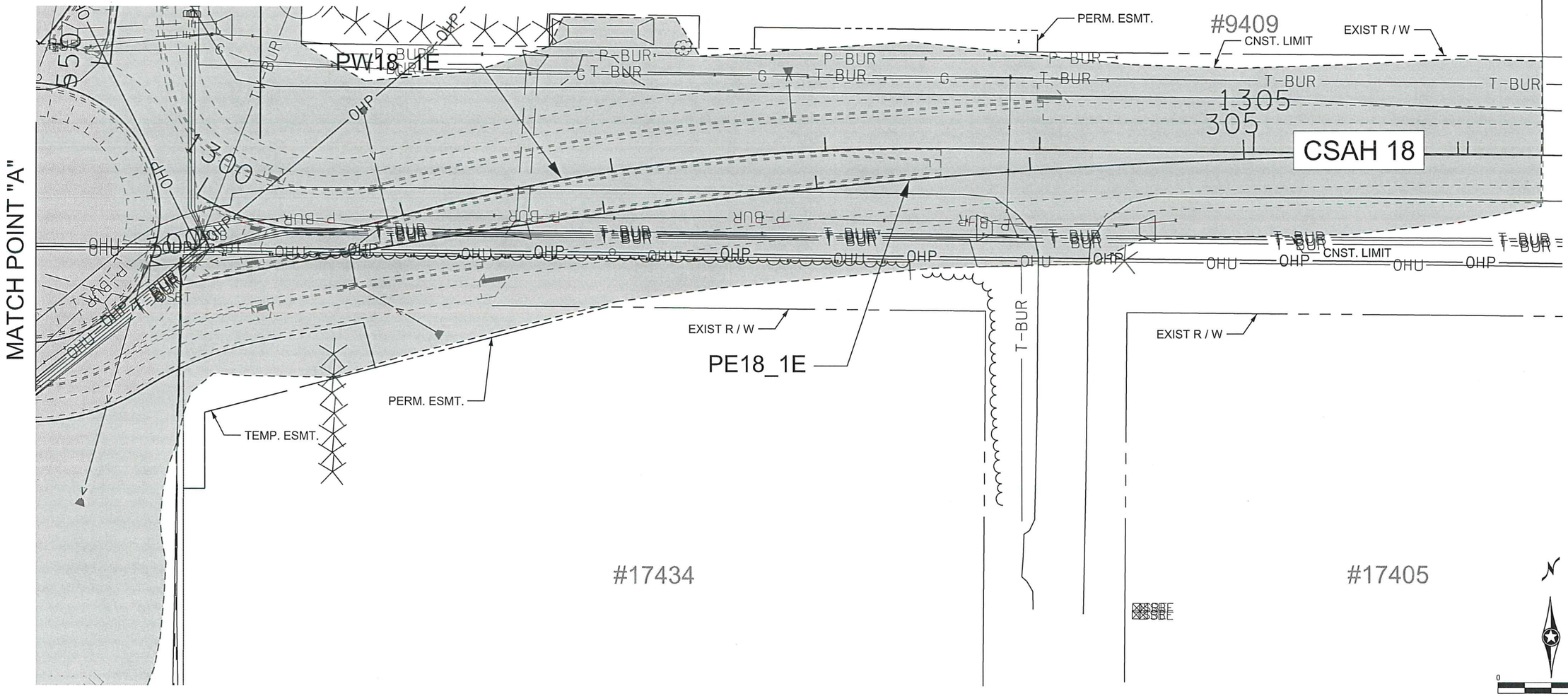
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EXISTING UTILITIES
WEST APPROACH

Sheet 24 of 142 Sheets

LEGEND					
G	CENTERPOINT ENERGY		PROPOSED STORM DRAIN	SBT	SPLICE BOX
OHP P-BUR	CONNEXUS ENERGY		EXISTING R/W		POWER POLE
TV-BUR	CENTURYLINK		PROPOSED R/W		CONSTRUCTION AREA
T-BUR	MEGELLAN MIDSTREAM		CONSTRUCTION LIMITS		PROPOSED CONSTRUCTION
T-BUR	MIDCONTINENT COMM.		EXISTING CULVERT		

END CSAH 18 CONST.
S.P. 002-618-030
STA. 306+39.68



2 OF 5

NO	DATE	BY	CKD	APPR	REVISION

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

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SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

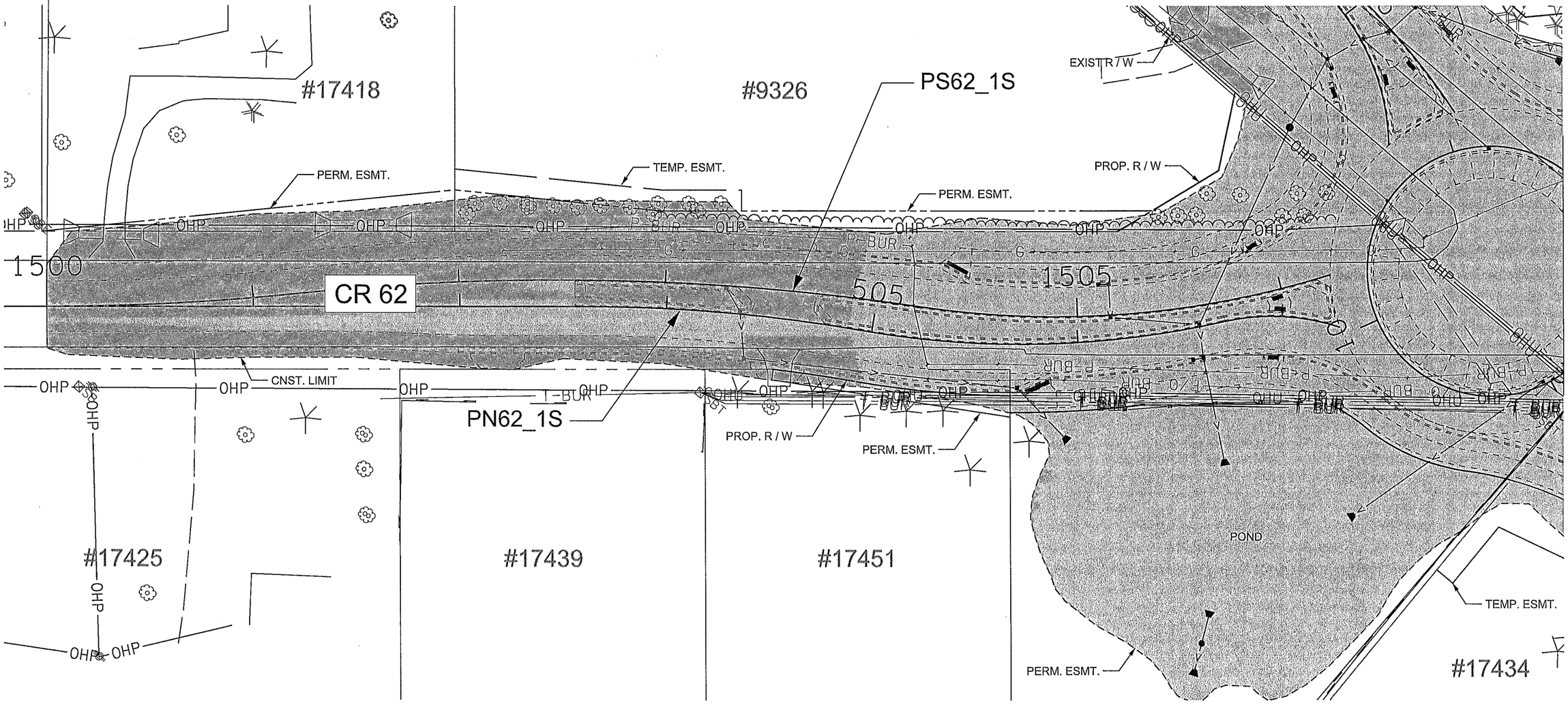
EXISTING UTILITIES
EAST APPROACH

Sheet 25 of 142 Sheets

LEGEND					
C	CENTERPOINT ENERGY		PROPOSED STORM DRAIN	SBT	SPLICE BOX
OHP P-BUR	CONNEXUS ENERGY		EXISTING R/W		POWER POLE
TV-BUR	CENTURYLINK		PROPOSED R/W		CONSTRUCTION AREA
T-BUR	MEGELLAN MIDSTREAM		CONSTRUCTION LIMITS		PROPOSED CONSTRUCTION
T-BUR	MIDCONTINENT COMM.		EXISTING CULVERT		

0 50
SCALE IN FEET

BEGIN CR 62 CONST.
S.P. 002-618-030
STA. 501+00.00



3 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_UTIL3.dgn 06/08/2015 11:41:36 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

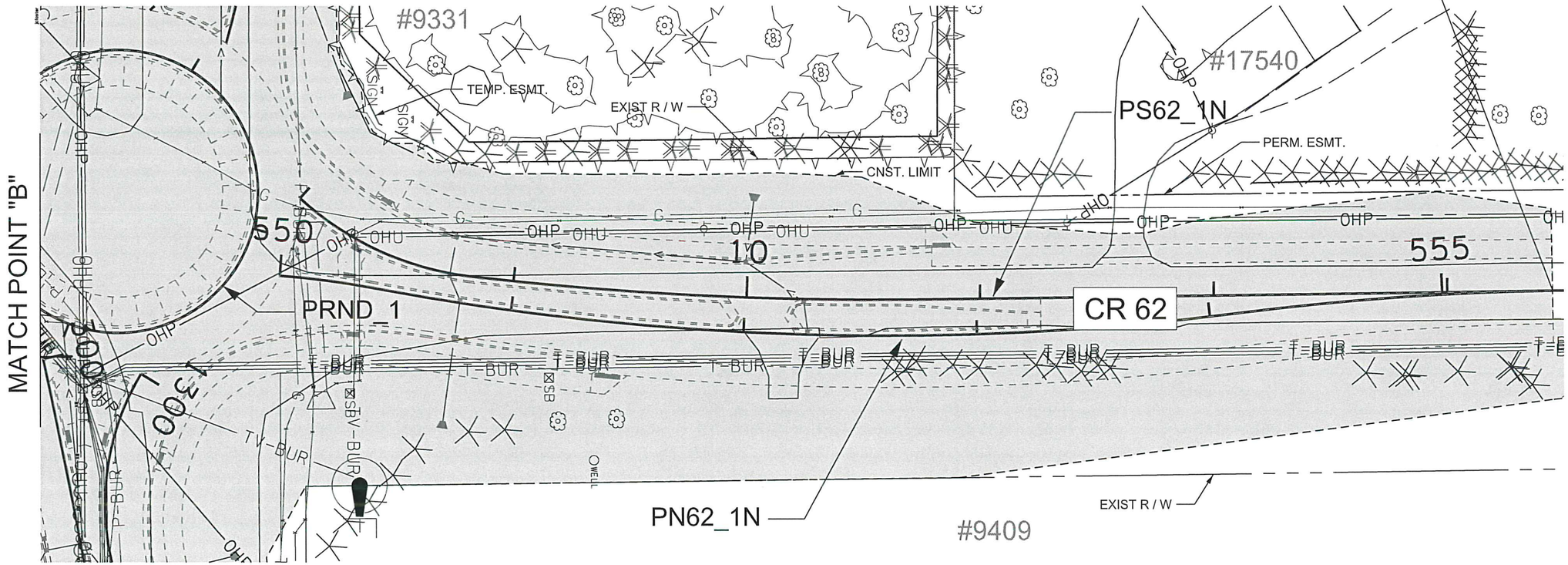
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EXISTING UTILITIES
SOUTH APPROACH
Sheet 26 of 142 Sheets

LEGEND					
G	CENTERPOINT ENERGY		PROPOSED STORM DRAIN	⊠SBT	SPLICE BOX
OHP P-BUR	CONNEXUS ENERGY		EXISTING R/W		POWER POLE
TV-BUR	CENTURYLINK		PROPOSED R/W		CONSTRUCTION AREA
T-BUR	MEGELLAN MIDSTREAM		CONSTRUCTION LIMITS		PROPOSED CONSTRUCTION
T-BUR	MIDCONTINENT COMM.		EXISTING CULVERT		

END CR 62 PERM. CONST.
S.P. 002-618-030
STA. 555+47.41



0 50
SCALE IN FEET

4 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_UTIL4.dgn 06/01/2015 12:58:32 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

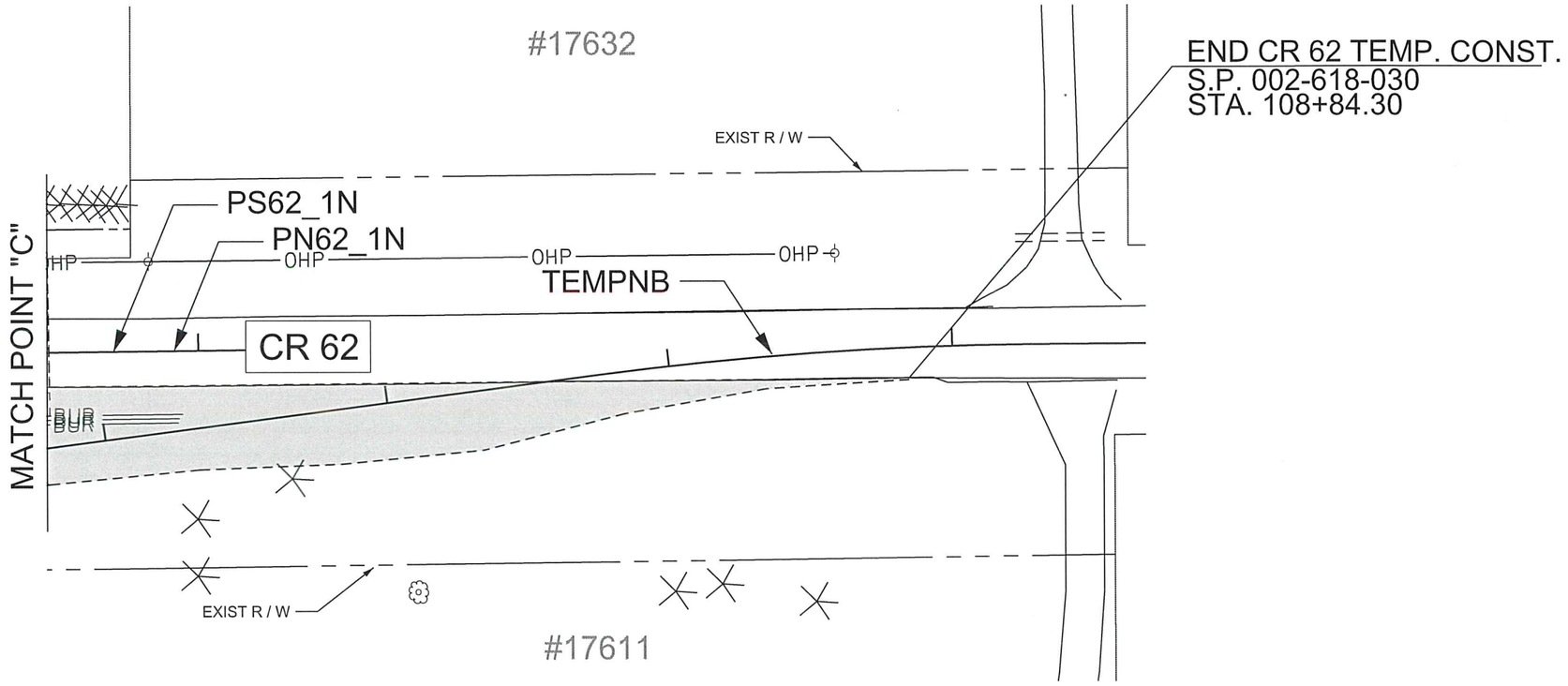
DRAWN BY NJD DATE 8/11/2014
DESIGN BY NJD DATE 8/11/2014
CHECKED BY GMP DATE -

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EXISTING UTILITIES
NORTH APPROACH
Sheet 27 of 142 Sheets

LEGEND		
G — CENTERPOINT ENERGY	PROPOSED STORM DRAIN	SBT SPLICE BOX
OHP P-BUR — CONNEXUS ENERGY	EXISTING R/W	POWER POLE
TV-BUR — CENTURYLINK	PROPOSED R/W	CONSTRUCTION AREA
T-BUR — MEGELLAN MIDSTREAM	CONSTRUCTION LIMITS	PROPOSED CONSTRUCTION
T-BUR — MIDCONTINENT COMM.	EXISTING CULVERT	



0 50
SCALE IN FEET

5 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_UTIL5.dgn 06/01/2015 12:58:34 PM

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SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

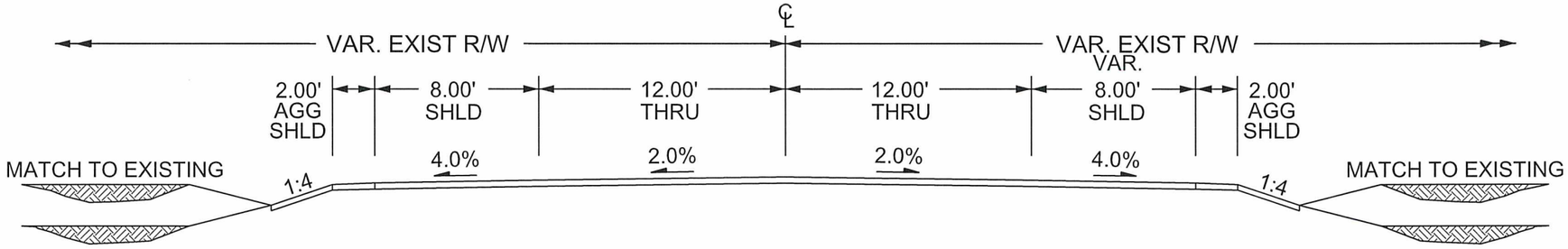
EXISTING UTILITIES
NORTH APPROACH CONT.

Sheet 28 of 142 Sheets

CSAH 18

EAST AND WEST OF CR 62

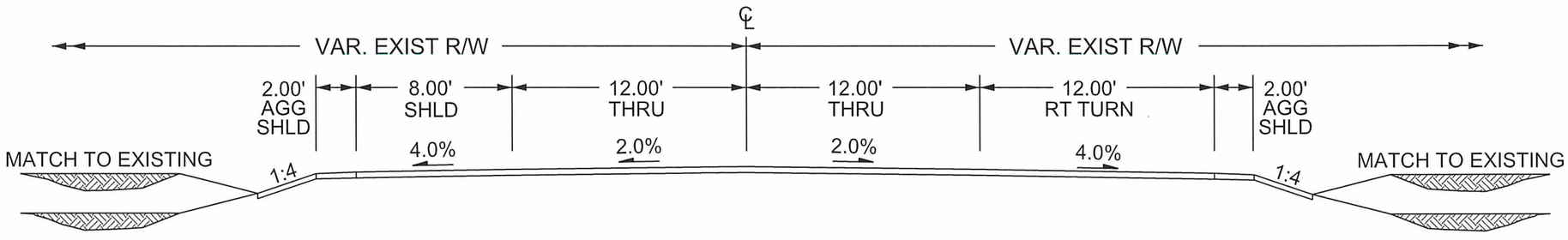
PE18_1W STA. 100+84.60 - 101+37.13
PE18_1E STA. 305+15.75 - 306+39.68
PW18_1W STA. 1000+00.00 - 1000+36.65
PW18_1E STA. 1305+10.09 - 1306+35.22



CSAH 18

RT TURN LANES EASTBOUND AND WEST BOUND AT CR 62

PE18_1W STA. 101+37.13 - 105+66.95
PE18_1E STA. 300+00.00 - 305+15.75
PW18_1W STA. 1000+00.00 - 1004+72.37
PW18_1E STA. 1300+00.00 - 1305+10.09



NO	DATE	BY	CKD	APPR	REVISION

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STATE PROJECT NO. 002-618-030
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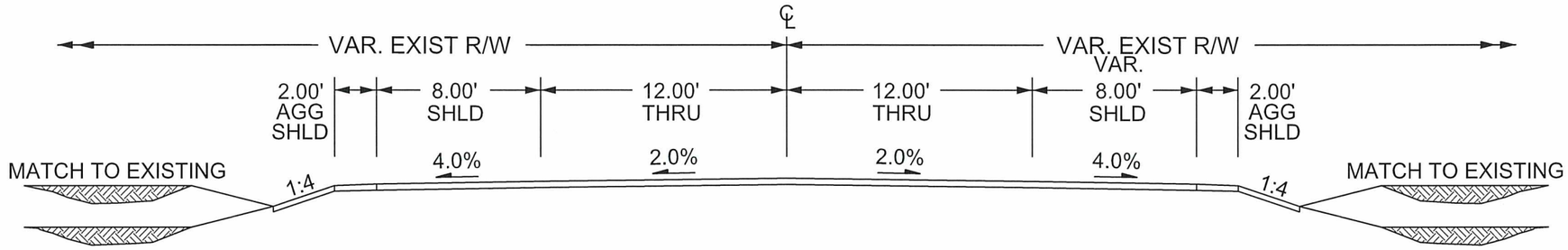
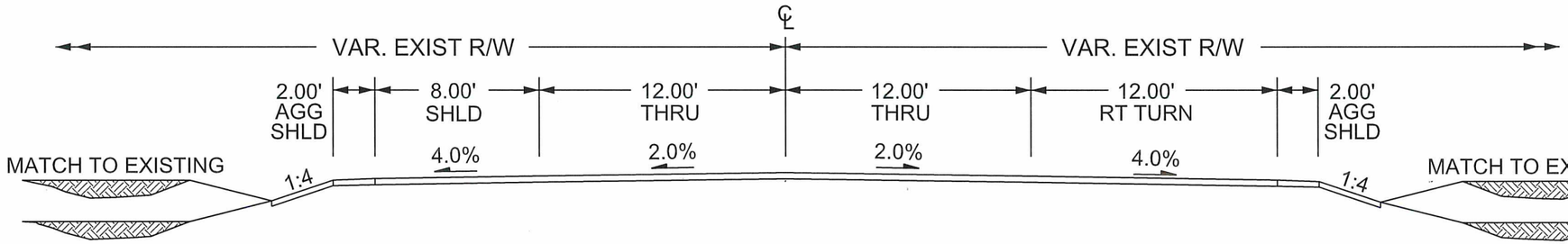
TYPICALS
EXISTING CSAH 18

Sheet 29 of 142 Sheets

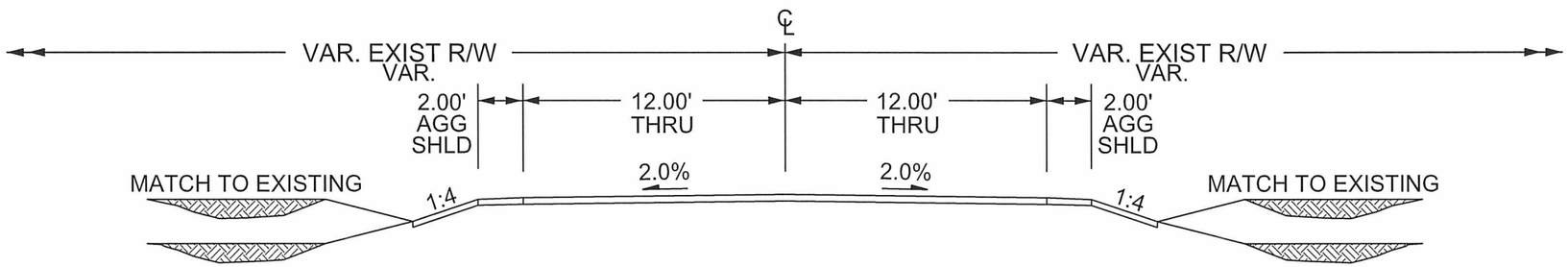
CR 62
SOUTH OF CSAH 18
PN62_1S STA. 505+00.00 - 505+74.68
PS62_1S STA. 1400+00.00 - 1504+74.67



CR 62
RT TURN LANE LNB AT CSAH 18
PN62_1S STA. 505+74.68 - 507+28.69
PS62_1S STA. 1504+74.67 - 1506+24.67



CR 62
NORTH OF CSAH 18
PN62_1N STA. 550+00.00 - 555+47.41
PS62_1N STA. 8+00.00 - 13+45.28



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TYP_P1.dgn 06/01/2015 12:58:14 PM

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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
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COUNTY PROJECT NO.

TYPICALS
EXISTING CR 62

Sheet 30 of 142 Sheets

NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED OFF <PE18_1W> ALIGNMENT

(1) SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

(2) PLACE 4" TOPSOIL.

(3) BACKFILL WITH SUITABLE GRADING MATERIAL.

(4) SEE CONSTRUCTION PLAN SHEETS FOR WALK LOCATIONS . CL-5 EXTENDED 6" BEYOND EACH EDGE OF BITUMINOUS WALK.

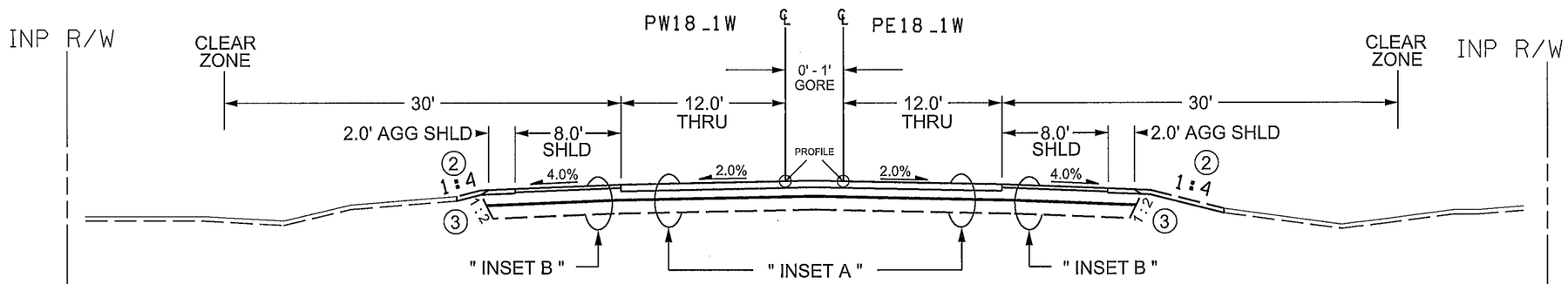
(A) BEGIN CURB AT STATION 102+93

(B) BEGIN WALK AT STATION 104+18

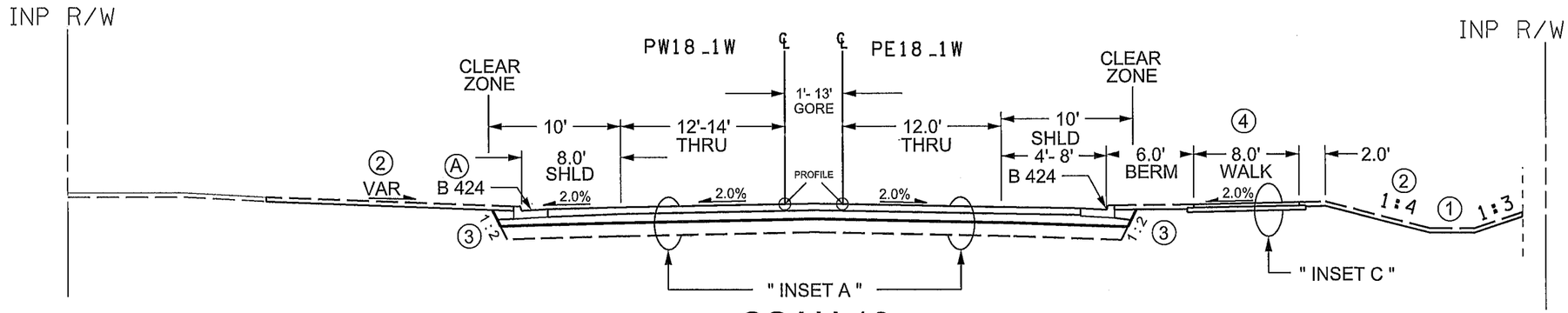
(C) WALK CROSS SLOPE +2.0% FROM STA 104+18 TO STA 105+20. WALK CROSS SLOPE -2.0% FROM STA 105+20 - 105+67

(D) BERM WIDTH EQUALS 0.0' BEYOND 105+20

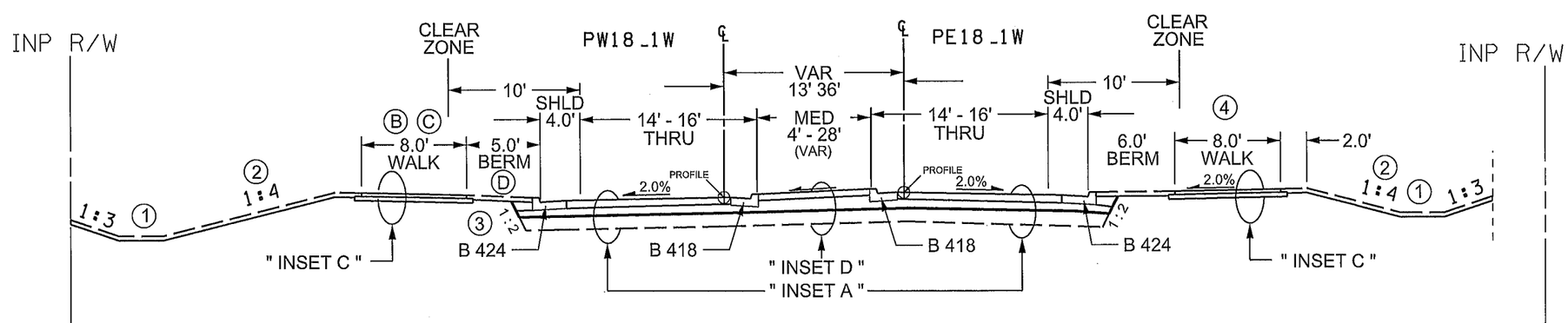
CSAH 18
100+84 -101+57



CSAH 18
101+57 - 103+62



CSAH 18
103+62 - 105+67



3 OF 7

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TYP_P1.dgn 06/01/2015 12:58:12 PM

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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TYPICALS
PROPOSED CSAH 18
WEST LEG

Sheet 31 of 142 Sheets

NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED OFF <PE18_1E> ALIGNMENT

(1) SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

(2) PLACE 4" TOPSOIL.

(3) BACKFILL WITH SUITABLE GRADING MATERIAL.

(4) SEE CONSTRUCTION PLAN SHEETS FOR WALK LOCATIONS . CL-5 EXTENDED 6" BEYOND EACH EDGE OF BITUMINOUS WALK.

(A) END CURB AT STATION 301+40

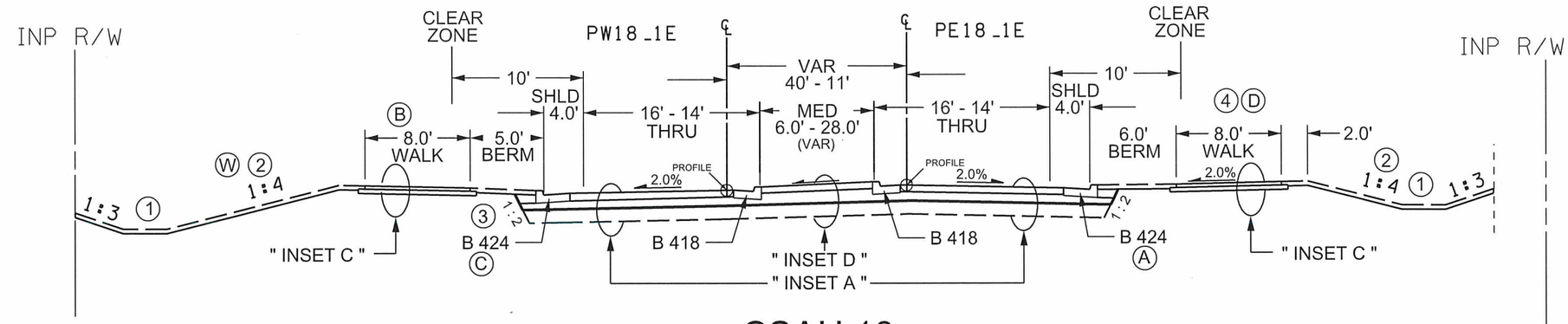
(B) END WALK AT STATION 304+12

(C) END CURB AT STATION 304+12

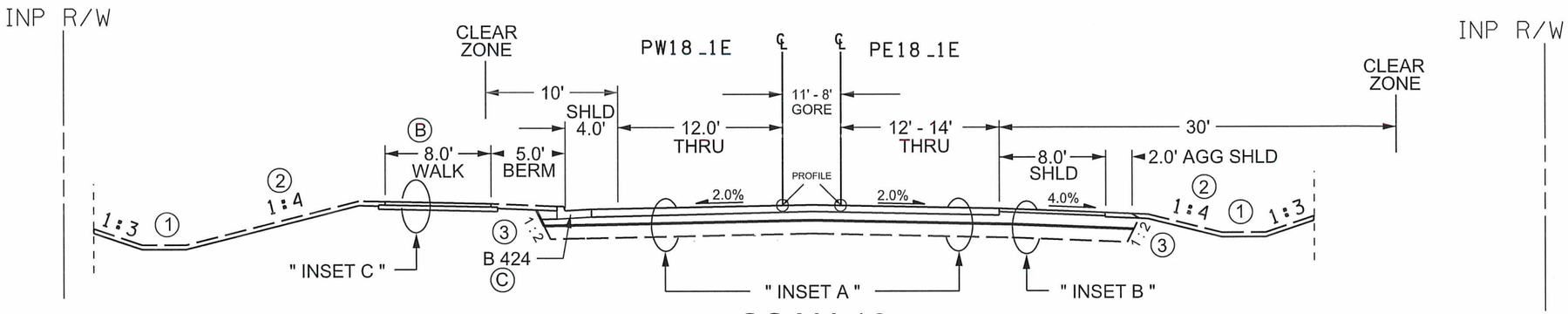
(D) END WALK AT STATION 301+40

(W) 1 : 3 INSLOPE ADJACENT TO WETLANDS (302+40 - 303+30)

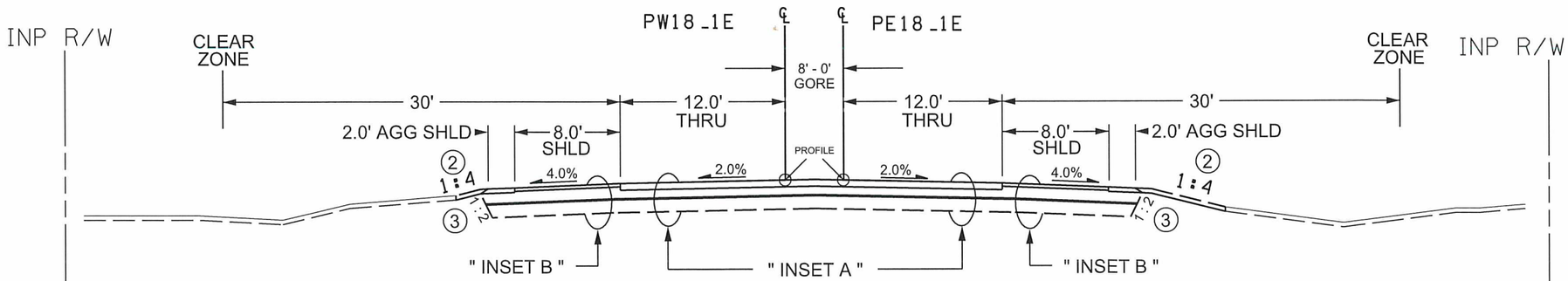
CSAH 18
300+00 - 303+59



CSAH 18
303+59 - 304+20



CSAH 18
304+20 - 306+40



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TYP_P1.dgn 06/01/2015 12:58:15 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TYPICALS
PROPOSED CSAH 18
EAST LEG

Sheet 32 of 142 Sheets

NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED OFF <PN62_1S> ALIGNMENT

(1) SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

(2) PLACE 4" TOPSOIL.

(3) BACKFILL WITH SUITABLE GRADING MATERIAL.

(4) SEE CONSTRUCTION PLAN SHEETS FOR WALK LOCATIONS . CL-5 EXTENDED 6" BEYOND EACH EDGE OF BITUMINOUS WALK.

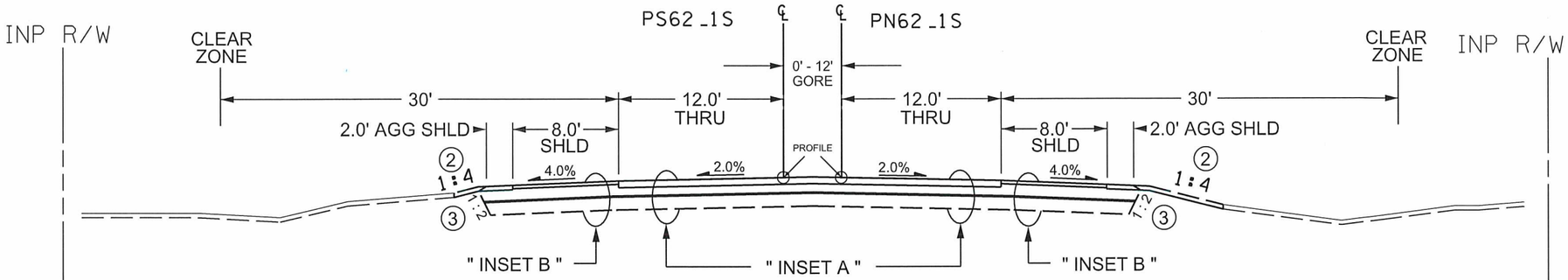
(A) BEGIN NB CURB AT STATION 502+99

(B) BEGIN SB CURB AT STATION 504+30

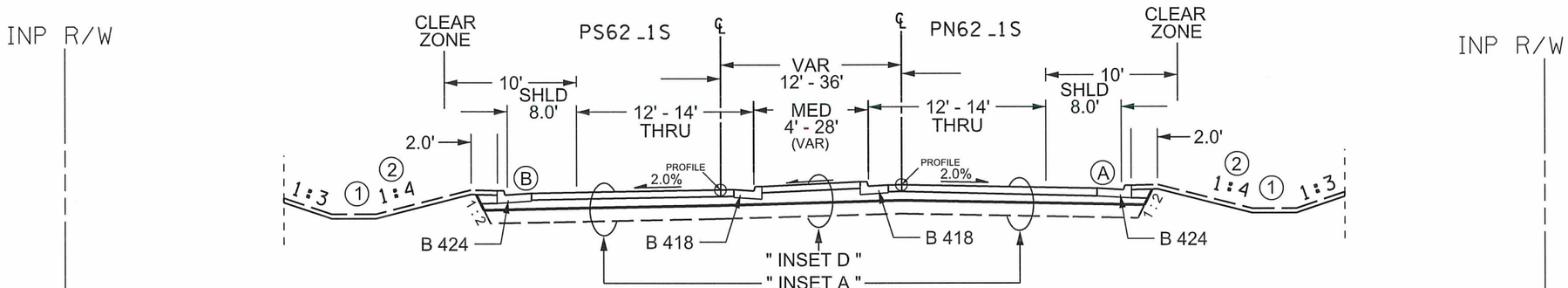
(C) BEGIN NB WALK AT 505+46

(D) BEGIN SB WALK AT 505+89

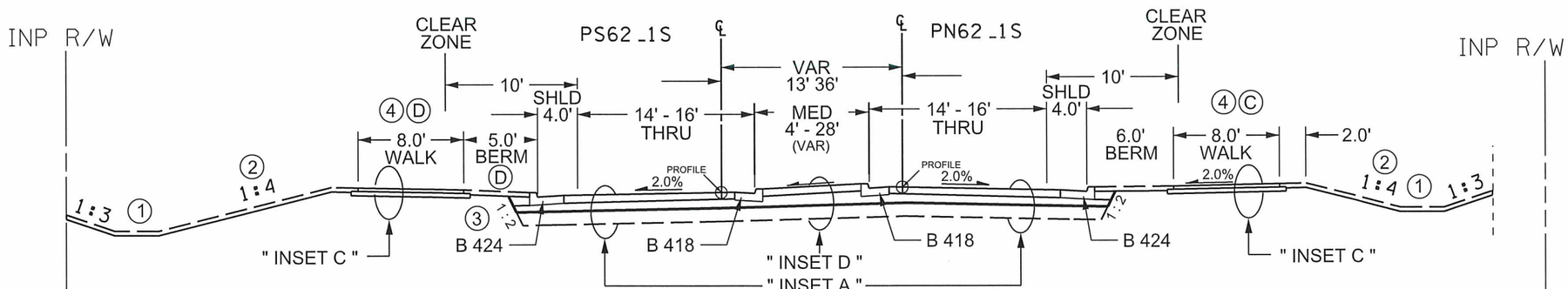
CSAH 62
501+00 - 503+56



CSAH 62
503+56 - 505+50



CSAH 62
505+50 - 507+30



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_TYP_P1.dgn 06/01/2015 12:58:17 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TYPICALS
PROPOSED CSAH 18
SOUTH LEG

Sheet 33 of 142 Sheets

NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED OFF <PN62_1N> ALIGNMENT

(1) SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

(2) PLACE 4" TOPSOIL.

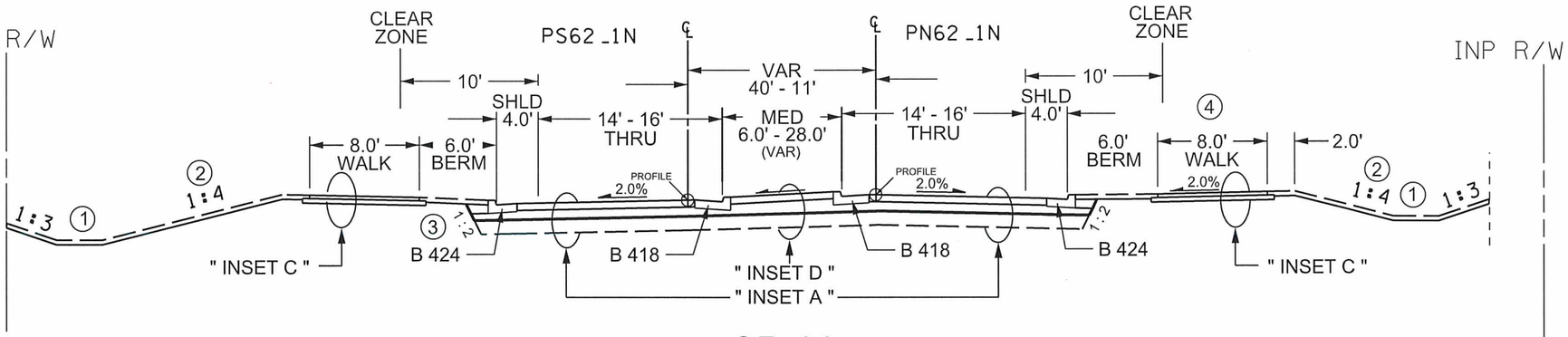
(3) BACKFILL WITH SUITABLE GRADING MATERIAL.

(4) SEE CONSTRUCTION PLAN SHEETS FOR WALK LOCATIONS . CL-5 EXTENDED 6" BEYOND EACH EDGE OF BITUMINOUS WALK.

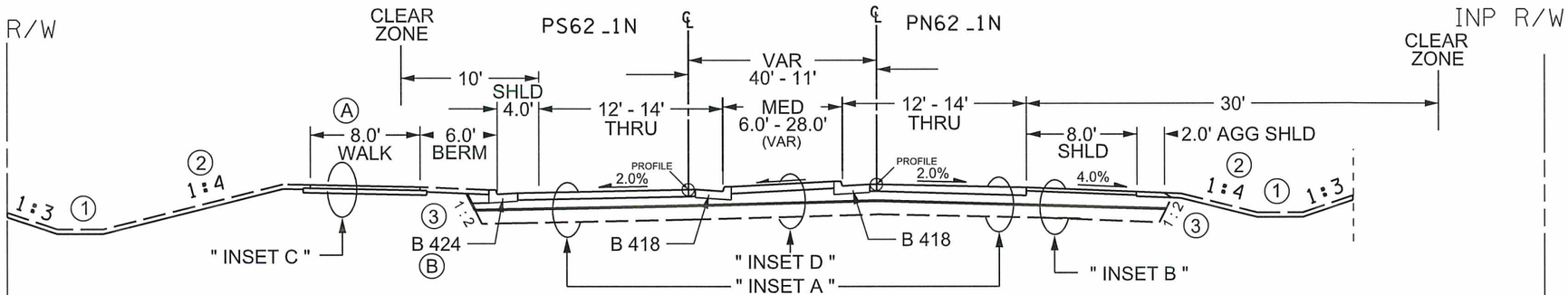
(A) END WALK AT STATION 552+79

(B) END CURB AT STATION 552+79

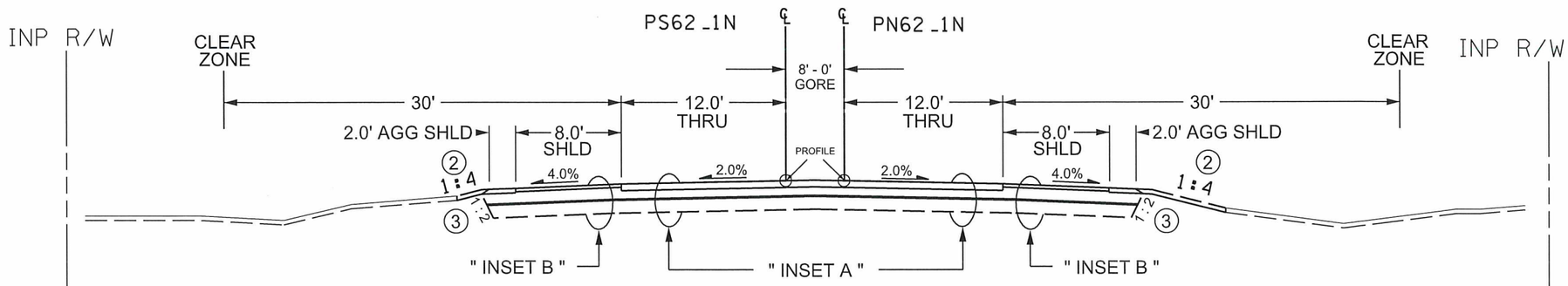
CR 62
550+00 - 551+37



CR 62
551+37 - 553+28



CR 62
553+28 - 555.47



NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

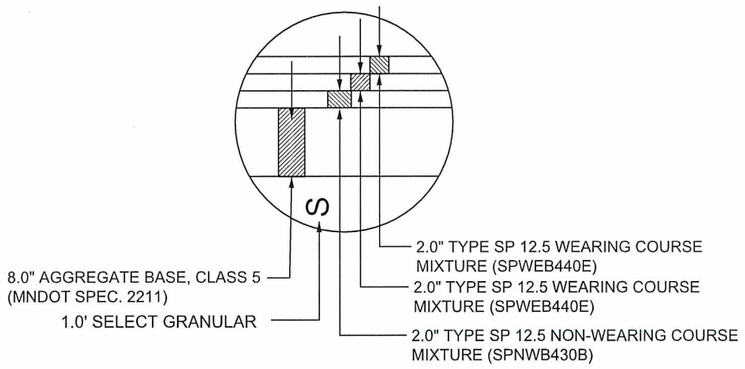
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

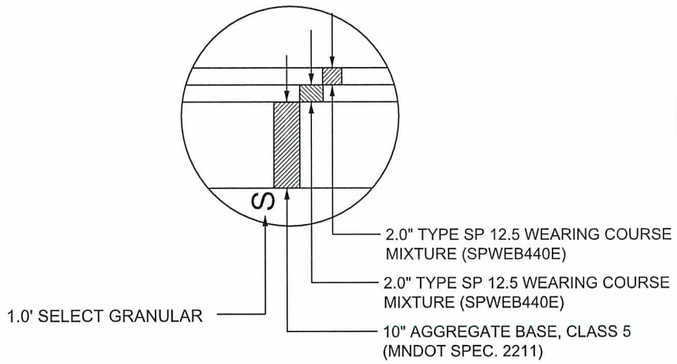
TYPICALS
PROPOSED CSAH 18
NORTH LEG

Sheet 34 of 142 Sheets

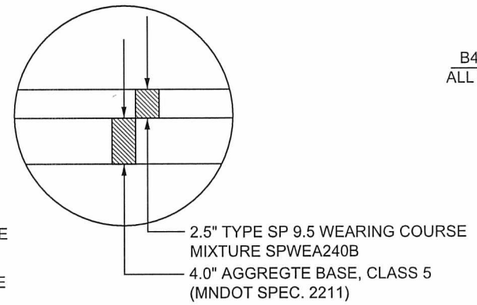
INSET "A" PAVEMENT DESIGN



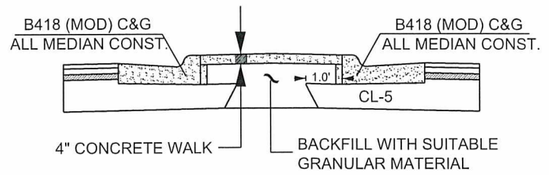
INSET "B" PAVEMENT DESIGN



INSET "C" BITUMINOUS WALK / BITUMINOUS DRIVEWAYS



INSET "D" MEDIAN



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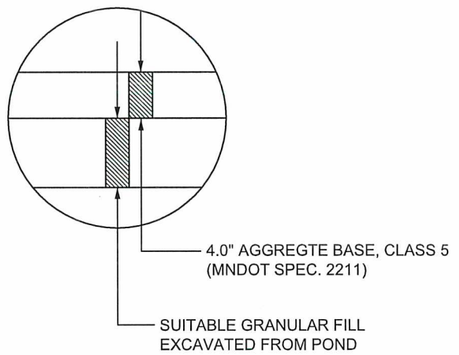
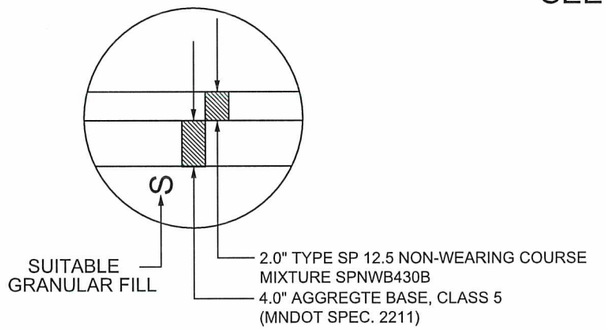
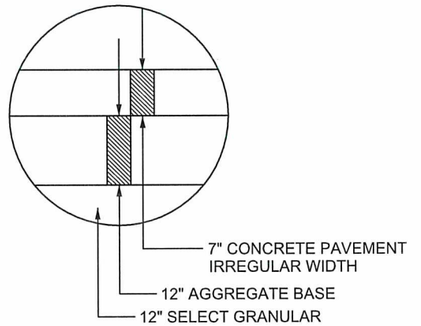


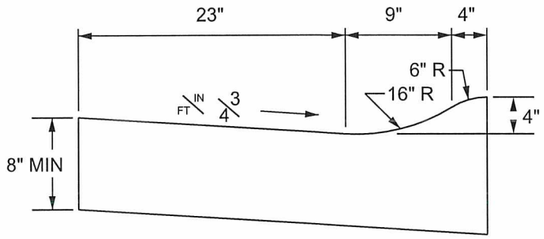
TEMPORARY WIDENING



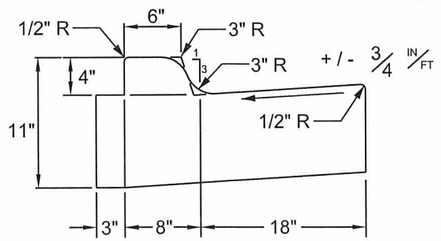
TRUCK APRON
SEE ALSO MISC. DETAILS, SHEET 2



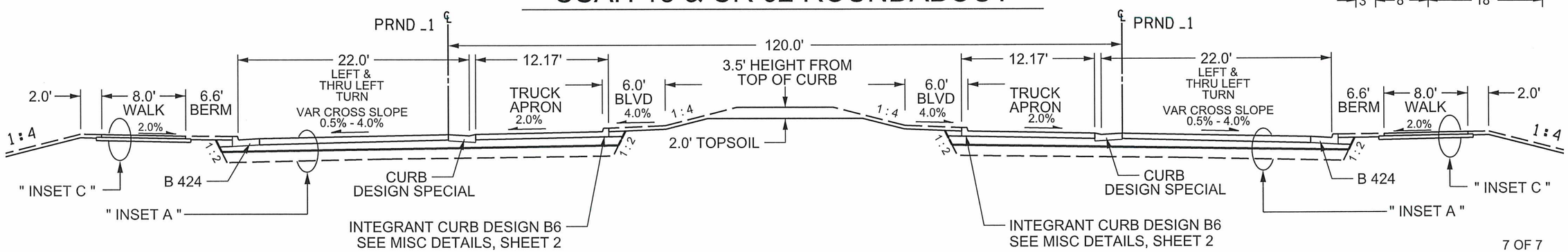
CURB DESIGN SPECIAL
(NO VARIANCES ALLOWED)



MEDIAN
B4 MODIFIED CURB & GUTTER
(NO VARIANCES ALLOWED)



CSAH 18 & CR 62 ROUNDABOUT



7 OF 7

NO	DATE	BY	CKD	APPR	REVISION
1	7/16/2015	JF	NJD	GMP	REMOVED / REPLACED CENTER ROUNDABOUT TYPICAL
2	7/16/2015	JF	NJD	GMP	REMOVED (INSET "D")
3	7/16/2015	JF	NJD	GMP	REMOVED (DETAIL "A") REPLACED WITH NEW " INSET D "
4	7/16/2015	JF	NJD	GMP	CHANGED INSET "C" WEARING COURSE MIXTURE FROM SPWED230B TO SPWEA240B.

NAME: P:\02-618-30\Plan\0261830_TYP_P1.dgn 07/16/2015 2:45:47 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 7-17-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

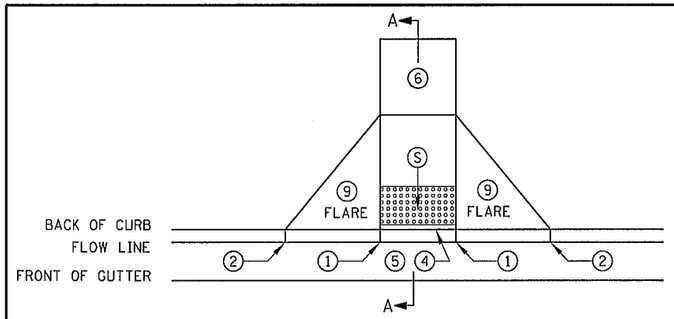
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TYPICAL DETAILS

Sheet 35 of 142 Sheets



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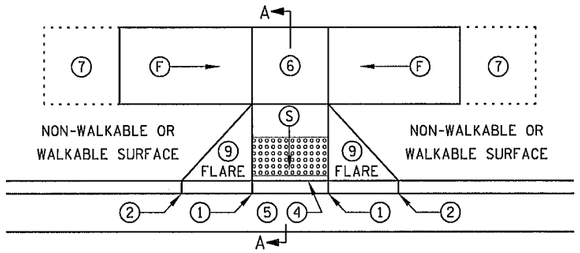
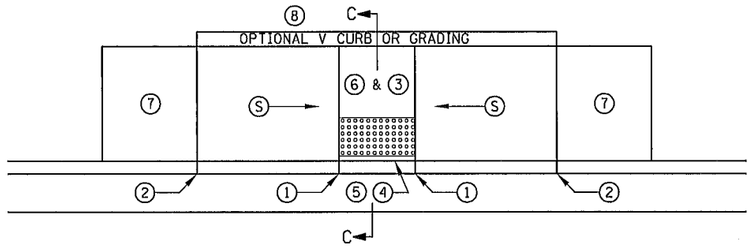
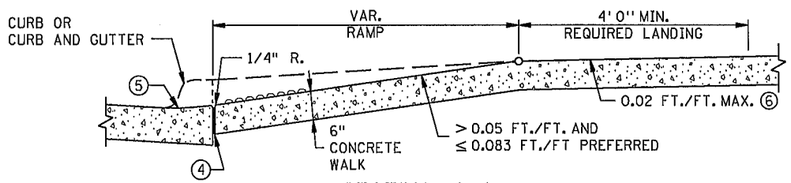


TIERED PERPENDICULAR

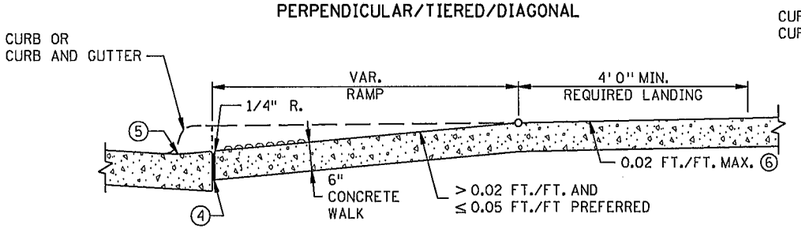


PARALLEL



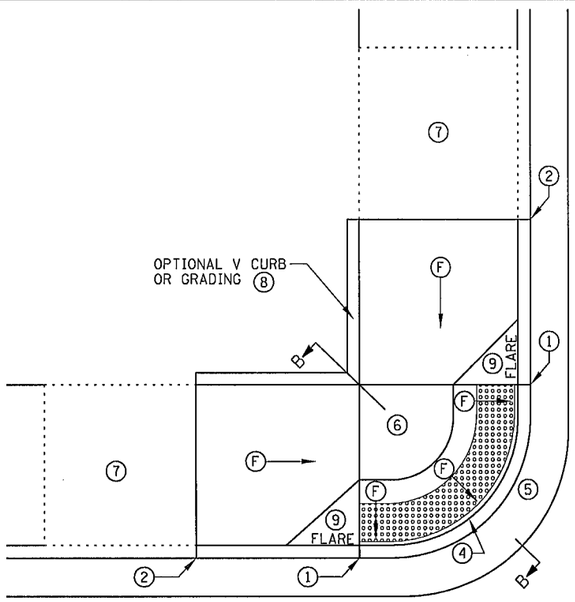
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



SECTION B-B

FAN



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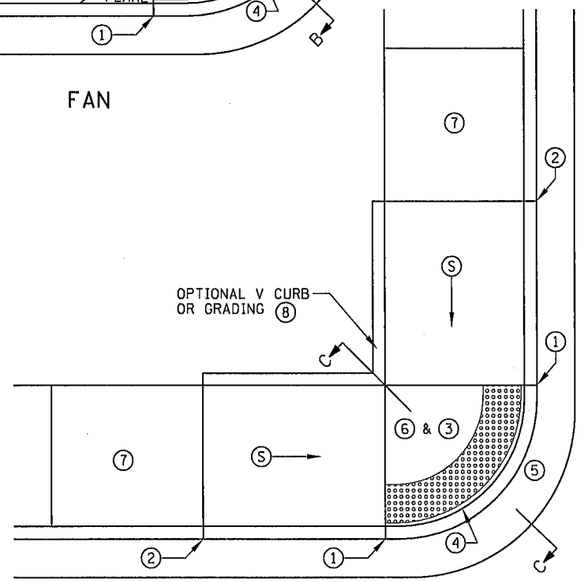
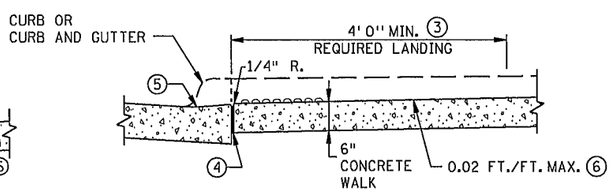
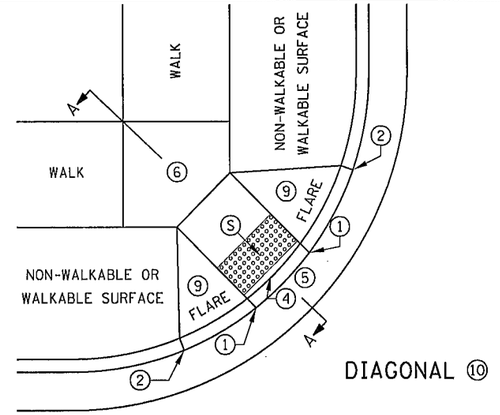


DEPRESSED CORNER



SECTION C-C

PARALLEL/DEPRESSED CORNER



DIAGONAL ⑩

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ DETECTABLE WARNINGS MAY BE PART OF 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.

④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.

⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.

⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.

⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. SEE SHEET 5 OF 5.

⑨ SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.

⑩ DIAGONAL RAMPS SHOULD ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

REVISION:

APPROVED: 8-6-2014

OPERATIONS ENGINEER

REVISED:

APPROVED: 8-6-2014

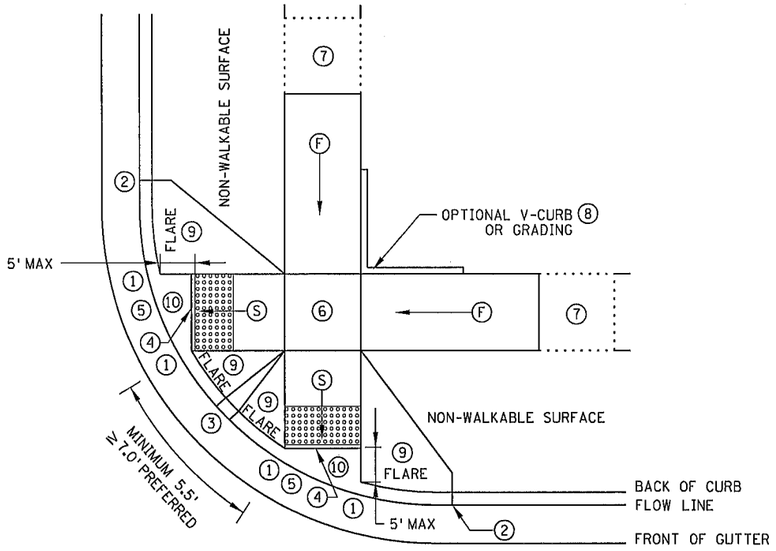
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

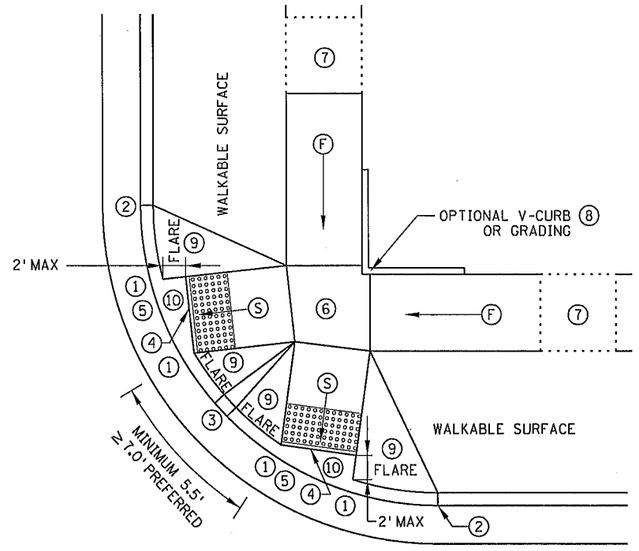
STANDARD PLAN 5-297.250 1 OF 5

STATE PROJECT NO. 002-618-030

SHEET 36 OF 142

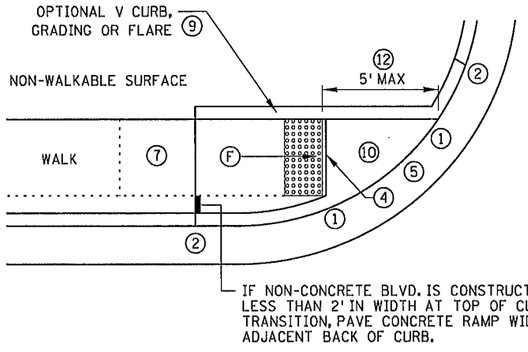


ADJACENT TO NON-WALKABLE SURFACE

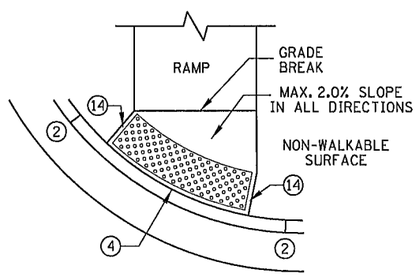


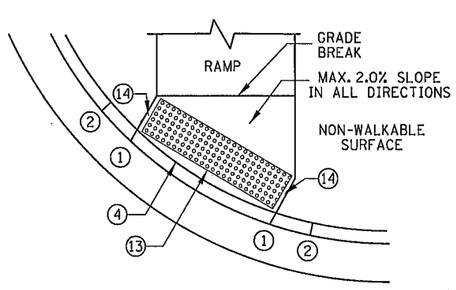
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL ⑮

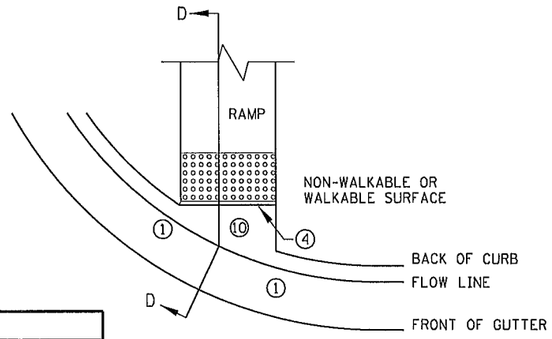


ONE-WAY DIRECTIONAL

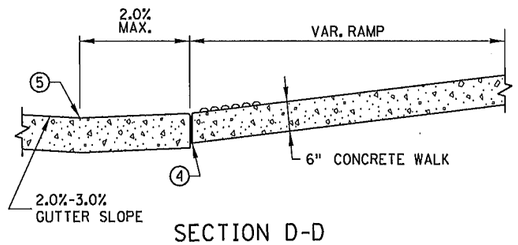




DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED



CURB FOR DIRECTIONAL RAMPS ⑪



SECTION D-D

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

① 0" CURB HEIGHT.
② FULL CURB HEIGHT.
③ 3" MINIMUM CURB HEIGHT, 4" PREFERRED.
④ 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.
⑤ SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
⑥ 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
⑦ IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
⑧ V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
⑨ SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
⑩ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
⑪ TO BE USED FOR ALL DIRECTIONAL RAMPS.
⑫ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
⑬ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
⑭ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑮ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

Ⓕ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

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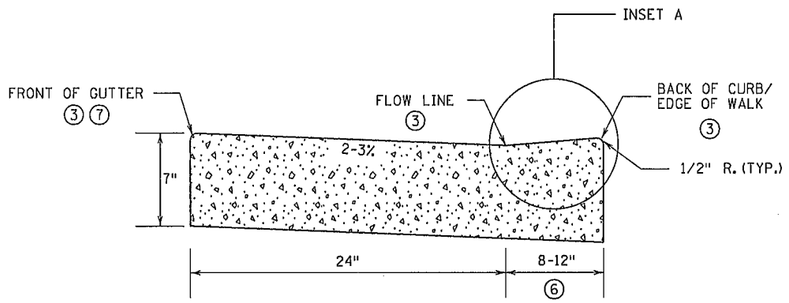
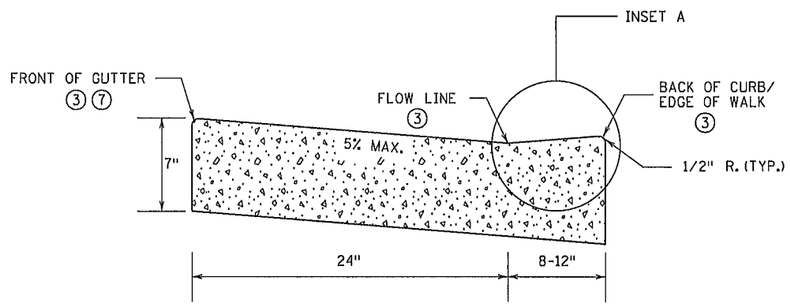
STATE DESIGN ENGINEER

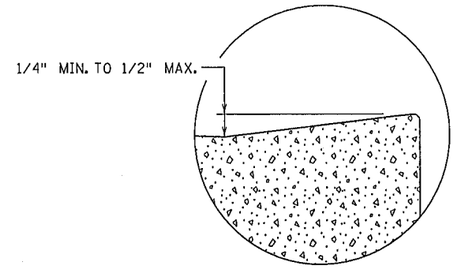
PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 2 OF 5
STATE PROJECT NO. 002-618-030
SHEET 37 OF 142



NON PERPENDICULAR ①

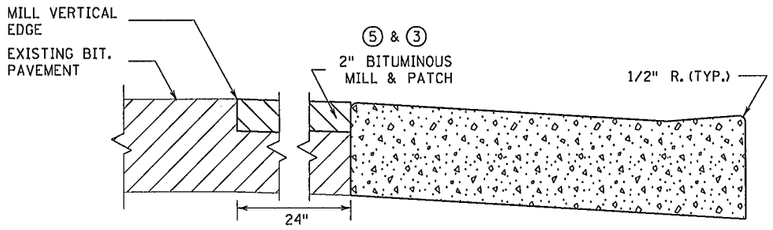


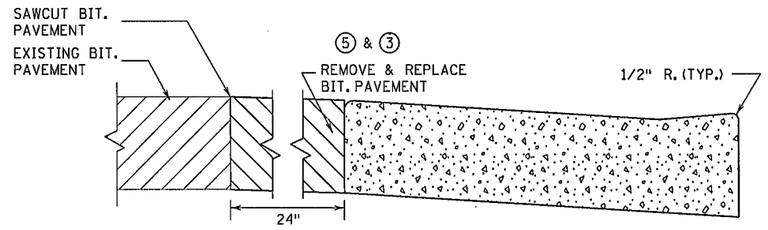
PERPENDICULAR ②

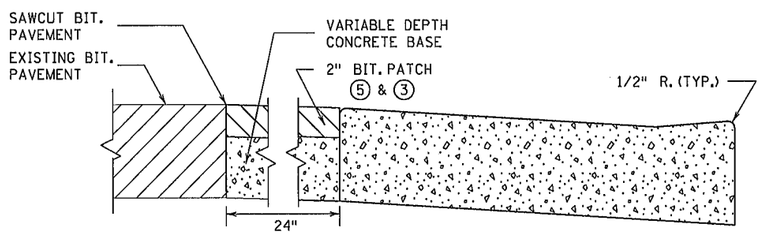


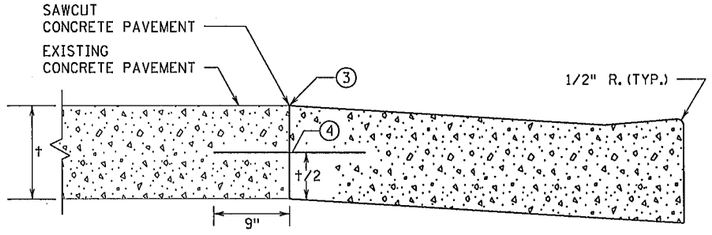
INSET A

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



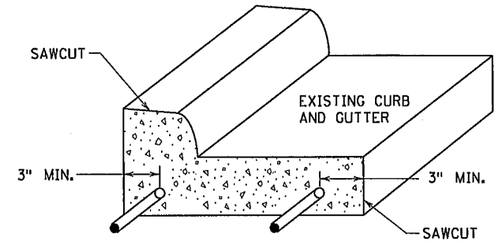






PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



CURB AND GUTTER ⑧ REINFORCEMENT

FOR USE ON CURB RAMP RETROFITS

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.

② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

④ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED).

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OPERATIONS ENGINEER

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

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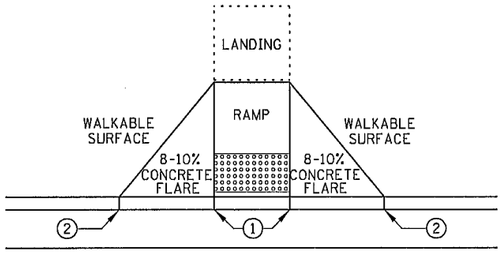
PEDESTRIAN CURB RAMP DETAILS

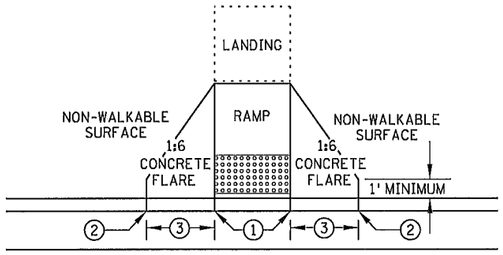
STANDARD PLAN 5-297.250 3 OF 5

STATE PROJECT NO. 002-618-030

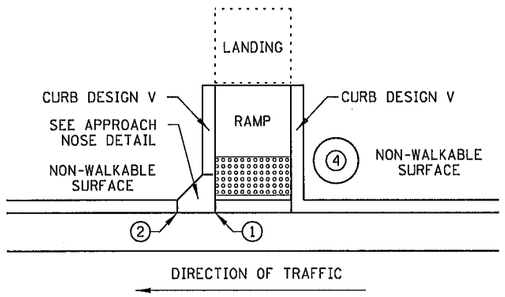
SHEET 38 OF 142



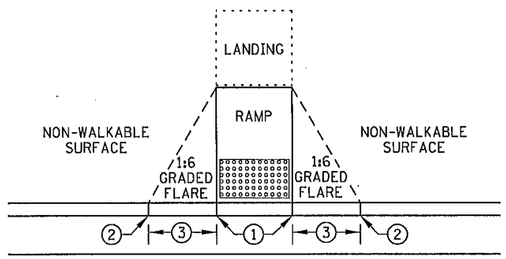
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

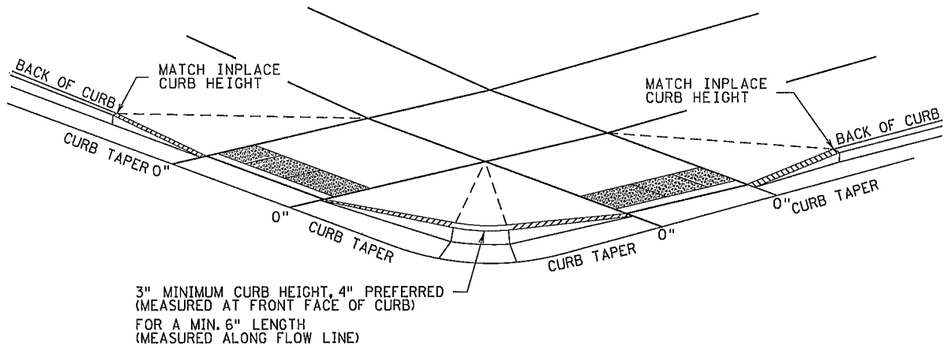


RETURNED CURB

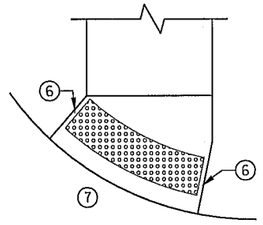


GRADED FLARES

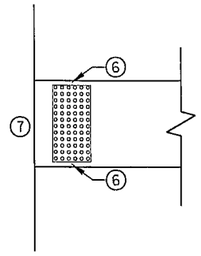
TYPICAL SIDE TREATMENT OPTIONS ⑤



DETECTABLE EDGE WITH
CURB AND GUTTER ⑧

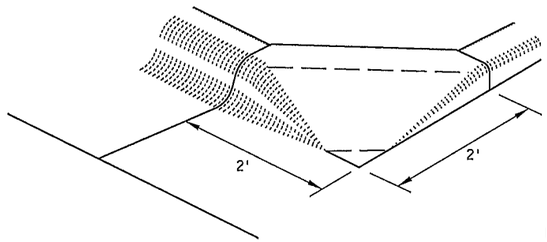


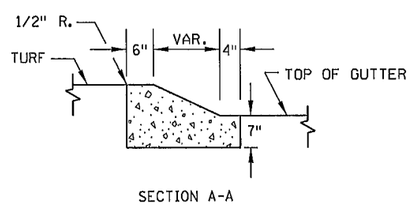
RADIAL DETECTABLE WARNING



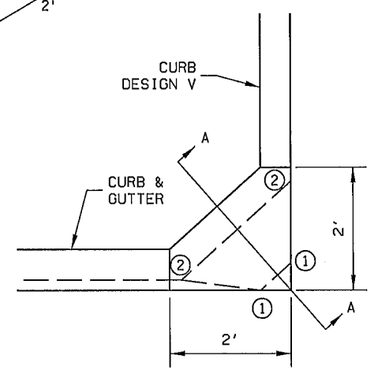
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER





SECTION A-A



APPROACH NOSE DETAIL
FOR DOWNSTREAM SIDE OF TRAFFIC

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER.

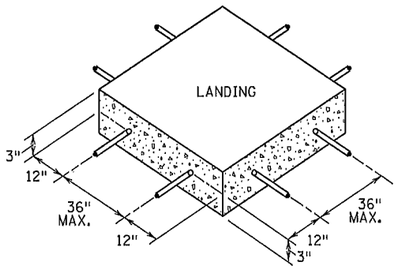
CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

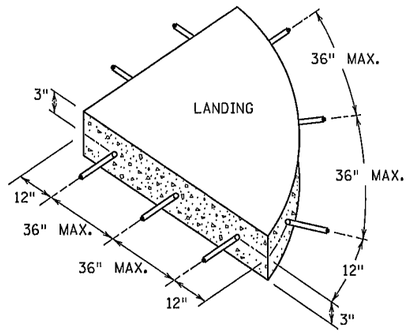
① 0" CURB HEIGHT.
② FULL CURB HEIGHT.
③ 2' - 3' FLARE.
④ IMMOVABLE OBJECT OR OBSTRUCTION.
⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.
⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

REVISION:
APPROVED: 8-6-2014
OPERATIONS ENGINEER

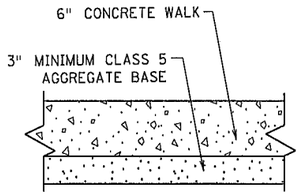
REVISED:
STATE DESIGN ENGINEER
APPROVED: 8-6-2014

PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 4 OF 5
STATE PROJECT NO. 002-618-030
SHEET 39 OF 142

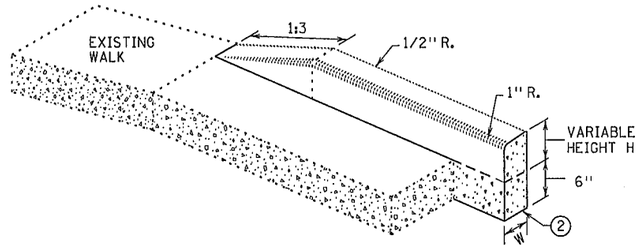




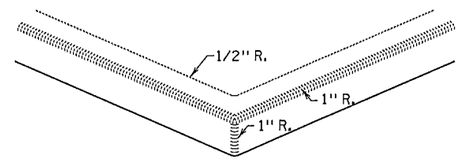
SIDEWALK REINFORCEMENT ⑥ ⑦



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

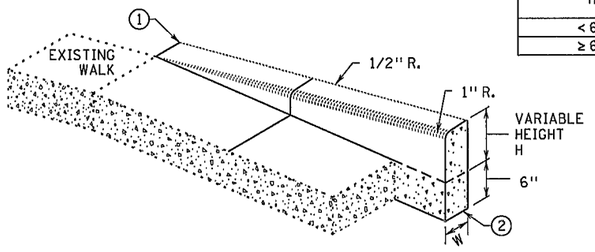


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

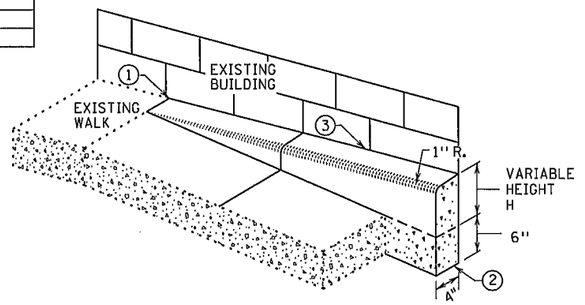


V CURB INTERSECTION

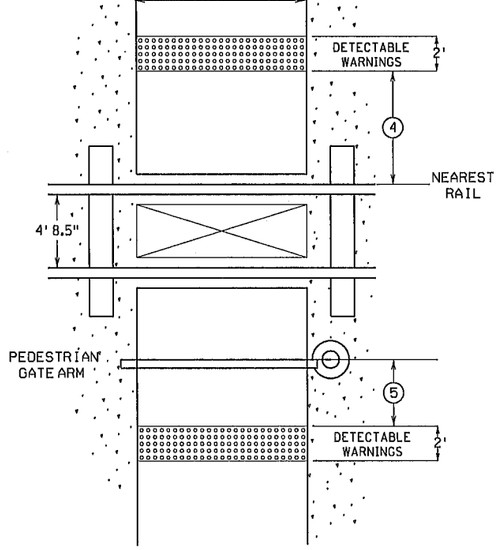
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



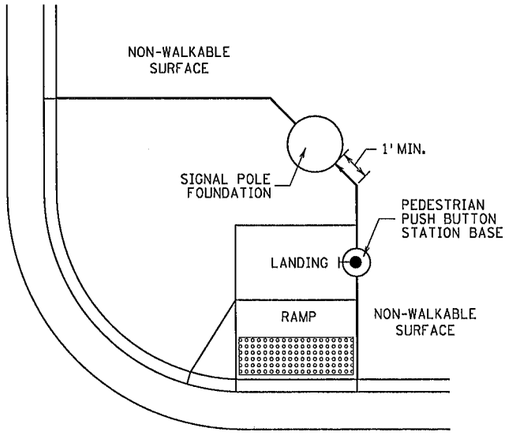
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING OR BARRIER



RAILROAD CROSSING
PLAN VIEW



CONCRETE WALK EDGES ADJACENT
TO CONCRETE STRUCTURES

NOTES:

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

④ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑤ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM.

⑥ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).

⑦ TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

REVISION:

APPROVED: 2-9-2015
OPERATIONS ENGINEER

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

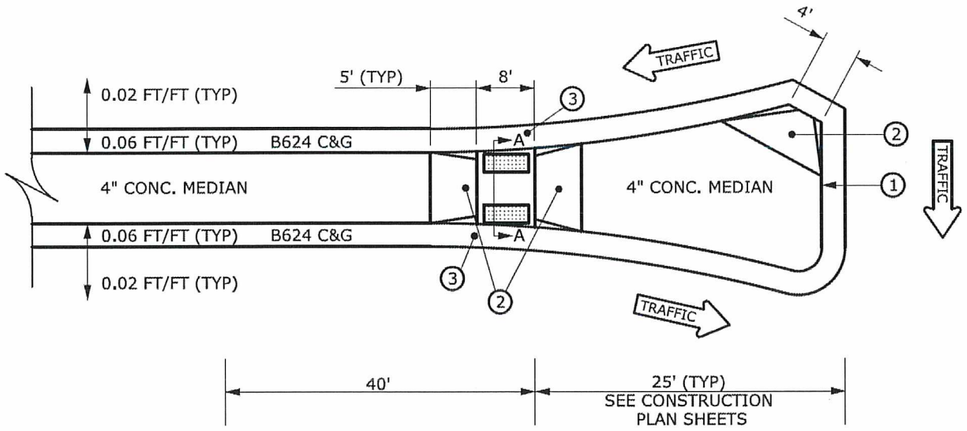
APPROVED: 2-9-2015

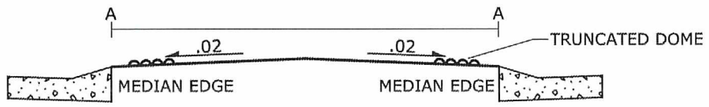
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 5 OF 5

STATE PROJECT NO. 002-618-030

SHEET 40 OF 142





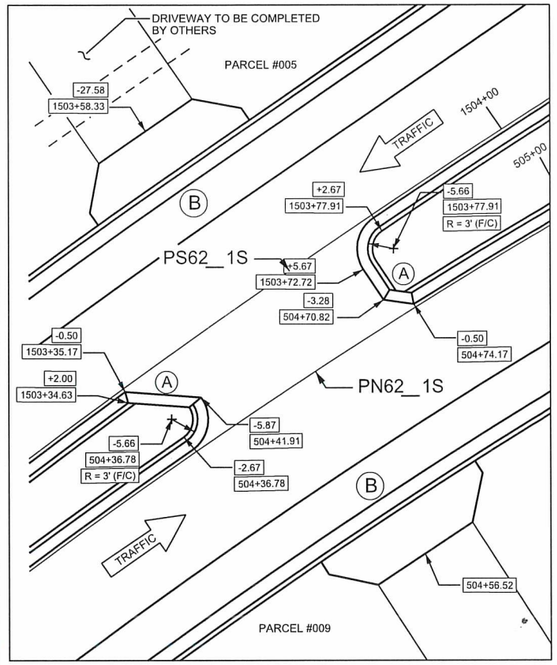
SPLITTER ISLAND DETAIL

NOTES: INSTALL PEDESTRIAN WALKWAY THROUGH MEDIAN. THE WALKWAY SHALL CUT THROUGH THE MEDIAN AT ROADWAY LEVEL. SEE STANDARD PLATE 7036 FOR DETAILS. USE TRUNCATED DOMES AT EACH CURB AND FLARED SIDES SHALL BE SLOPED AT 0.08 FT/FT AS SHOWN ON STANDARD PLATE 7036.

(1) GUTTER SLOPE SHALL BE THE SAME AS ROADWAY SO THAT A LOW POINT IS NOT CREATED.

(2) DESIGN 7113 APPROACH NOSE. PAID FOR AS CONCRETE WALK.

(3) MAINTAIN GUTTER THRU MEDIAN OPENING.



MEDAIN BREAK FOR 9326 BROADWAY AVE NE (PARCEL #005)
AND 17451 KETTLE RIVER BLVD (PARCEL #009)

PARCEL #005 CONCRETE APRON AND CURB DROP TO BE CONSTRUCTED BY CONTRACTOR. DRIVEWAY CULVERT TO BE CONSTRUCTED BY CONTRACTOR.
SHAPE EARTH BEHIND CONCRETE APRON OVER THE CULVERT TO THE RIGHT OF WAY. STABILIZE WITH SEED AND MULCH.
DRIVEWAY SURFACE AND CONNECTION INTO PROPERTY TO BE COMPLETED BY OTHERS.

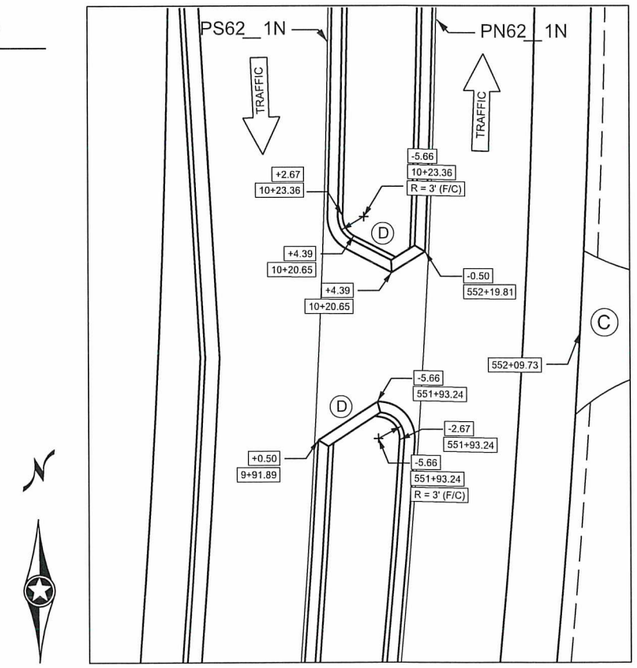
(A) DESIGN 7113 APPROACH NOSE. PAID FOR AS CONCRETE WALK.

(B) CURB DROP

MEDAIN BREAK FOR 9409 BROADWAY AVE NE (PARCEL #001)

(C) 2.5" BITUMINOUS DRIVEWAY, 1 - LIFT

(D) DESIGN 7113 APPROACH NOSE. PAID FOR AS CONCRETE WALK.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_MISC DETAILS_1.dgn 06/01/2015 12:51:10 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

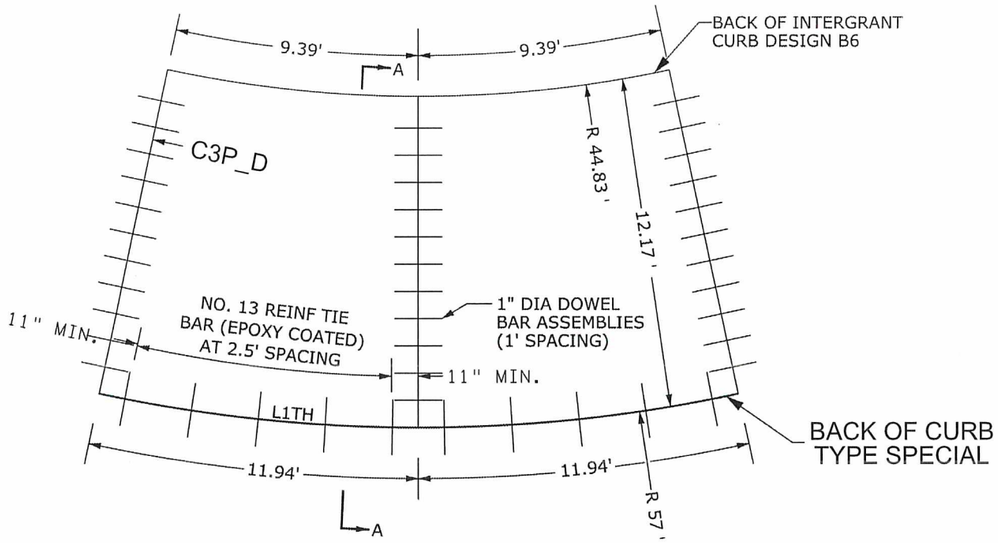
DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

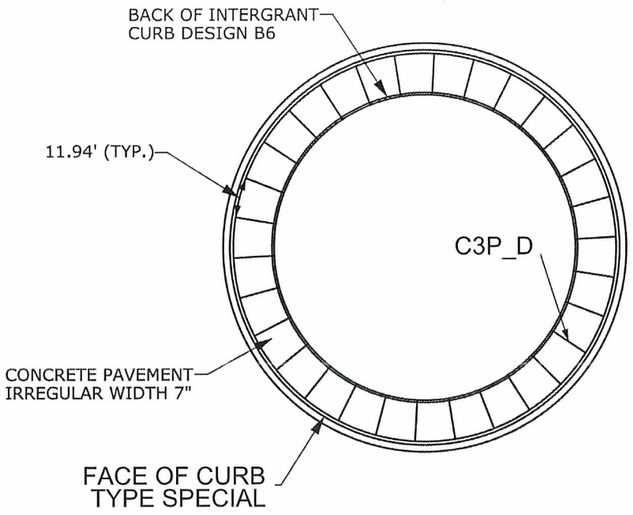
ANOKA COUNTY HIGHWAY DEPT.

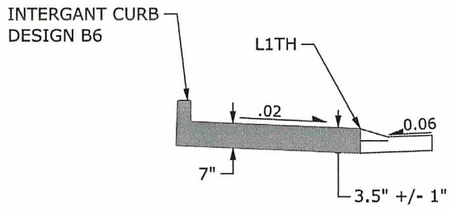
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

MISCELLANEOUS DETAILS

Sheet 41 of 142 Sheets







SECTION A-A

CONCRETE PANELS & REBAR

(NOT TO SCALE)

PLAN VIEW JOINT LAYOUT

GENERAL NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CURB AND GUTTER DETAILS.

DOWEL BAR ASSEMBLIES SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53.

TIE BARS:
USE NO. 13 BARS 2' LONG AT 2.5' SPACING.

C3P_D JOINT SHOULD EXTEND THROUGH INTERGRANT CURB B6.

NO	DATE	BY	CKD	APPR	REVISION
1	7/20/2015	JF	NJD	GMP	CHANGED JOINT DESIGNATION

NAME: P:\02-618-30\Plan\0261830_MISC DETAILS_2.dgn 07/20/2015 3:18:50 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 7/20/15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

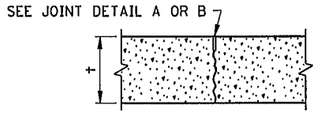
ANOKA COUNTY

ANOKA COUNTY
HIGHWAY DEPT.

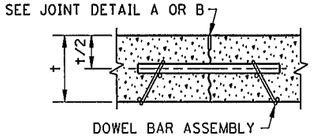
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

MISCELLANEOUS DETAILS

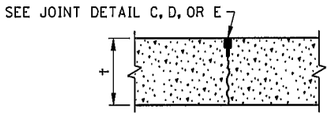
Sheet 42 of 142 Sheets



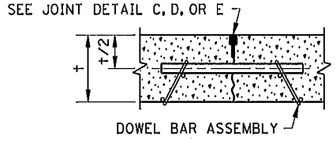
C1U & C2H



C1U-D & C2H-D



C3P, C4S, C5H



C3P-D, C4S-D, C5H-D

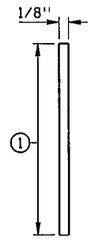
CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"
C4S	C4S-D	D	3722	3/8"
C5H	C5H-D	E	3725	3/8"

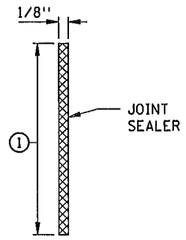
LEGEND — EXAMPLE (C2H-D)
- C = CONTRACTION JOINT
- NO. = JOINT REFERENCE
- U = UNSEALED
- H = HOT POURED
- P = PREFORMED
- S = SILICONE
- -D = DOWEL BARS

DOWEL BAR DIAMETER TABLE

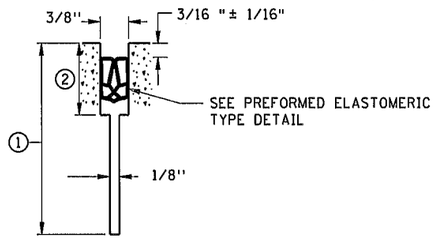
PAVEMENT THICKNESS t	DOWEL BAR DIAMETER
LESS THAN 6"	NONE
6" - 6 1/2"	1" OR NONE
7" - 7 1/2"	1"
8" - 10"	1 1/4"
10 1/2" AND GREATER	1 1/2"



JOINT DETAIL A
SAWED & UNSEALED



JOINT DETAIL B ③
SAWED & SEALED



JOINT DETAIL C ③
SAWED AND SEALED

NOTES:

SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY.

SEE STANDARD PLATE 1150 FOR CONSTRUCTION OF HEADER JOINTS.

JOINT WIDTH TOLERANCE IS + 1/16" TO - 1/32"

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEE STANDARD PLANS 5-297.217 AND 5-297.219, FOR CONCRETE MAINLINE/RAMP PAVEMENT.

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

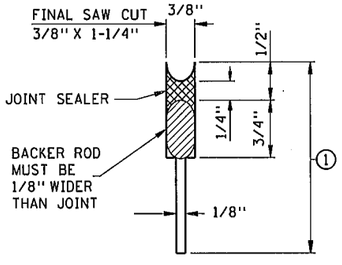
① JOINT DEPTH SHALL BE:
FOR CONCRETE OVERLAYS - 1/3 THE PAVEMENT THICKNESS
FOR CONCRETE PAVEMENT - 1/4 THE PAVEMENT THICKNESS

② SEE CONTRACTION JOINT SEALER DETAIL. WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH. "a" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT "c" DEPTH. SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET.

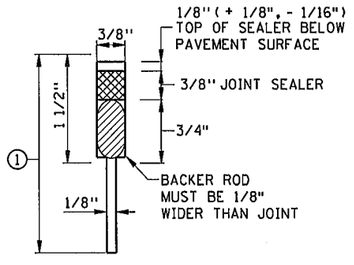
③ WHEN SEALING, THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.

④ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF-LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEAL AND BEAD THICKNESS OF 1/4".

⑤ PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF PAVEMENT.



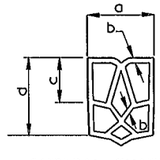
JOINT DETAIL D ③④
SAWED AND SEALED



JOINT DETAIL E ③⑤
SAWED AND SEALED

REQUIRED DIMENSIONS

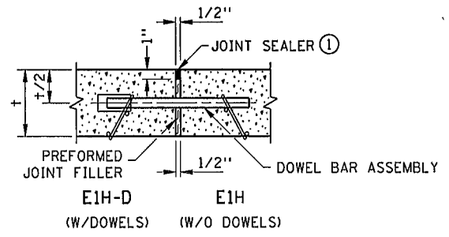
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



SPEC. REFERENCE 3721

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

PREFORMED ELASTOMERIC TYPE DETAIL

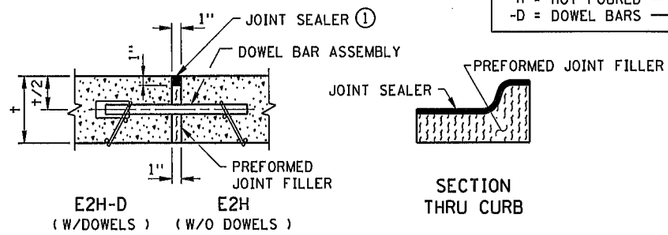


JOINT DETAIL A

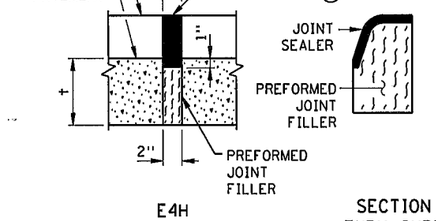
EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
E1H	E1H-D	A	3725	1/2"
E2H	E2H-D	B	3725	1"
E4H		C	3725	2"
	E4H-D	D	3725	2"
E8H		STANDARD PLAN 5-297.229	3725	4"

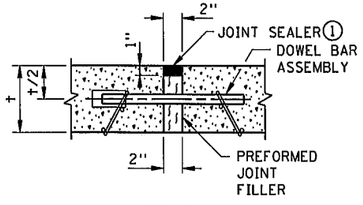
LEGEND — EXAMPLE (E4H-D)
- E = EXPANSION JOINT
- NO. = JOINT REFERENCE
- H = HOT POURED
- -D = DOWEL BARS



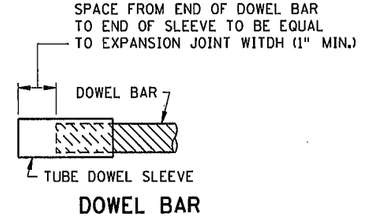
JOINT DETAIL B



JOINT DETAIL C



JOINT DETAIL D



DOWEL BAR SLEEVE DETAIL

NOTES:

PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

① JOINT SEALER SPEC. 3725. THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION D JOINTS FLUSH WITH SURFACE ±1/8".

REVISION:

APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

CONTRACTION JOINTS
DESIGN C

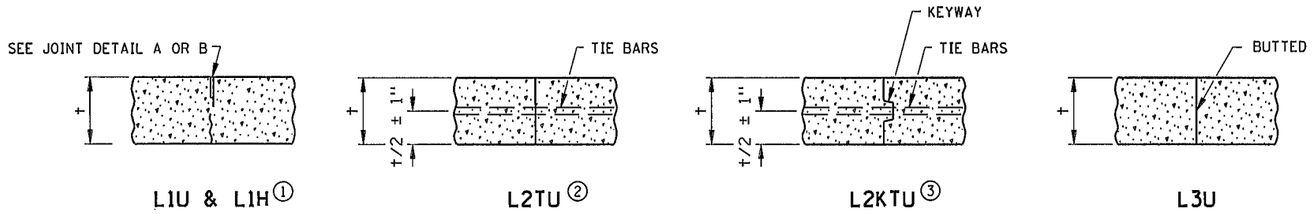
REVISED:

APPROVED: 8-6-2014
STATE DESIGN ENGINEER

PAVEMENT JOINTS
CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)

STANDARD PLAN 5-297.221 — 1 OF 2

STATE PROJECT NO. 002-618-030 — SHEET 43 OF 142



L1U & L1H ①

L2TU ②

L2KTU ③

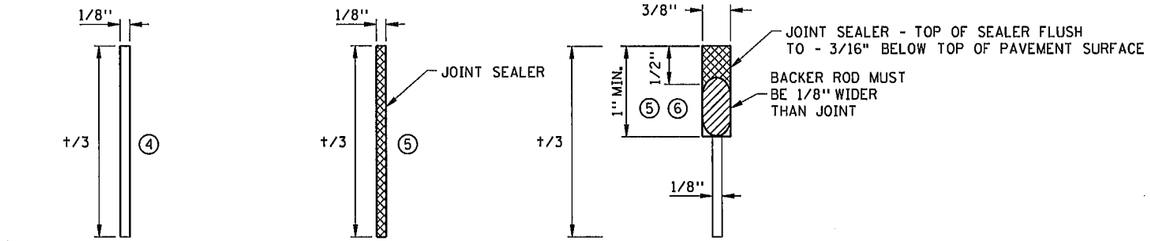
L3U

L1TU & L1TH ①

L2TH ②

L2KTH ③

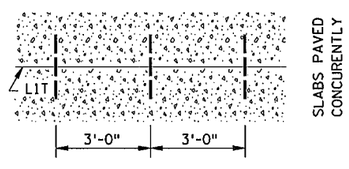
L3H



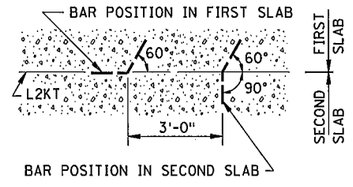
JOINT DETAIL A
SAWED & UNSEALED

JOINT DETAIL B
SAWED & SEALED

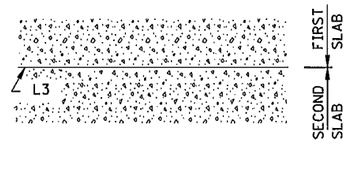
JOINT DETAIL C
SAWED & SEALED



L1T PAVING DETAIL



L2T & L2KT TIE BAR BENDING AND PAVING DETAIL



L3 PAVING DETAIL

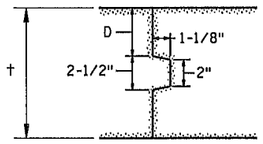
TIEBAR TABLE

PAVEMENT THICKNESS	TIEBAR SIZE	LENGTH
< 10-1/2"	NO. 4	30"
≥ 10-1/2"	NO. 5	36"
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 4	30"

THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2T AND L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 4 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.



PAVEMENT KEYWAY DETAIL

KEYWAY DIMENSION TABLE

t PAVEMENT THICKNESS	D (TOLERANCE ± 1/4")
< 7"	NO KEYWAY
7" TO 7-1/2"	3"
8" TO 10"	4"
≥ 10-1/2"	5"

KEYWAY (1-1/8" x 2" x 2-1/2") MAY BE FORMED WITH MOLD OR METAL FORM. OTHER APPROVED KEYWAY SHAPES GIVING EQUIVALENT CONSTRUCTION FEATURES MAY BE USED WITH APPROVAL OF THE ENGINEER.

LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"

LEGEND — EXAMPLE: L2KTH

- L = LONGITUDINAL JOINT
- NO. = JOINT REFERENCE
  - 1 = PAVED CONSTRUCTION JOINT
  - 2 = TIED/KEYED CONSTRUCTION JOINT
  - 3 = BUTTED CONSTRUCTION JOINT
- K = KEYWAY
- T = TIE BARS
- U = UNSEALED
- H = HOT POURED

NOTES:

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

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

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

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

WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIEBARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

① SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.

② CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

③ CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

④ THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.

⑤ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.

⑥ PRIOR TO SEALING THE JOINT, A 1/2" DIAMETER CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.

REVISION:

APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

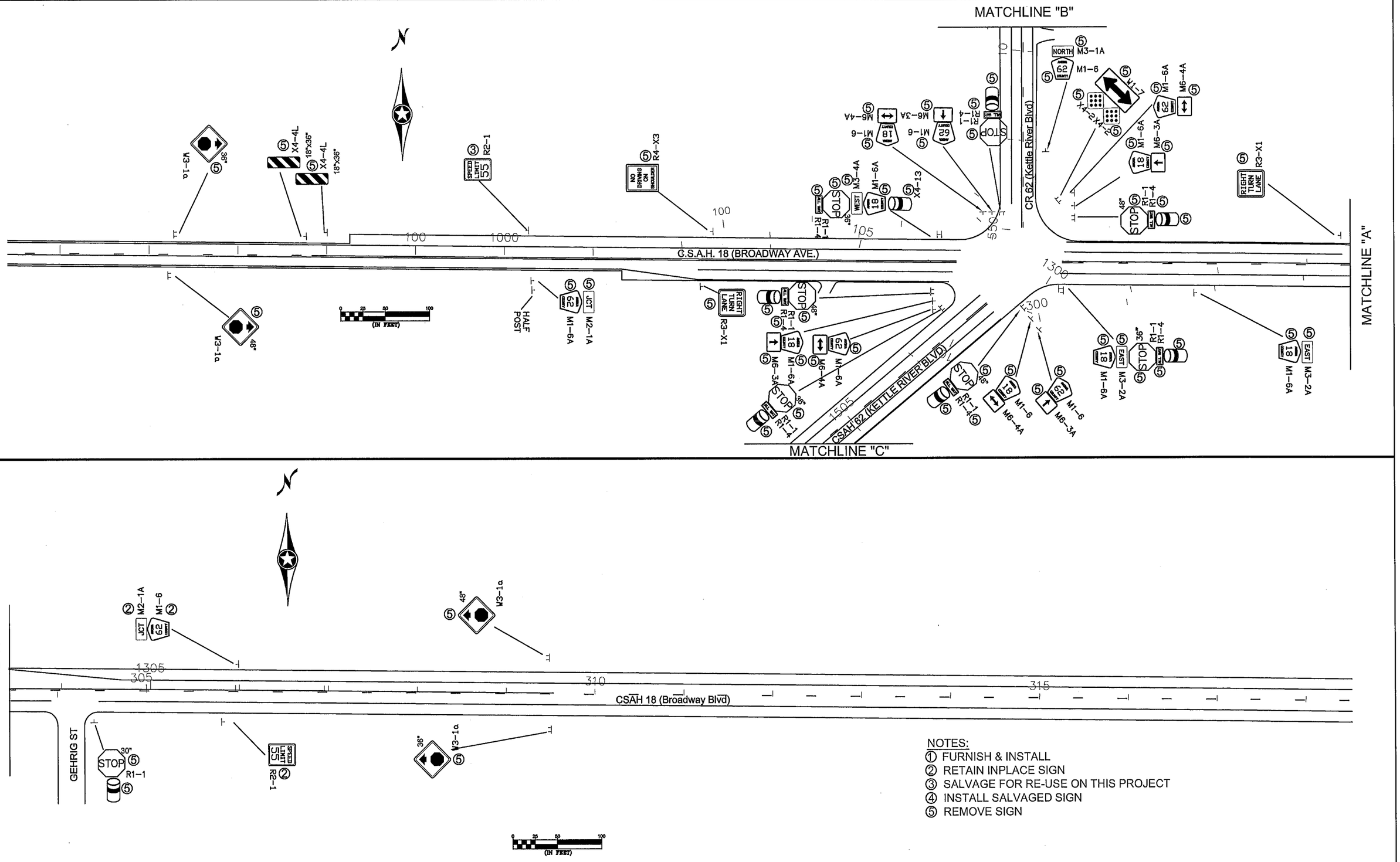
STATE DESIGN ENGINEER

APPROVED: 8-6-2014

PAVEMENT JOINTS
LONGITUDINAL (DESIGN L)

STANDARD PLAN 5-297.221 — 2 OF 2

STATE PROJECT NO. 002-618-030 — SHEET 44 OF 142



NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\from CSAH 1 to East Cty Line.dwg

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 12/05/14

DESIGN BY RLB DATE 12/05/14

CHECKED BY JR DATE 12/05/14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

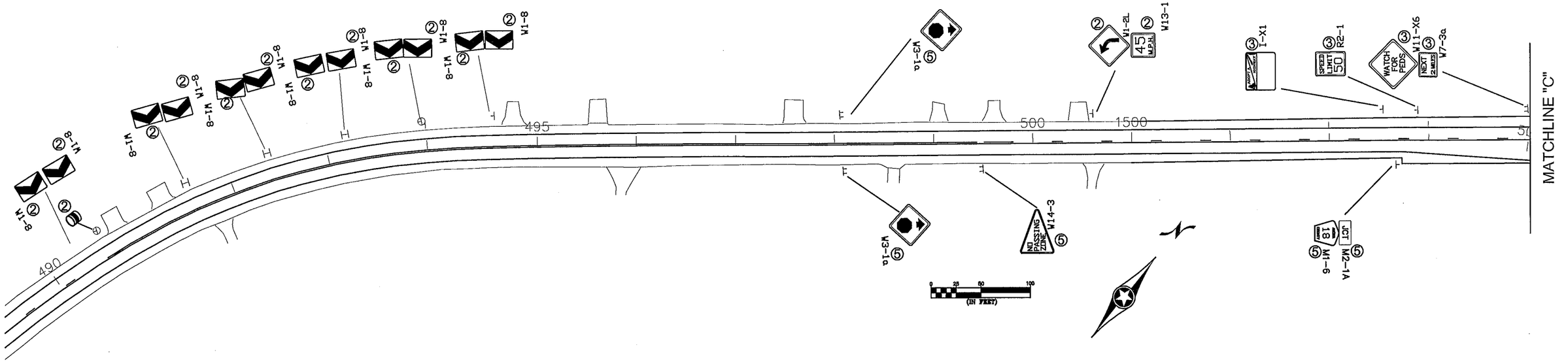
STATE PROJECT NO.

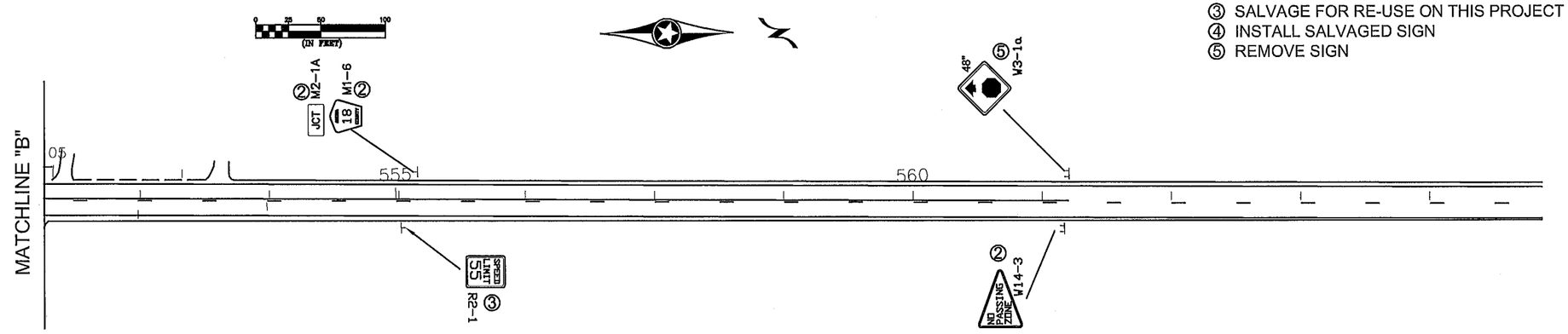
CITY PROJECT NO. 01200

COUNTY PROJECT NO.

EXISTING SIGNING & STRIPING PLAN

Sheet 45 of 142 Sheets





NOTES:
① FURNISH & INSTALL
② RETAIN INPLACE SIGN
③ SALVAGE FOR RE-USE ON THIS PROJECT
④ INSTALL SALVAGED SIGN
⑤ REMOVE SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\from CSAH 1 to East Cty Line.dwg

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 12/05/14

DESIGN BY RLB DATE 12/05/14

CHECKED BY JR DATE 12/05/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

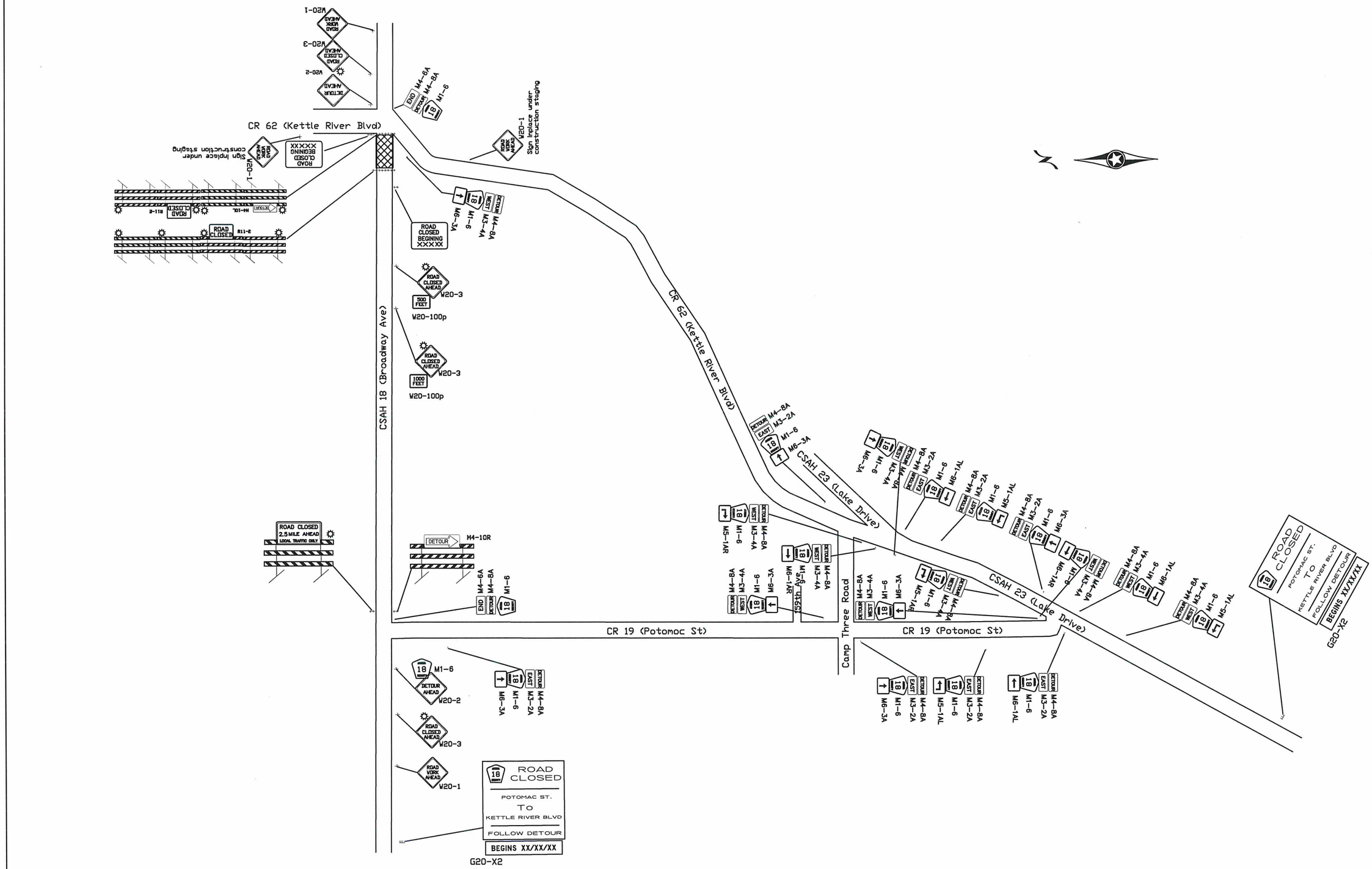
STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

EXISTING SIGNING & STRIPING PLAN

Sheet 46 of 142 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\base\Traffic.dwg

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15

DESIGN BY RLB DATE 4/21/15

CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. SP 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

CSAH 18 (Broadway Ave)
DETOUR PLAN

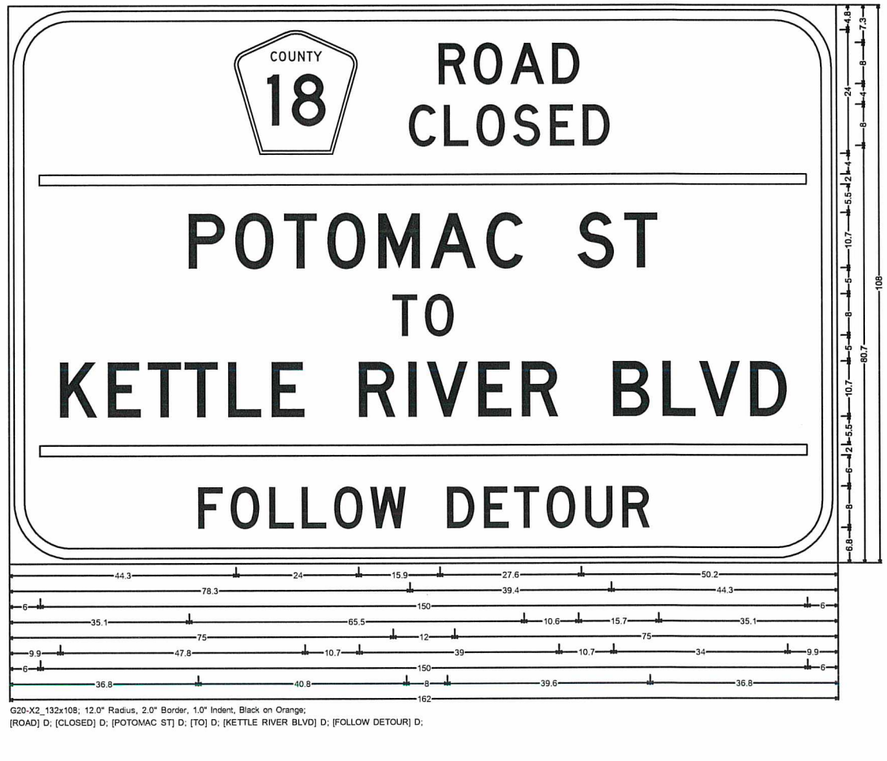
Sheet 47 of 142 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"	ROAD WORK AHEAD	• 2
M1-6A	24" x 24"	ANOKA 18 COUNTY	• 1
W20-2	48" x 48"	DETOUR AHEAD	• 2
W20-3	48" x 48"	ROAD CLOSED AHEAD	• 4
W20-100P	24" x 18"	500 FEET	• 2
W20-100P	24" x 18"	1000 FEET	• 2
M4-10R TYPE III	48" x 18" 8 FOOT	DETOUR	SEE NOTE (2) • 1
M4-10L TYPE III FLASHER	48" x 18" 8 FOOT	DETOUR	SEE NOTE (2) • 1
R11-2 TYPE III FLASHER	48" x 30" 8 FOOT	ROAD CLOSED R11-2	SEE NOTE (2) • 2
R11-3 TYPE III FLASHER	48" x 30" 8 FOOT	ROAD CLOSED 2.5 MILE AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2) • 1

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
TYPE III FLASHER	8 FOOT		• 2
TYPE III FLASHER	8 FOOT		• 3
G20-X2	132" x 108"	ANOKA 18 COUNTY ROAD CLOSED POTOMAC ST. To KETTLE RIVER BLVD FOLLOW DETOUR	• 2
G20-X2	114" x 20"	BEGINS XX/XX/XX	• 2
G20-X1	60" x 48"	ROAD CLOSED BEGINING XXX##	• 2
M4-8A M3-4A M1-6A	24" x 12" 24" x 12" 24" x 24" 21" x 15"	DETOUR EAST ANOKA 18 COUNTY	M5-1AL • 2 M6-1AL • 2 M6-3A • 3
M4-8A M3-2A M1-6A	24" x 12" 24" x 12" 24" x 24" 21" x 15"	DETOUR WEST ANOKA 18 COUNTY	M5-1AR • 2 M6-1AR • 2 M5-1AL • 1 M6-1AL • 1 M6-3A • 4
M4-6A M4-8A M1-6A	24" x 12" 24" x 12" 24" x 24"	END DETOUR ANOKA 18 COUNTY	• 2

INSTALL G20-X2 SIGNS
7 DAYS PRIOR WITH
'BEGIN/DATE' PLATE,
REMOVE PLATE AT START
DATE OF CONSTRUCTION SO
SIGN READS 'FOLLOW DETOUR'

TO BE INSTALLED ONE WEEK
PRIOR TO CONSTRUCTION, AND
REMOVED IMMEDIATELY FOLLOWING



G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [CLOSED] D; [POTOMAC ST] D; [TO] D; [KETTLE RIVER BLVD] D; [FOLLOW DETOUR] D;

STANDARD TRAFFIC CONTROL NOTES

1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
4) ALL BARRICADE MARKINGS SHALL BE SLANTED INACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\BASE\Traffic\CSAH18Detour.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

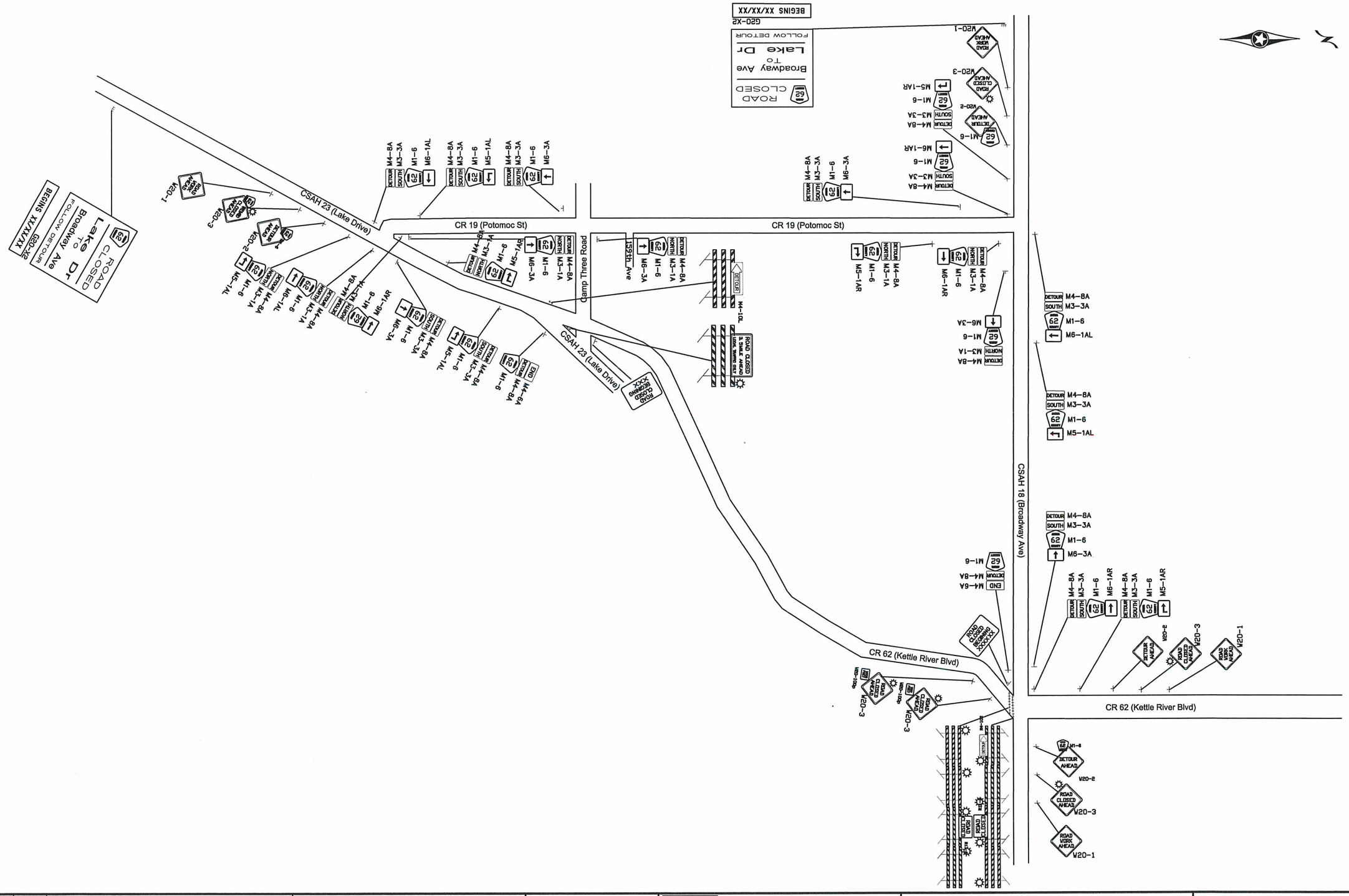
DRAWN BY RLB DATE 4/21/15
DESIGN BY RLB DATE 4/21/15
CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CSAH 18 (Broadway Ave)
DETOUR PLAN

Sheet 48 of 142 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic.dwg

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

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CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. SP 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

CSAH 62 (Kettle River Blvd)
DETOUR PLAN

Sheet 49 of 142 Sheets

M. U. T. C. D. CODE	SIZE	K	INSERT	QUANTITY
W20-1	48" x 48"		ROAD WORK AHEAD	4
M1-6A	24" x 24"		ANOKA 62 COUNTY	3
W20-2	48" x 48"		DETOUR AHEAD	4
M1-6A	24" x 24"		ANOKA 62 COUNTY	1
W20-3	48" x 48"		ROAD CLOSED AHEAD	6
FLASHER				
W20-100P	24" x 18"		500 FEET	1
W20-100P	24" x 18"		1000 FEET	1
M4-10R	48" x 18"		DETOUR	SEE NOTE (2)
TYPE III	8 FOOT			
FLASHER				1
M4-10L	48" x 18"		DETOUR	SEE NOTE (2)
TYPE III	8 FOOT			1
R11-2	48" x 30"		ROAD CLOSED	SEE NOTE (2)
TYPE III	8 FOOT			
FLASHER				2
R11-2	48" x 30"		ROAD CLOSED	SEE NOTE (2)
TYPE III	8 FOOT			
FLASHER				1
R11-3	48" x 30"		ROAD CLOSED 3.5 MILES AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2)
TYPE III	8 FOOT			
FLASHER				1

M. U. T. C. D. CODE	SIZE	K	INSERT	QUANTITY
TYPE III	8 FOOT			2
FLASHER				
TYPE III	8 FOOT			3
FLASHER				
G20-X2	132" x 108"		ROAD CLOSED Lake Dr To Broadway Ave FOLLOW DETOUR	1
G20-X2	114" x 20"		G20-X2 BEGINS XX/XX/XX	1 ✳
G20-X2	132" x 108"		ROAD CLOSED Broadway Ave To Lake Dr FOLLOW DETOUR	1
G20-X2	114" x 20"		G20-X2 BEGINS XX/XX/XX	1 ✳
G20-X1	60" x 48"		ROAD CLOSED BEGINING XXXX	✳ 2
M4-8A	24" x 12"		DETOUR NORTH ANOKA 62 COUNTY	M5-1AR 2
M3-1A	24" x 12"			M6-1AR 2
M1-6A	24" x 24"			M5-1AL 1
	21" x 15"			M6-1AL 1
				M6-3A 3
M4-8A	24" x 12"		DETOUR SOUTH ANOKA 62 COUNTY	M5-1AR 2
M3-3A	24" x 12"			M6-1AR 2
M1-6A	24" x 24"			M5-1AL 3
	21" x 15"			M6-1AL 2
				M6-3A 4
M4-6A	24" x 12"		END DETOUR ANOKA 62 COUNTY	2
M4-8A	24" x 12"			
M1-6A	24" x 24"			

✳ SIGN TO BE INSTALLED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

NOTES:

1) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
2) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
3) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998
4) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 1998
5) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [CLOSED] D; [Broadway Ave] D; [TO] D; [Lake Dr] D; [FOLLOW] D; [DETOUR] D;

G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [CLOSED] D; [Lake Dr] D; [TO] D; [Broadway Ave] D; [FOLLOW] D; [DETOUR] D;

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15
DESIGN BY RLB DATE 4/21/15
CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. SP 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CSAH 62 (Kettle River Blvd)
DETOUR PLAN

Sheet 50 of 142 Sheets

STAGE 1 CONSTRUCTION NOTES:

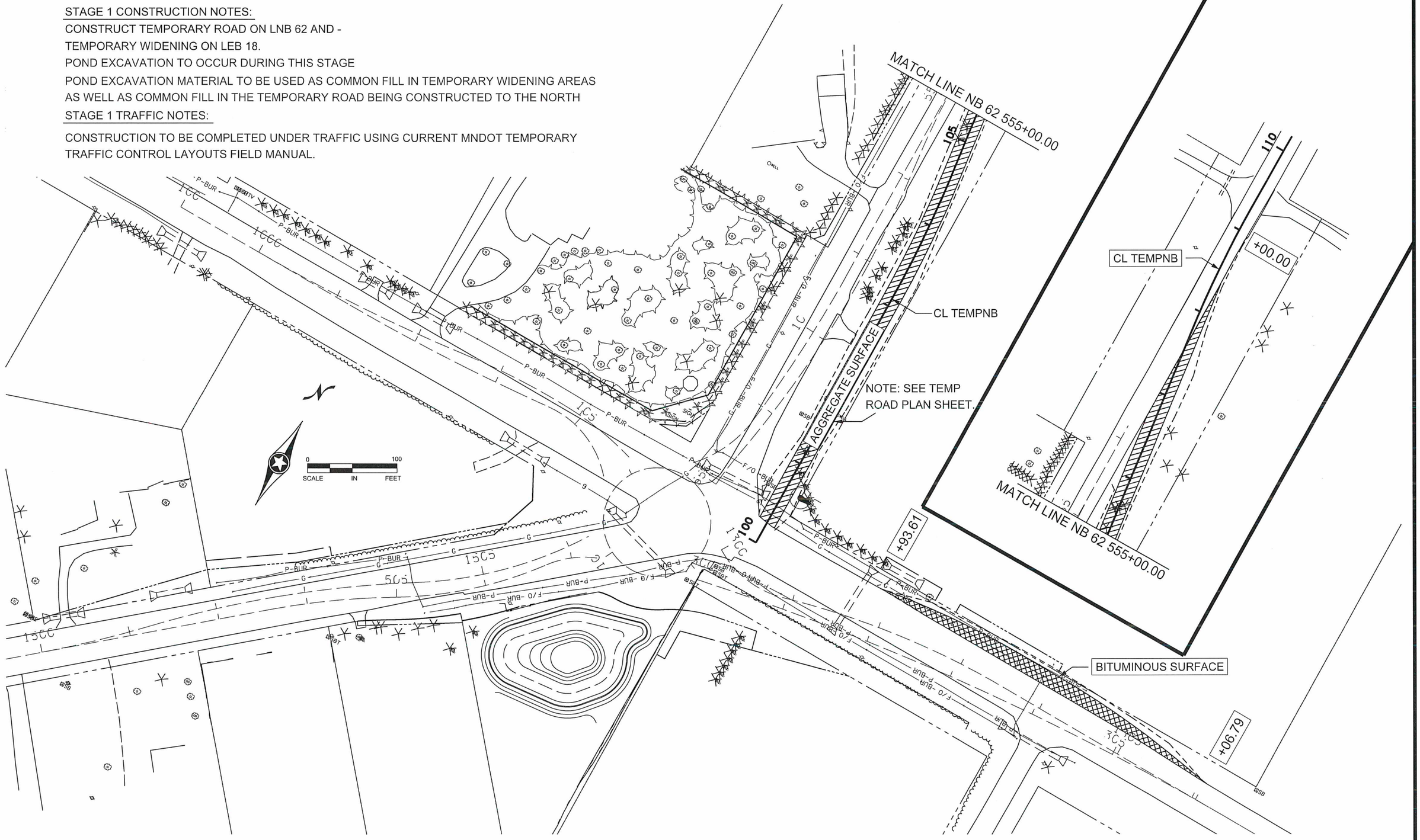
CONSTRUCT TEMPORARY ROAD ON LNB 62 AND -
TEMPORARY WIDENING ON LEB 18.

POND EXCAVATION TO OCCUR DURING THIS STAGE

POND EXCAVATION MATERIAL TO BE USED AS COMMON FILL IN TEMPORARY WIDENING AREAS AS WELL AS COMMON FILL IN THE TEMPORARY ROAD BEING CONSTRUCTED TO THE NORTH

STAGE 1 TRAFFIC NOTES:

CONSTRUCTION TO BE COMPLETED UNDER TRAFFIC USING CURRENT MNDOT TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_STAGE_P1.dgn 06/01/2015 12:51:52 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STAGE 1

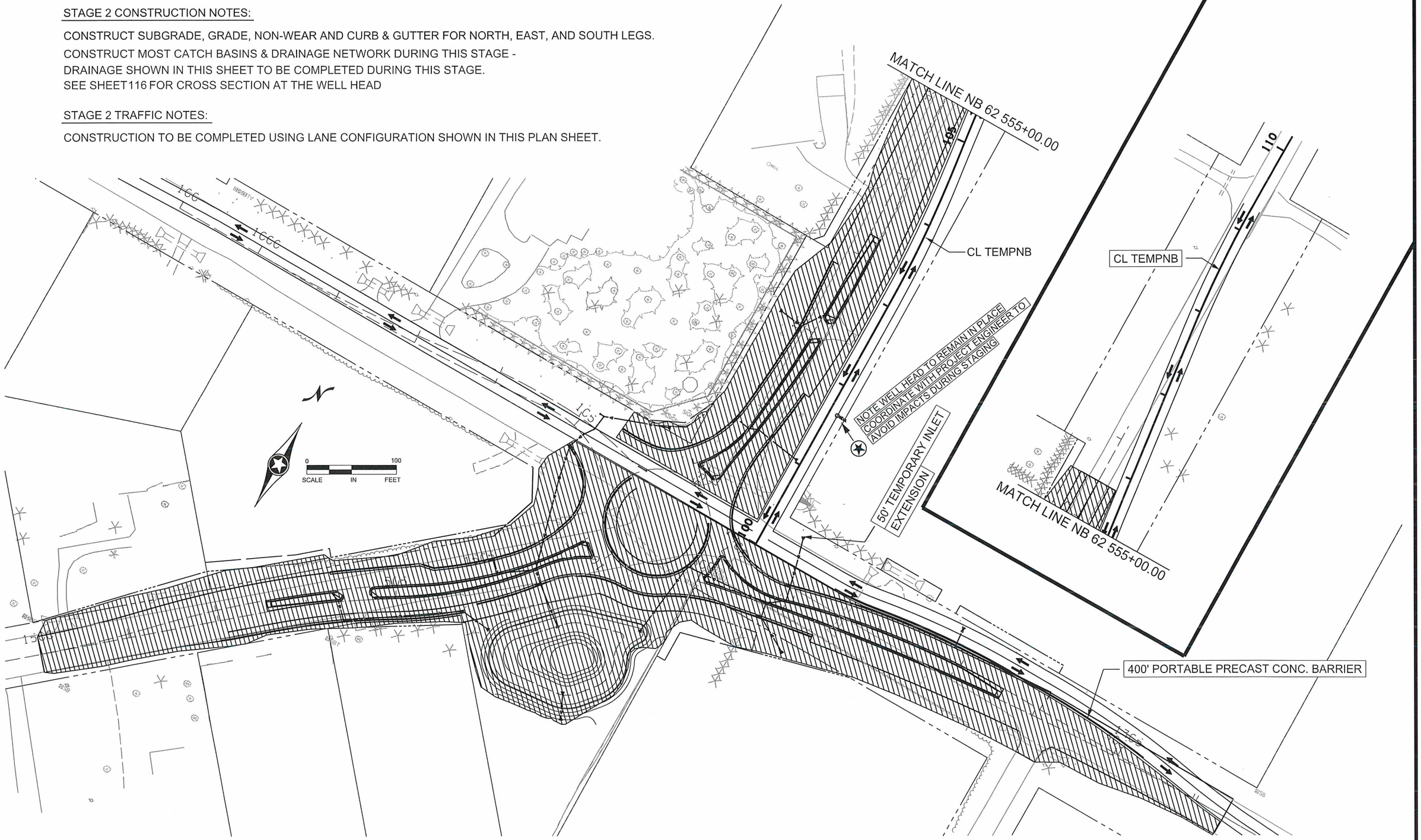
Sheet 51 of 142 Sheets

STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT SUBGRADE, GRADE, NON-WEAR AND CURB & GUTTER FOR NORTH, EAST, AND SOUTH LEGS.
CONSTRUCT MOST CATCH BASINS & DRAINAGE NETWORK DURING THIS STAGE -
DRAINAGE SHOWN IN THIS SHEET TO BE COMPLETED DURING THIS STAGE.
SEE SHEET116 FOR CROSS SECTION AT THE WELL HEAD

STAGE 2 TRAFFIC NOTES:

CONSTRUCTION TO BE COMPLETED USING LANE CONFIGURATION SHOWN IN THIS PLAN SHEET.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_STAGE_21.dgn 06/01/2015 12:51:47 PM

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PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STAGE 2

Sheet 52 of 142 Sheets

STAGE 3 CONSTRUCTION NOTES:

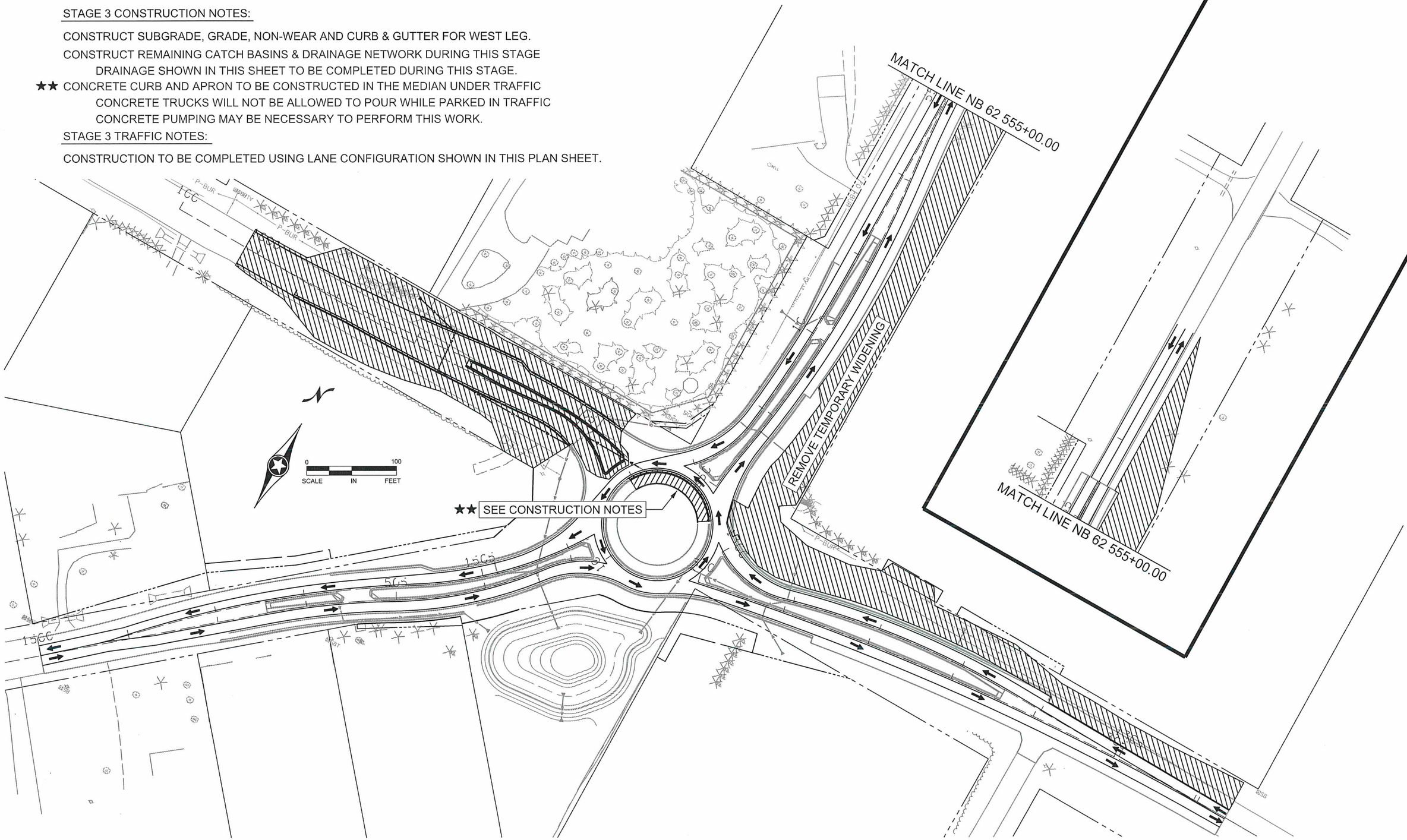
CONSTRUCT SUBGRADE, GRADE, NON-WEAR AND CURB & GUTTER FOR WEST LEG.

CONSTRUCT REMAINING CATCH BASINS & DRAINAGE NETWORK DURING THIS STAGE
DRAINAGE SHOWN IN THIS SHEET TO BE COMPLETED DURING THIS STAGE.

★★ CONCRETE CURB AND APRON TO BE CONSTRUCTED IN THE MEDIAN UNDER TRAFFIC
CONCRETE TRUCKS WILL NOT BE ALLOWED TO POUR WHILE PARKED IN TRAFFIC
CONCRETE PUMPING MAY BE NECESSARY TO PERFORM THIS WORK.

STAGE 3 TRAFFIC NOTES:

CONSTRUCTION TO BE COMPLETED USING LANE CONFIGURATION SHOWN IN THIS PLAN SHEET.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_STAGE_31.dgn 06/01/2015 12:51:50 PM

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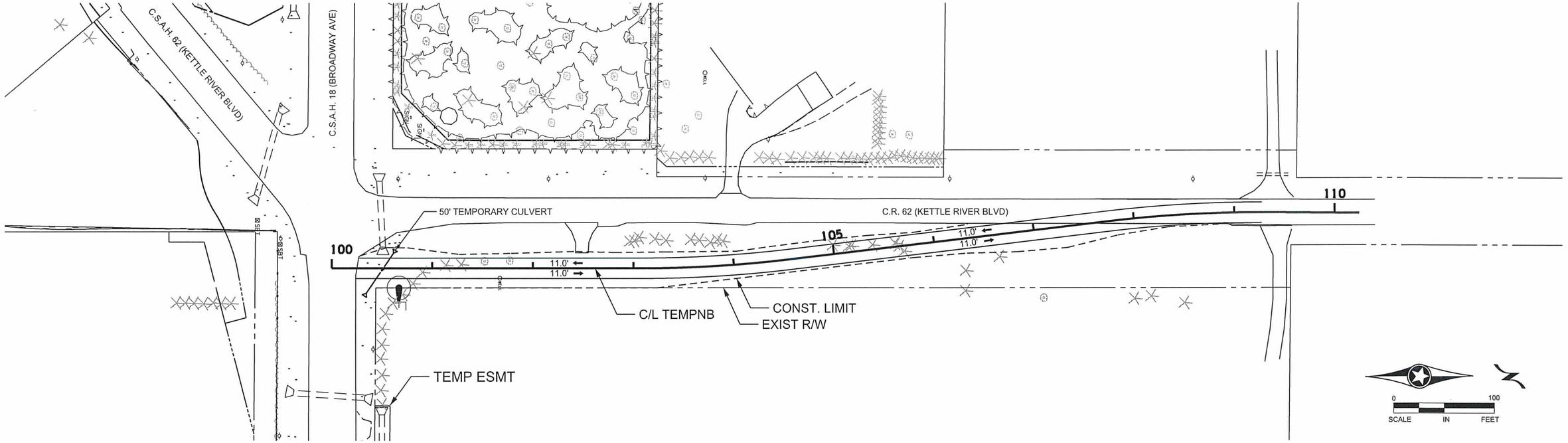
ANOKA COUNTY

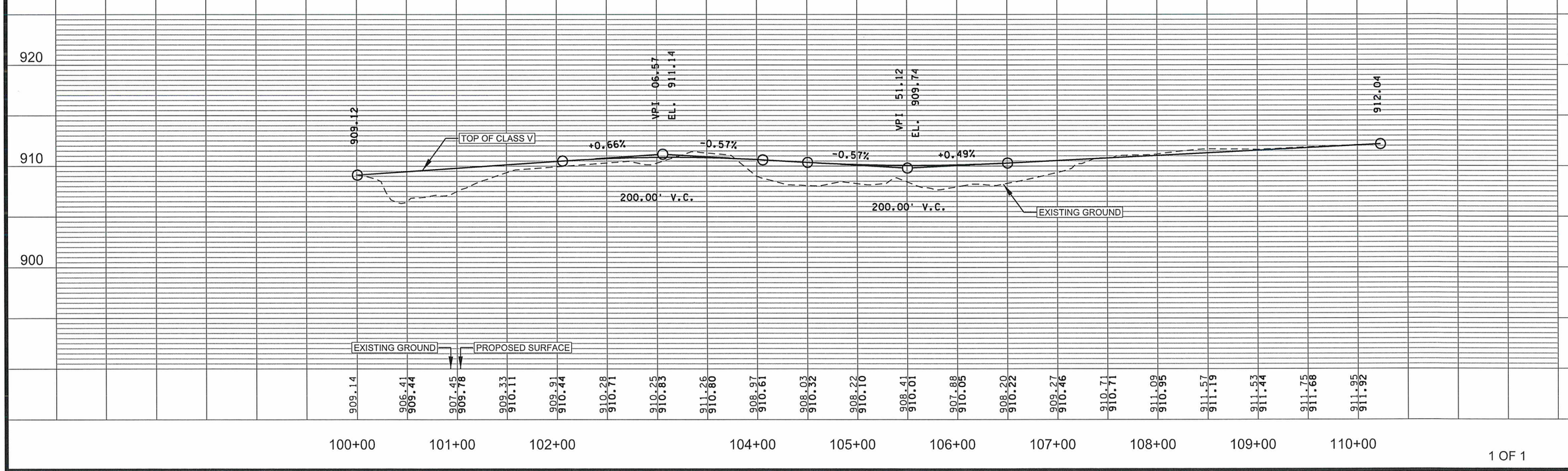
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

STAGE 3

Sheet 53 of 142 Sheets





1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_STG-PP_P1.dgn 06/01/2015 12:51:54 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

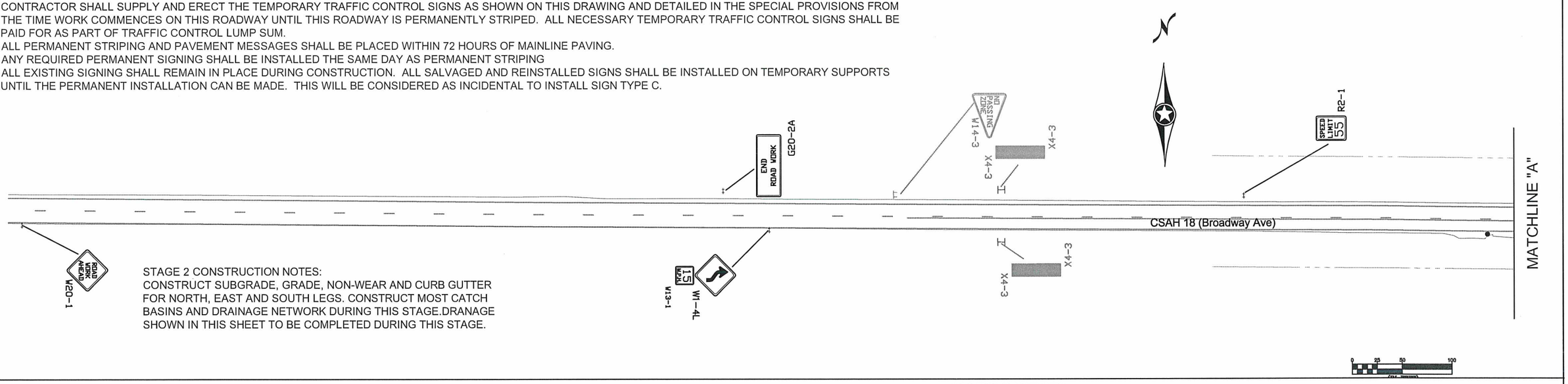
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TEMPORARY ROAD CONSTRUCTION PLAN

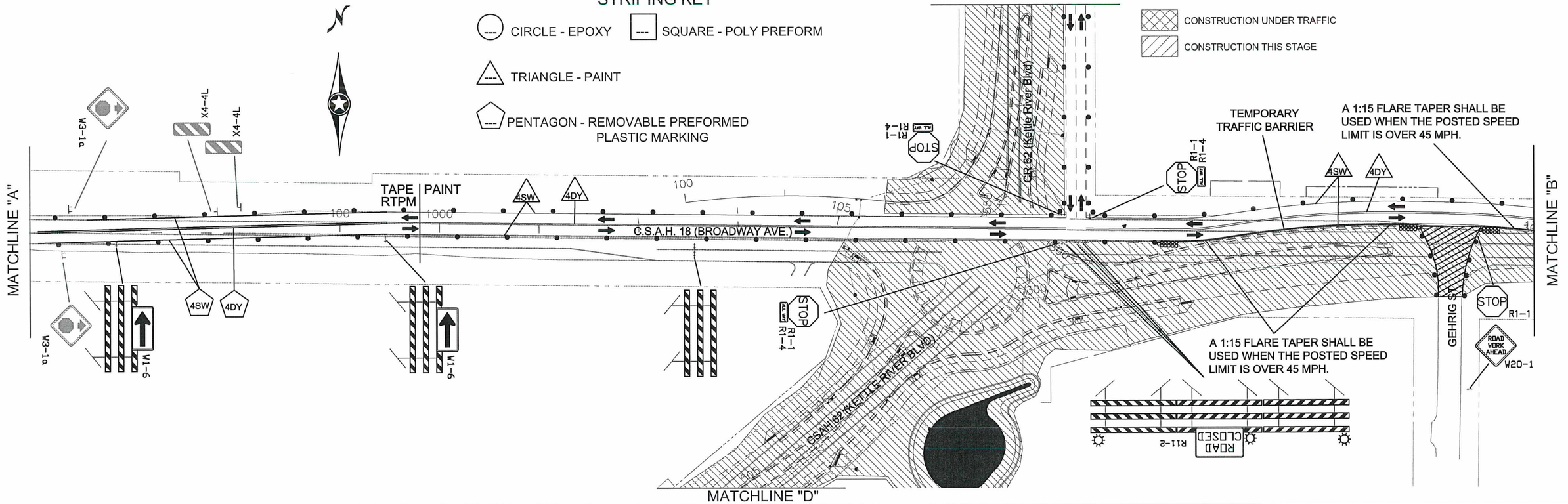
Sheet 54 of 142 Sheets

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



STAGE 2 CONSTRUCTION NOTES:
CONSTRUCT SUBGRADE, GRADE, NON-WEAR AND CURB GUTTER FOR NORTH, EAST AND SOUTH LEGS. CONSTRUCT MOST CATCH BASINS AND DRAINAGE NETWORK DURING THIS STAGE.DRANAGE SHOWN IN THIS SHEET TO BE COMPLETED DURING THIS STAGE.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage1 CSAH 18.dwg

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PRINT NAME: NICHOLAS J DOBDA

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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

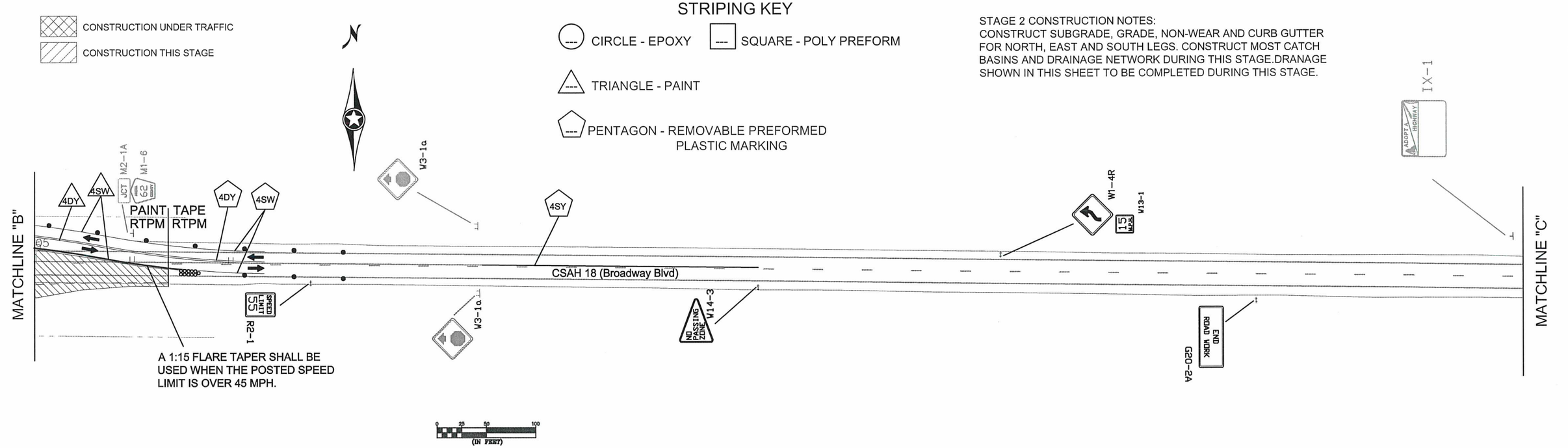
STATE PROJECT NO.

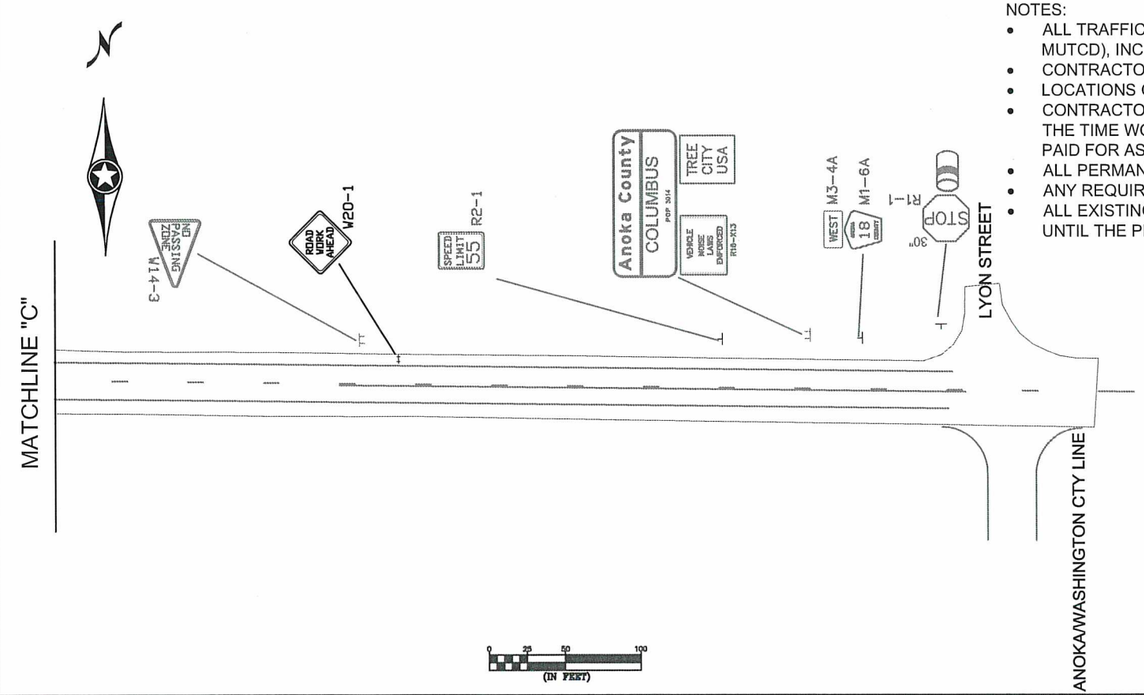
CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE 2
TRAFFIC CONTROL

Sheet 55 of 142 Sheets





NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage1 CSAH 18.dwg

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PRINT NAME: NICHOLAS J DOBDA

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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE 2
TRAFFIC CONTROL

Sheet 56 of 142 Sheets

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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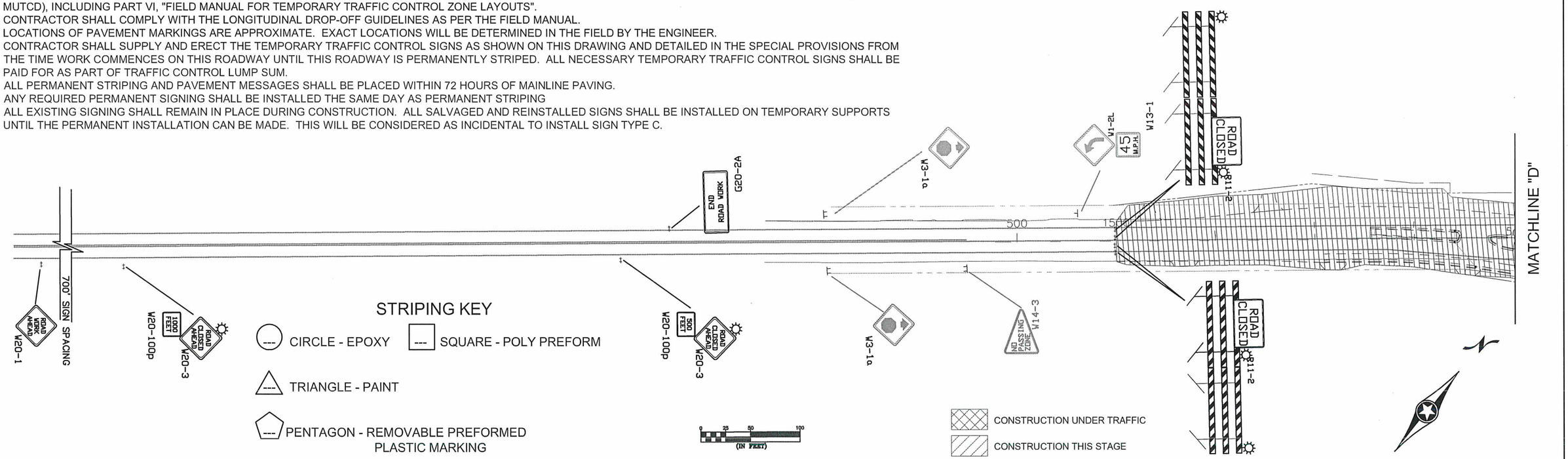

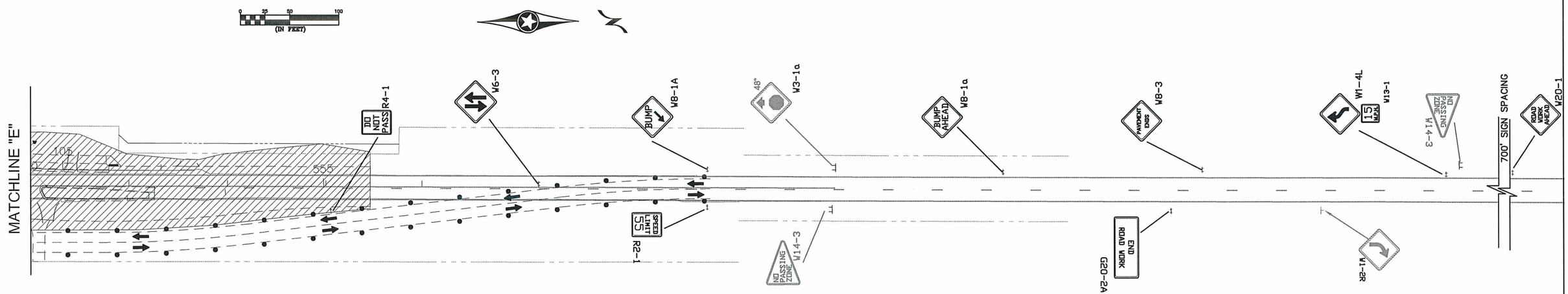

STAGE 2 CONSTRUCTION NOTES:
CONSTRUCT SUBGRADE, GRADE, NON-WEAR AND CURB GUTTER FOR NORTH, EAST AND SOUTH LEGS. CONSTRUCT MOST CATCH BASINS AND DRAINAGE NETWORK DURING THIS STAGE.DRANAGE SHOWN IN THIS SHEET TO BE COMPLETED DURING THIS STAGE.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage1 CSAH 18.dwg

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

PRINT NAME: NICHOLAS J DOBDA

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DRAWN BY RLB DATE 4/21/15

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CHECKED BY JR DATE 4/21/15

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE 2
TRAFFIC CONTROL

Sheet 57 of 142 Sheets

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
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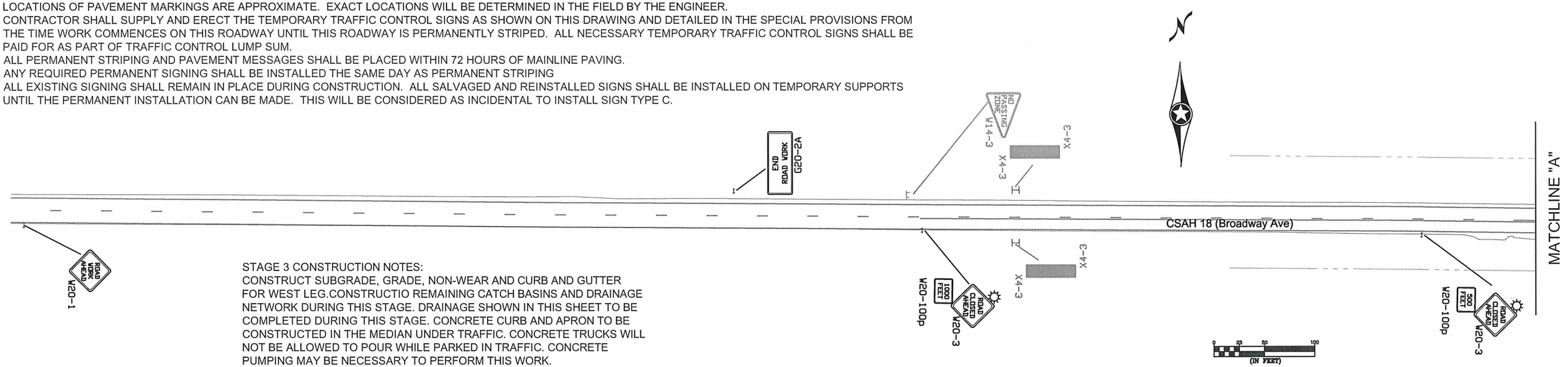
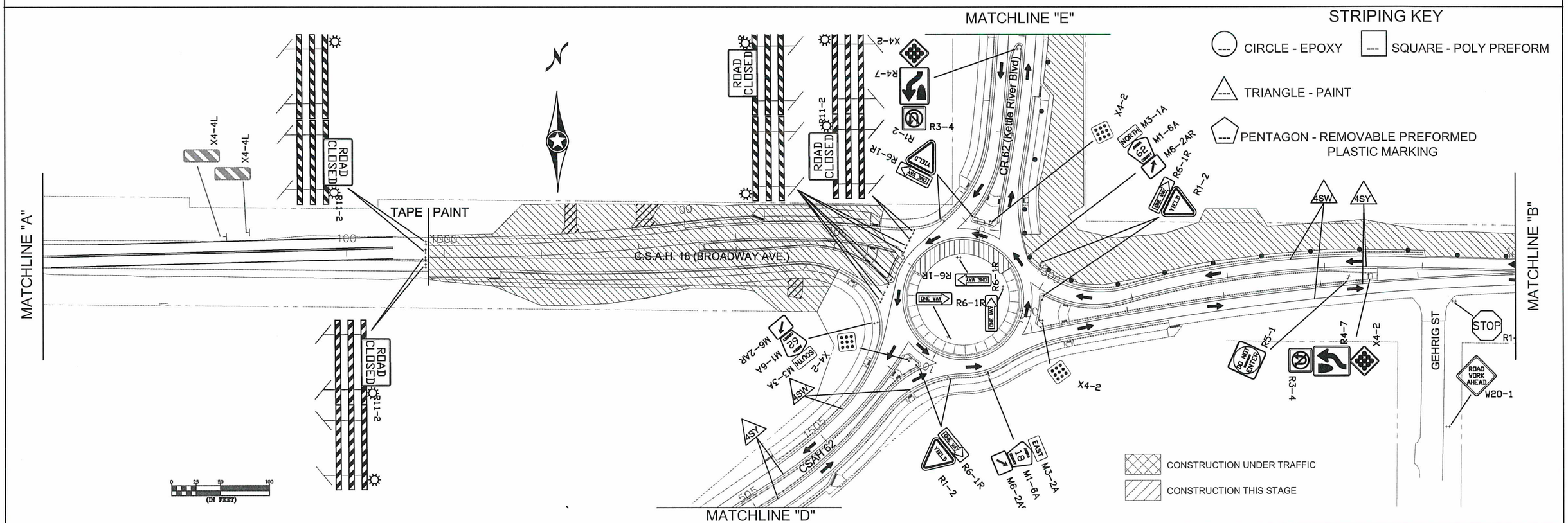
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



STAGE 3 CONSTRUCTION NOTES:
CONSTRUCT SUBGRADE, GRADE, NON-WEAR AND CURB AND GUTTER FOR WEST LEG.CONSTRUCTIO REMAINING CATCH BASINS AND DRAINAGE NETWORK DURING THIS STAGE. DRAINAGE SHOWN IN THIS SHEET TO BE COMPLETED DURING THIS STAGE. CONCRETE CURB AND APRON TO BE CONSTRUCTED IN THE MEDIAN UNDER TRAFFIC. CONCRETE TRUCKS WILL NOT BE ALLOWED TO POUR WHILE PARKED IN TRAFFIC. CONCRETE PUMPING MAY BE NECESSARY TO PERFORM THIS WORK.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage2 CSAH 18.dwg

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15

DESIGN BY RLB DATE 4/21/15

CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE 3
TRAFFIC CONTROL

Sheet 58 of 142 Sheets

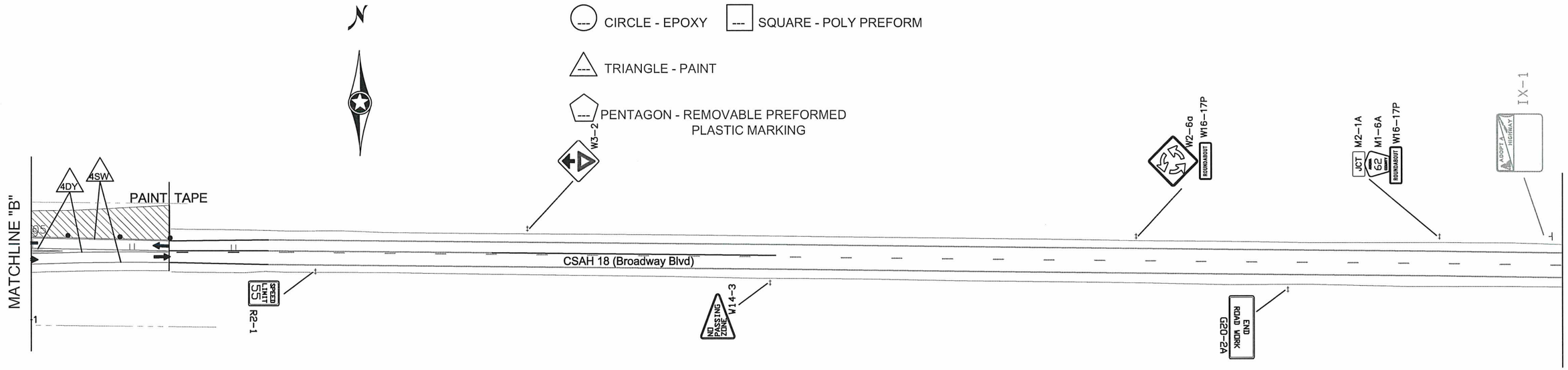
STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

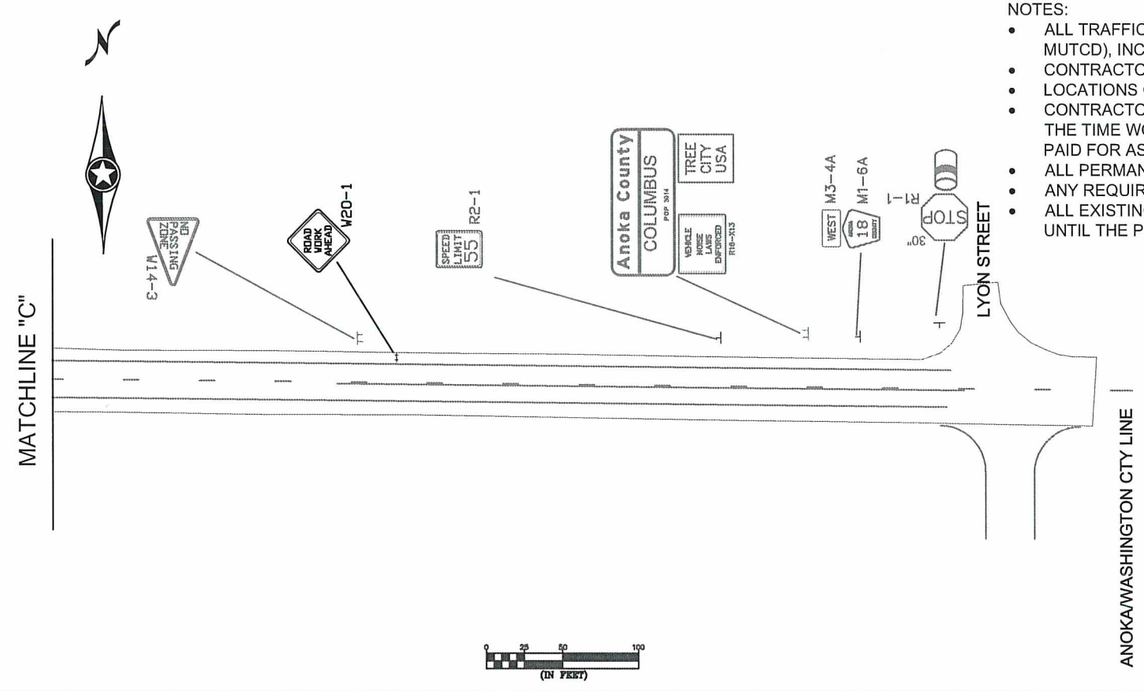
PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



CONSTRUCTION UNDER TRAFFIC

CONSTRUCTION THIS STAGE

0 25 50 100 (IN FEET)



0 25 50 100 (IN FEET)

NOTES:

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STAGE 3
TRAFFIC CONTROL

Sheet 59 of 142 Sheets

NOTES:

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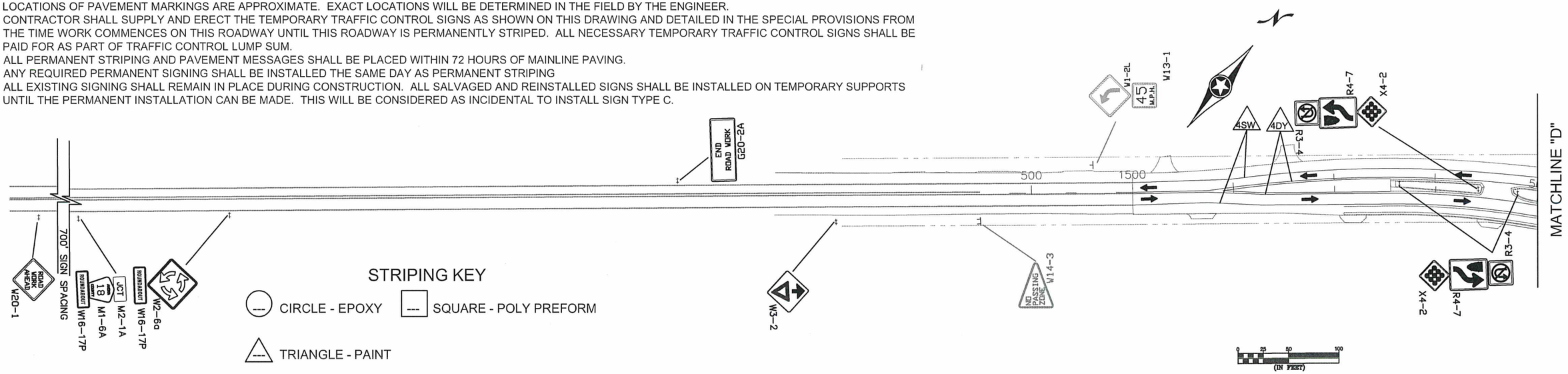

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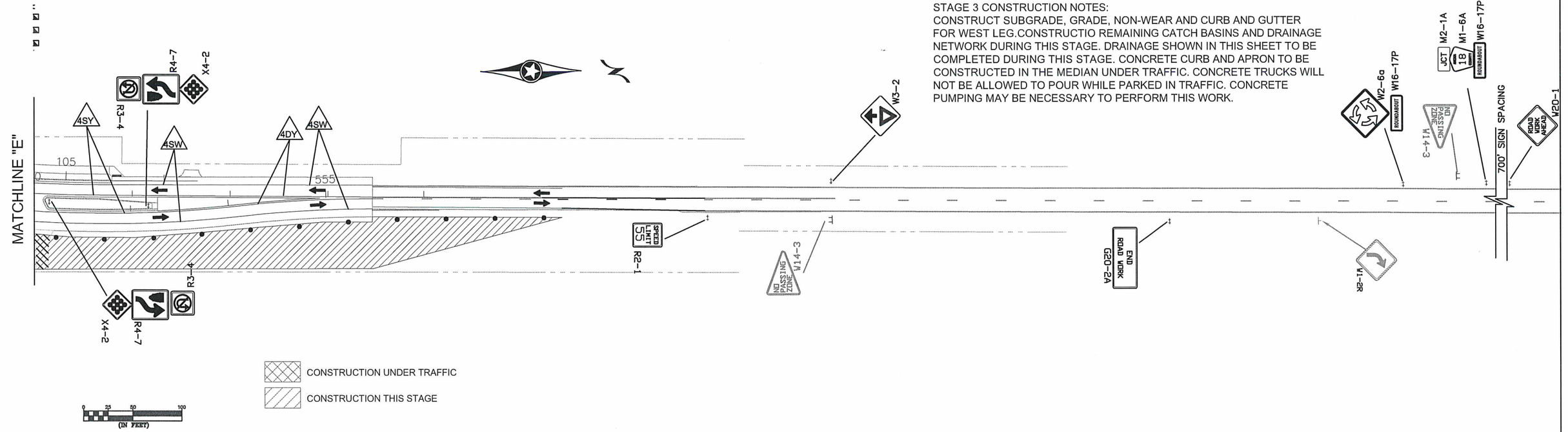

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage2 CSAH 18.dwg

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SIGNATURE:

DATE: 6-9-15 LICENSE NO. 49046

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CHECKED BY JR DATE 4/21/15

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE 3
TRAFFIC CONTROL

Sheet 60 of 142 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3
R1-1	48" x 48"	STOP	3	0
R1-1	30" x 30"		1	1
R1-4	18" x 6"	ALL WAY	3	0
R1-X1	30" x 30"	YIELD R1-2	0	3
W20-1	48" x 48"	ROAD WORK AHEAD	5	5
W20-3	48" x 48"	ROAD CLOSED AHEAD	2	2
W20-100p	24" x 18"	XXXX FEET 1000	1	1
		500	1	1
G20-2A	48" X 24"	END ROAD WORK	4	4
W6-3	48" x 48"		1	0
W3-2	48" x 48"		0	3
R2-1	24" x 30"	SPEED LIMIT 55	3	2
R6-1R	12" x 36"	ONE WAY	0	3
R5-1	30" x 30"	DO NOT ENTER	0	1
R4-1	24" x 30"	DO NOT PASS	1	0
W8-1	48" x 48"	BUMP	1	0
W8-1a	48" x 48"	BUMP AHEAD	1	0

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3
R4-7	24" x 30"		0	7
X4-2	18" x 18		0	10
W14-3	48" x 36"	NO PASSING ZONE	1	1
W2-6a	30" x 30"		0	3
R3-4	24" x 24"		0	7
W16-17P	36" x 12"	ROUNDABOUT	0	6
M2-1A	21" x 15"	JCT ANOKA 62 COUNTY	0	1
M1-6A	24" x 24"		0	1
M3-3A	24" x 12"	SOUTH ANOKA 62 COUNTY	0	1
M1-6A	24" x 24"		0	1
M6-2AR	21 x 15"		0	1
M3-1A	24" x 12"	NORTH ANOKA 62 COUNTY	0	1
M1-6A	24" x 24"		0	1
M6-2AR	21" x 15"		0	1
M2-1A	21" x 15"	JCT ANOKA 18 COUNTY	0	2
M1-6A	24" x 24"		0	2
M3-2A	24" x 12"	EAST ANOKA 18 COUNTY	0	1
M1-6A	24" x 24"		0	1
M6-2AR	21" x 15"		0	1
W8-3	48" x 48"	PAVEMENT ENDS	1	0
W1-4L	48" x 48"		3	0
W13-1	30" x 30"	15 M.P.H.	3	0

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3
FLASHER				
R11-2	48" X 30"	ROAD CLOSED	1	2
TYPE III	8 FOOT		2	4
FLASHER				
R11-2	48" X 30"	ROAD CLOSED	1	2
TYPE III	8 FOOT		2	4
W1-6	48" X 24"		2	0
TYPE III	8 FOOT		2	0
TYPE III	8 FOOT		2	0
REFLECTORIZED REBOUNDABLE DRUM			112	31

NOTES:

1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY, 2014.
2. ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

L PAVEMENT MARKING TABULATION

ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MARKING REMOVAL 4"	LIN FT	4490
4" REMOVAL PREFORM PLASTIC MARKING (YELLOW)	LIN FT	960
4" REMOVAL PREFORM PLASTIC MARKING (WHITE)	LIN FT	1260
TEMPORARY RAISED PAVEMENT MARKER	LIN FT	452
4" SOLID LINE WHITE - LATEX PAINT	LIN FT	6310
4" SOLID LINE YELLOW - LATEX PAINT	LIN FT	1920
4" DOUBLE YELLOW - LATEX PAINT	LIN FT	3195

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\Traffic\TC stage2 CSAH 18.dwg

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DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15

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CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

STAGE QUANTITIES

Sheet 61 of 142 Sheets

LEGEND

REMOVE BITUMINOUS PAVEMENT	REMOVE CULVERT
REMOVE BITUMINOUS DRIVEWAY	CONST. LIMIT
REMOVE TEMP ROAD	EXISTING R/W
CLEAR AND GRUB , ACRE	PERM. EASMENT
CLEAR AND GRUB , EACH	TEMP. EASMENT

BEGIN CSAH 18 CONST.
S.P. 002-618-030
STA. 100+84.60

#9257

#9311

#9331

PW18_1W

100

1000

CSAH 18

105

MATCH POINT "A"

PE18_1W

NEW R/W

CR 62

01

#9262

#9326

N

0 50
SCALE IN FEET

1 OF 5

NO	DATE	BY	CKD	APPR	REVISION
1	06/16/2015	JF	NJD	GMP	CHANGED FULL DEPTH RECLAMATION TO REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_REM_P1.dgn 07/16/2015 9:23:28 AM

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

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SIGNATURE:

DATE: 7-16-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

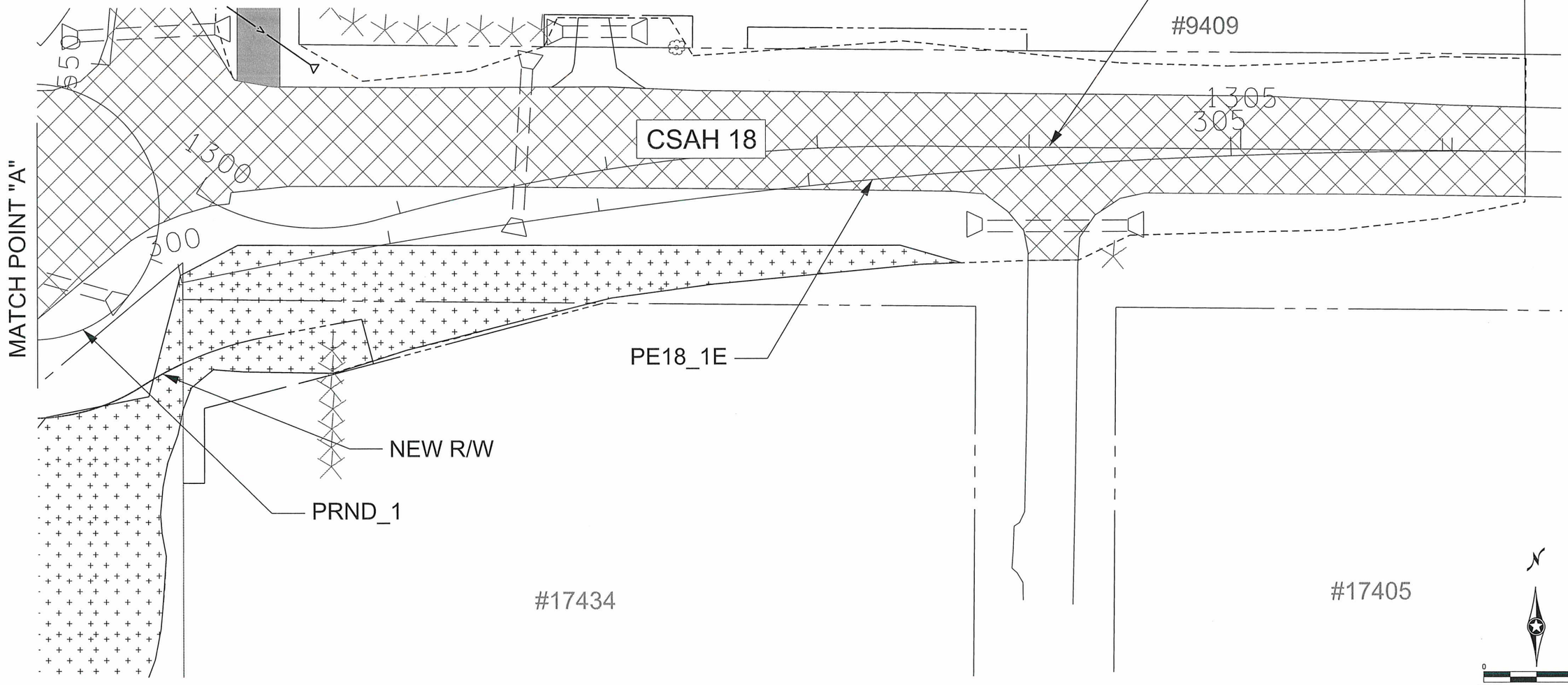
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

REMOVALS
WEST APPROACH

Sheet 62 of 142 Sheets

LEGEND			
	REMOVE BITUMINOUS PAVEMENT		REMOVE CULVERT
	REMOVE BITUMINOUS DRIVEWAY		CONST. LIMIT
	REMOVE TEMP ROAD		EXISTING R/W
	CLEAR AND GRUB , ACRE		PERM. EASMENT
XX	CLEAR AND GRUB , EACH		TEMP. EASMENT

END CSAH 18 CONST.
S.P. 002-618-030
STA. 306+39.68



NO	DATE	BY	CKD	APPR	REVISION
1	06/16/2015	JF	NJD	GMP	CHANGED FULL DEPTH RECLAMATION TO REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_REM_P2.dgn 07/16/2015 9:24:24 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
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SIGNATURE:
DATE: 7-16-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014
DESIGN BY NJD DATE 8/11/2014
CHECKED BY GMP DATE -

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

REMOVALS
EAST APPROACH
Sheet 63 of 142 Sheets

LEGEND			
	REMOVE BITUMINOUS PAVEMENT		REMOVE CULVERT
	REMOVE BITUMINOUS DRIVEWAY		CONST. LIMIT
	REMOVE TEMP ROAD		EXISTING R/W
	CLEAR AND GRUB , ACRE		PERM. EASMENT
	CLEAR AND GRUB , EACH		TEMP. EASMENT

SCALE 0 50 IN FEET

BEGIN CR 62 CONST.
S.P. 002-618-030
STA. 501+00.00

#17418

#9326

CSAH 18

NEW R/W

PS62_1S

1500

CR 62

505

1505

MATCH POINT "B"

NEW R/W

PN62_1S

NEW R/W

NEW R/W

#17425

#17439

#17451

#17434

3 OF 5

NO	DATE	BY	CKD	APPR	REVISION
1	06/16/2015	JF	NJD	GMP	CHANGED FULL DEPTH RECLAMATION TO REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_REM_P3.dgn 07/16/2015 9:25:29 AM

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

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SIGNATURE:

DATE: 7-16-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

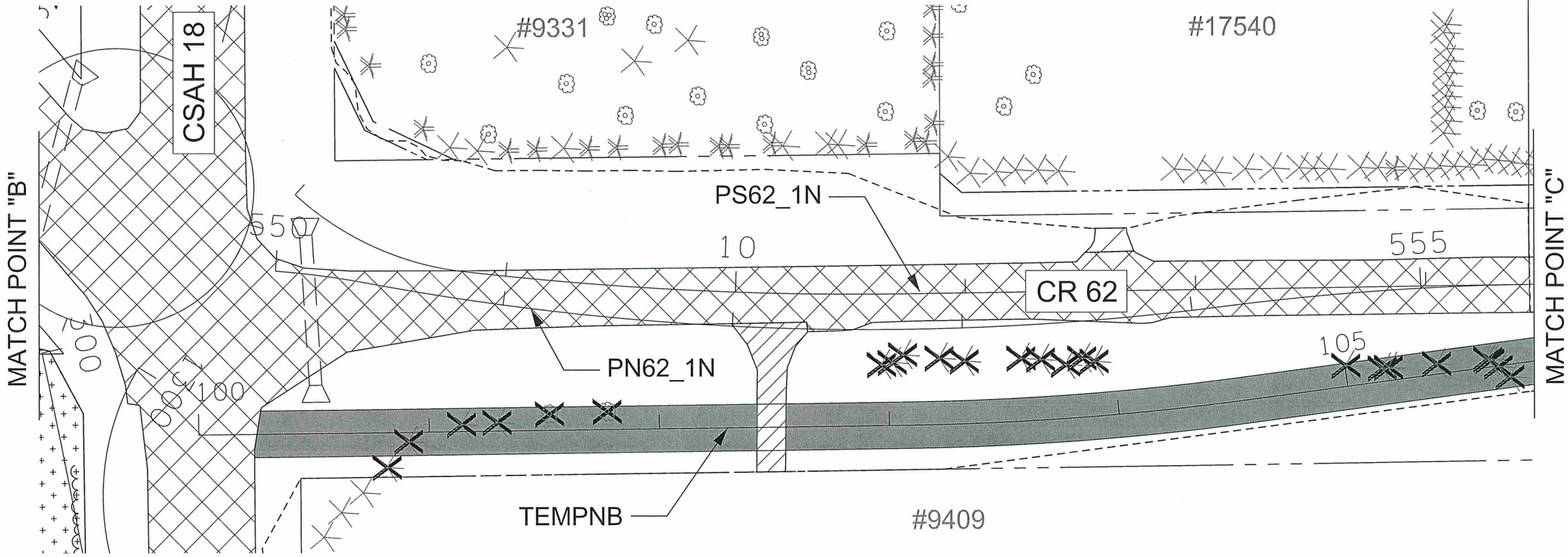
REMOVALS

SOUTH APPROACH

Sheet 64 of 142 Sheets

LEGEND			
	REMOVE BITUMINOUS PAVEMENT		REMOVE CULVERT
	REMOVE BITUMINOUS DRIVEWAY		CONST. LIMIT
	REMOVE TEMP ROAD		EXISTING R/W
	CLEAR AND GRUB , ACRE		PERM. EASMENT
XX	CLEAR AND GRUB , EACH		TEMP. EASMENT

END CR 62 PERM. CONST.
S.P. 002-618-030
STA. 555+47.41



0 50
SCALE IN FEET

4 OF 5

NO	DATE	BY	CKD	APPR	REVISION
1	06/16/2015	JF	NJD	GMP	CHANGED FULL DEPTH RECLAMATION TO REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_REM_P4.dgn 07/16/2015 9:26:37 AM

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SIGNATURE:
DATE: 7-16-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014
DESIGN BY NJD DATE 8/11/2014
CHECKED BY GMP DATE -

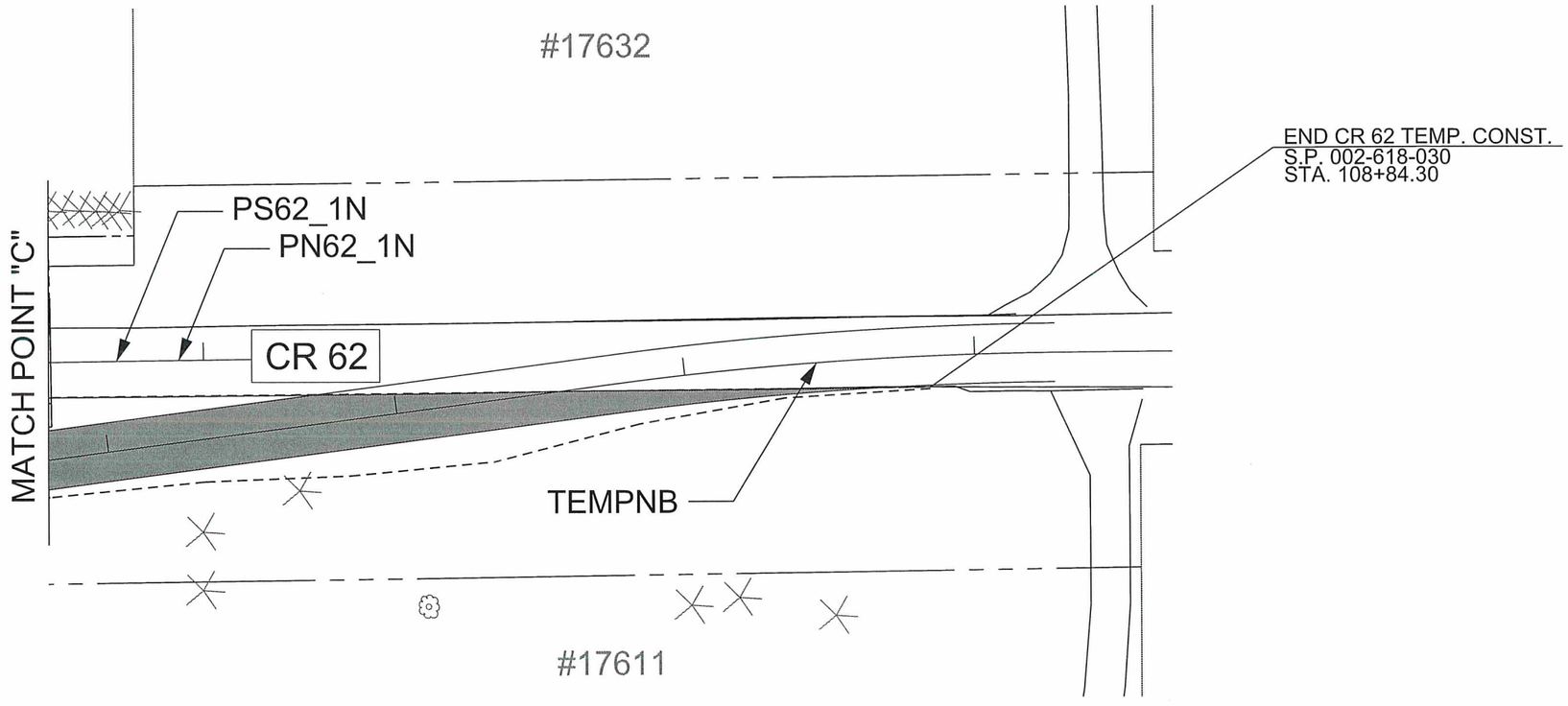
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

REMOVALS
NORTH APPROACH

Sheet 65 of 142 Sheets

LEGEND			
	REMOVE BITUMINOUS PAVEMENT		REMOVE CULVERT
	REMOVE BITUMINOUS DRIVEWAY		CONST. LIMIT
	REMOVE TEMP ROAD		EXISTING R/W
	CLEAR AND GRUB , ACRE		PERM. EASMENT
	CLEAR AND GRUB , EACH		TEMP. EASMENT



0 50
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION
		1	06/16/2015	JF	NJD GMP CHANGED FULL DEPTH RECLAMATION TO REMOVE BITUMINOUS PAVEMENT

NAME: P:\02-618-30\Plan\0261830_REM_P5.dgn 07/16/2015 9:27:52 AM

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SIGNATURE:
DATE: 7-16-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014
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CHECKED BY GMP DATE -

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

REMOVALS
NORTH APPROACH CONT.

Sheet 66 of 142 Sheets

#9326

#9311

#9331

BEGIN CSAH 18 CONST.
S.P. 002-618-030
STA. 100+84.60

PW18_1W

CNST. LIMIT

EXIST R / W

100

1000

8.0' SHLD

12.0' THRU

12.0' THRU

8.0' SHLD

1:15

1:20

18'

18'

105

+21.3

+43.3

+57.4

+62.0

+81.8

+94.6

+16.5

+26.8

+34.0

+43.6

+66.5

+83.0

+98.8

+100.2

+19.4

+19.4

CNST. LIMIT

EXIST R / W

PROP. R / W

NOTE: RADIUS INFORMATION CAN BE FOUND ON PAGE 74

#9262

PE18_1W

#9326

CONSTRUCTION NOTES:

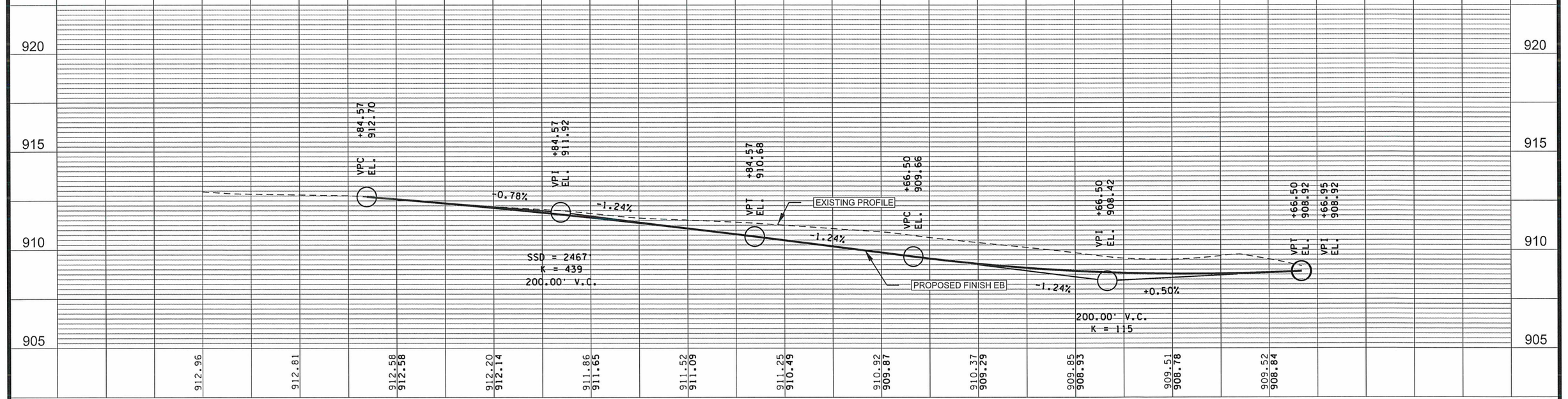
- (A) 8' BITUMINOUS WALK
- (B) B418 MOD CURB & GUTTER
- (C) B424 CURB & GUTTER
- (D) SPECIAL CURB & GUTTER
- (E) INTERGRANT CURB B6
- (F) CONCRETE APPROACH NOSE STD. PLATE 7109
- (G) CONCRETE APPROACH NOSE STD. PLATE 7113
- (H) CONC. PEDESTRIAN RAMP
- (I) 2' AGGREGATE SHOULDER
- (J) PAINTED WHITE STRIPE 2.0' BEHIND BACK OF CURB
- WETLAND DELINEATION

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

MATCH POINT "A"

N

0 50
SCALE IN FEET



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PP_P1.dgn 06/01/2015 2:02:33 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

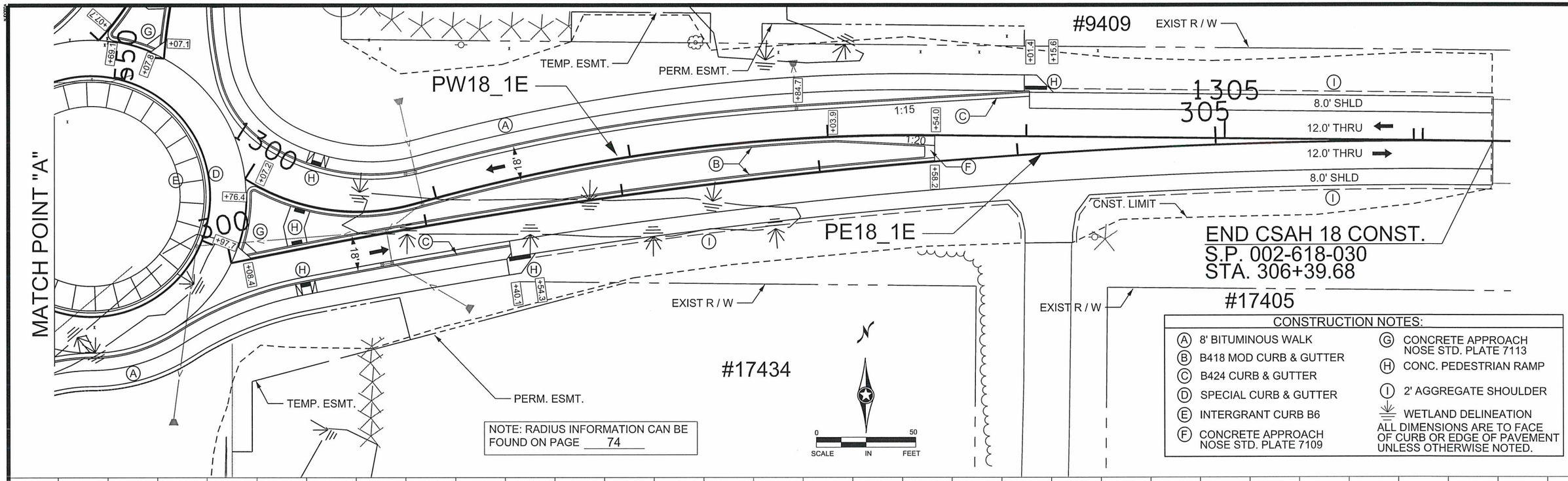
ANOKA COUNTY HIGHWAY DEPT.

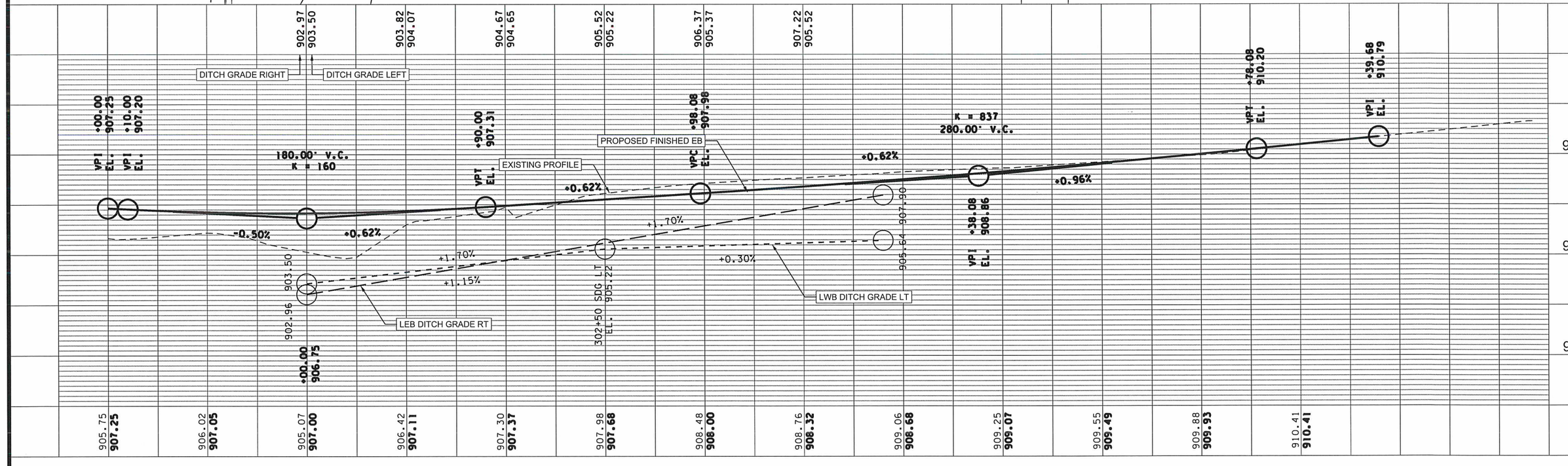
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CONSTRUCTION PLAN

WEST APPROACH

Sheet 67 of 142 Sheets





2 OF 4

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PP_P2.dgn 06/01/2015 2:18:49 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CONSTRUCTION PLAN
EAST APPROACH

Sheet 68 of 142 Sheets

NOTE: RADIUS INFORMATION CAN BE FOUND ON PAGE 74

#17418

#9326

PS62_1S

TEMP. ESMT.

CURB DROP

PERM. ESMT.

EXIST R / W

CNST. LIMIT

PROP. R / W

1500

8.0' SHLD

12.0' THRU

1505

1505

12.0' THRU

8.0' SHLD

1:20

24'

18'

CNST. LIMIT

EXIST R / W

#17425

BEGIN CR 62 CONST.
S.P. 002-618-030
STA. 501+00.00

PN62_1S
#17439

CURB DROP

PROP. R / W

PERM. ESMT.

#17451

EXIST R / W

MATCH POINT "B"

CONSTRUCTION NOTES:

- (A) 8' BITUMINOUS WALK
- (B) B418 MOD CURB & GUTTER
- (C) B424 CURB & GUTTER
- (D) SPECIAL CURB & GUTTER
- (E) INTERGRANT CURB B6
- (F) CONCRETE APPROACH NOSE STD. PLATE 7109
- (G) CONCRETE APPROACH NOSE STD. PLATE 7113
- (H) CONC. PEDESTRIAN RAMP
- (I) 2' AGGREGATE SHOULDER
- WETLAND DELINEATION

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SCALE 0 50 IN FEET

908.85 908.70 908.55 908.40 908.25 908.10 907.95 907.80 907.65 907.50 907.35 907.20

DITCH GRADE LEFT

VPI *00.16 EL. 911.52

VPC *02.46 EL. 911.39

VPI *02.46 EL. 911.26

VPT *02.46 EL. 910.41

VPC *28.69 EL. 909.33

VPI *28.69 EL. 908.48

VPT *28.69 EL. 908.98

-0.13%

-0.85%

SSD = 1593'
K = 277
200.00' v.c.

K = 148
200.00' v.c.

EXISTING PROFILE

PROPOSED FINISHED NB

LSB DITCH GRADE LT

909.00

-0.30%

-0.30%

-0.30%

-0.85%

-0.50%

-0.30%

907.12

915 910 905 900

911.48 911.46 | 911.43 911.39 | 911.38 911.29 | 911.33 911.09 | 911.29 910.81 | 911.20 910.43 | 910.91 910.00 | 910.58 909.58 | 910.17 909.17 | 909.81 908.90 | 909.45 908.80 | 909.15 908.87

501+00 501+50 502+00 502+50 503+00 503+50 504+00 504+50 505+00 505+50 506+00 506+50 507+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PP_P3.dgn 06/03/2015 3:00:29 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

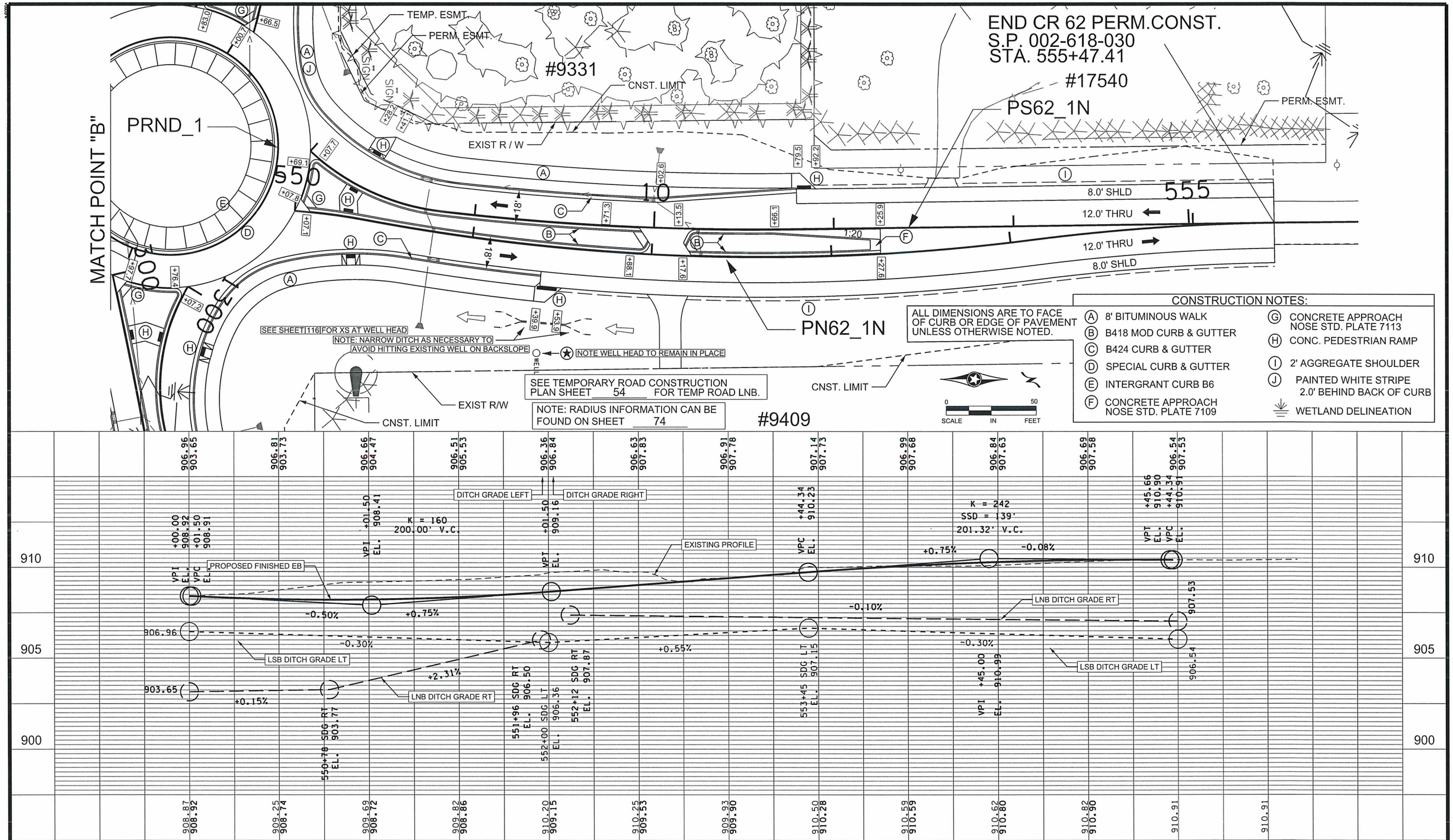
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CONSTRUCTION PLAN
SOUTH APPROACH

Sheet 69 of 142 Sheets



4 OF 4

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PP_P4.dgn 06/01/2015 2:50:28 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-9-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

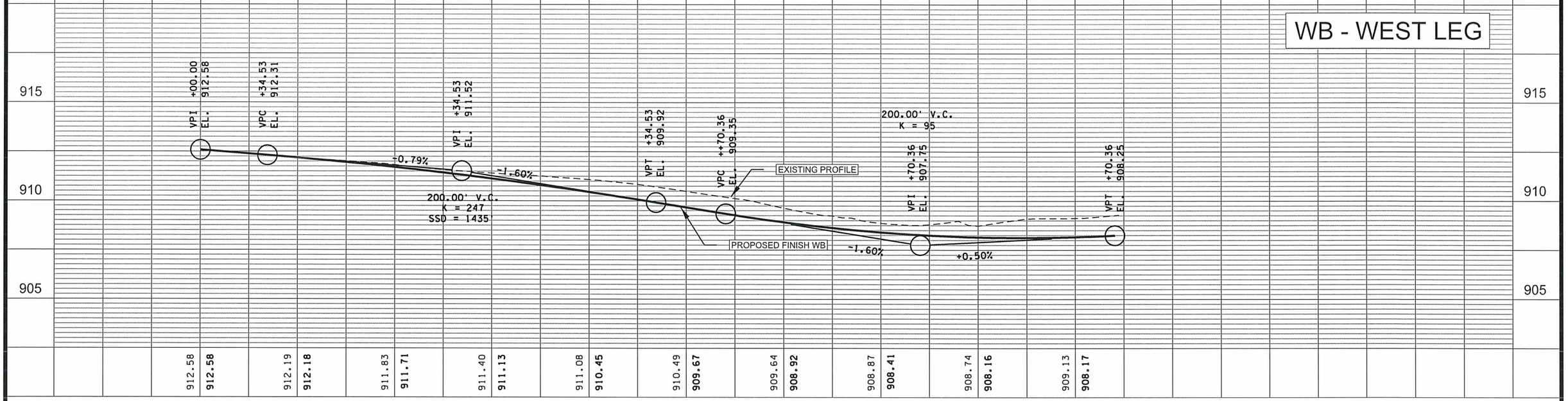
ANOKA COUNTY HIGHWAY DEPT.

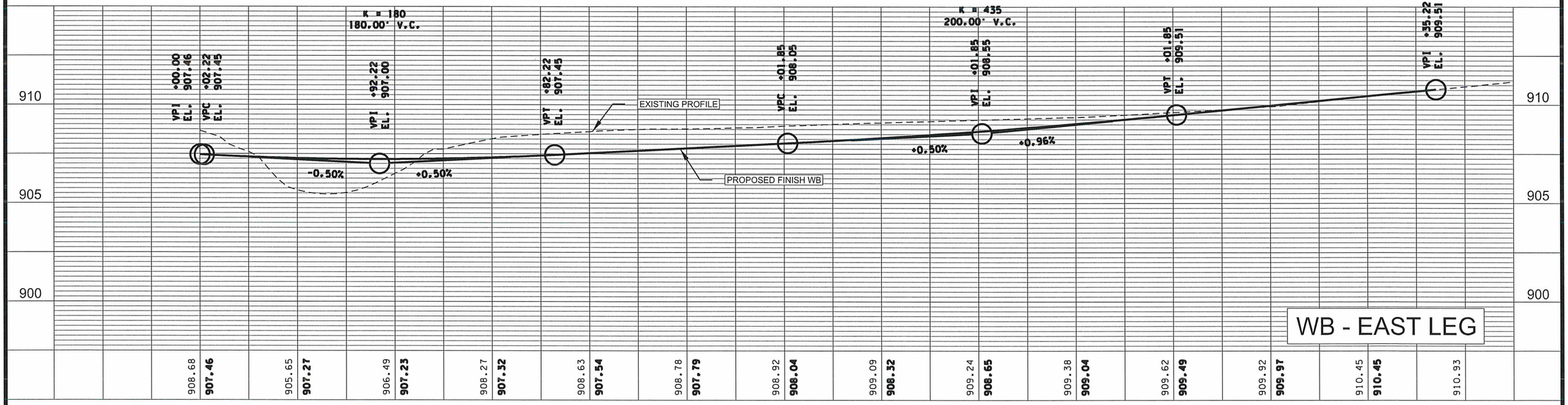
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CONSTRUCTION PLAN
NORTH APPROACH

Sheet 70 of 142 Sheets

WB - WEST LEG





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PR_P1.dgn 06/03/2015 2:26:49 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE: [signature]

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

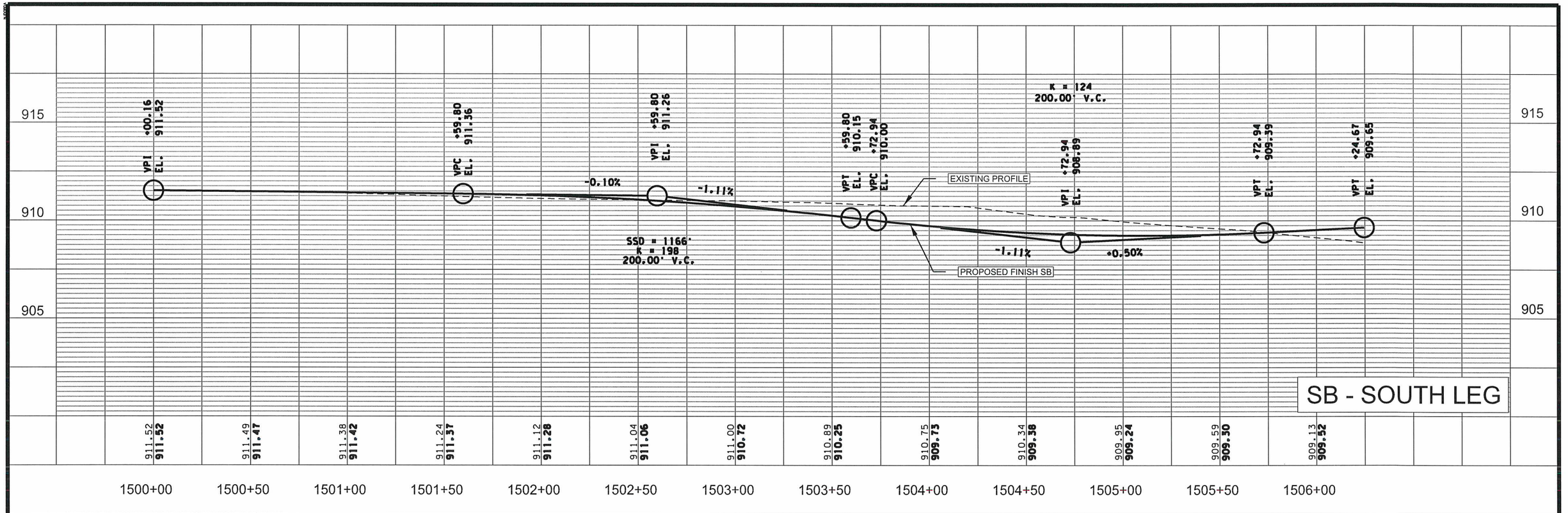
ANOKA COUNTY

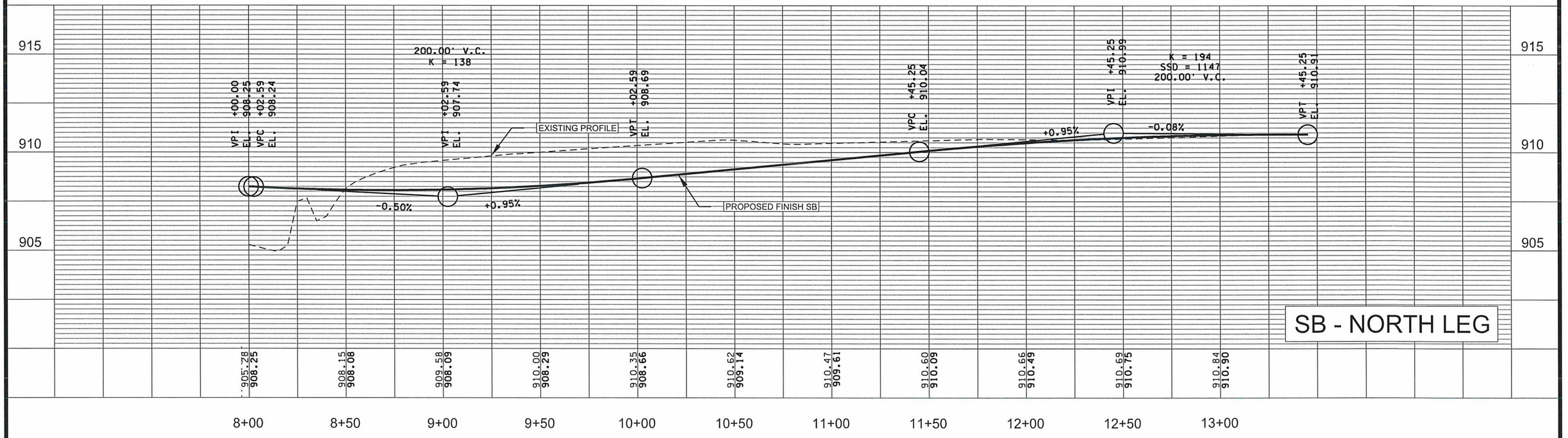
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST BOUND PROFILES

Sheet 71 of 142 Sheets





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_PR_P2.dgn 06/04/2015 8:18:36 AM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-9-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

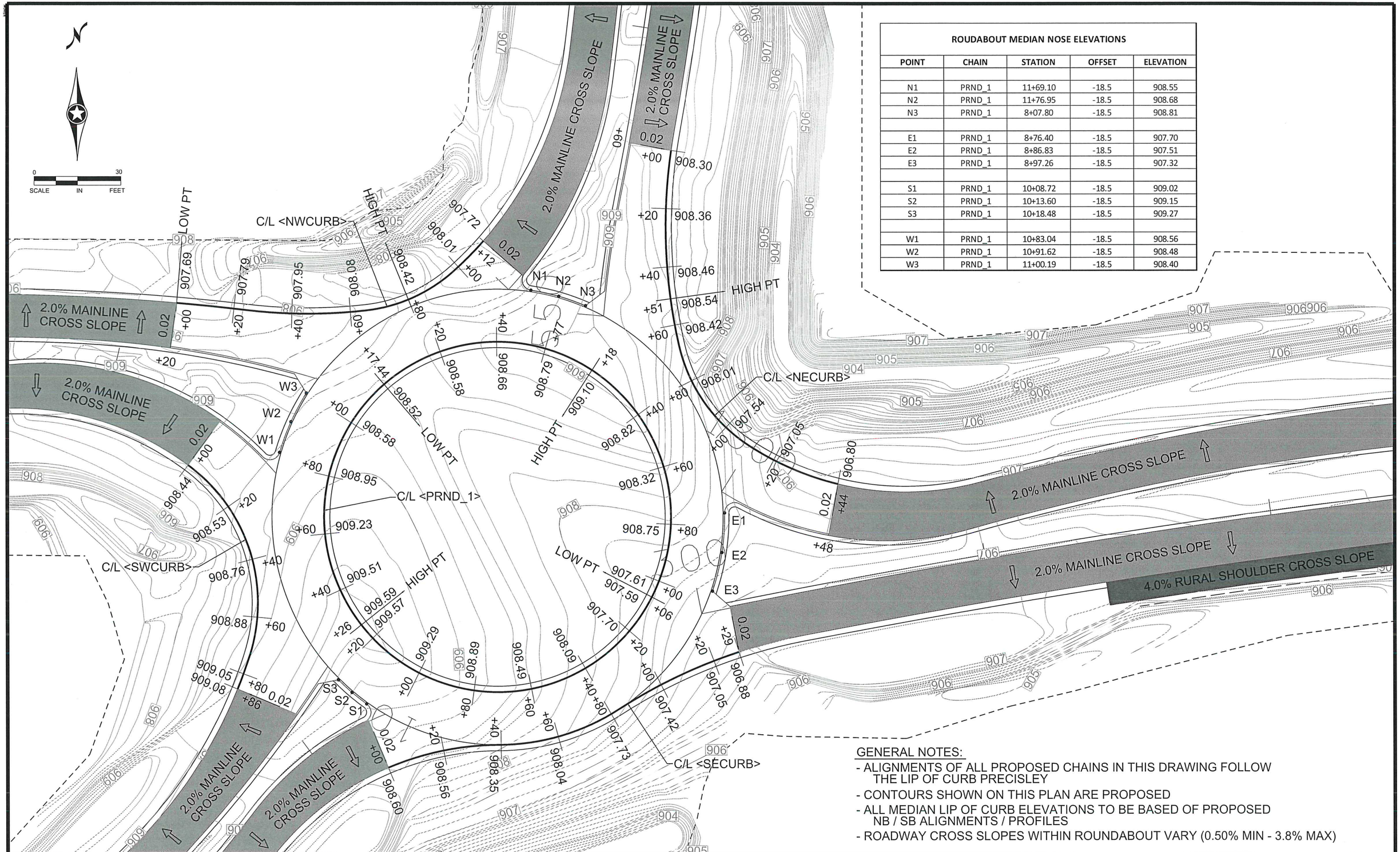
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH BOUND PROFILES

Sheet 72 of 142 Sheets



ROUDABOUT MEDIAN NOSE ELEVATIONS

POINT	CHAIN	STATION	OFFSET	ELEVATION
N1	PRND_1	11+69.10	-18.5	908.55
N2	PRND_1	11+76.95	-18.5	908.68
N3	PRND_1	8+07.80	-18.5	908.81
E1	PRND_1	8+76.40	-18.5	907.70
E2	PRND_1	8+86.83	-18.5	907.51
E3	PRND_1	8+97.26	-18.5	907.32
S1	PRND_1	10+08.72	-18.5	909.02
S2	PRND_1	10+13.60	-18.5	909.15
S3	PRND_1	10+18.48	-18.5	909.27
W1	PRND_1	10+83.04	-18.5	908.56
W2	PRND_1	10+91.62	-18.5	908.48
W3	PRND_1	11+00.19	-18.5	908.40

GENERAL NOTES:

- ALIGNMENTS OF ALL PROPOSED CHAINS IN THIS DRAWING FOLLOW THE LIP OF CURB PRECISLEY
- CONTOURS SHOWN ON THIS PLAN ARE PROPOSED
- ALL MEDIAN LIP OF CURB ELEVATIONS TO BE BASED OF PROPOSED NB / SB ALIGNMENTS / PROFILES
- ROADWAY CROSS SLOPES WITHIN ROUNDABOUT VARY (0.50% MIN - 3.8% MAX)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Base\PROPOSED\02618030_IN-1.dgn 06/01/2015 1:42:19 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

ROUNDABOUT INTERSECTION DETAIL

Sheet 73 of 142 Sheets

POINT	QUAD.	ALIGNMENT	RADIUS	STATION	OFFSET
G	N.W.	PS62_1N	53	8+00.00	72.95 LT
H	N.W.	PS62_1N	132	8+81.22	130.00 LT
I	N.W.	PS62_1N	121	8+90.57	137.00 LT
J	N.W.	PW18_1W	180	1004+32.78	198.31 LT

POINT	QUAD.	ALIGNMENT	RADIUS	STATION	OFFSET
K	N.E.	PW18_1E	54	1300+01.73	74.40 LT
L	N.E.	PW18_1E	109	1300+88.91	107.00 LT
M	N.E.	PW18_1E	98	1300+97.00	114.00 LT
N	N.E.	PN62_1N	180	550+65.88	196.00 RT

POINT	QUAD.	ALIGNMENT	RADIUS	STATION	OFFSET
A	ROUNDABOUT	PRND_1	58	8+10.21	60.00 RT
B	ROUNDABOUT	PRND_1	80	8+10.21	60.00 RT

POINT	QUAD.	ALIGNMENT	RADIUS	STATION	OFFSET
C	S.W.	PE18_1W	56	105+37.35	76.53 RT
D	S.W.	PE18_1W	109	105+24.71	107.00 RT
E	S.W.	PE18_1W	98	104+55.81	114.00 RT
F	S.W.	PS62_1S	158	1505+37.50	174.00 LT

POINT	QUAD.	ALIGNMENT	RADIUS	STATION	OFFSET
O	S.E.	PN62_1S	98	506+64.48	114.00 RT
P	S.E.	PN62_1S	109	506+99.92	107.00 RT
Q	S.E.	PE18_1E	180	300+32.61	196.00 RT

POINT	LOCATION	ALIGNMENT	RADIUS	STATION	OFFSET
R	WEST MEDIAN	PE18_1W	2	105+59.61	4.00 LT
S	SOUTH MEDIAN	PN62_1S	2	507+21.36	4.00 LT
T	EAST MEDIAN	PW18_1E	2	1300+07.33	4.00 RT
U	NORTH MEDIAN	PS621N	2	8+07.69	4.00 RT

NOTE : RADIUS LENGTHS ARE TO THE FACE OF CURB, - FLOW LINE OF GUTTER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_RAD. LAYOUT.dgn 06/01/2015 12:51:35 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-9-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

RADIUS LAYOUT

Sheet 74 of 142 Sheets

DRAINAGE TAB

F

STRUCTURE NO.			CENTER OF CASTING			DRAINAGE STRUCTURES											STORM SEWER								EROSION CONTROL BLANKET CAT. 0	RIPRAP CLASS III	GEOTEXTILE FABRIC TYPE IV MOD	GRANULAR FILTER UNDER APRON	NOTES
								PAY HEIGHT									15" RCP	15" RCP	15"	18" RCP	21" RCP	21" RCP	36" ARCH	36" ARCH					
FLOWS FROM	FLOWS TO	ALIGN	STATION	O/S	L / R	TYPE	DESIGN	H	48-4020	48-4020 SPECIAL	60-4020	72-4020	CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEVATION	OUTLET ELEVATION	DOWN STREAM INLET	SLOPE %	CL V	APRON	TRASH GUARD	CL III	CL III	APRON	CL III	APRON				
								LIN FT	LIN FT	LIN FT	LIN FT	LIN FT														SQ YD	CU YD	SQ YD	CU YD	
020	240	PN62_1N	552+27.40	-1.25	L	CB	H	3.9					B		908.66	905.47	905.43	0.30	12.7											
100	105	PW18_1W	1001+71.73	-28.17	L	APRON	APRON						N/A			908.69	906.15	4.80	65.1	1	1						9			
105	110	PW18_1W	1002+37.19	20.88	L	CB	48-4020		3.2				D		909.40	906.15	906.01	0.30	46.9											
110	115	PE18_1W	103+36.48	14.95	R	CB	48-4020		3.6				D		909.67	906.01	904.33	0.99	169.2											
115	125	PE18_1W	105+14.21	18.65	R	CB	72-4020					4.2	C		908.34	904.08	903.94	0.30				37.5								
120	115	PE18_1W	105+20.21	18.90	R	CB	H	3.5					C		908.34	904.83	904.33	10.00	5.0											
125	130	PE18_1W	105+50.24	47.20	R	BEEHIVE	48-4020		3.4				E		907.00	903.94	903.66	0.30				104.2								
130	135	PN62_1S	506+59.49	1.25	L	CB	48-4020		5.3				A	YES	908.74	903.41	903.36	0.30					16.4							
135	800	PN62_1S	506+58.36	15.09	R	CB	48-4020		4.5				C		908.44	903.36	903.27	0.30					31.2							
140	145	PS62_1S	1505+09.45	15.02	L	CB	H	3.2					C		908.69	905.44	905.42	0.30	6.4											
145	150	PS62_1S	1505+16.01	15.02	L	CB	48-4020		3.4				C		908.87	905.42	905.37	0.30	16.3											
150	130	PS62_1S	1505+14.88	1.25	R	CB	48-4020		3.8				A		909.18	905.37	903.91	3.32	44.2											
155	135	PN62_1S	506+53.53	15.03	R	CB	H	3.2					C		908.44	904.36	903.86	10.00	5.0											
160	165	PW18_1W	1004+72.37	51.13	L	APRON	APRON						N/A			905.00	904.49	0.69	73.6	1	1						9			
165	175	PW18_1W	1004+22.17	16.15	L	CB	48-4020		3.2				C		907.75	904.49	904.43	0.30	17.4											
170	165	PW18_1W	1004+16.17	15.81	L	CB	H	3.2					C		907.75	904.50	904.49	0.30	6.3											
175	180	PW18_1W	1004+22.17	1.25	R	CB	48-4020		3.6				A		908.07	904.43	904.39	0.30	13.1											
177	180	PRND_1	11+17.44	1.00	R	CB	H	3.2					A		908.59	905.37	904.97	0.50	80.2											
180	115	PE18_1W	105+14.21	1.25	L	CB	60-4020				4.3		A		908.72	904.39	904.33	0.30	19.9											
200	205	PS62_1N	10+01.66	40.92	L	APRON	APRON						N/A			906.36	905.04	5.06	26.0	1	1						9			
205	210	PS62_1N	9+99.12	15.00	L	CB	48-4020		3.2				D		908.29	905.04	904.41	0.51	124.1											
210	215	PS62_1N	8+72.69	15.83	L	CB	48-4020		3.2				C		907.69	904.41	904.36	0.30	17.1											
215	220	PS62_1N	8+72.56	1.25	R	CB	48-4020		3.6				A		908.00	904.36	904.33	0.30	11.0											
220	225	PN62_1N	550+77.71	1.25	L	CB	48-4020		4.3				A		908.72	904.33	904.28	0.30	16.3											
225	299	PN62_1N	550+77.72	15.00	R	CB	48-4020		4.0				C		908.35	904.28	904.17	0.30	37.6											
240	205	PS62_1N	10+24.40	1.25	R	CB	48-4020		3.2				B		908.76	905.43	905.04	1.30	30.0											
245	210	PS62_1N	8+66.85	16.13	L	CB	H	3.2					C		907.68	904.43	904.41	0.30	5.1											
250	225	PN62_1N	550+82.67	15.00	R	CB	H	3.5					C		908.35	904.78	904.28	10.00	5.0											
299		PN62_1N	550+78.23	52.62	R	APRON	APRON						N/A			904.17				1								4.8	20.8	0.3	
300	305	PW18_1E	1300+95.39	51.43	L	APRON	APRON						N/A			903.65	903.40	0.67	42.0	1	1									
305	310	PW18_1E	1300+93.25	15.08	L	CB	48-4020		3.9				C		906.85	902.90	902.86	0.30					16.3							
310	315	PW18_1E	1300+93.25	1.25	R	CB	48-4020		4.3				A		907.17	902.86	902.79	0.30					23.2							
315	600	PE18_1E	300+79.65	1.25	L	CB	48-4020		4.2				A		906.95	902.66	902.37	0.30							95.5					
320	315	PE18_1E	300+79.69	15.00	R	CB	48-4020		3.5				C		906.64	903.13	903.04	0.57				16.3								
330	305	PW18_1E	1300+87.27	15.50	L	CB	H	3.2					C		906.67	903.42	903.40	0.30	5.8											
335	320	PE18_1E	300+74.76	15.00	R	CB	H	3.2					C		906.64	903.39	903.38	0.30	4.9											
500	599	PW18_1E	1302+85.13	15.00	L	CB	H	3.2					D		907.60	904.35	904.09	1.15	22.7											
599		PW18_1E	1302+84.85	37.69	L	APRON	APRON						N/A			904.09				1								4.8	20.8	0.3	
700	320	PE18_1E	301+14.66	43.58	R	APRON	APRON						N/A			905.05	903.38	3.72	44.9											
605	610	PS62_1S	1503+29.57	1.25	R	CB	H	3.2					B		910.40	907.04	906.78	2.19	22.6											
610	615	PN62_1S	504+35.40	1.25	R	CB	48-4020		3.2				B		910.07	906.78	905.88	2.40	12.8											
615	616	PN62_1S	504+39.47	21.00	R	CB	48-4020		3.2				D		909.60	905.88	905.30	0.58	133.0											
616	699	PN62_1S	505+70.59	21.00	R	CB	48-4020		3.2				D		908.55	905.30	905.23	0.30	26.2											
699		PN62_1S	505+87.38	20.00	R	APRON	APRON						N/A			905.23				1								4.8	20.8	0.3	
600	900	PRND_1	9+03.62	1.00	R	CB	72-4020					4.9	A	YES	907.36	902.37	902.03	0.30							111.3					
800		PN62_1S	506+58.62	46.27	R	APRON	APRON						N/A			903.27									1			7.1	27.4	0.6	
900		PRND_1	9+61.10	74.18	R	APRON	APRON						N/A			902.03										1		11.2	41.5	1.1	
910	920	PN62_1S	506+42.81	134.73	R	APRON	APRON						N/A			901.52	901.52	0.00	16.0	1	1							4.8	20.8	0.3	
920	930	PN62_1S	506+37.97	149.41	R	SPECIAL	48-4020			5.2			SPECIAL			903.50	903.45	0.30	16.0											
930		PN62_1S	506+33.37	164.15	R	APRON	APRON						N/A			903.45				1								4.8	20.8	0.3	
							PROJECT TOTALS	39.7	81.0	5.2	4.3	9.1	36						906.5	9	5	158.0	87.1	1	206.8	1	27	42.3	172.9	3.2	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_DR_LEAD.dgn 06/08/2015 11:24:34 AM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

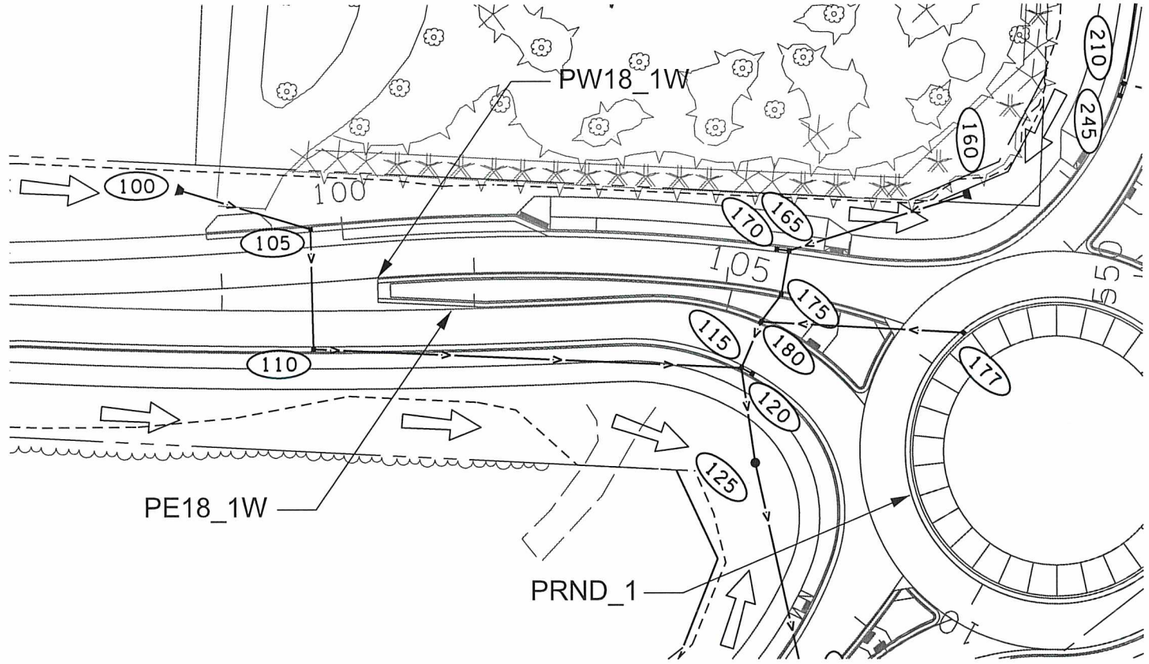
ANOKA COUNTY

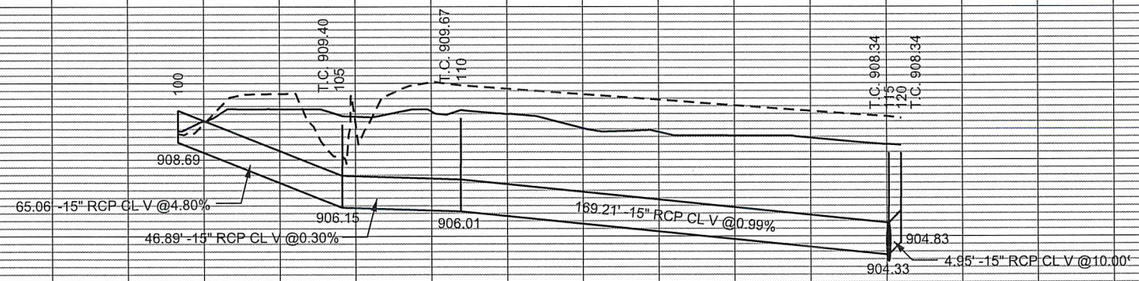
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

DRAINAGE TAB

Sheet 75 of 142 Sheets





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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST DRAINAGE PLAN

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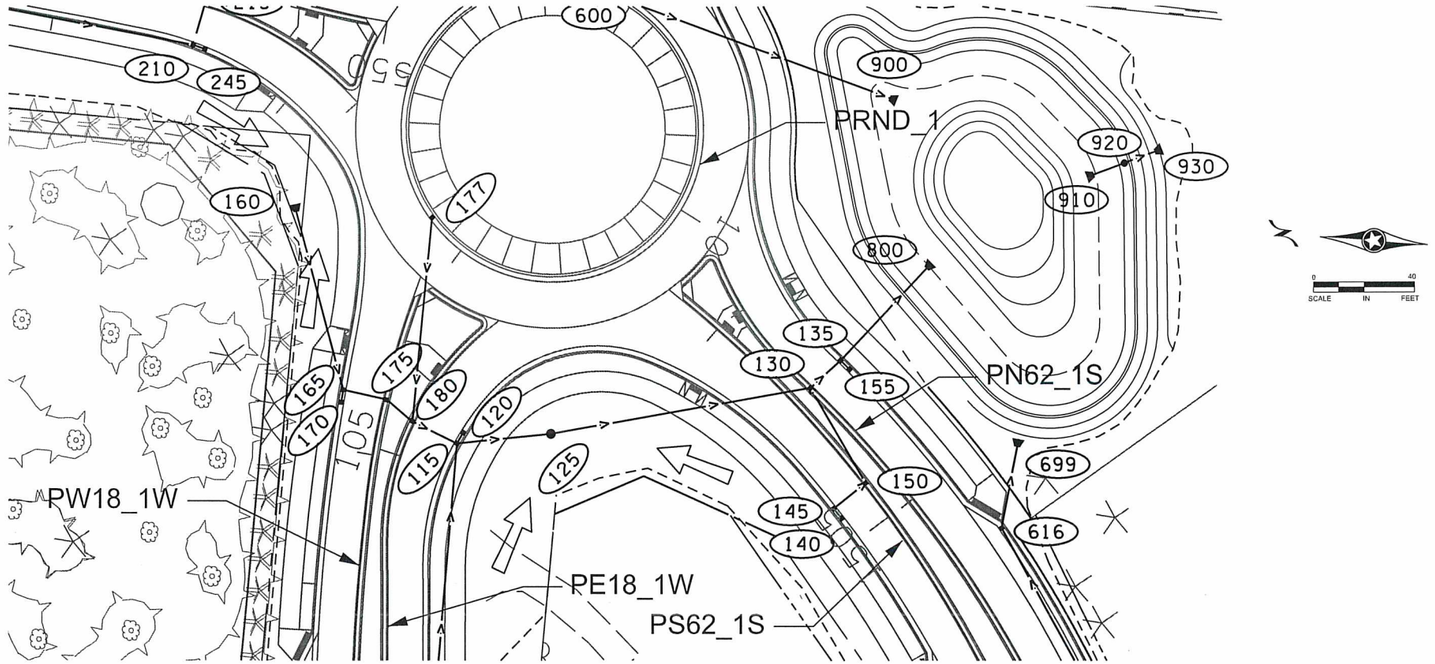

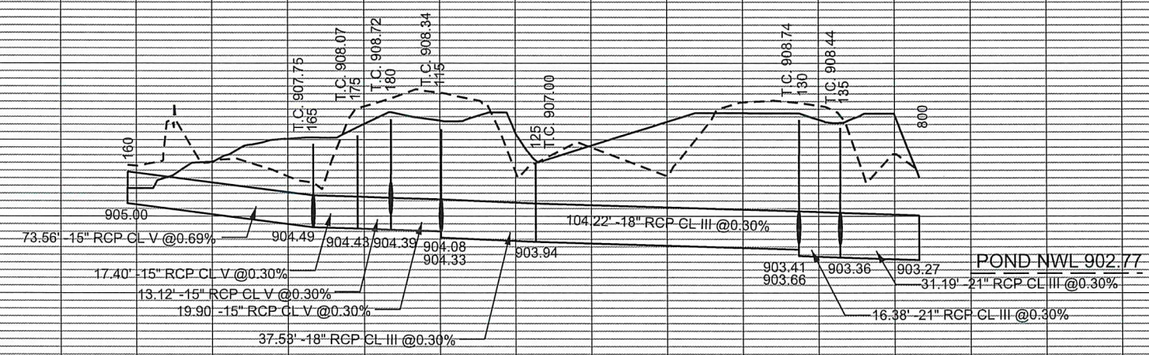

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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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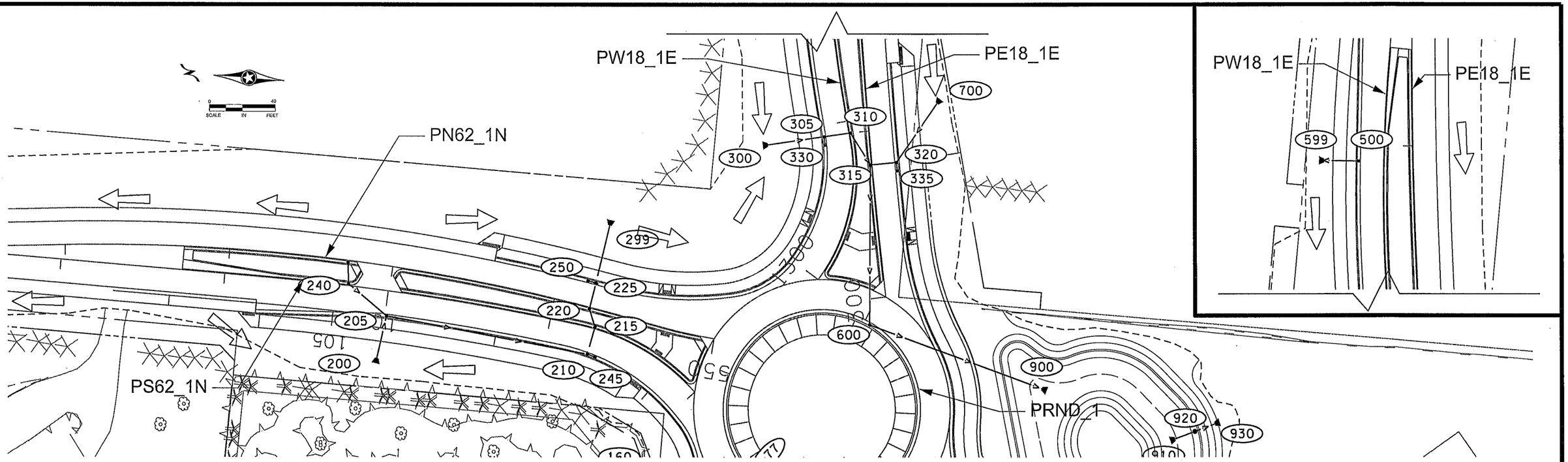
ANOKA COUNTY

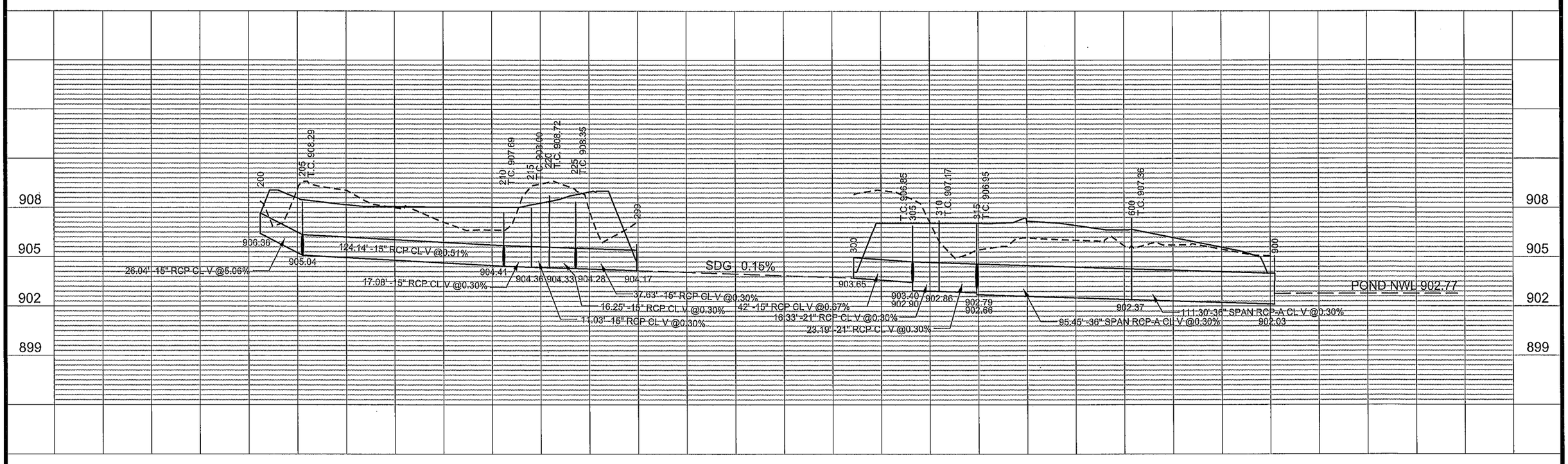
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST DRAINAGE PLAN

Sheet 77 of 142 Sheets





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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST DRAINAGE PLAN

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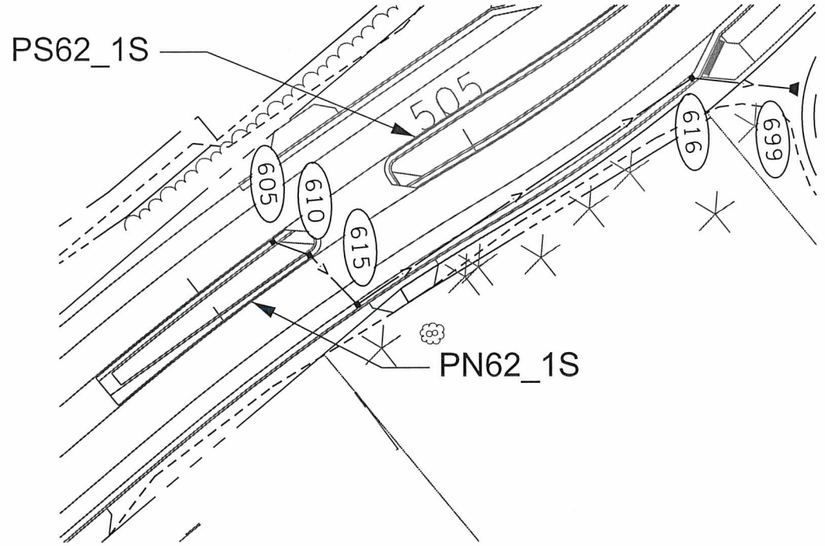

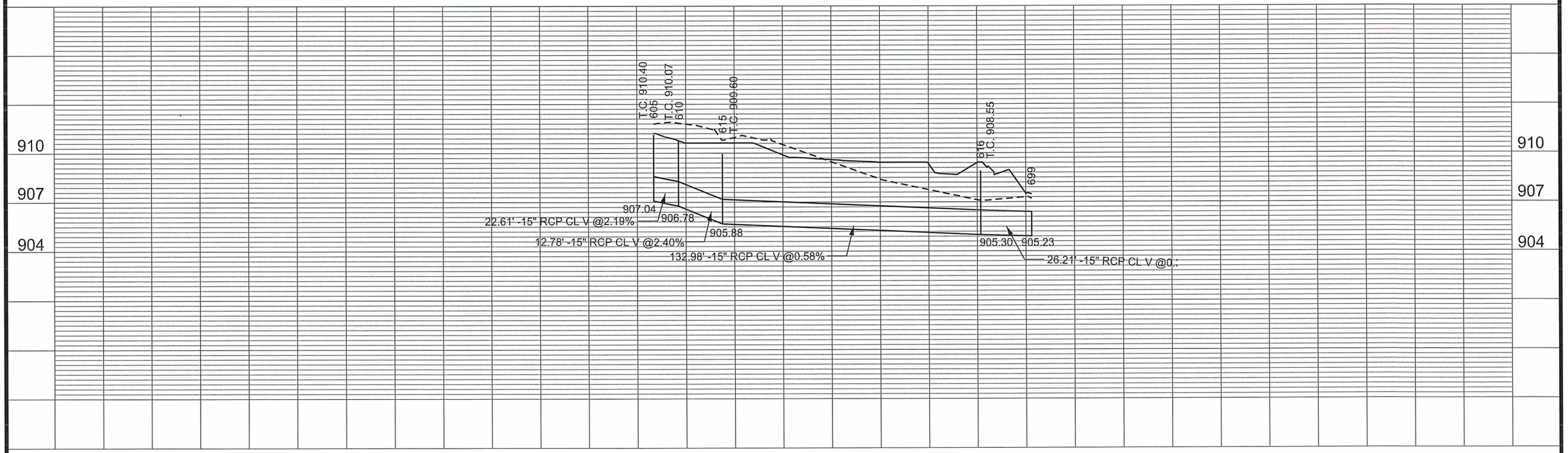

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NAME: P:\02-618-30\Plan\0261830_DRS_P1.dgn 06/01/2015 12:50:41 PM

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ANOKA COUNTY

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STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH DRAINAGE PLAN

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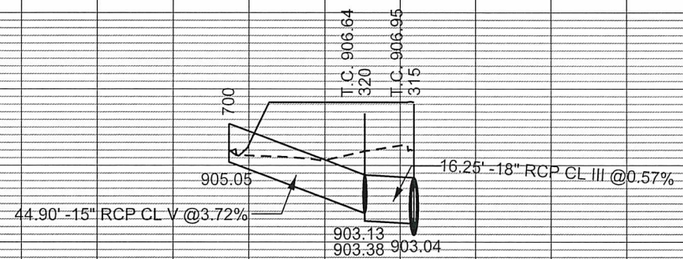

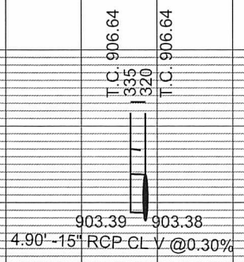

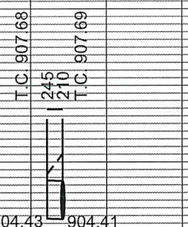

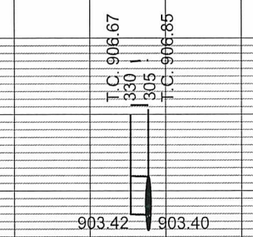

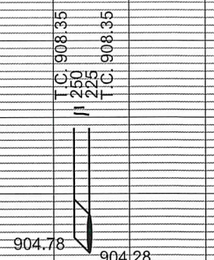

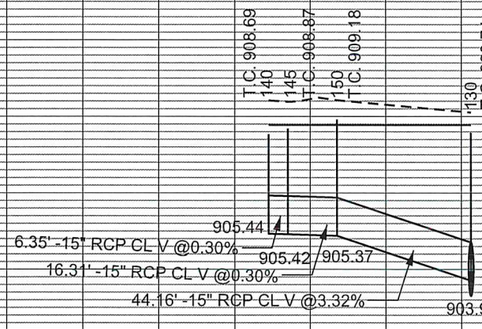

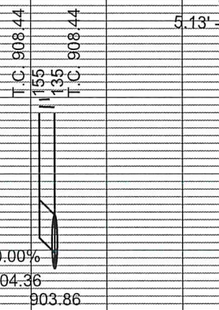

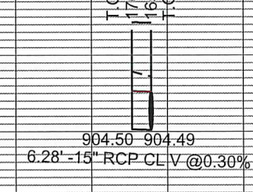

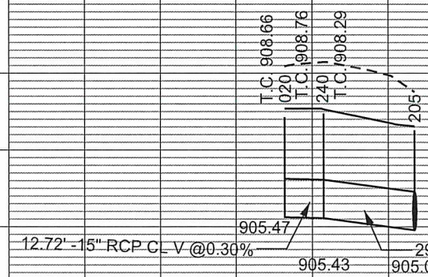

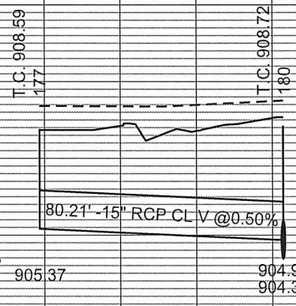

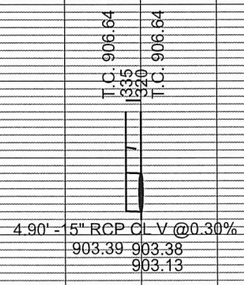

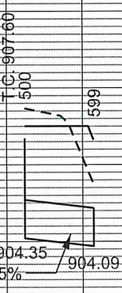

5 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_DR_LEAD.dgn 06/01/2015 12:50:17 PM

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

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
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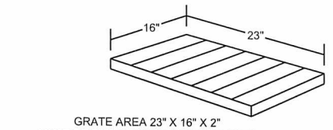
COUNTY PROJECT NO.

DRAINAGE LEADS

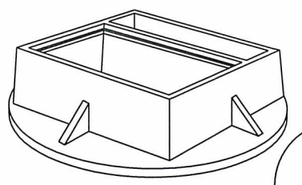
Sheet 80 of 142 Sheets

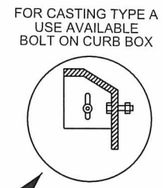
FRAME RING AND CASTING TYPE A
FRAME RING AND CASTING TYPE B

TO BE USED FOR MEDIAN CATCH BASINS



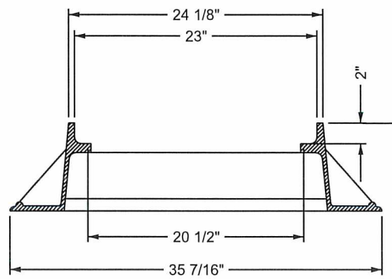
GRATE AREA 23" X 16" X 2"
MUST BE DIRECTIONAL AND BIKE SAFE
SIMILAR TO MNDOT STD PLATE 4152C
OR MNDOT STD PLATE 4154B

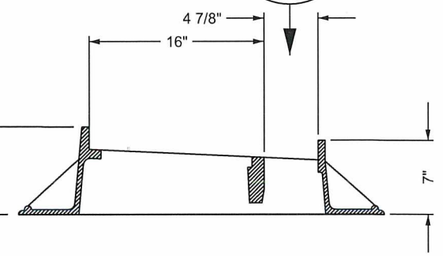




FOR CASTING TYPE A
USE AVAILABLE
BOLT ON CURB BOX

FOR CASTING TYPE B
USE AVAILABLE
BOLT ON CURB PLATE

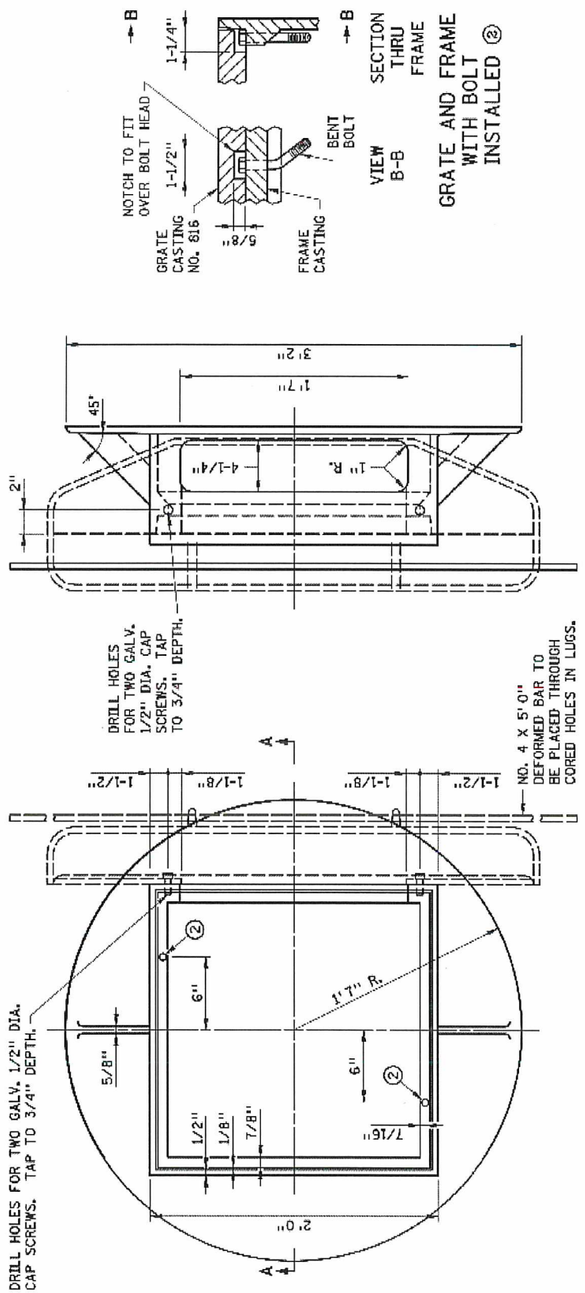




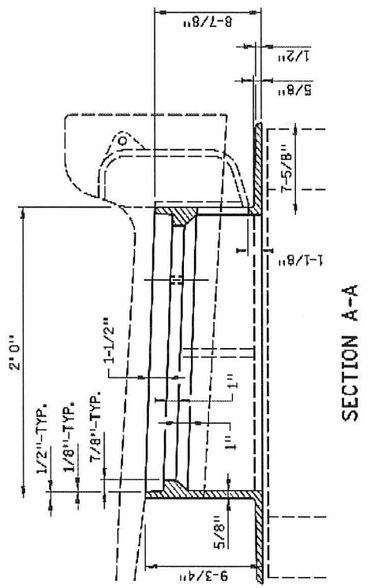
CASTING TYPE	CASTING HEIGHT (FT)			
A	0.7500		MEDIAN BOX	CB
B	0.7500		MEDIAN NO BOX	CB
C	0.7500		OUTER BOX	CB
D	0.7500		OUTER NO BOX	CB
E	0.3333		BEEHIVE	BH
F	0.7500		MANHOLE	MH

FOR FRAME CASTING FOR TYPE E & F SEE MNDOT STD PLATE 4101D
FOR GRATE CASTING TYPE E SEE S MNDOT STD PLATE 4140D "CONCAVE"
FOR GRATE CASTING TYPE F SEE S MNDOT STD PLATE 4110F

FOR FRAME CASTING FOR TYPE G SEE MNDOT STD PLATE 4126F
SEE MNDOT STD PLATE 4161F FOR CURB BOX ON G TYPE CASTING
FOR TYPE G CASTINGS USE GRATE NO 810 - MNDOT STD PLATE 4149C



TOP VIEW



SECTION A-A

GRATE FRAME CASTING TYPE C & D

END VIEW

SECTION THRU FRAME
VIEW B-B

GRATE AND FRAME WITH BOLT INSTALLED ②

CASTINGS USED FOR ASSEMBLY	
GRATE	NO. 816 (MNDOT STD PLATE 4154B)
CURB BOX ①	NO. 823A (MNDOT STD PLATE 4160) OR

NOTES:

USE 1/4" FILLETS IN ALL CORNERS.
SEE MNDOT STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS.
① APPLIES TO DESIGN B OR V CURB AND CURB AND GUTTER.
② AT LOCATIONS INDICATED IN TOP VIEW, PROVIDE 9/16" DIA. HOLES WHEN GRATE NO 816 (MNDOT STD PLATE 4154) IS USED WITH THIS FRAME. FIELD PLACE 1/2" DIA X 4" LONG GALV BOLT IN UP STREAM SIDE AND BENT UNDERSIDE TO PREVENT REMOVAL. THIS WILL PREVENT GRATE NO. 816 (MNDOT STD PLATE 4154) FROM BEING PLACED IN WRONG AND NOT BEING BICYCLE SAFE

NO	DATE	BY	CKD	APPR	REVISION

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DATE: 6-8-15 LICENSE NO. 49046

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CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
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CITY PROJECT NO. 01200
COUNTY PROJECT NO.

DRAINAGE DETAILS

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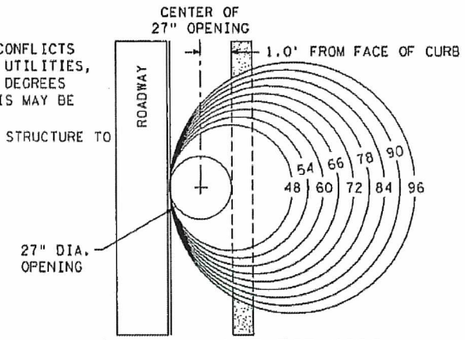
TABLE A

4020 DIAMETER	*OFFSET FEET
48"	0.79
54"	1.08
60"	1.29
66"	1.58
72"	1.79
78"	2.08
84"	2.29
90"	2.58
96"	2.88
102"	3.17
108"	3.29
120"	3.79

WHERE THE 4020 DIAMETER CONFLICTS WITH OTHER STRUCTURES OR UTILITIES, ROTATE THE STRUCTURE 180 DEGREES TO PROVIDE CLEARANCE. THIS MAY BE ADJUSTED IN THE FIELD.

* OFFSET IS FROM CENTER OF STRUCTURE TO CENTER OF OPENING.



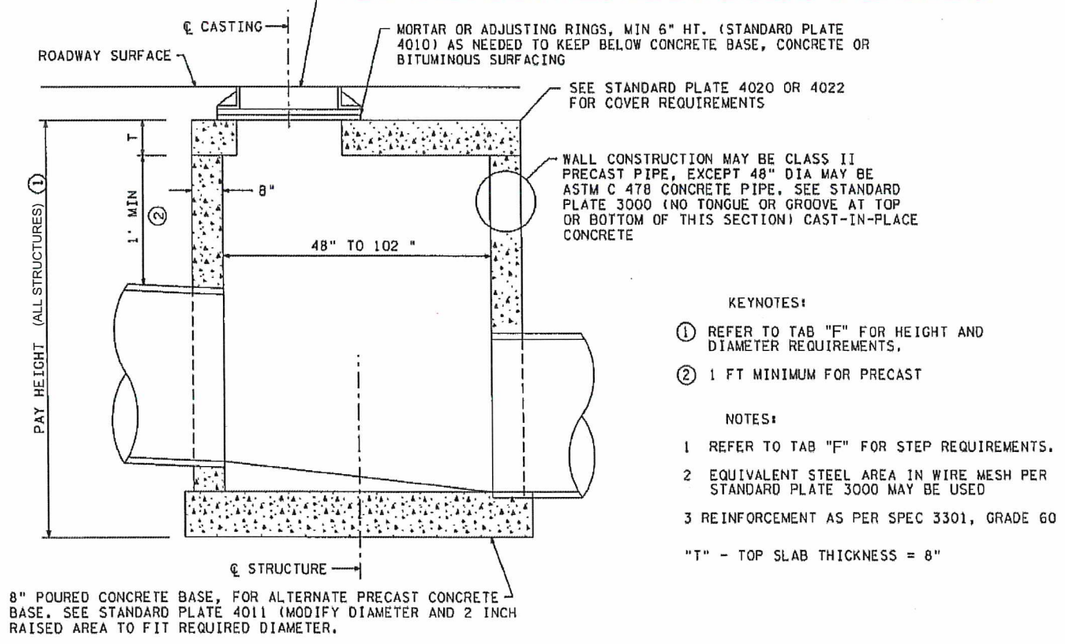
USE FOR 4020

THE FOLLOWING PLACEMENT LOCATIONS SHALL BE USED WITH CONCRETE CURB AND GUTTER.

1. THE CENTER OF GRATE STATION AND OFFSET LOCATION IS GIVEN IN THE DRAINAGE TABULATION
2. THE OFFSET FROM THE CENTER OF STRUCTURE TO THE CENTER OF GRATE IS GIVEN IN TABLE "A" TO THE LEFT FOR 4020 STRUCTURES. OFFSET FOR 4005 STRUCTURES IS 0.9 FT.
3. THE CENTER OF OPENING IS 1.0' TOWARD THE ROADWAY FROM THE FACE OF CURB.
4. THE STRUCTURES THAT HAVE STEPS SHALL BE LOCATED ON THE ROADSIDE OF THE 27" OPENING AND MUST BE EASILY ACCESSIBLE. THE STEP LOCATION MAY NEED TO BE ADJUSTED IF THERE IS A LARGE PIPE DIRECTLY BELOW THE OPENING.

STRUCTURE LOCATION

NO SCALE



KEYNOTES:

① REFER TO TAB "F" FOR HEIGHT AND DIAMETER REQUIREMENTS.

② 1 FT MINIMUM FOR PRECAST

NOTES:

1 REFER TO TAB "F" FOR STEP REQUIREMENTS.

2 EQUIVALENT STEEL AREA IN WIRE MESH PER STANDARD PLATE 3000 MAY BE USED

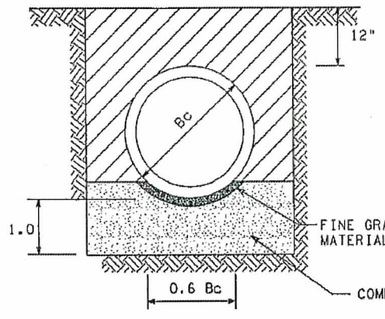
3 REINFORCEMENT AS PER SPEC 3301, GRADE 60

"T" - TOP SLAB THICKNESS = 8"

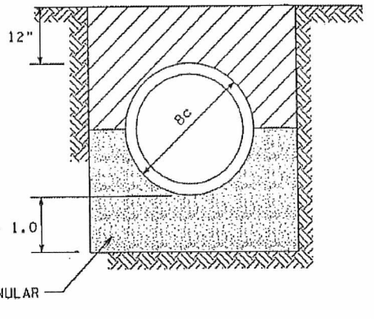
VIEW OF INSTALLATION

DRAINAGE STUCTURE DESIGN 4020

NO SCALE



SHAPED SUBGRADE WITH GRANULAR FOUNDATION (FOR GRANULAR SOILS)



GRANULAR FOUNDATION FOR COHESIVE SOILS

CLASS B

B_f = 1.9

LEGEND

B_c = OUTSIDE DIAMETER
H = BACKFILL COVER ABOVE TOP OF PIPE
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

NOTES:

FOR CLASS B BEDDINGS, SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED, IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

PIPE BEDDING FOR PIPE LAYED IN TRENCHES WHERE UNSUITABLE SOILS ARE ENCOUNTERED IS INCIDENTAL.

A MINIMUM OF ONE FOOT OF GRANULAR FOUNDATION SHALL BE PLACED BELOW BOTTOM OF PIPE, SEE SPECIFICATION.

TRENCH BEDDING CLASS B

NO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_DR_LEAD.dgn 06/01/2015 12:50:33 PM

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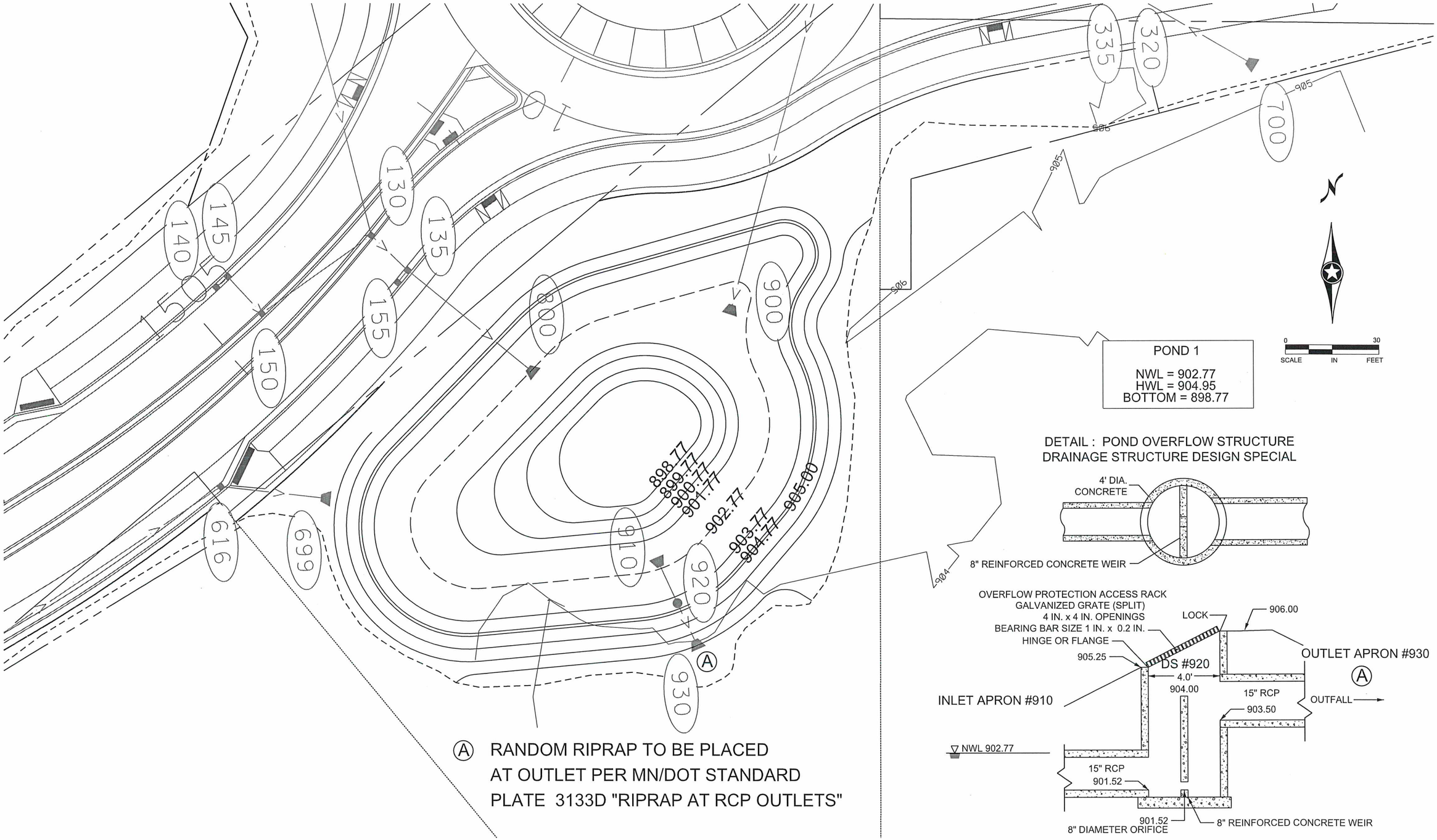
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

DRAINAGE DETAILS

Sheet 82 of 142 Sheets



POND 1

NWL = 902.77
HWL = 904.95
BOTTOM = 898.77

DETAIL : POND OVERFLOW STRUCTURE
DRAINAGE STRUCTURE DESIGN SPECIAL

Ⓐ RANDOM RIPRAP TO BE PLACED
AT OUTLET PER MN/DOT STANDARD
PLATE 3133D "RIPRAP AT RCP OUTLETS"

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_POND_P1.dgn 06/08/2015 11:45:32 AM

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

PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

POND GRADING PLAN

Sheet 83 of 142 Sheets

PROJECT LOCATION AND GENERAL INFORMATION
THIS ROAD CONSTRUCTION PROJECT ADDS A ROUNDABOUT, MEDIAN AND BITUMINOUS TRAIL.

THIS PROJECT WILL PRIMARILY CONSIST OF GRADING, PLACING AGGREGATE BASE, BITUMINOUS PAVING, CURB AND GUTTER, STORM SEWER CONSTRUCTION, STORM WATER PONDING.

THIS PROJECT WILL REQUIRE THE DISTURBANCE OF **6.184 ACRES** OF SOILS AND DOES CREATE THE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS
THE CONTRACTOR WILL ENSURE COMPLIANCE WITH THE TRAINING REQUIRED IN PART 111.A.2 OF THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY.

THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONEL FOR THE PROJECT HAVE BEEN DETERMINED.

LONG TERM OPERATION AND MAINTENANCE
THE CITY OF COLUMBUS STREETS DIVISION WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT AND SNOW REMOVAL OPERATIONS ALONG THE PROPOSED TRAIL.

LARRY BOHRER, TKDA
CITY ENGINEER
CITY OF COLUMBUS OFFICE
16319 KETTLE RIVER BLVD.
COLUMBUS, MN 55025
651-464-3120

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS
THE FOLLOWING TABLE IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE PROJECT DISTURBED SOIL BOUNDARIES, WHICH WILL RECEIVE STORMWATER RUNOFF FROM THE CONSTRUCTION SITE, DURING OR AFTER CONSTRUCTION.

STORMWATER FROM A DISCHARGE POINT ON THE PROJECT THAT FLOWS TO A SURFACE WATER IDENTIFIED AS IMPAIRED AND/OR SPECIAL MUST INCLUDE THE FOLLOWING ADDITIONAL BMP REQUIREMENTS:
1) ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
2) TEMPORARY SEDIMENT BASINS OR PERMANENT PONDS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (10+) OR MORE ACRES DISTURBED AT ONE TIME.

RECEIVING SURFACE WATERS		
NAME OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
ANOKA COUNTY		
COUNTY DITCH 31	NO	NO

DISTURBED SOIL AREA
TOTAL DISTURBED SOILS AREA FOR THIS PROJECT IS 6.184 **ACRES**

IMPERVIOUS SOIL AREA
EXISTING AREA OF IMPERVIOUS SURFACE IS 2.422 **ACRES.**
POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE 3.489 **ACRES.**

SOIL TYPES
THE PREDOMINANT SOIL TYPE FOUND ON THIS PROJECT IS SAND.

SEDIMENT CONTROL PRACTICES
TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMP'S AS PROVIDED IN THE PLAN AT LOCATIONS WHERE CONSTRUCTION STORMWATER DRAINS FROM THE PROJECT

IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 1:3 OR STEEPER

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMP'S DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE

POLLUTION PROVENTION MEASURES
THE CONTRACTOR WILL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT PART IV.F AS PERTAINING TO SOLID WASTE, HAZARDOUS MATERIALS EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT ONSITE.

THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

CONSTRUCTION PHASING

SILT FENCE AND/OR OTHER SUITABLE PERIMETER BMP'S AS PROVIDED IN THE PLANS WILL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY. CONSTRUCTION WILL BE REQUIRED TO BE PHASED SO THAT ALL DOWN GRADIENT SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO OR IN CONJUNCTION WITH ANY SOIL DISTURBING ACTIVITIES.

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL WILL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH SEED MIXTURE 25-121 , TYPE 3 FERTILIZER, AND DISK ANCHORED TYPE 3 MULCH AS PROVIDED IN THE PLAN.
STOCKPILED TOPSOIL BERMS WILL NOT BE PLACED IN ANY STORMWATER CONVEYANCES.

AFTER STRIPPING THE TOPSOIL THE EXPOSED SOIL INSLOPES WILL BE STABILIZED WITH DISK ANCHORED TYPE 3 MULCH AND SEED WITHIN 7 OR RAPID STABILIZATION 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY SEDIMENT BASINS
THIS ROAD CONSTRUCTION PROJECT AS DESIGNED DOES NOT MEET ANY OF THE TEMPORARY SEDIMENT BASIN DISTURBED AREA THRESH HOLD REQUIREMENTS IF PERMANENT POND LOCATIONS ARE CONSTRUCTED PRIOR TO DISCHARGE , TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

PERMANENT STORMWATER MANAGEMENT SYSTEM

ALL STORMWATER MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING WATERS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING A SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

THIS ROAD CONSTRUCTION PROJECT HAS A GREATER THEN 1 ACRE INCREASE IN IMPERVIOUS AREA.

EROSION PREVENTION PRACTICES

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THEN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATER THE EXPOSED SOIL MUST BE STABILIZED NO LATER THEN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA CEASED. SEE THE IMPAIRED & SPECIAL WATERS SECTION OF THIS SWPPP FOR ADDITIONAL BMP REQUIREMENTS FOR DISTURBED AREAS THAT DRAIN TO A SPECIAL OR IMPAIRED WATER

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

PIPE CULVERT OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. THIS WILL INCLUDE DRAINAGE DITCHES THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE

PROJECT CONTACTS

MPCA	NPDES	LAURAL MEZNER	218-316-3889
MPCA	EMERGENCY	STATE DUTY OFFICER	800-422-0798
DNR	NOT REQUIRED		
COE	NOT REQUIRED		
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/15	NICK DOBDA	763-862-4261
ANOKA COUNTY PROJECT REPRESENTATIVE	U OF MN SITE MANAGEMENT EXPIRES 5/15	CHRIS OSTERHUS	763-274-8127
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

Withholding of PaymentNoncompliance
If the Contractor fails to install erosion or sediment control measures ordered by the Engineer, the Engineer may withhold payment from related work until the control measures are undertaken by the Contractor. When the Contractor fails to conduct the quality control program, doesn't conduct the inspections required in the NPDES permit, or fails to take action ordered by the Engineer to remedy erosion or sediment control problems: The Engineer will issue a written order to the Contractor. The Contractor shall respond within 24 hours with sufficient personnel, equipment and/or materials and conduct the required work or be subject to a $500.00 per calendar day deduction for noncompliance.

LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN		MN/DOT SPECIFICATION	SPECIAL PROVISION
	TITLE	LOCATION		
NPDES PERMIT COMPLIANCE			1701, 1702, &1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT			1506, 1717, & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CHAIN OF RESPONSIBILITY	AGENCY CONTACTS		1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG	AGENCY CONTACTS		1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION	AGENCY CONTACTS			
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW			1717	
PROJECT SPECIFIC CONSTRUCTION STAGING			1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME)
TEMPORARY EROSION AND SEDIMENT CONTROL BMP LOCATIONS, INSTALLATION, TIMING OF INSTALLATION AND TYPE OF BMP	QUANTITY TABULATIONS		2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND OR PERMANENT EROSION AND SEDIMENT CONTROL BMP'S NOT PROVIDED OR SHOWN IN THE PLAN			1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES			1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING			2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
FINAL STABILIZATION	QUANTITY TABULATIONS EROSION CONTROL PLAN		1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	QUANTITY TABULATIONS EROSION CONTROL PLAN		2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	EROSION CONTROL DETAILS		2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_SWPPP.dgn 06/01/2015 12:51:56 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 11/25/13
DESIGN BY NJD DATE 11/25/13
CHECKED BY GMP DATE 12/13/13

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SWPPP NARRATIVE

Sheet 84 of 142 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Training

Individual revising or amending the SWPPP and individuals performing inspections must fill in the following table.

Name of on-site personel trained	
Dates of training	
Name of instructor(s)	
Entity providing training	
Content of training course or workshop	

Amending the SWPPP

The SWPPP must be amended to record changes or modifications to permanent BMP's or other storm water treatment systems and removals of temporary BMP's. Changes to temporary BMP's may be recorded on this sheet. Include a brief description of the problem, location, nature of alteration, and comments. This record is to be retained for three years after project completion.

Date Reported	Plan Location (sheet)	Project Location (station)	Problem, solution, and notes

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_SWPPP.dgn 06/01/2015 12:51:57 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-9-15 LICENSE NO. 49046

DRAWN BY NJD DATE 11/25/13

DESIGN BY NJD DATE 11/25/13

CHECKED BY GMP DATE 12/13/13

ANOKA COUNTY

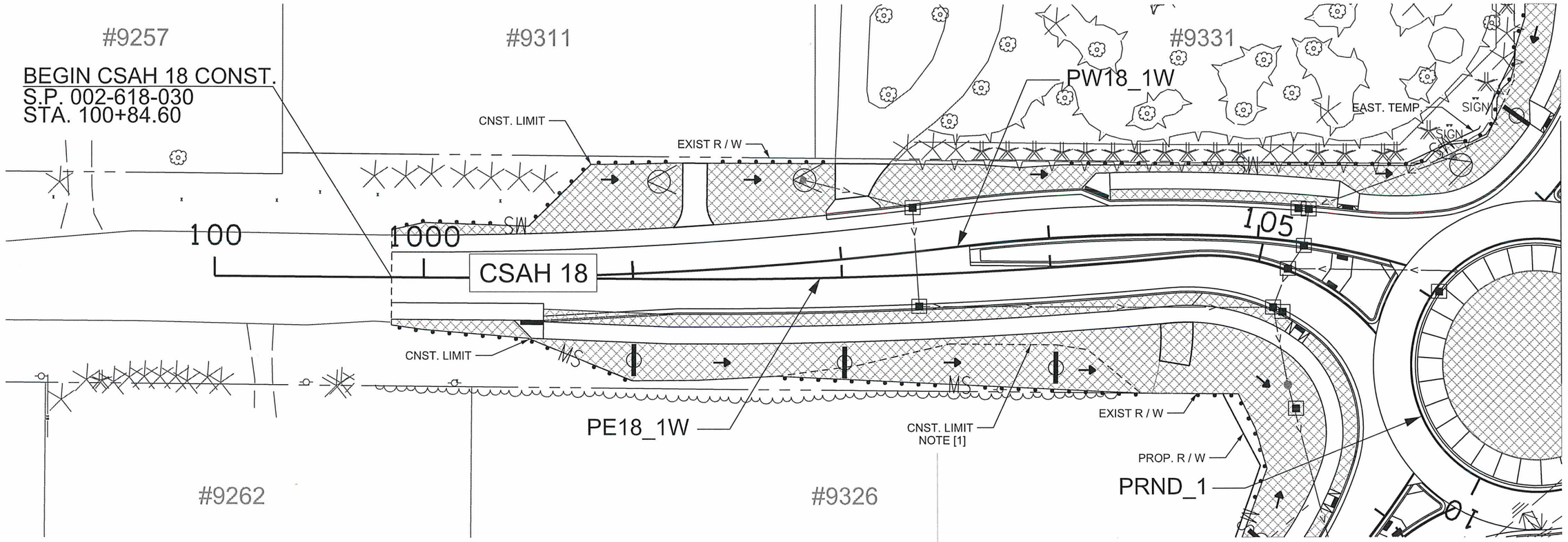
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SWPPP NARRATIVE

Sheet 85 of 142 Sheets

LEGEND			
←	FLOW ARROW		SEED MIXTURE 25-121 MULCH MATERIAL TYPE 3 FERTILIZER TYPE 3
	STORM SEWER		
MS	SILT FENCE, TYPE MACHINE SLICED		
	SEDIMAT CONTROL LOG TYP WOOD FIBER EROSION CONTROL BLANKET CAT 3		SEED MIXTURE 33-261 EROSION CONTROL BLANKET CAT 3 FERTILIZER TYPE 3
	CULVERT END CONTROLS (CULVERT PROTECTION)		
	STORM DRIAN INLET PROTECTION		
	RANDOM RIPRAP		WETLAND DELINEATION



NOTE [1] E.B. STA. 102+70 - 104+30 CONSTRUCTION TOUCHDOWN FOLLOWS CNST. LIMIT LINE.
SILT FENCE TO FOLLOW BACKSLOPE OF DITCH INSIDE R/W TO ALLOW FOR DITCH DRAINAGE.
AREA TO BE RE-ESTABLISHED WITH REST OF DITCH.

N

SCALE 0 50 IN FEET

1 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EROS_P1.dgn 06/08/2015 12:48:42 PM

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014

DESIGN BY NJD DATE 8/11/2014

CHECKED BY GMP DATE -

ANOKA COUNTY

ANOKA COUNTY
HIGHWAY DEPT.

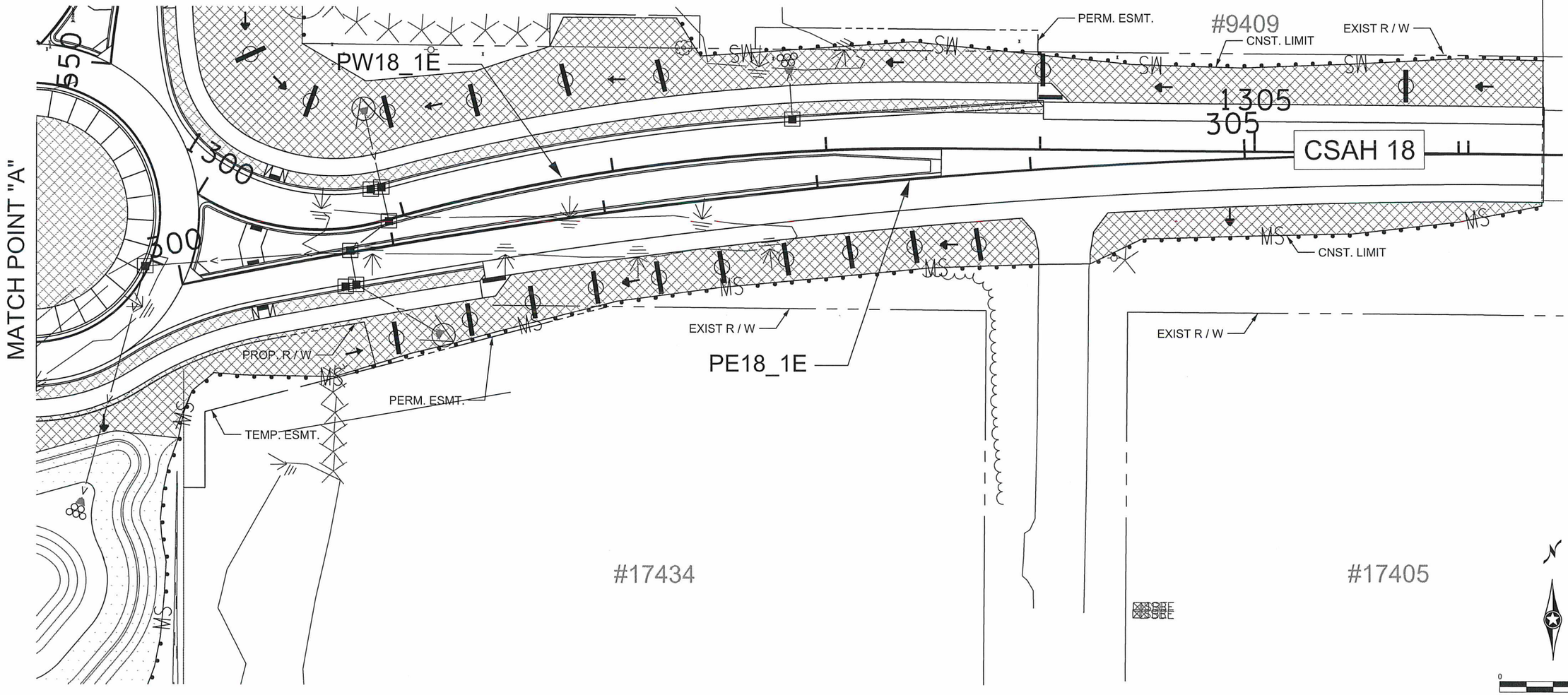
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TURF ESTABLISHMENT
&
EROSION CONTROL PLAN
WEST APPROACH

Sheet 86 of 142 Sheets

LEGEND			
	FLOW ARROW		SEED MIXTURE 25-121 MULCH MATERIAL TYPE 3 FERTILIZER TYPE 3
	STORM SEWER		
MS	SILT FENCE, TYPE MACHINE SLICED		SEED MIXTURE 33-261 EROSION CONTROL BLANKET CAT 3 FERTILIZER TYPE 3
	SEDIMAT CONTROL LOG TYP WOOD FIBER EROSION CONTROL BLANKET CAT 3		
	CULVERT END CONTROLS (CULVERT PROTECTION)		WETLAND DELINEATION
	STORM DRIAN INLET PROTECTION		
	RANDOM RIPRAP		

END CSAH 18 CONST.
S.P. 002-618-030
STA. 306+39.68



2 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EROS_P2.dgn 06/08/2015 12:48:44 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014
DESIGN BY NJD DATE 8/11/2014
CHECKED BY GMP DATE -

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

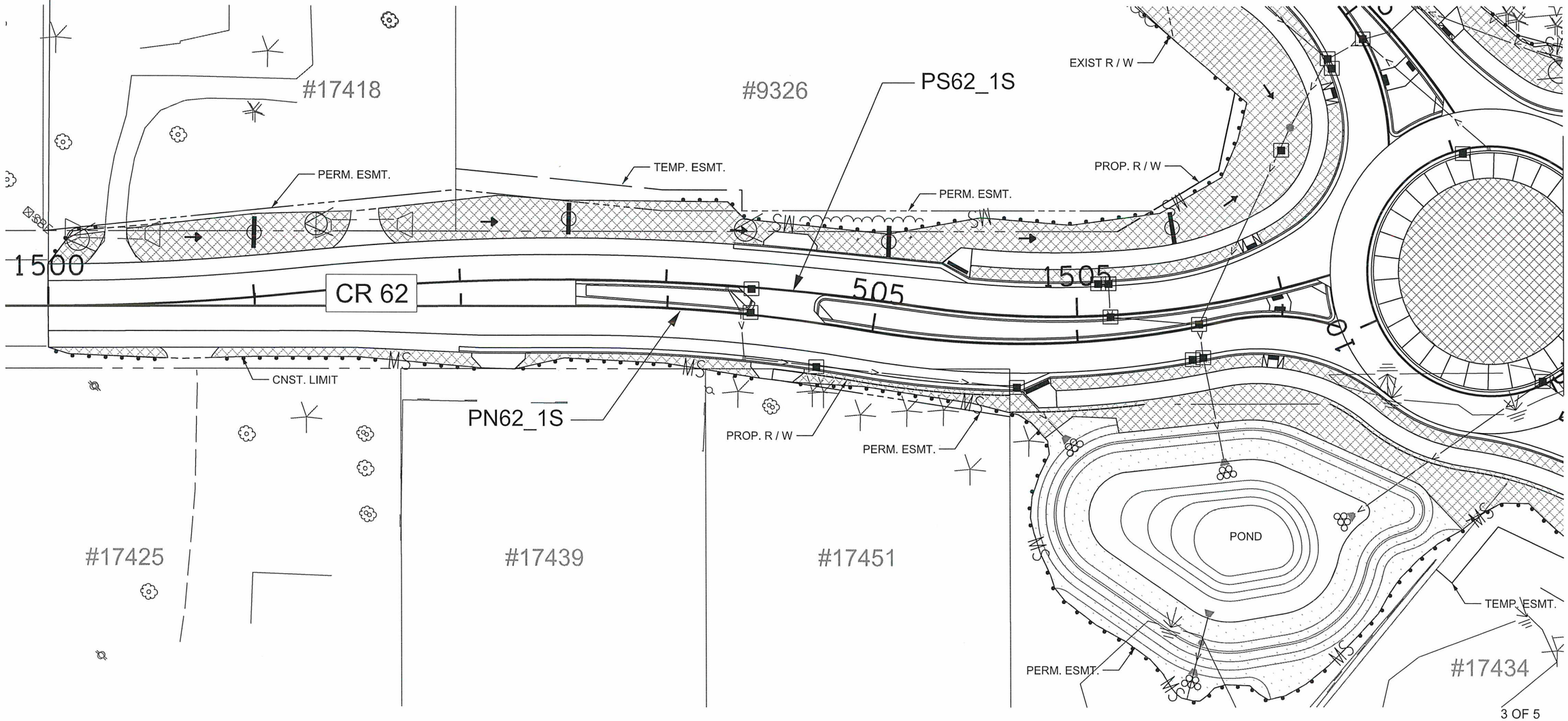
TURF ESTABLISHMENT
&
EROSION CONTROL PLAN
EAST APPROACH

Sheet 87 of 142 Sheets

LEGEND			
←	FLOW ARROW		SEED MIXTURE 25-121 MULCH MATERIAL TYPE 3 FERTILIZER TYPE 3
	STORM SEWER		
MS	SILT FENCE, TYPE MACHINE SLICED		SEED MIXTURE 33-261 EROSION CONTROL BLANKET CAT 3 FERTILIZER TYPE 3
	SEDIMAT CONTROL LOG TYP WOOD FIBER EROSION CONTROL BLANKET CAT 3		
	CULVERT END CONTROLS (CULVERT PROTECTION)		WETLAND DELINEATION
	STORM DRIAN INLET PROTECTION		
	RANDOM RIPRAP		

0 50
SCALE IN FEET

BEGIN CR 62 CONST.
S.P. 002-618-030
STA. 501+00.00



3 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EROS_P3.dgn 06/08/2015 12:48:46 PM

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

PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY NJD DATE 8/11/2014
DESIGN BY NJD DATE 8/11/2014
CHECKED BY GMP DATE -

ANOKA COUNTY
HIGHWAY DEPT.

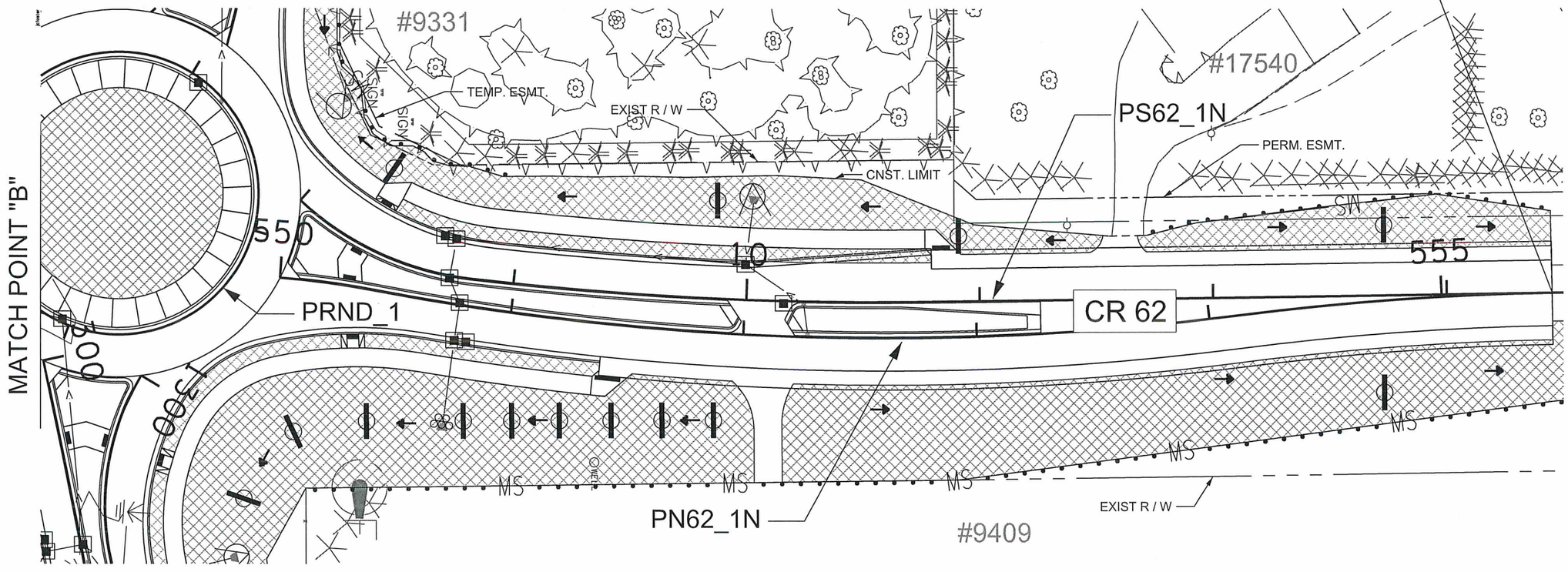
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TURF ESTABLISHMENT
&
EROSION CONTROL PLAN
SOUTH APPROACH

Sheet 88 of 142 Sheets

LEGEND			
←	FLOW ARROW		SEED MIXTURE 25-121 MULCH MATERIAL TYPE 3 FERTILIZER TYPE 3
—<—	STORM SEWER		
MS	SILT FENCE, TYPE MACHINE SLICED		SEED MIXTURE 33-261 EROSION CONTROL BLANKET CAT 3 FERTILIZER TYPE 3
	SEDIMAT CONTROL LOG TYP WOOD FIBER EROSION CONTROL BLANKET CAT 3		
	CULVERT END CONTROLS (CULVERT PROTECTION)		
	STORM DRIAN INLET PROTECTION		WETLAND DELINEATION
	RANDOM RIPRAP		

END CR 62 PERM. CONST.
S.P. 002-618-030
STA. 555+47.41



NOTE: LNB 62 TEMP. ROAD TO HAVE RAPID STABILIZATION METHOD 3 ON SLOPES. QUANTITY FOR THIS HAS BEEN ADDED TO THE N.E. QUAD RAPID STABLIZATION METHOD 3 TOTAL.

0 50
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EROS_P4.dgn 06/08/2015 12:48:48 PM

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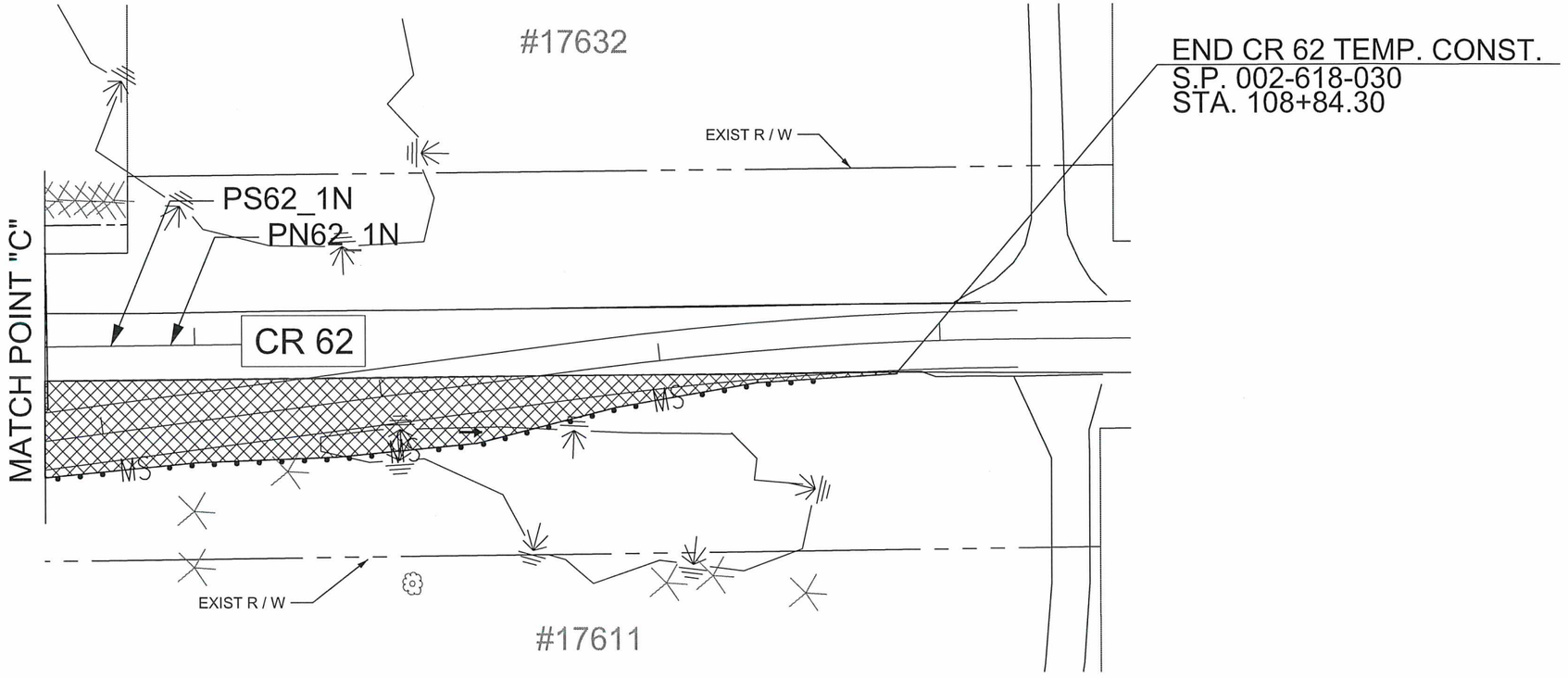
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

TURF ESTABLISHMENT
&
EROSION CONTROL PLAN
NORTH APPROACH

Sheet 89 of 142 Sheets

LEGEND			
	FLOW ARROW		SEED MIXTURE 25-121 MULCH MATERIAL TYPE 3 FERTILIZER TYPE 3
	STORM SEWER		
MS	SILT FENCE, TYPE MACHINE SLICED		SEED MIXTURE 33-261 EROSION CONTROL BLANKET CAT 3 FERTILIZER TYPE 3
	SEDIMAT CONTROL LOG TYP WOOD FIBER EROSION CONTROL BLANKET CAT 3		
	CULVERT END CONTROLS (CULVERT PROTECTION)		WETLAND DELINEATION
	STORM DRIAN INLET PROTECTION		
	RANDOM RIPRAP		



NOTE: LNB 62 TEMP. ROAD TO HAVE RAPID STABILIZATION METHOD 3 ON SLOPES. QUANTITY FOR THIS HAS BEEN ADDED TO THE N.E. QUAD RAPID STABLIZATION METHOD 3 TOTAL.

0 50
SCALE IN FEET

5 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_EROS_P5.dgn 06/01/2015 12:50:57 PM

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ANOKA COUNTY

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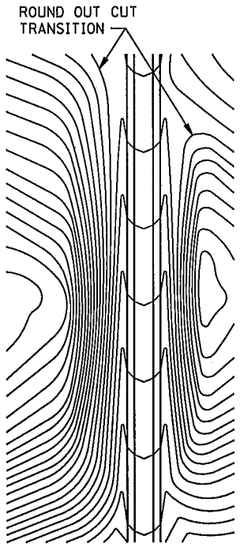
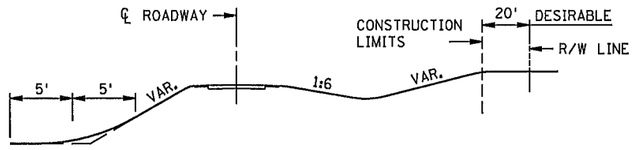
COUNTY PROJECT NO.

TURF ESTABLISHMENT & EROSION CONTROL PLAN
NORTH APPROACH CONT.

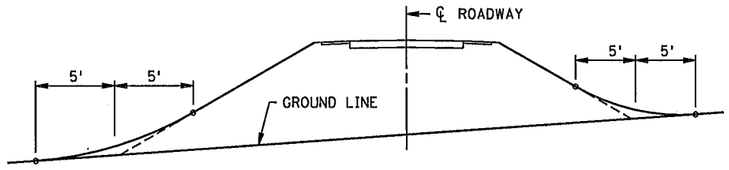
Sheet 90 of 142 Sheets



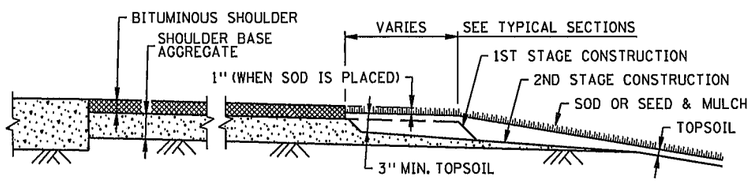
CONTOURING ROAD CUTS



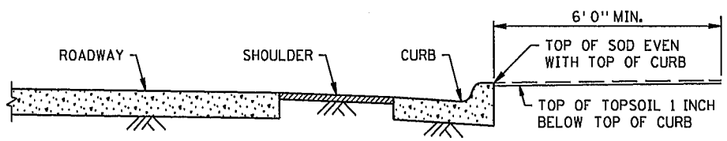
ROUNDING SHOULDERS AND BACKSLOPES



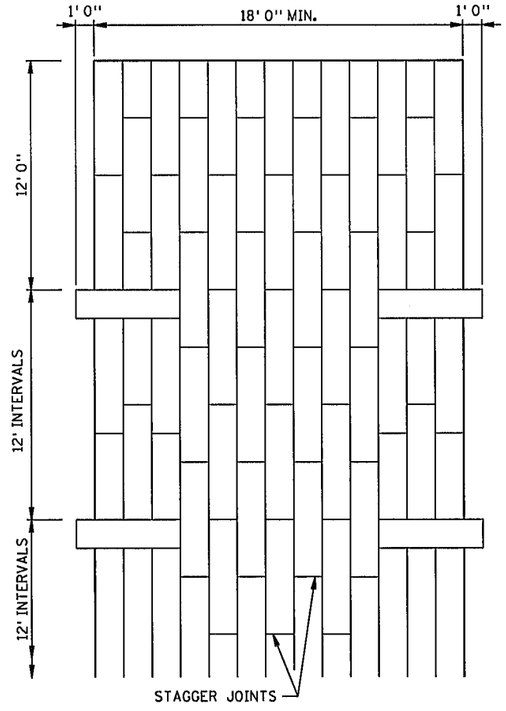
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



SHAPING AND TOPSOILING INSLOPES



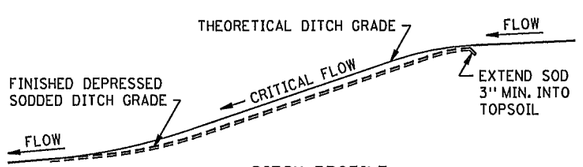
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

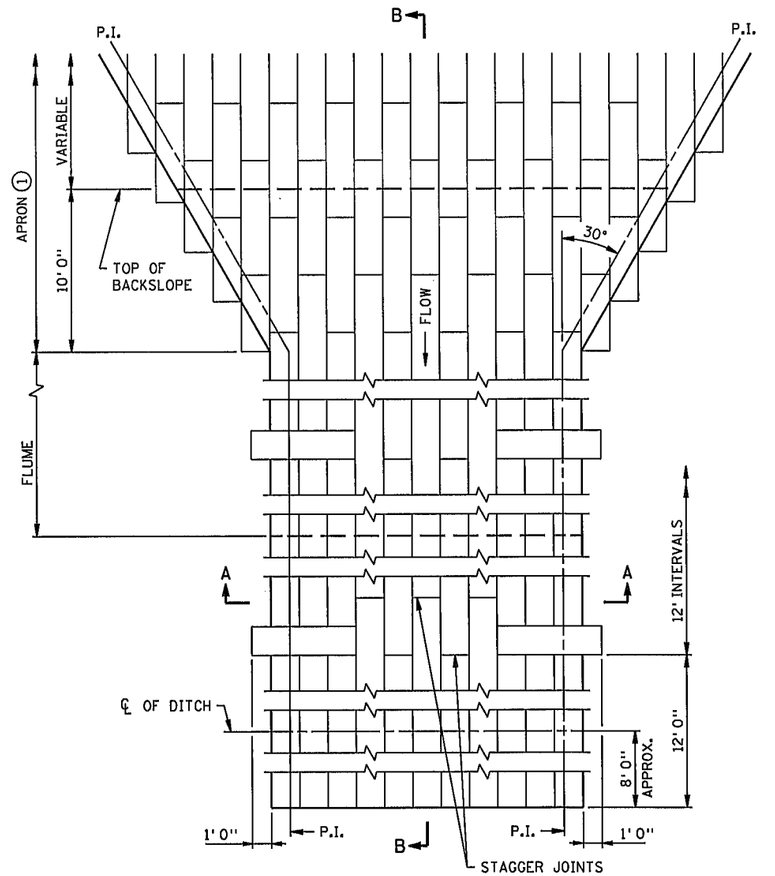
SODDED DITCH CROSS SECTION

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

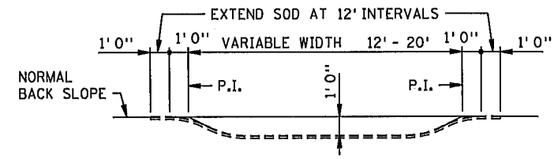


DITCH PROFILE

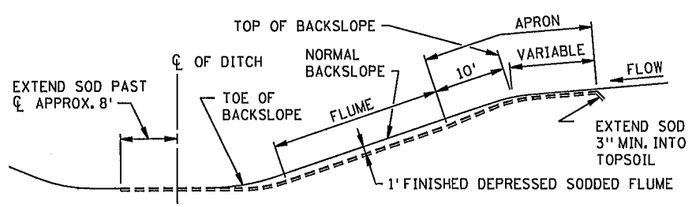
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

REVISED:

APPROVED: 8-6-2014

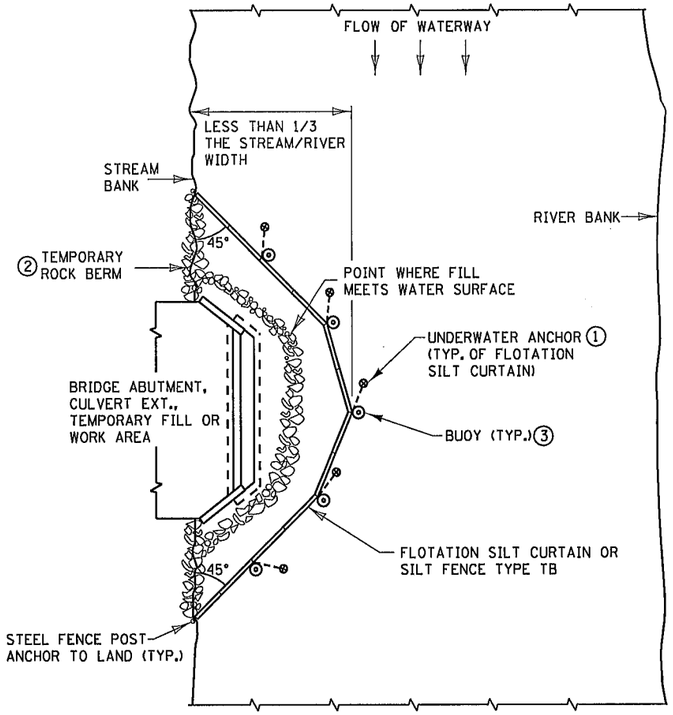
STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL

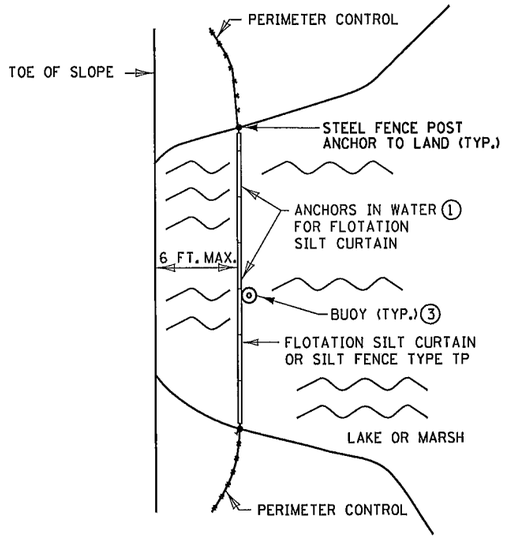
ALONG ROADWAYS, DITCHES AND FLUMES

STANDARD PLAN 5-297.404 — 1 OF 1

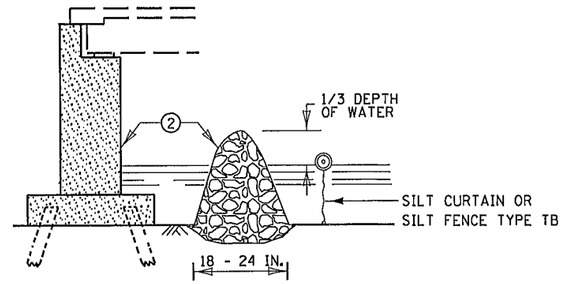
STATE PROJECT NO. 002-618-030 — SHEET 91 OF 142



PLAN VIEW FOR STREAM ⑤



PLAN VIEW FOR LAKE OR MARSH ⑤



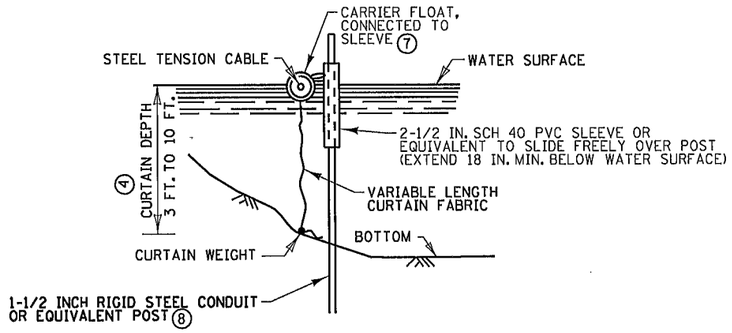
TEMPORARY ROCK BERM
FOR SEDIMENT CONTROL

INSTALLATION GUIDELINES
SILT FENCE TYPE TB
MINIMUM WATER DEPTH: 1 FT.
MAXIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

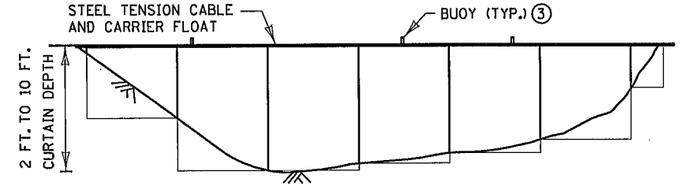
INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: STILL WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 2 FT./SEC.
MAXIMUM WAVE HEIGHT: 1 FT

INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: MOVING WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.
MAXIMUM WAVE HEIGHT: 2 FT.

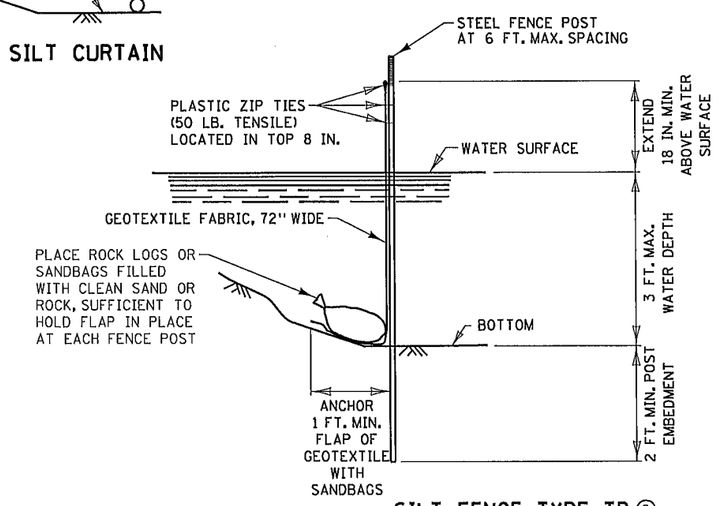
FLOTATION SILT CURTAIN



ALTERNATE FLOTATION SILT CURTAIN



FRONT VIEW FOR FLOTATION SILT CURTAIN



SILT FENCE TYPE TB ⑥

NOTES:

SEE SPECS. 2573, 3886, 3887 & 3893.

① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.

② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.

③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.

④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.

⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.

⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.

⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.

⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

REVISION:

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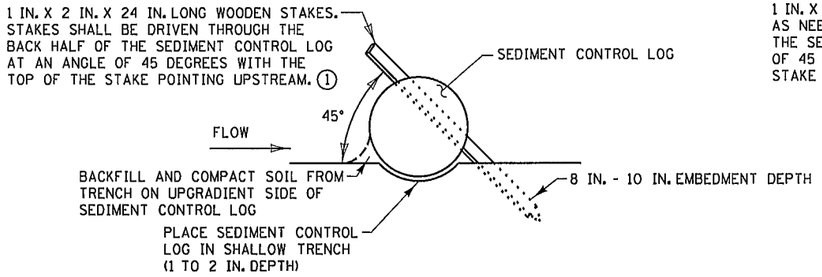
REVISED:

APPROVED: 8-6-2014
STATE DESIGN ENGINEER

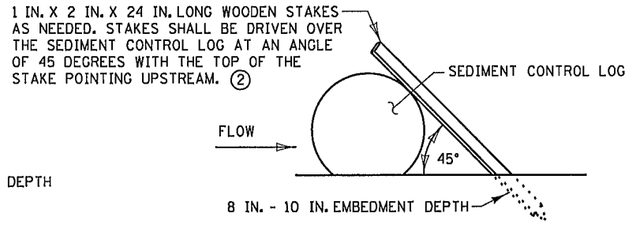
TEMPORARY SEDIMENT CONTROL
SILT CURTAIN OR SILT FENCE TYPE TB

STANDARD PLAN 5-297.405 — 1 OF 7

STATE PROJECT NO. 002-618-030 — SHEET 92 OF 142

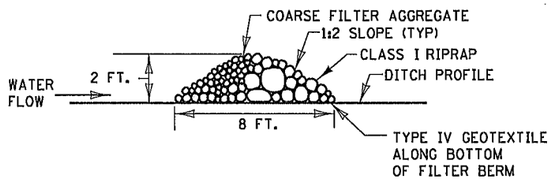


TYPES: STRAW, WOOD FIBER, OR COIR

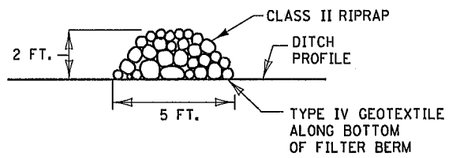


TYPES: WOOD CHIP, COMPOST, OR ROCK

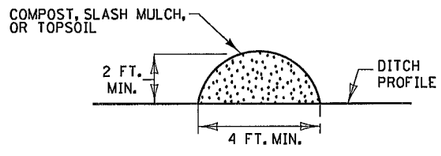
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

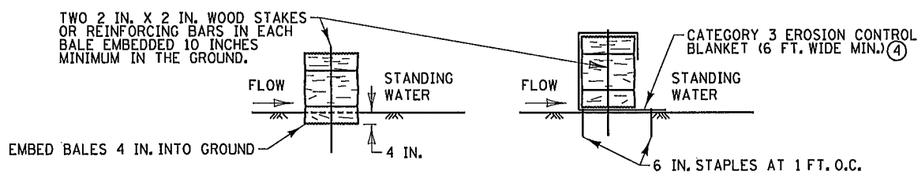


TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

FILTER BERMS



EMBEDMENT METHOD

BLANKET METHOD (ALTERNATE)

BALE BARRIERS (3)

NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

(1) SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.

(2) PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.

(3) TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.

(4) INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

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CHIEF ENVIRONMENTAL OFFICER

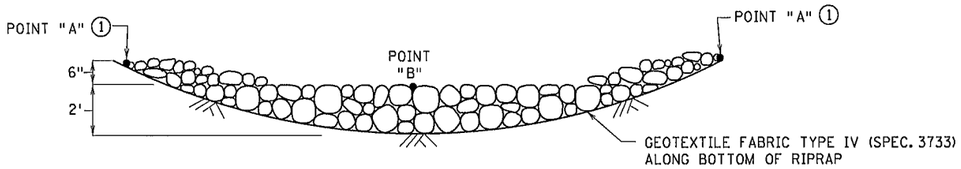
REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

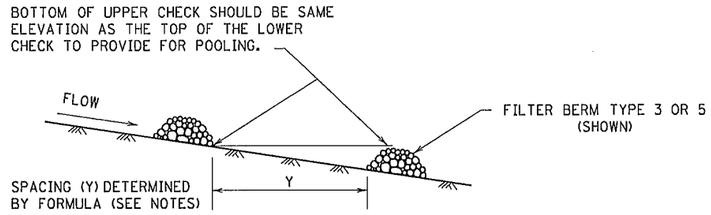
STANDARD PLAN 5-297.405 — 2 OF 7

STATE PROJECT NO. 002-618-030 — SHEET 93 OF 142



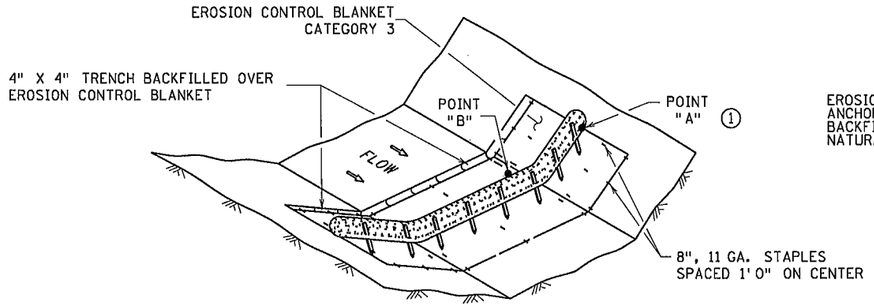
ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ②③

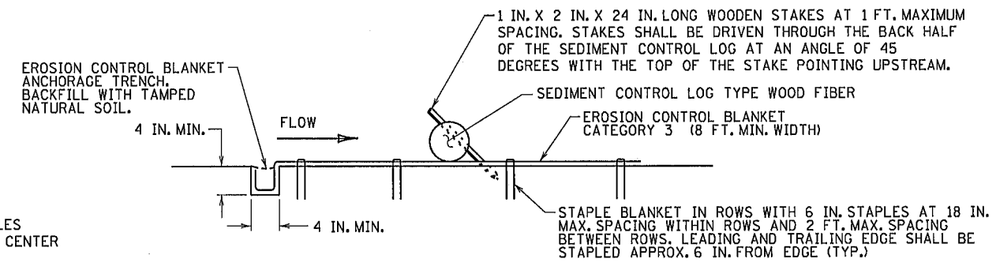
(FOR USE ON ROUGH GRADED AREAS)



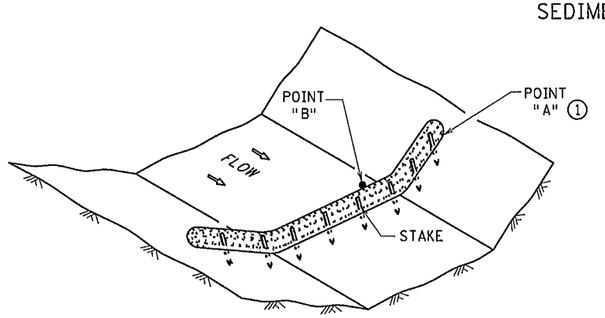
DITCH CHECK SPACING

(FOR ALL FILTER BERM TYPES)





SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤

(FOR USE ON ROUGH GRADED AREAS)

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\text{\% CHANNEL SLOPE}} \times 100$$

① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..

⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

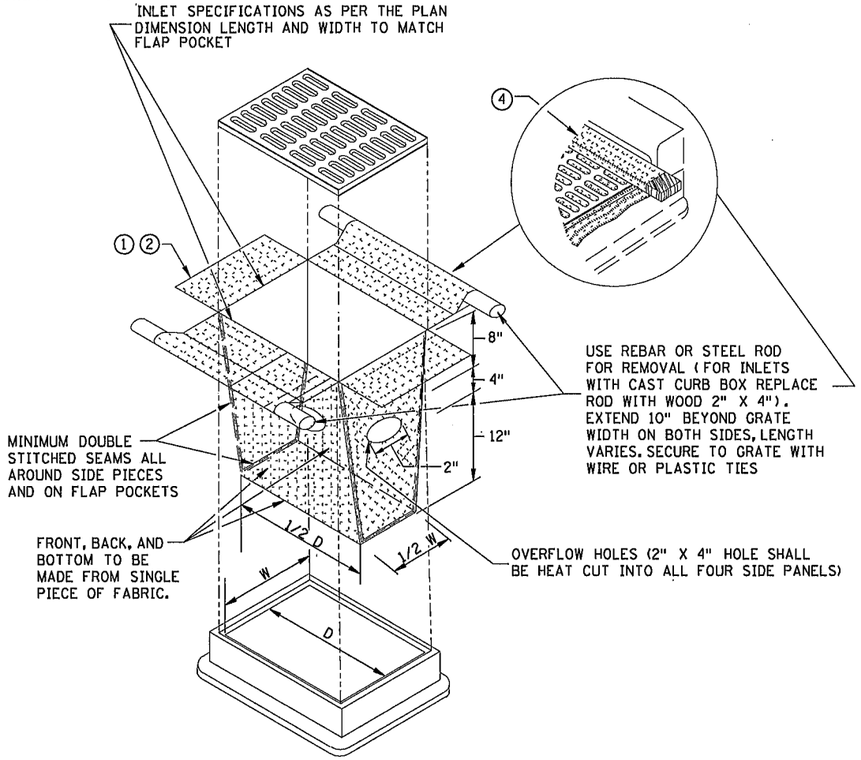
APPROVED: 8-6-2014

TEMPORARY SEDIMENT CONTROL

DITCH CHECK

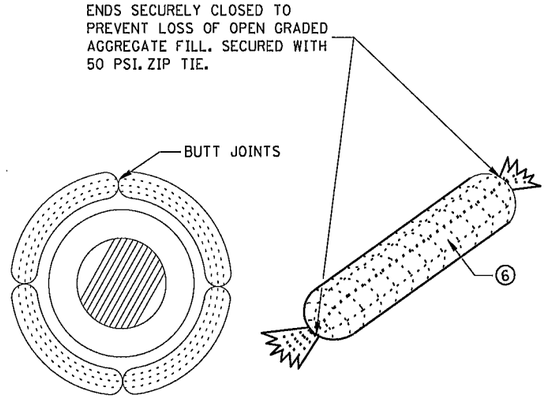
STANDARD PLAN 5-297.405 | 3 OF 7

STATE PROJECT NO. 002-618-030 | SHEET 94 OF 142

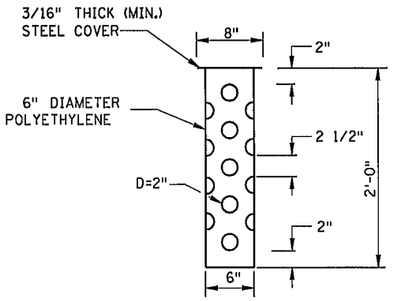


FILTER BAG INSERT ③

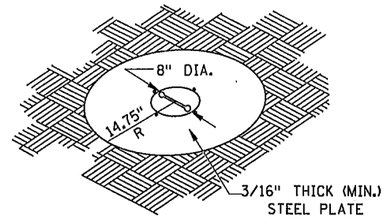
(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)



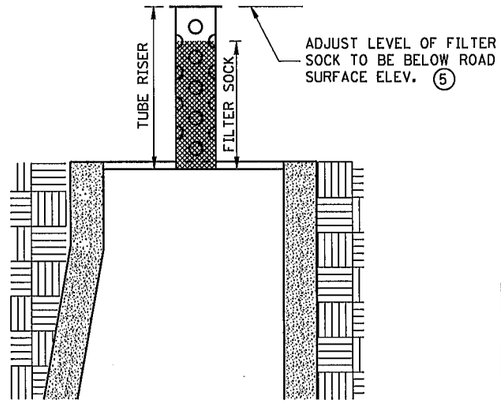
ROCK LOG/COMPOST LOG



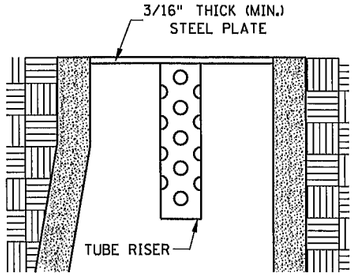
TUBE RISER



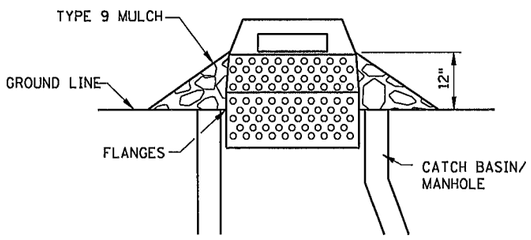
PERSPECTIVE VIEW



SECTION
(UP POSITION)

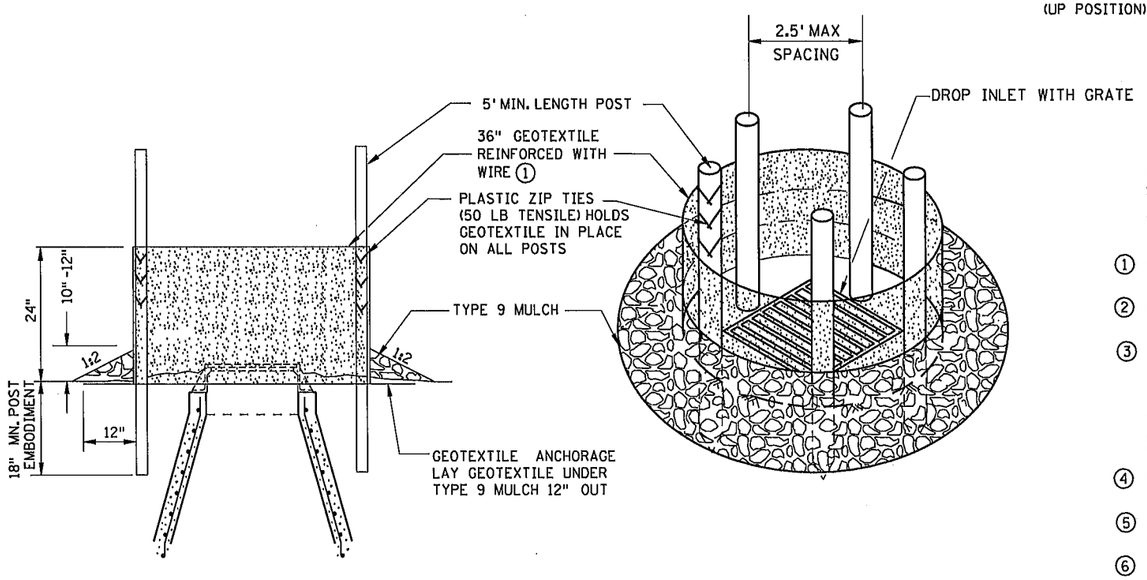


SECTION
(DOWN POSITION)



SEDIMENT CONTROL INLET HAT

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



SILT FENCE RING AND ROCK FILTER BERM

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

POP-UP HEAD

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

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

REVISION:

APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

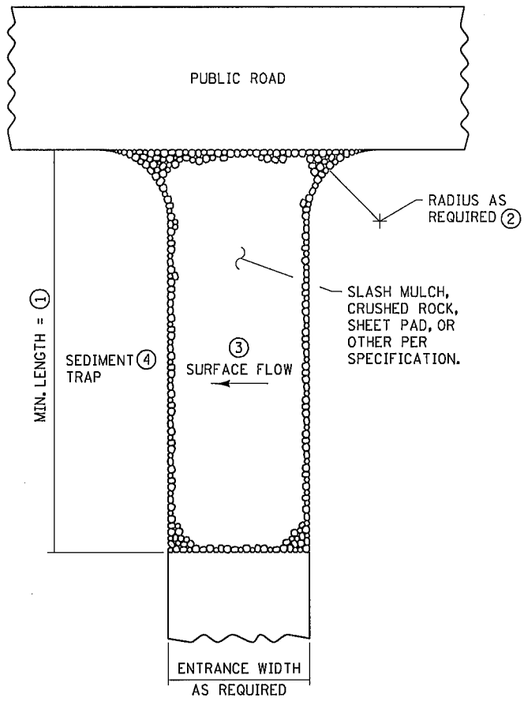
REVISED:

APPROVED: 8-6-2014
STATE DESIGN ENGINEER

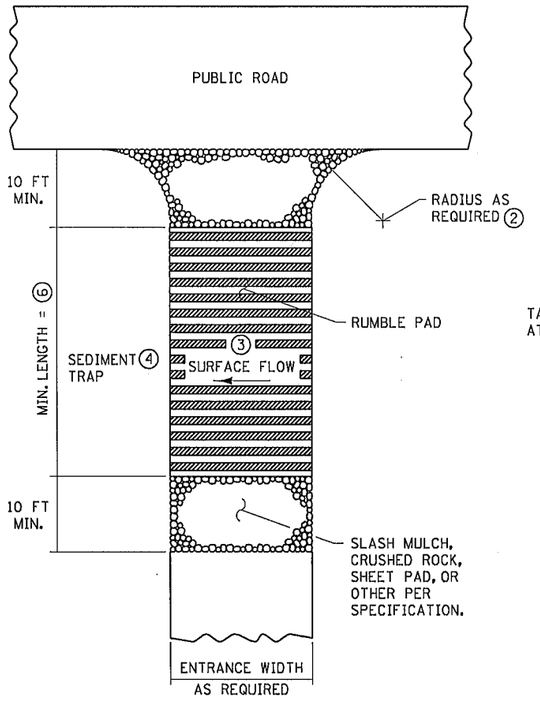
TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STANDARD PLAN 5-297.405 — 4 OF 7

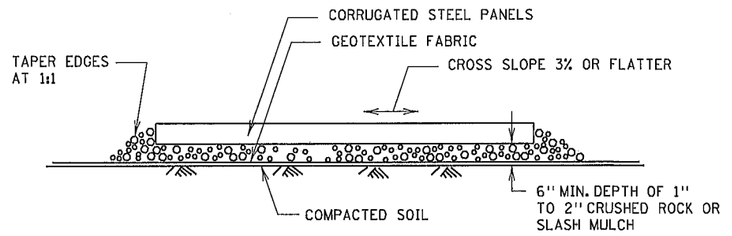
STATE PROJECT NO. 002-618-030 — SHEET 95 OF 142



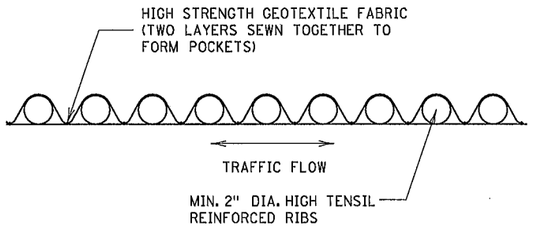
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



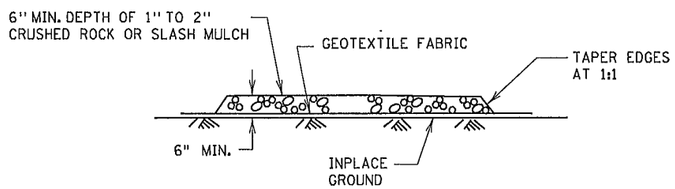
RUMBLE PAD
CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:

APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

REVISED:

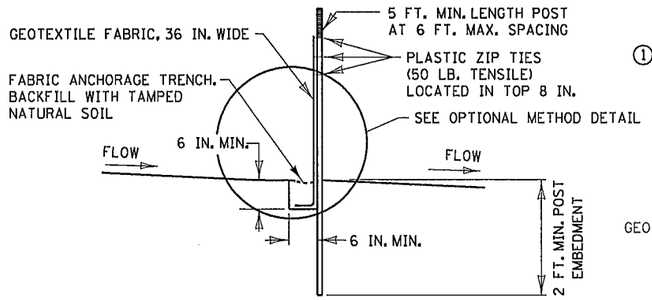
STATE DESIGN ENGINEER

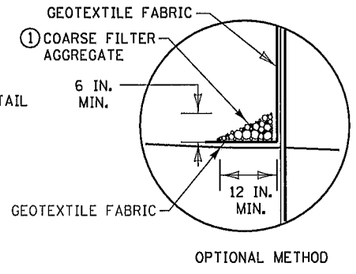
APPROVED: 8-6-2014

TEMPORARY SEDIMENT CONTROL
CONSTRUCTION EXITS

STANDARD PLAN 5-297.405 — 5 OF 7

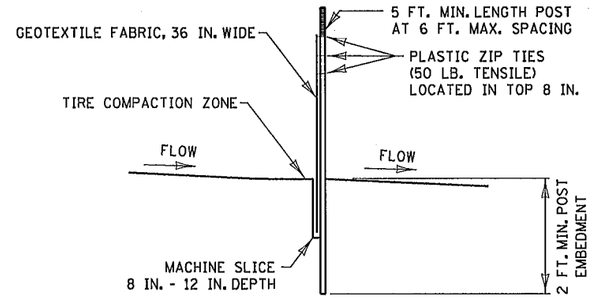
STATE PROJECT NO. 002-618-030 — SHEET 96 OF 142



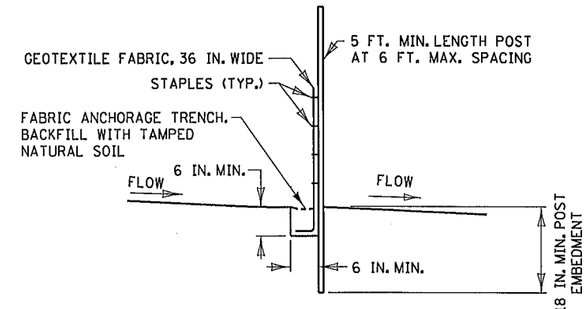


OPTIONAL METHOD

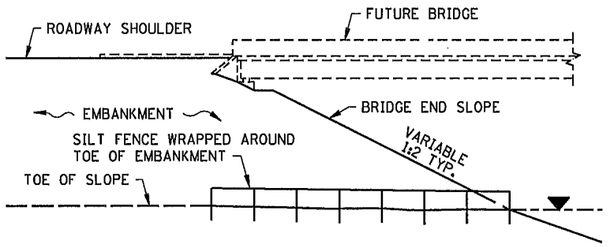
SILT FENCE TYPE HI ② (HAND INSTALLED)



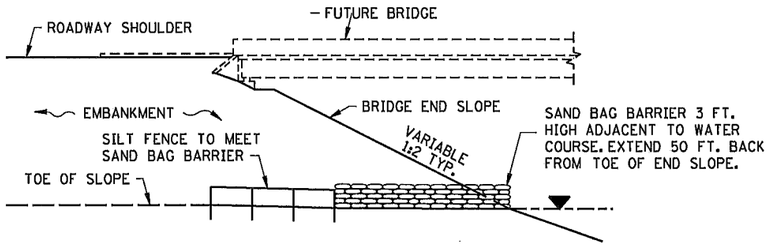
SILT FENCE TYPE MS ② (MACHINE SLICED)



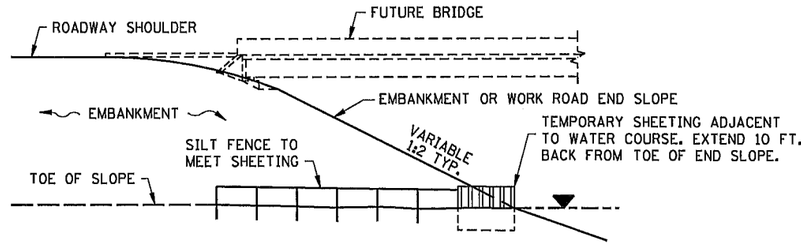
SILT FENCE TYPE PA ③ (PREASSEMBLED)



SILT FENCE ONLY ④

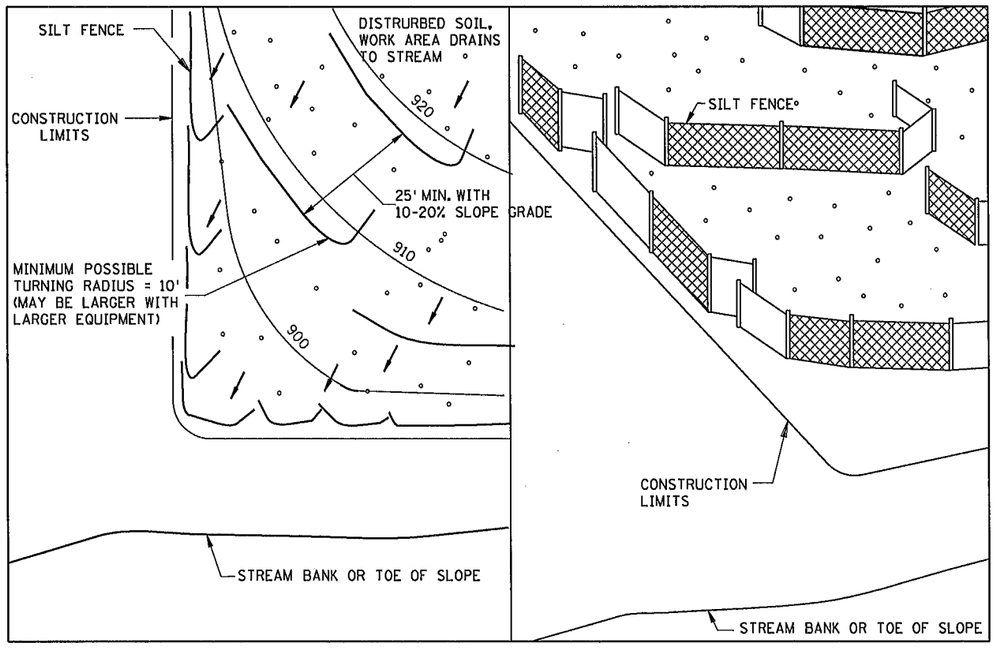


SILT FENCE WITH SAND BAGS ⑤



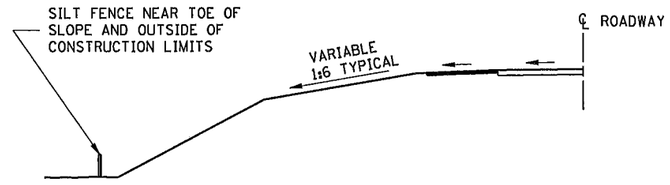
SILT FENCE WITH SHEETING ⑥

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

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

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

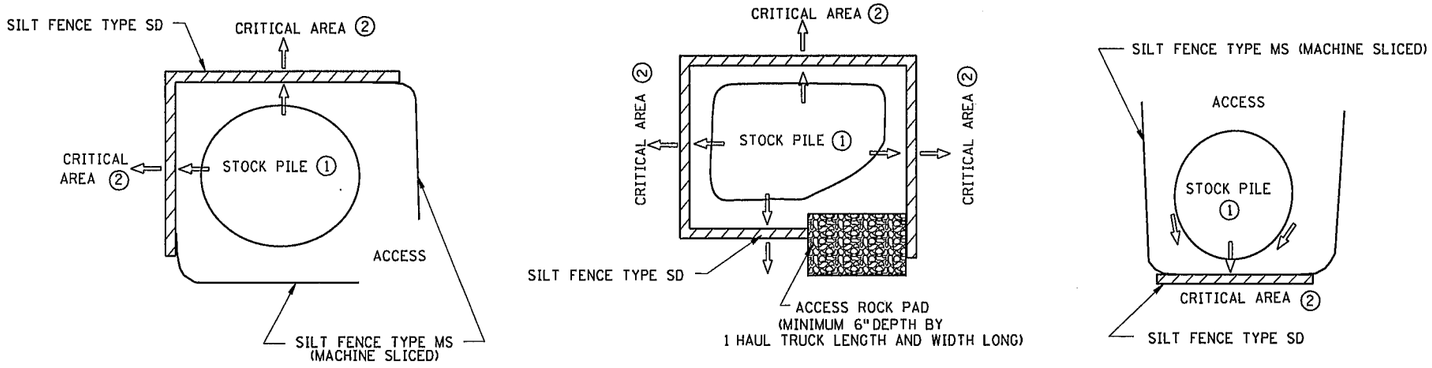
APPROVED: 8-6-2014

TEMPORARY SEDIMENT CONTROL

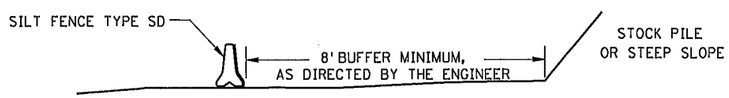
SILT FENCE

STANDARD PLAN 5-297.405 6 OF 7

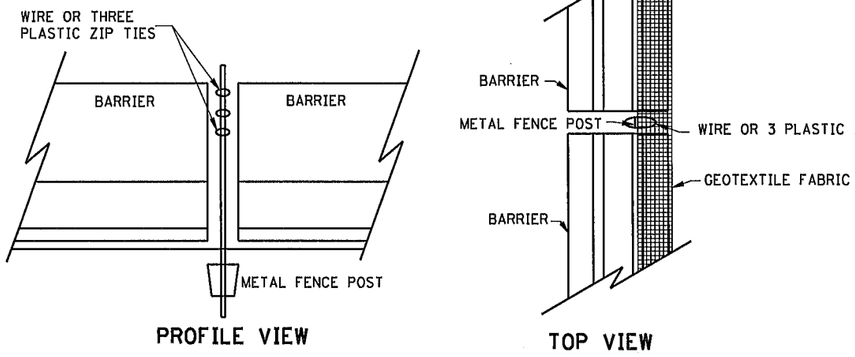
STATE PROJECT NO. 002-618-030 SHEET 97 OF 142



STOCK PILE CONTAINMENT



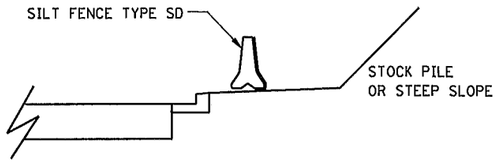
STOCKPILE SEDIMENT CONTROL



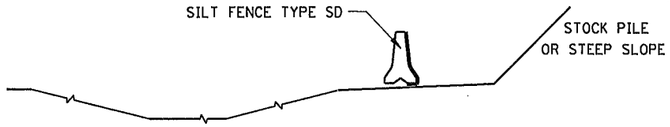
PROFILE VIEW

TOP VIEW

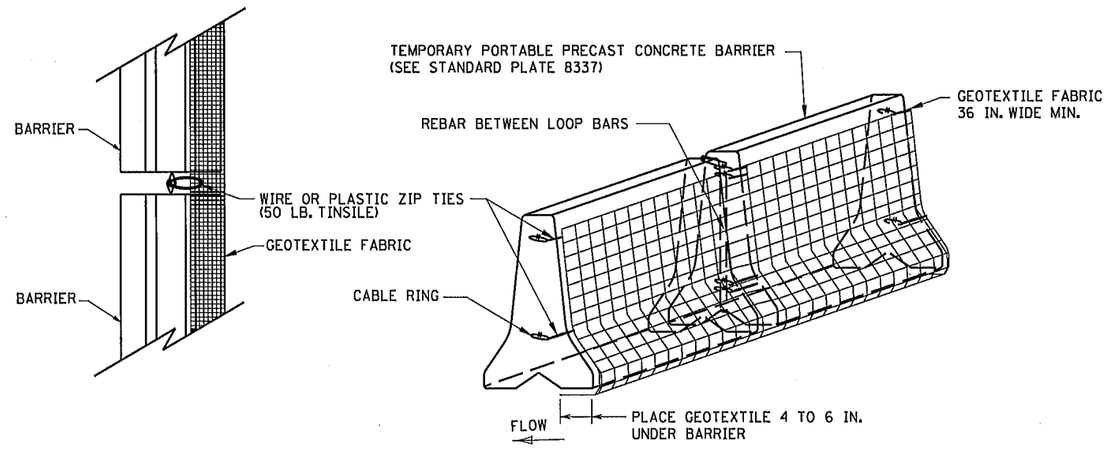
SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITHOUT LOOP BARS



CURB AND GUTTER PROTECTION SYSTEM



DITCH PROTECTION SYSTEM



TOP VIEW

PERSPECTIVE VIEW

SILT FENCE TYPE SD (SUPER DUTY) BARRIER WITH LOOP BARS

NOTES:

SEE SPECS. 2533, 2573 & 3886.

SILT FENCE TYPE SD USED TO PROTECT CRITICAL AREAS FROM SHEET FLOW, AND AREAS WHERE OTHER SILT FENCES CANNOT BE PLACED. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

PLACE SILT FENCE TYPE SD ALONG A CONSTANT ELEVATION.

SILT FENCE TYPE SD CAN UTILIZE EITHER A CONCRETE, OR WATER FILLED, TEMPORARY MEDIAN BARRIER.

(1) PLACING STOCK PILES NEXT TO AN ENVIRONMENTALLY SENSITIVE AREA IS NOT RECOMMENDED. WHEN THERE ARE NO FEASIBLE ALTERNATIVES, PLACE SILT FENCE SD AS SHOWN OR AS DIRECTED BY THE ENGINEER.

(2) CRITICAL AREAS INCLUDE WETLANDS, JUDICIAL DITCHES, STREAMS, WATER BODIES, AND OTHER AREAS REQUIRING PROTECTION.

REVISION:

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CHIEF ENVIRONMENTAL OFFICER

REVISED:

STATE DESIGN ENGINEER

APPROVED: 8-6-2014

TEMPORARY SEDIMENT CONTROL

SUPER DUTY SILT FENCE

STANDARD PLAN 5-297.405 — 7 OF 7

STATE PROJECT NO. 002-618-030 — SHEET 98 OF 142

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:
THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT 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 $\frac{1}{4}$ INCH UNDER OR $\frac{1}{4}$ 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 TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH 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 BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOLY 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 FAHRENHEIT OR GREATER.

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

PREFORMED THERMOPLASTIC:
THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

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 APPLICAITON 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 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR 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.

N PAVEMENT MARKING TABULATION

ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE EPOXY	LIN FT	6860
4" BROKEN LINE YELLOW EPOXY	LIN FT	120
4" SOLID LINE YELLOW EPOXY	LIN FT	3310
4" DOUBLE SOLID LINE YELLOW EPOXY	LIN FT	2150
3'X6' CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	216
8" BROKEN LINE WHITE PREFORMED THERMOPLASTIC (1)	SQ FT	48

NOTE: (1) 3' STRIPE, 3' SKIP

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE-POLY PREFORM

PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

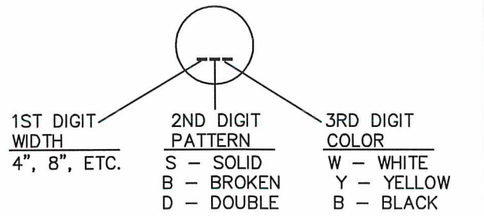
STRIPING KEY

CIRCLE - EPOXY

SQUARE - PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE – EPOXY

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\Standards\Perm pvmt mrkg guide notes_guidelines.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/14
DESIGN BY RLB DATE 4/21/14
CHECKED BY JR DATE 4/21/14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
STATE AID PROJECT NO. 01200
COUNTY PROJECT NO.

PERMANENT MARKING TABULATION

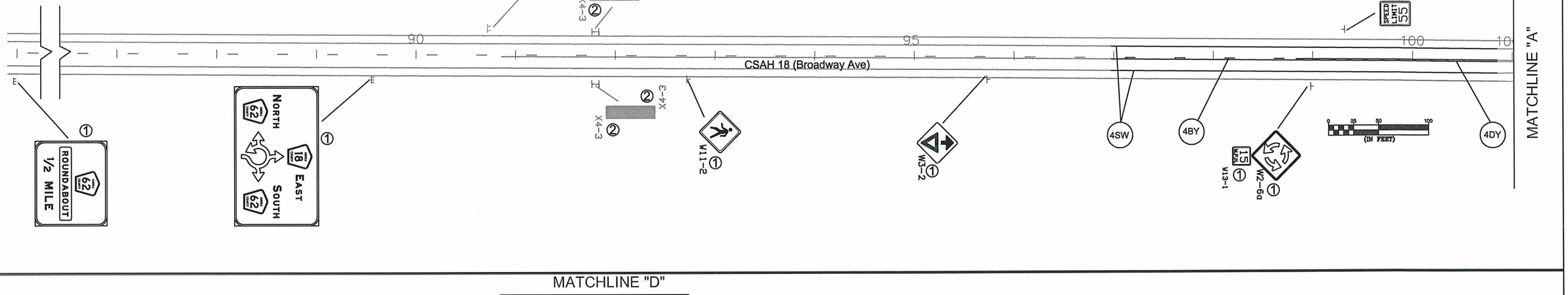
STRIPING KEY

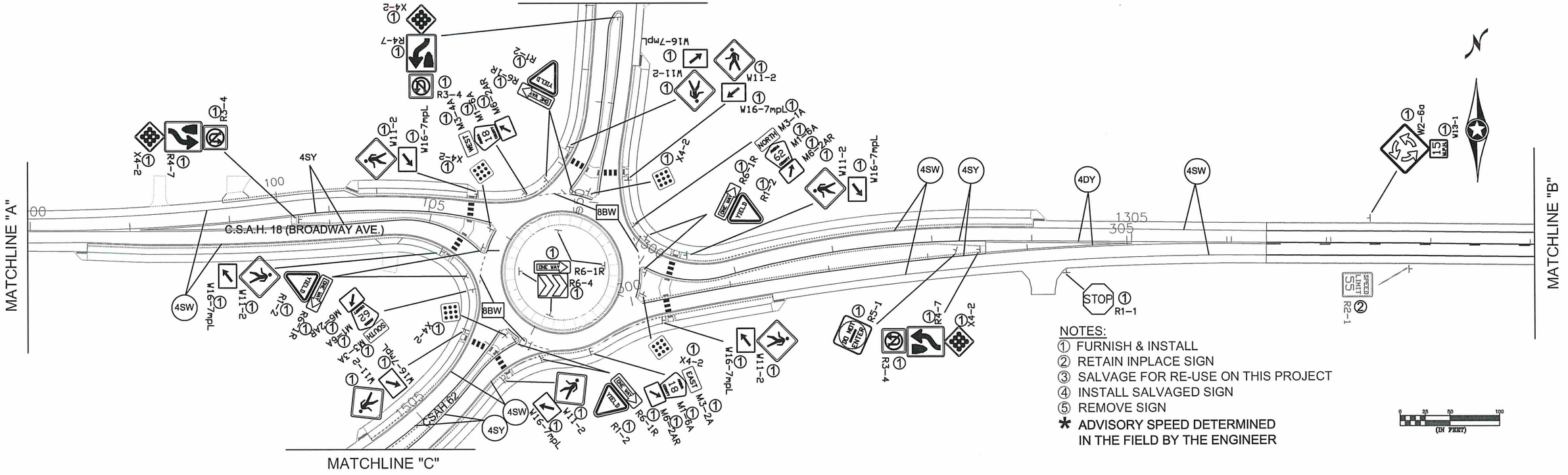
CIRCLE - EPOXY

SQUARE - PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING





NOTES:

① FURNISH & INSTALL
② RETAIN INPLACE SIGN
③ SALVAGE FOR RE-USE ON THIS PROJECT
④ INSTALL SALVAGED SIGN
⑤ REMOVE SIGN
✱ ADVISORY SPEED DETERMINED IN THE FIELD BY THE ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\BASE\TRAFFIC\PERMCSAH18.DWG

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

PRINT NAME: NICHOLAS J DOBDA

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CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

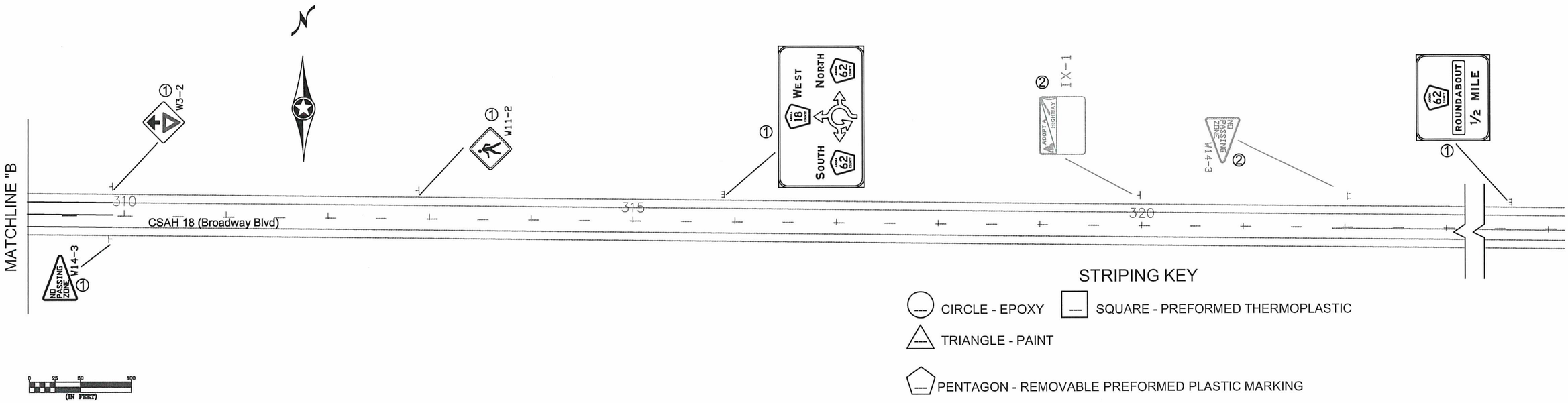
STATE PROJECT NO.

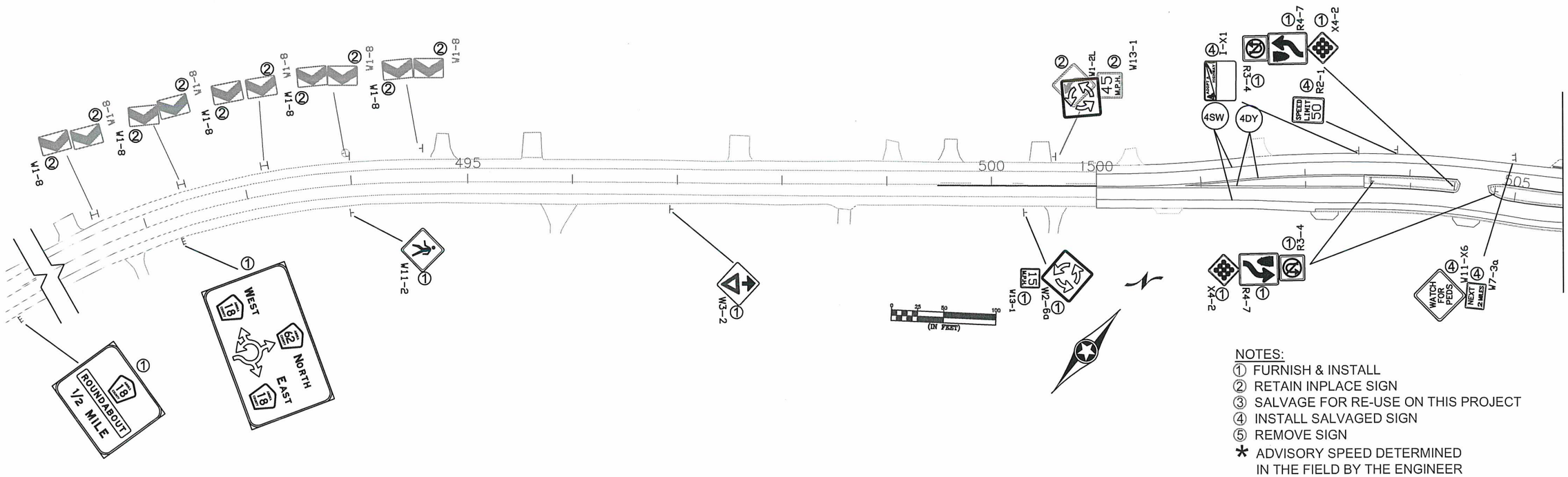
CITY PROJECT NO. 01200

COUNTY PROJECT NO.

PERMANENT SIGNING & STRIPING PLAN

Sheet 100 of 142 Sheets





NOTES:
① FURNISH & INSTALL
② RETAIN INPLACE SIGN
③ SALVAGE FOR RE-USE ON THIS PROJECT
④ INSTALL SALVAGED SIGN
⑤ REMOVE SIGN
* ADVISORY SPEED DETERMINED IN THE FIELD BY THE ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\BASE\Traffic\PERM CSAH18.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
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SIGNATURE:
DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15
DESIGN BY RLB DATE 4/21/15
CHECKED BY JR DATE 4/21/15

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

PERMENENT SIGNING & STRIPING PLAN

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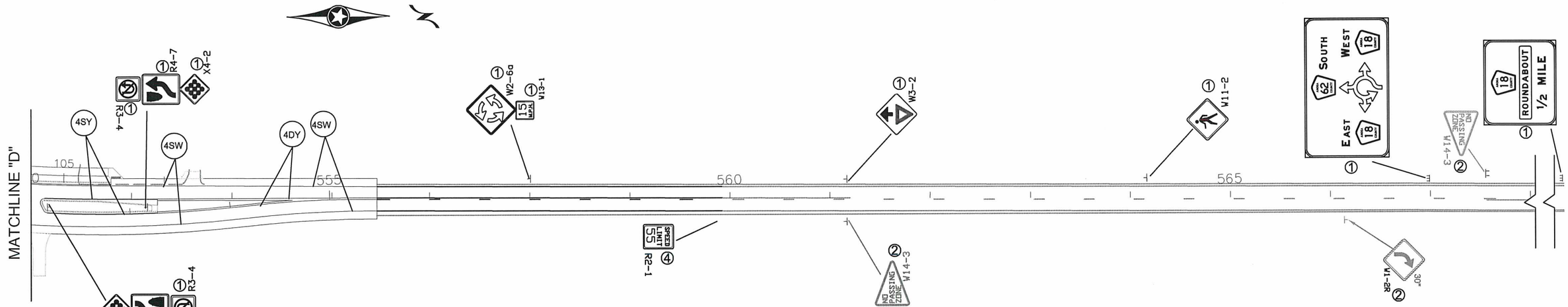


STRIPING KEY

CIRCLE - EPOXY

SQUARE - PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

0 25 50 100 (IN FEET)

NOTES:
1. ① FURNISH & INSTALL
2. ② RETAIN INPLACE SIGN
3. ③ SALVAGE FOR RE-USE ON THIS PROJECT
4. ④ INSTALL SALVAGED SIGN
5. ⑤ REMOVE SIGN
6. * ADVISORY SPEED DETERMINED IN THE FIELD BY THE ENGINEER

M SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	PANEL AREA SQ FT	TOTAL AREA SQ FT	QUANTITY	No. POST	MOUNTING HEIGHT (TO BOTTOM EDGE) FT.
R1-1	30" x 30"	STOP	6.25	6.25	1	1	7.0'
x4-13	4" x 15"		1.31	0.00	1		
W2-6a	36" x 36"		9.00	36.00	4	1	7.0'
W3-2	36" x 36"		9.00	36.00	4	1	7.0'
W14-3	48" x 36"	NO PASSING ZONE	6.00	6.00	1	2	7.0'
R1-2	36" x 36"	YIELD	3.90	31.20	8	1	7.0'
W11-2	36" x 36"		9.00	108.00	12	1	7.0'
W11-7mpL	30" x 24"		5.00	40.00	8	0	7.0'
R5-1	30" x 30"	DO NOT ENTER	6.25	6.25	1	1	7.0'
R6-4	30" x 24"		5.00	20.00	4	1	7.0'

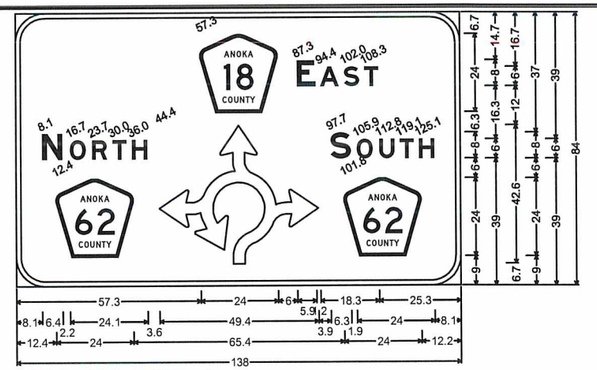
M SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	PANEL AREA SQ FT	TOTAL AREA SQ FT	QUANTITY	No. POST	MOUNTING HEIGHT (TO BOTTOM EDGE) FT.
M3-1A	24" x 12"	NORTH	2.00	2.00	1	0	7.0'
M3-3A	24" x 12"	SOUTH	2.00	2.00	1	0	7.0'
M1-6A	24" x 24"	62 COUNTY	4.00	8.00	2	4	7.0'
M6-2AR	21" x 15"		2.19	4.38	2	0	7.0'
M3-2A	24" x 12"	EAST	2.00	2.00	1	0	7.0'
M3-4A	24" x 12"	WEST	2.00	2.00	1	0	7.0'
M1-6A	24" x 24"	18 COUNTY	4.00	8.00	2	4	7.0'
M6-2AR	21" x 15"		2.19	4.38	2	0	7.0'
R4-7	24" x 30"		5.00	40.00	8	4	7.0'
X4-2	18" x 18"		2.25	27.00	12	0	7.0'
R6-1R	12" x 36"	ONE WAY	3.00	36.00	12	1	7.0'
R3-4	24" x 24"		4.00	32.00	8	0	7.0'
W13-1	24" x 24"	15 MPH	4.00	16.00	4	0	7.0'
D1-	84" x 72"	62 COUNTY ROUNDABOUT 1/2 MILE	42.00	84.00	2	2	7.0'

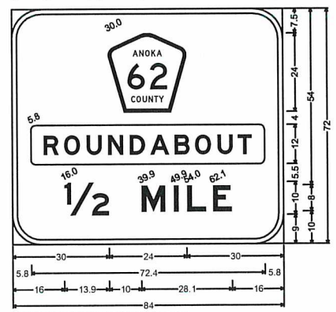
PROJECT TOTAL = 965.5 SQ FT

M SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	PANEL AREA SQ FT	TOTAL AREA SQ FT	QUANTITY	No. POST	MOUNTING HEIGHT (TO BOTTOM EDGE) FT.
D1-5	138" x 84"	18 EAST NORTH 62 SOUTH 62	80.5	80.5	1	3	7.0'
D1-5	138" x 84"	18 WEST SOUTH 62 NORTH 62	80.5	80.5	1	3	7.0'
D1-5	138" x 84"	62 SOUTH EAST 18 WEST 18	80.5	80.5	1	3	7.0'
D1-5	138" x 84"	62 NORTH WEST 18 EAST 18	80.5	80.5	1	3	7.0'
D1-5	138" x 84"	18 ROUNDABOUT 1/2 MILE	42.0	84.0	2	2	7.0'



9.0" Radius, 1.5" Border, White on Green;
[EAST] E Mod; [NORTH] E Mod; RA Arrow-4hd; [SOUTH] E Mod;



9.0" Radius, 1.5" Border, White on Green;
Rounded Rectangle 1.5" Radius Yellow;
[½ MILE] E Mod;

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\BASE\Traffic\PERM CSAH18.dwg

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

PRINT NAME: NICHOLAS J DOBDA

SIGNATURE: [signature]

DATE: 6-8-15 LICENSE NO. 49046

DRAWN BY RLB DATE 4/21/15

DESIGN BY RLB DATE 4/21/15

CHECKED BY JR DATE 4/21/15

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

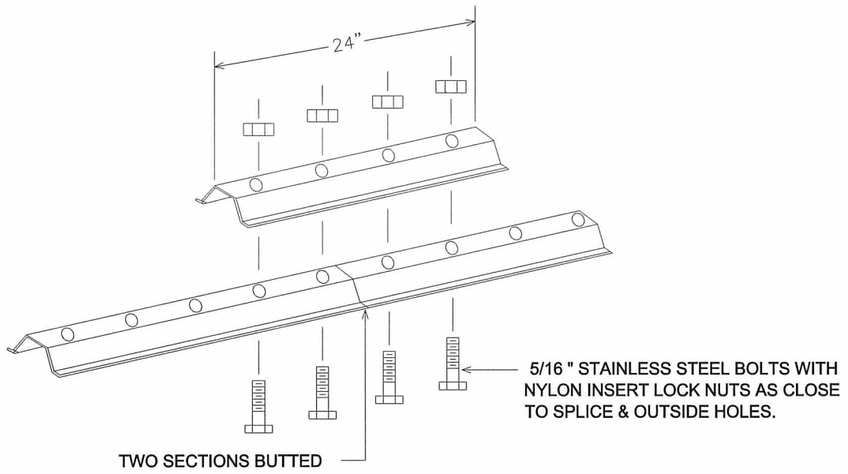
STATE PROJECT NO.

CITY PROJECT NO. 01200

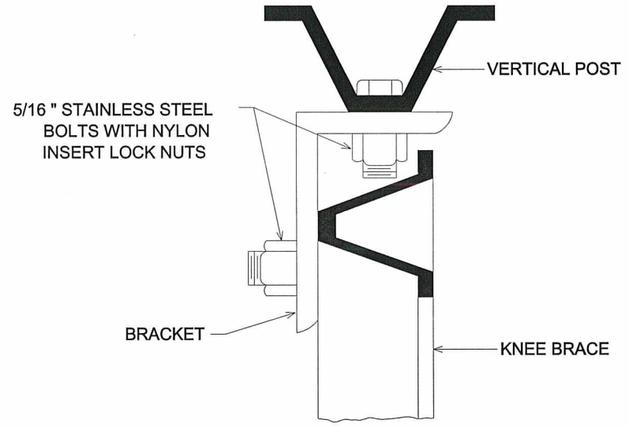
COUNTY PROJECT NO.

PERMENENT SIGNING & STRIPING PLAN

Sheet 102 of 142 Sheets



LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



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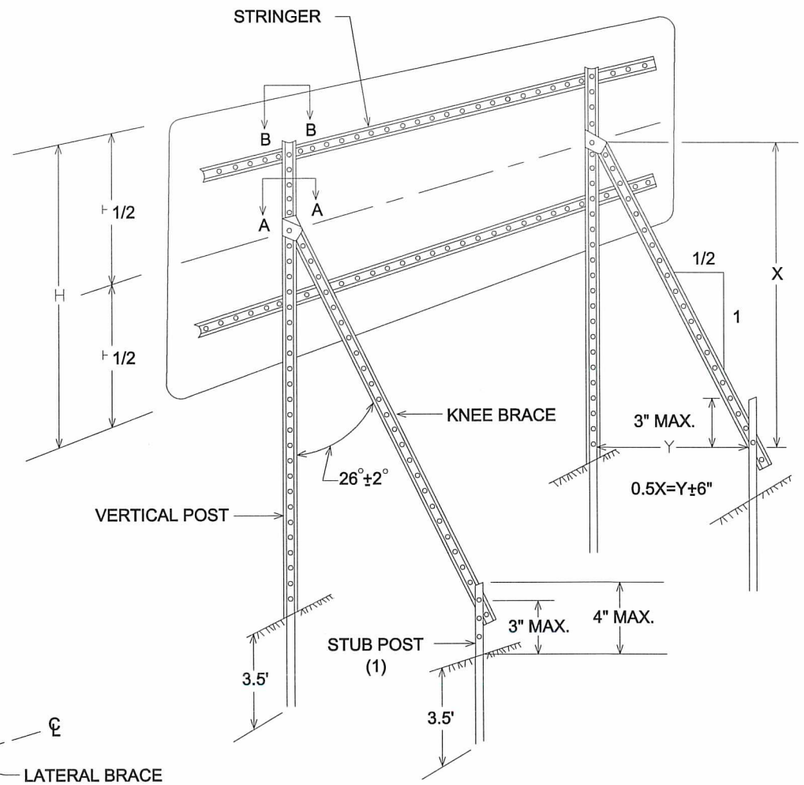

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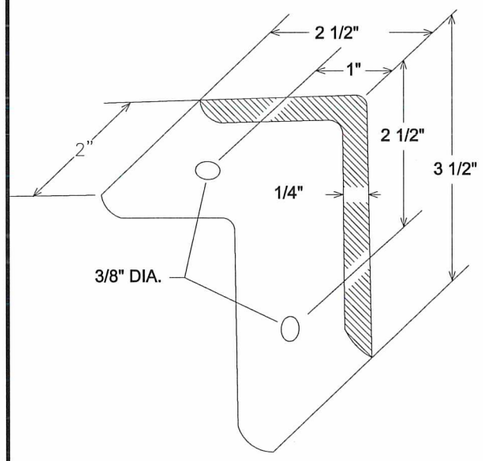
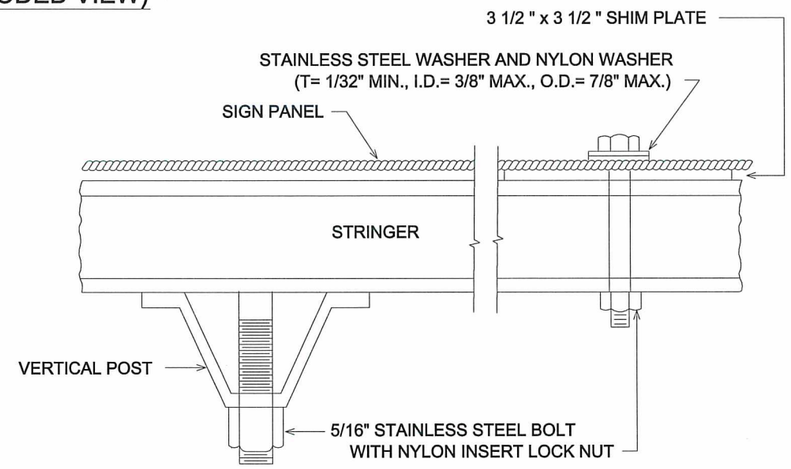


A-FRAME BRACKET

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



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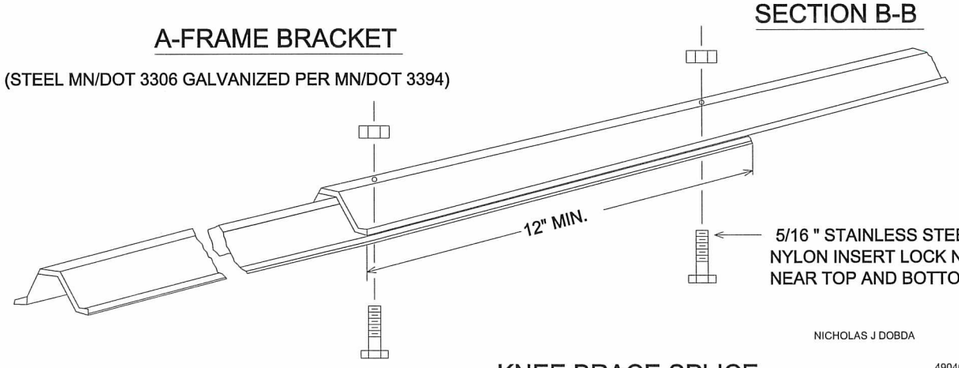
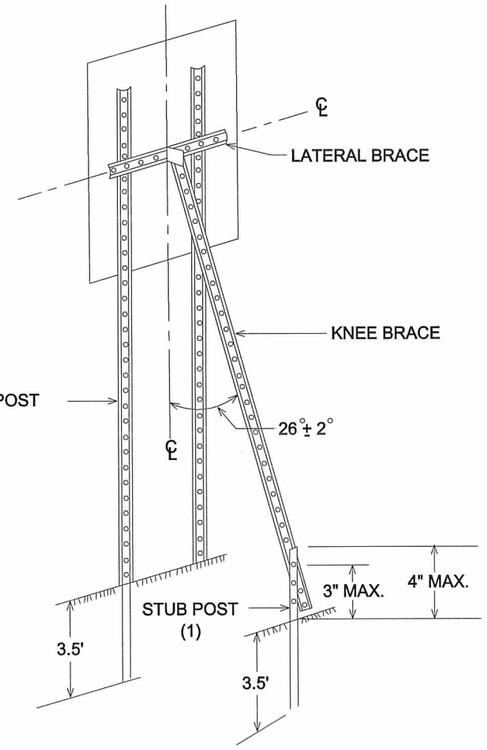


KNEE BRACE SPLICE



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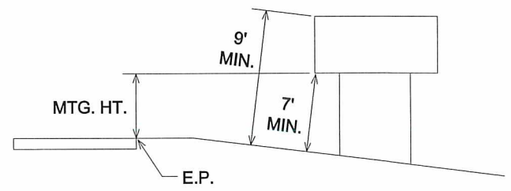


TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

NAME:

NICHOLAS J DOBDA 49046

RLB	4/21/15	
RLB	4/21/15	
JR	4/21/15	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICHOLAS J DOBDA
SIGNATURE:
DATE: 6-8-15 REG. NO. 49046

DRAWN BY RLB DATE 12/30/14
DESIGN BY RLB DATE 12/30/14
CHECKED BY JR DATE 12/30/14

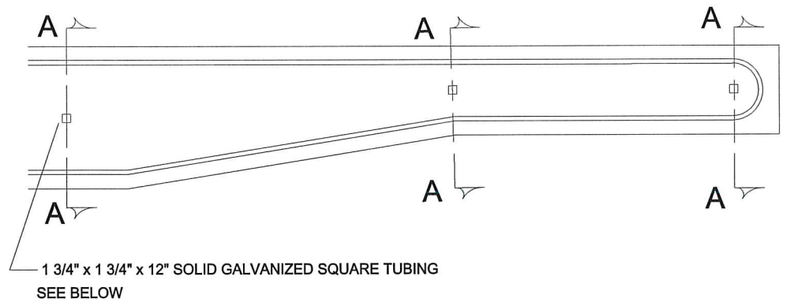
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

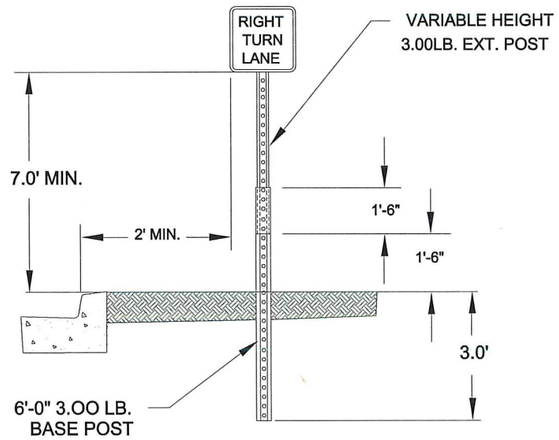
STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SIGNING & STRIPING DETAILS

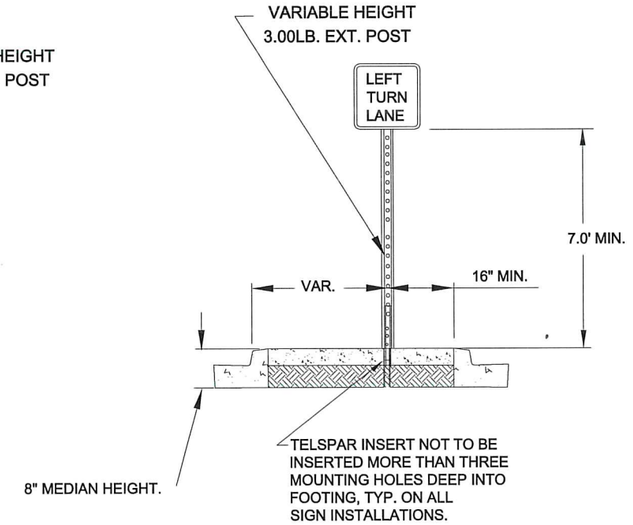
Sheet 103 of 142 Sheets

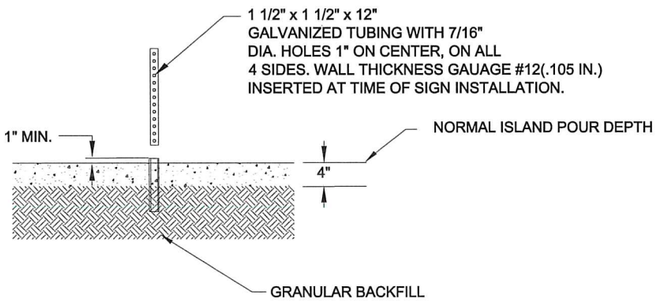


GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL





SECTION A - A

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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CHECKED BY JR DATE 12/30/14

ANOKA COUNTY
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COUNTY PROJECT NO.

SIGNING & STRIPING DETAILS

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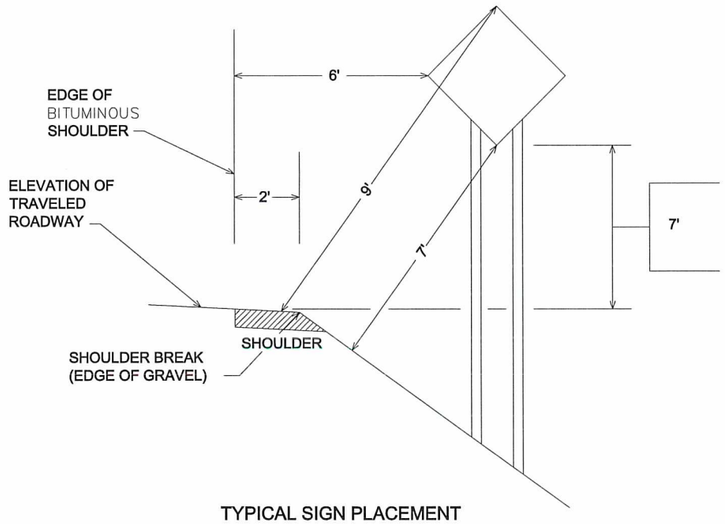
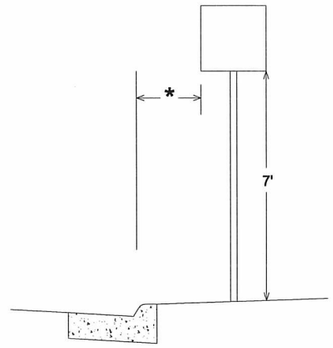
RURAL

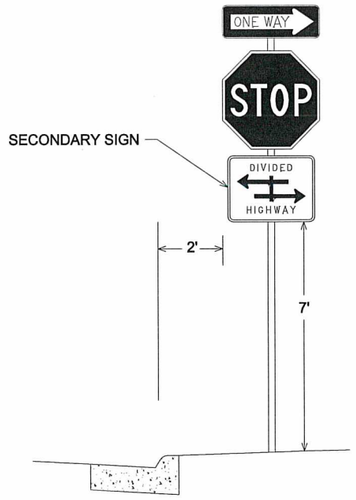


TYPICAL SIGN PLACEMENT

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

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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CHECKED BY JR DATE 12/30/14

ANOKA COUNTY

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
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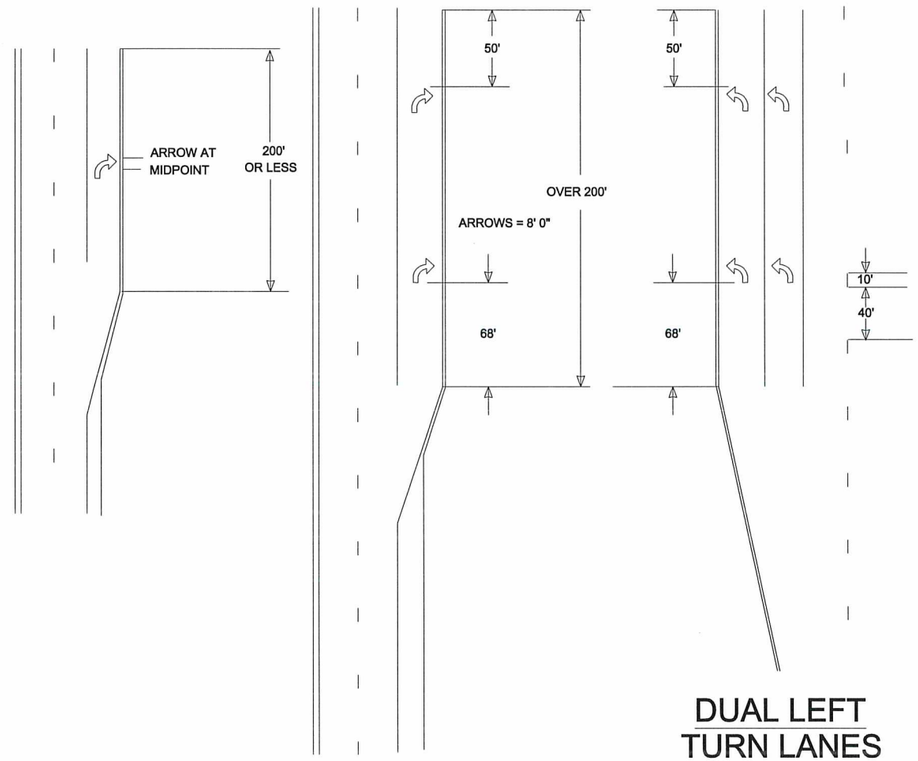
COUNTY PROJECT NO.

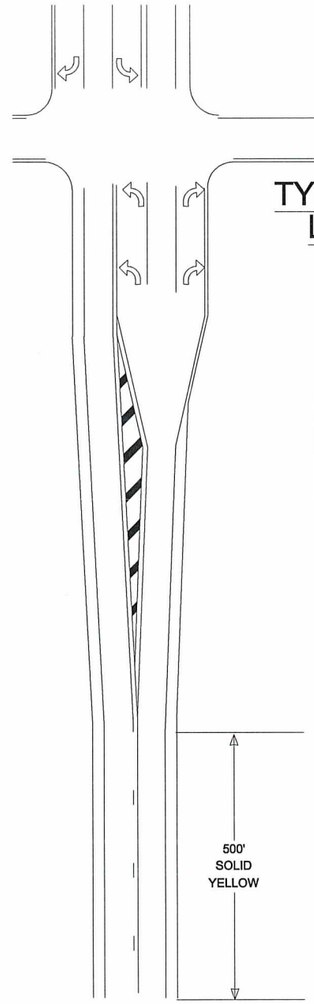
SIGNING & STRIPING DETAILS

Sheet 105 of 142 Sheets

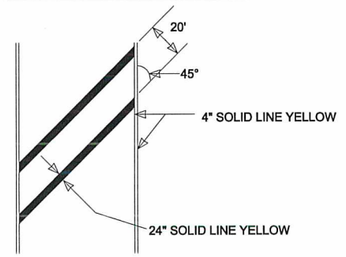
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



NO	DATE	BY	CKD	APPR	REVISION

NAME:

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 REG. NO. 49046

DRAWN BY RLB DATE 12/30/14

DESIGN BY RLB DATE 12/30/14

CHECKED BY JR DATE 12/30/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

SIGNING & STRIPING DETAILS

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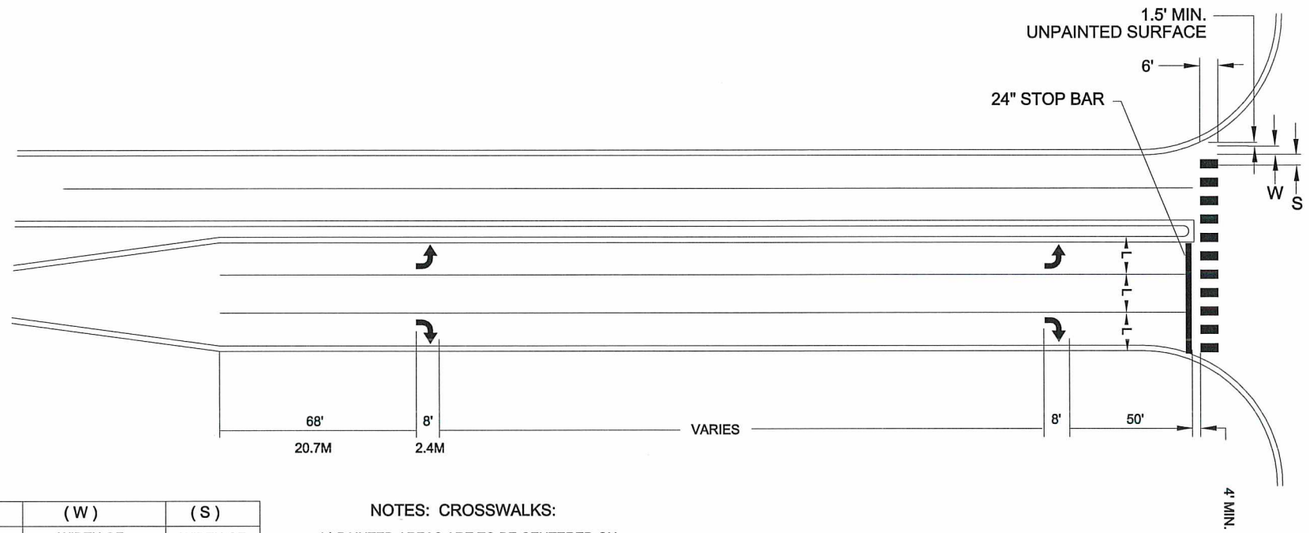
MARKINGS FOR PEDESTRIAN CROSSWALKS



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

NOTES: CROSSWALKS:

1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.

2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERFIED 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.

NO	DATE	BY	CKD	APPR	REVISION

NAME:

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PRINT NAME: NICHOLAS J DOBDA

SIGNATURE:

DATE: 6-8-15 REG. NO. 49046

DRAWN BY RLB DATE 12/30/14

DESIGN BY RLB DATE 12/30/14

CHECKED BY JR DATE 12/30/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030

STATE PROJECT NO.

CITY PROJECT NO. 01200

COUNTY PROJECT NO.

SIGNING & STRIPING DETAILS

Sheet 107 of 142 Sheets

FEEDPOINT A

LIGHTING STANDARDS AND BASES

NO.	STATION	LT.	RT.	LOCATION	TYPE	MH
1	11+56		--	RADIAL	SPECIAL	30
2	1300+76	--		WB CSAH 18	SPECIAL	30
3	1304+37	--		WB CSAH 18	SPECIAL	30
4	1304+13	--		WB CSAH 18	SPECIAL	30
5	10+62		--	RADIAL	SPECIAL	30
6	505+72		--	NB CSAH 62	SPECIAL	30
7	505+13		--	NB CSAH 62	SPECIAL	30
8	503+39		--	NB CSAH 62	SPECIAL	30
9	9+52		--	RADIAL	SPECIAL	30
10	105+01		--	EB CSAH 18	SPECIAL	30
11	103+09		--	EB CSAH 18	SPECIAL	30
12	101+40		--	EB CSAH 18	SPECIAL	30
13	12+41		--	RADIAL	SPECIAL	30
14	8+58	--		SB CR 62	SPECIAL	30
15	10+38	--		SB CR 62	SPECIAL	30
16	12+09	--		SB CR 62	SPECIAL	30

NOTE:

PLACE LIGHT FOUNDATIONS 36" TO CENTER BEHIND SIDEWALK/TRAIL. WHERE NO SIDEWALK/TRAIL IS PRESENT, PLACE LIGHT FOUNDATIONS 15' TO CENTER BEHIND CURB.

STANDARD PLATES

8106C	EQUIPMENT PAD B
8127D	LIGHT FOUNDATION DESIGN E

STREET LIGHTING TABULATION

ITEM NO.	ITEM	UNIT	ESTIMATED QUANTITIES
2545.511	LIGHTING UNIT TYPE SPECIAL	EACH	16
2545.515	LIGHT FOUNDATION DESIGN E	EACH	16
2545.523	2" NON-METALLIC CONDUIT	LIN. FT.	2300
2545.531	UNDERGROUND WIRE 1 COND NO 8	LIN. FT.	9900
2545.541	SERVICE CABINET TYPE L1	EACH	1
2545.544	SERVICE EQUIPMENT	EACH	1
2545.545	EQUIPMENT PAD B	EACH	1
2545.553	HANDHOLE	EACH	2

Date Printed: 3/20/2015
WSB Filename: K:\016666-260\Cad\Plan\16661p01.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: ES
Plan By: GHP
Checked By: SDD
Approved By: ES

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

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER - SEAN DELMORE, PE, PTOE

DATE: 3/20/2015 LIC. NO: 40945

WSB & Associates, Inc.
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
www.wsbeng.com
763-541-4800 • Fax 763-541-1700
INFRASTRUCTURE • ENGINEERING • PLANNING • CONSTRUCTION

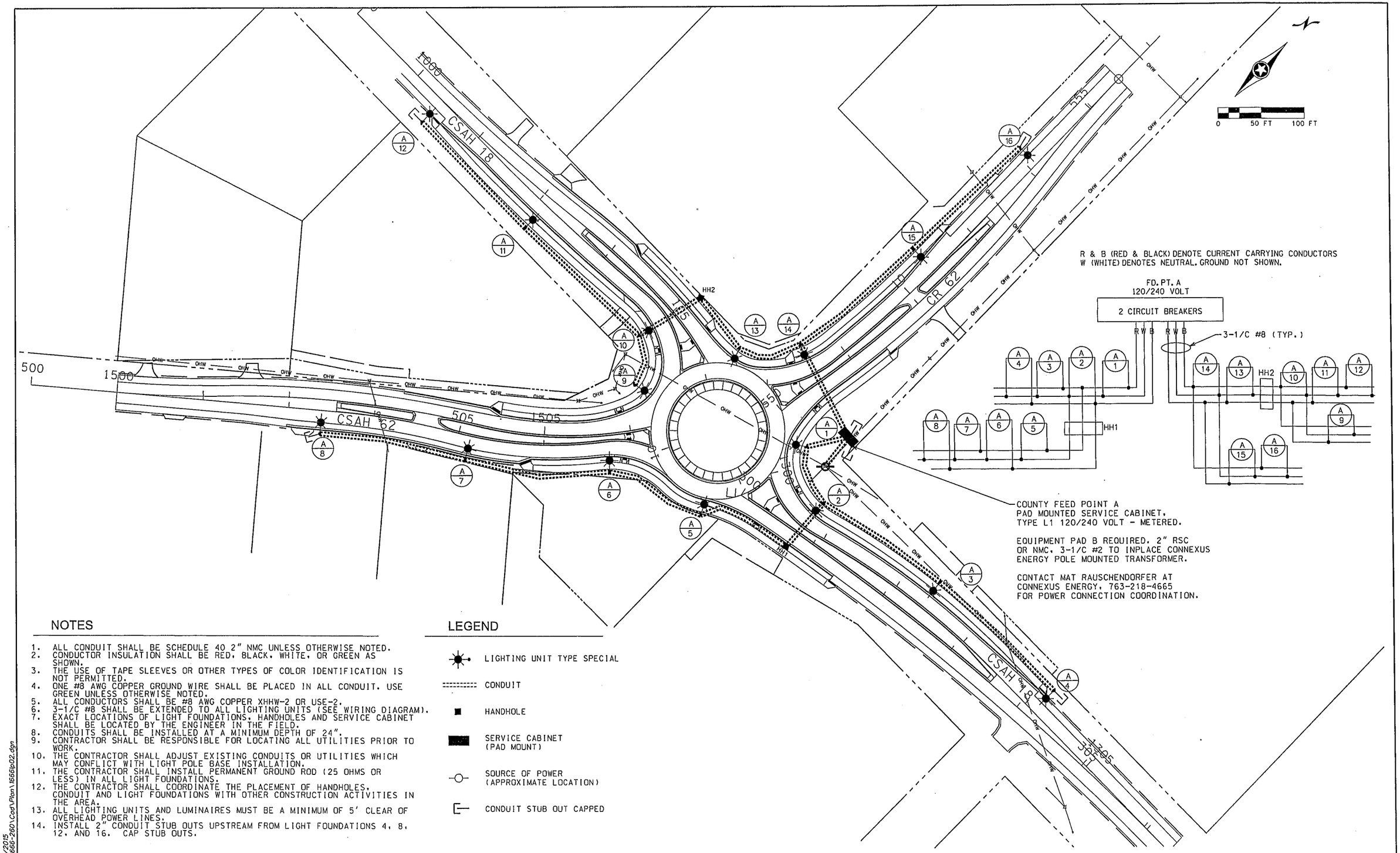
ANOKA COUNTY

CSAH18/CSAH62 Roundabout

Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

LIGHTING QUANTITIES



NOTES

1. ALL CONDUIT SHALL BE SCHEDULE 40 2" NMC UNLESS OTHERWISE NOTED.
2. CONDUCTOR INSULATION SHALL BE RED, BLACK, WHITE, OR GREEN AS SHOWN.
3. THE USE OF TAPE SLEEVES OR OTHER TYPES OF COLOR IDENTIFICATION IS NOT PERMITTED.
4. ONE #8 AWG COPPER GROUND WIRE SHALL BE PLACED IN ALL CONDUIT. USE GREEN UNLESS OTHERWISE NOTED.
5. ALL CONDUCTORS SHALL BE #8 AWG COPPER XHHW-2 OR USE-2.
6. 3-1/C #8 SHALL BE EXTENDED TO ALL LIGHTING UNITS (SEE WIRING DIAGRAM).
7. EXACT LOCATIONS OF LIGHT FOUNDATIONS, HANDHOLES AND SERVICE CABINET SHALL BE LOCATED BY THE ENGINEER IN THE FIELD.
8. CONDUITS SHALL BE INSTALLED AT A MINIMUM DEPTH OF 24".
9. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO WORK.
10. THE CONTRACTOR SHALL ADJUST EXISTING CONDUITS OR UTILITIES WHICH MAY CONFLICT WITH LIGHT POLE BASE INSTALLATION.
11. THE CONTRACTOR SHALL INSTALL PERMANENT GROUND ROD (25 OHMS OR LESS) IN ALL LIGHT FOUNDATIONS.
12. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF HANDHOLES, CONDUIT AND LIGHT FOUNDATIONS WITH OTHER CONSTRUCTION ACTIVITIES IN THE AREA.
13. ALL LIGHTING UNITS AND LUMINAIRES MUST BE A MINIMUM OF 5' CLEAR OF OVERHEAD POWER LINES.
14. INSTALL 2" CONDUIT STUB OUTS UPSTREAM FROM LIGHT FOUNDATIONS 4, 8, 12, AND 16. CAP STUB OUTS.

LEGEND

- LIGHTING UNIT TYPE SPECIAL
- CONDUIT
- HANDHOLE
- SERVICE CABINET (PAD MOUNT)
- SOURCE OF POWER (APPROXIMATE LOCATION)
- CONDUIT STUB OUT CAPPED

NO.	DATE	BY	CHK	REVISIONS

Design By: ES
Plan By: GHP
Checked By: SDD
Approved By: ES

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CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER - SEAN DELMORE, PE, PTOE

DATE: 3/23/2015 LIC. NO: 40945

WSB & Associates, Inc.
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416
www.wsbeng.com
763-541-4800 • Fax 763-541-1700
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ANOKA COUNTY

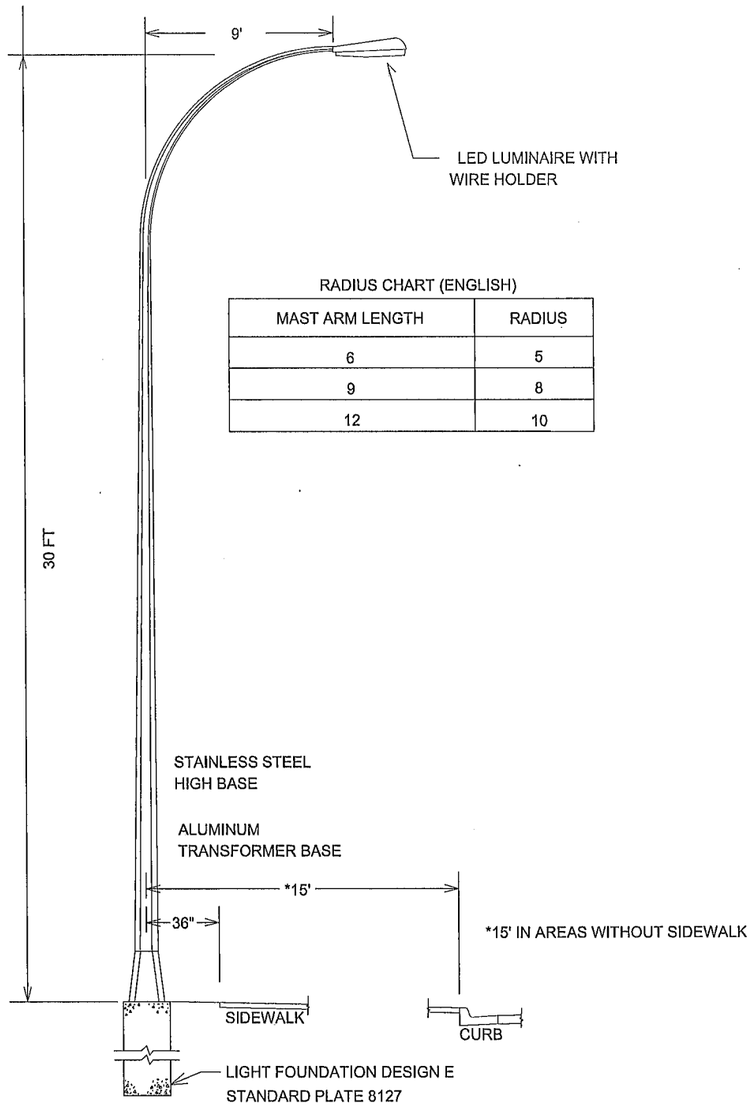
CSAH18/CSAH62 Roundabout
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

LIGHTING PLAN

SHEET 109 OF 142 SHEETS

Date Printed: 3/23/2015
WSB Filename: K:\01666-260\Cad\Plan\1666p02.dgn



RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10

LIGHTING UNIT TYPE SPECIAL

(BREAKAWAY)

Date Printed: 3/20/2015
WSB Filename: K:\01666-260\Cad\Plan\1666lp03.dgn

NO.	DATE	BY	CHK	REVISIONS

Design By: ES
Plan By: GHP
Checked By: SDD
Approved By: ES

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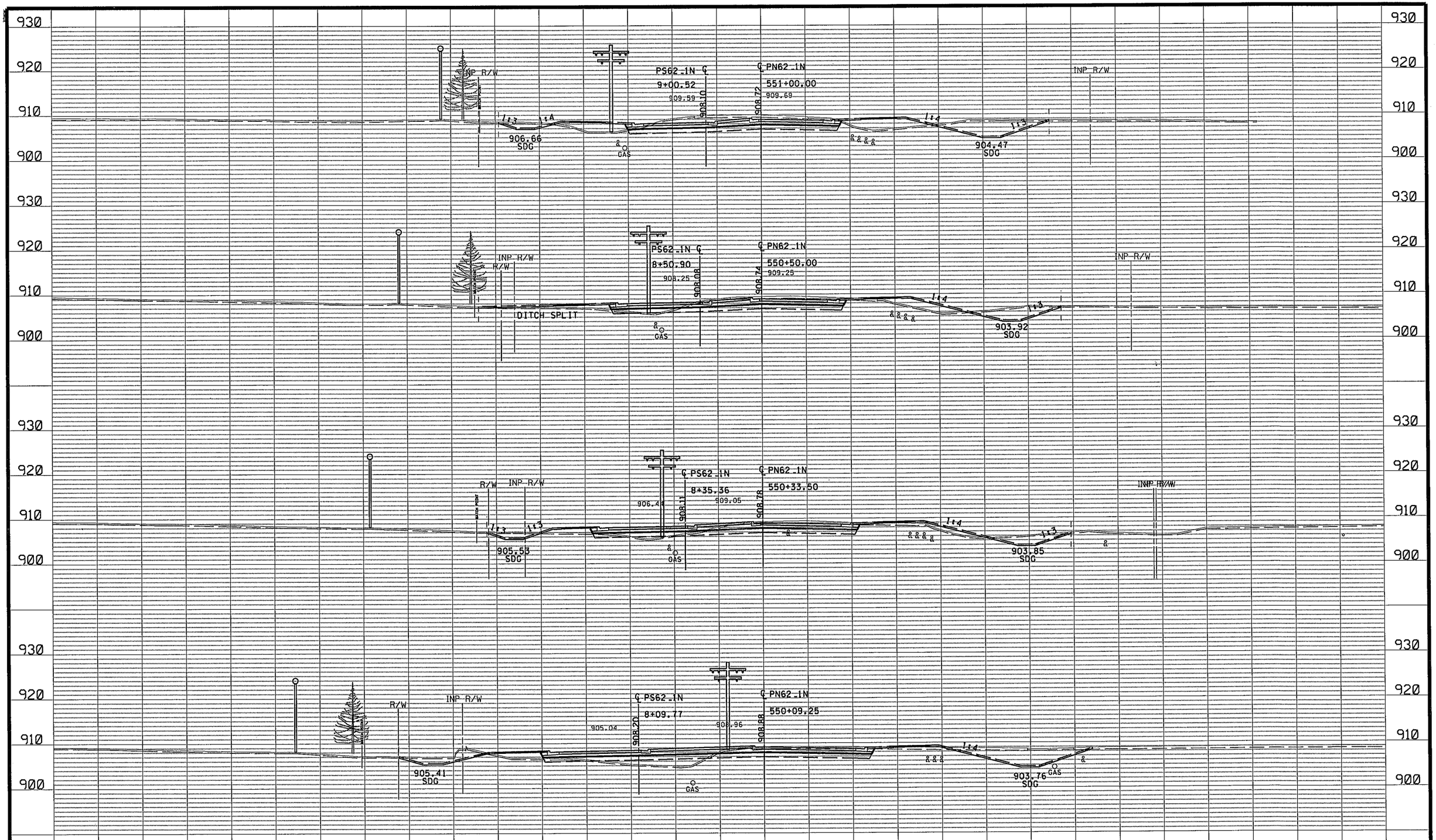
ANOKA COUNTY

CSAH18/CSAH62 Roundabout
Anoka County, Minnesota

ANOKA COUNTY, MINNESOTA

LIGHTING DETAILS

SHEET 110 OF 142 SHEETS



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-618-30\Plan\0261830_XSN.dgn 06/01/2015 12:58:44 PM

DRAWN BY JCF DATE 11-03-14

DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH CROSS SECTIONS

STA 550+09.25 TO 551+00.00

Sheet 111 of 142 Sheets

NOTE: THIS CROSS SECTION WAS CUT SPECIFICALLY TO SHOW THE IMPACTS TO THE WELL HEAD
1 INCH = 5 FEET

TEMPORARY STAGING
EXISTING GROUND
PROPOSED SURFACE

℄ PN62_1N
551+41.64
909.69
908.83
℄ LANE LINE
℄ CENTERLINE
℄ LANE LINE
WELL HEAD
R/W
1:4
1:3
904.47
SDG
5 0 5 10 15 20 25 30 35 40 45 50 55 60 65

NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY JCF DATE 11-03-14
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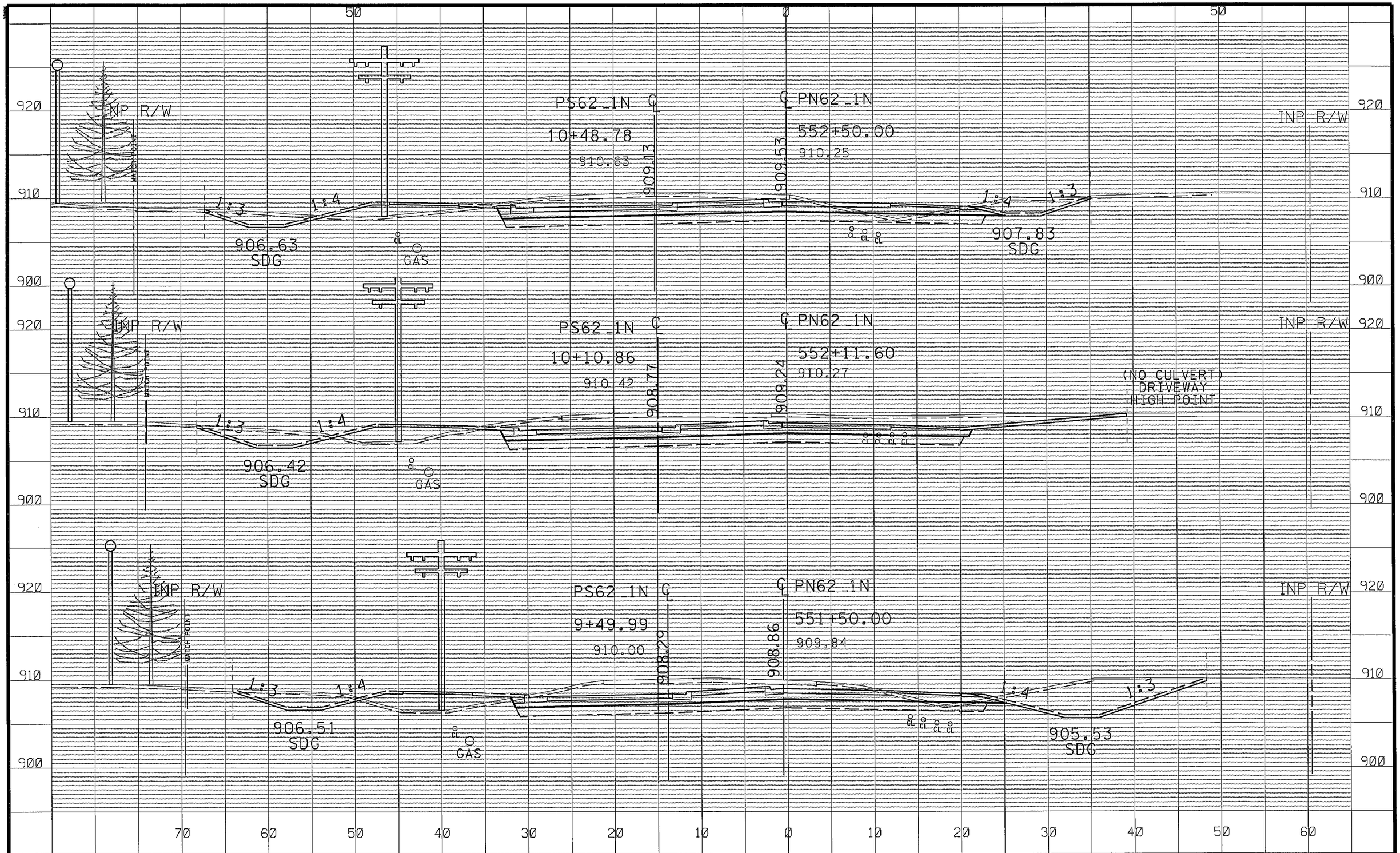
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH WELL CROSS SECTION
STATION 551+41.64

Sheet 112 of 142 Sheets



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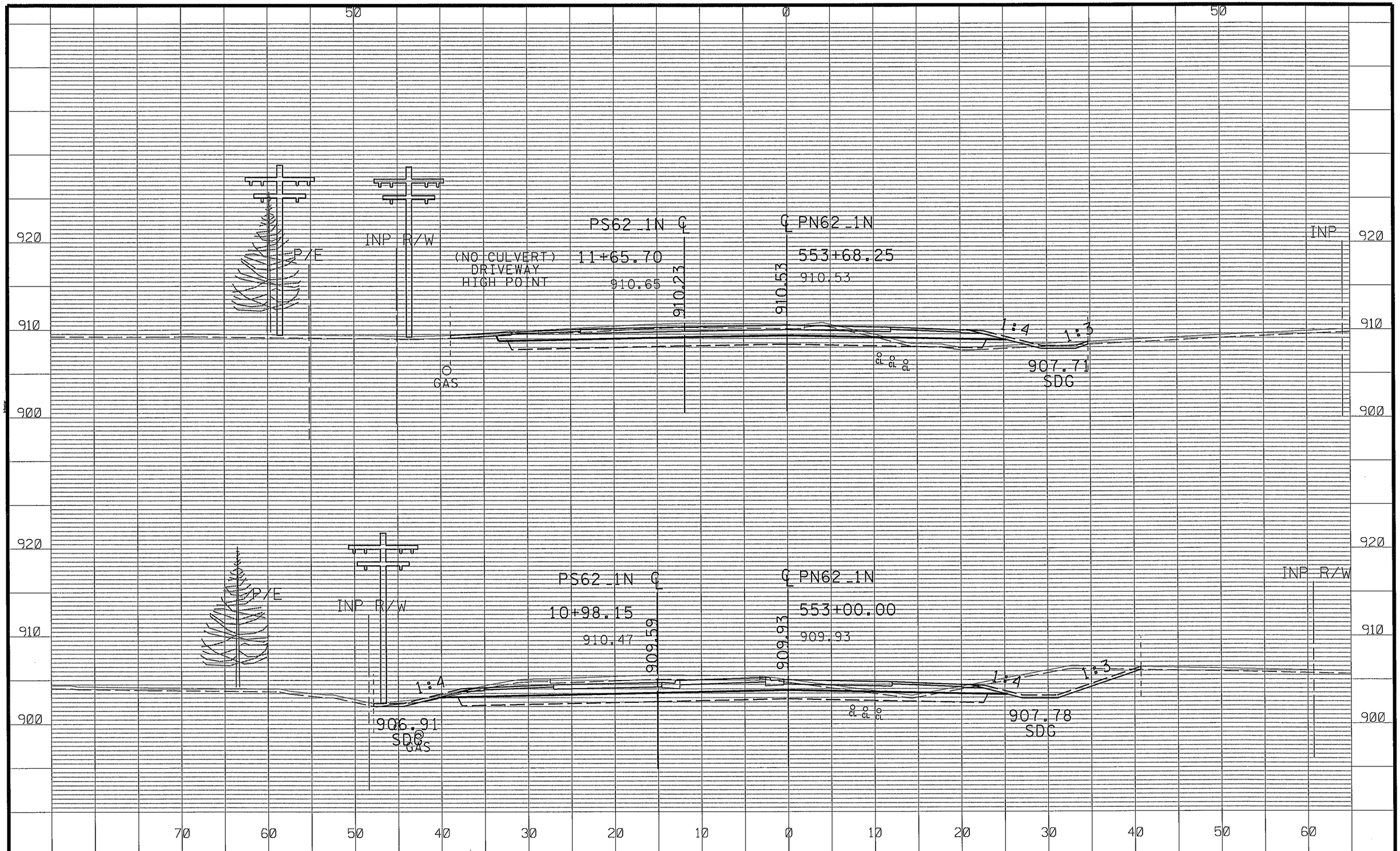
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH CROSS SECTIONS
STA 552+11.60 TO 552+50.00

Sheet 113 of 142 Sheets



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DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH CROSS SECTIONS

STA 553+00.00 TO 553+68.25

Sheet 114 of 142 Sheets

50 0 50

920 910 900

P/E INP R/W

1:3 1:4

906.69 SDG

GAS

PS62_1N ℄ PN62_1N

12+97.85 555+00.00

910.83 910.89 910.90 910.82

907.58 SDG

P/E INP R/W

1:4 1:4 1:3

906.84 SDG

GAS

PS62_1N ℄ ℄ PN62_1N

12+47.66 554+50.00

910.68 910.74 910.80 910.62

907.63 SDG

P/E INP R/W

1:4 1:4

906.99 SDG

GAS

PS62_1N ℄ ℄ PN62_1N

11+97.30 554+00.00

910.66 910.47 910.59 910.59

907.68 SDG

IN

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

NO	DATE	BY	CKD	APPR	REVISION

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DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

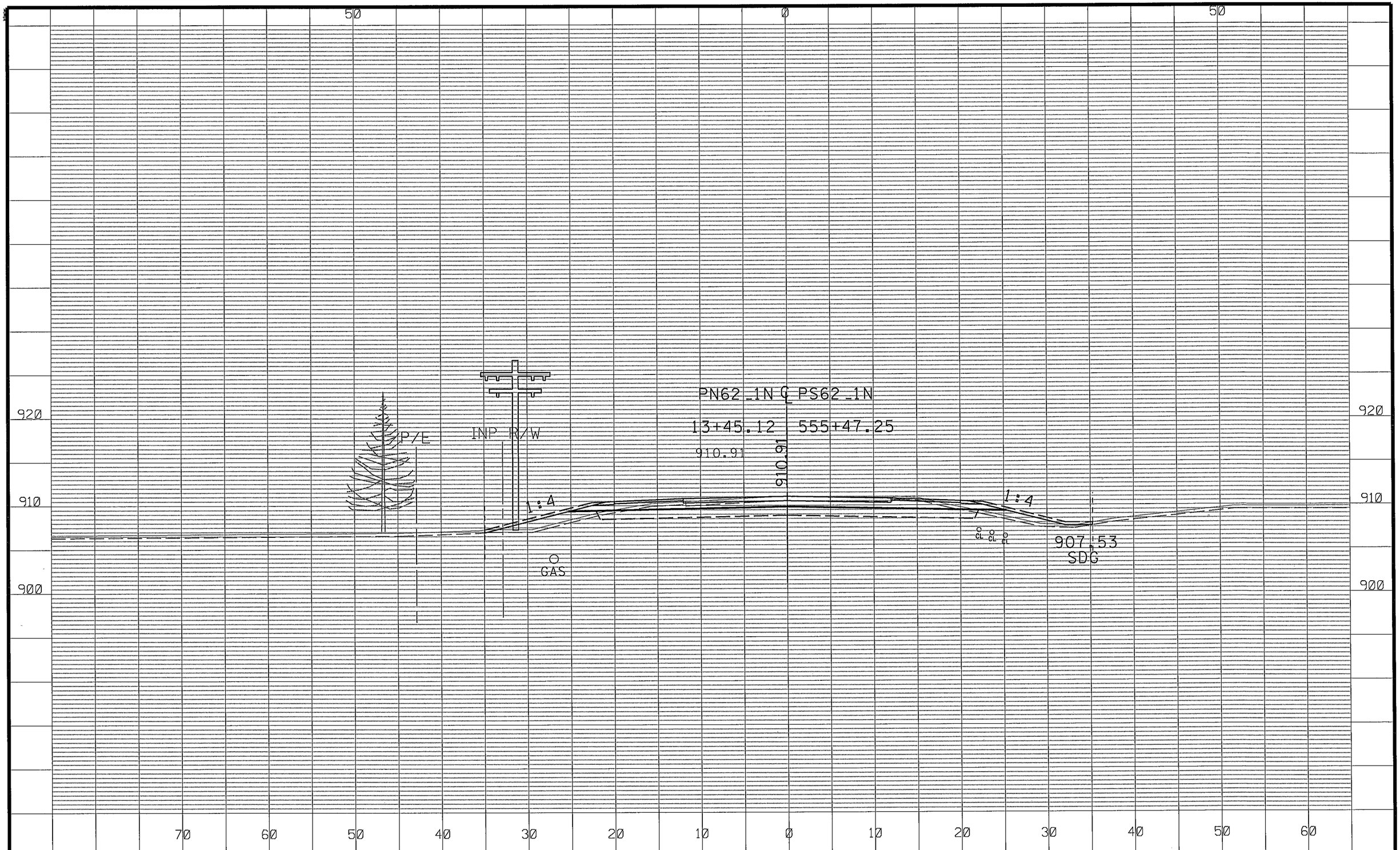
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH CROSS SECTIONS

STA 554+50.00 TO 555+00.00

Sheet 115 of 142 Sheets



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DESIGN BY NJD DATE 11-26-14

CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

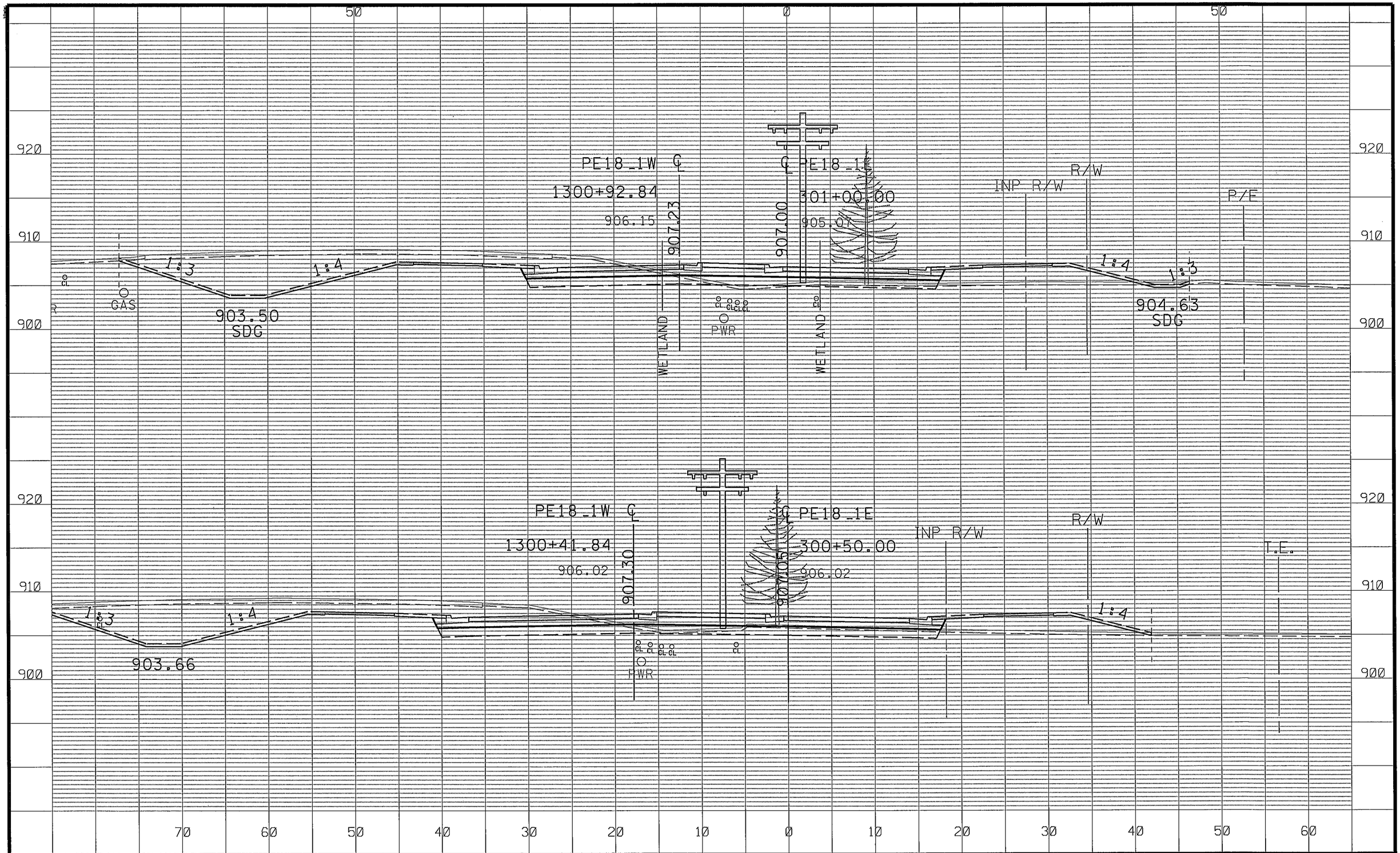
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

NORTH CROSS SECTIONS

STA 555+47.25 TO 555+47.25

Sheet 116 of 142 Sheets



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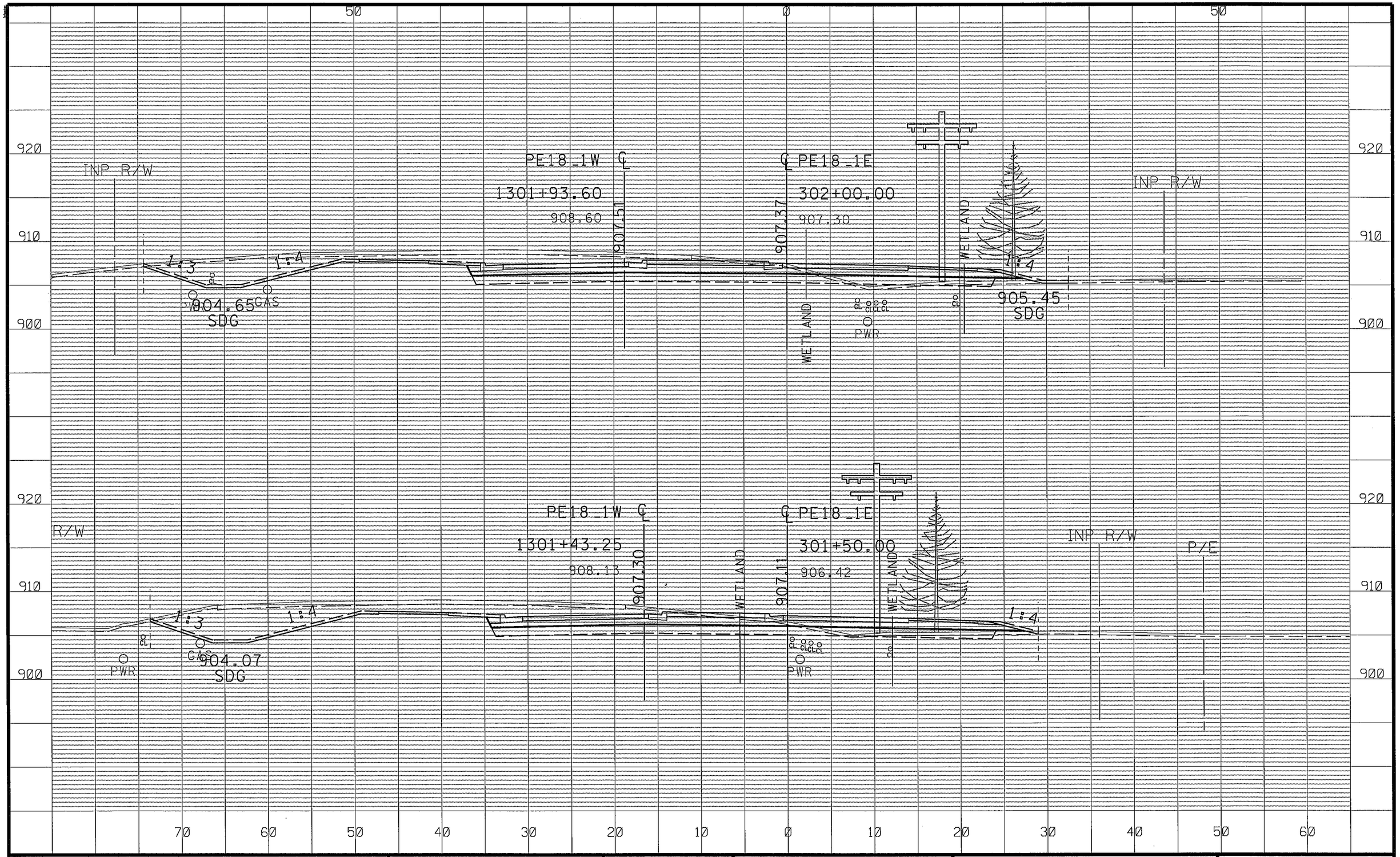
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS
STA 300+50.00 TO 301+00.00

Sheet 117 of 142 Sheets



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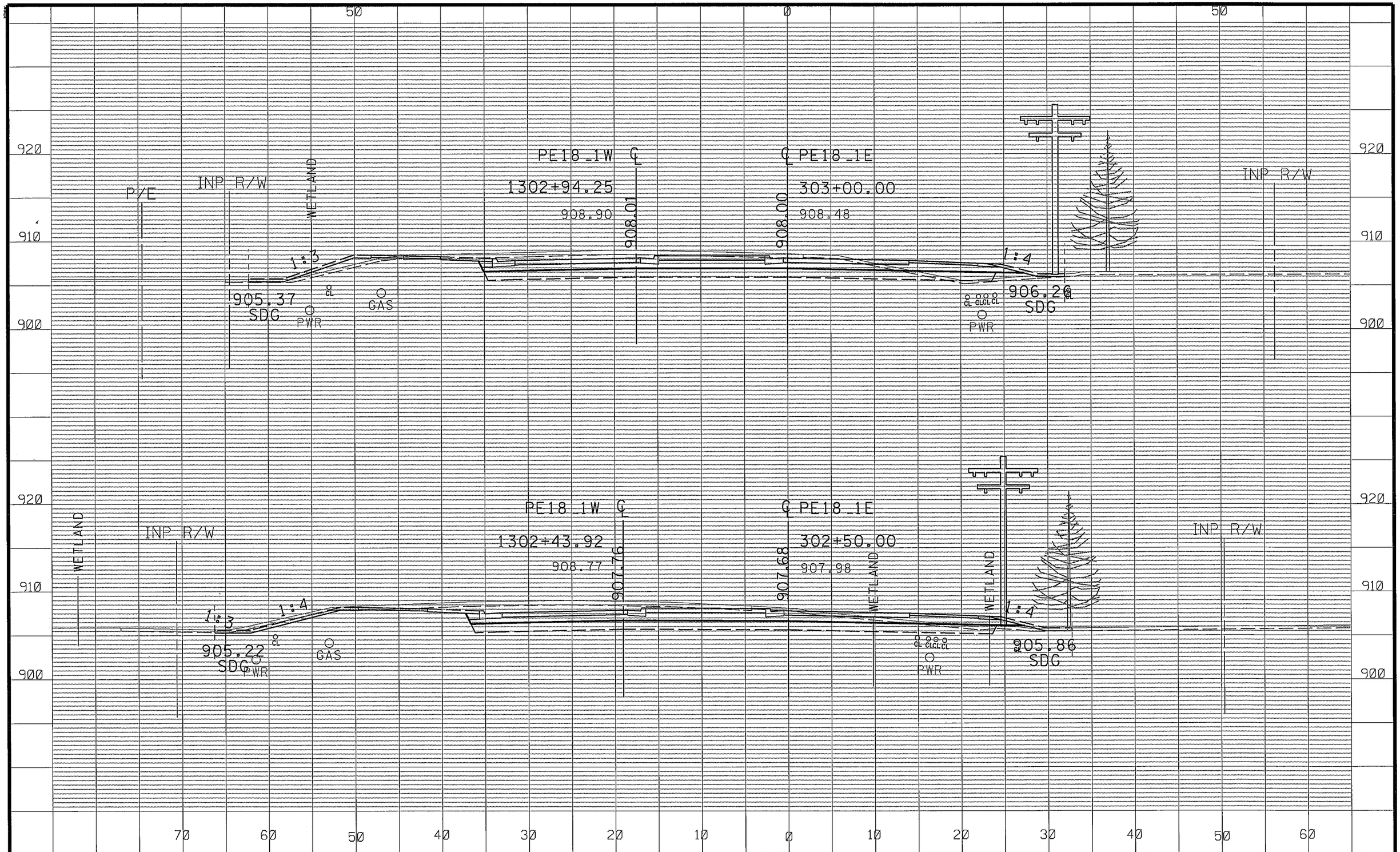
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS
STA 301+50.00 TO 302+00.00

Sheet 118 of 142 Sheets



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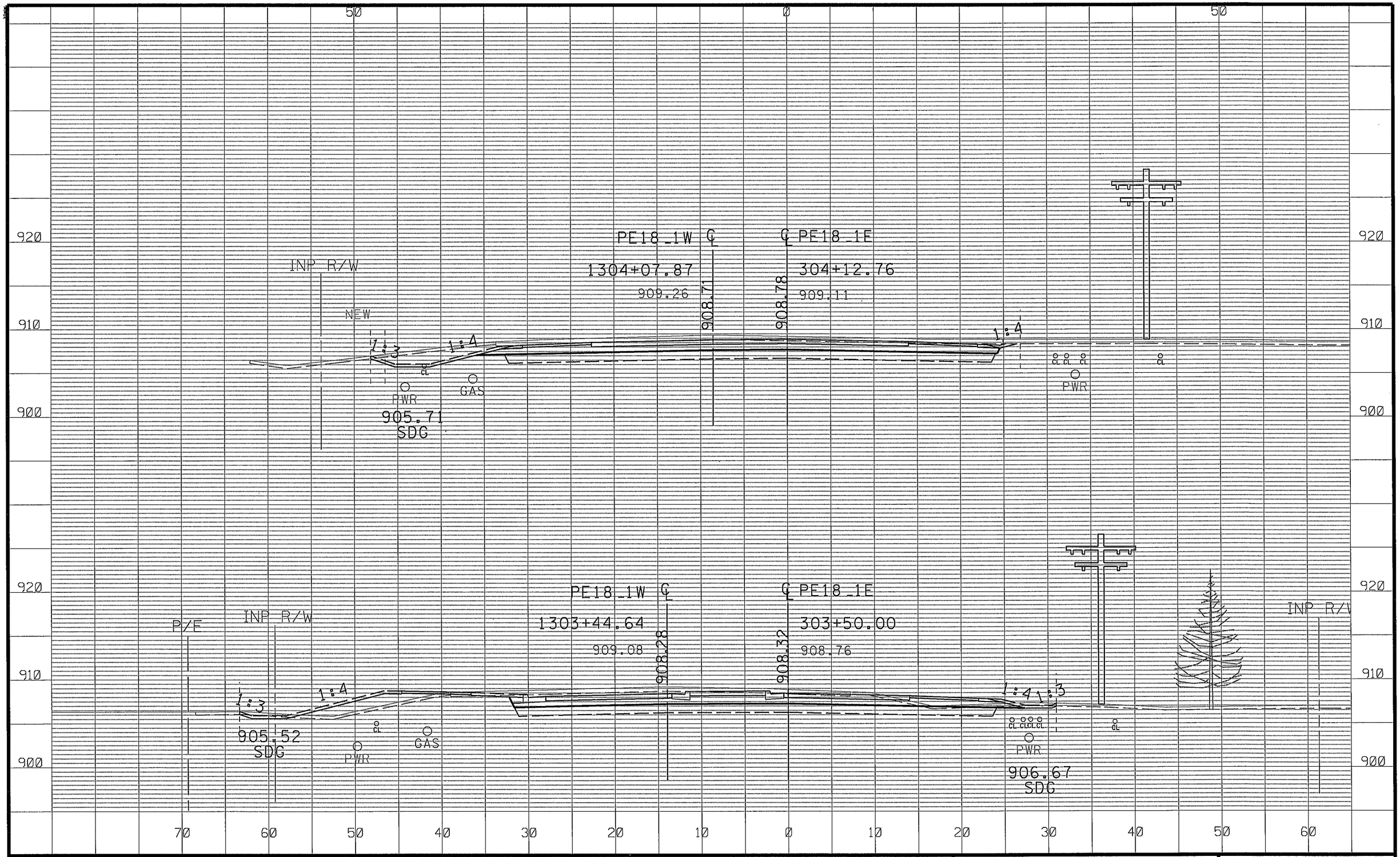
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS
STA 302+50.00 TO 303+00.00

Sheet 119 of 142 Sheets



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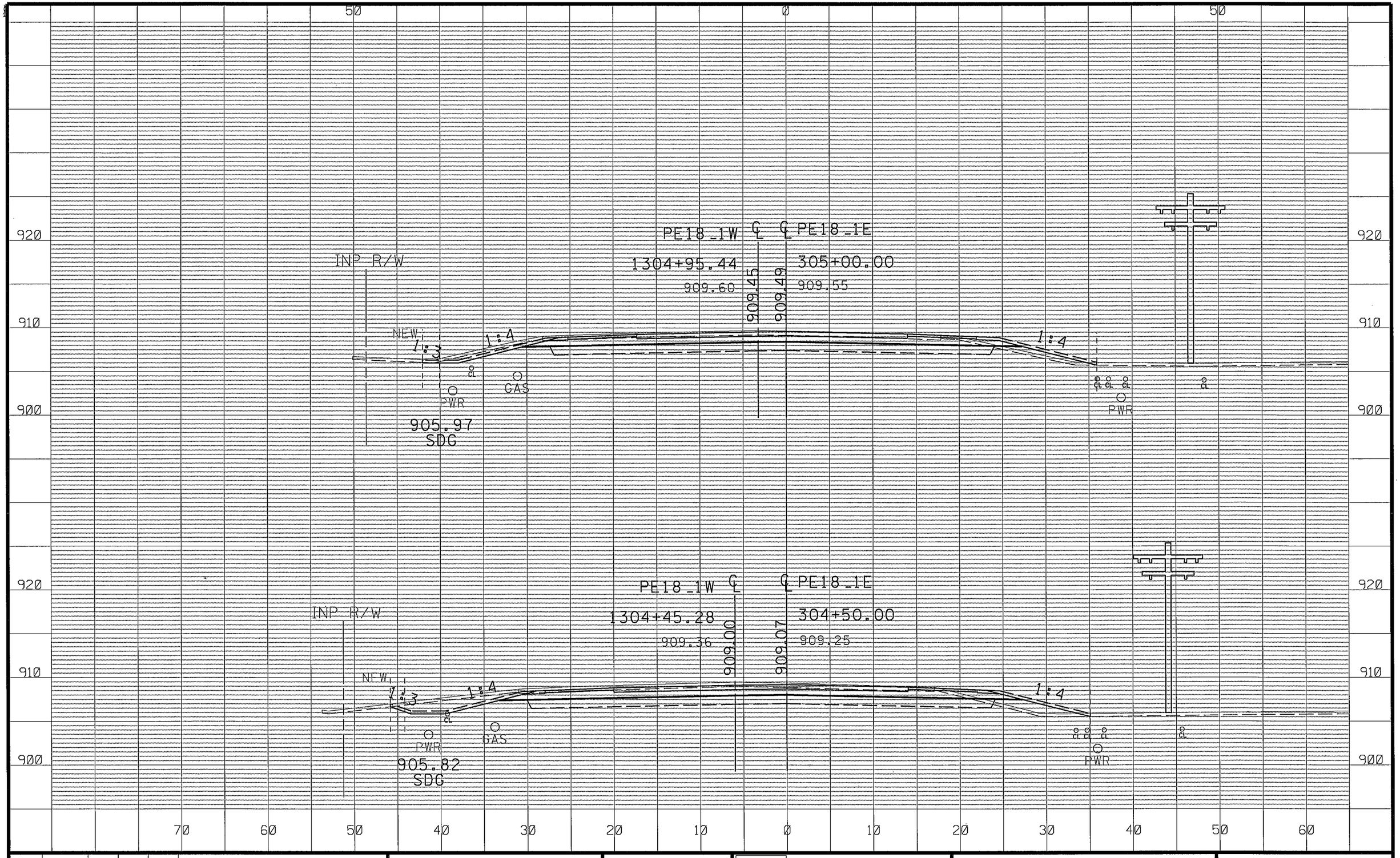
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS
STA 303+50.00 TO 304+12.76

Sheet 120 of 142 Sheets



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ANOKA COUNTY

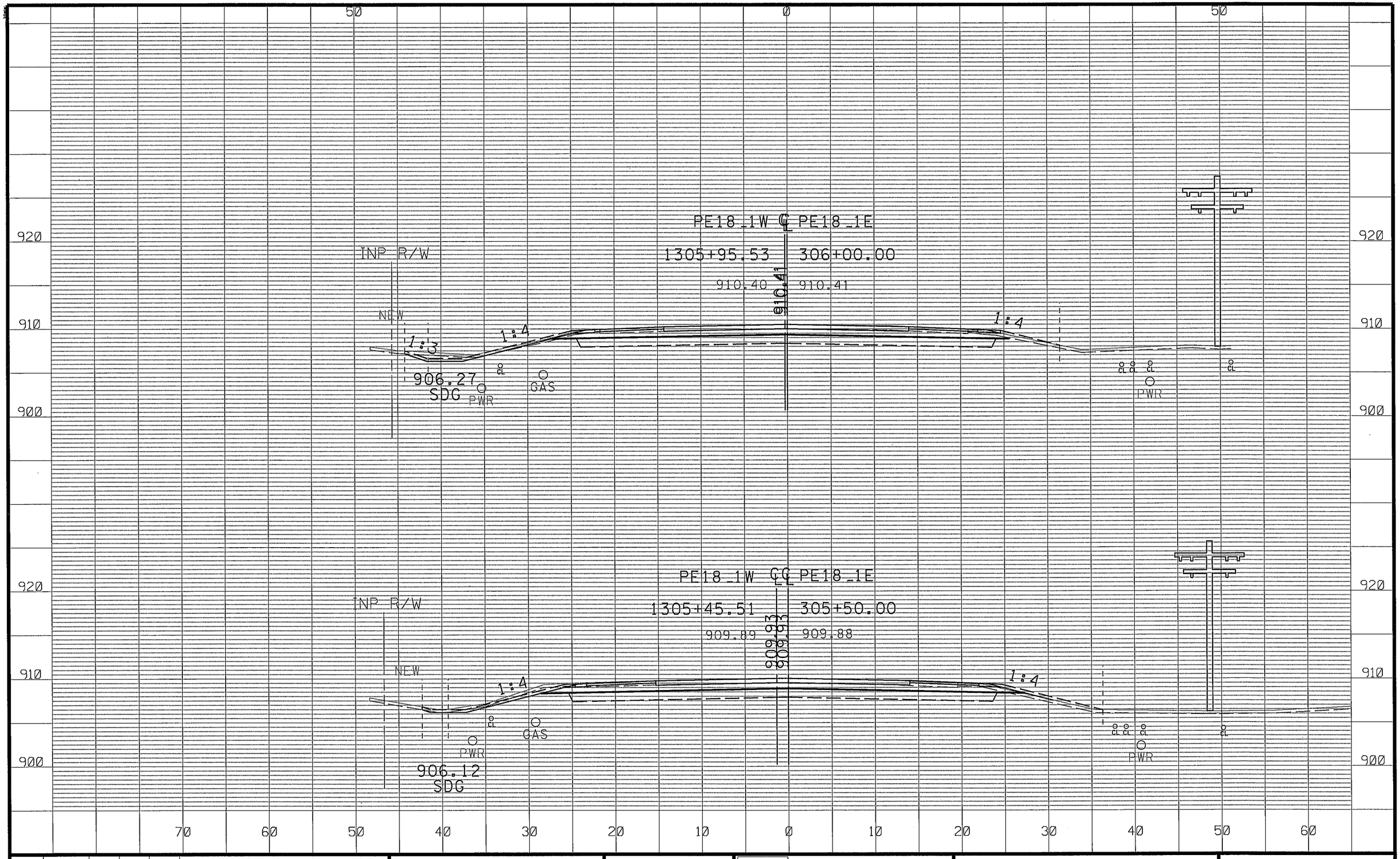
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS

STA 304+50.00 TO 305+00.00

Sheet 121 of 142 Sheets



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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

EAST CROSS SECTIONS

STA 305+50.00 TO 306+00.00

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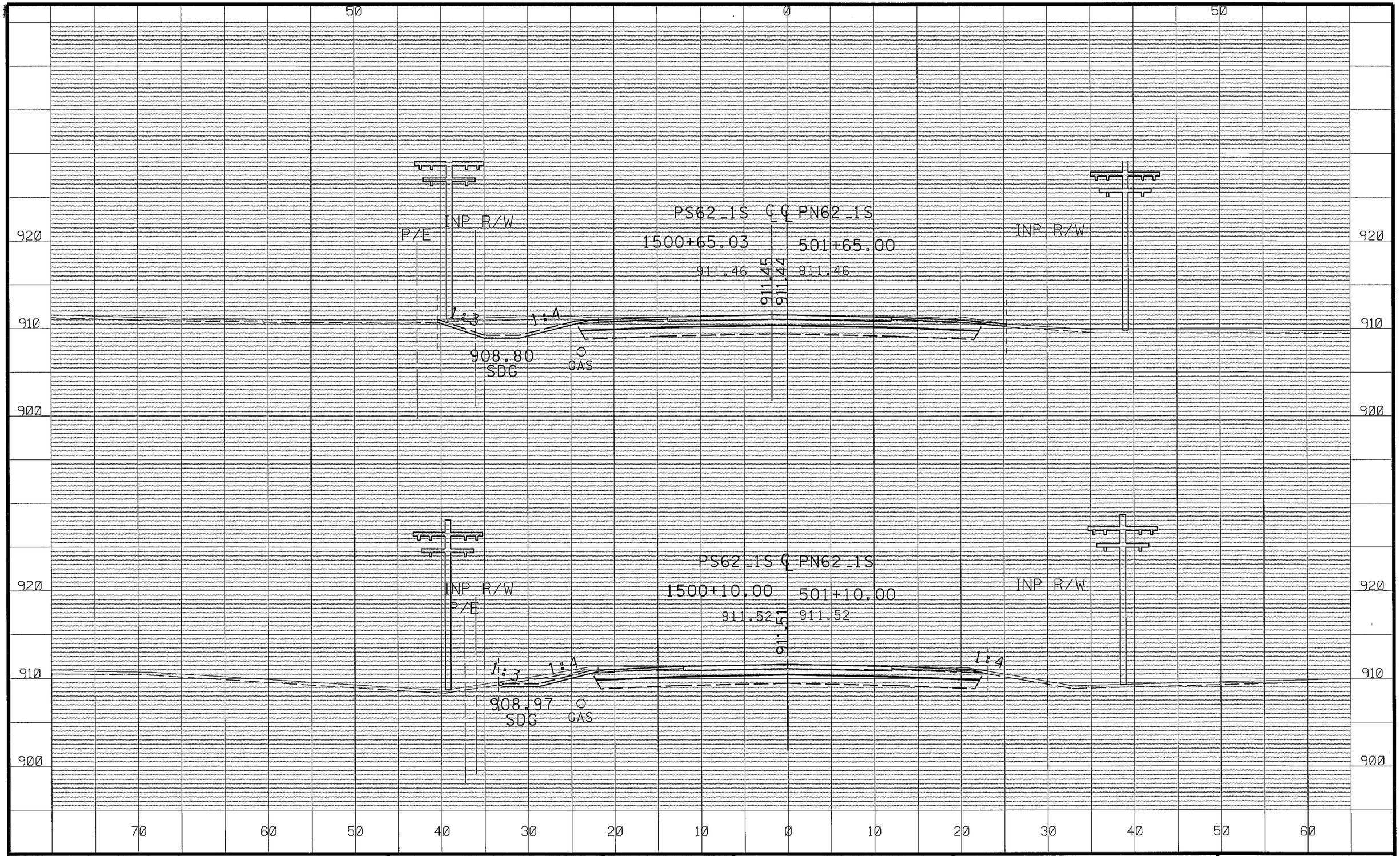

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ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 501+10.00 TO 501+65.00

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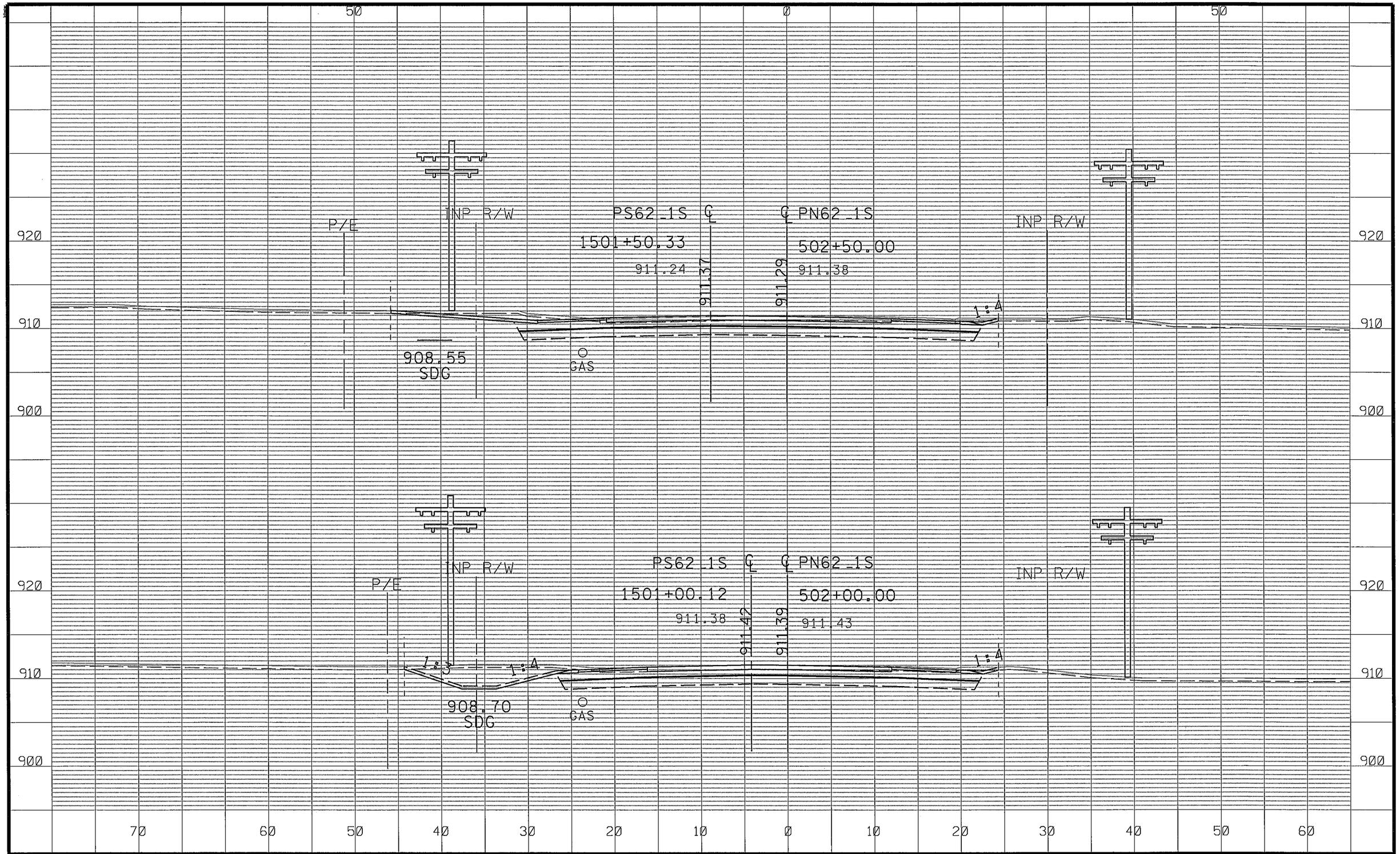

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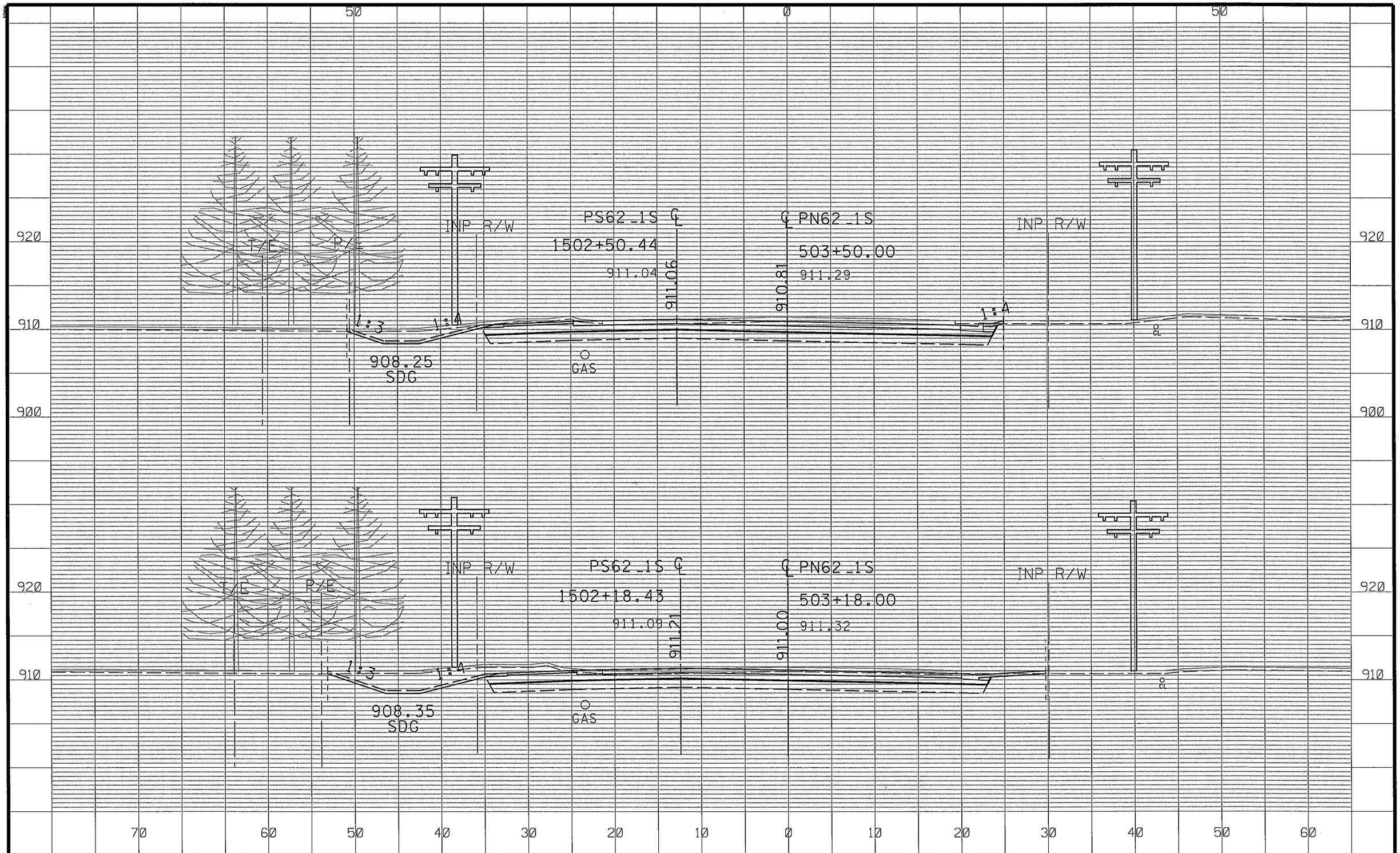
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 502+00.00 TO 502+50.00

Sheet 124 of 142 Sheets



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ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 503+18.00 TO 503+50.00

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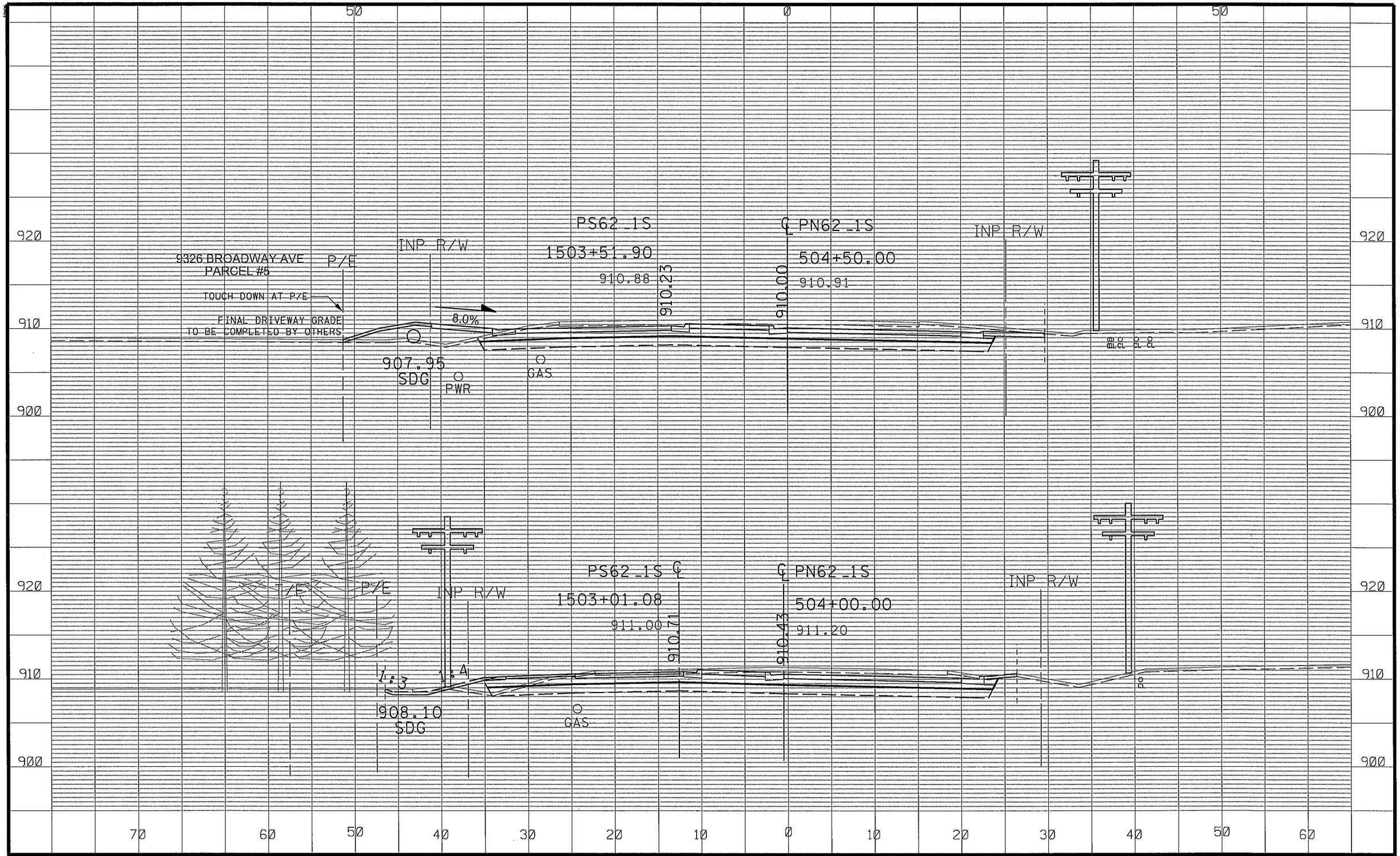

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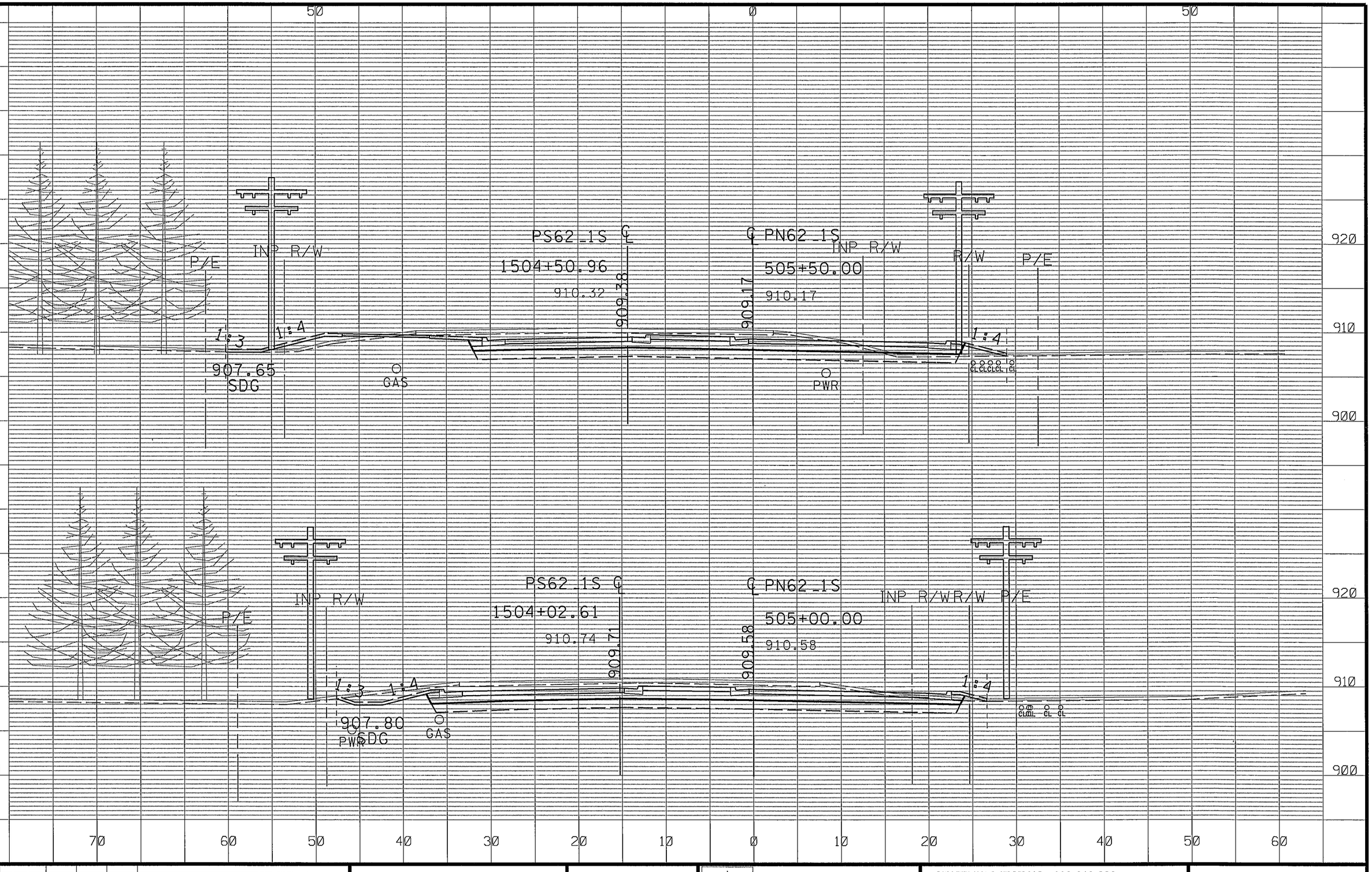
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 504+00.00 TO 504+50.00
Sheet 126 of 142 Sheets



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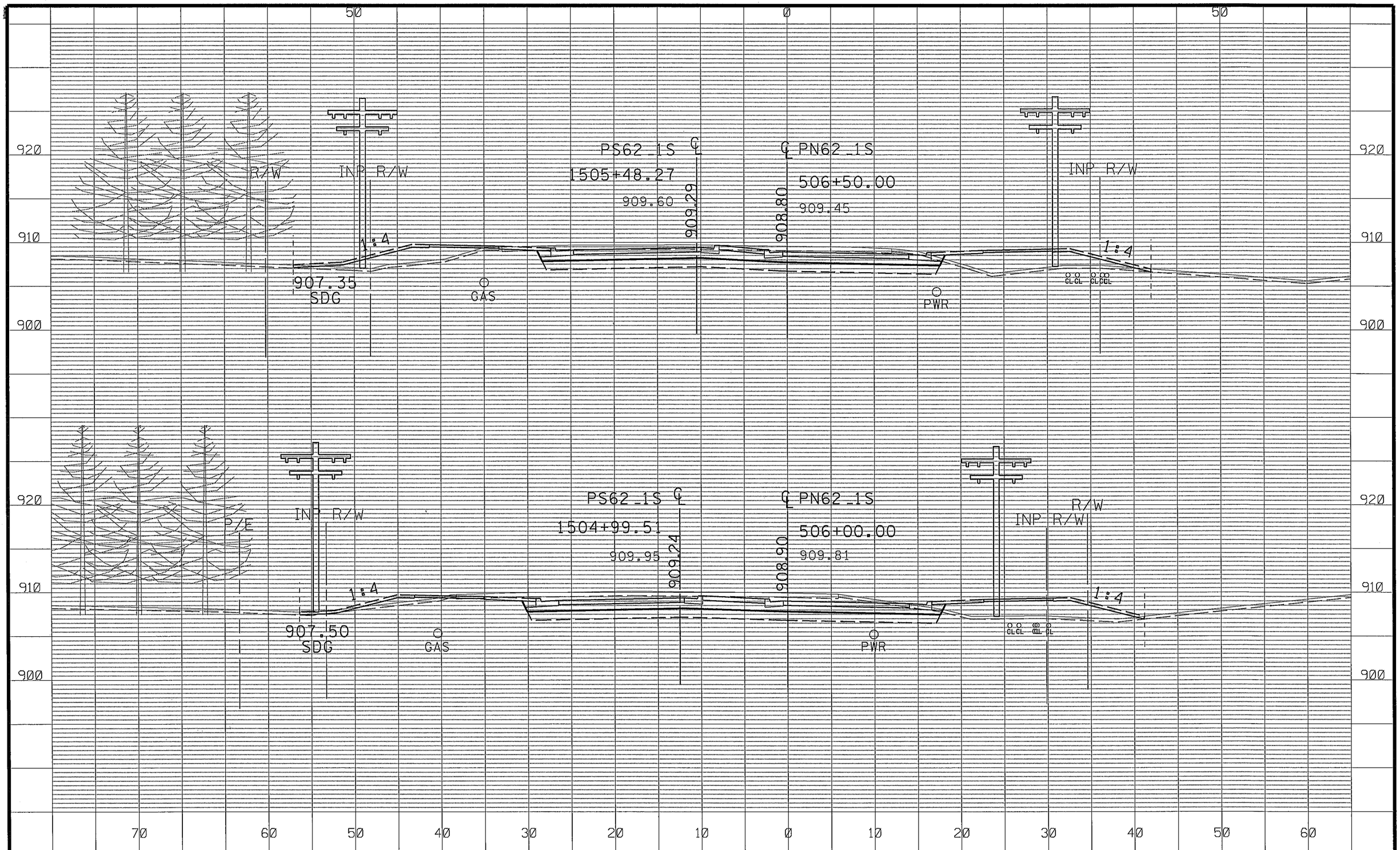
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 505+00.00 TO 505+50.00

Sheet 127 of 142 Sheets



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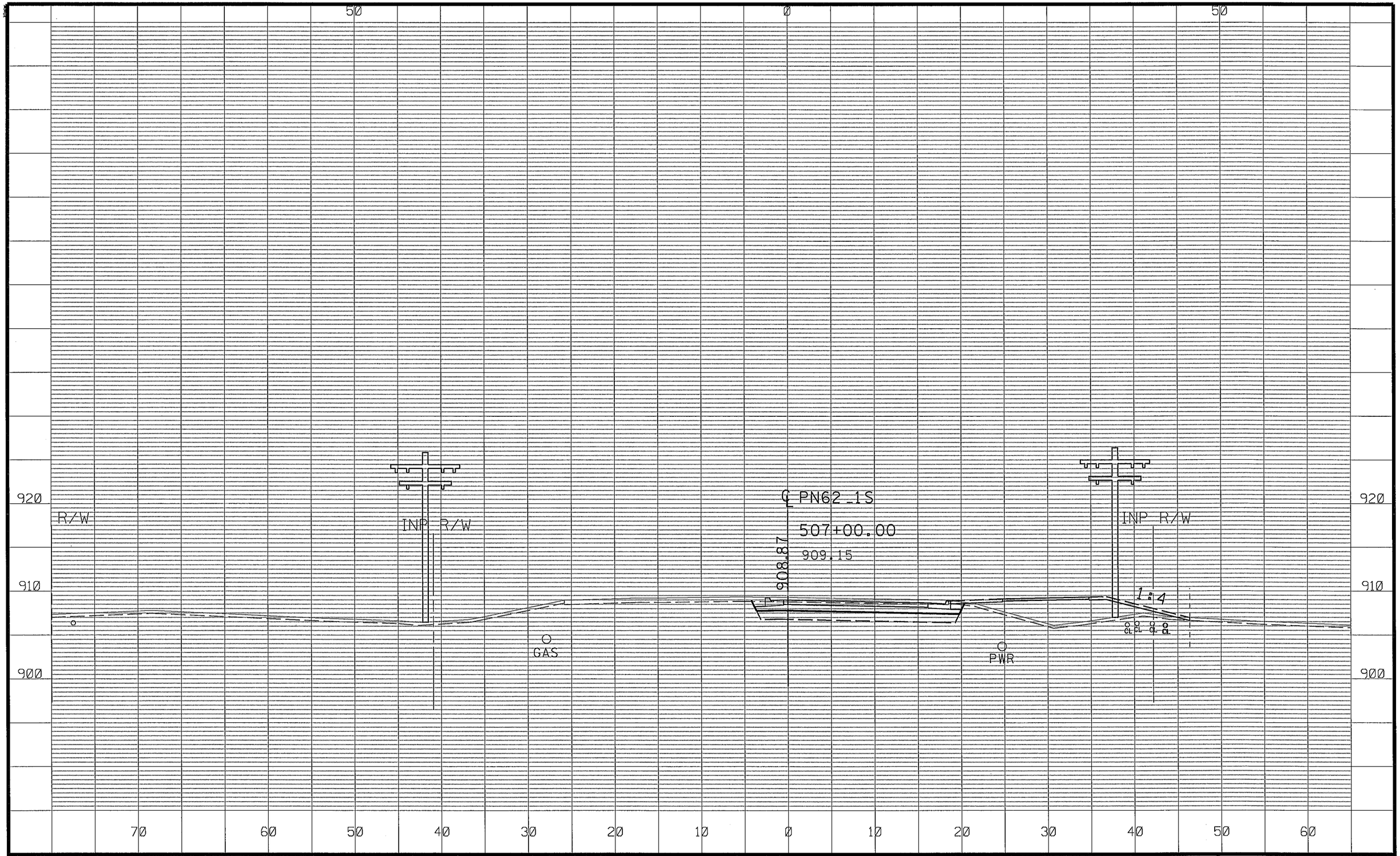
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 506+00.00 TO 506+50.00

Sheet 128 of 142 Sheets



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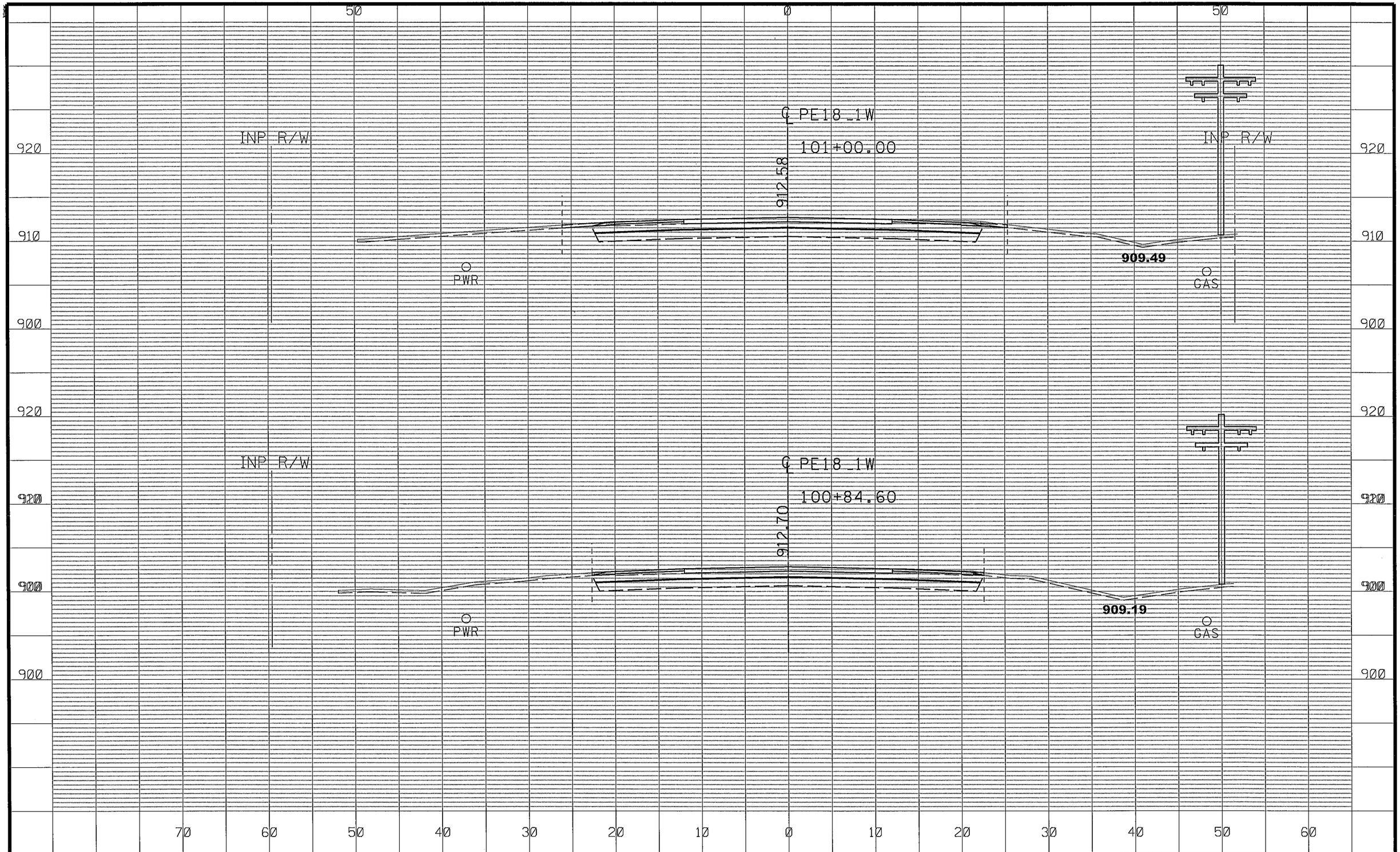
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

SOUTH CROSS SECTIONS
STA 507+00.00 TO 507+00.00

Sheet 129 of 142 Sheets



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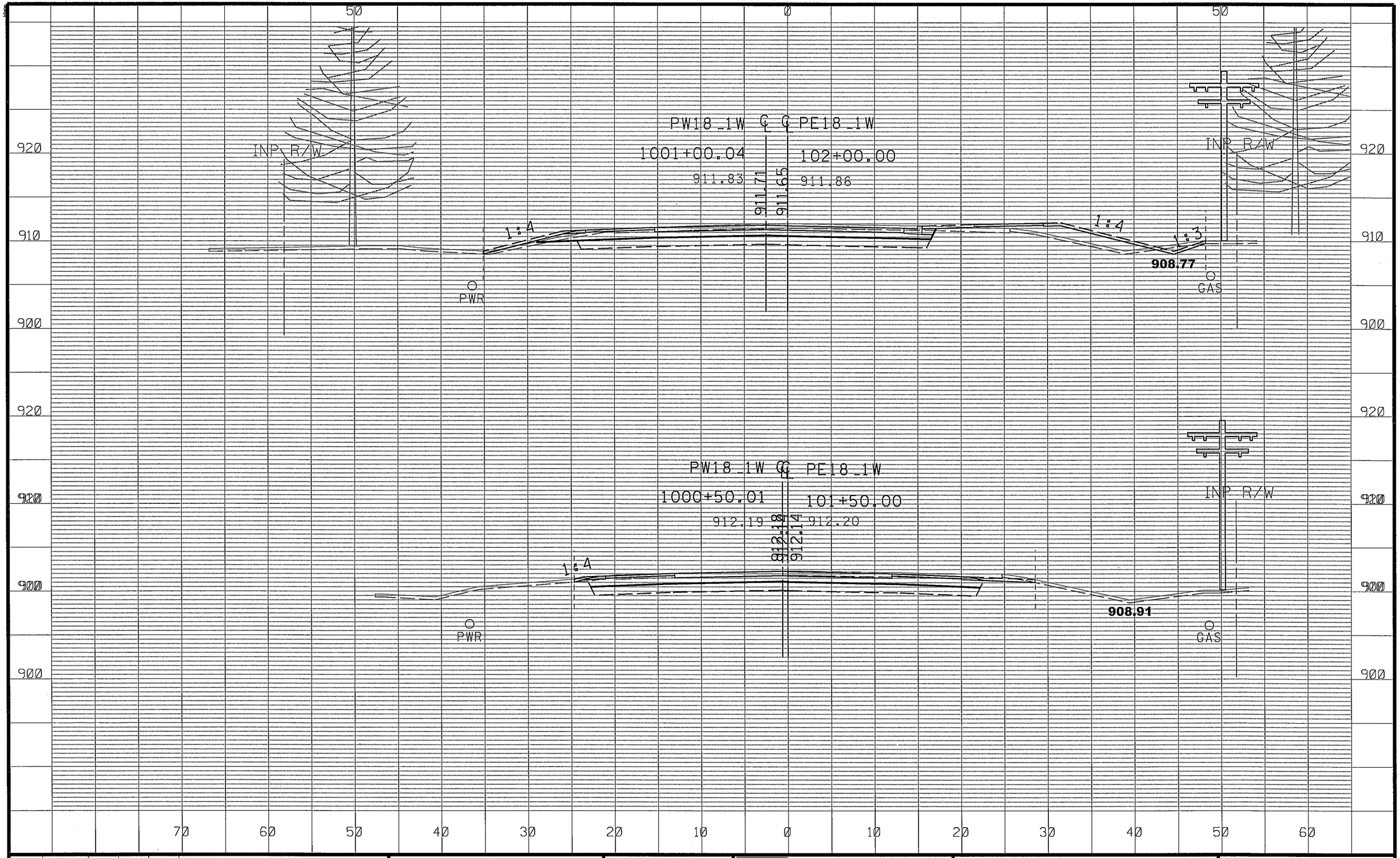
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 100+84.60 TO 101+00.00

Sheet 130 of 142 Sheets



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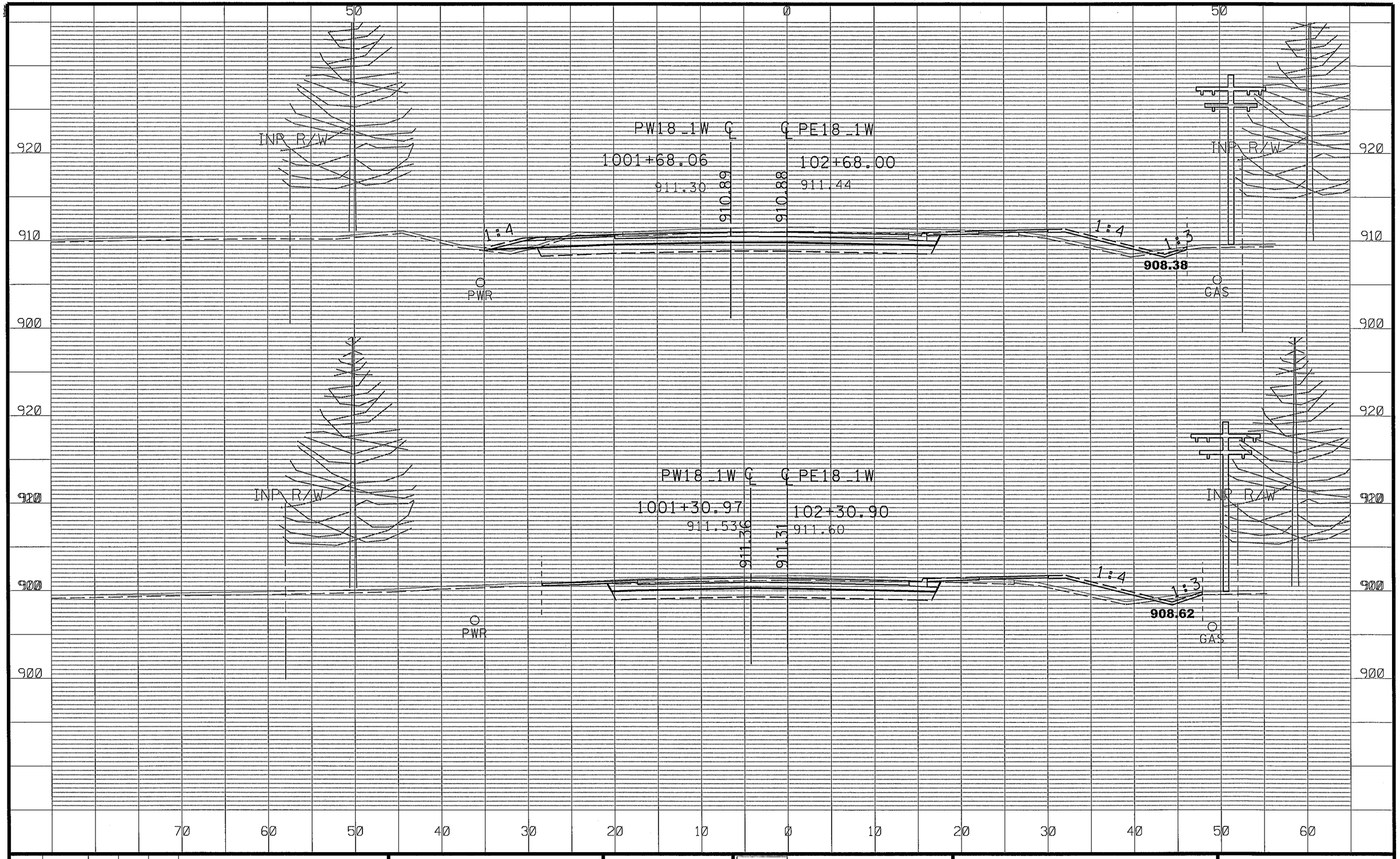
CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 101+50.00 TO 102+00.00

Sheet 131 of 142 Sheets



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ANOKA COUNTY

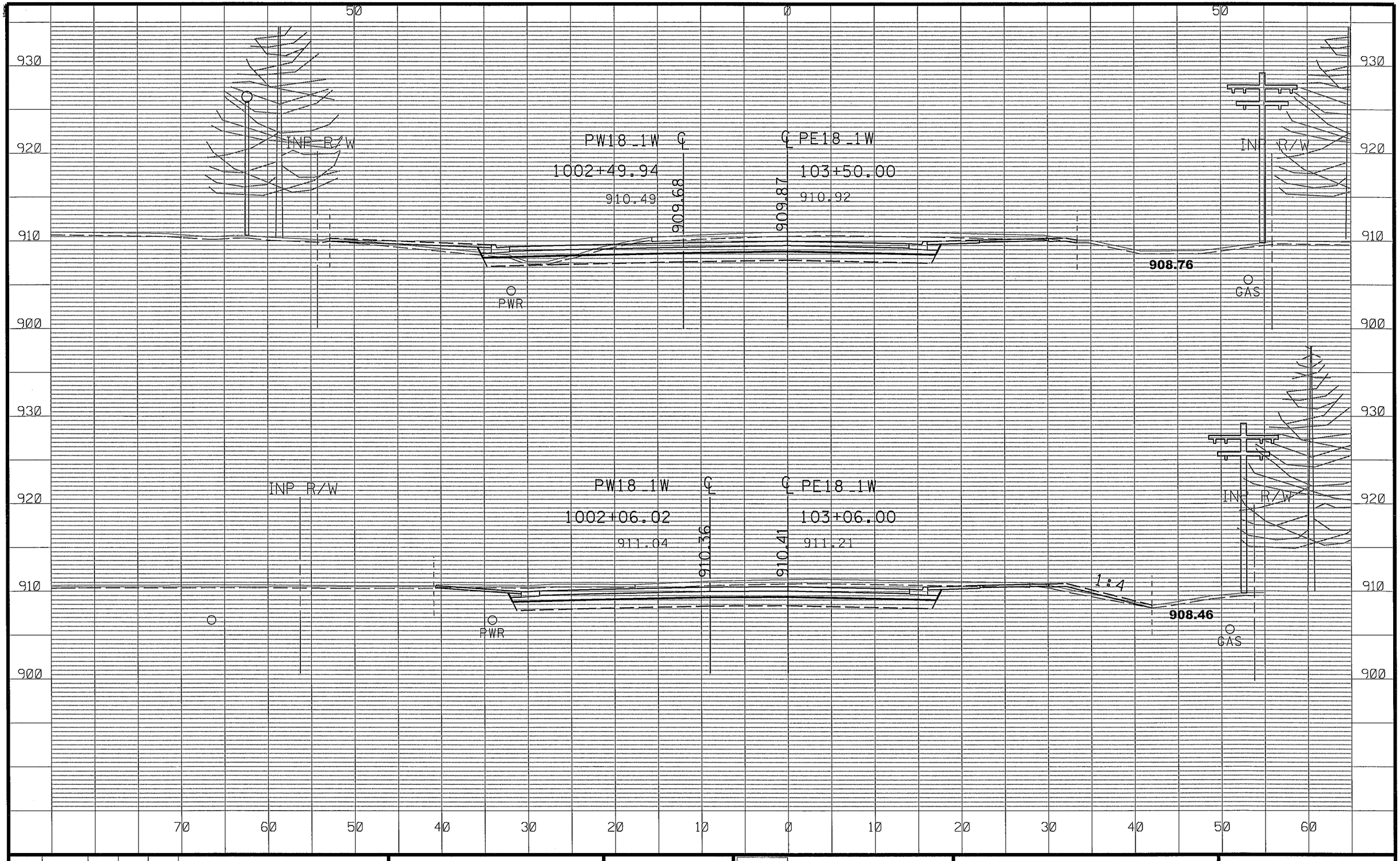
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS

STA 102+30.90 TO 102+68.00

Sheet 132 of 142 Sheets



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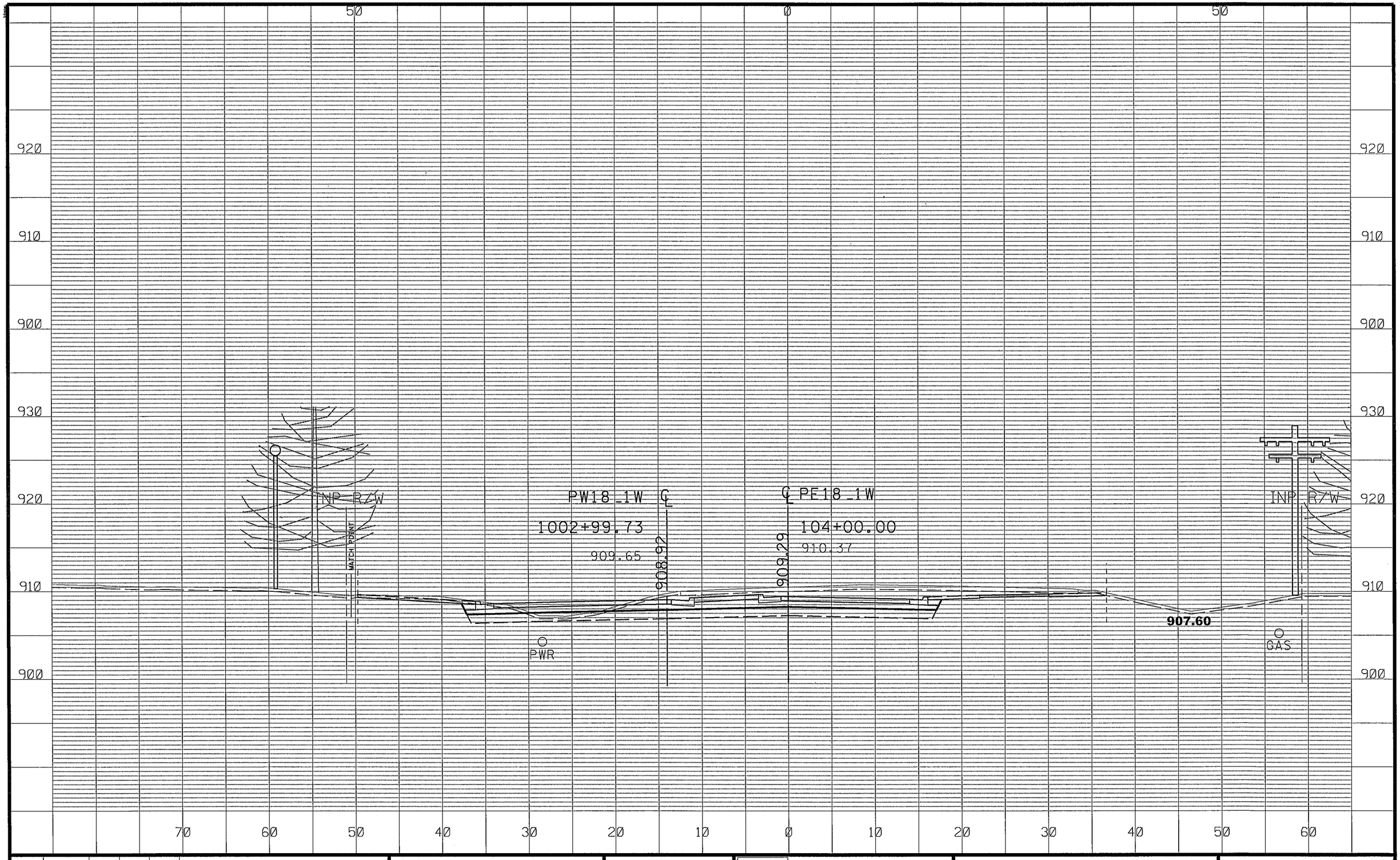
ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 103+06.00 TO 103+50.00
Sheet 133 of 142 Sheets



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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 104+00.00 TO 104+00.00

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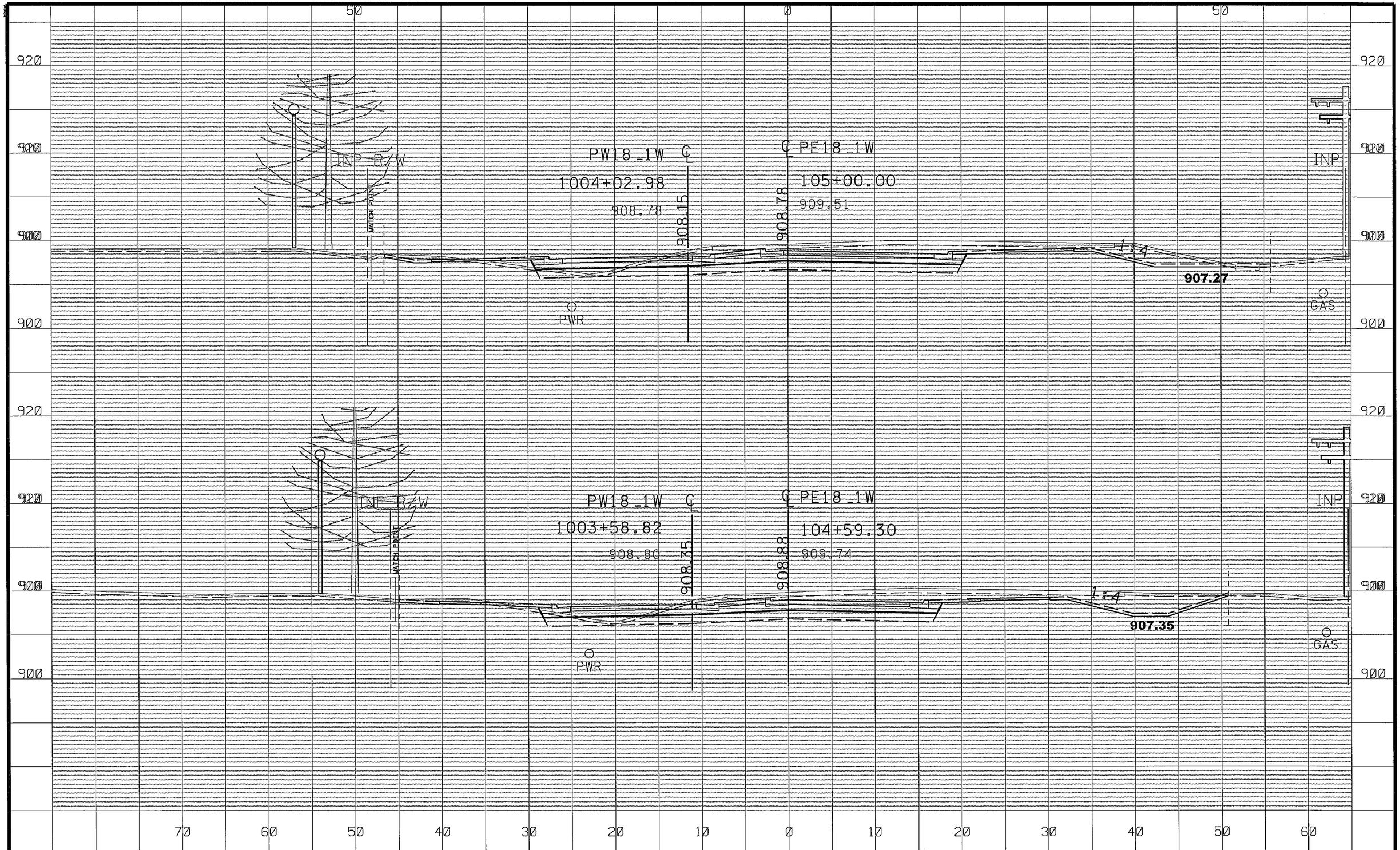

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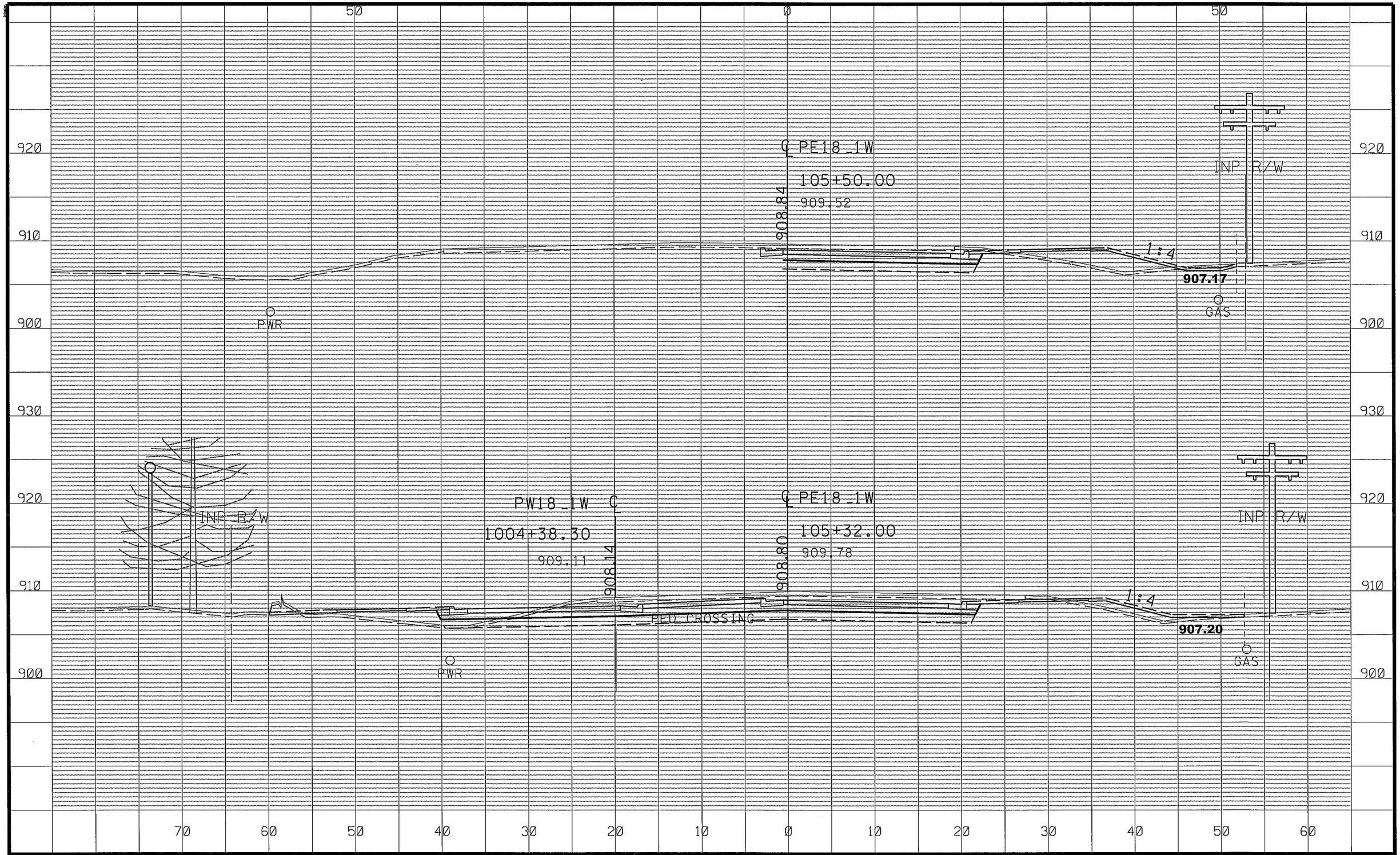
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 104+59.30 TO 105+00.00
Sheet 135 of 142 Sheets



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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

WEST CROSS SECTIONS
STA 105+32.00 TO 105+50.00
Sheet 136 of 142 Sheets

100 50 0

920 910 900

R/W

DITCH SPLIT

℄ PS62_1N
8+50.90
908.25

908.08

℄ PN62_1N
550+50.00
909.25

908.74

℄ TEMPNB
100+71.74

909.59

INP R/W

1:4 1:3

903.92
SDG

℄ PS62_1N
8+35.36
909.05

906.44

908.11

℄ PN62_1N
550+33.50

908.78

℄ TEMPNB
100+49.42

909.44

INP R/W

1:4 1:3

903.85
SDG

℄ PS62_1N
8+09.77

905.04

908.20

908.96

℄ PN62_1N
550+09.25

908.88

℄ TEMPNB
100+25.15

909.28

1:4

903.76
SDG

NO	DATE	BY	CKD	APPR	REVISION

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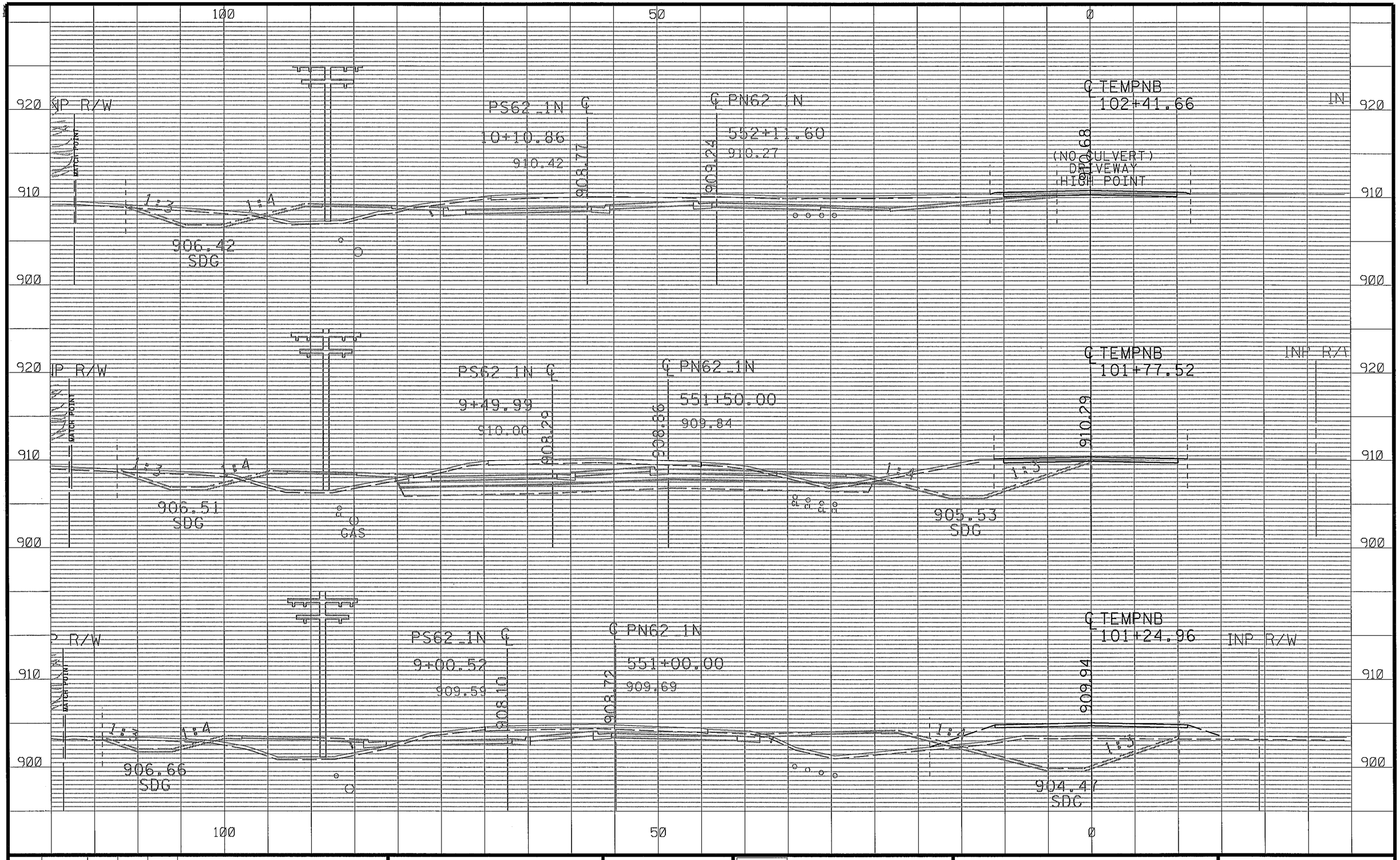
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 100+25.15 TO 100+71.74



NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY JCF DATE 11-03-14
DESIGN BY NJD DATE 11-26-14
CHECKED BY GMP DATE 12-12-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. 002-618-030
STATE PROJECT NO.
CITY PROJECT NO. 01200
COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 101+24.96 TO 102+41.66

Sheet 138 of 142 Sheets

100 50 0

920 910 900

P/L INP R/W

PS62_IN ℄ 11+65.70 910.65

(NO CULVERT) DRIVEWAY HIGH POINT

910.53

℄ PN62_IN 553+68.25 910.53

910.59

℄ TEMPNB 104+03.77 INP R

1:4 1:3 907.71 SDG

P/L INP R/W

PS62_IN ℄ 10+98.15 910.47

910.09

1:4 906.91 SDG

℄ PN62_IN 553+00.00 909.93

909.93

℄ TEMPNB 103+33.17 INP R/W

910.82

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INP R/W

PS62_IN ℄ 10+48.78 910.63

910.13

1:3 1:4 906.63 SDG

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910.53

℄ TEMPNB 102+81.45

910.80

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NO	DATE	BY	CKD	APPR	REVISION

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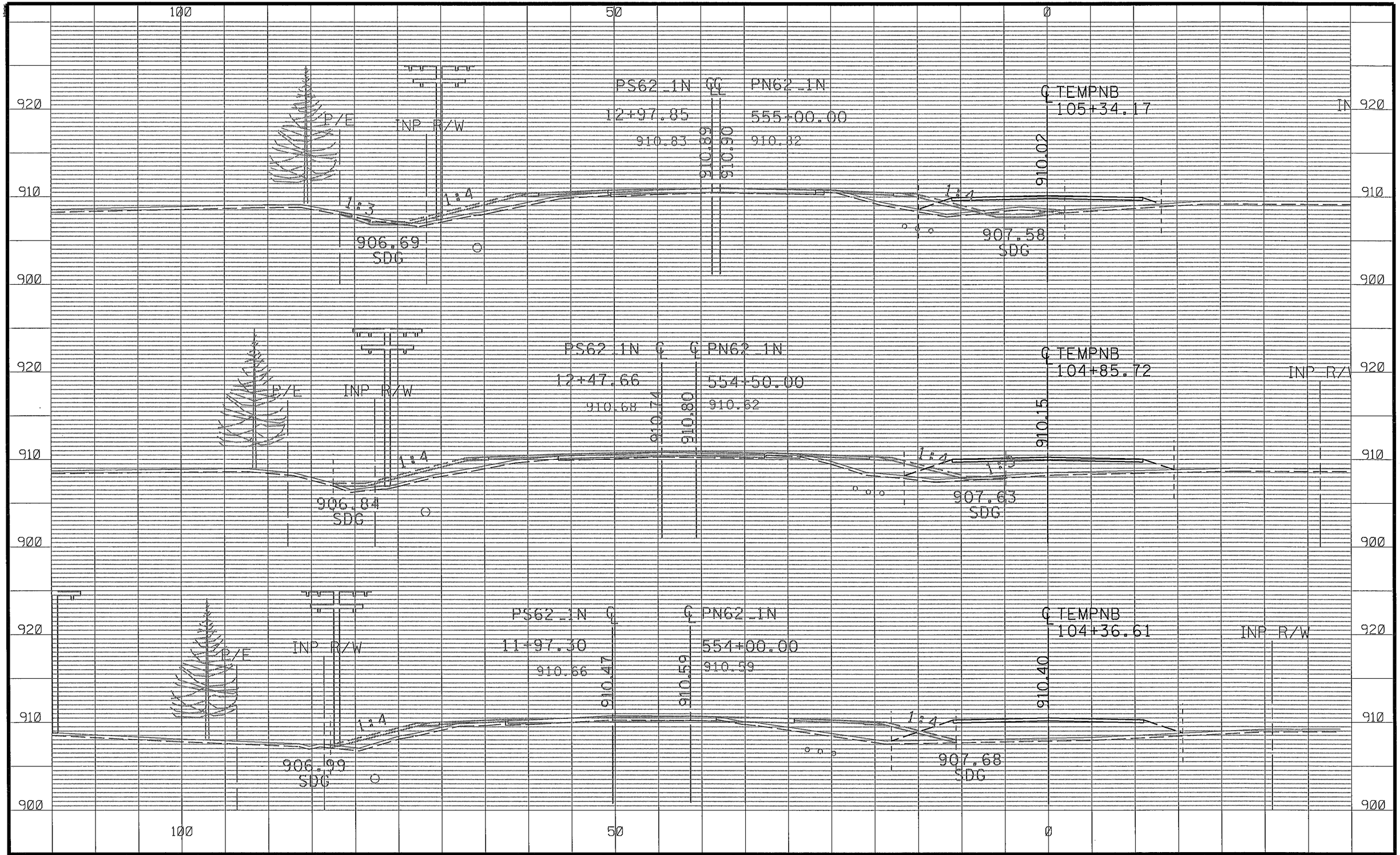
COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 102+81.45 TO 104+03.77

Sheet 139 of 142 Sheets



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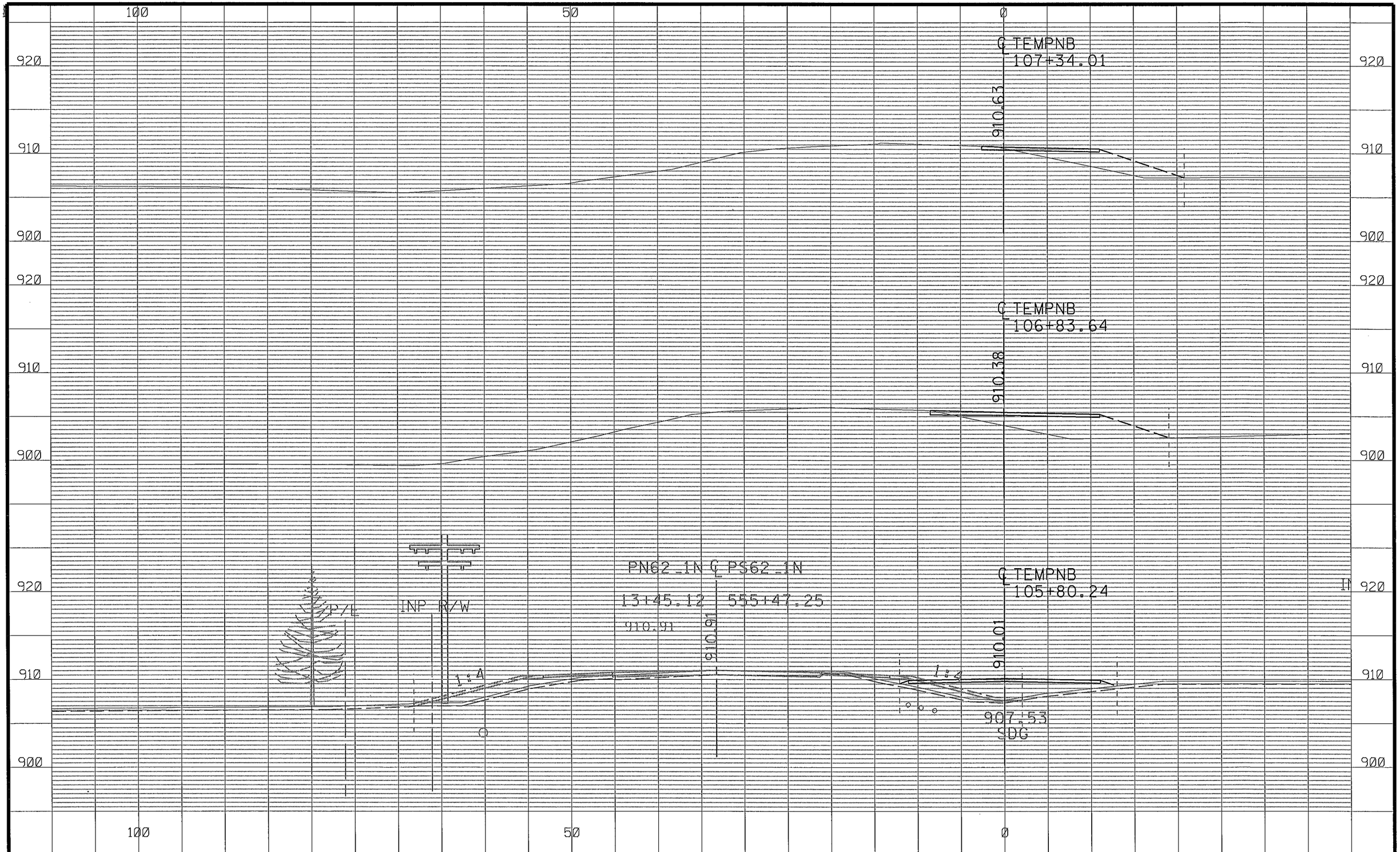
COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 104+36.61 TO 105+34.17

Sheet 140 of 142 Sheets



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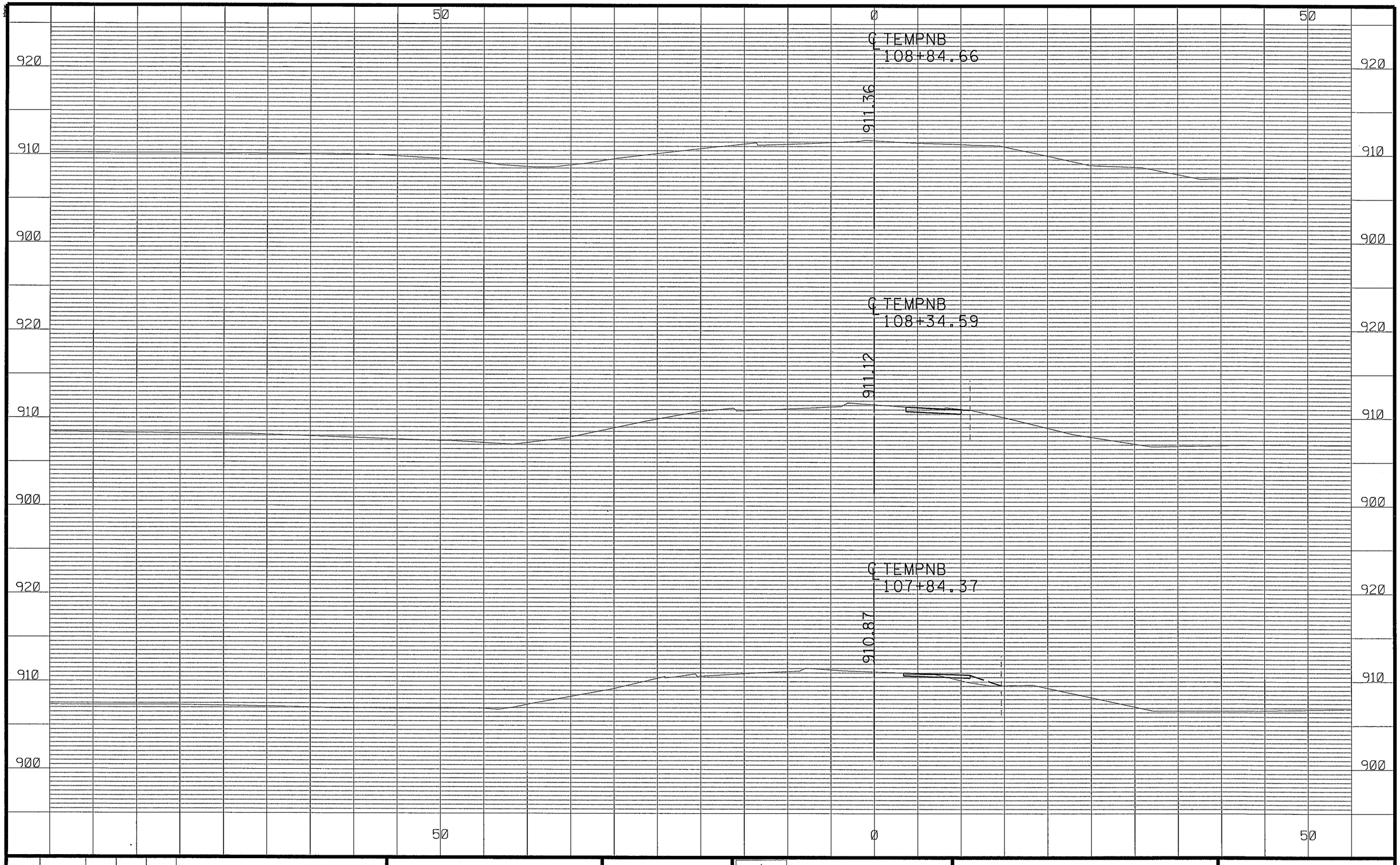
COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 105+80.24 TO 107+34.01

Sheet 141 of 142 Sheets



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DRAWN BY JCF DATE 11-03-14

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ANOKA COUNTY

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COUNTY PROJECT NO.

CROSS SECTIONS
TEMP ROAD
STA 107+84.37 TO 108+84.66

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