NWL

MAY 2016

PROJECT ID: 8732-00-71

WITH: N/A

COUNTY: BAYFIELD

ORDER OF SHEETS

TOTAL SHEETS = 40

51

DESIGN DESIGNATION

			(STA 0+00-71+00)	(STA 71+00-237+45)
A.A.D.T.	2016	=	640	520
A.A.D.T.	2036	=	870	700
D.H.V.		=	128	130
D.D.		=	50/50	50/50
T.		=	4.1	4.1
DESIGN SPEED		=	55	55
ESALS		=	73,000	59,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'53')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CABLE - CLAM LAKE

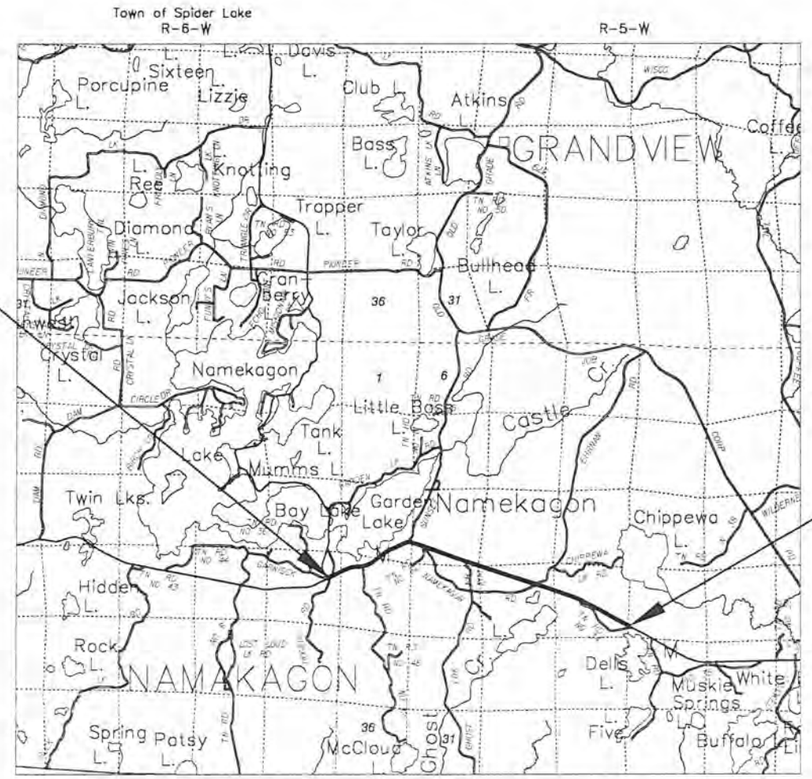
CTH D TO DELLS RD

CTH M

BAYFIELD COUNTY

STATE PROJECT NUMBER
8732-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8732-00-71	WISC 2016187	1



TOTAL NET LENGTH OF CENTERLINE = 4.497 MI

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BAYFIELD COUNTY.

ACCEPTED FOR
COUNTY of BAYFIELD

1-21-16 (Date) (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

SEH WISCONSIN DANIEL L. GUSTAFSON E-25531 CHIPPEWA FALLS WI 1-25-16 PROFESSIONAL ENGINEER

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Management Consultant	KNIGHT E/A INC.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1/29/16 Ryan B McKone (Signature)

E

FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\010101-TI.DWG
LAYOUT NAME - 010101-TI - TITLE SHEET 1 IN EQ 1 MI

PLOT DATE : 12/28/2015 1:29 PM PLOT BY : SEH PLOT NAME :

WISDOT/CADDS SHEET 10

STANDARD ABBREVIATIONS:

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
CE	COMMERCIAL ENTRANCE
CL OR C/L OR ℄	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPCS	CULVERT PIPE CORRUGATED STEEL
CR	CREEK
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
X	EAST GRID COORDINATE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
EOR	END POINT OF RADIUS
EL	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FC	FACE OF CURB
FF	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
CWT	HUNDREDWEIGHT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MOR	MID POINT OF RADIUS
MCE	MARKERS CULVERT END
NC	NORMAL CROWN
NO	NUMBER
OBLIT	OBLITERATE
PAVT	PAVEMENT
PE	PRIVATE ENTRANCE
PVRC	POINT OF VERTICAL REVERSE CURVE
QOR	QUARTER POINT OF RADIUS
R	RADIUS
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
R	RIVER
RDWY	ROADWAY
R/L OR ℞	REFERENCE LINE
SALV	SALVAGED
SAN	SANITARY SEWER
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SE	SUPERELEVATION RATE
TC	TOP OF CURB
T OR TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
Y	NORTH GRID COORDINATE
YD	YARD

GENERAL NOTES:

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH TOPSOILED, FERTILIZED, AND SEEDED AND MULCHED.

THE LOCATION OF ALL SIDEROAD LIMITS WILL BE DETERMINED BY THE ENGINEER.

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

ALL PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

BAYFIELD COUNTY WILL PROVIDE DENSE GRADED BASE MATERIAL. THE MATERIAL IS LOCATED AT 25205 CTH M, CABLE, WI 54821.

UTILITY CONTACTS:

BAYFIELD ELECTRIC COOPERATIVE
PO BOX 68
IRON RIVER, WI 54847
TELEPHONE: 715.372.7539
ATTENTION: GARY TARASEWICZ
EMAIL: GARY.TARASEWICZ@BAYFIELDELECTRIC.COM

NORVADO
PO BOX 67
43750 USH 63
CABLE, WI 54821
TELEPHONE: 715.798.7123
ATTENTION: GUY FOLSOM
EMAIL: GFOLSOM@NORVADO.COM

XCEL ENERGY - DISTRIBUTION
16048 ELECTRIC AVENUE
HAYWAYD, WI 54843
TELEPHONE: 715.682.6923
ATTENTION: TIM BLODGETT
EMAIL: TIMOTHY.BLODGETT@XCELENERGY.COM

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN

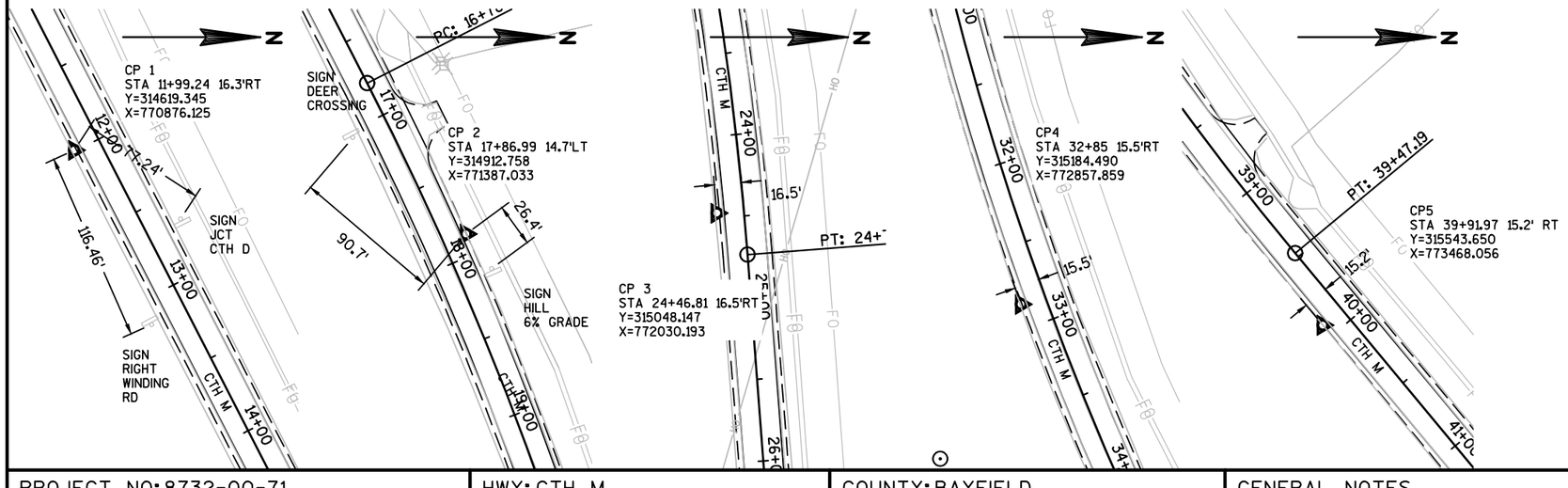
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

NOTE: WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

HEARING IMPAIRED TDD (800) 542-2289

** NOT A MEMBER OF DIGGERS HOTLINE

ALIGNMENT TIES:



DESIGN CONTACT

SEH
10 NORTH BRIDGE STREET
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6261
ATTENTION: JARROD STARREN
EMAIL: JSTARREN@SEHINC.COM

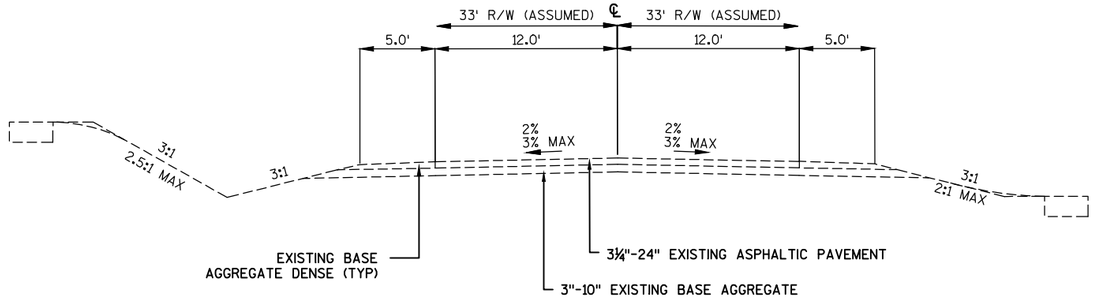
WDNR CONTACT

DNR NORTHERN REGION HQ
810 W MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4228
ATTENTION: SHAWN HASELEU
EMAIL: SHAWN.HASELEU@WISCONSIN.GOV

MUNICIPAL CONTACT

BAYFIELD COUNTY HIGHWAY DEPARTMENT
P.O. BOX 428
WASHBURN, WI 54891
TELEPHONE: 715.373.6140
ATTENTION: THOMAS TOEPFER
EMAIL: TTOEPFER@BAYFIELDCOUNTY.ORG

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	GENERAL NOTES	SHEET 2	E

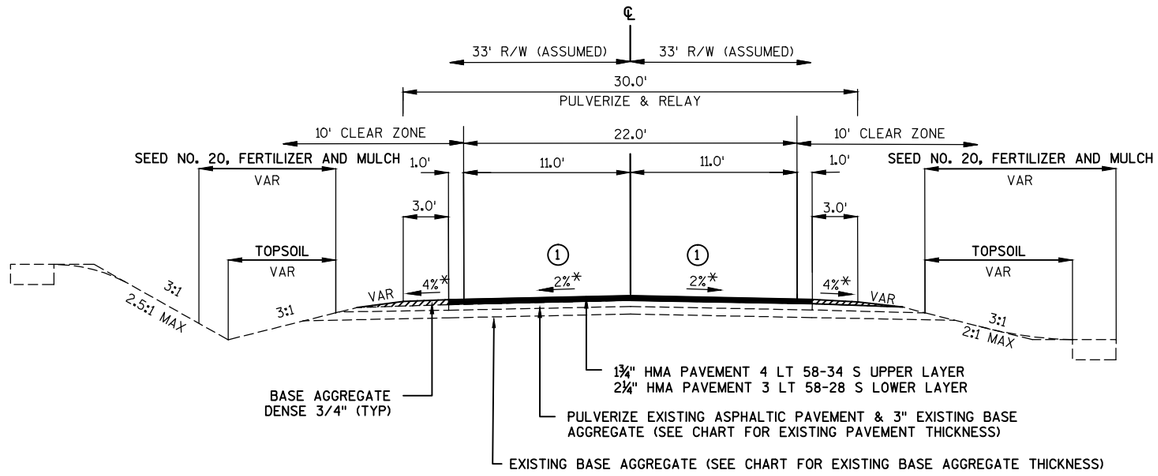


TYPICAL EXISTING SECTION

CTH M
STA 0+00 TO STA 237+45

EXISTING PAVEMENT THICKNESSES

STATION	BORE	ASPHALT DEPTH (INCHES)	BASE DEPTH (INCHES)
1+87	B-1	5.25	8
26+33	B-2	6	8
42+39	B-3	5	7
53+24	B-4	4	3
57+85	B-5	4.5	5
77+96	B-6	4	6
85+66	B-7	6	6
90+66	B-21	6	6
97+85	B-8	5.25	6
120+75	B-9	7.5	6
124+81	B-20	3.25	6
151+36	B-10	4.75	5
162+64	B-11	5.5	6
167+20	B-12	5	6
183+79	B-13	4.75	6
189+49	B-14	5	6
210+04	B-15	7.5	5
212+37	B-16	6	5
216+78	DB-1	16	10
220+00	B-17	6	6
225+50	DB-2	12	6
226+93	B-19	11.5	6
229+73	DB-3	24	8
231+41	DB-4	12	8
234+69	B-18	11.5	8
	MAXIMUM	24	10
	MINIMUM	3.25	3
	AVERAGE	7.5	6.3



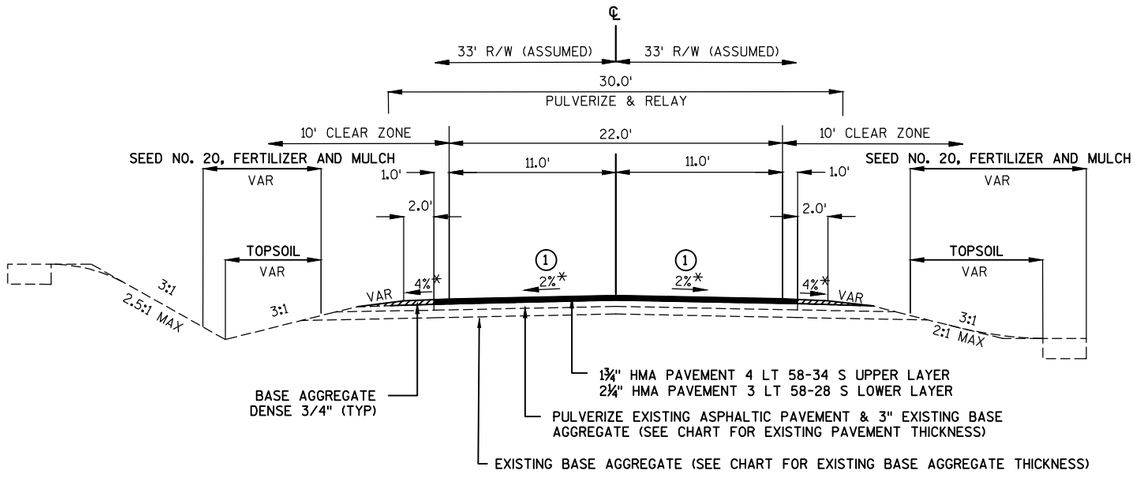
*ADD SPECIAL BASE AGGREGATE DENSE 3/4" WEDGING FOLLOWING PULVERIZING AS NEEDED

TYPICAL FINISHED SECTION

CTH M
STA 0+00 TO STA 71+00

NOTE:
(1) SEE SUPER ELEVATION TABLES FOR CROSS SLOPES WITHIN HORIZONTAL CURVES

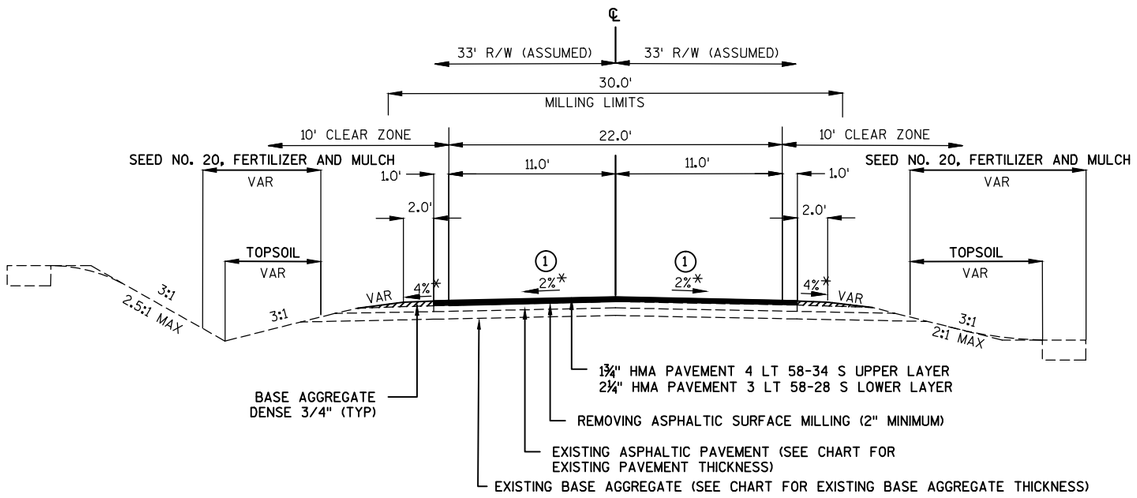
PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	TYPICAL SECTIONS	SHEET 3	E



*ADD SPECIAL BASE AGGREGATE DENSE 3/4" WEDGING FOLLOWING PULVERIZING AS NEEDED

TYPICAL FINISHED SECTION

CTH M
STA 71+00 TO STA 215+00



*ADD SPECIAL BASE AGGREGATE DENSE 3/4" WEDGING FOLLOWING MILLING AS NEEDED

TYPICAL FINISHED SECTION

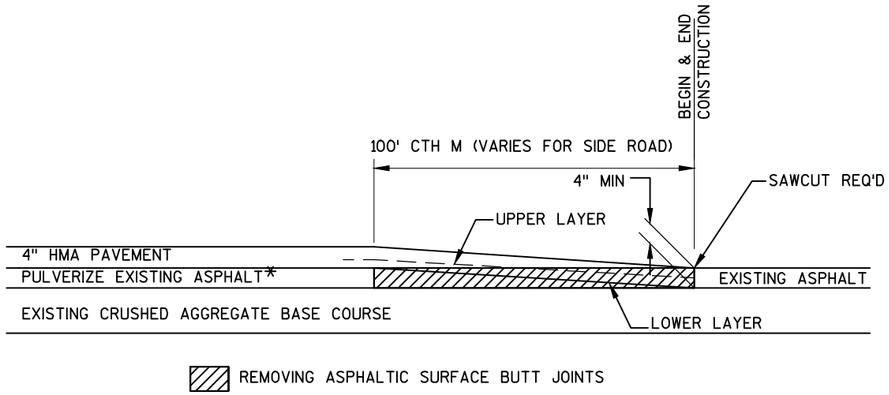
CTH M
STA 215+00 TO STA 237+45

SUPERELEVATION TABLE CTH M

Curve	Station	Description	Left Outside Shoulder	Left Outside Lane	Right Outside Lane	Right Outside Shoulder
1	14+98.30'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
1	14+98.30'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
1	15+58.30'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
1	16+18.30'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
1	16+78.30'	Low Shoulder Match	4.00%	4.00%	-4.00%	-4.00%
1	17+38.30'	Begin Full Super	6.00%	6.00%	-6.00%	-6.00%
1	24+13.68'	End Full Super	6.00%	6.00%	-6.00%	-6.00%
1	24+73.68'	Low Shoulder Match	4.00%	4.00%	-4.00%	-4.00%
1	25+33.68'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
1	25+93.68'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
1	26+53.68'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
1	26+53.68'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
2	25+79.80'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
2	25+79.80'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
2	26+39.80'	Level Crown	-4.00%	-2.00%	0.00%	0.00%
2	26+99.80'	Reverse Crown	-4.00%	-2.00%	2.00%	2.00%
2	27+59.80'	Low Shoulder Match	-4.00%	-4.00%	4.00%	4.00%
2	28+19.80'	Begin Full Super	-6.00%	-6.00%	6.00%	6.00%
2	38+87.20'	End Full Super	-6.00%	-6.00%	6.00%	6.00%
2	39+47.20'	Low Shoulder Match	-4.00%	-4.00%	4.00%	4.00%
2	40+07.20'	Reverse Crown	-4.00%	-2.00%	2.00%	2.00%
2	40+67.20'	Level Crown	-4.00%	-2.00%	0.00%	0.00%
2	41+27.20'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
2	41+27.20'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
3	44+89.14'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
3	44+89.14'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
3	45+40.43'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
3	45+92.73'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
3	46+42.43'	Begin Full Super	4.00%	4.00%	-4.00%	-4.00%
3	53+20.13'	End Full Super	4.00%	4.00%	-4.00%	-4.00%
3	53+69.82'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
3	54+22.13'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
3	54+73.41'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
3	54+73.41'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
4	62+98.09'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
4	62+98.09'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
4	63+49.09'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
4	64+00.09'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
4	64+51.09'	Low Shoulder Match	4.00%	4.00%	-4.00%	-4.00%
4	65+02.09'	Begin Full Super	6.00%	6.00%	-6.00%	-6.00%
4	70+20.93'	End Full Super	6.00%	6.00%	-6.00%	-6.00%
4	70+71.93'	Low Shoulder Match	4.00%	4.00%	-4.00%	-4.00%
4	71+22.93'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
4	71+73.93'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
4	72+24.93'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
4	72+24.93'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
5	191+03.89'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
5	191+03.89'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
5	191+54.72'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
5	192+05.55'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
5	192+15.72'	Begin Full Super	2.40%	2.40%	-2.40%	-4.00%
5	201+66.85'	End Full Super	2.40%	2.40%	-2.40%	-4.00%
5	201+77.01'	Reverse Crown	2.00%	2.00%	-2.00%	-4.00%
5	202+27.85'	Level Crown	0.00%	0.00%	-2.00%	-4.00%
5	202+78.68'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
5	202+78.68'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%

NOTE:
(1) SEE SUPER ELEVATION TABLES FOR CROSS SLOPES WITHIN HORIZONTAL CURVES

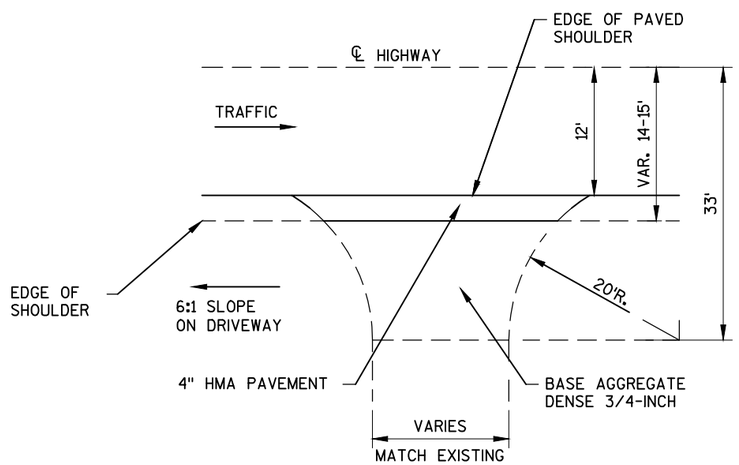
PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	TYPICAL SECTIONS	SHEET 4	E



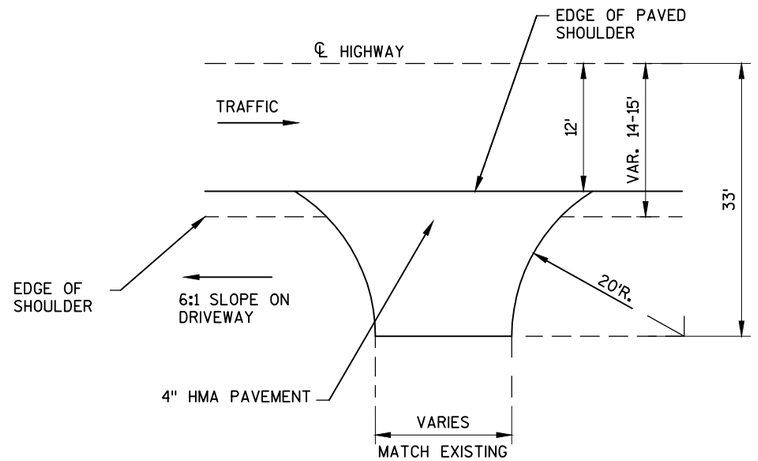
*PULVERIZE 1" INTO EXISTING BASE

DETAIL OF BUTTED JOINT

STA 0+00
STA 237+45
SIDEROADS



PROPOSED GRAVEL RURAL DRIVEWAY INTERSECTION DETAIL



PROPOSED ASPHALT RURAL DRIVEWAY INTERSECTION DETAIL

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	DETAIL	SHEET 5	E

2

ALIGNMENT DATA CTH M

Tangent Data

Description	PT Station	Northing	Easting
Start:	0+00.000	314086.70	769801.55
End:	16+78.308	314852.38	771295.01

Tangent Data

Parameter	Value	Parameter	Value
Length:	1678.31	Course:	N 62° 51' 23.1223" E

Curve Point Data

Description	Station	Northing	Easting
PC:	16+78.308	314852.38	771295.01
PI:	20+81.32	313072.65	772207.46
PT:	24+73.674	315066.87	772055.48

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	22° 47' 08.0285"	Type:	RIGHT
Radius:	2000.00		
Length:	795.37	Tangent:	403.01
Mid-Ord:	39.41	External:	40.20
Chord:	790.14	Course:	N 74° 14' 57.1366" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	24+73.674	315066.87	772055.48
End:	27+59.803	315088.61	772340.78

Tangent Data

Parameter	Value	Parameter	Value
Length:	286.13	Course:	N 85° 38' 31.1508" E

Curve Point Data

Description	Station	Northing	Easting
PC:	27+59.803	315088.61	772340.78
PI:	33+73.06	317008.04	772194.51
PT:	39+47.189	315526.94	773424.12

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	35° 20' 29.0883"	Type:	LEFT
Radius:	1925.00		
Length:	1187.39	Tangent:	613.26
Mid-Ord:	90.83	External:	95.33
Chord:	1168.65	Course:	N 67° 58' 16.6067" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	39+47.189	315526.94	773424.12
End:	46+08.428	315949.31	773932.88

Tangent Data

Parameter	Value	Parameter	Value
Length:	661.24	Course:	N 50° 18' 02.0625" E

Curve Point Data

Description	Station	Northing	Easting
PC:	46+08.428	315949.31	773932.88
PI:	49+83.21	313641.09	775849.16
PT:	53+54.125	316349.80	774559.63

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	14° 14' 30.3007"	Type:	RIGHT
Radius:	3000.00		
Length:	745.70	Tangent:	374.78
Mid-Ord:	23.14	External:	23.32
Chord:	743.78	Course:	N 57° 25' 17.2129" E

ALIGNMENT DATA CTH M CONTINUED

Tangent Data

Description	PT Station	Northing	Easting
Start:	53+54.125	316349.80	774559.63
End:	64+51.100	316821.33	775550.09

Tangent Data

Parameter	Value	Parameter	Value
Length:	1096.98	Course:	N 64° 32' 32.3632" E

Curve Point Data

Description	Station	Northing	Easting
PC:	64+51.100	316821.33	775550.09
PI:	67+77.24	316080.95	775902.56
PT:	70+71.920	316861.17	776154.88

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	43° 22' 42.7053"	Type:	RIGHT
Radius:	820.00		
Length:	620.82	Tangent:	326.14
Mid-Ord:	58.05	External:	62.48
Chord:	606.10	Course:	N 86° 13' 53.7158" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	70+71.920	316861.17	776154.88
End:	124+44.351	315208.05	781266.65

Tangent Data

Parameter	Value	Parameter	Value
Length:	5372.43	Course:	S 72° 04' 44.9315" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	124+44.351	315208.05	781266.65
End:	158+89.738	314146.62	784544.46

Tangent Data

Parameter	Value	Parameter	Value
Length:	3445.39	Course:	S 72° 03' 24.4008" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	158+89.738	314146.62	784544.46
End:	191+95.387	313130.55	787690.08

Tangent Data

Parameter	Value	Parameter	Value
Length:	3305.65	Course:	S 72° 05' 56.0923" E

Curve Point Data

Description	Station	Northing	Easting
PC:	191+95.387	313130.55	787690.08
PI:	196+92.54	307706.49	785938.05
PT:	201+87.177	312745.33	788602.65

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	09° 58' 09.7172"	Type:	RIGHT
Radius:	5700.00		
Length:	991.79	Tangent:	497.15
Mid-Ord:	21.56	External:	21.64
Chord:	990.54	Course:	S 67° 06' 51.2337" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	201+87.177	312745.33	788602.65
End:	241+65.002	310885.80	792119.07

Tangent Data

Parameter	Value	Parameter	Value
Length:	3977.82	Course:	S 62° 07' 46.3751" E

DATE 07MAR16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8732-00-71 QUANTITY
0010	201.0105	Clearing	STA	238.000	238.000
0020	204.0110	Removing Asphaltic Surface	SY	60.000	60.000
0030	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,455.000	1,455.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	7,150.000	7,150.000
0050	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8732-00-71	LS	1.000	1.000
0060	213.0100	Finishing Roadway (project) 01. 8732-00-71	EACH	1.000	1.000
0070	325.0100	Pulverize and Relay	SY	73,335.000	73,335.000
0080	374.1020.S	QMP Pulverize and Relay Compaction	SY	73,335.000	73,335.000
0090	440.4410	Incentive IRI Ride	DOL	17,990.000	17,990.000
0100	455.0605	Tack Coat	GAL	7,820.000	7,820.000
0110	460.2000	Incentive Density HMA Pavement	DOL	9,350.000	9,350.000
0120	460.4000	HMA Cold Weather Paving	TON	3,650.000	3,650.000
0130	460.5223	HMA Pavement 3 LT 58-28 S	TON	8,210.000	8,210.000
0140	460.5244	HMA Pavement 4 LT 58-34 S	TON	6,390.000	6,390.000
0150	619.1000	Mobilization	EACH	1.000	1.000
0160	624.0100	Water	MGAL	520.000	520.000
0170	625.0100	Topsoil	SY	15,850.000	15,850.000
0180	627.0200	Mulching	SY	17,000.000	17,000.000
0190	628.1504	Silt Fence	LF	2,500.000	2,500.000
0200	628.1520	Silt Fence Maintenance	LF	2,500.000	2,500.000
0210	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0220	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0230	628.2006	Erosion Mat Urban Class I Type A	SY	1,000.000	1,000.000
0240	629.0205	Fertilizer Type A	CWT	11.000	11.000
0250	630.0120	Seeding Mixture No. 20	LB	460.000	460.000
0260	630.0200	Seeding Temporary	LB	460.000	460.000
0270	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	12.000	12.000
0280	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	14.000	14.000
0290	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	5.000	5.000
0300	637.2210	Signs Type II Reflective H	SF	92.660	92.660
0310	637.2230	Signs Type II Reflective F	SF	154.000	154.000
0320	638.2602	Removing Signs Type II	EACH	31.000	31.000
0330	638.3000	Removing Small Sign Supports	EACH	32.000	32.000
0340	642.5001	Field Office Type B	EACH	1.000	1.000
0350	643.0100	Traffic Control (project) 01. 8732-00-71	EACH	1.000	1.000
0360	643.0300	Traffic Control Drums	DAY	876.000	876.000
0370	643.0420	Traffic Control Barricades Type III	DAY	146.000	146.000
0380	643.0705	Traffic Control Warning Lights Type A	DAY	292.000	292.000
0390	643.0900	Traffic Control Signs	DAY	1,533.000	1,533.000
0400	646.0106	Pavement Marking Epoxy 4-Inch	LF	80,000.000	80,000.000
0410	648.0100	Locating No-Passing Zones	MI	4.497	4.497
0420	649.0403	Temporary Pavement Marking Epoxy 4-Inch	LF	5,700.000	5,700.000
0430	650.8000	Construction Staking Resurfacing Reference	LF	23,745.000	23,745.000
0440	650.9910	Construction Staking Supplemental Control (project) 01. 8732-00-71	LS	1.000	1.000
0450	690.0150	Sawing Asphalt	LF	205.000	205.000
0460	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0470	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0480	SPV.0195	Special 01. Special Base Aggregate Dense 3/4-Inch	TON	15,400.000	15,400.000

3

CLEARING

STATION	LOCATION	201.0105 STA
CTH M		
0+00 - 237+45	LT & RT	238
ITEM TOTAL		238

REMOVING ASPHALTIC SURFACE

STATION	LOCATION	204.0110 SY	204.0115 BUTT JOINTS SY	204.0120 MILLING SY
CTH M				
0+00	LT & RT		335	
215+00 - 236+45	LT & RT			7150
237+45	LT & RT		270	
DRIVEWAYS	LT & RT	60		
SIDE-ROADS				
CTH D	LT		405	
MCCAIN SPRINGS ROAD	RT		145	
NAMAKAGON SUNSET ROAD	LT		210	
OLD NAMAKAGON ROAD	LT		90	
ITEM TOTAL		60	1455	7150

ASPHALTIC PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.4000 HMA COLD WEATHER PAVING TON	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5244 HMA PAVEMENT 4 LT 58-34 S TON	REMARKS
CTH M						
0+00 - 237+45	LT & RT	7820	3650	8210	6390	INCLUDES DRIVEWAYS & INTERSECTIONS
ITEM TOTALS		7820	3650	8210	6390	

PREPARE FOUNDATION FOR ASPHALTIC PAVING (8732-00-71)

STATION - STATION	LOCATION	211.0100 LS
CTH M		
0+00 - 237+45	LT & RT	1
ITEM TOTAL		1

MOBILIZATION

STATION - STATION	619.1000 EACH
CTH M	
0+00 - 237+45	1
ITEM TOTAL	1

FINISHING ROADWAY (8732-00-71)

STATION - STATION	213.0100 EACH
CTH M	
0+00 - 237+45	1
ITEM TOTAL	1

TOPSOIL, MULCHING AND SEEDING

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0205 FERTILIZER TYPE A CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
CTH M						
0+00 - 237+45	LT & RT	15850	17000	11	460	460
ITEM TOTALS		15850	17000	11.00	460	460

SPECIAL BASE AGGREGATE DENSE 3/4-INCH

STATION - STATION	LOCATION	SPV.0195.01 TON	*624.0100 WATER MGAL	REMARKS
CTH M				
0+00 - 237+45	LT & RT	4000	40	FINISHED SHOULDER - INCLUDES SIDEROADS
UNDISTRIBUTED	LT & RT	11200	112	WEDGING & WIDENING
UNDISTRIBUTED	LT & RT	200	2	DRIVEWAYS
ITEM TOTALS		15400	154	

*ITEM LOCATED ELSEWHERE IN PLANS

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2006 EROSION MAT URBAN CLASS I TYPE A SY
CTH M				
UNDISTRIBUTED	LT & RT	2500	2500	1000
ITEM TOTALS		2500	2500	1000

PULVERIZE AND RELAY

STATION - STATION	LOCATION	325.0100 SY	374.1020.S QMP PULVERIZE AND RELAY COMPACTION SY	*624.0100 WATER MGAL
CTH M				
1+00 - 221+00	LT & RT	73335	73335	366
ITEM TOTAL		73335	73335	366

*ITEM LOCATED ELSEWHERE IN PLANS

MOBILIZATIONS EROSION CONTROL

STATION - STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
CTH M		
0+00 - 237+45	1	1
ITEM TOTALS	1	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PERMANENT SIGNING

SIGN GROUP CODE	SIGN CODE	MESSAGE	TYPE II SIZE	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0614 POSTS WOOD 4X6-INCH 14-FT EACH	634.0616 POSTS WOOD 4X6-INCH 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH 18-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1-1	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
1-2	J13-1	CTH D	24" X 45"	7.50			1		1	1	REPLACE
		ARROW RIGHT									REPLACE
1-3	W11-8	FIRE TRUCK CROSSING	36" X 36"		9.00		1		1	1	REPLACE
1-4	W11-6	SNOWMOBILE CROSSING	36" X 36"		9.00		1		1	1	REPLACE
1-5	J1-1	JCT	24" X 39"	6.50			1		1	1	REPLACE
		CTH D									
1-6	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
1-7	J13-1	CTH M	24" X 45"	7.50			1	1	1	2	REPLACE
		TWO DIRECTION ARROW									REPLACE
	W1-7	TWO DIRECTION LARGE ARROW	48" X 24"		8.00						REPLACE
1-8	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
1-9	M1-5A	CTH M	36" X 36"	9.00			1		1	1	REPLACE
1-10	W7-1	HILL SYMBOL	36" X 36"		9.00			1	1	1	REPLACE
	W7-3	6 % GRADE	24" X 18"		3.00						INSTALL
1-11	W1-5R	ROAD SHARP CURVES	36" X 36"		9.00		1		1	1	REPLACE
1-12	W11-3	DEER CROSSING							1	1	REMOVE
2-1	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
2-2	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
2-3	W11-6	SNOWMOBILE CROSSING	36" X 36"		9.00		1		1	1	REPLACE
2-4	S3-1	SCHOOL BUS STOP AHEAD	48" X 48"		16.00			1	1	1	REPLACE
3-1	W11-6	SNOWMOBILE CROSSING	36" X 36"		9.00		1		1	1	REPLACE
3-2	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
3-3	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
3-4	W1-2R	ROAD CURVES RIGHT	36" X 36"		9.00		1		1	1	REPLACE
3-5	W1-2L	ROAD CURVES LEFT	36" X 36"		9.00		1		1	1	REPLACE
3-6	S3-1	SCHOOL BUS STOP AHEAD	48" X 48"		16.00			1	1	1	REPLACE
3-7	W11-6	SNOWMOBILE CROSSING	36" X 36"		9.00		1		1	1	REPLACE
3-8	W11-6	SNOWMOBILE CROSSING	36" X 36"		9.00		1		1	1	REPLACE
3-9	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
5-1	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
5-2	W7-1	HILL SYMBOL	36" X 36"		9.00			1	1	1	REPLACE
	W7-3	6 % GRADE	24" X 18"		3.00						INSTALL
6-1	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
6-2	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
8-1	W1-2L	ROAD CURVES LEFT	36" X 36"		9.00		1		1	1	REPLACE
8-2	R1-1	STOP	30" X 30"	5.18		1			1	1	REPLACE
ITEM TOTALS				92.66	154.00	12	14	5	31	32	

FIELD OFFICE TYPE B

STATION - STATION	642.5001 EACH
CTH M	
0+00 - 237+45	1
ITEM TOTAL	1

TRAFFIC CONTROL

STATION - STATION	643.0100 PROJECT (8732-00-71) EACH	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS DAY
CTH M					
12+00 - 51+60	1	876	146	292	1533
ITEM TOTAL	1	876	146	292	1533

PAVEMENT MARKING

STATION	LOCATION	646.0106 EPOXY 4-INCH LF	649.0403 TEMPORARY PAVEMENT MARKING PAINT 4-INCH LF	REMARKS
CTH M				
0+00 - 237+45	LT & RT	46600		WHITE EDGELINE
0+00 - 237+45	~	21000		DOUBLE YELLOW
0+00 - 237+45	~	11300		SOLID YELLOW W/ SKIPS
0+00 - 237+45	~	1100	5700	YELLOW SKIPS
ITEM TOTALS		80000	5700	

LOCATING NO-PASSING ZONES

STATION	LOCATION	648.0100 MI
CTH M		
0+00 - 237+45	LT & RT	4.497
ITEM TOTAL		4.497

CONSTRUCTION STAKING

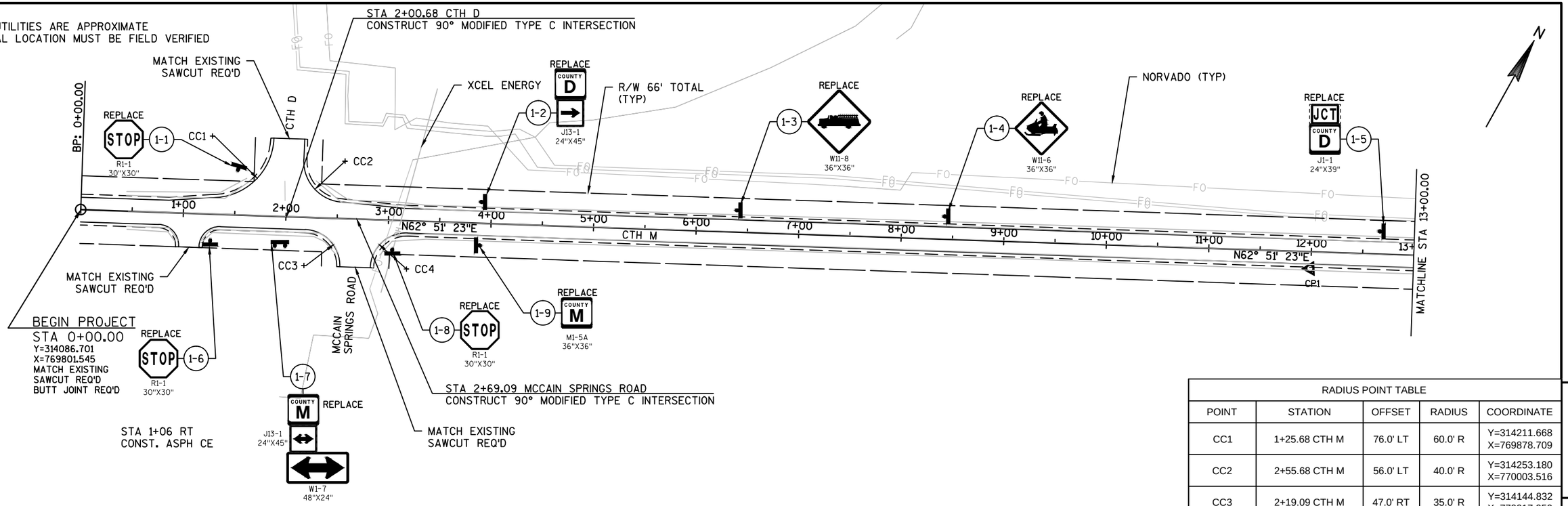
STATION - STATION	LOCATION	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL (8732-00-71) LS
CTH M			
0+00 - 237+45	LT & RT	23745	1
ITEM TOTALS		23745	1

SAWING ASPHALT

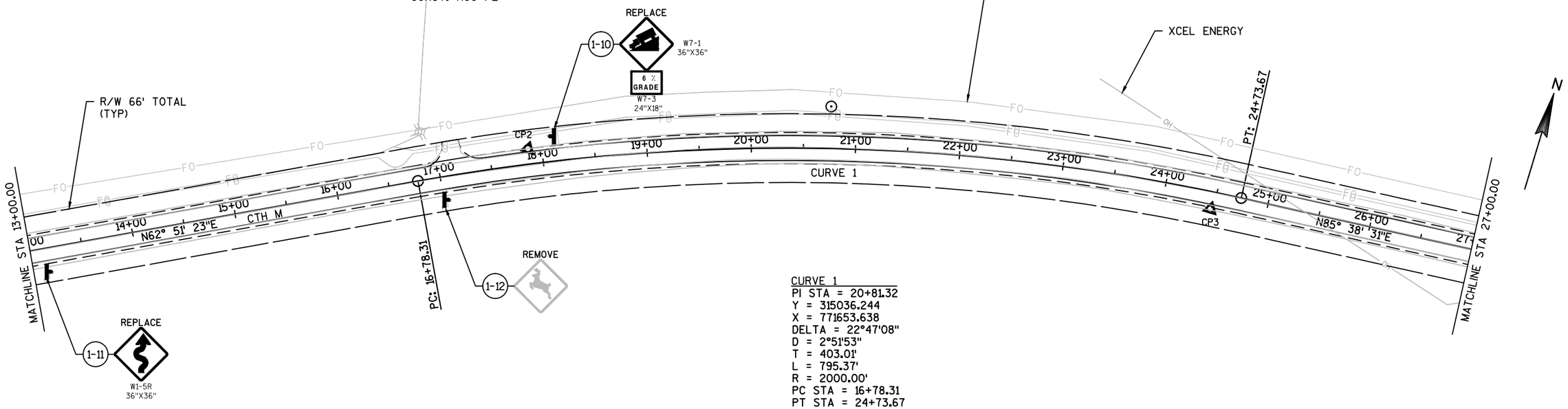
STATION - STATION	LOCATION	690.0150 LF
CTH M		
0+00	LT & RT	24
237+45	LT & RT	24
DRIVEWAYS	LT & RT	20
SIDE-ROADS		
CTH D	LT	30
MCCAIN SPRINGS ROAD	RT	30
NAMAKAGON SUNSET ROAD	LT	50
OLD NAMAKAGON ROAD	LT	27
ITEM TOTAL		205

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATE
CC1	1+25.68 CTH M	76.0' LT	60.0' R	Y=314211.668 X=769878.709
CC2	2+55.68 CTH M	56.0' LT	40.0' R	Y=314253.180 X=770003.516
CC3	2+19.09 CTH M	47.0' RT	35.0' R	Y=314144.832 X=770017.950
CC4	3+19.09 CTH M	47.0' RT	35.0' R	Y=314190.455 X=770106.937



CURVE 1
PI STA = 20+81.32
Y = 315036.244
X = 771653.638
DELTA = 22°47'08"
D = 2°51'53"
T = 403.01'
L = 795.37'
R = 2000.00'
PC STA = 16+78.31
PT STA = 24+73.67

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 10	E

FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050201-PN
PLOT DATE : 1/26/2016 11:35 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

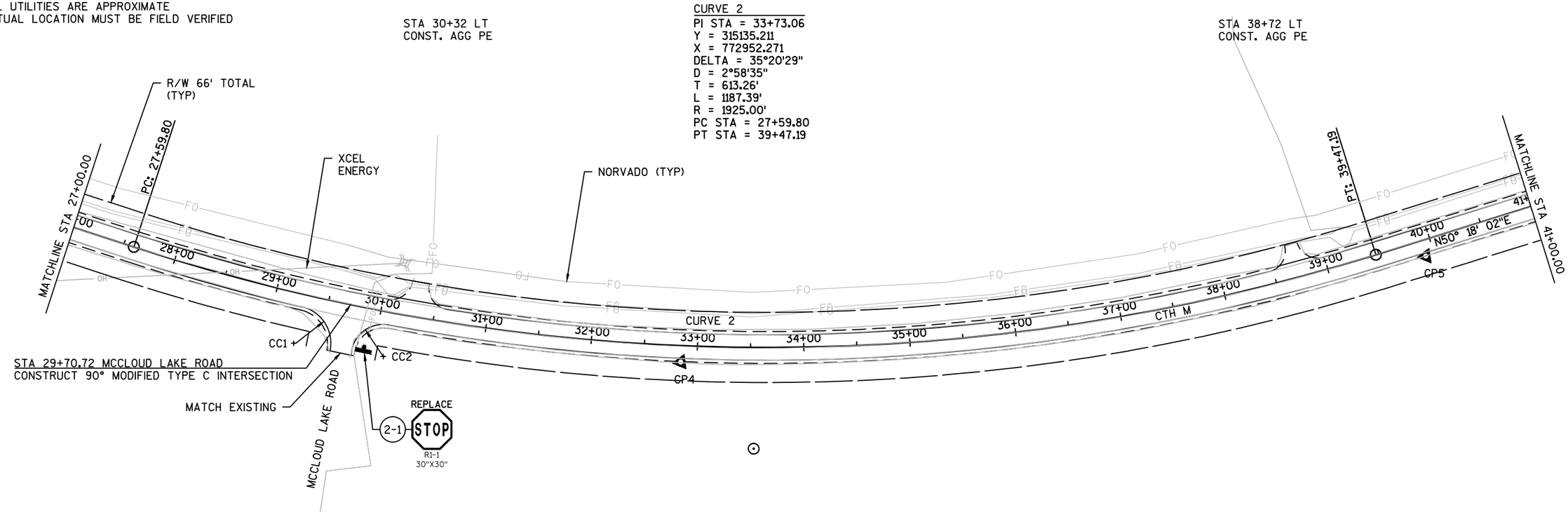
WISDOT/CADDS SHEET 44

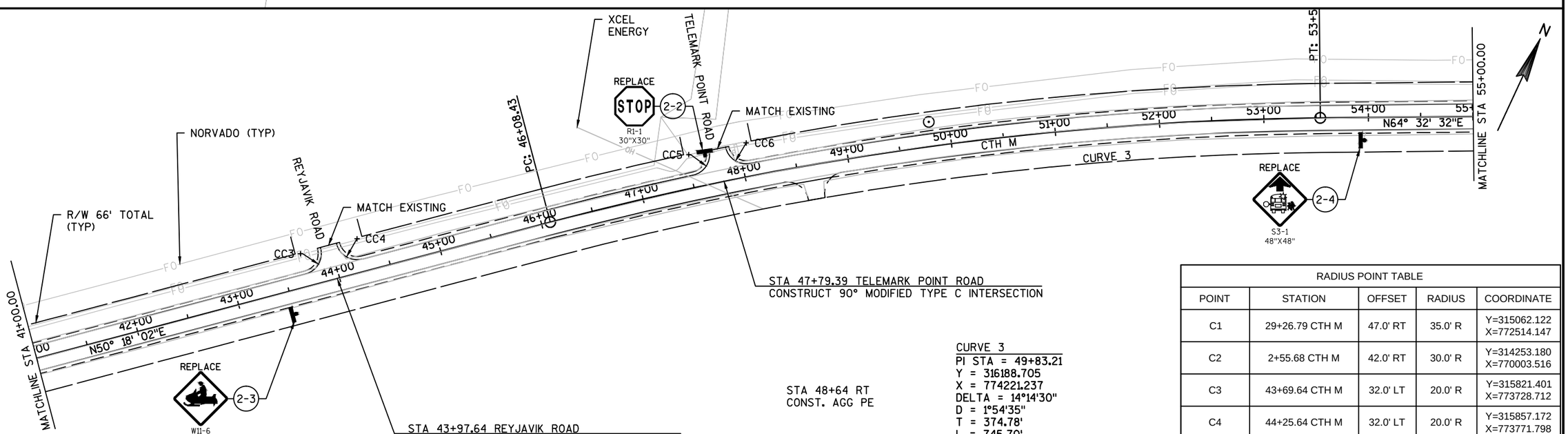
ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED

STA 30+32 LT
CONST. AGG PE

CURVE 2
PI STA = 33+73.06
Y = 315135.211
X = 772952.271
DELTA = 35°20'29"
D = 2°58'35"
T = 613.26'
L = 1187.39'
R = 1925.00'
PC STA = 27+59.80
PT STA = 39+47.19

STA 38+72 LT
CONST. AGG PE





STA 48+64 RT
CONST. AGG PE

CURVE 3
PI STA = 49+83.21
Y = 316188.705
X = 774221.237
DELTA = 14°14'30"
D = 1°54'35"
T = 374.78'
L = 745.70'
R = 3000.00'
PC STA = 46+08.43
PT STA = 53+54.12

RADIUS POINT TABLE

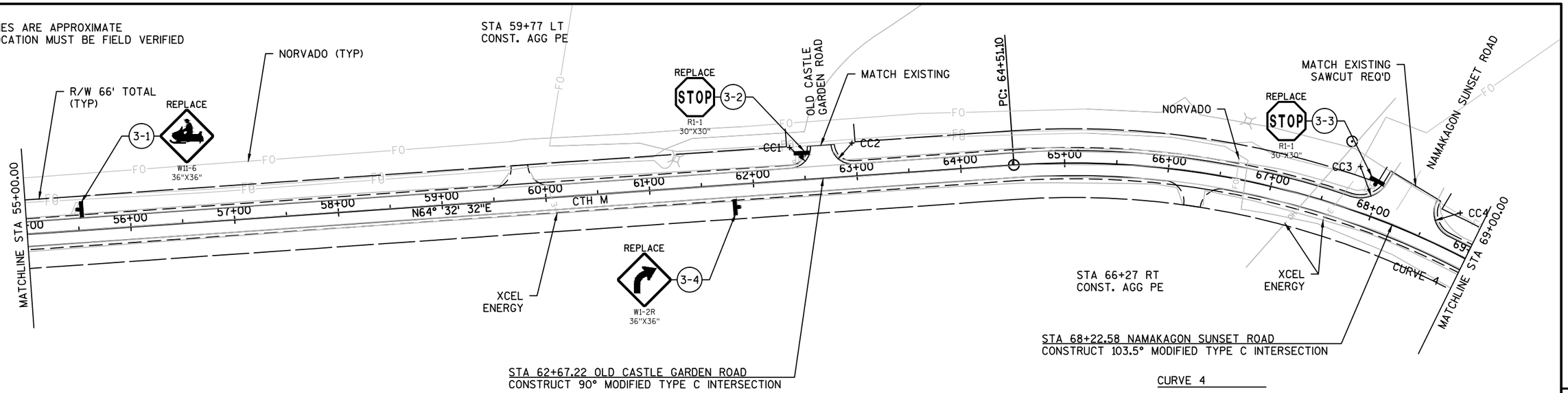
POINT	STATION	OFFSET	RADIUS	COORDINATE
C1	29+26.79 CTH M	47.0' RT	35.0' R	Y=315062.122 X=772514.147
C2	2+55.68 CTH M	42.0' RT	30.0' R	Y=314253.180 X=770003.516
C3	43+69.64 CTH M	32.0' LT	20.0' R	Y=315821.401 X=773728.712
C4	44+25.64 CTH M	32.0' LT	20.0' R	Y=315857.172 X=773771.798
C5	47+51.69 CTH M	32.0' LT	20.0' R	Y=316063.721 X=774026.004
C6	48+07.10 CTH M	32.0' LT	20.0' R	Y=316096.980 X=774071.059

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 11	E

FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050202-PN
PLOT DATE : 1/26/2016 11:35 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

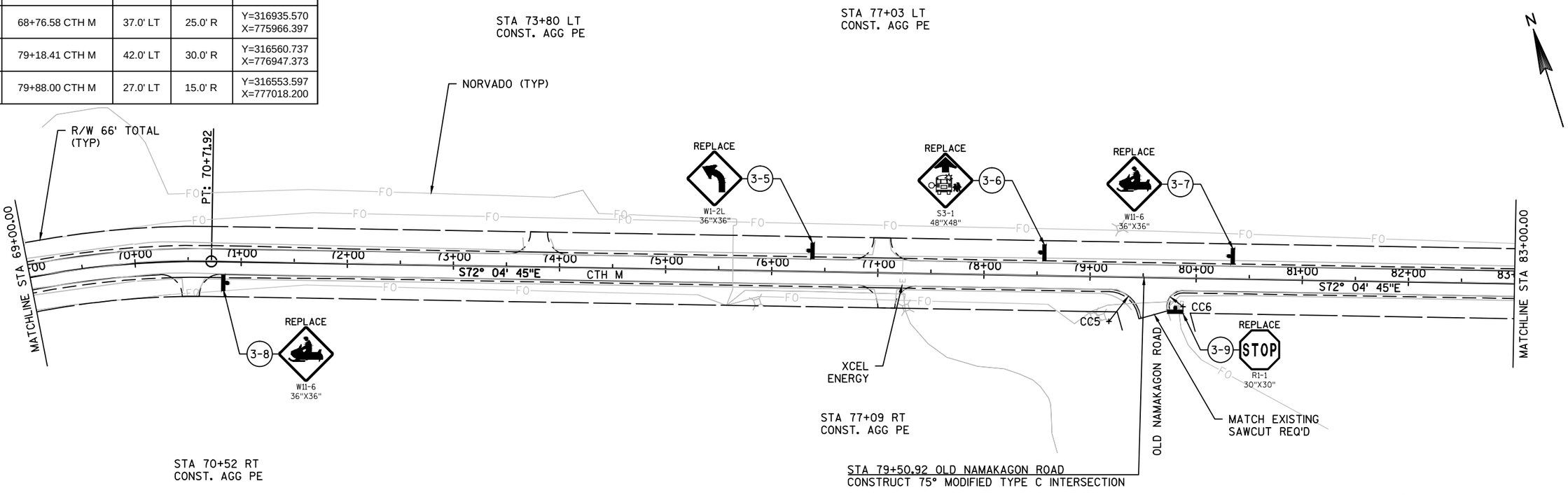
ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED



CURVE 4

PI STA = 67+77.24
Y = 316961.520
X = 775844.562
DELTA = 43°22'43"
D = 6°59'14"
T = 326.14'
L = 620.82'
R = 820.00'
PC STA = 64+51.10
PT STA = 70+71.92

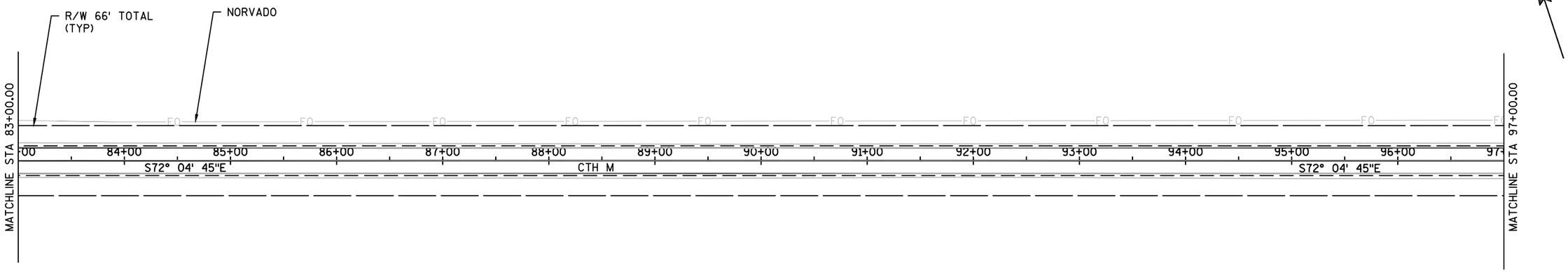
RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATE
CC1	63+37.22 CTH M	32.0' LT	20.0' R	Y=316758.288 X=775343.219
CC2	62+97.22 CTH M	32.0' LT	20.0' R	Y=316784.078 X=775397.393
CC3	67+75.84 CTH M	42.0' LT	30.0' R	Y=316941.946 X=775860.951
CC4	68+76.58 CTH M	37.0' LT	25.0' R	Y=316935.570 X=775966.397
CC5	79+18.41 CTH M	42.0' LT	30.0' R	Y=316560.737 X=776947.373
CC6	79+88.00 CTH M	27.0' LT	15.0' R	Y=316553.597 X=777018.200



PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 12	E

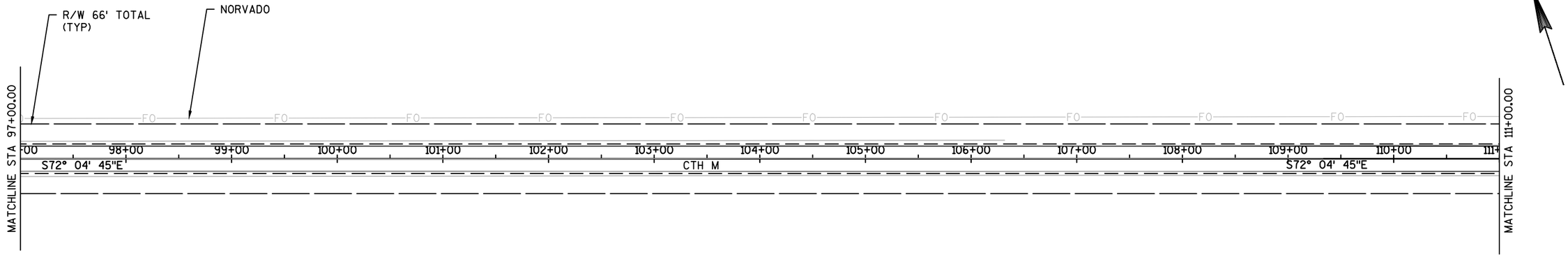
FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050203-PN
PLOT DATE : 1/26/2016 11:35 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED



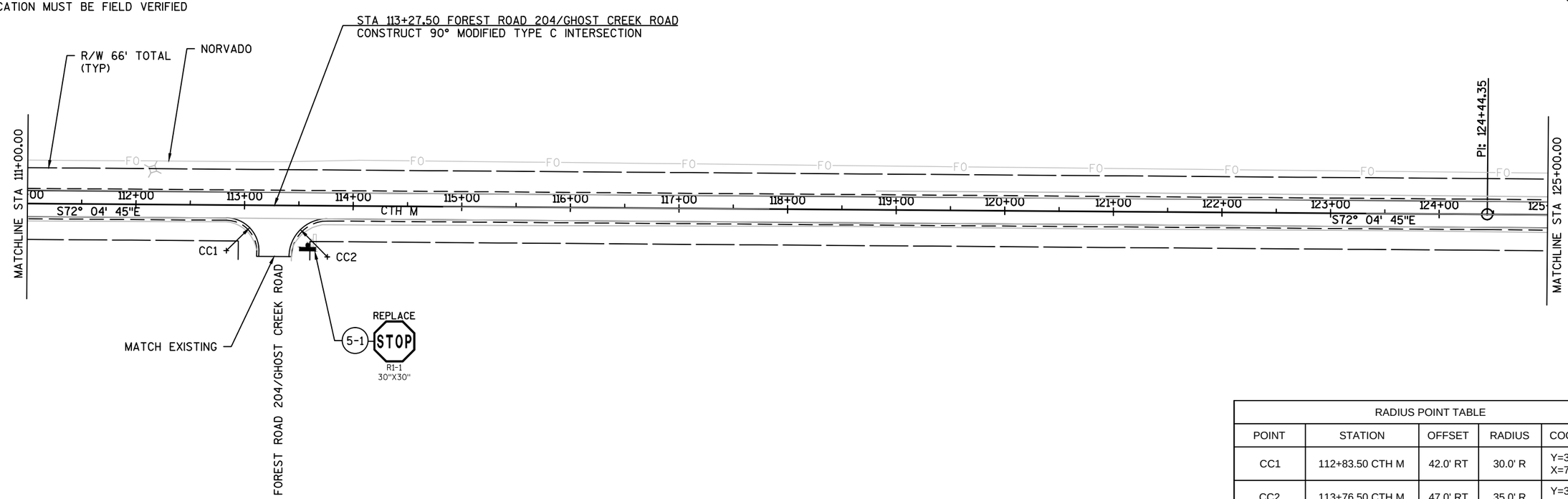
5

5

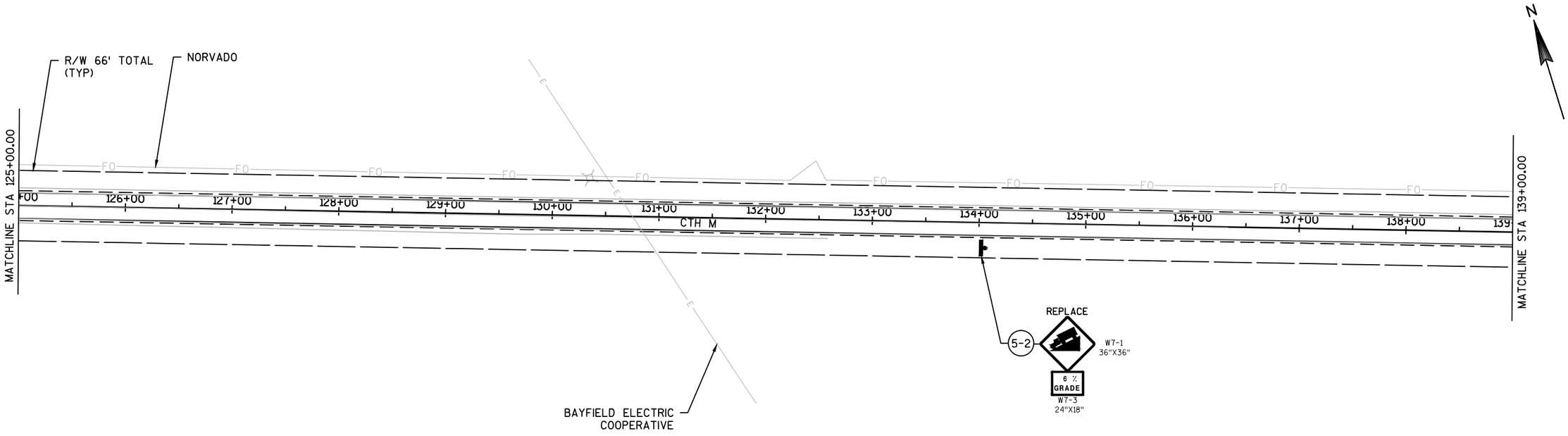


PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 13	E

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED



RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATE
CC1	112+83.50 CTH M	42.0' RT	30.0' R	Y=315525.290 X=780149.195
CC2	113+76.50 CTH M	47.0' RT	35.0' R	Y=315491.916 X=780236.144



PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 14	E

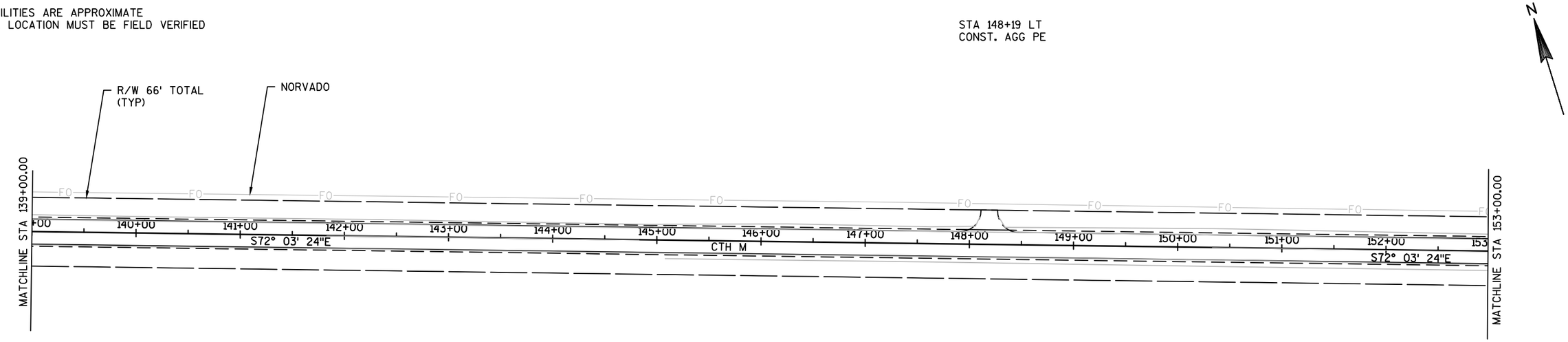
FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050205-PN

PLOT DATE : 1/26/2016 11:35 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

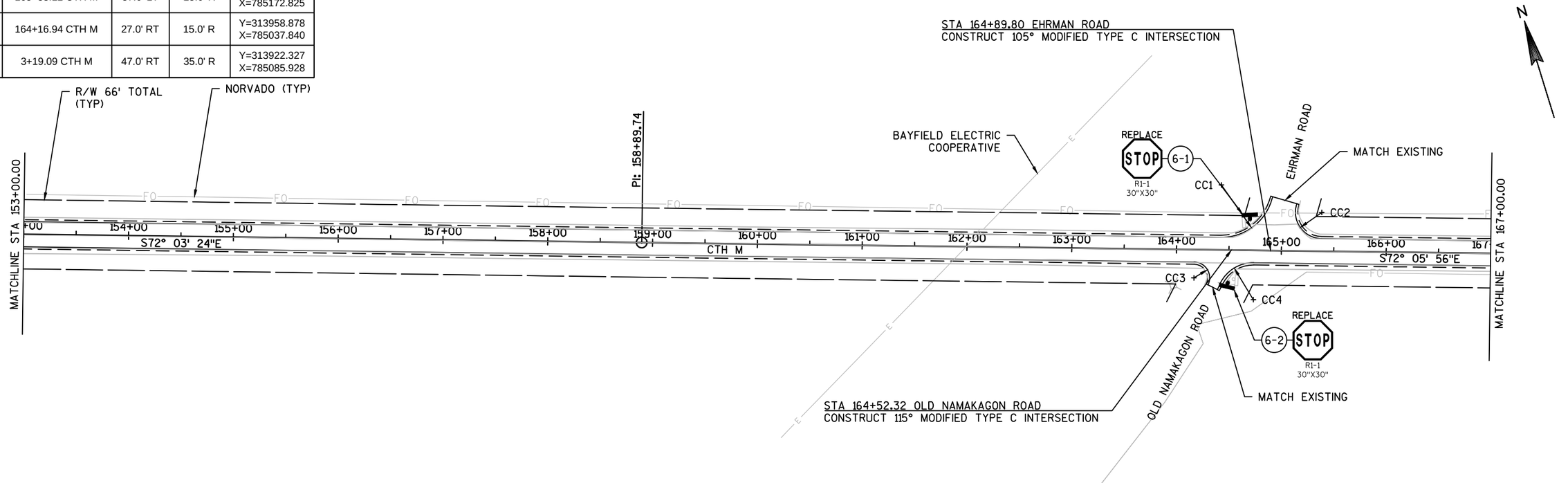
WISDOT/CADDS SHEET 44

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED

STA 148+19 LT
CONST. AGG PE

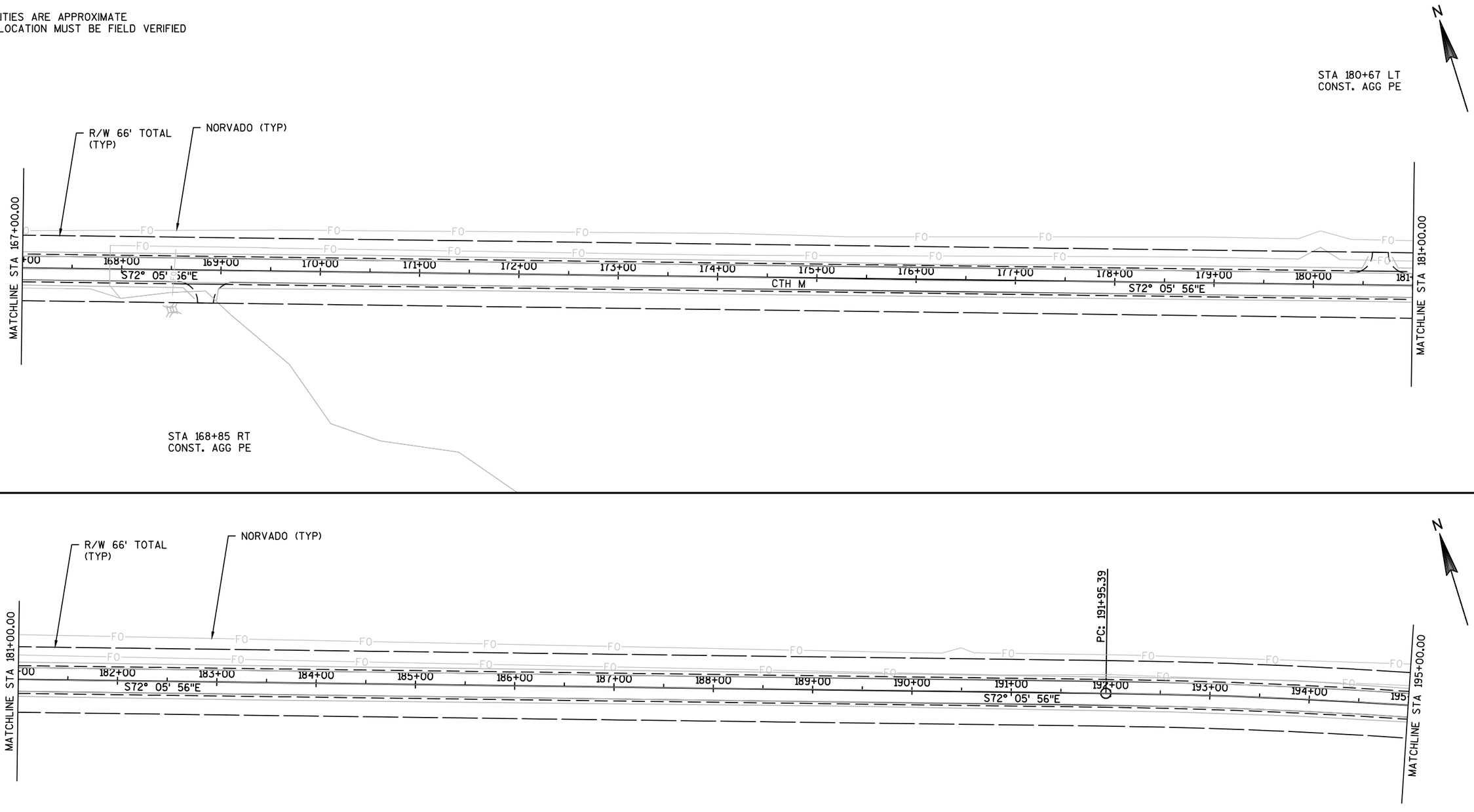


RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATE
CC1	164+42.09 CTH M	62.0' LT	50.0' R	Y=314035.837 X=785089.133
CC2	165+38.12 CTH M	37.0' LT	25.0' R	Y=313982.532 X=785172.825
CC3	164+16.94 CTH M	27.0' RT	15.0' R	Y=313958.878 X=785037.840
CC4	3+19.09 CTH M	47.0' RT	35.0' R	Y=313922.327 X=785085.928



PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 15	E

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED



PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 16	E

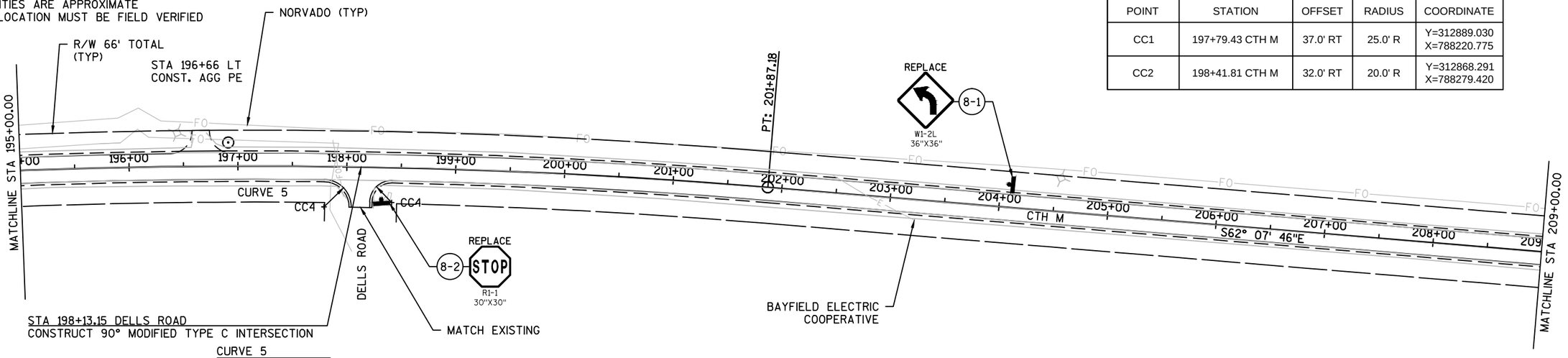
FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050207-PN

PLOT DATE : 1/26/2016 11:35 AM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

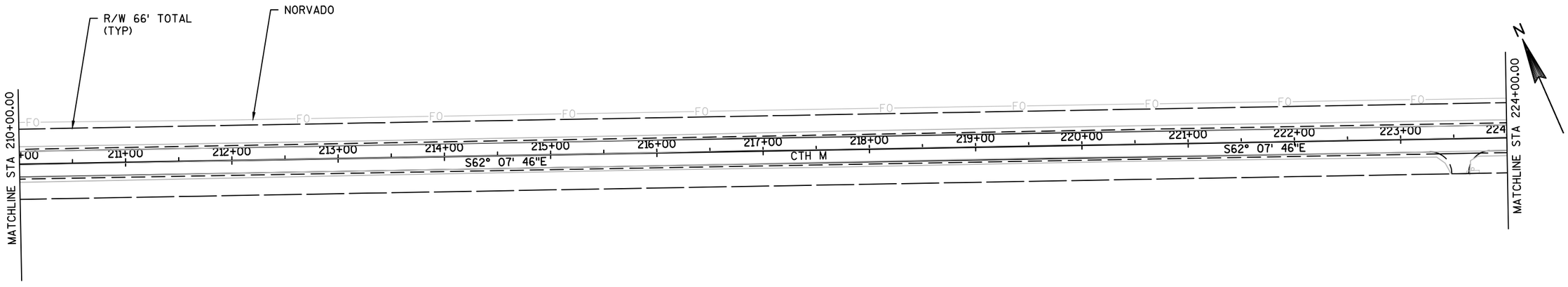
WISDOT/CADDS SHEET 44

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED

RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATE
CC1	197+79.43 CTH M	37.0' RT	25.0' R	Y=312889.030 X=788220.775
CC2	198+41.81 CTH M	32.0' RT	20.0' R	Y=312868.291 X=788279.420



CURVE 5
PI STA = 196+92.54
Y = 312977.734
X = 788163.163
DELTA = 9°58'10"
D = 1°00'19"
T = 497.15'
L = 991.79'
R = 5700.00'
PC STA = 191+95.39
PT STA = 201+87.18

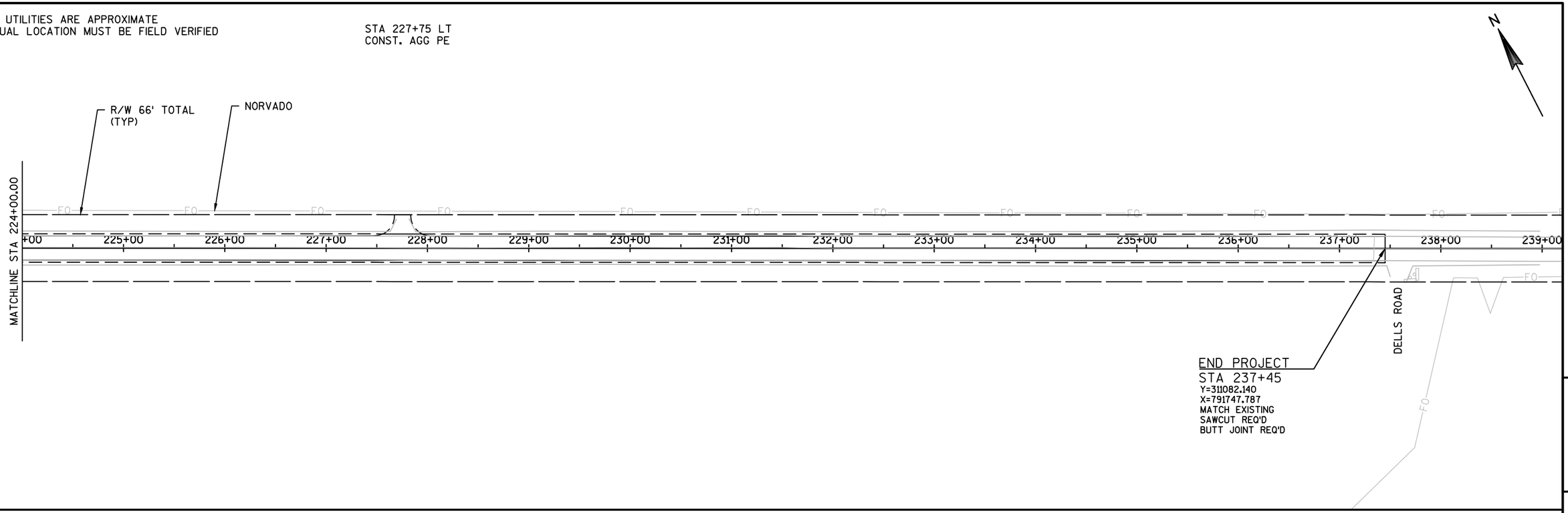


STA 223+56 RT
CONST. AGG PE

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 17	E

ALL UTILITIES ARE APPROXIMATE
ACTUAL LOCATION MUST BE FIELD VERIFIED

STA 227+75 LT
CONST. AGG PE



5

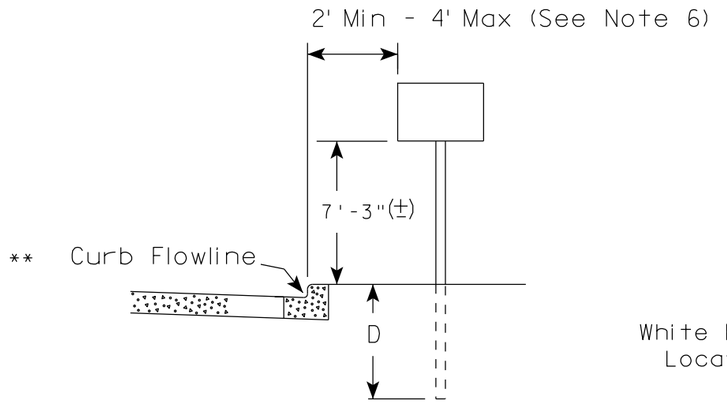
5

PROJECT NO: 8732-00-71	HWY: CTH M	COUNTY: BAYFIELD	PLAN	SHEET 18	E

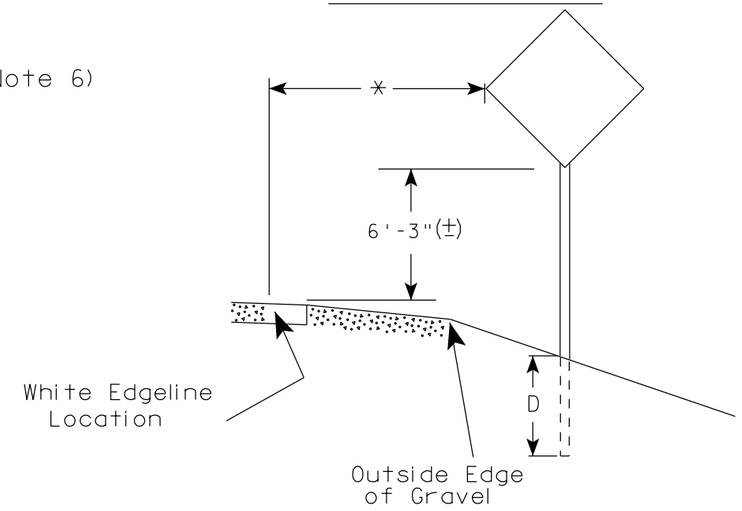
FILE NAME : P:\AE\B\BAYFC\133870\C3D\87320071\SHEETSPLAN\050201 PN.DWG
LAYOUT NAME - 050201 PN - 050209-PN

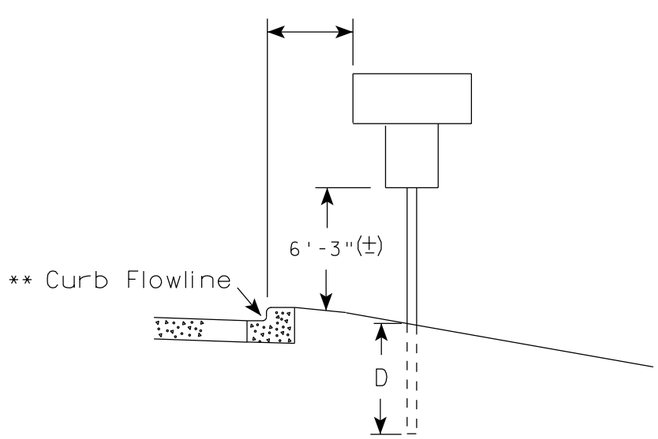
PLOT DATE : 1/26/2016 12:19 PM PLOT BY : SEH PLOT NAME : PLOT SCALE : 1 IN:100 FT

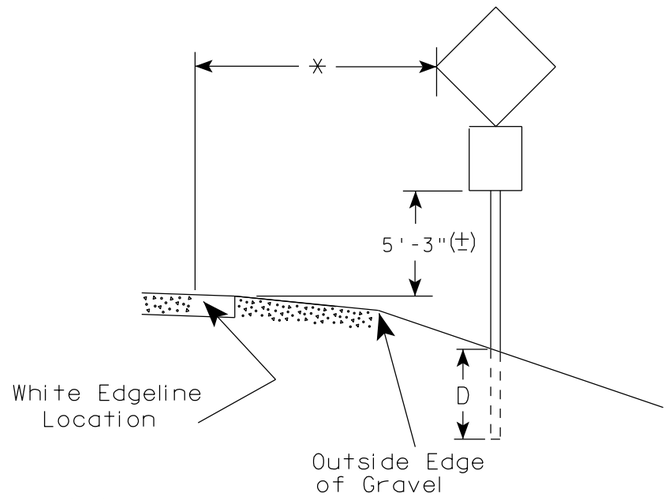
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

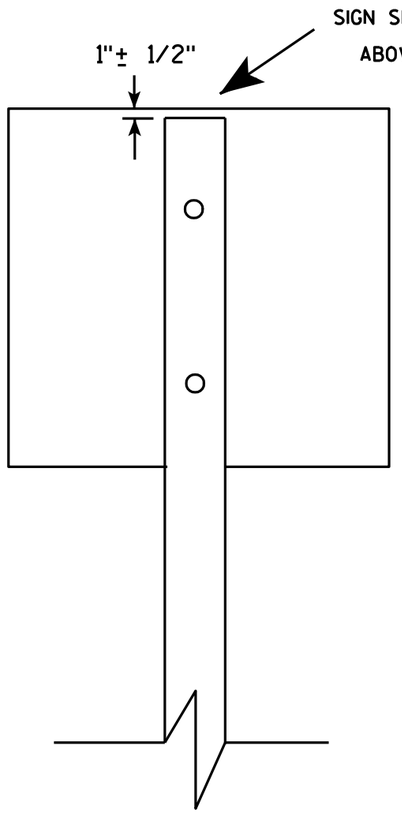
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

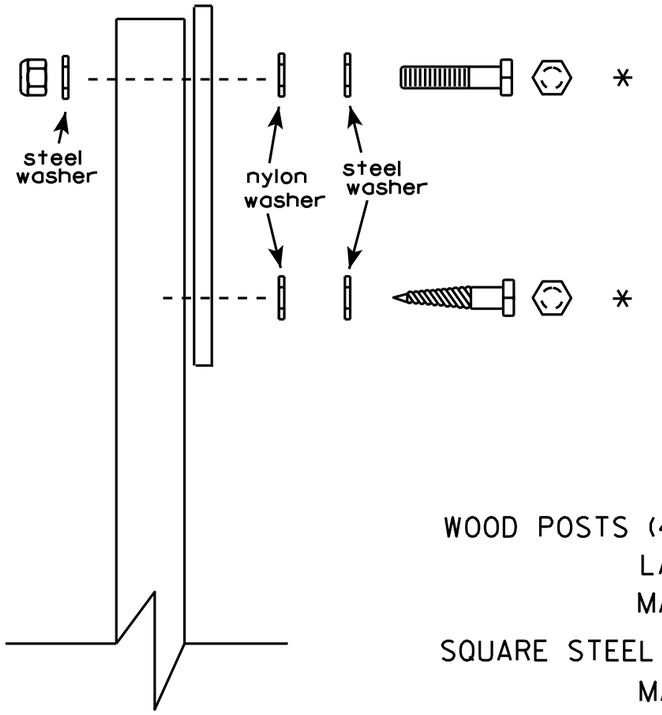
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

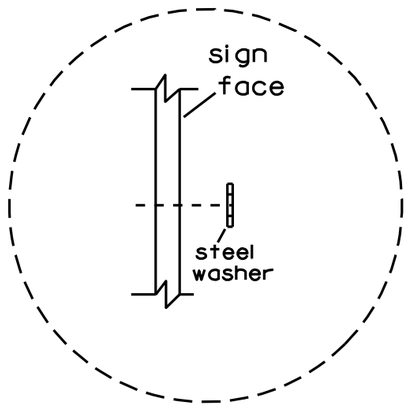
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

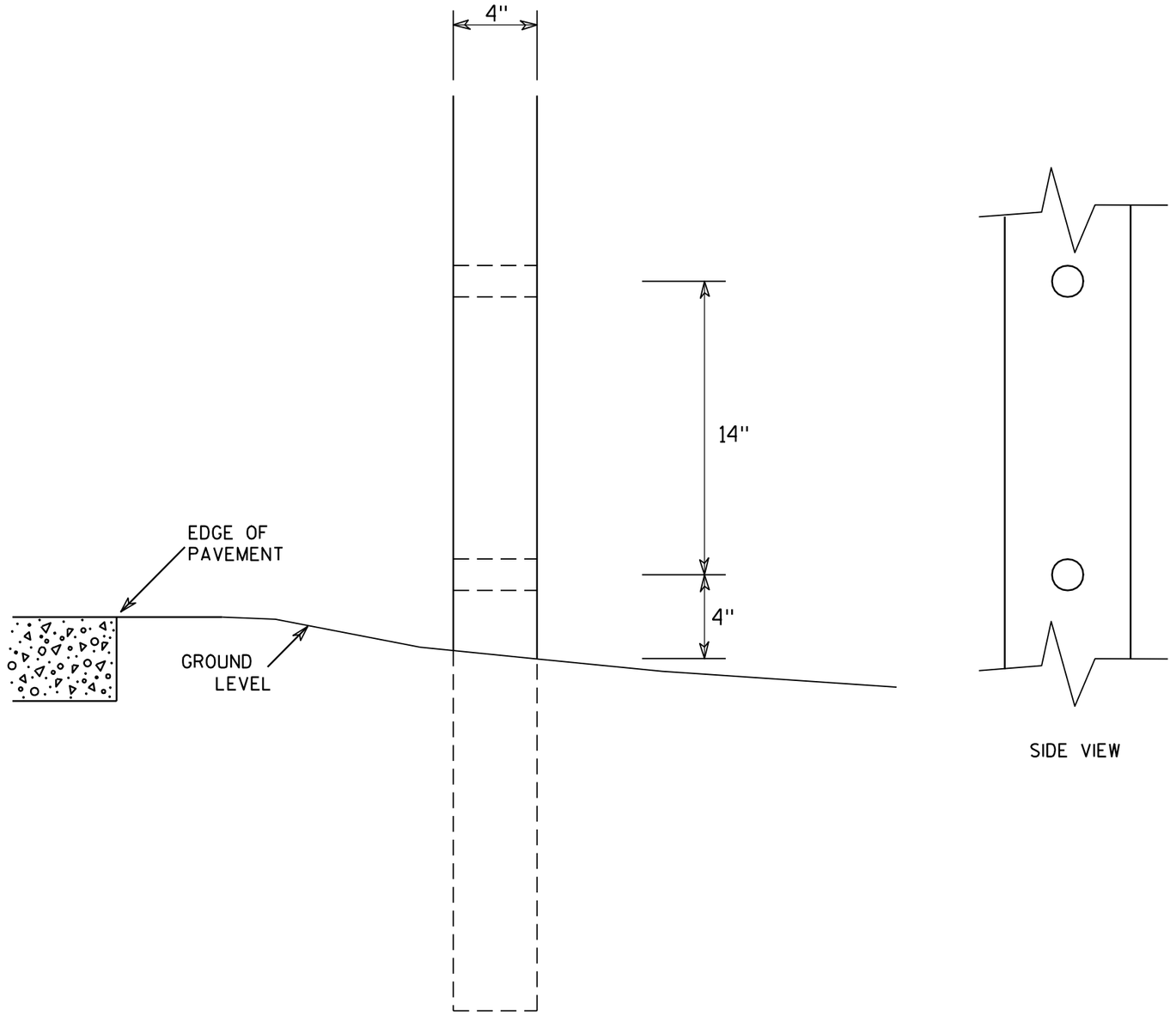
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO: | SHEET NO: 20 | E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

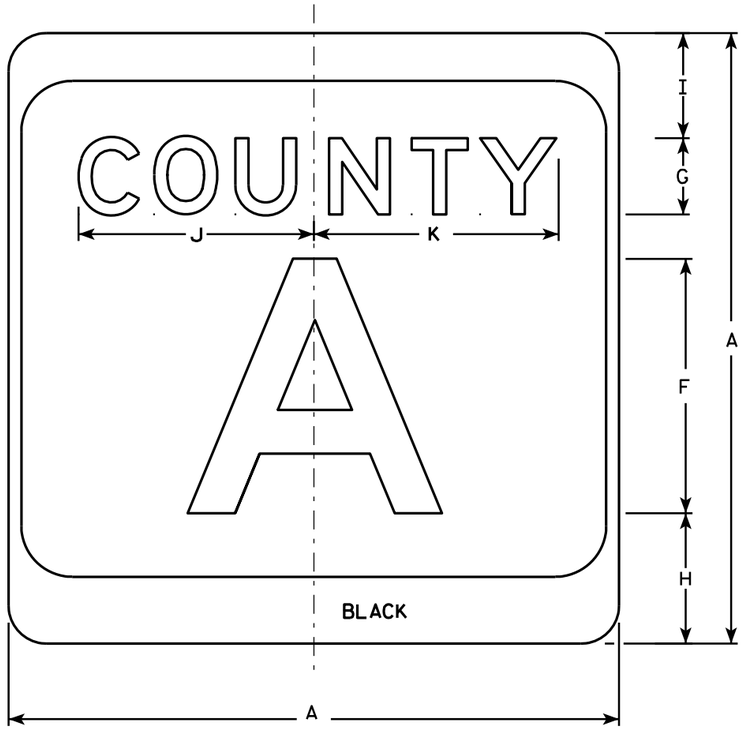
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

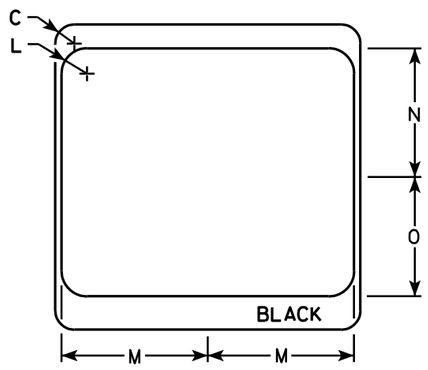
APPROVED Chester J Spang for State Traffic Engineer

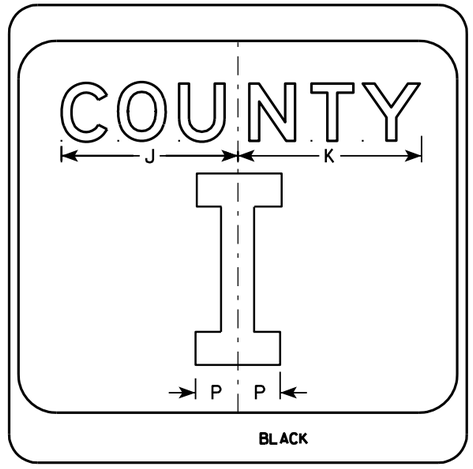
DATE 3/27/97 PLATE NO. A4-11.2

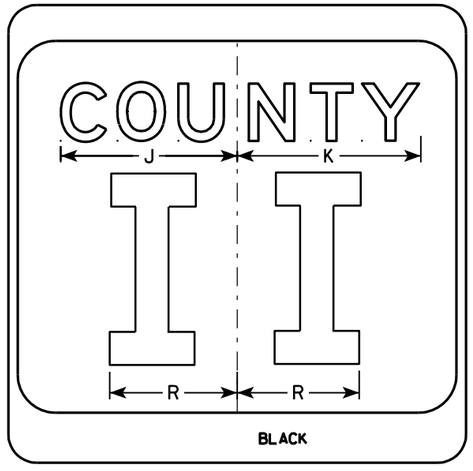
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

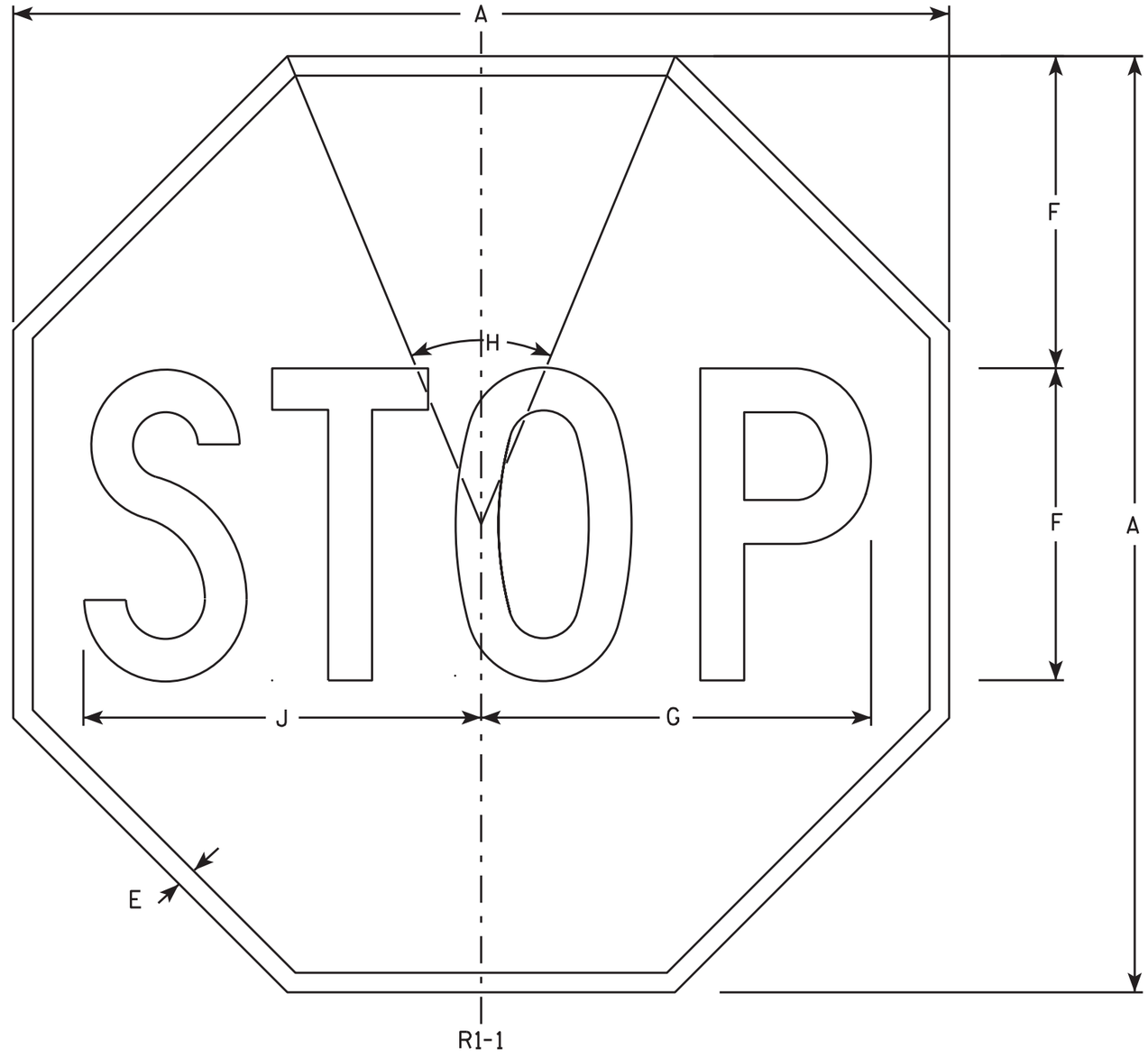
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

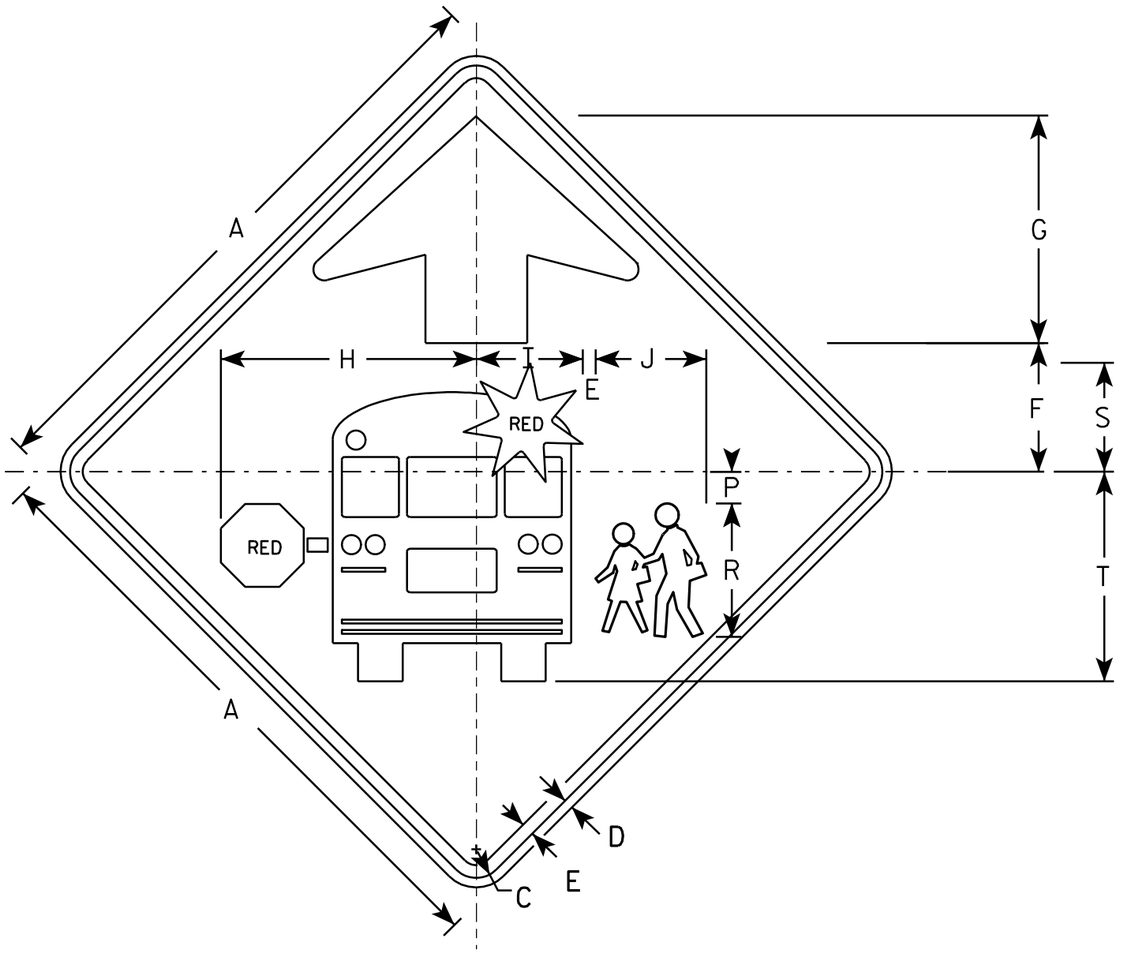
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO.	E

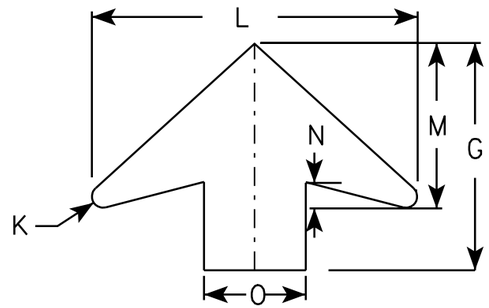
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 12-NOV-2015 10:32 PLOT BY : ss...plotuser...ss PLOT NAME : PLOT SCALE : 6.977666:1.000000 WISDOT/CADDS SHEET 42



S3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW-GREEN
   Message - BLACK except as noted
   Circles except PEDS- RED BACKGROUND
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	12 1/2	5 1/4	5 1/2	1/2	16	8	1 1/4	5	1 1/2		6 5/8	5 3/8	10 3/8							6.25
2	36		1 5/8	5/8	3/4	7 1/2	13 1/2	15 1/8	6 1/4	6 1/2	5/8	19 1/4	9 3/4	1 5/8	6	1 7/8		7 7/8	6 3/8	12 3/8							9.0
3	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
4	48		2 1/4	3/4	1	10	17 7/8	20 1/8	8 3/8	8 3/4	7/8	25 5/8	13	2	8	2 1/2		10 1/2	8 1/2	16 1/2							16.0
5																											

STANDARD SIGN
S3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

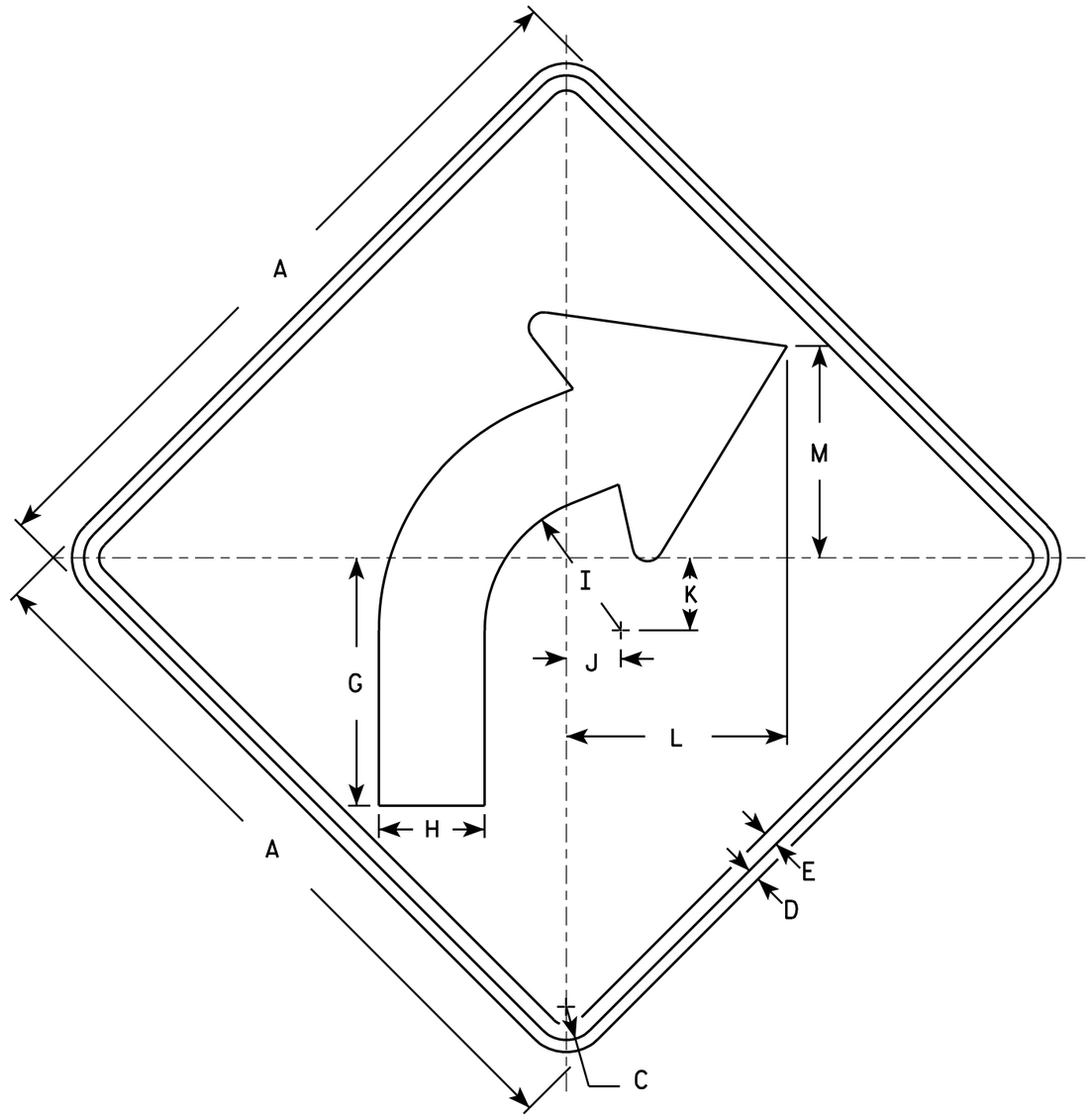
DATE 6/8/10 PLATE NO. S3-1.6

PROJECT NO:

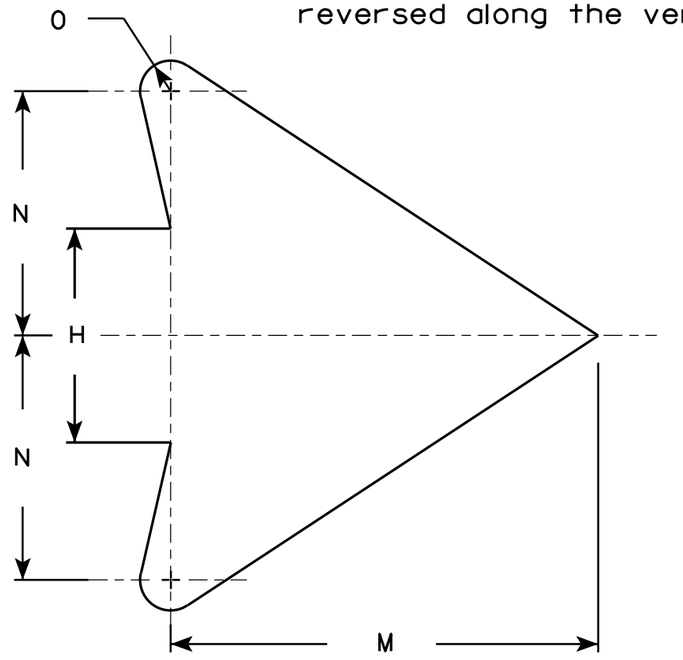
SHEET NO: 24 E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

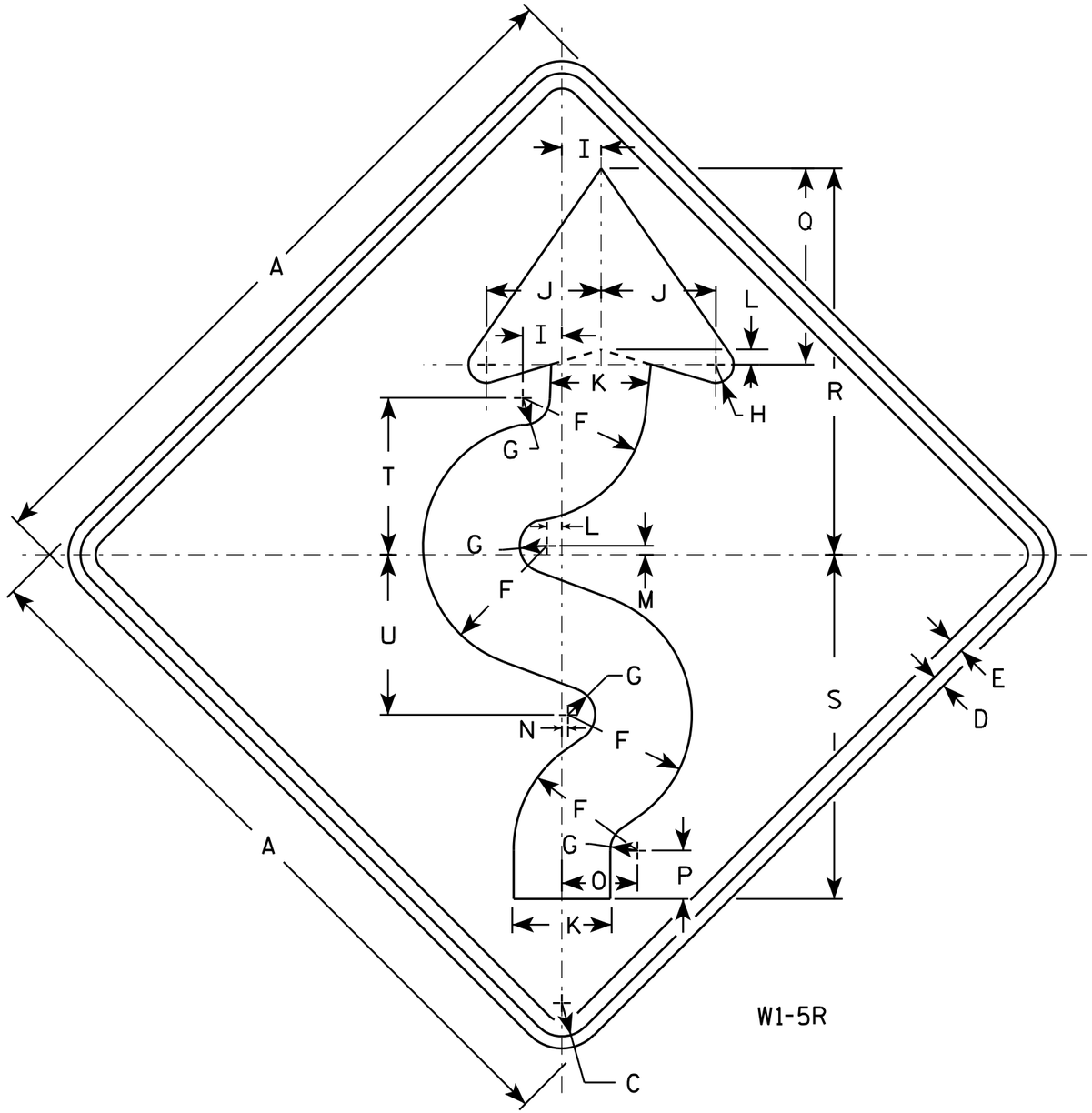
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 25	E



W1-5R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-5L is the same as W1-5R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4 1/8	7/8	5/8	1 1/4	3 3/4	3 1/4	1/2	1/4	1/8	2 1/2	1 5/8	6 1/2	12 3/4	11 3/8	5 1/4	5 1/4						4.0
2S	30		1 3/8	1/2	5/8	5 1/8	1 1/8	3/4	1 5/8	4 3/4	4 1/8	5/8	3/8	1/4	3 1/8	2	8 1/8	16	14 1/4	6 1/2	6 5/8						6.25
2M	36		1 5/8	5/8	3/4	6 1/4	1 3/8	1	1 7/8	5 5/8	4 7/8	3/4	3/8	1/4	3 3/4	2 7/8	9 3/4	19 1/8	17 1/8	7 3/4	7 7/8						9.0
3	36		1 5/8	5/8	3/4	6 1/4	1 3/8	1	1 7/8	5 5/8	4 7/8	3/4	3/8	1/4	3 3/4	2 7/8	9 3/4	19 1/8	17 1/8	7 3/4	7 7/8						9.0
4	36		1 5/8	5/8	3/4	6 1/4	1 3/8	1	1 7/8	5 5/8	4 7/8	3/4	3/8	1/4	3 3/4	2 7/8	9 3/4	19 1/8	17 1/8	7 3/4	7 7/8						9.0
5	48		2 1/4	3/4	1	8 1/4	1 3/4	1 1/4	2 1/2	7 1/2	6 1/2	1	1/2	3/8	5	3 1/4	13	25 1/2	22 3/4	10 3/8	10 1/2						16.0

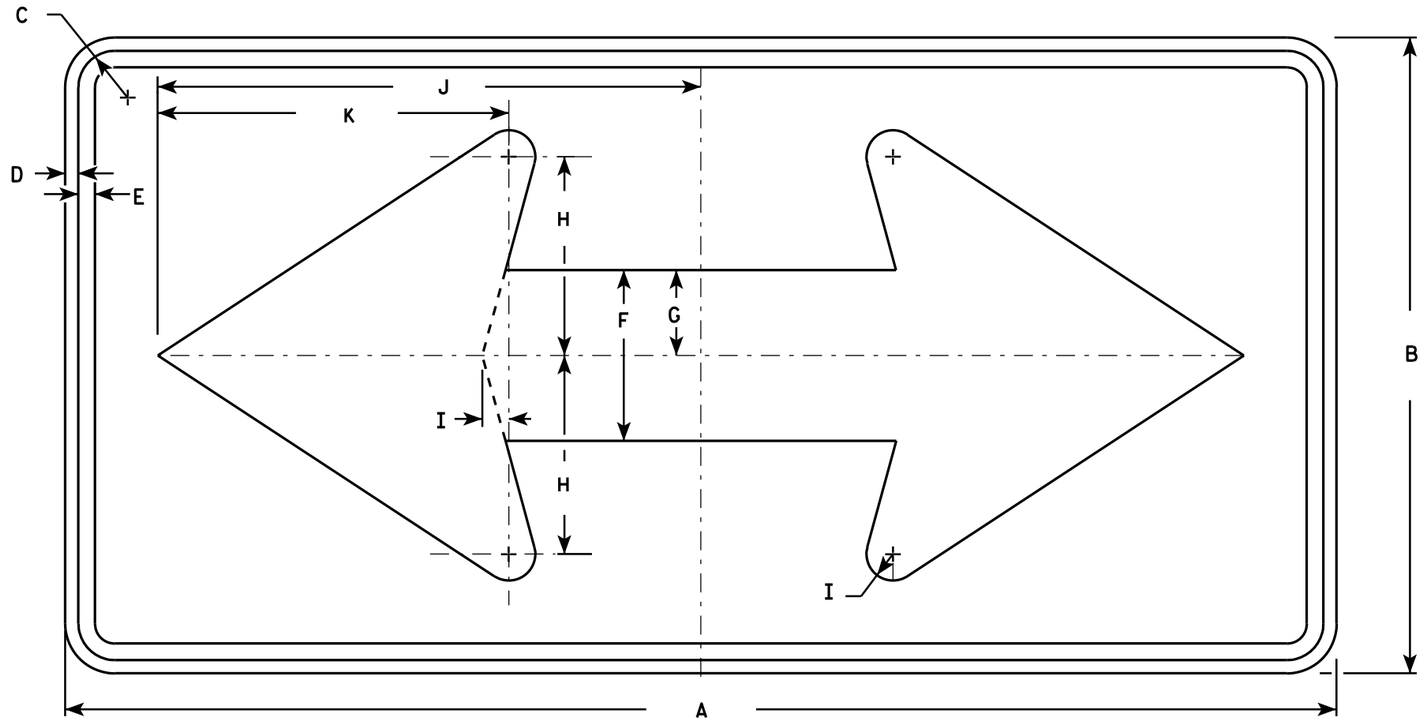
STANDARD SIGN
W1-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/18/12 PLATE NO. W1-5.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 26 | E



W1-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

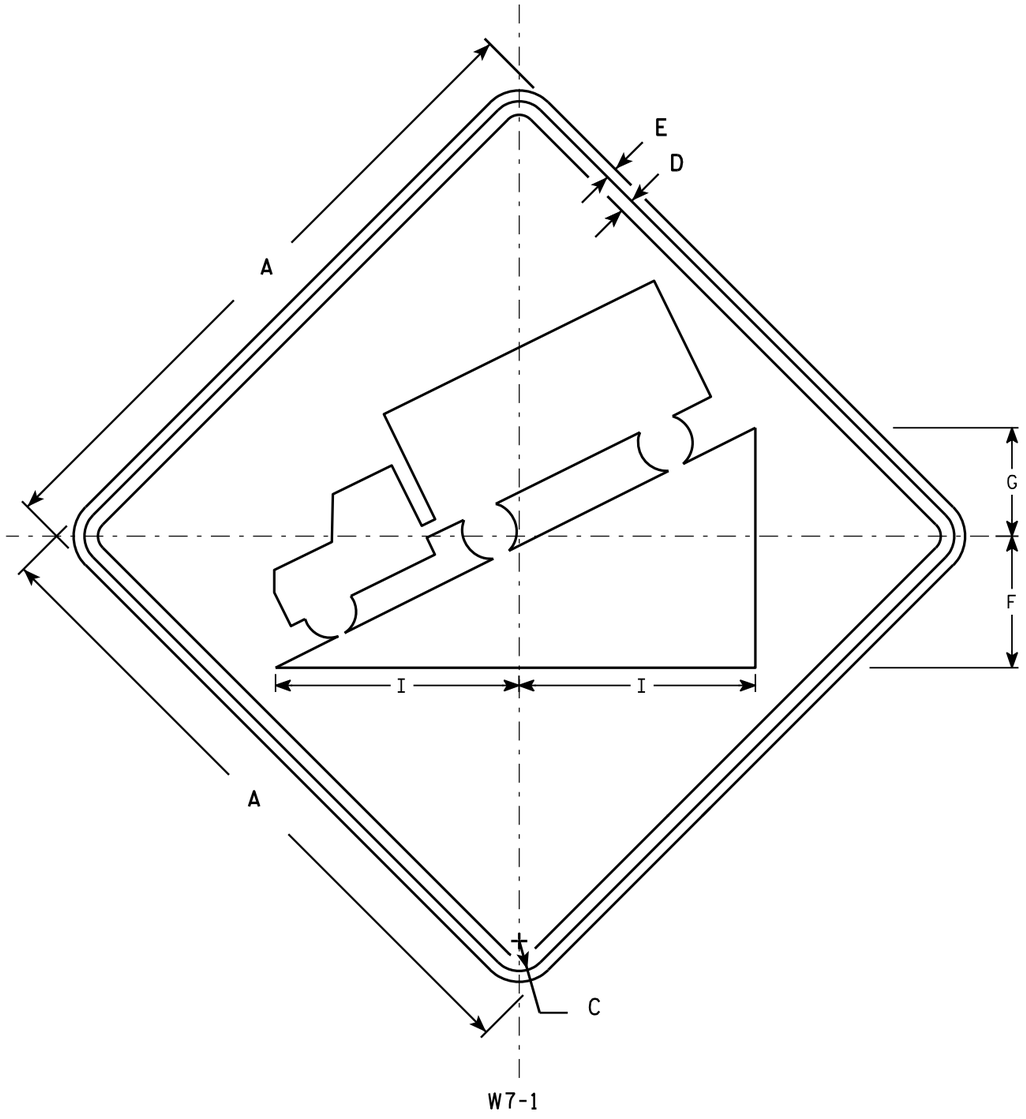
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 27 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	3/8	5	4		8 3/4																		4.0
2S	30		1 3/8	1/2	5/8	6	5		11																		6.25
2M	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
3	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
4	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
5	48		2 1/4	3/4	1	9 3/4	8		17 1/2																		16.0

STANDARD SIGN
W7-1

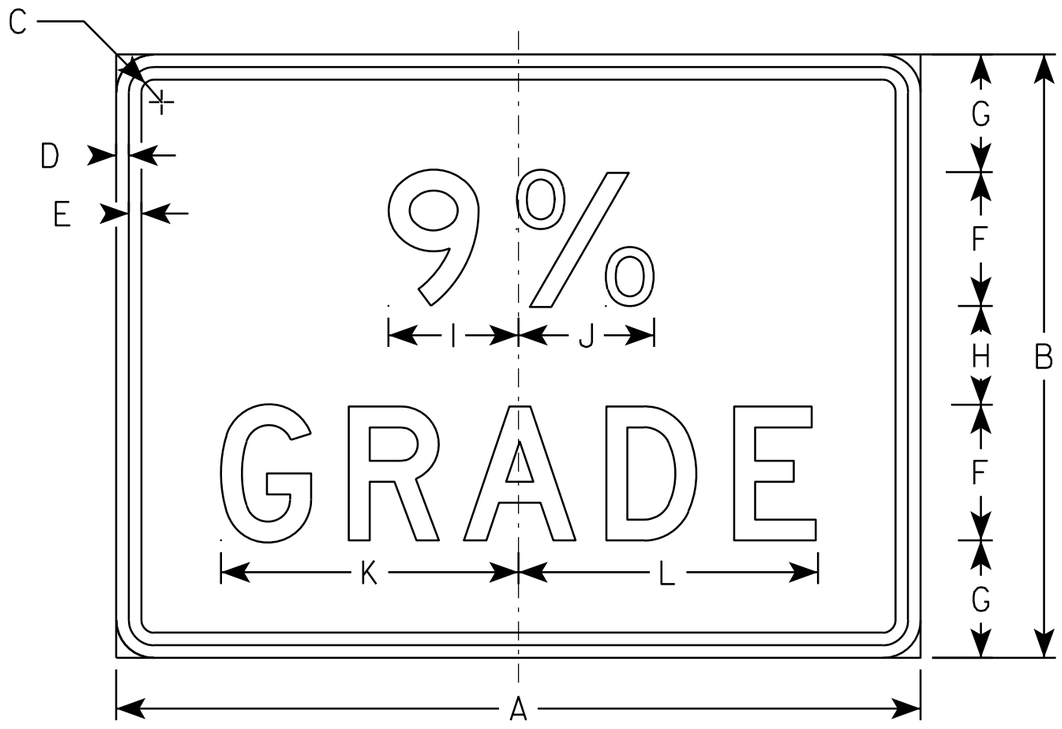
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W7-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 28	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W71.DGN PLOT DATE : 12-MAR-2013 14:38 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



W7-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Substitute appropriate numeral and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	18	1 1/8	3/8	3/8	4	3 1/2	3	3 7/8	4	8 7/8	9															3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	3 7/8	4	8 7/8	9															3.0
3																											
4																											
5																											

STANDARD SIGN
W7-3

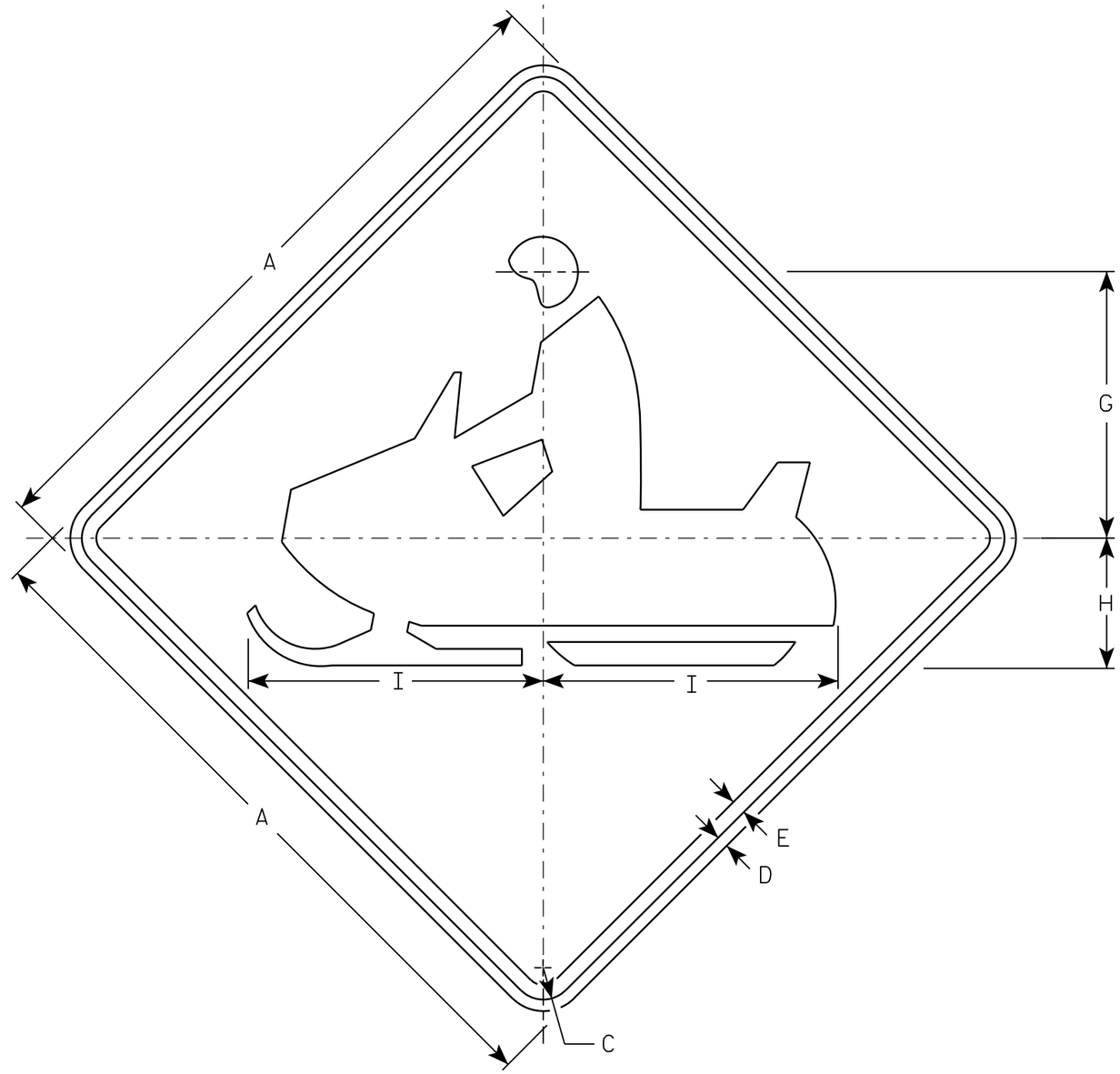
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W7-3.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 29 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W73.DGN PLOT DATE : 12-MAR-2013 14:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.521529:1.000000



W11-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		1 5/8	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		2 1/4	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN
W11-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-6.8

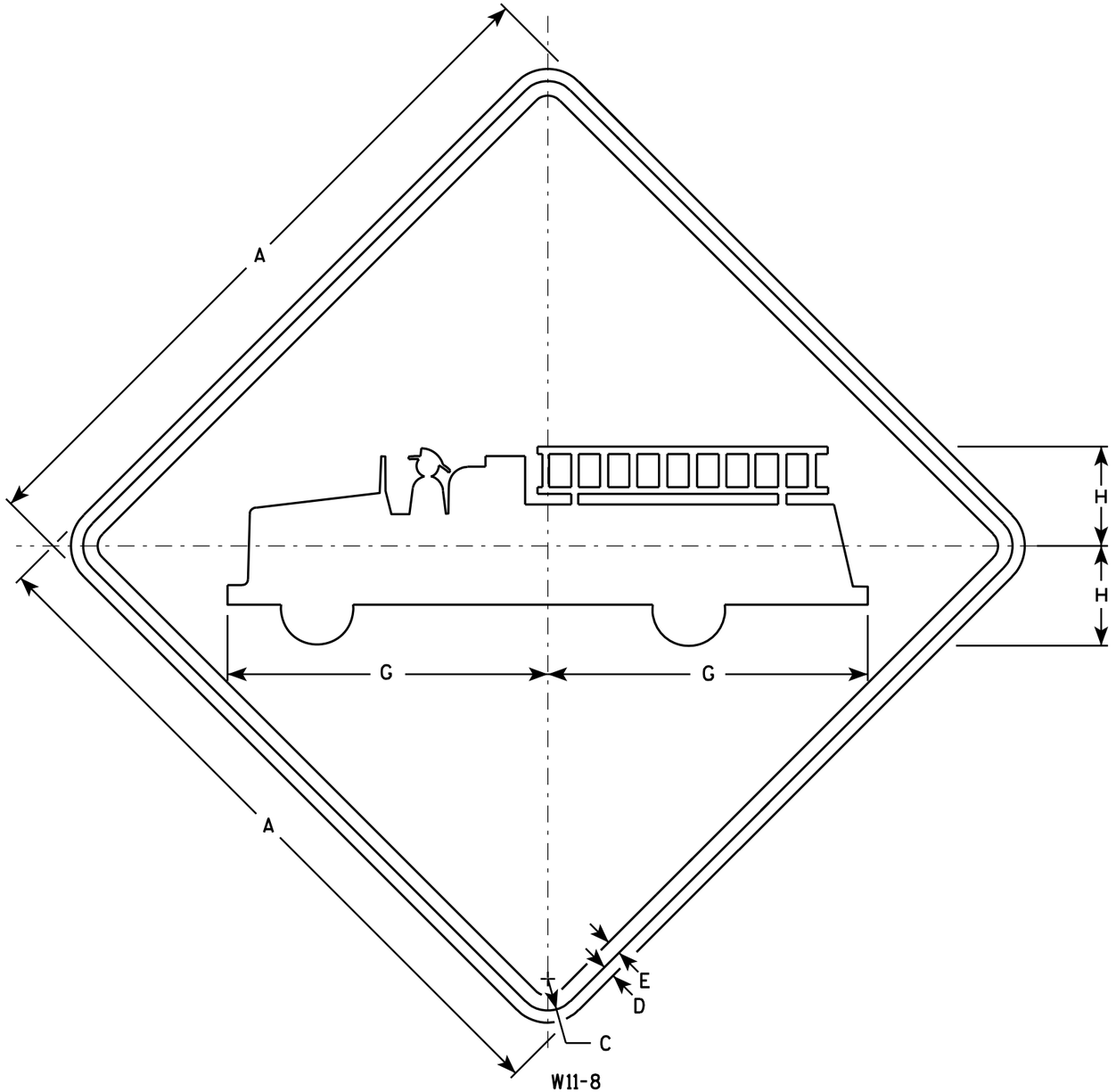
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 30 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W116.DGN PLOT DATE : 13-MAR-2013 12:57 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.954276:1.000000

WISDOT/CADDS SHEET 42

7

7



W11-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN
W11-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

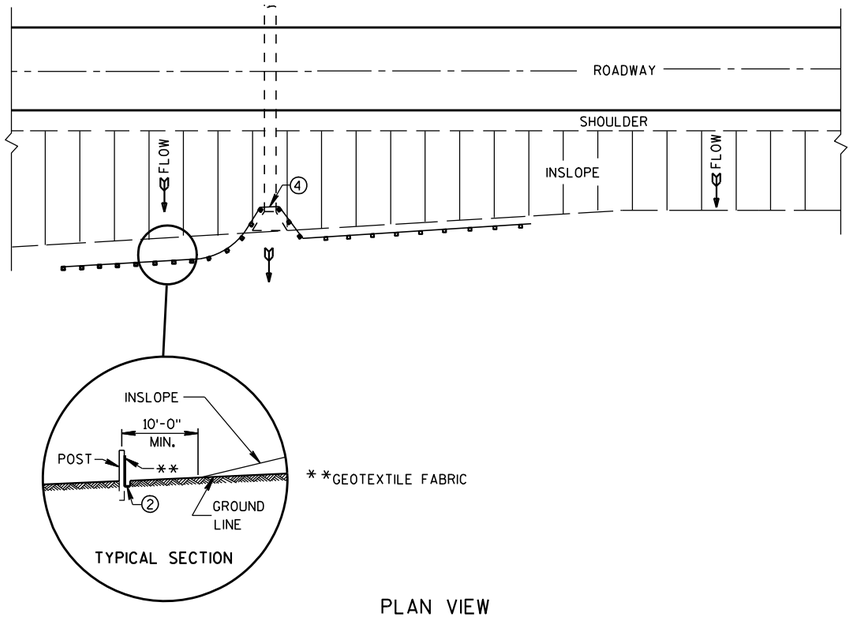
DATE 3/13/13 PLATE NO. W11-8.7

PROJECT NO:

SHEET NO: 31 E

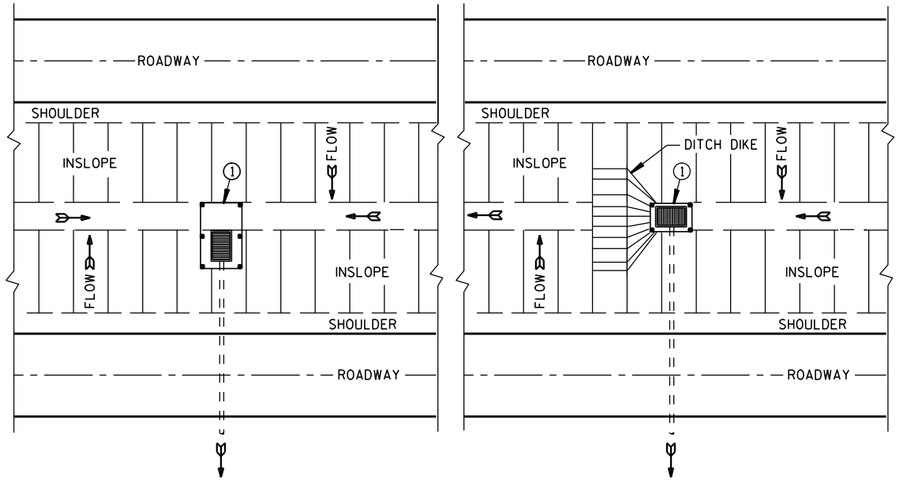
Standard Detail Drawing List

08E09-06	SILT FENCE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



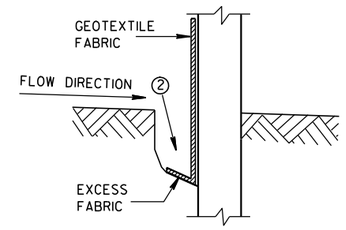
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

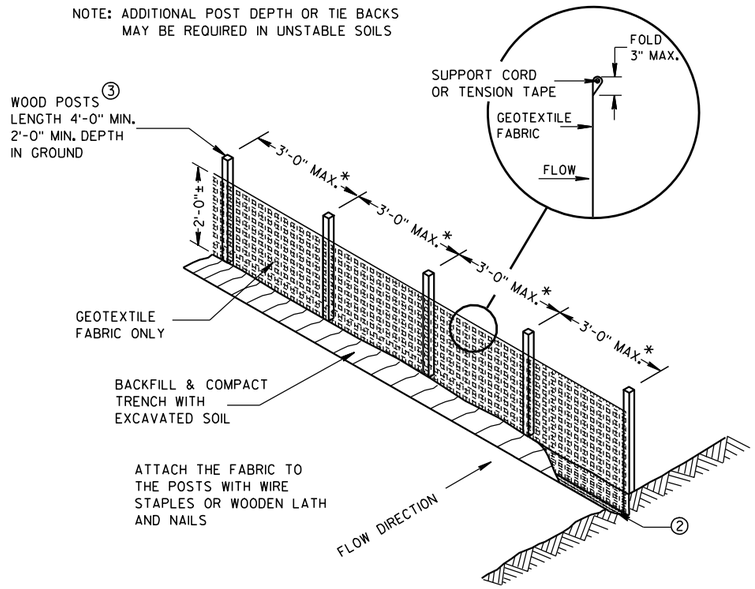
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

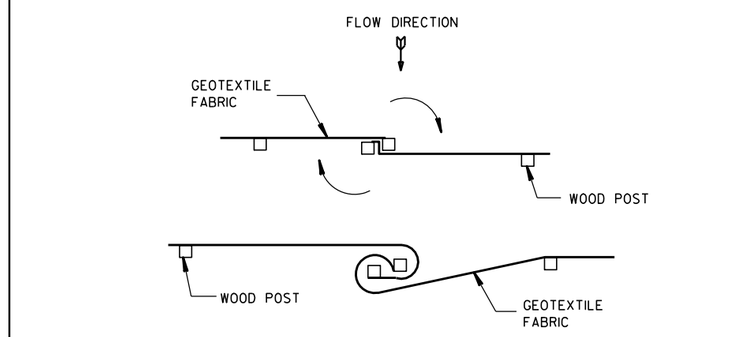


TRENCH DETAIL

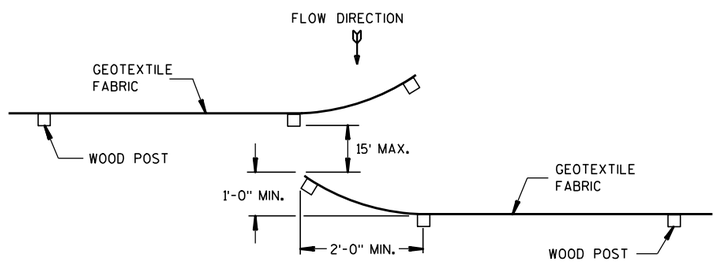


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

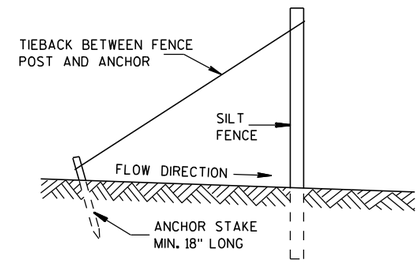


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

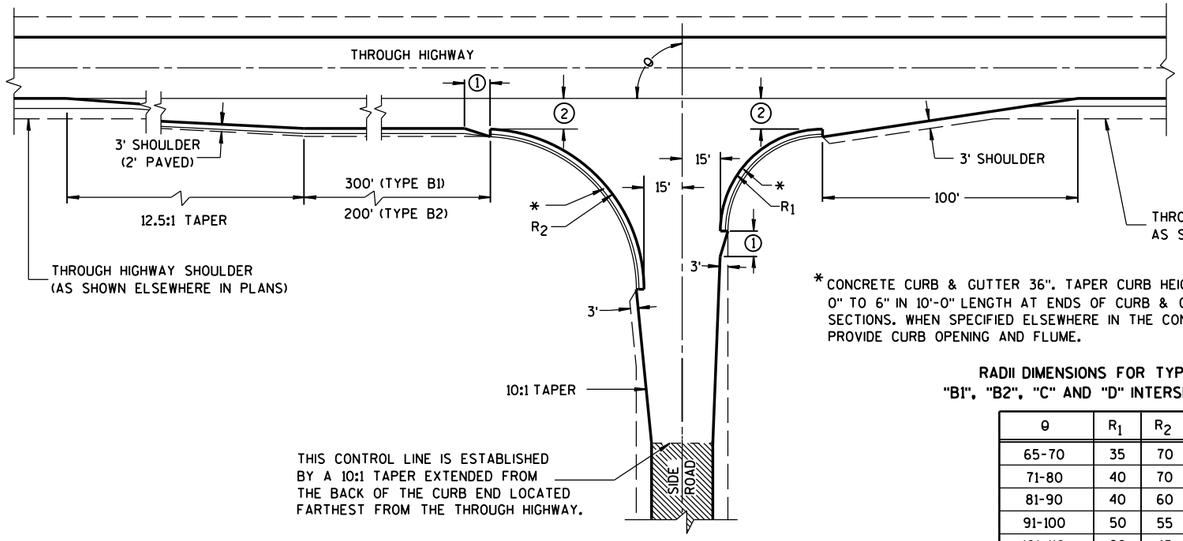
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4-29-05 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

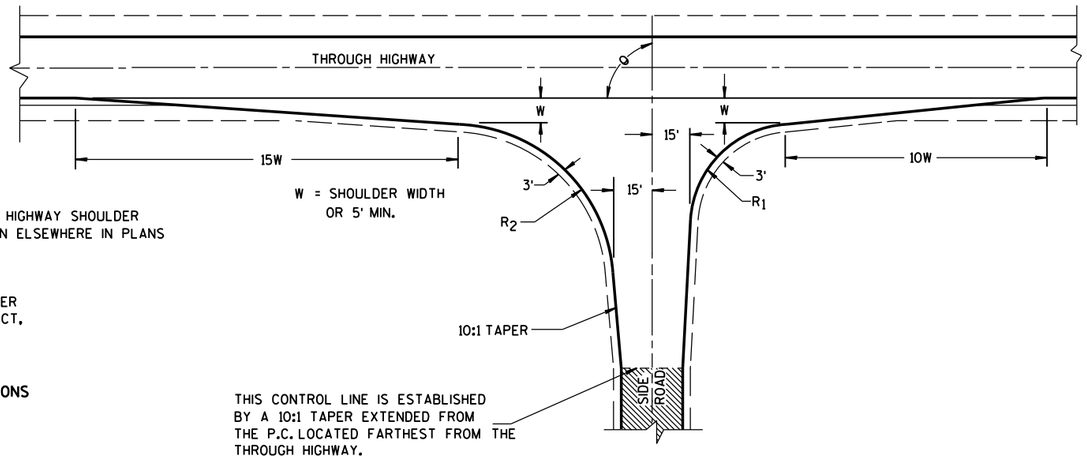


TYPE "B1" AND "B2"

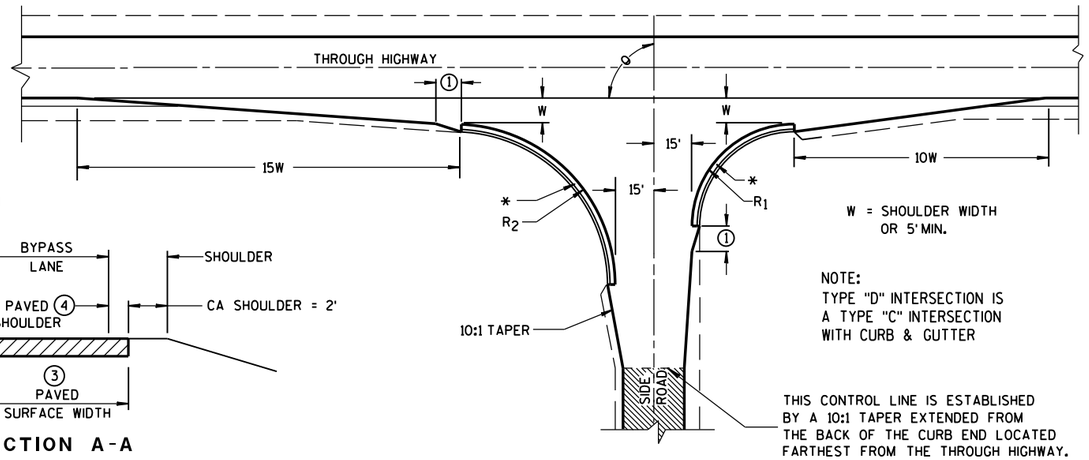
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

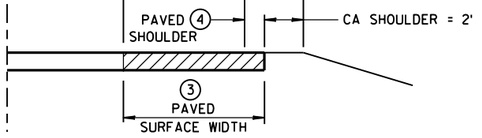
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

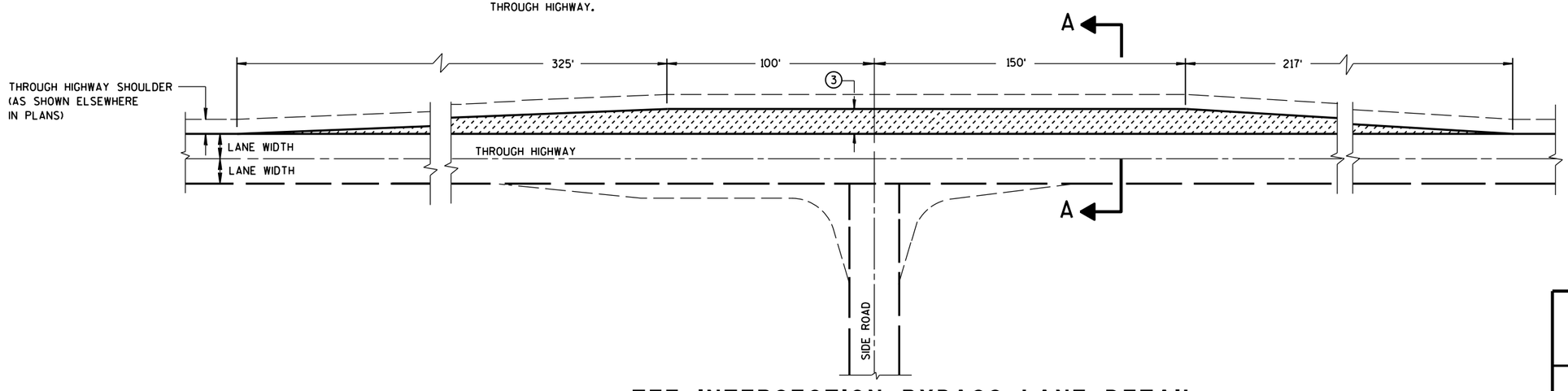
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

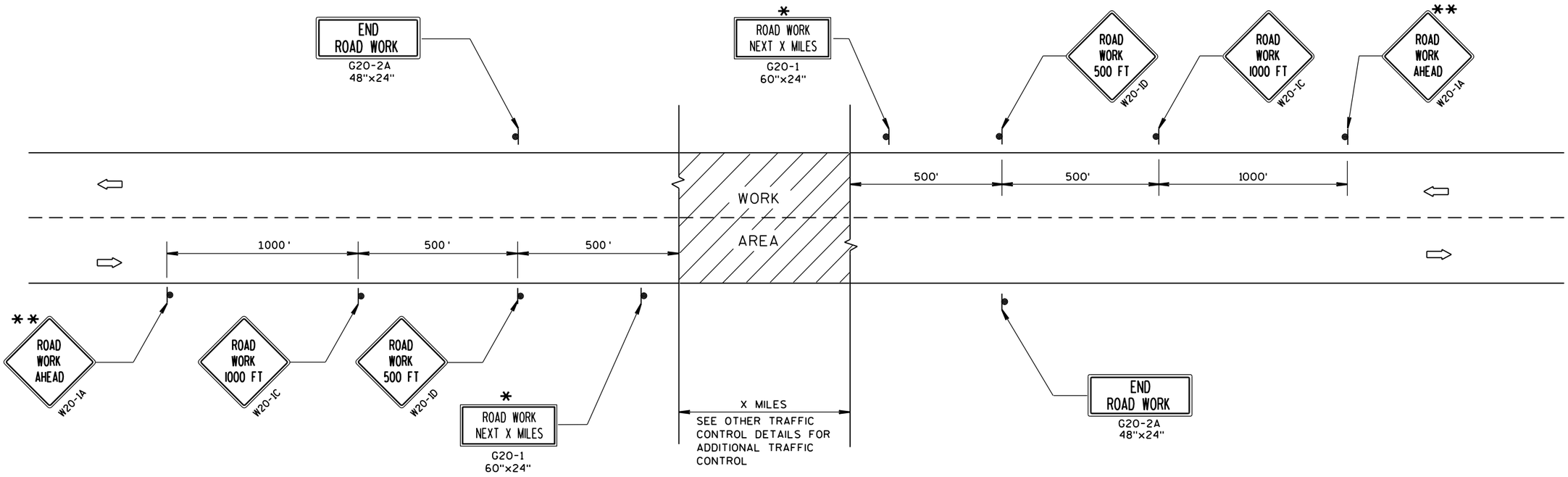
AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 9 A 1-13a

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

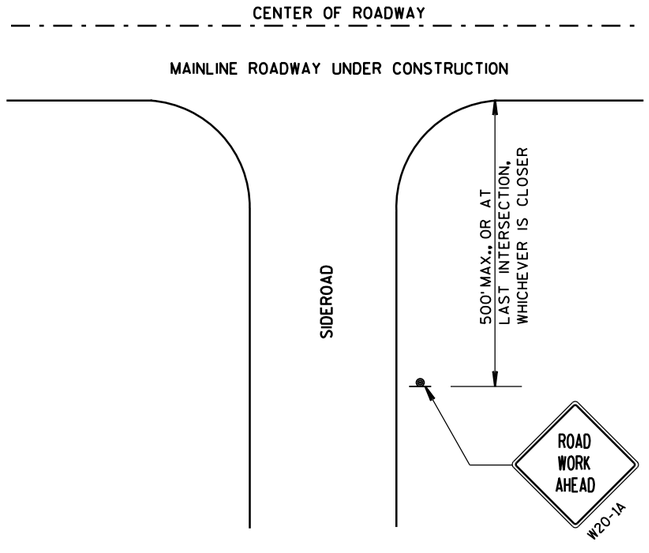
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

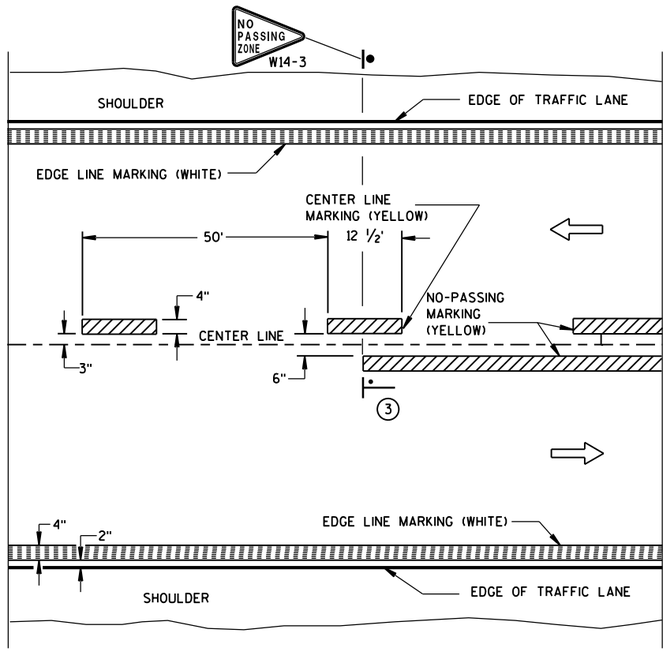
APPROVED

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

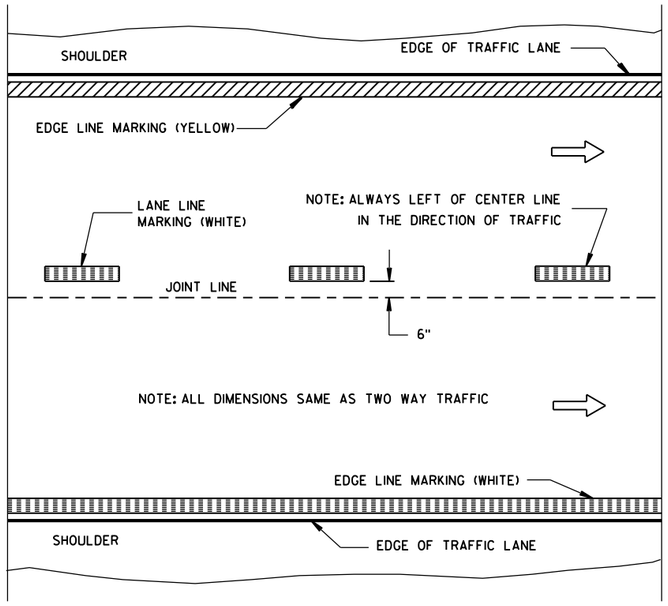
FHWA

6

S.D.D. 15 C 4-3

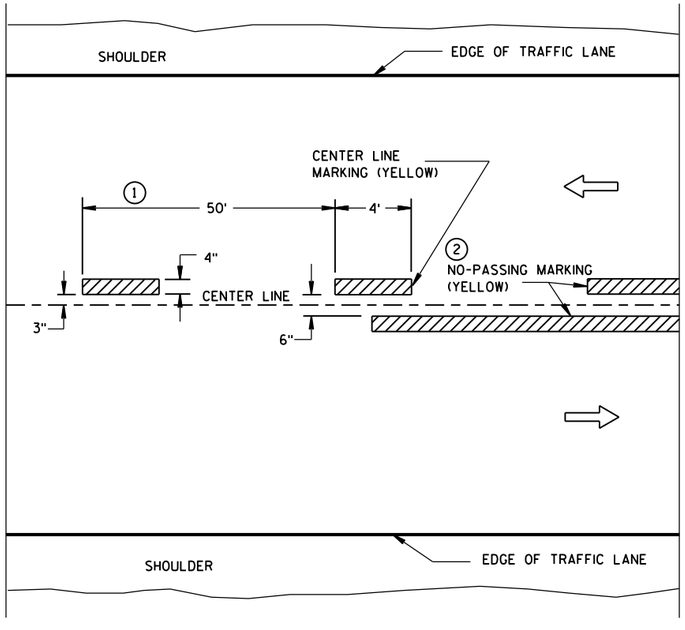


TWO WAY TRAFFIC

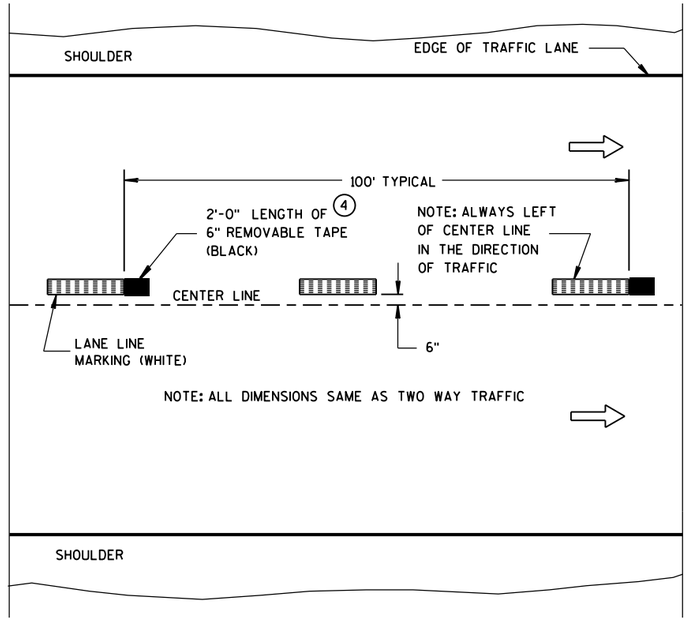


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

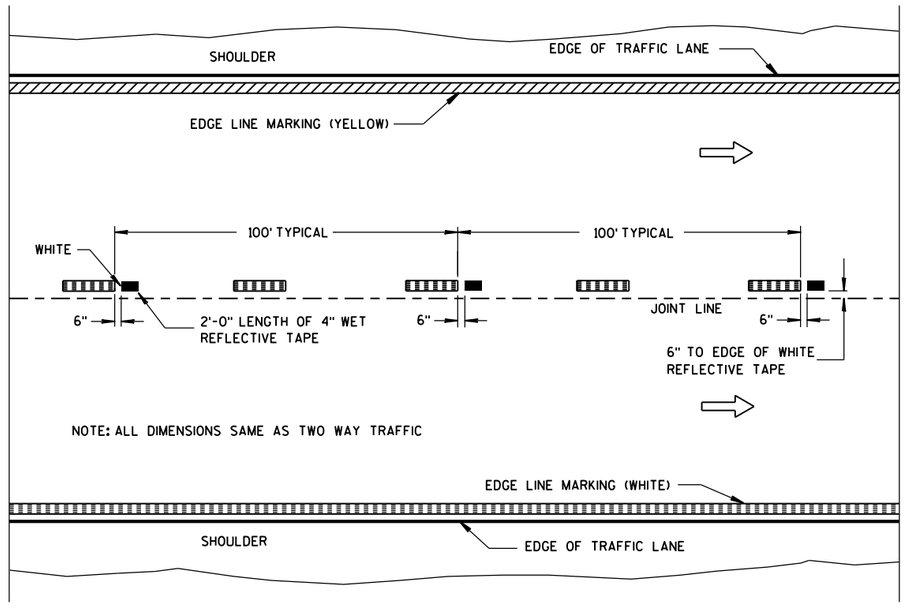
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

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S.D.D. 15 C 8-16a

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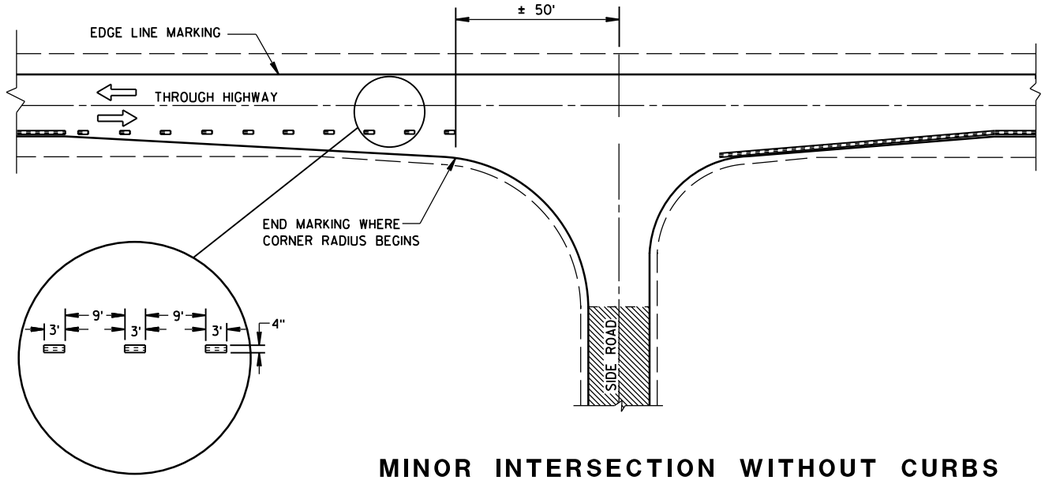
S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

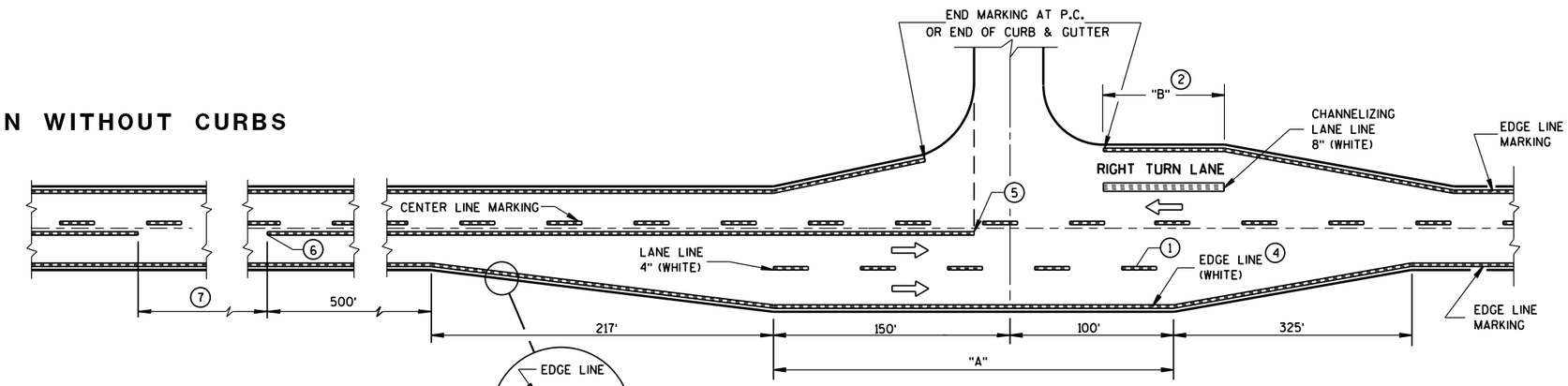
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

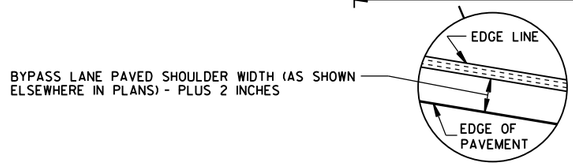
(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

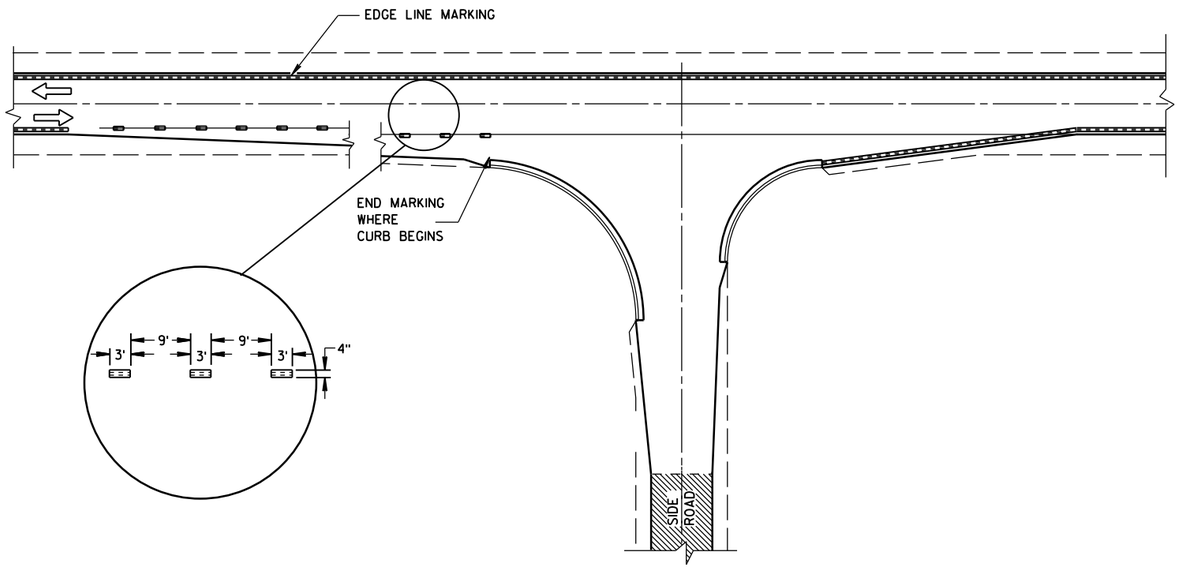
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792





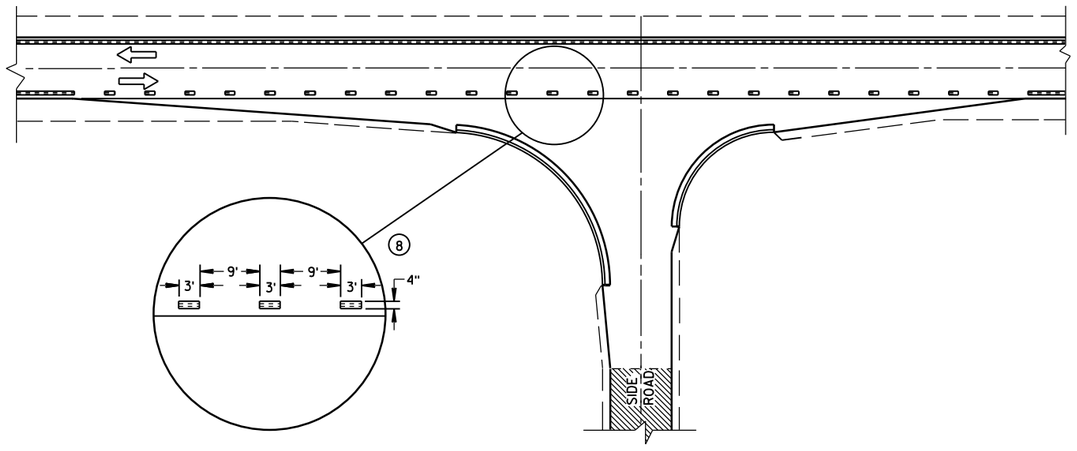
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 15 C 8-16b

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S.D.D. 15 C 8-16b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

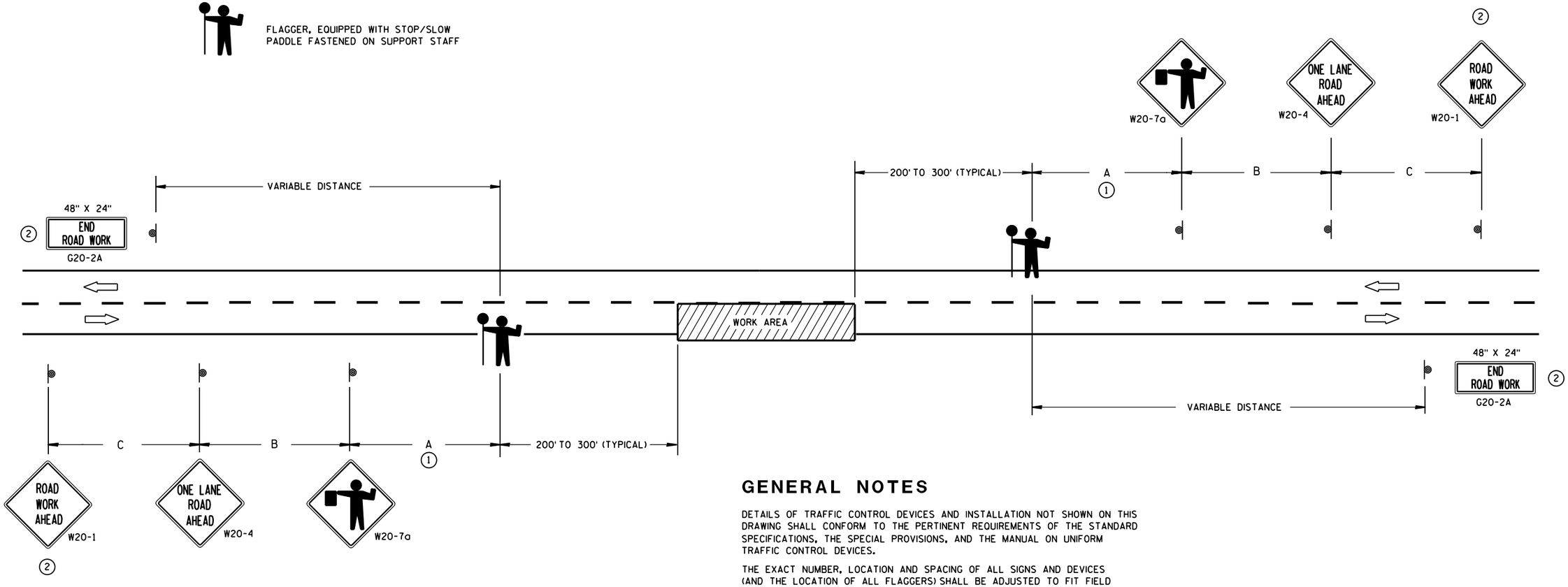
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 12-4

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S.D.D. 15 C 12-4

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

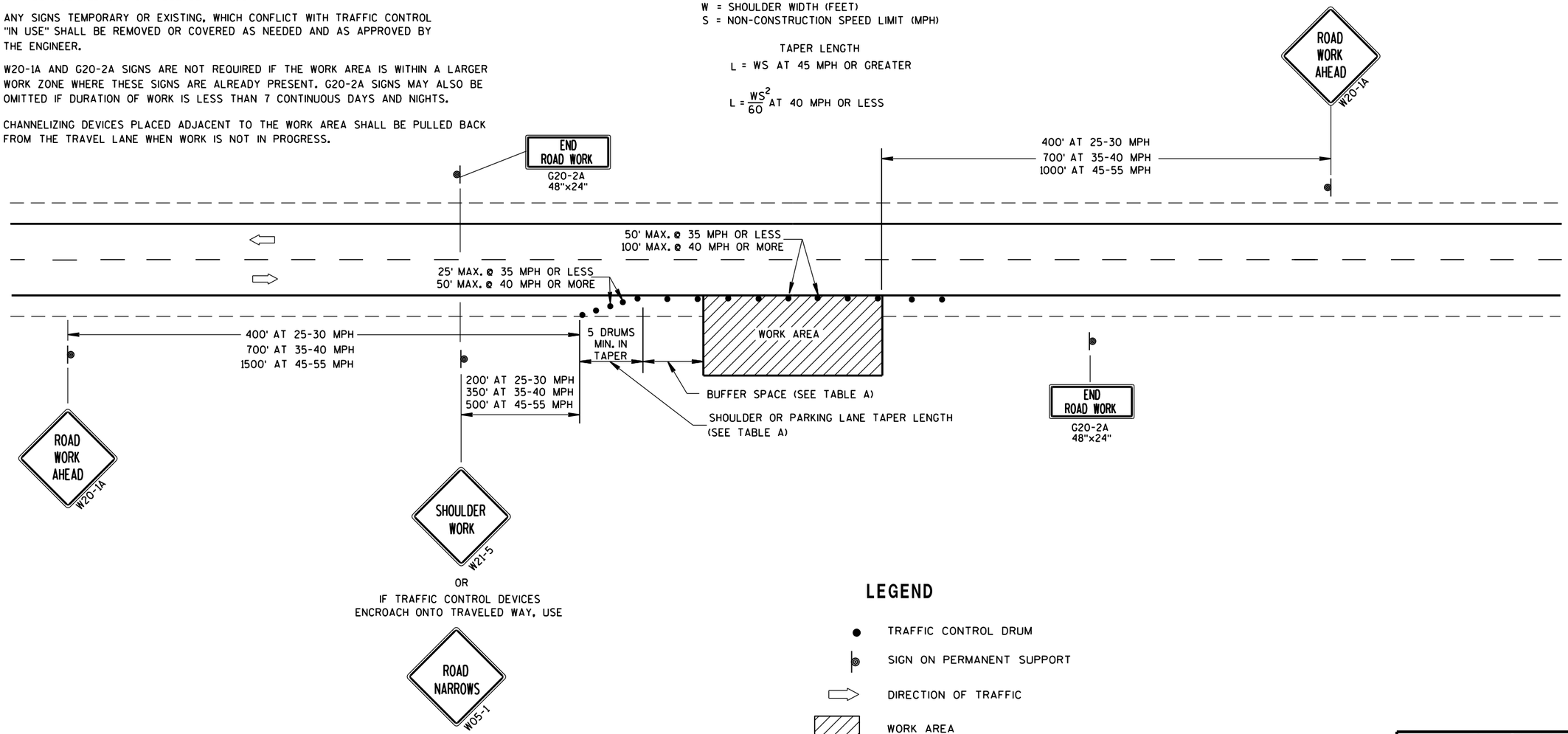
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC

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Wisconsin Department of Transportation

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