$\infty$ 

0

 $\overline{\mathbf{o}}$ 

Section No. 3

Section No. 6

Miscellaneous Quantities

Standard Detail Drawings

Right of Way Plat

Section No. 5 Plan and Profile

Section No. 7 Sign Plates

Section No. 8 Structure Plans

Section No. 9 Cross Sections

Section No. 9 Computer Earthwork Data

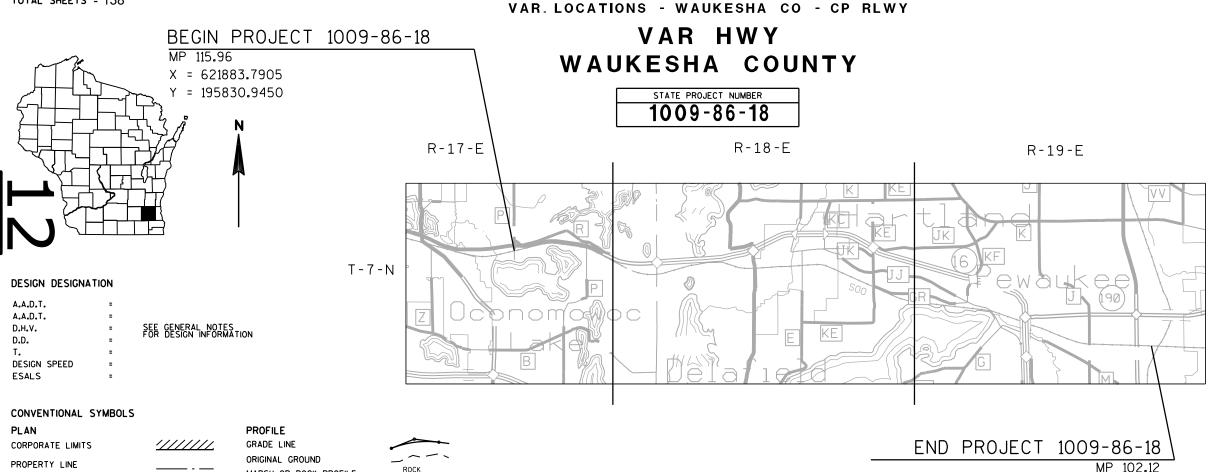
#### FEBRUARY 2020 STATE OF WISCONSIN ORDER OF SHEETS Section No. 1 DEPARTMENT OF TRANSPORTATION Section No. 2 Typical Sections and Details Estimate of Quantities Section No. 3

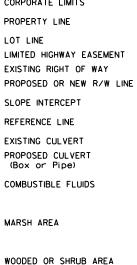
PLAN OF PROPOSED IMPROVEMENT

### FEDERAL PROJECT STATE PROJECT PROJECT CONTRACT FR-STE-0001-1 1009-86-18 1

# FRA STEP GRANT ROADWAY IMPROVEMENTS

TOTAL SHEETS = 138 VAR. LOCATIONS - WAUKESHA CO - CP RLWY





MARSH OR ROCK PROFILE (To be noted as such) SPECIAL DITCH GRADE ELEVATION CULVERT (Profile View) UTILITIES ELECTRIC

FIBER OPTIC GAS SANITARY SEWER STORM SEWER TELEPHONE WATER UTILITY PEDESTAL POWER POLE ₫ TELEPHONE POLE Ø

LABEL

LAYOUT 1.0 MI. X = 692018.9680

Y = 183764.0866

#### WISDOT SE REGION Regional Examiner Bureau Supervisor \_\_\_DAVID\_SIMON C.O. Examiner

PREPARED BY

Surveyor

Project Manager

ORIGINAL PLANS PREPARED BY

MATTHEW D E-43000-6

ONAL

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

GRAEF

HNTB

LISA STERN

NTB

ID WEST MIFFLIN ST MADISON, WI 53703 (608) 259-0045

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAD88 (2012)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS). WAUKESHA COUNTY, NAD83 (2011)

### UTILITY CONTACTS

 $\frac{\texttt{AT\&T WISCONSIN - COMMUNICATION LINE}}{\texttt{THOMAS CROWLEY}}$ 

2005 PEWAUKEE ROAD WAUKESHA, WI 53188 262-896-7427 TC1657@ATT.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE

DARRELL GORE
4125 NORTH 124TH STREET, SUITE D
BROOKFIELD, WI 53005
262-649-5386 EXT. 2504
DGORE@MI-TECH.US

CHARTER COMMUNICATIONS - COMMUNICATION LINE

STEVEN CRAMER
1320 N DR MARTIN LUTHER KING DR
MILWAUKEE, WI 53212-4002
414-277-4045
STEVE.CRAMER@CHARTER.COM

LEVEL 3 COMMUNICATIONS, LLC - COMMUNICATION LINE

NETWORK RELOCATIONS 1025 ELDORADO BOULEVARD BROOMFIELD, CO 80021 RELO©LEVEL3.COM

OCONOMOWOC UTILITIES - ELECTRICITY

ANDY HELWIG 808 SOUTH WORTHINGTON STREET OCONOMOWOC, WI 53066 414-881-9725 AHELWIG@OCONOMOWOC-WI.GOV ROGERS TELECOMMUNICATIONS
KEITH JACKSON
4804 NORTH 40TH STREET
SHEBOYGAN, WI53083
920-395-7125

KJACKSON@GABES.COM

TDS METROCOM
MATTHEW SCHULTE
16924 WEST VICTOR ROAD
NEW BERLIN, WI53151
262-754-3063
MATT.SCHULTE@TDSTELECOM.COM

VILLAGE OF PEWAUKEE - WATER/SEWER UTILITY
DANIEL NAZE
235 HICKORY STREET
PEWAUKEE, WI 53072
262-691-5694

WE ENERGIES - ELECTRICITY
BRYAN STOEHR
333 W EVERETT STREET, RM A299
MILWAUKEE, WI 53203
414-944-5516
BRYAN.STOEHR@WE-ENERGIES.COM

DNAZE@VILLAGEOFPEWAUKEE.COM

WE ENERGIES - GAS/PETROLEUM
BRADLEY ENGNATH
500 SOUTH 116TH STREET
WEST ALLIS, WI 53214
414-588-7641
BRADLEY.ENGNATH@WE-ENERGIES.COM

CANADIAN PACIFIC RAILWAY LOCATE: 865-291-0741

## MUNICIPALITY CONTACTS

CITY OF DELAFIELD
TOM HAFNER, PUBLIC WORKS DIRECTOR
111 MAIN STREET
DELAFIELD, WI 53018
262-303-4626
THAFNER@CI,DELAFIELD, WI,US

VILLAGE OF HARTLAND
MICHAEL GERSZEWSKI
210 COTTONWOOD AVENUE
HARTLAND, WI53029
262-367-2714
Mikeg@villageofhartland.com

TOWN OF DELAFIELD
TIM BARBEAU
16745 WEST BLUEMOUND ROAD, SUITE 200
BROOKFIELD, WI 53005
262-317-3307
TIM.BARBEAU@RASMITHNATIONAL.COM

CITY OF PEWAUKEE

JEFFREY WEIGEL

W240 N3065 PEWAUKEE ROAD

PEWAUKEE, WI 53072

262-691-0804

WEIGEL@PEWAUKEE.WI.US

# CANADIAN PACIFIC RAILWAY CONTACTS

PRIMARY RAILROAD CONTACT

JIM KRIEGER, MANAGER PUBLIC WORKS

120 S 6+h STREET SUITE 700

MINNEAPOLIS, MN 55402

PHONE 612-330-4555

E-MAIL JIM\_KRIEGER@CPR.CA

ASSISTANT DIRECTOR SIGNAL MAINTENANCE
DON HEGLAND
PHONE 608-780-1127
E-MAIL DON\_HEGLAND@CPR.CA

MANAGER SIGNAL MAINTENANCE NICK PATRICK

PHONE 773-350-4670
E-MAIL NICHOLAS\_PATRICK@CPR.CA

VILLAGE OF PEWAUKEE

DANIEL NAZE
235 HICKORY STREET
PEWAUKEE, WI 53072
262-691-5694
DNAZE@VILLAGEOFPEWAUKEE.COM

VILLAGE OF OCONOMOWOC LAKE
ANDY HELWIG
35328 W PABST ROAD
OCONOMOWOC, WI 53066
414-881-9725
AHELWIG©OCONLAKE.COM

WAUKESHA COUNTY
CAROLYNN GELLINGS
515 W MORELAND BOULEVARD, RM 220
WAUKESHA, WI 53188
262-548-7740
CGELLINGS@WAUKESHACOUNTY.GOV

WAUKESHA COUNTY
KEVIN YANNY
515 W MORELAND BOULEVARD, RM 220
WAUKESHA, WI 53188
262-548-7750
KYANNY@WAUKESHACOUNTY.GOV

#### DNR AREA LIAISON

CRAIG WEBSTER
DEPARTMENT OF NATURAL RESOURCES
SOUTHEAST REGION
141 NW BARSTOW STREET RM 180
WAUKESHA, WI 53188
262-574-2141
CRAIG.WEBSTER@WISCONSIN.GOV

#### DESIGN CONTACTS

LISA STERN
WISDOT - CENTRAL OFFICE
4802 SHEBOYGAN AV RM 701
MADISON, WI53707
608-294-8057
LISA.STERNØDOT.WI.GOV

MATTHEW CANADA HNTB CORPORATION 10 W. MIFFLIN ST STE 300 MADISON, WI 53703 608-294-5011 MCANADA@HNTB.COM DESIGN DESIGNATION GIFFORD ROAD

A.A.D.T. 2010 = 1580 DESIGN SPEED = 40 MPH ESALS = -

DESIGN DESIGNATION VETTELSON ROAD

A.A.D.T. 2015 = 1500 DESIGN SPEED = 50 MPH ESALS = -

DESIGN DESIGNATION COTTONWOOD AVENUE

A.A.D.T. 2014 = 5933 DESIGN SPEED = 30 MPI ESALS = -

DESIGN DESIGNATION MAPLE AVENUE

A.A.D.T. 2014 = 4360 DESIGN SPEED = 30 MPH ESALS = -

DESIGN DESIGNATION CTH KE (NORTH SHORE DRIVE)

A.A.D.T. 2015 = 8400 DESIGN SPEED = 50 MPH ESALS = -

DESIGN DESIGNATION PARKSIDE LANE

A.A.D.T. 2009 = 230 DESIGN SPEED = 30 MPI ESALS = -

DESIGN DESIGNATION KOPMEIER DRIVE

A.A.D.T. 2009 = 500 DESIGN SPEED = 30 MPH ESALS = -

DESIGN DESIGNATION WISCONSIN AVENUE

A.A.D.T. 2015 = 6600 DESIGN SPEED = 30 MPH FSALS = -

DESIGN DESIGNATION OAKTON AVENUE

A.A.D.T. 2015 = 9000 DESIGN SPEED = 30 MPH ESALS = -

DESIGN DESIGNATION FOREST GROVE DRIVE

A.A.D.T. 2009 = 7600 DESIGN SPEED = 30 MF ESALS = -

DESIGN DESIGNATION DUPLAINVILLE ROAD

A.A.D.T. 2009 = 4400 DESIGN SPEED = 40 MPH ESALS = -



PROJECT NO: 1009-86-18

HWY:

COUNTY: WAUKESHA

GENERAL NOTES

PLOT BY: mbartol

PLOT NAME :

SHEET

#### GENERAL NOTES

CONTRACTOR SHALL CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPARATELY. CP RAILWAY UTILITIES VERIFIED BY CONTACTING CP LOCATES.

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

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

FILL AND COMPACT ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH MATERIAL SIMILAR TO EXISTING GROUND OR ENGINEER APPROVED BACKFILL TO AVOID POTENTIAL FROST HEAVING. BACKFILLING IS INCIDENTAL TO CORRESPONDING ABANDONMENT OR REMOVAL ITEM.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT. REFERENCE THE 6'TRANSITION STANDARD DETAIL DRAWING FOR END SECTION CURB & GUTTER NEAR RAILROAD CROSSING.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THE CONTRACTOR IS TO MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES UNLESS OTHERWISE STATED IN THE PLANS. FLAGGERS MAY BE USED AND THE COSTS ASSOCIATED ARE INCIDENTAL TO THE CONTRACT TOTAL. MODIFICATIONS TO THE PHASING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

WISCONSIN AVENUE DETOUR SIGN TO BE PRODUCED BY CONTRACTOR.

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2."

STATIONING, DISTANCES AND OFFSETS FOR TRAFFIC CONTROL SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

KEEP ONE LANE OF TRAFFIC OPEN AT ALL TIMES AT GIFFORD, OAKTON, AND FOREST GROVE DURING THE DAY TIME HOURS (7AM-8PM) AND TWO LANES OF TRAFFIC DURING NIGHT TIME HOURS (8PM-7AM). ROADWAY FLAGGERS TO BE IMPLEMENTED AT FIELD ENGINEERS' DISCRETION, RAILROAD FLAGGERS WILL BE ASSIGNED BY CP.

RIGHT OF WAY SHOWN IS PER WAUKESHA COUNTY GIS. IT IS +/- 3'ACCURACY. RIGHT OF WAY IN CLOSE PROXIMITY TO CONSTRUCTION LIMITS TO BE CONFIRMED AND PROVIDED BY ENGINEER.

CONTRACTOR TO FOLLOW STATE CODES AND REGULATIONS.

ALL RAILROAD SIGNAL AND GATE CONSTRUCTION TO BE COMPLETED BY OTHERS.RAILROAD REFERENCES ARE INFORMATION ONLY. CONTRACTOR TO COORDINATE WITH CP RAILWAY.

LIGHT AND GATE STATION / OFFSET LISTED ARE TO CENTER OF GATE MAST.

ALL RAIL WORK SHOULD BE COVERED WITH FORCE WORK AGREEMENTS WITH CP. CONTRACTOR AND ALL EMPLOYEES TO BE CERTIFIED TO WORK NEAR THE RAILROAD AT A COST INCIDENTAL TO THE PROJECT

NO EXCAVATED MATERIAL SHOULD BE PLACED ON RAILROAD RIGHT OF WAY.

CONTRACTOR TO COORDINATE WITH RAILROAD FLAGGER BEFORE AND THROUGH CONSTRUCTION.

THE HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN

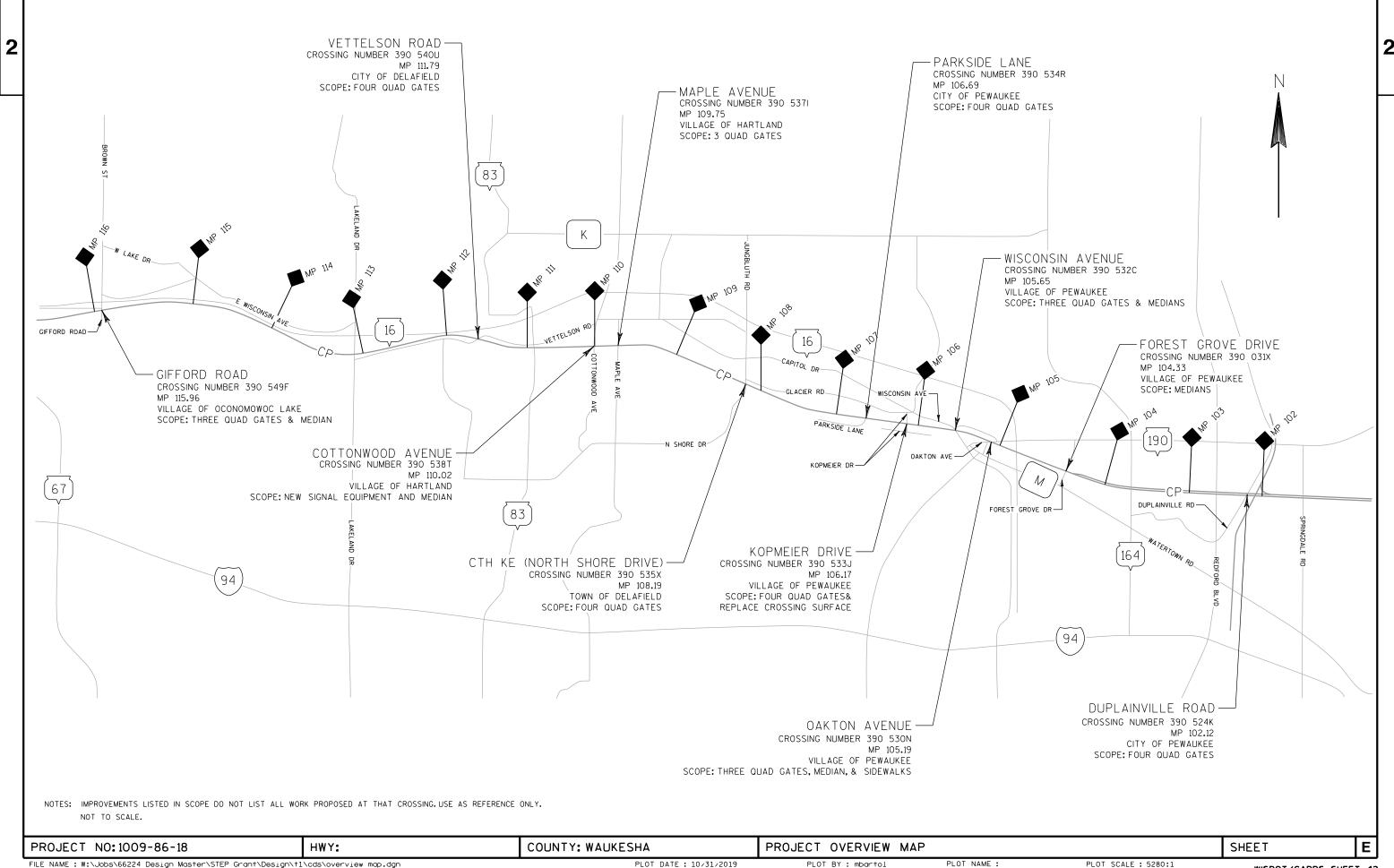
#### PAVEMENT DETAILS

HMA PAVEMENT	4MT 58-28S
BINDER LIFT	3-INCHES
SURFACE LIFT	2-INCHES

#### ALIGNMENT IDENTIFIERS

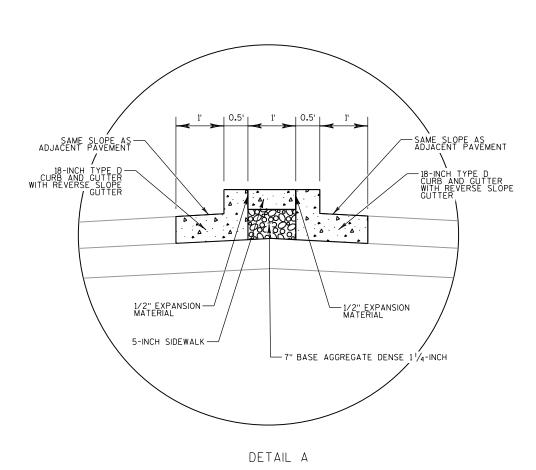
GI	GIFFORD ROAD
WI	WISCONSIN AVENUE
AK	OAKTON AVENUE
FG	FOREST GROVE DRIVE
VE	VETTELSON ROAD
со	COTTONWOOD AVENUE
PA	PARKSIDE LANE
KON	KOPMEIER DRIVE NORTHBOUND
KOE	KOPMEIER DRIVE EASTBOUND
AKN	OAKTON AVENUE NORTH SIDEWALK
AKS	OAKTON AVENUE SOUTH SIDEWALK

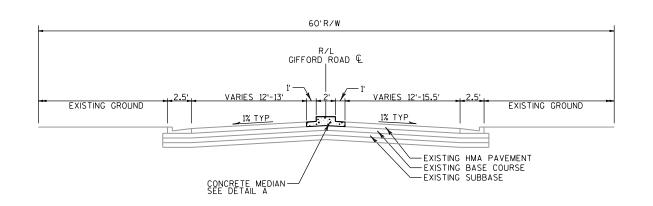
PROJECT NO:1009-86-18 HWY: COUNTY: WAUKESHA GENERAL NOTES SHEET **E** 



2

2





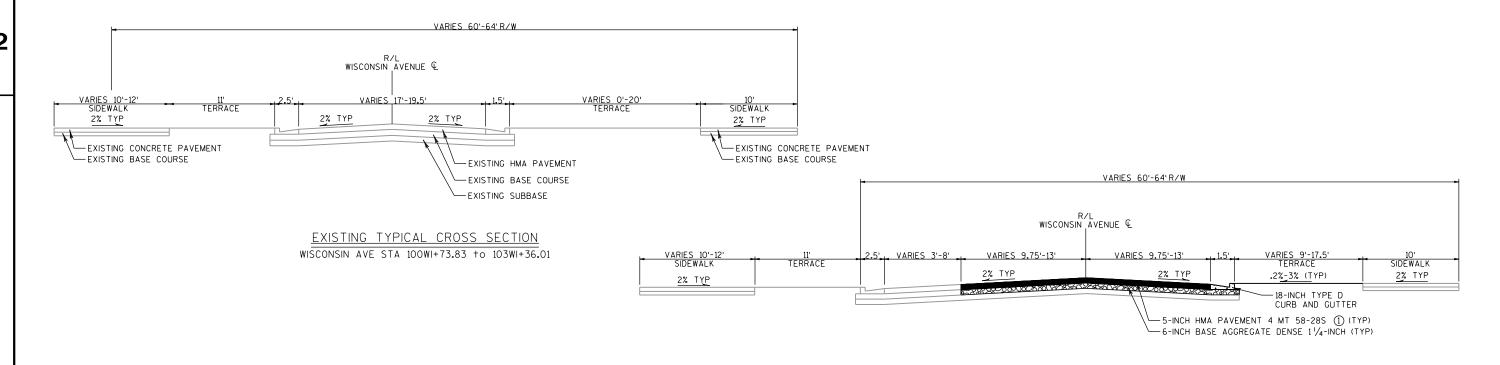
PROPOSED TYPICAL CROSS SECTION
GIFFORD ROAD STA 102GI+45.02 to 103GI+49.14

PROJECT NO: 1009-86-18 HWY: COUNTY: WAUKESHA TYPICAL SECTION: GIFFORD ROAD SHEET **E** 

PLOT NAME:

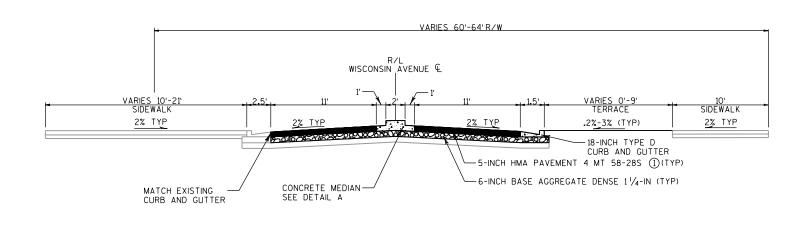
PLOT NAME :





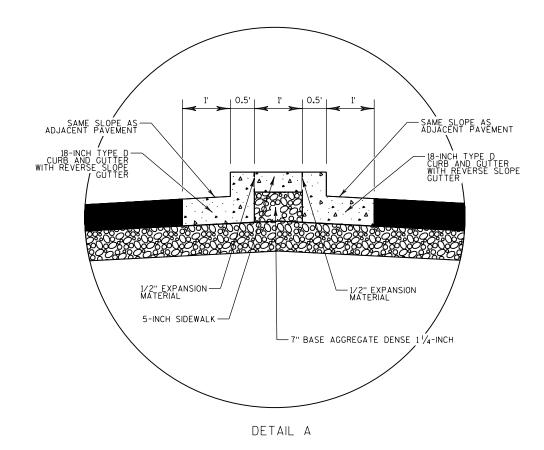
# PROPOSED TYPICAL CROSS SECTION WISCONSIN AVENUE STA 100WI+73.83 to 101WI+90.11

① NOTE: PLACE HMA IN TWO LIFTS; TACK BETWEEN LAYERS



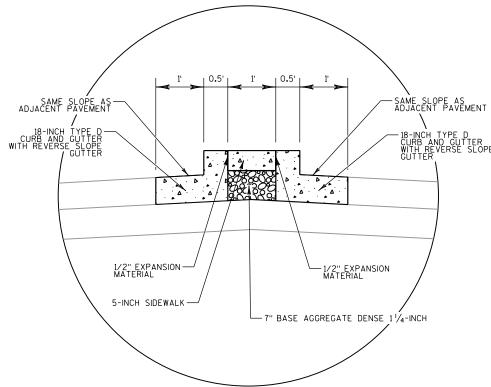
# PROPOSED TYPICAL CROSS SECTION WISCONSIN AVENUE STA 101WI+90.11 +0 103WI+84.80

① NOTE: PLACE HMA IN TWO LIFTS; TACK BETWEEN LAYERS

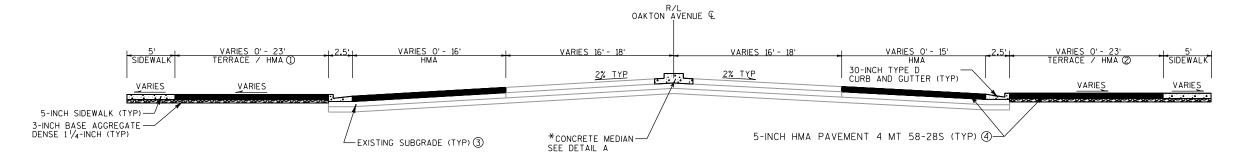


PROJECT NO: 1009-86-18 HWY: COUNTY: WAUKESHA TYPICAL SECTION: WISCONSIN AVENUE SHEET E

EXISTING TYPICAL CROSS SECTION
OAKTON AVE STA 102AK+51.68 to 104AK+80.64



DETAIL A



# PROPOSED TYPICAL CROSS SECTION OAKTON AVE STA 102AK+51.68 to 104AK+80.64

### NOTES:

- \*CONCRETE MEDIAN STA 102AK+51.68 to STA 103AK+55.68
- ① TERRACE STA 103AK+43.28 to 104AK+21.69 HMA STA 102AK+87.10 to 103AK+43.28
- ② TERRACE STA 103AK+24.54 to 104AK+30.53 HMA STA 104AK+30.53 to 104AK+71.44

© COMPACT EXISTING SUBGRADE

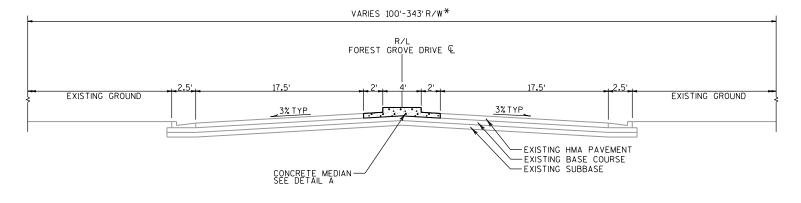
(\*) PLACE HMA IN TWO LIFTS; TACK BETWEEN LAYERS

PROJECT NO: 1009-86-18 HWY: COUNTY: WAUKESHA TYPICAL SECTION: OAKTON AVENUE

FILE NAME: W:\Jobs\66224 Design Master\STEP Grant\Design\t1\cds\0AKTON\_Typical.dgn

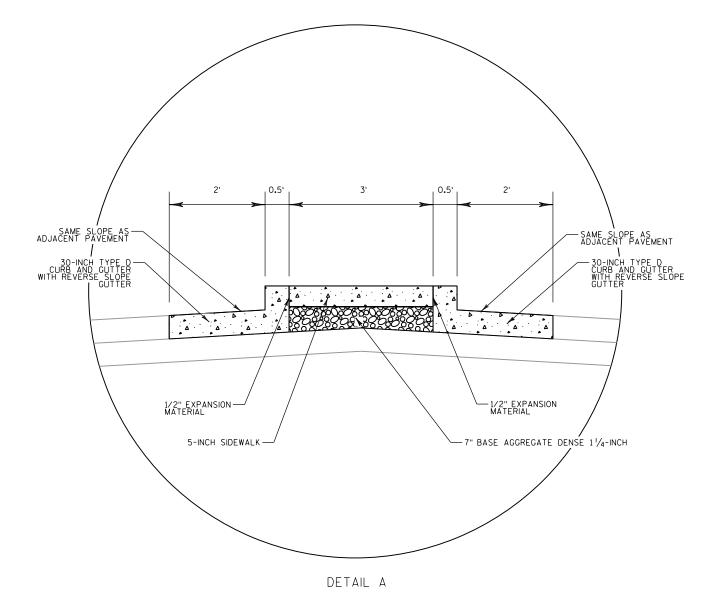
PLOT DATE: 10/31/2019 PLOT BY: mbartol PLOT NAME: PLOT SCALE: 10:1 WISDOT/CADDS SHEET 42



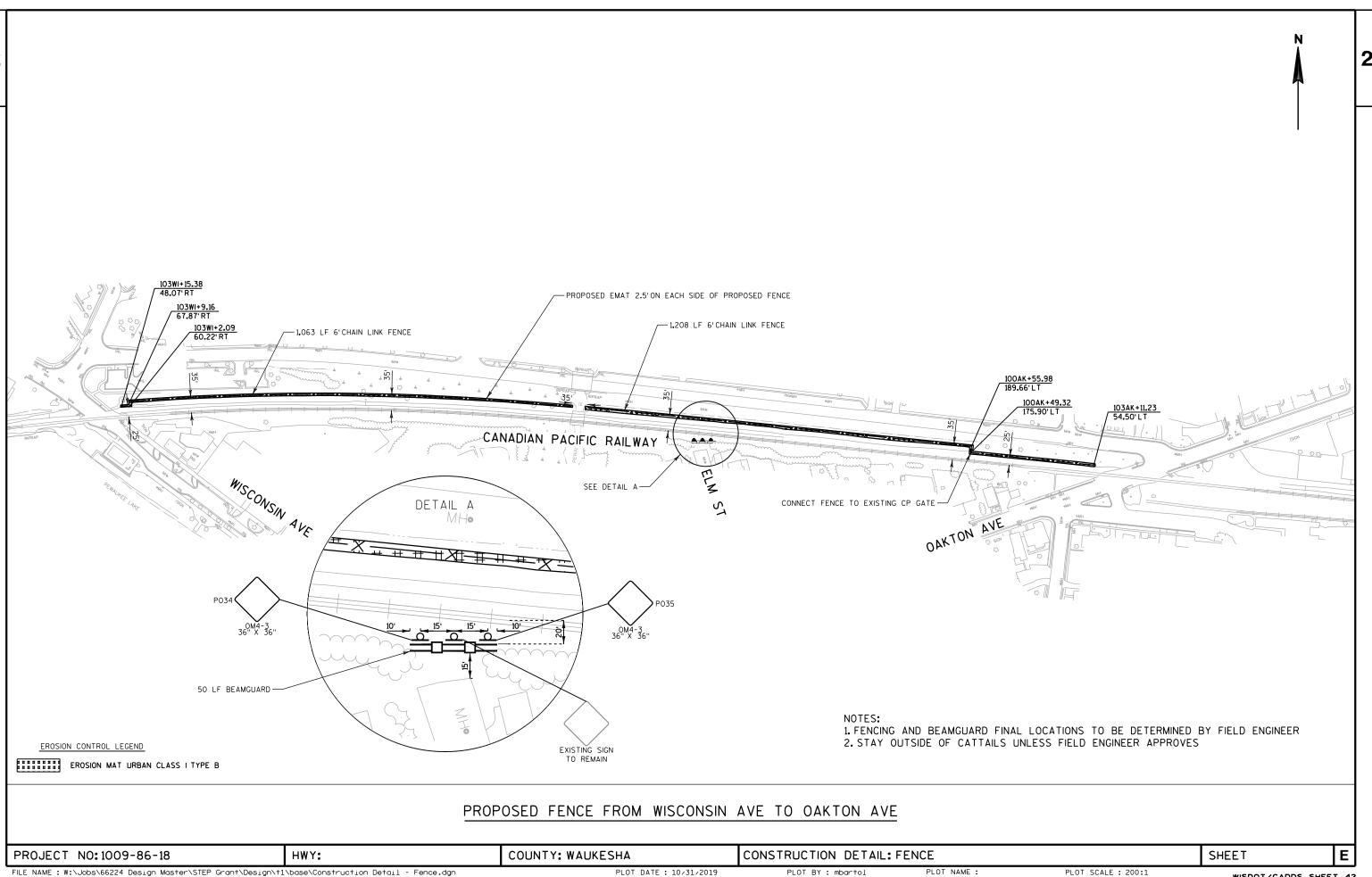


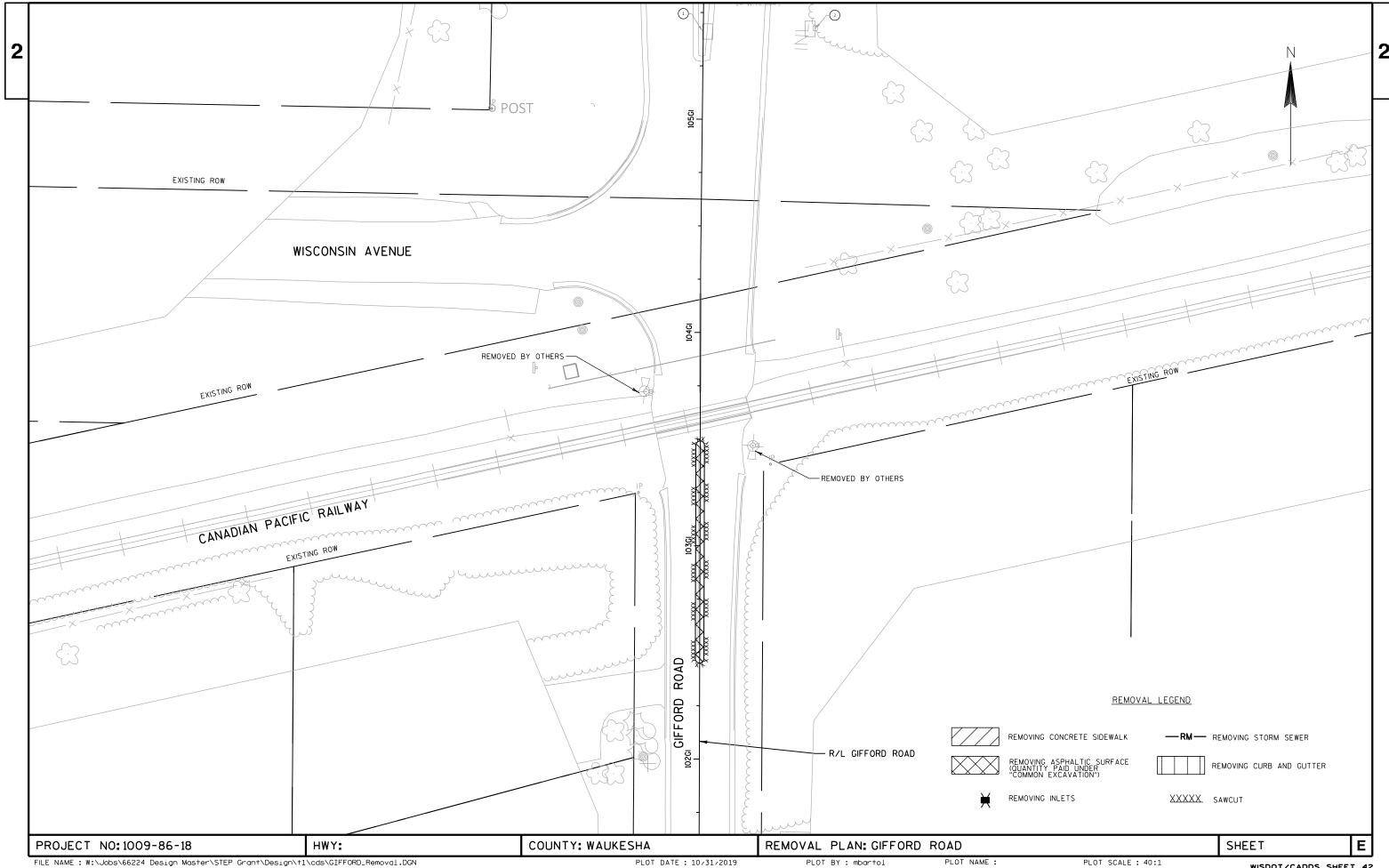
### PROPOSED TYPICAL CROSS SECTION FOREST GROVE DRIVE STA 101FG+88.86 to 104FG+21.18

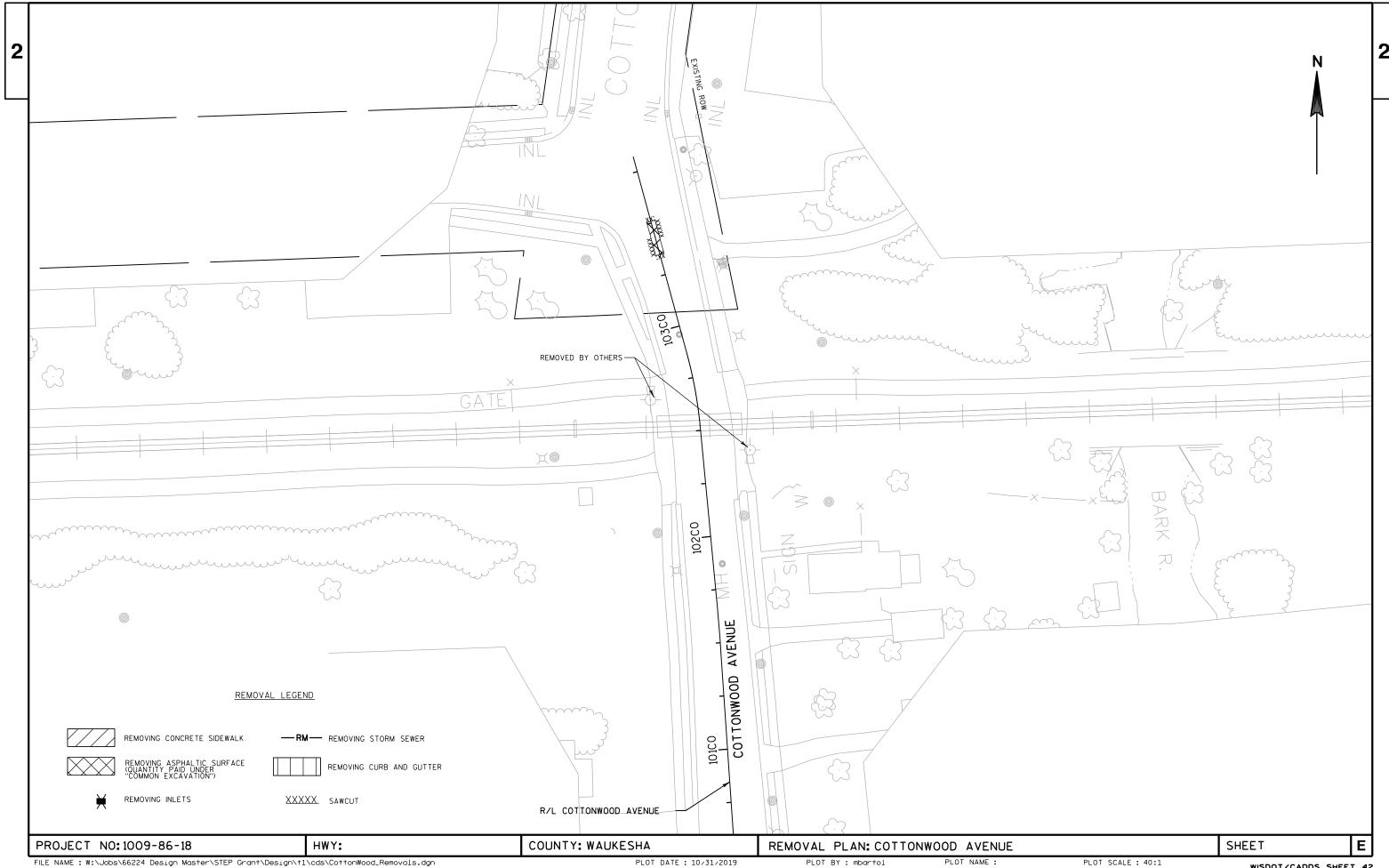
\*NOTE: STA 101FG+88.86 to STA 102FG+97.19 R/W VARIES 314'-343'; STA 103FG+50.44 to STA 104FG+21.18 R/W IS 100'

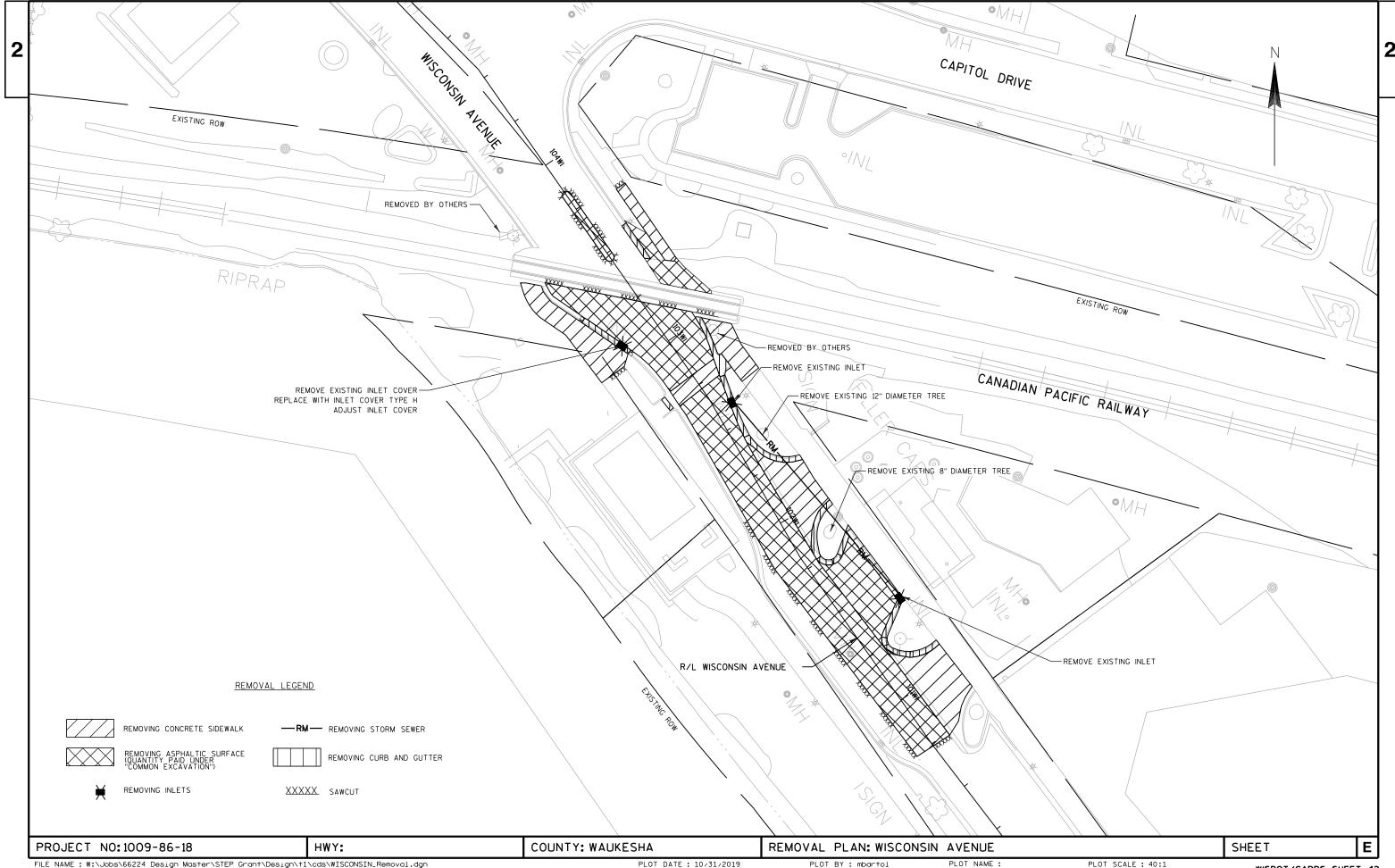


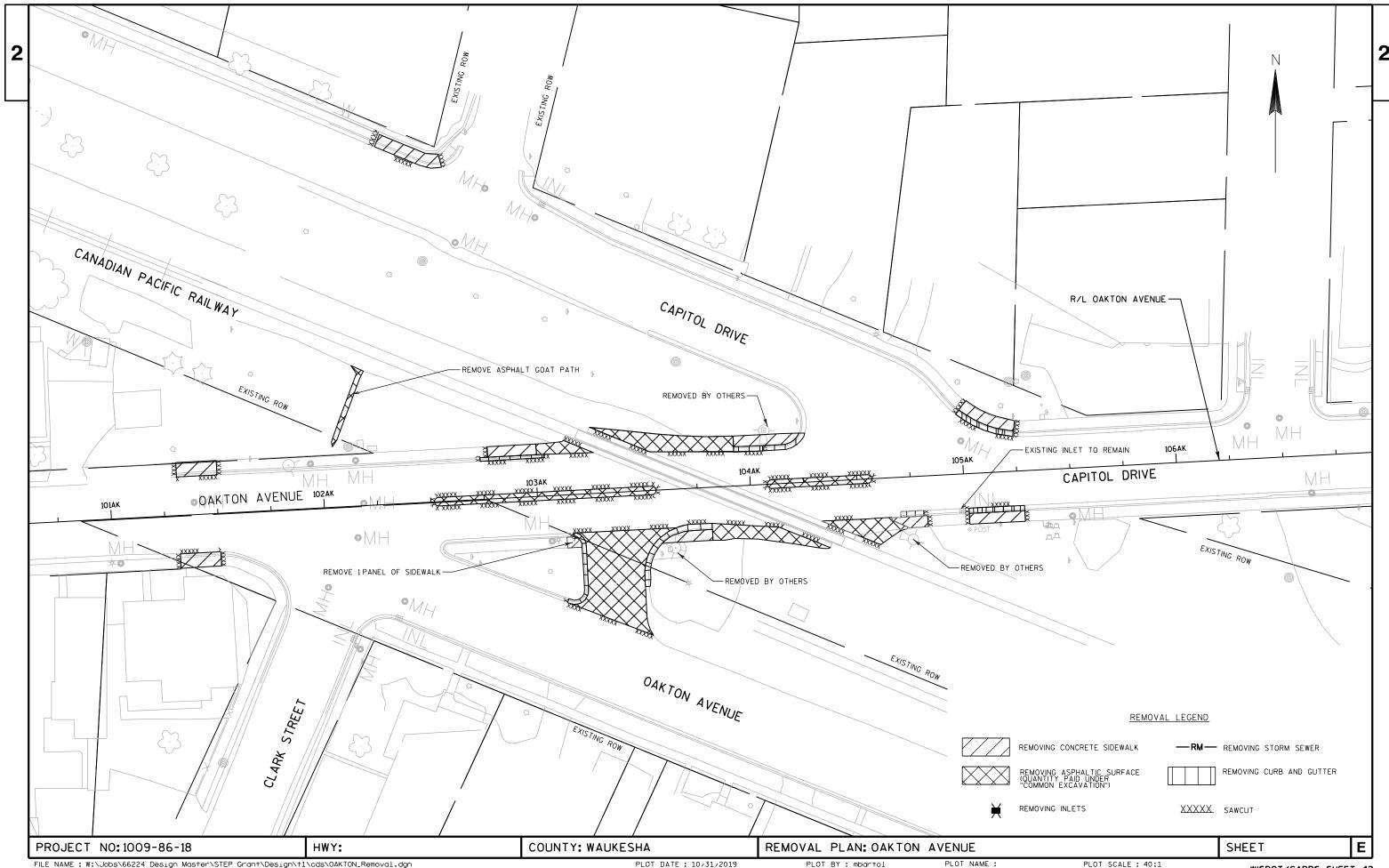
Ε PROJECT NO: 1009-86-18 HWY: COUNTY: WAUKESHA TYPICAL SECTION: FOREST GROVE DRIVE SHEET PLOT BY: mbartol PLOT NAME :

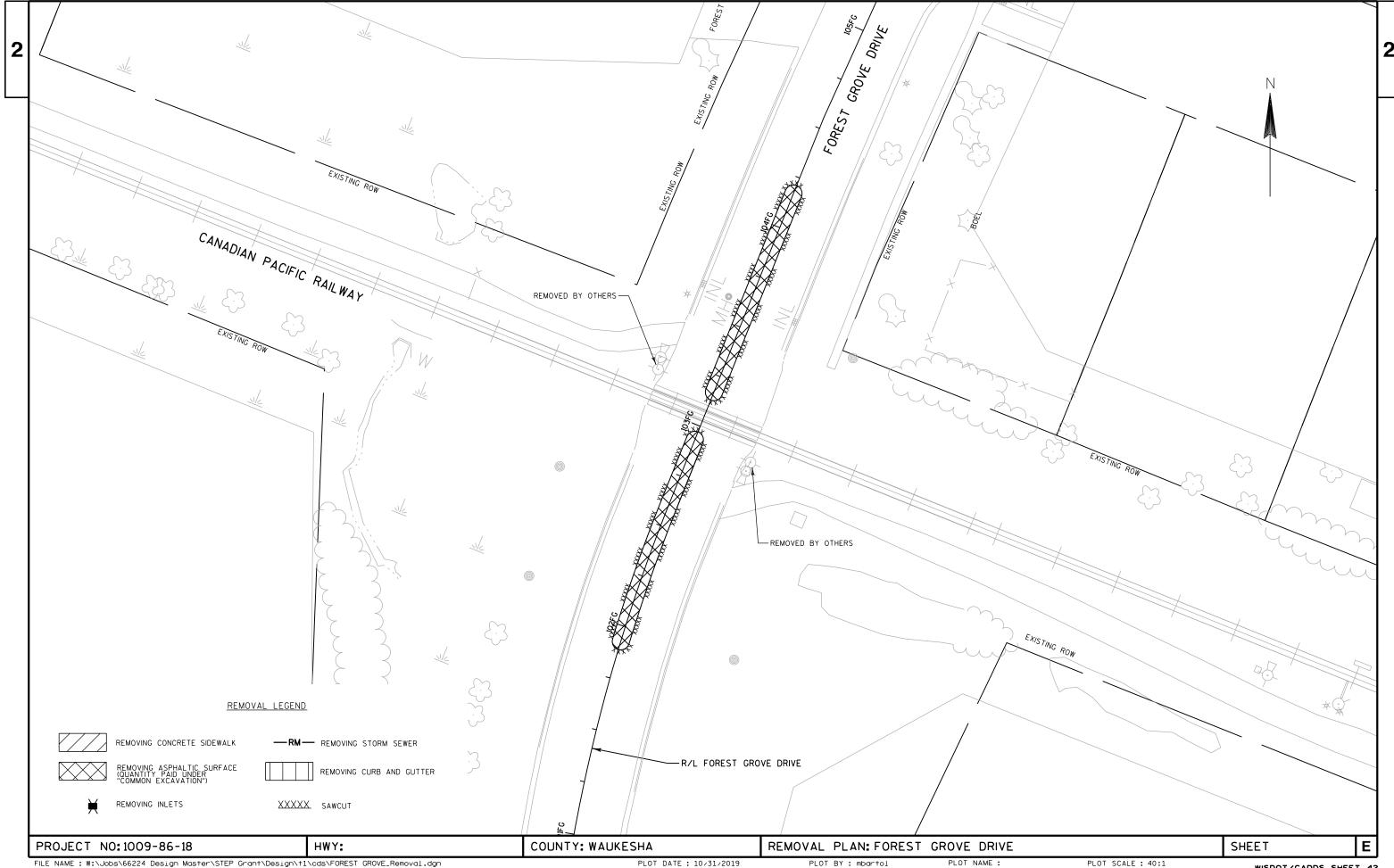


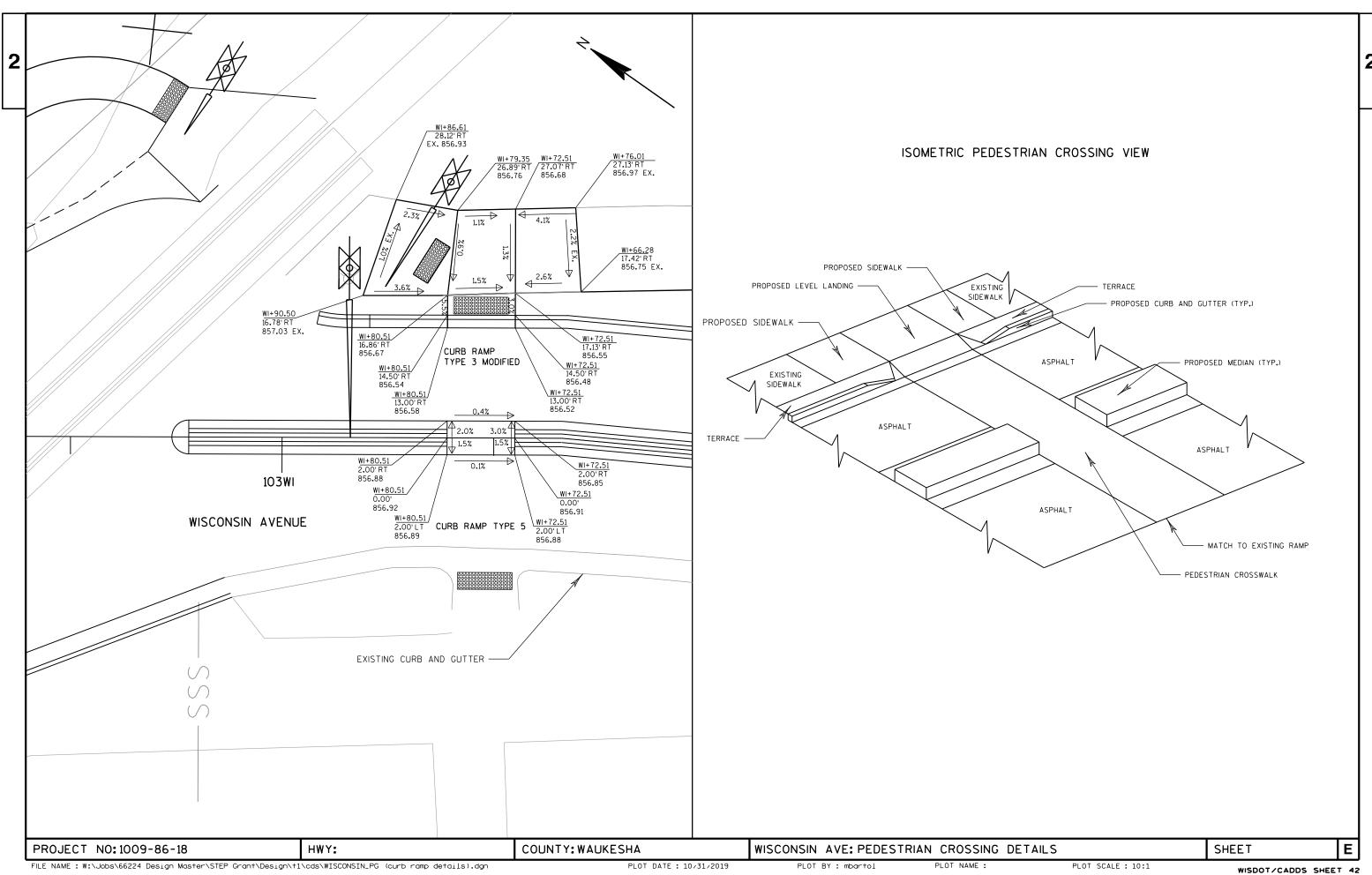


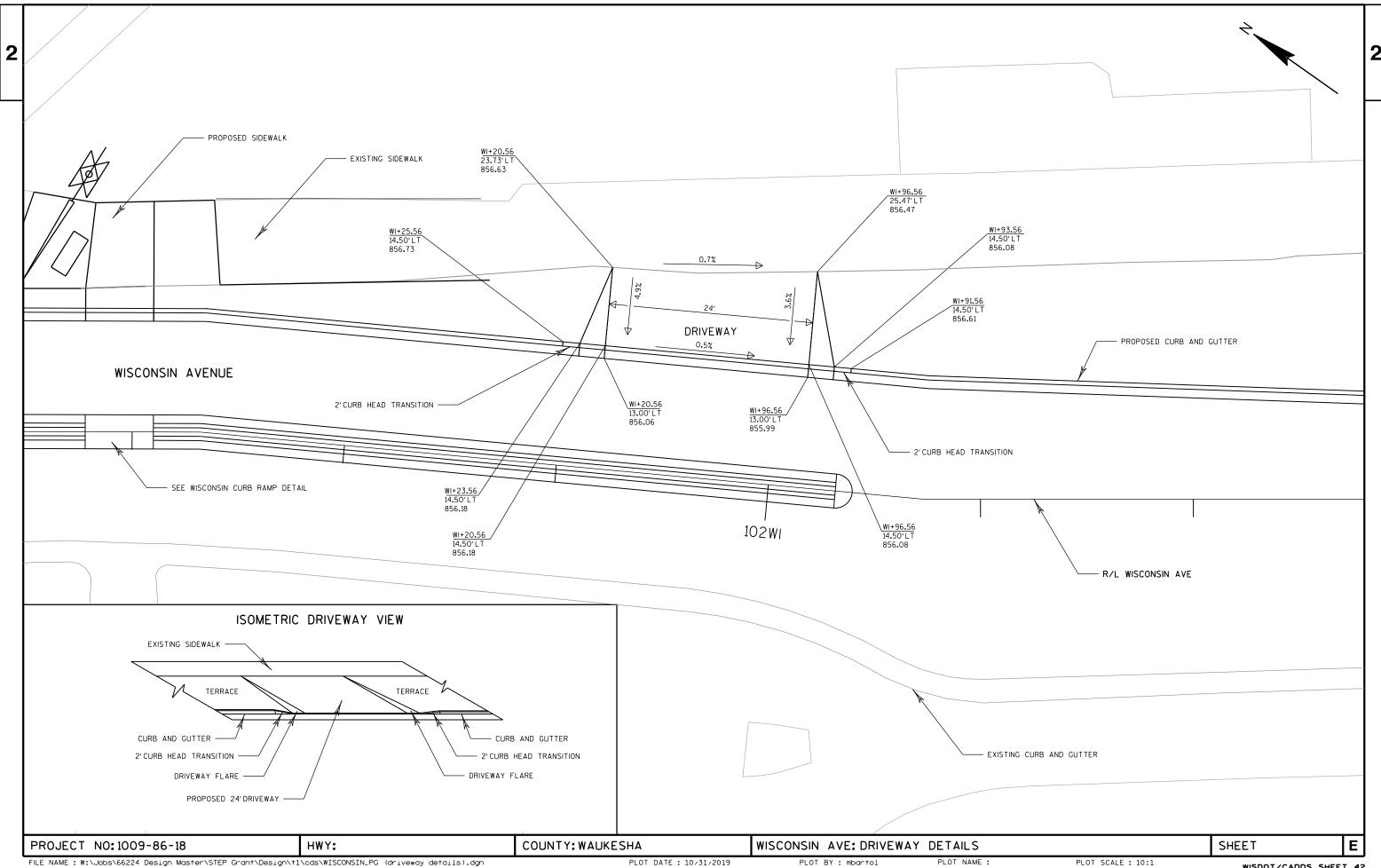


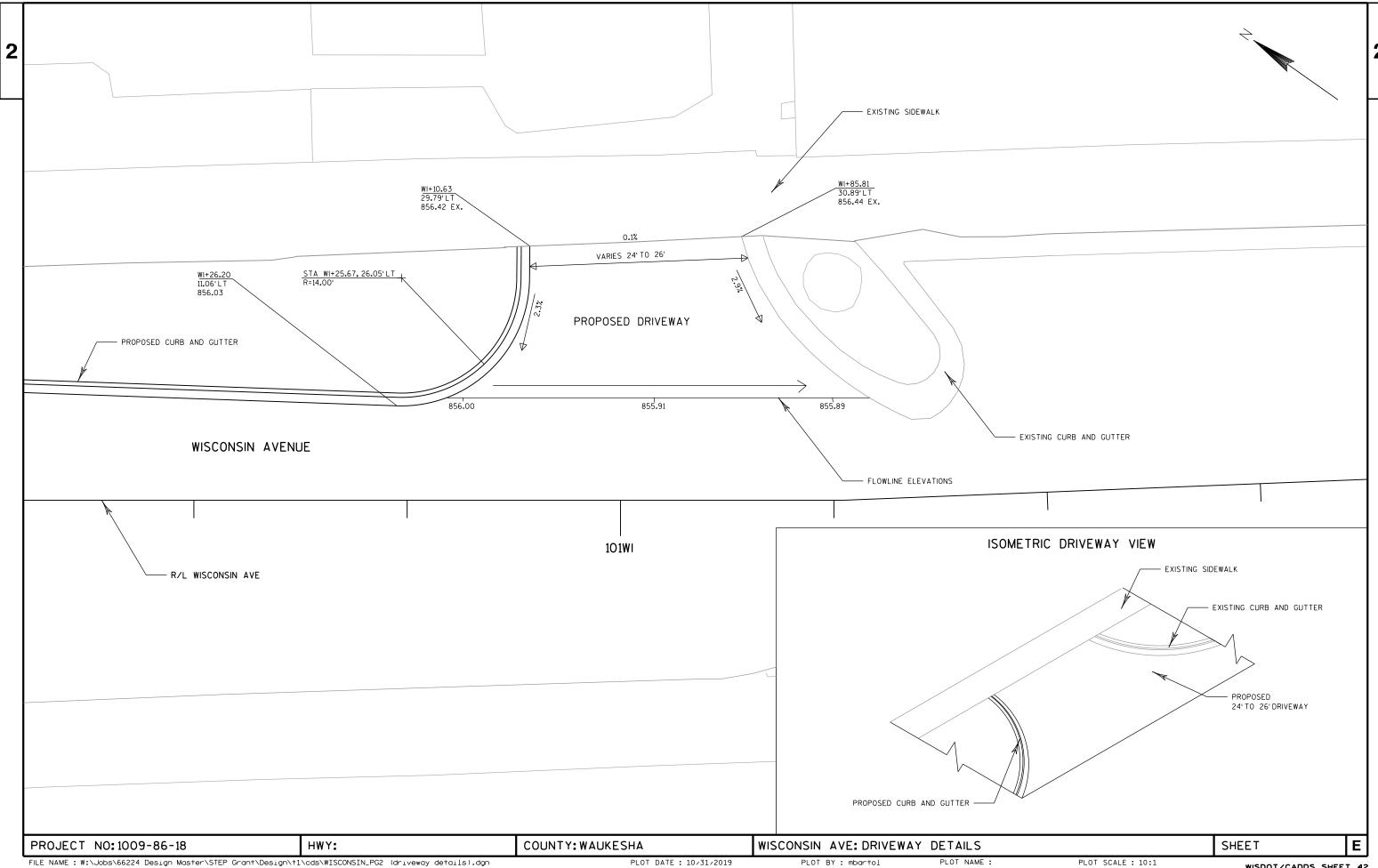


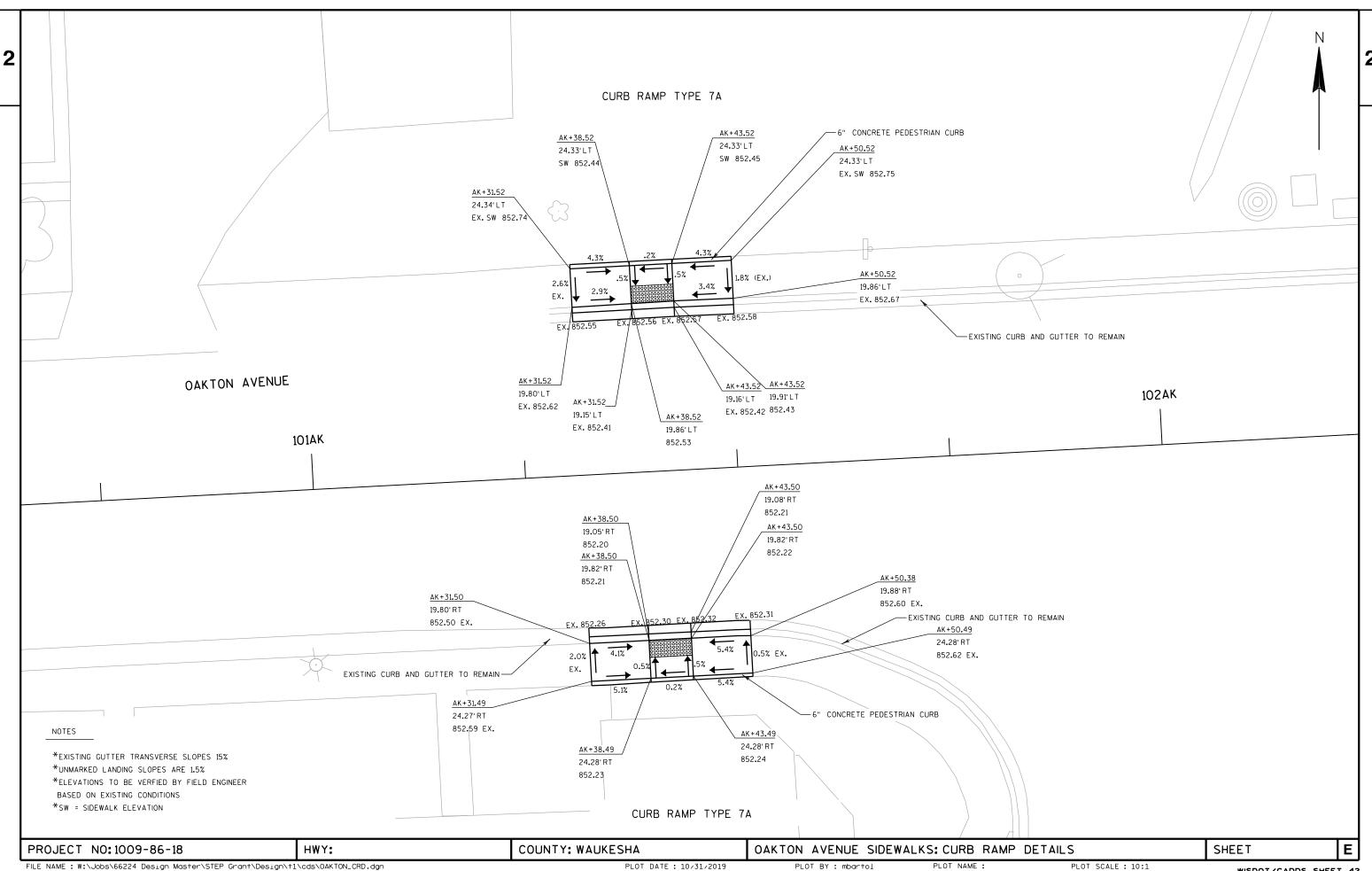


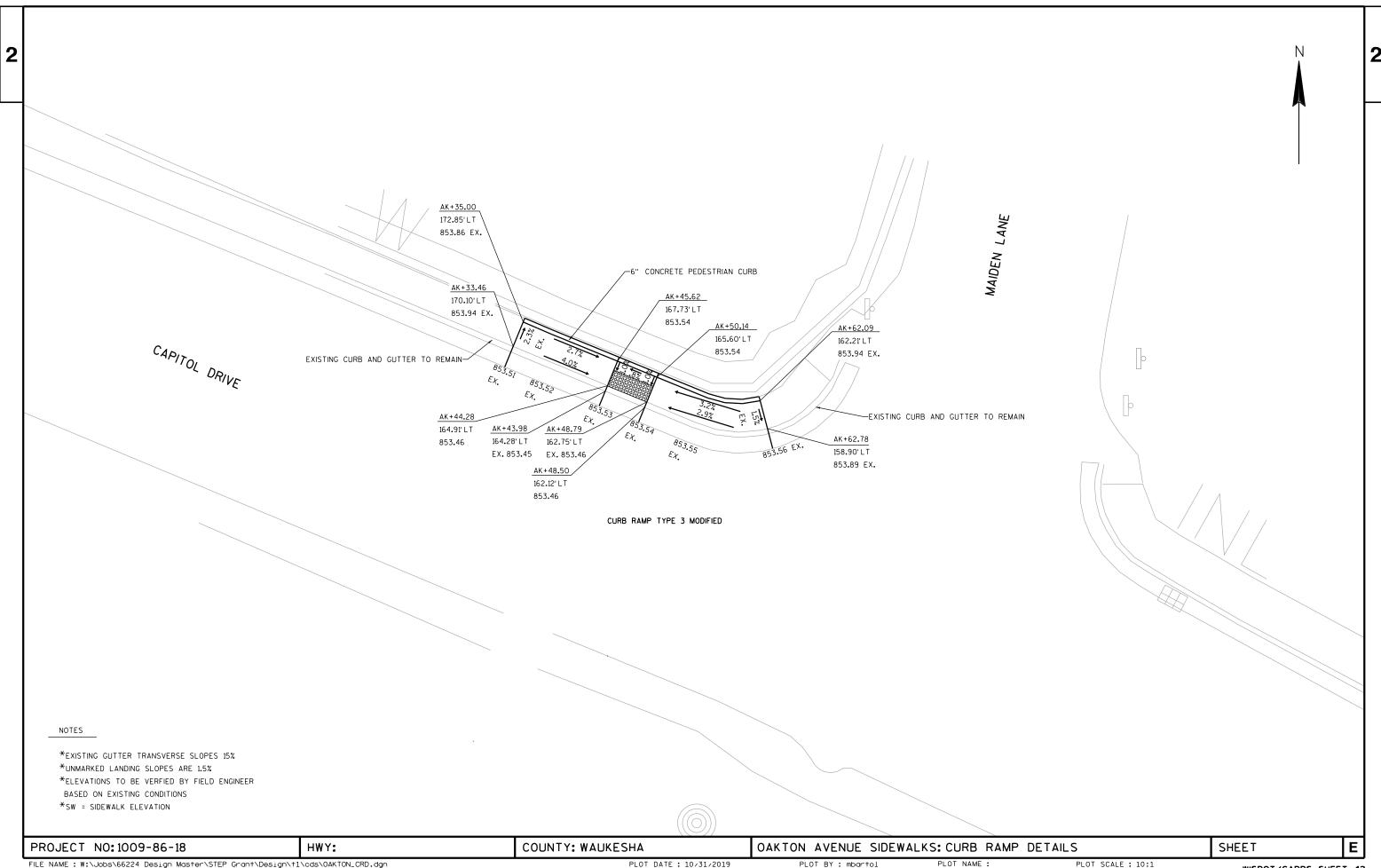


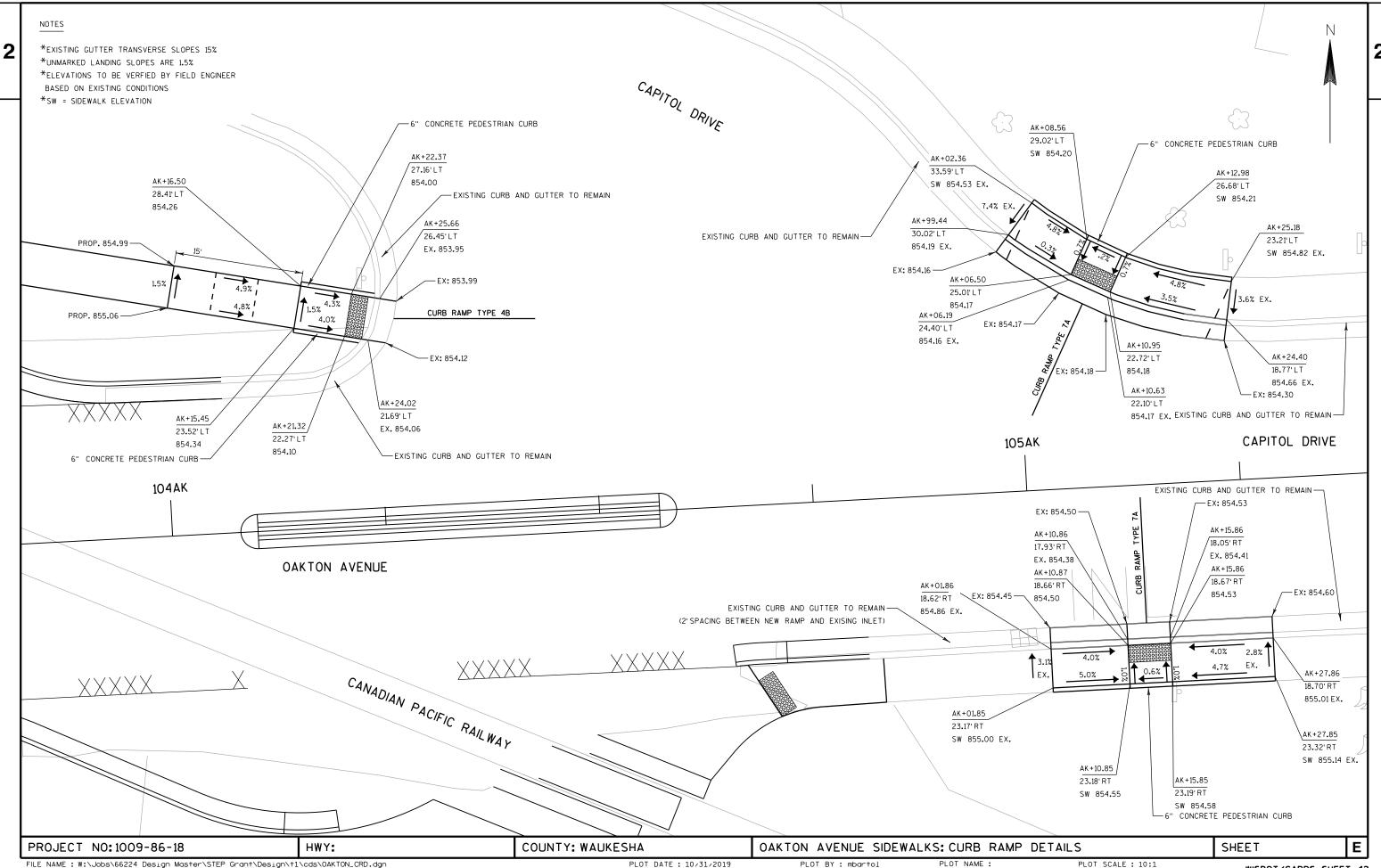


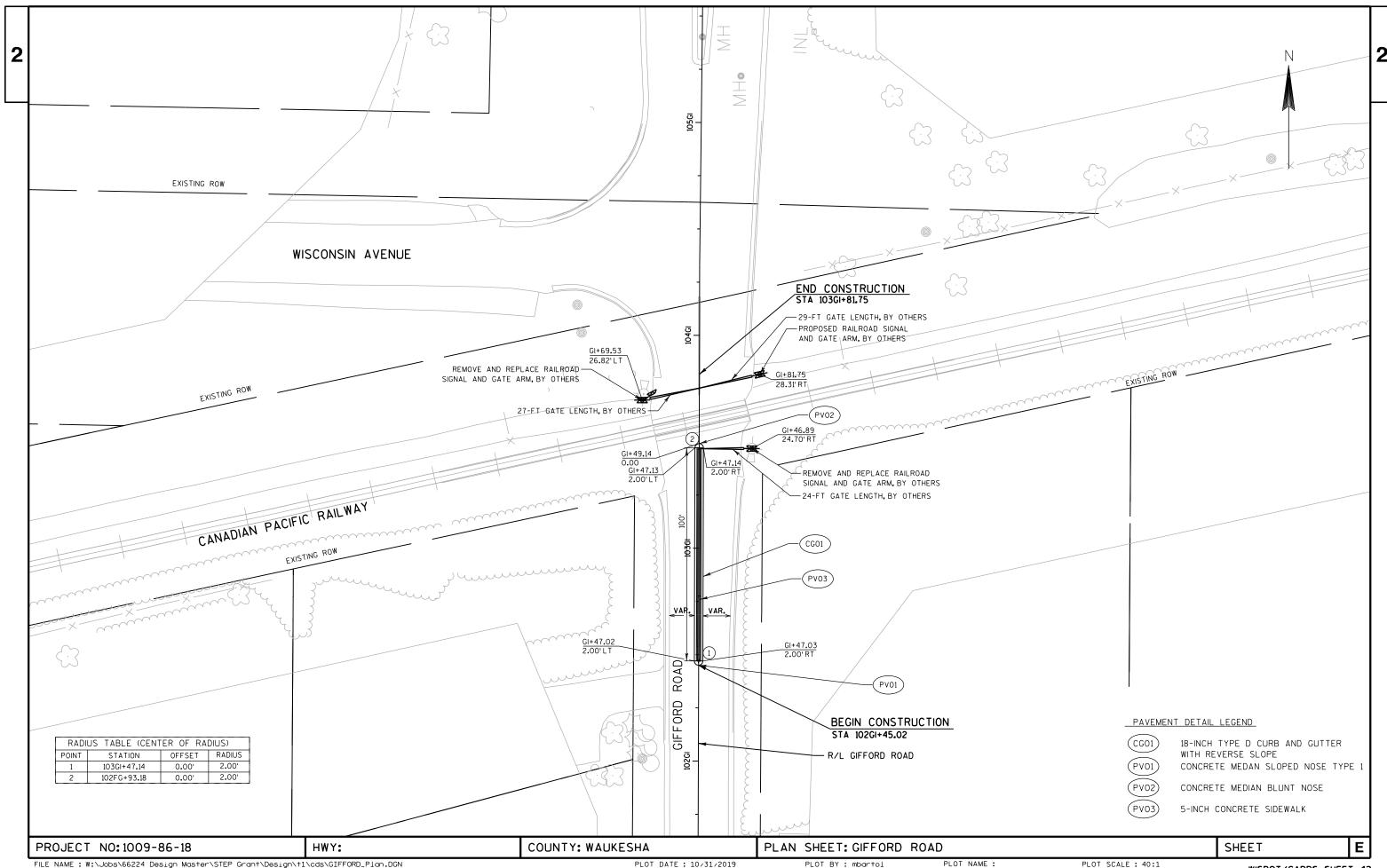


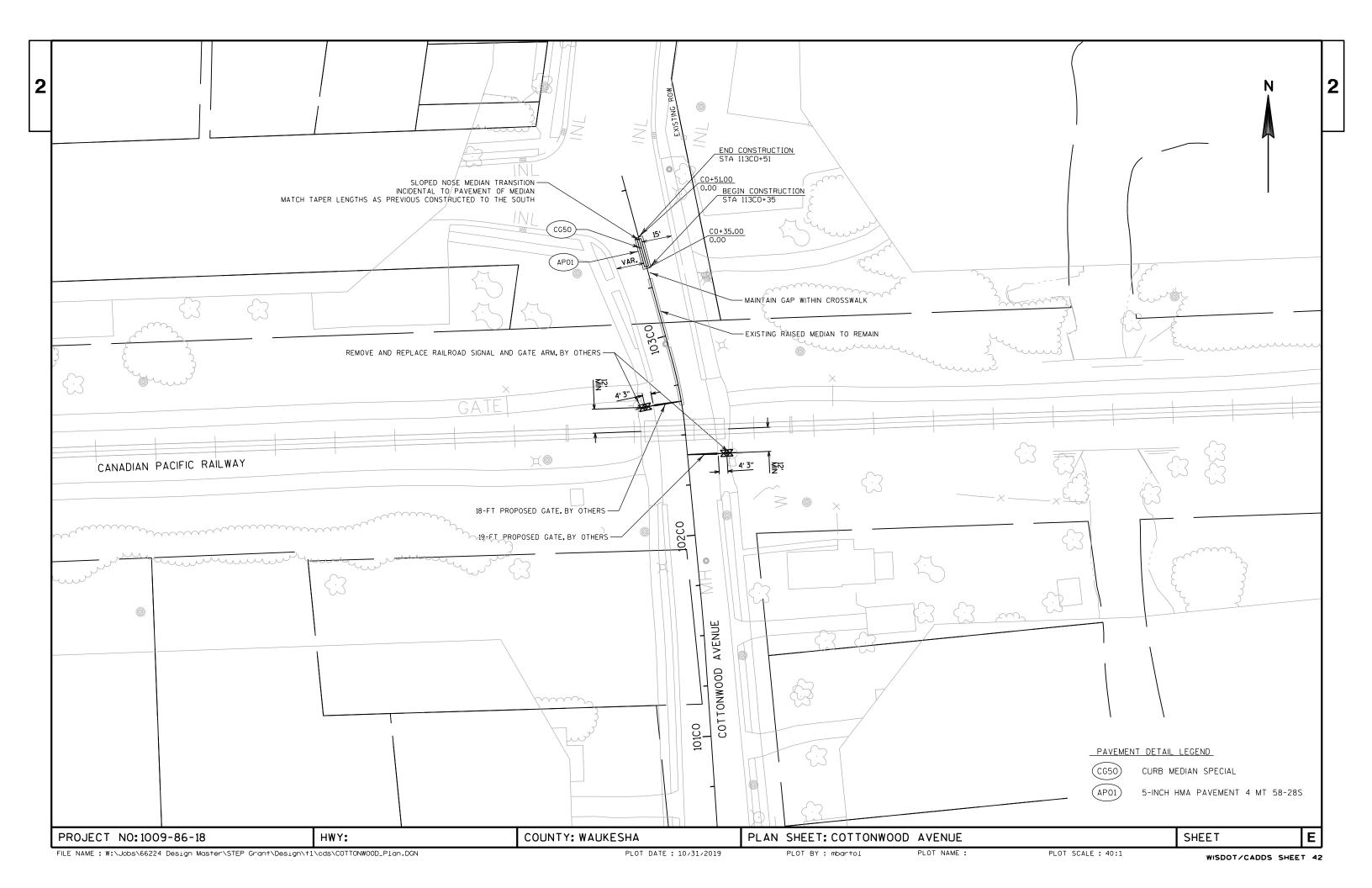


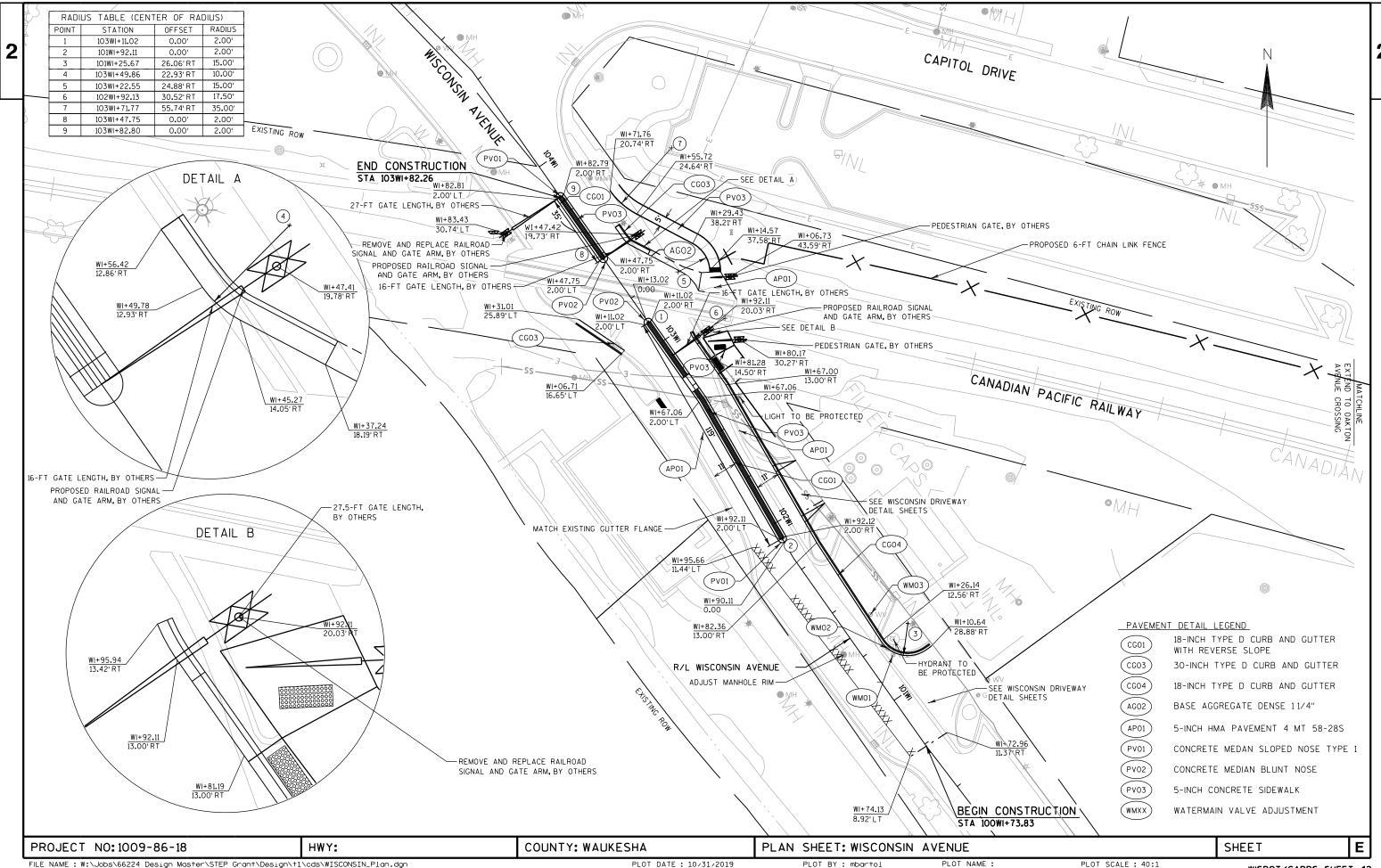


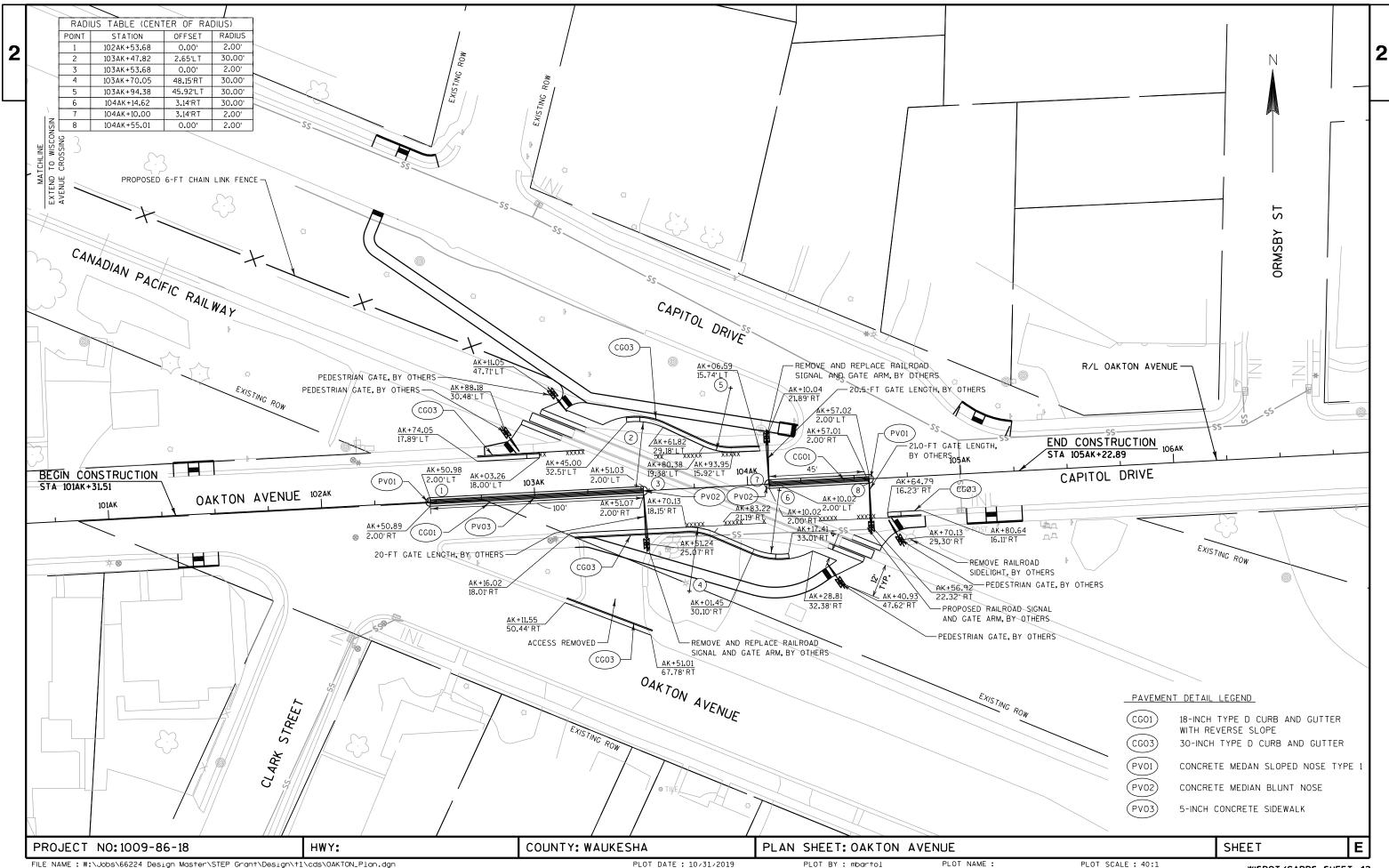


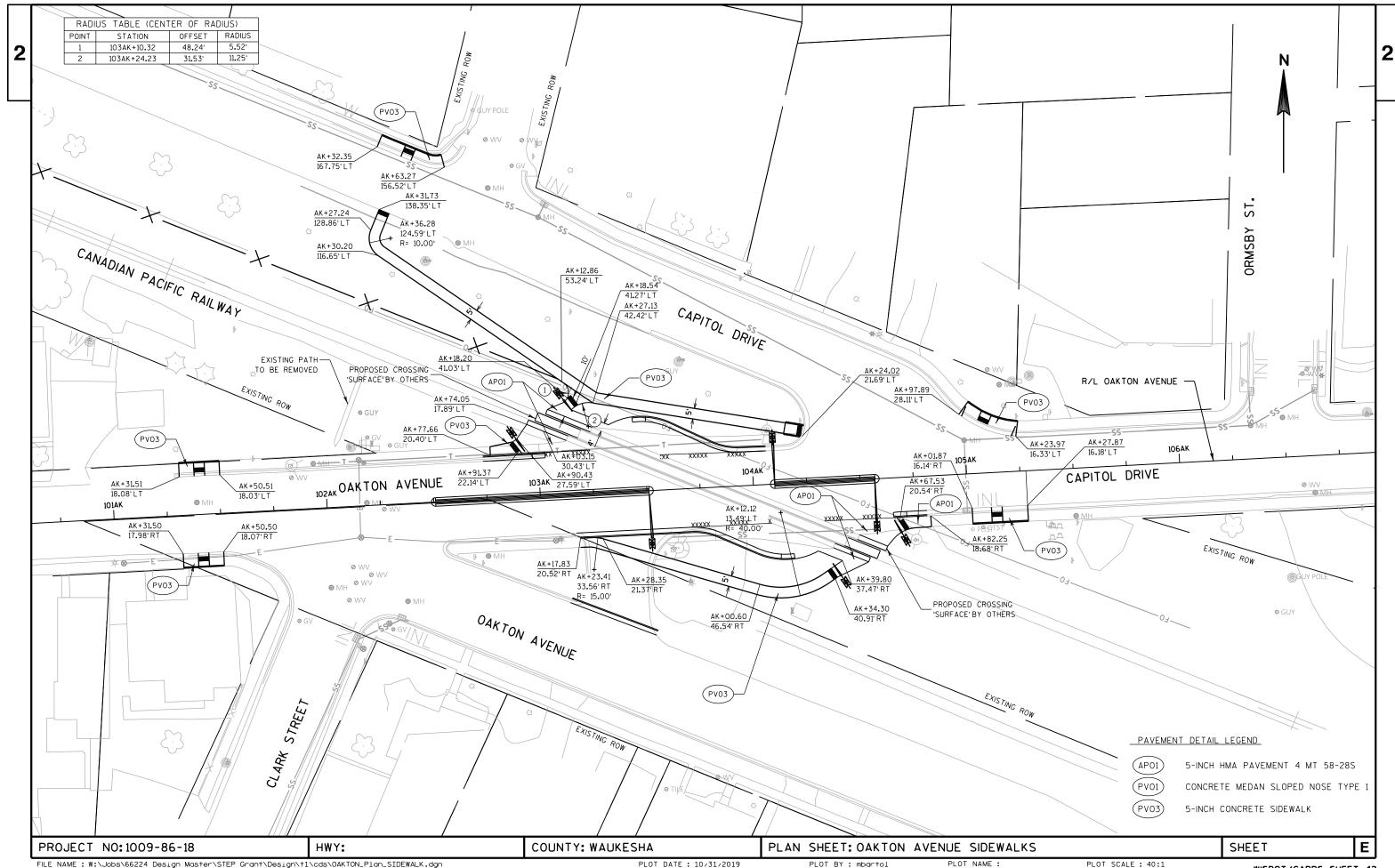


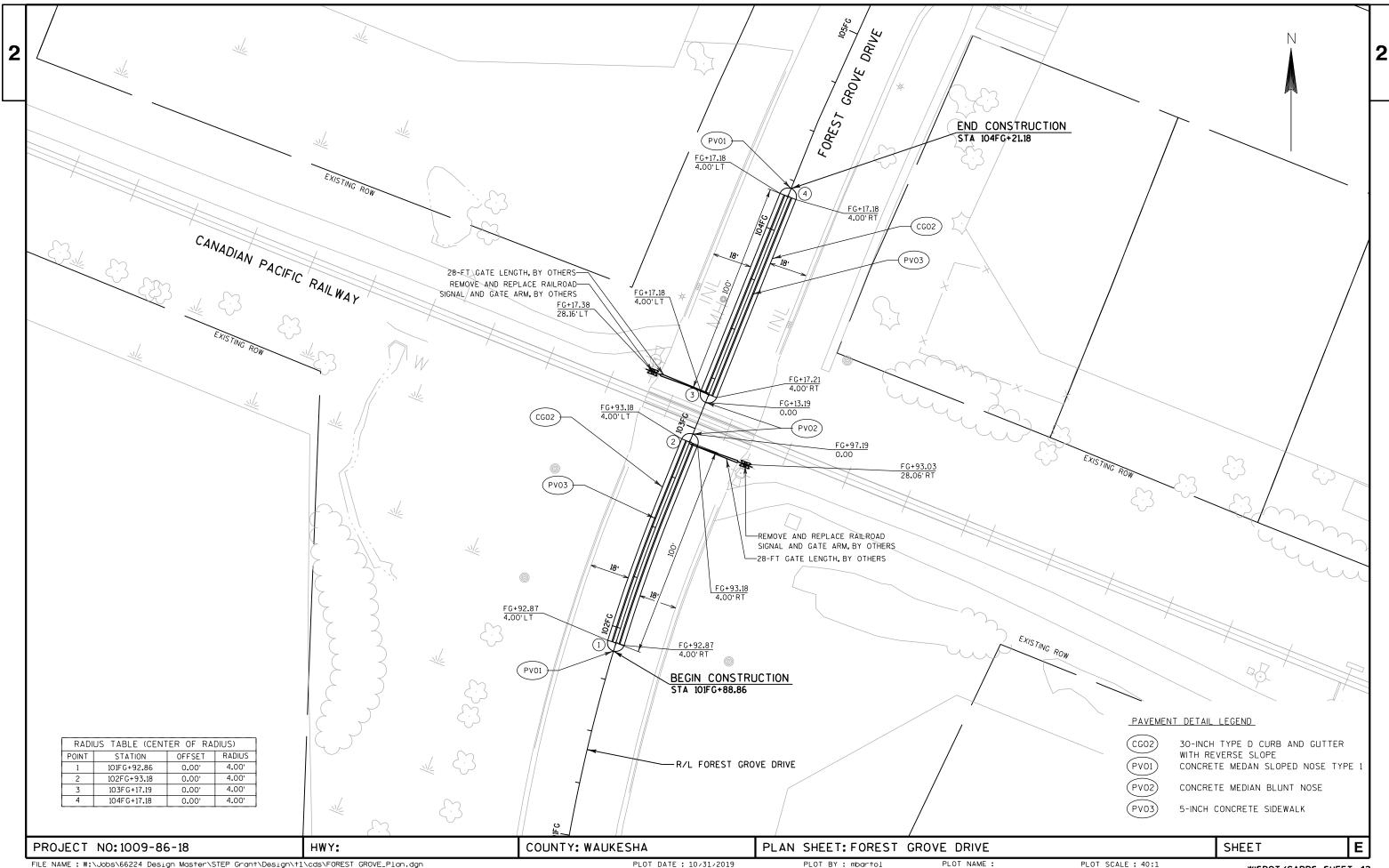


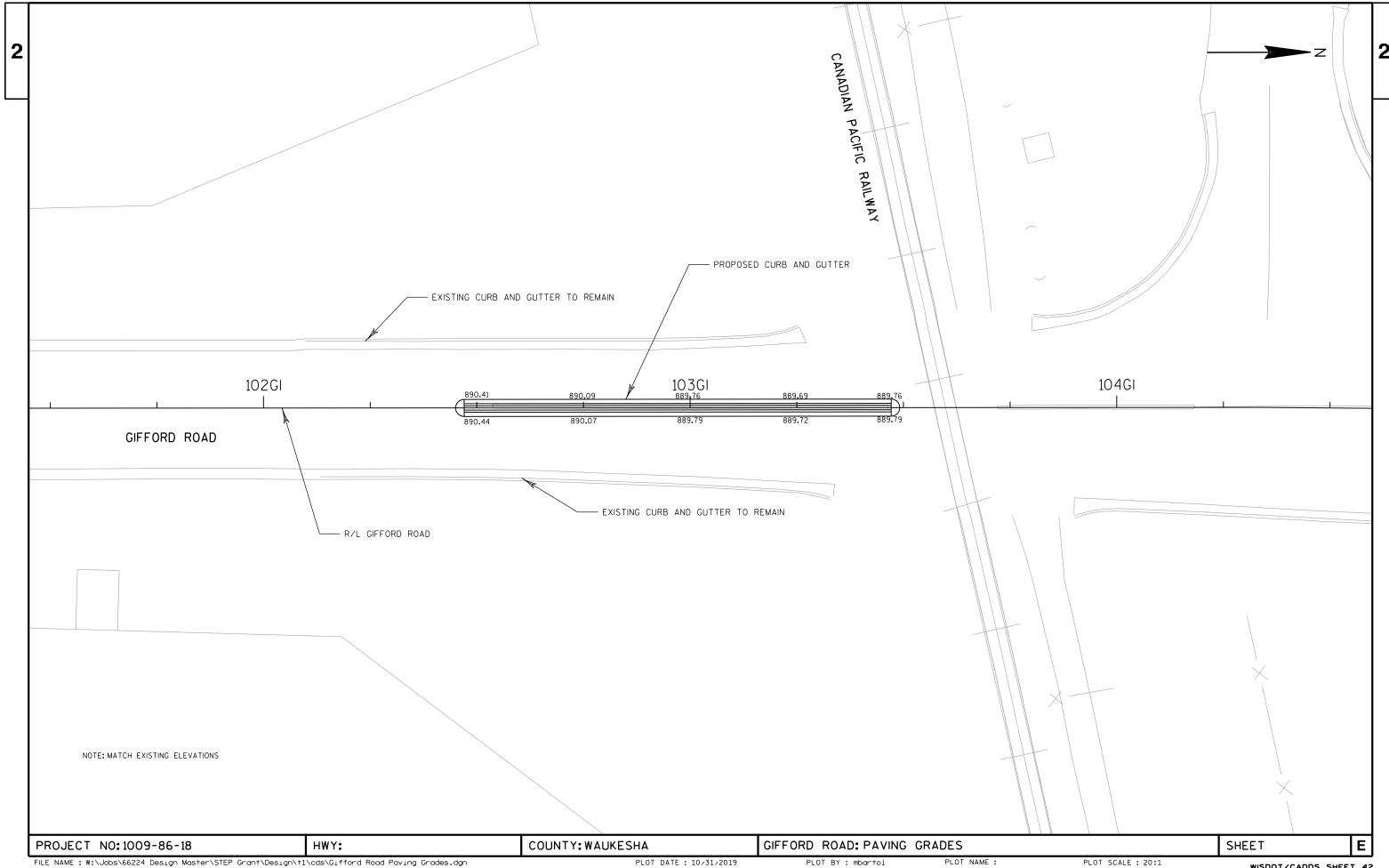


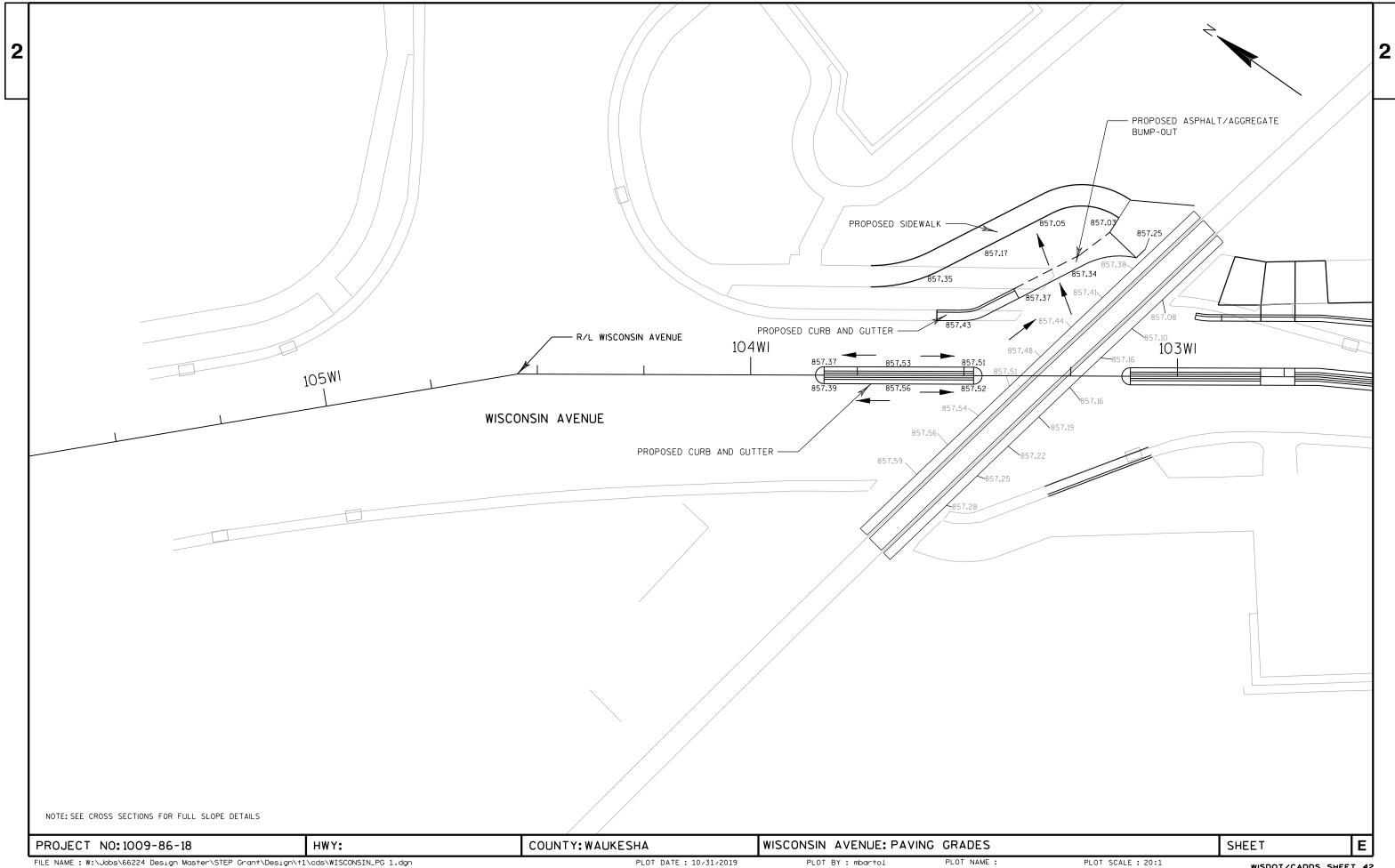


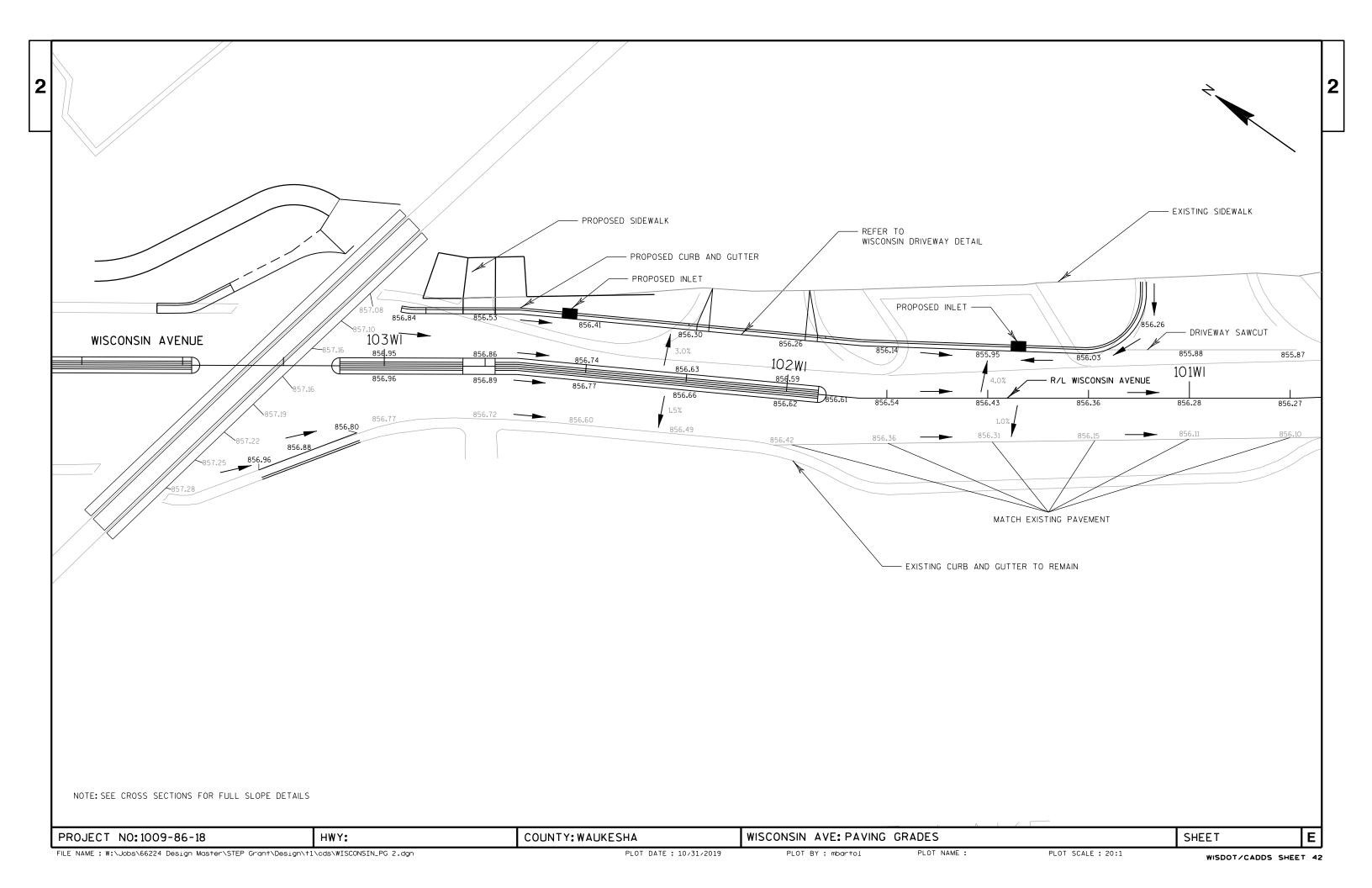


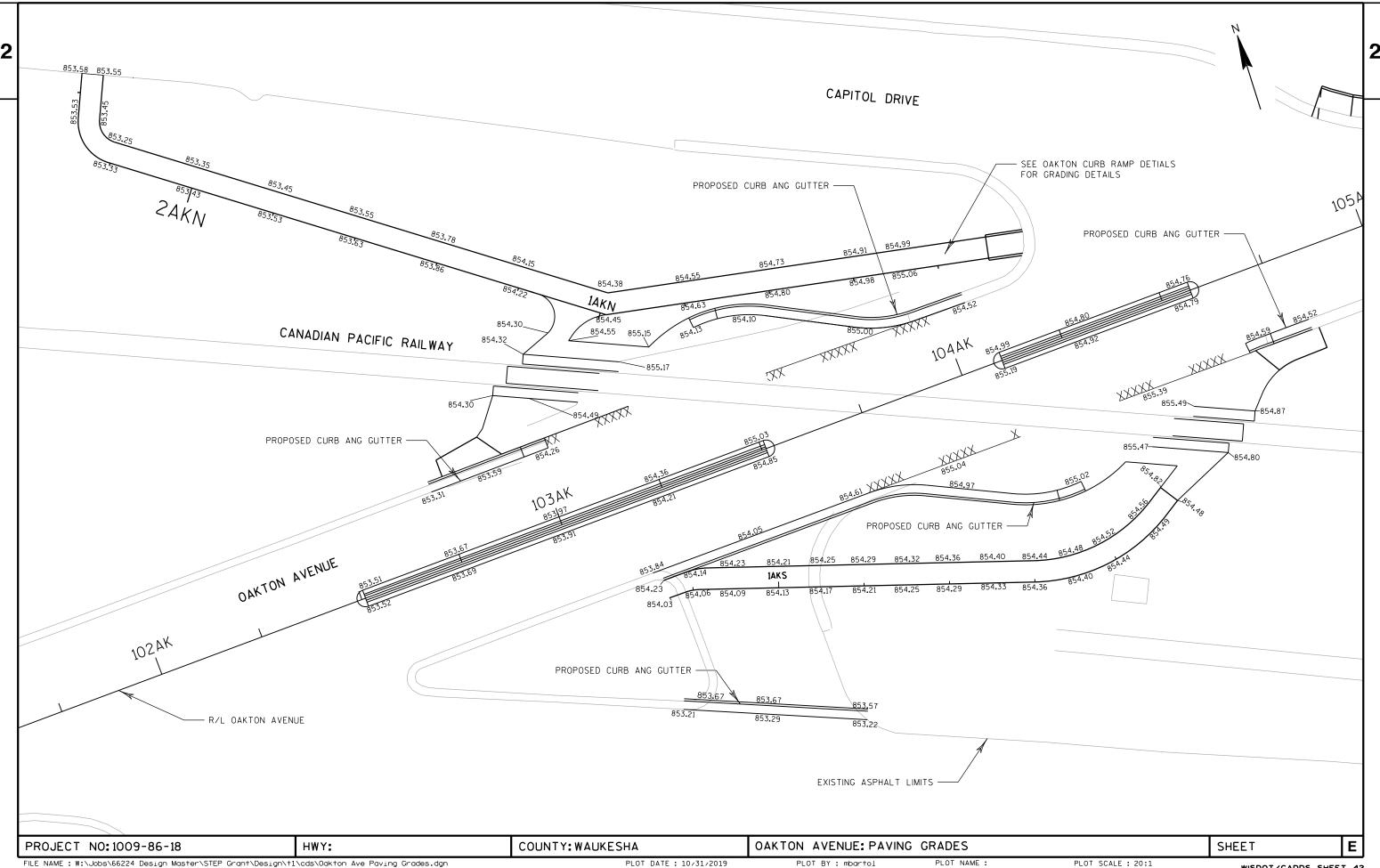


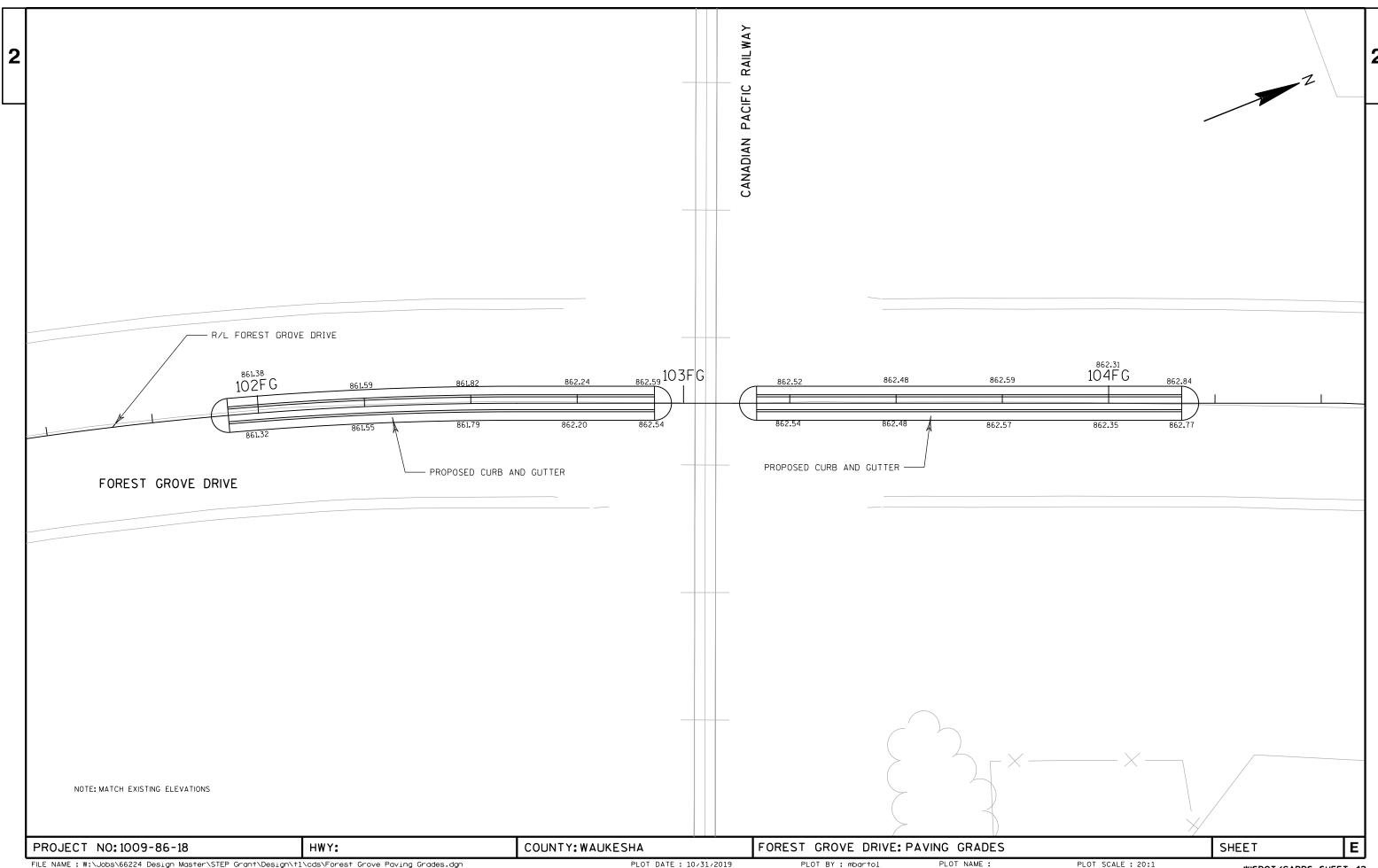


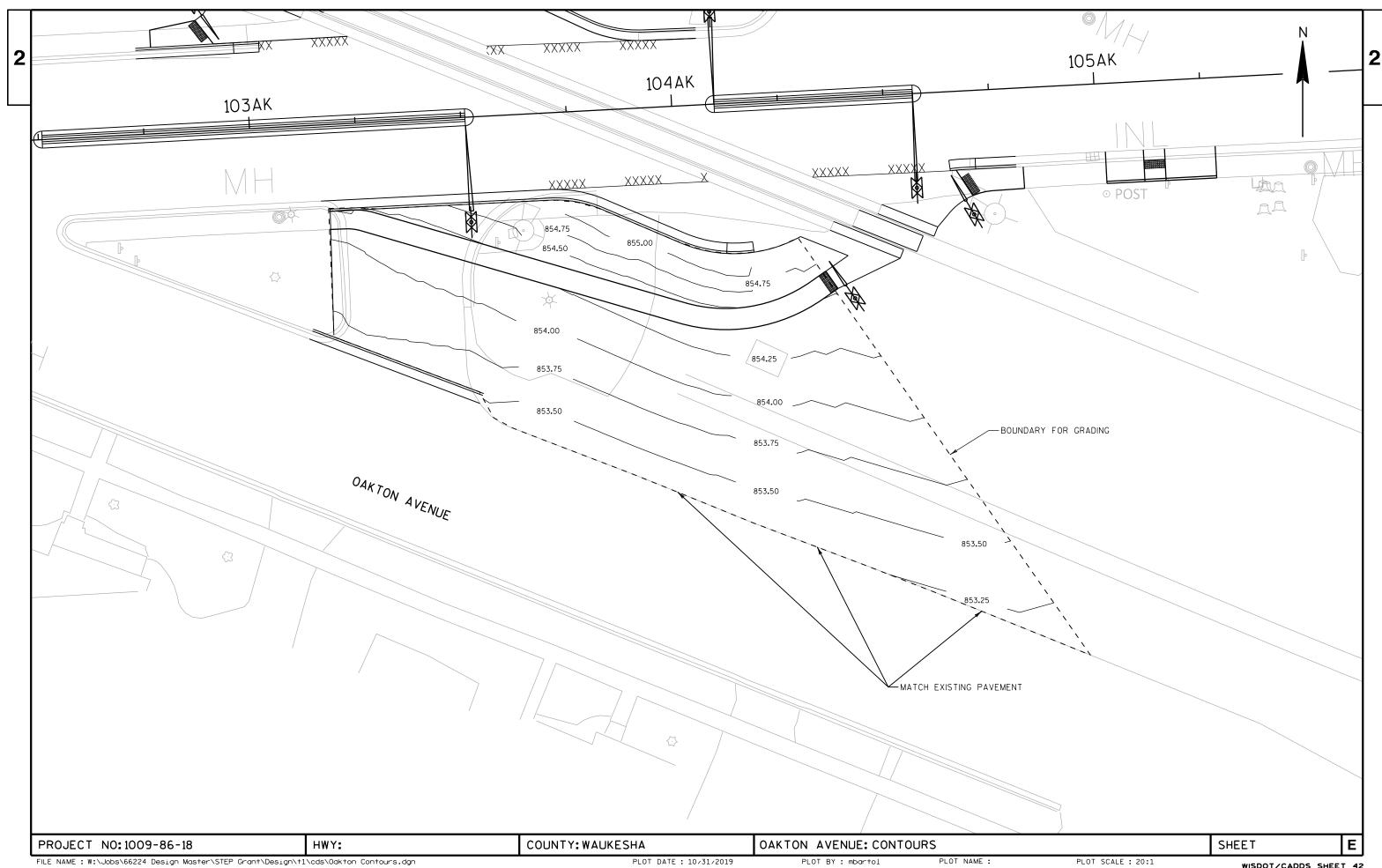


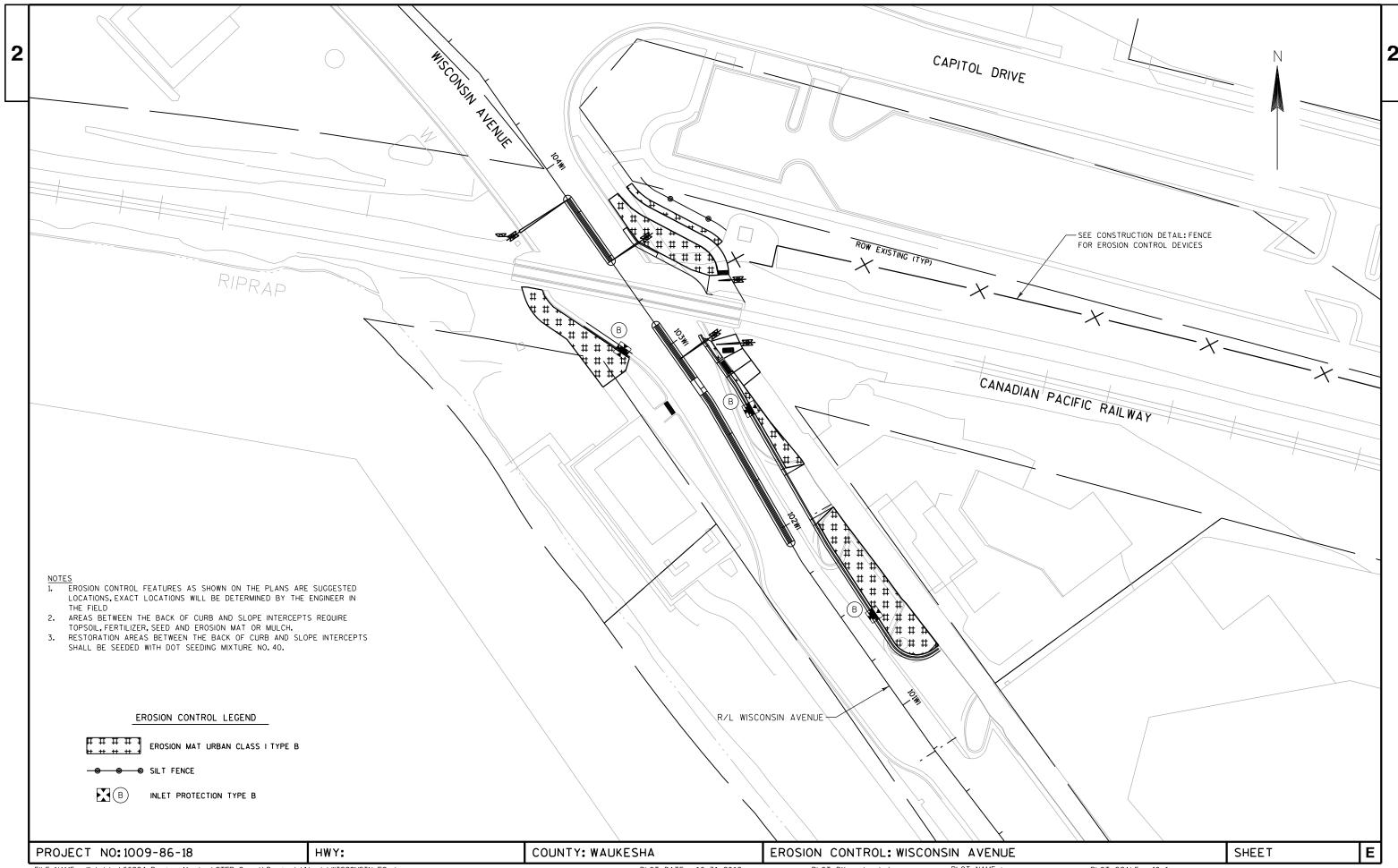


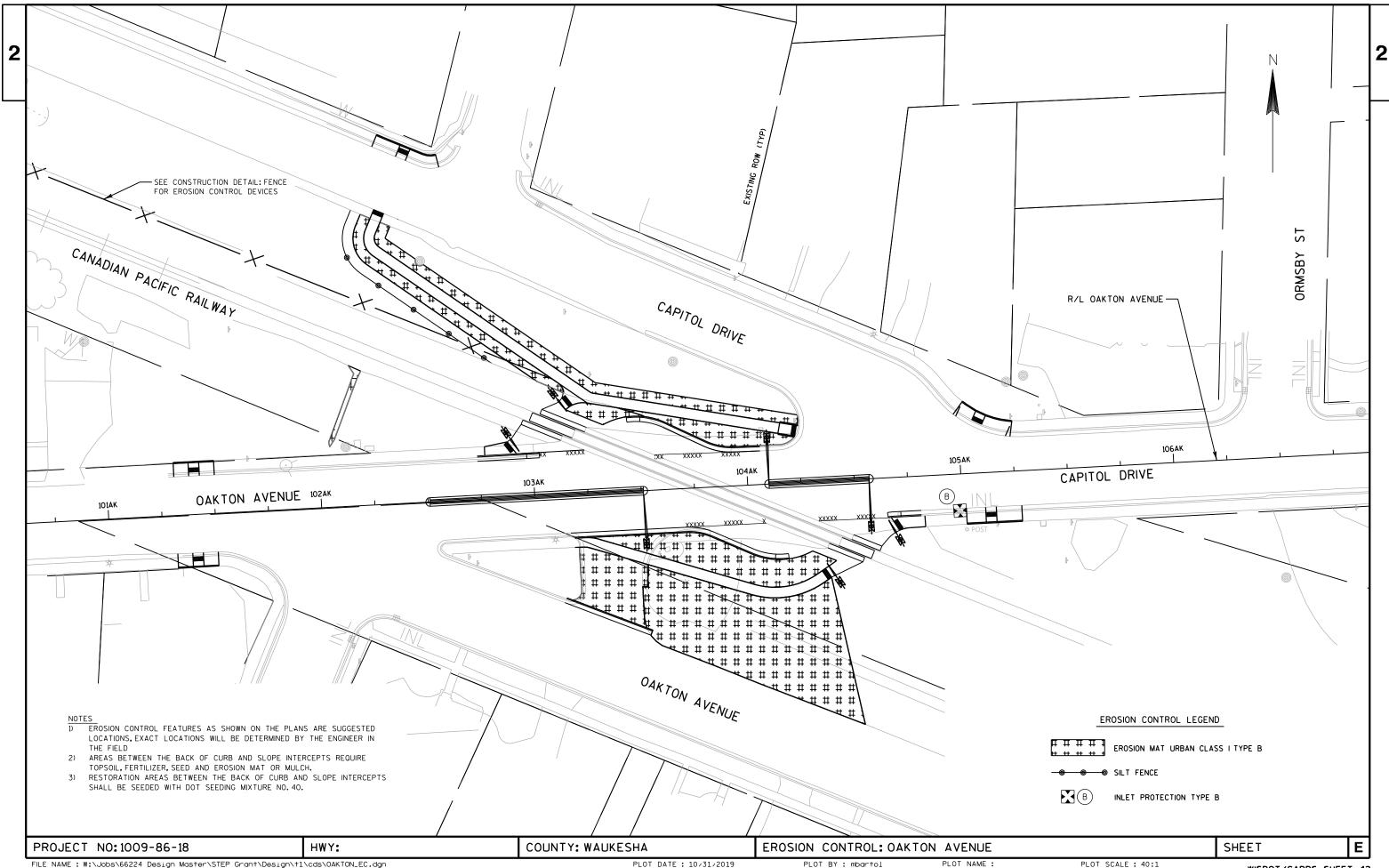


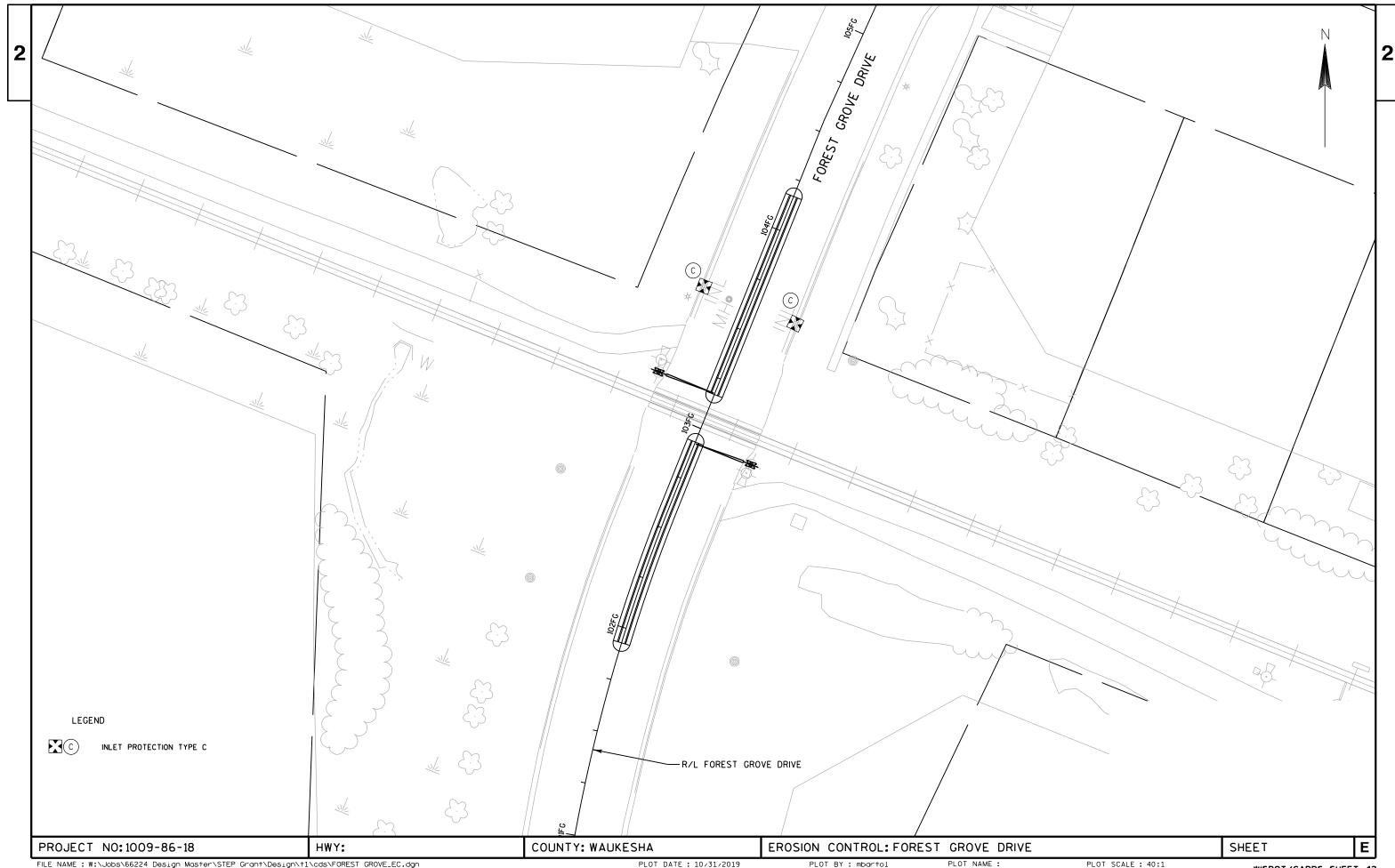


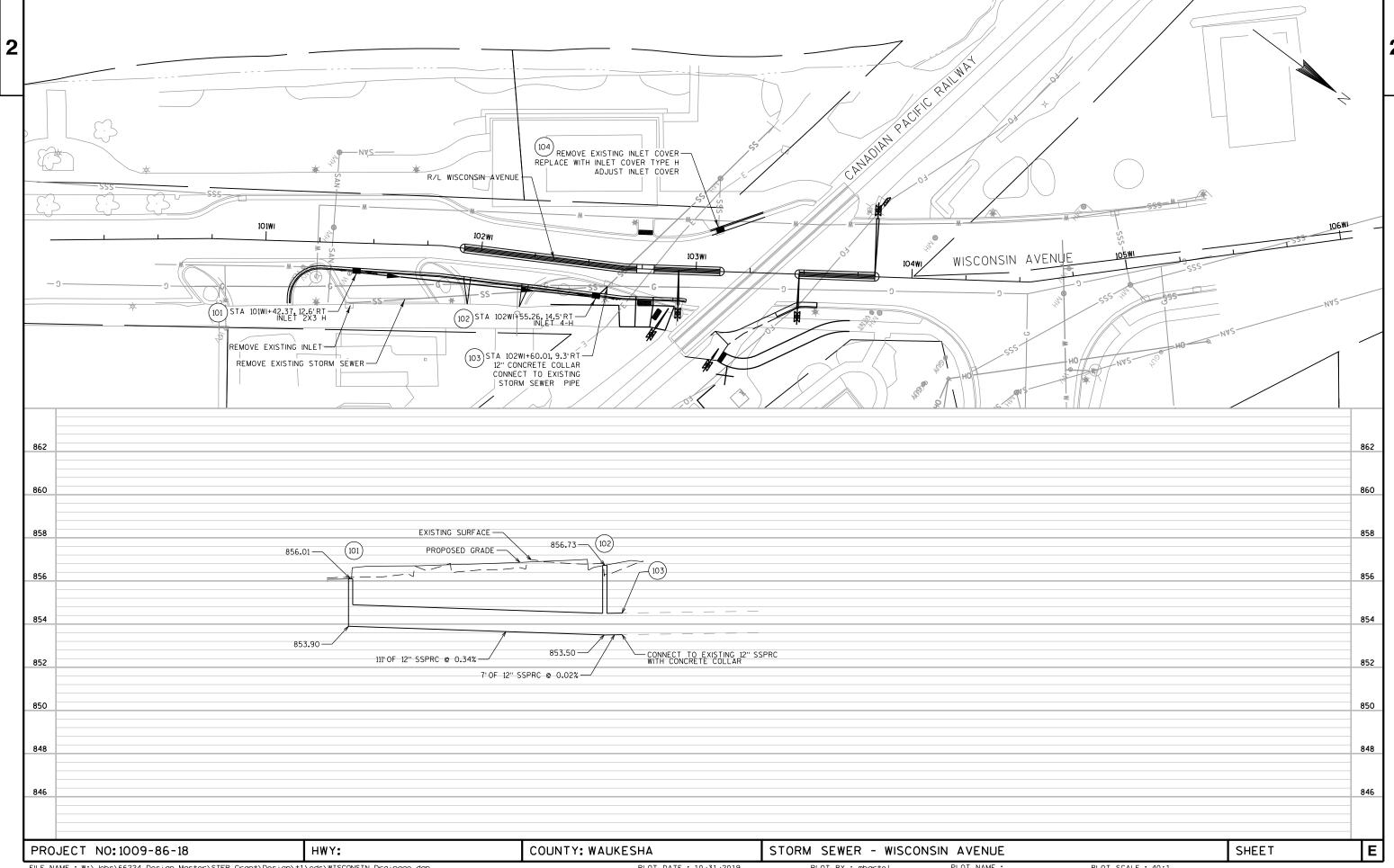


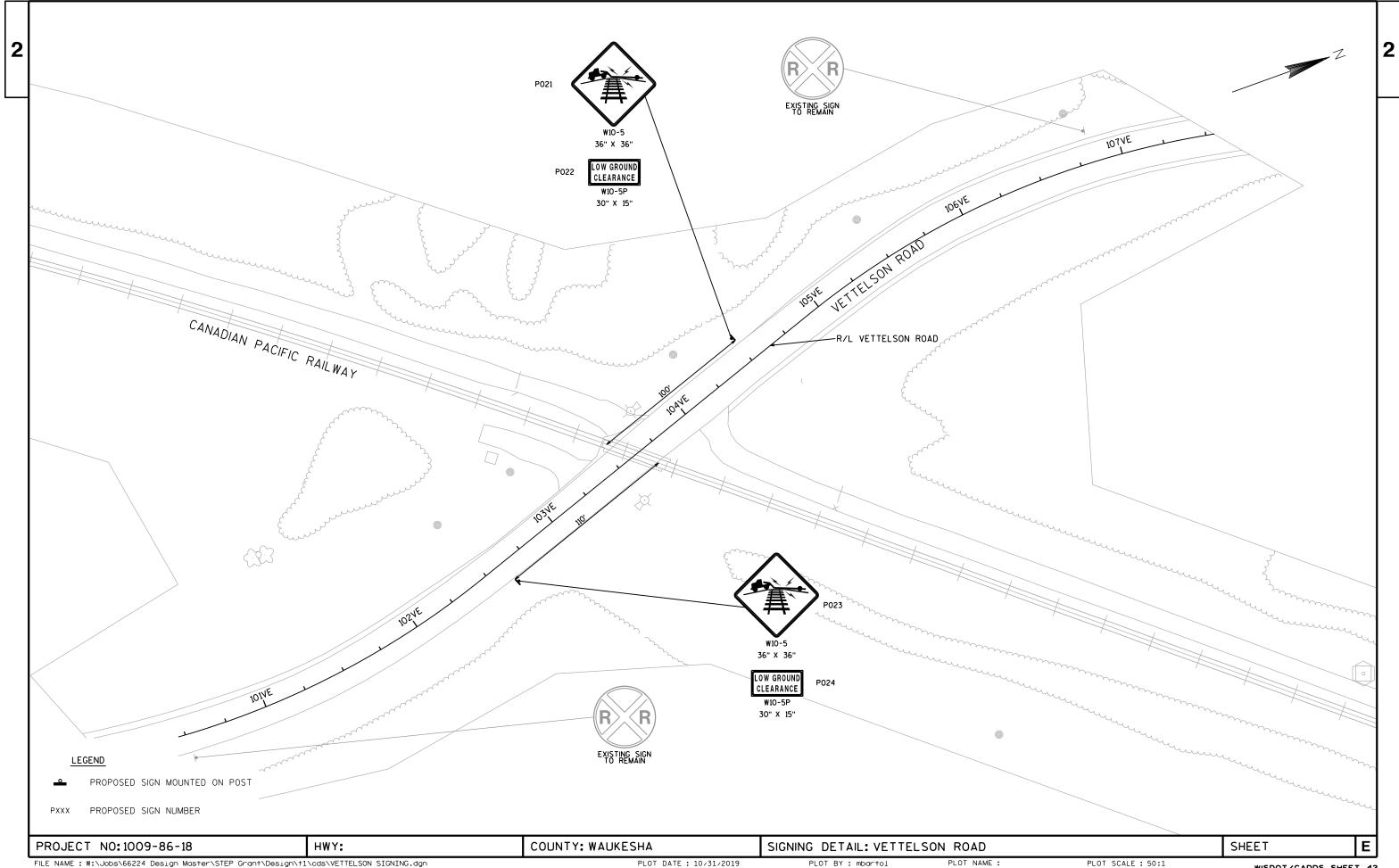


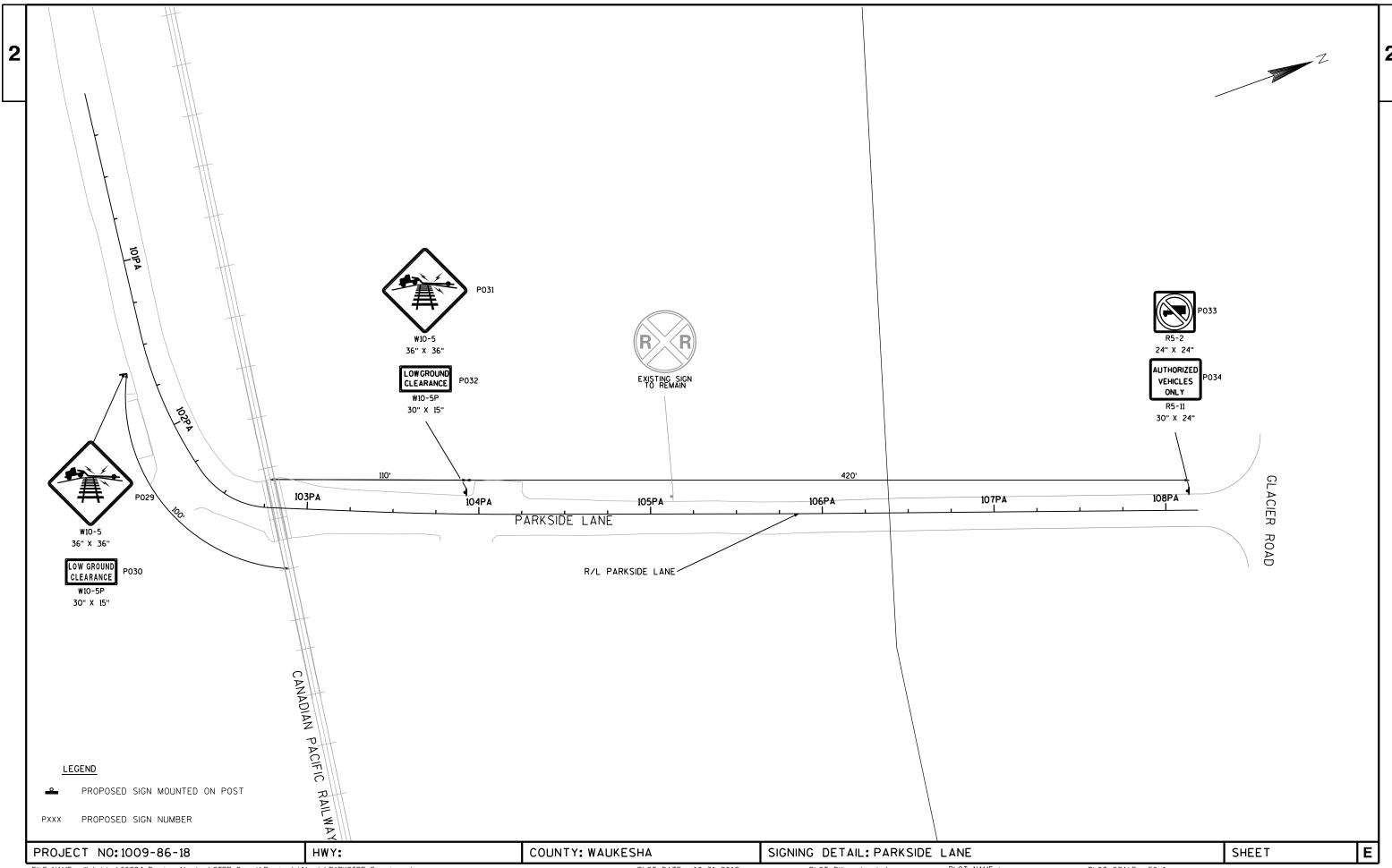


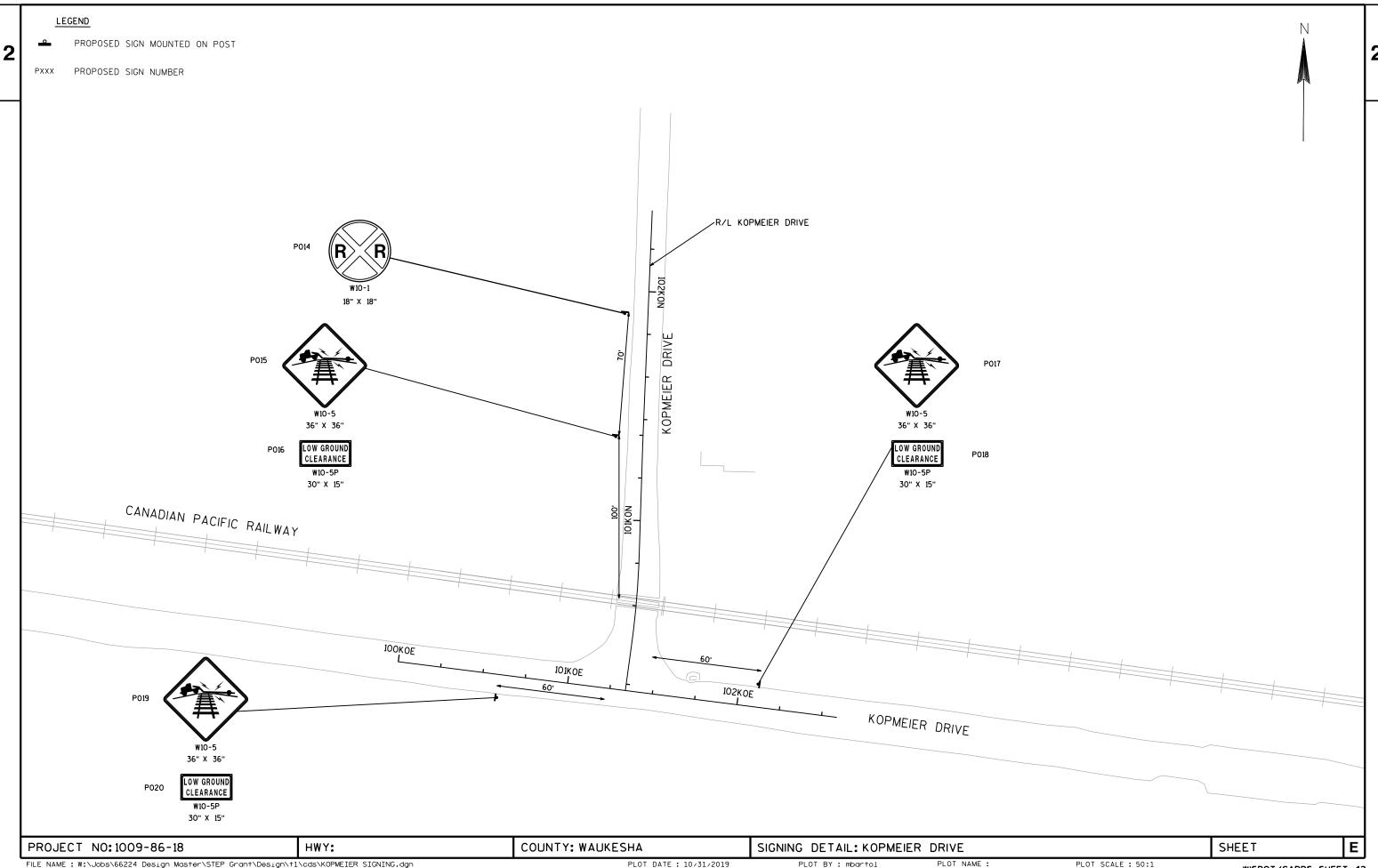


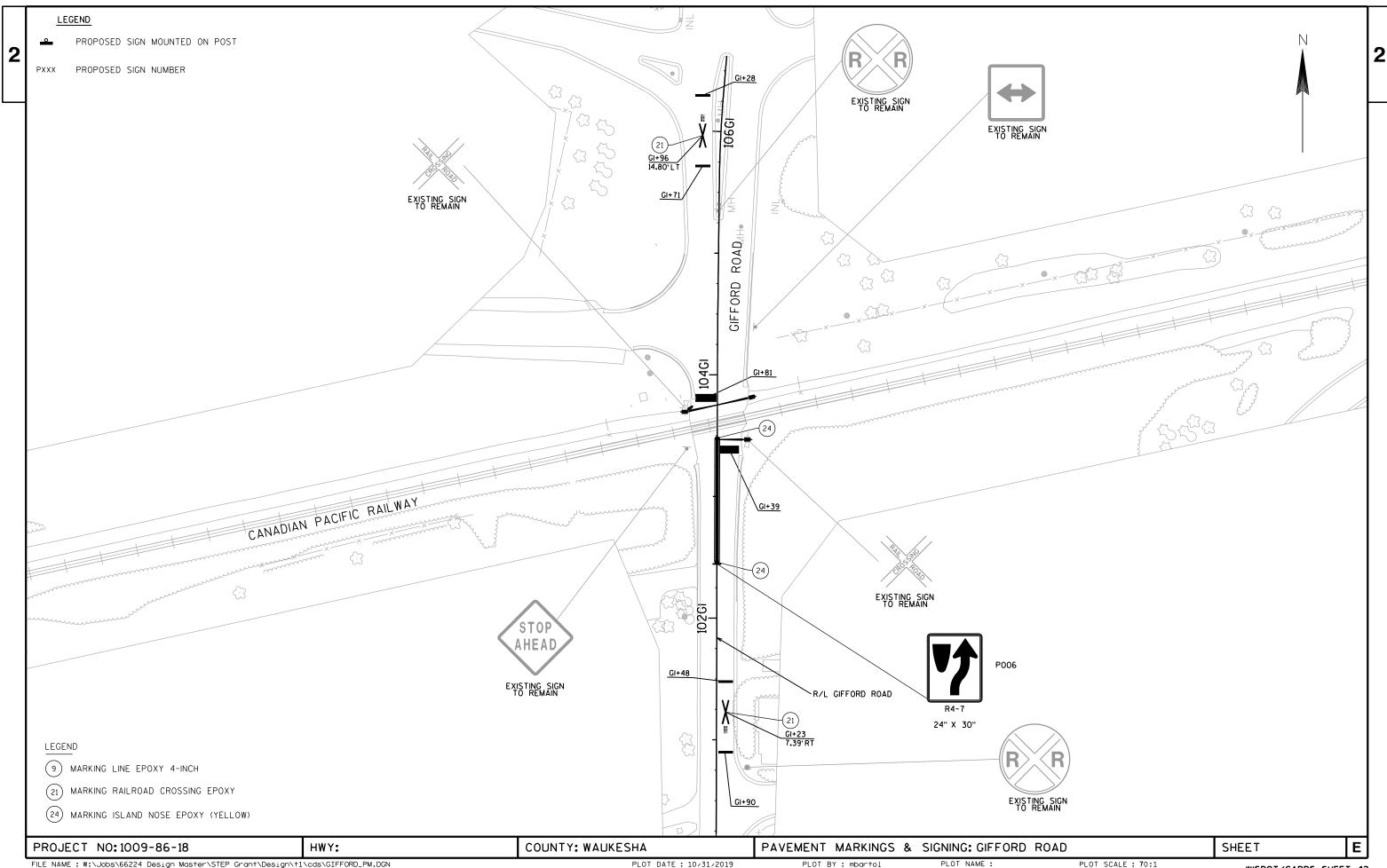


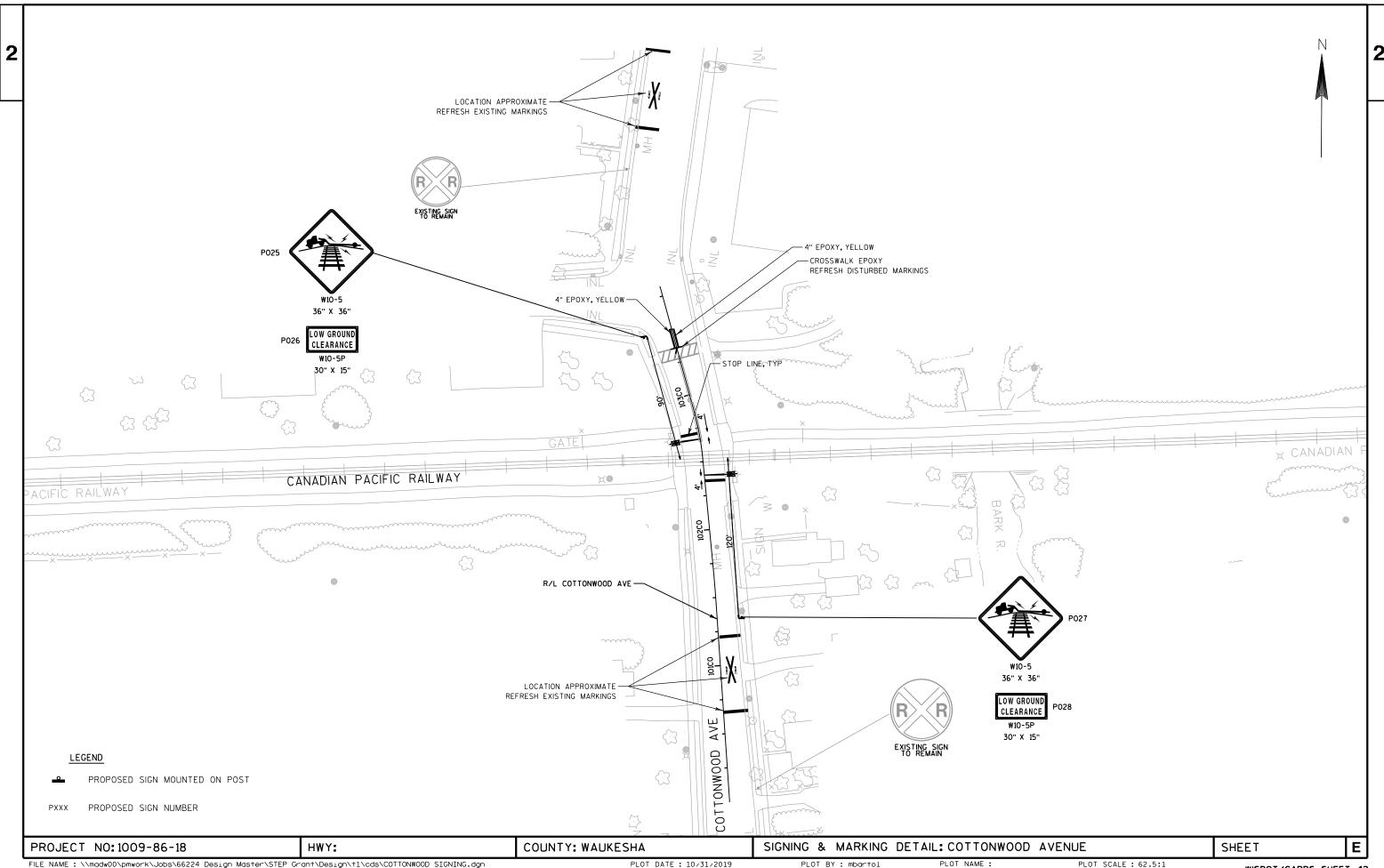


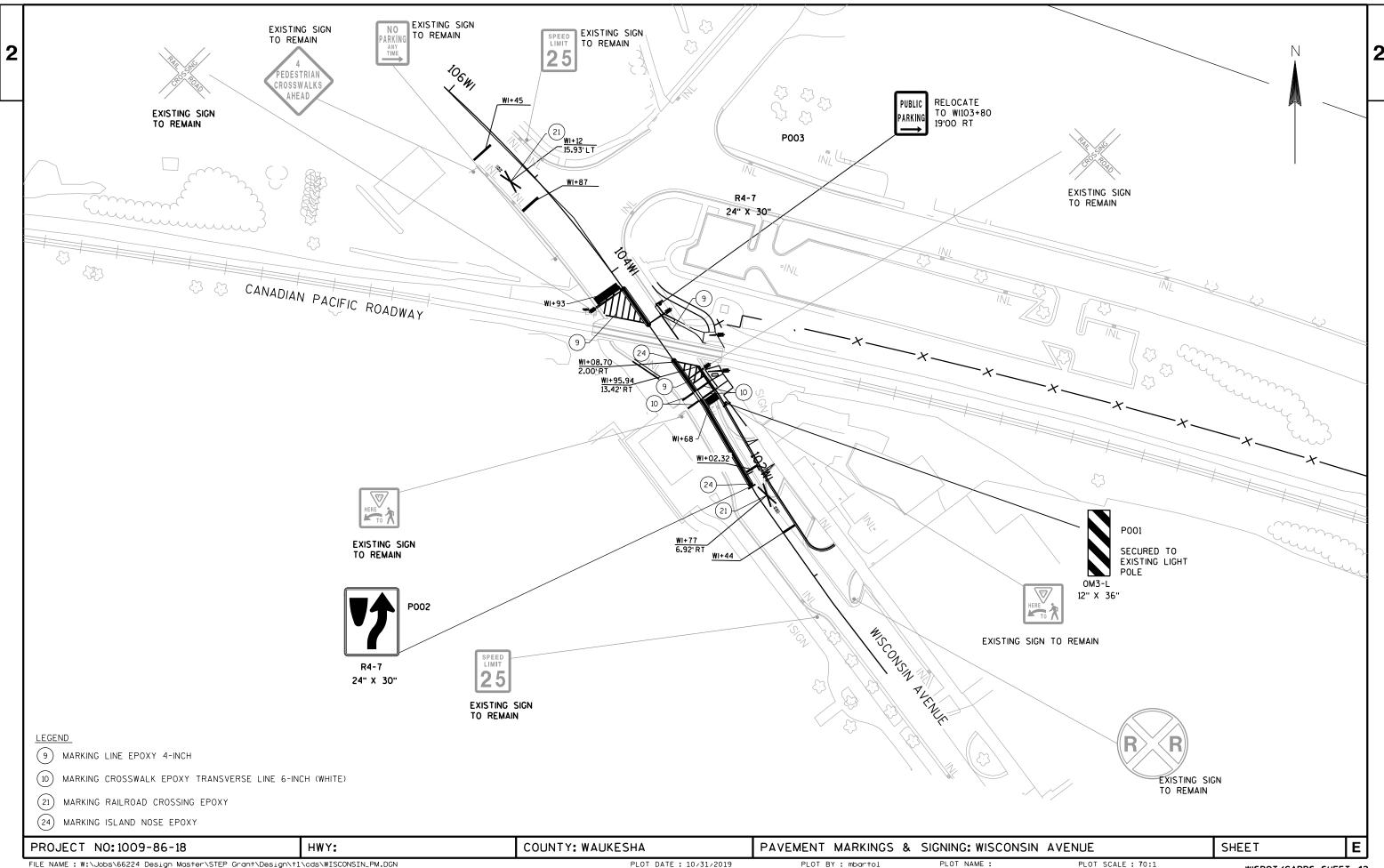


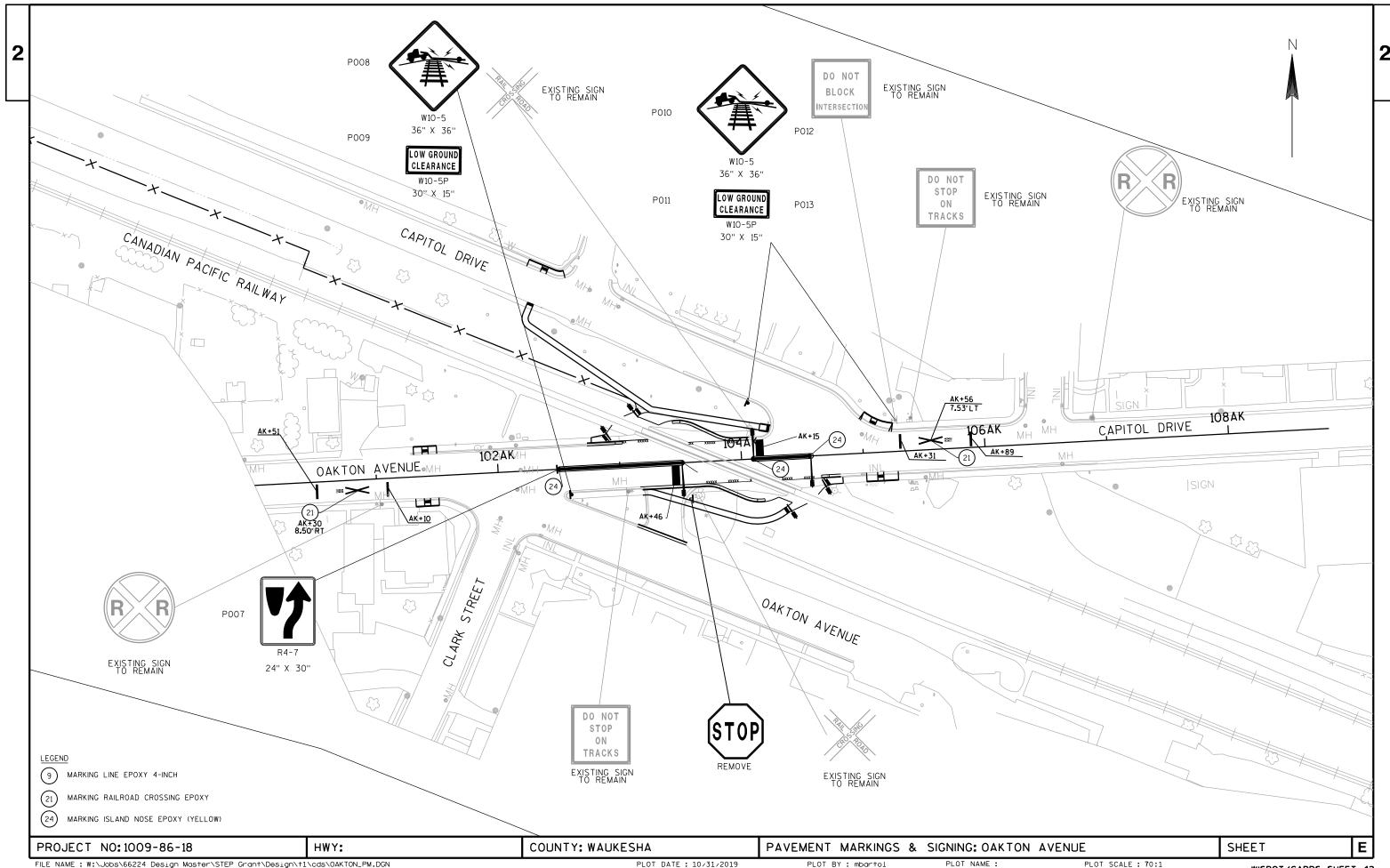


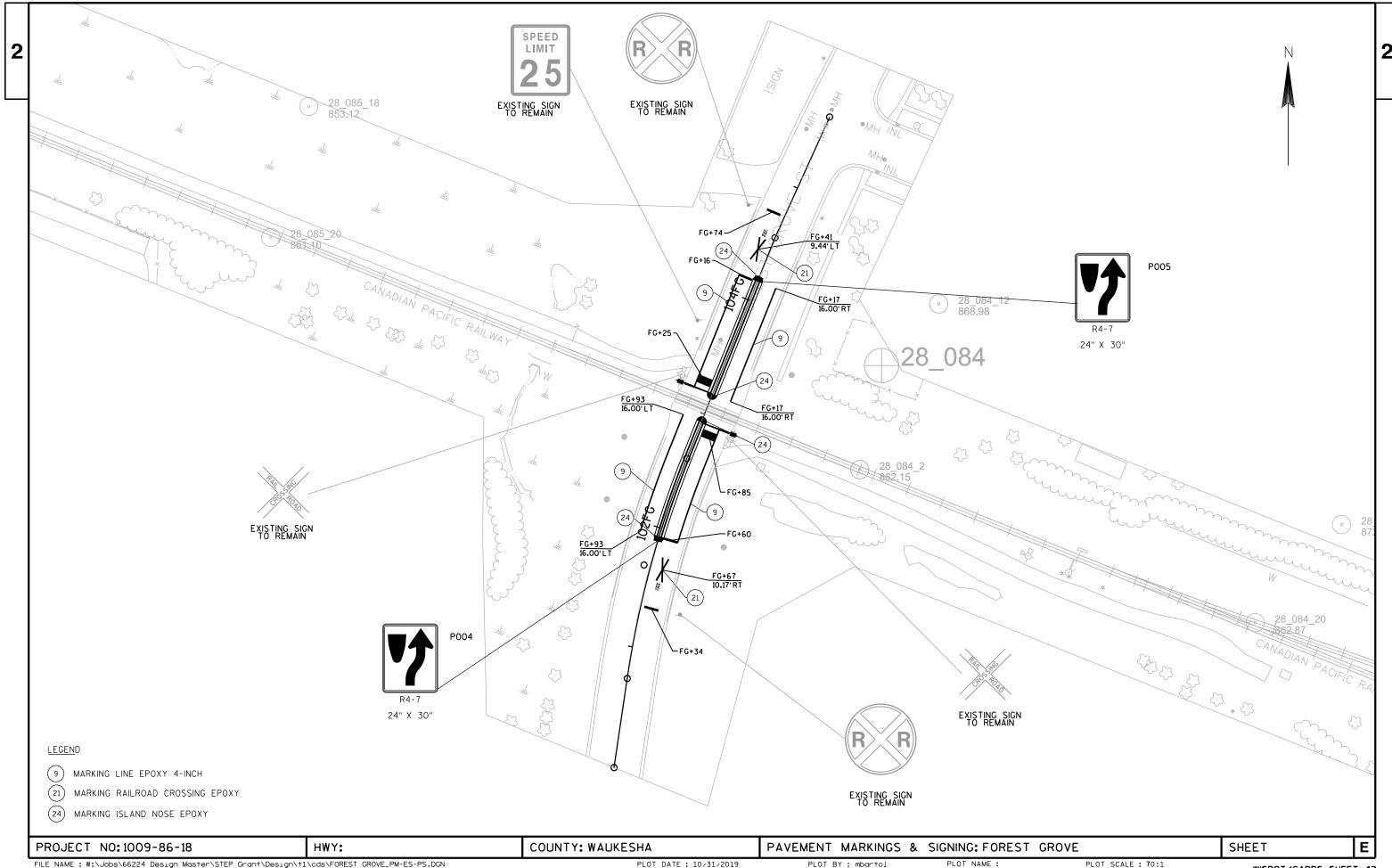












#### GENERAL NOTES FOR TRAFFIC CONTROL

- 1) THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGN DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 3) FOR NIGHTTIME OPERATION, ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.
- 4) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE A (LOW INTENSITY FLASHING) LIGHTS.
- 5) SEE REMOVAL SHEETS FOR REMOVAL INFORMATION.
- 6) ALL PAVEMENT MARKING STATIONING IN TRAFFIC CONTROL PLANS HAVE THE PREFIX OF THE ALIGNMENT THAT IT IS MEASURED FROM.
- 7) PROPOSED SIGNING TO BE INSTALLED WITH RESPECTIVE STAGE. FIELD ENGINEER TO DESIGNATE APPROPRIATE SIGNS TO COVER.
- 8) CONTRACTOR SHALL SUBMIT A CONSTRUCTION PHASING PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
  THE CONTRACTOR IS TO MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES UNLESS OTHERWISE
  STATED IN THE PLANS.FLAGGERS MAY BE USED AND THE COSTS ASSOCIATED ARE INCEDENTAL TO THE CONTRACT TOTAL.
  MODIFICATIONS TO THE PHASING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 9) WISCONSIN AVENUE DETOUR SIGNS TO BE PROVIDED BY VILLAGE OF PEWAUKEE (CONTACT DANIEL NAZE). FIELD ENGINEER TO DESIGNATE APPROPRIATE DETOUR. ALL OTHER TRAFFIC CONTROL SIGNING TO BE COVERED BY THE PROJECT.
- 10) PCMS TO BE PROVIDED AT WISCONSIN AVENUE SEVEN (7) DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES. SIGN SHALL READ: MESSAGE 1: WIS AVE

TO CLOSE

MESSAGE 2: STARTING

"DATE" (DATE TO BE PROVIDED BY FIELD ENGINEER)

- 11) SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2."
- 12) STATIONING, DISTANCES AND OFFSETS FOR TRAFFIC CONTROL SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.
- 13) KEEP ONE LANE OF TRAFFIC OPEN AT ALL TIMES AT GIFFORD, COTTONWOOD, OAKTON, AND FOREST GROVE DURING THE DAY TIME HOURS (7AM-8PM) AND TWO LANES OF TRAFFIC DURING NIGHT TIME HOURS (8PM-7AM). ROADWAY FLAGGERS TO BE IMPLEMENTED AT FIELD ENGINEERS DISCRETION. RAILROAD FLAGGERS WILL BE ASSIGNED BY CP.

#### LEGEND



WORK AREA



TRAFFIC CONTROL DRUM



TRAFFIC CONTROL DRUM WITH C STEADY BURN LIGHT



TYPE III BARRICADE



TYPE III BARRICADE WITH ATTACHED SIGN



SIGN ON TEMPORARY SUPPORT

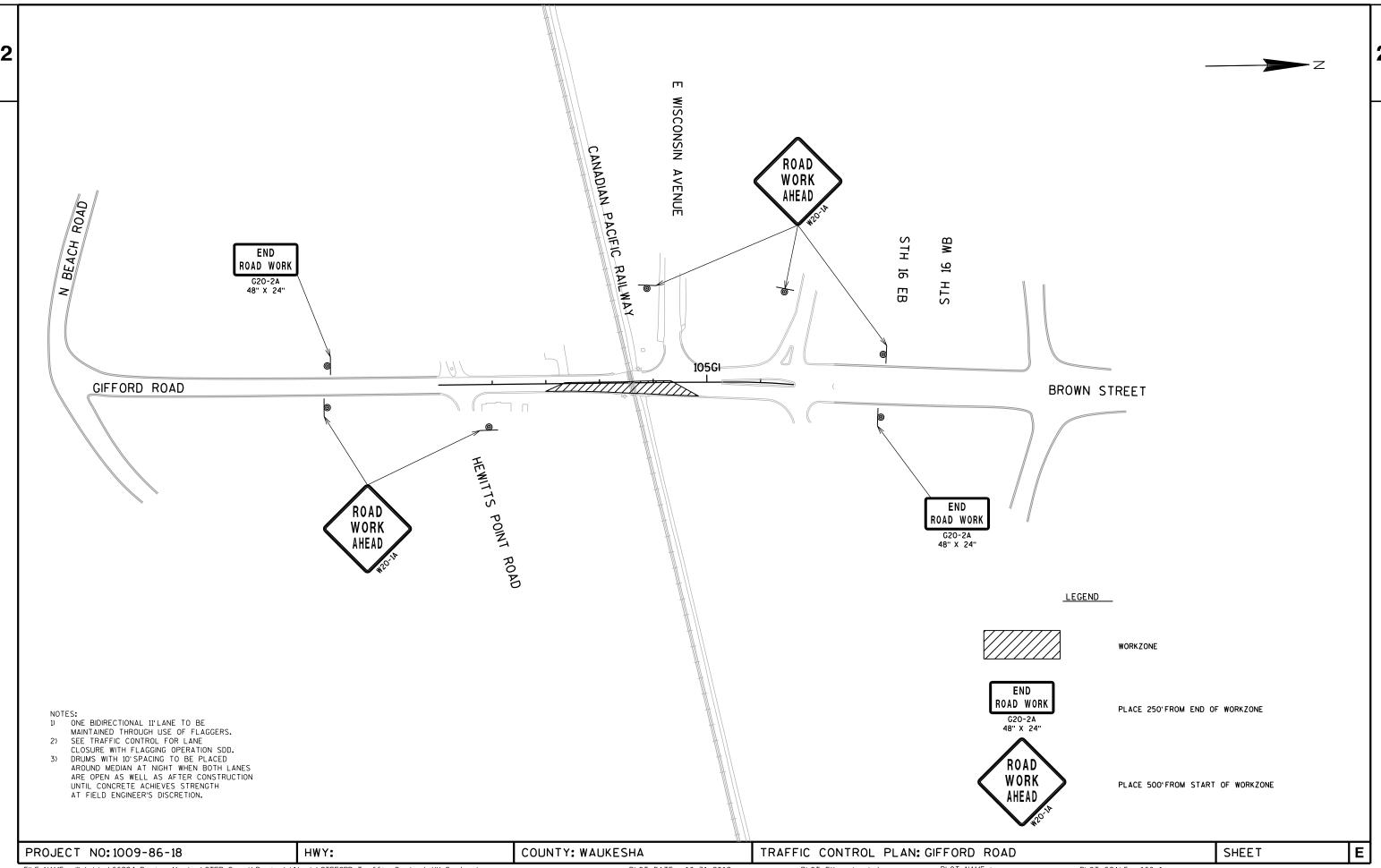


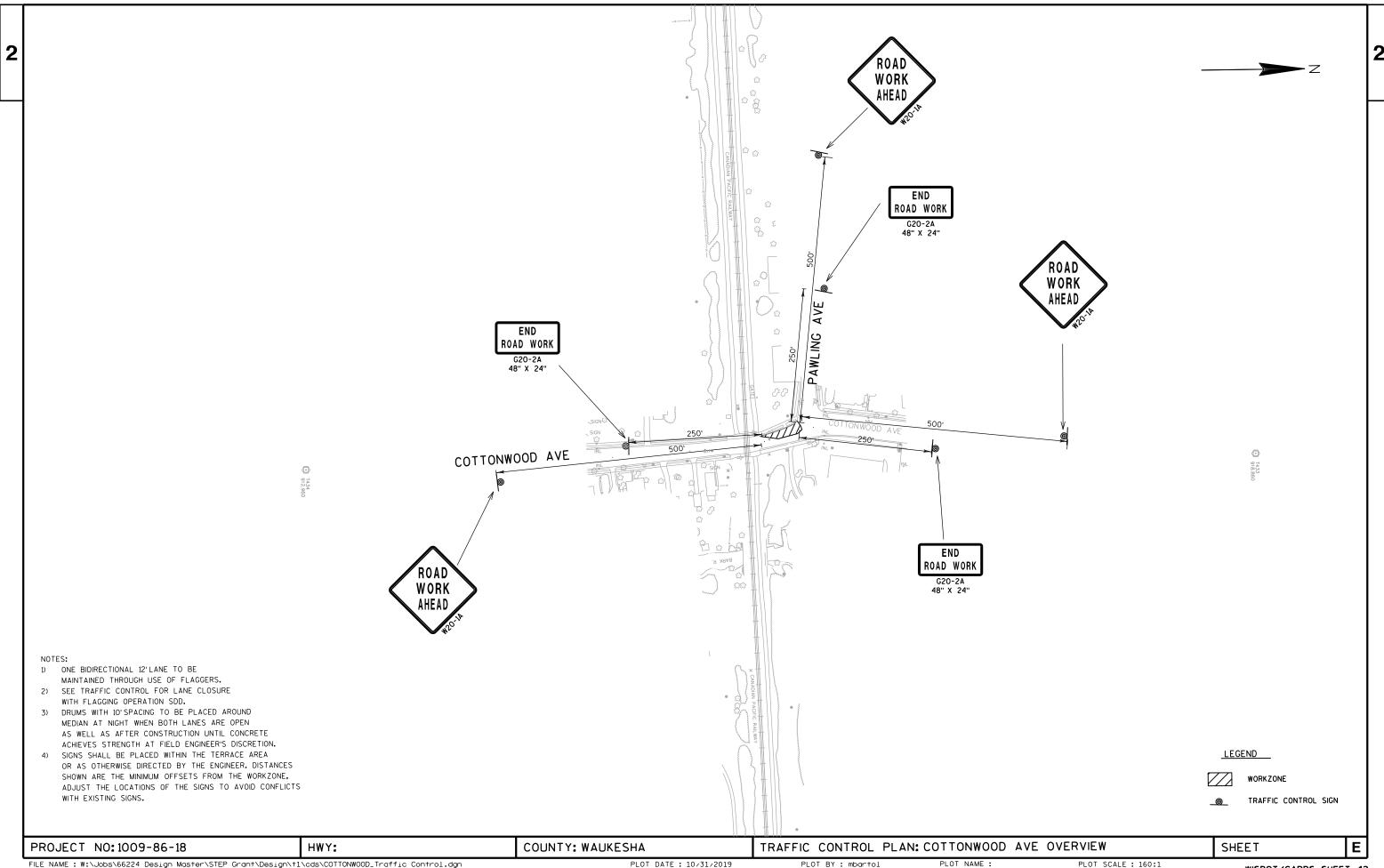
SIGN ON PERMANENT SUPPORT

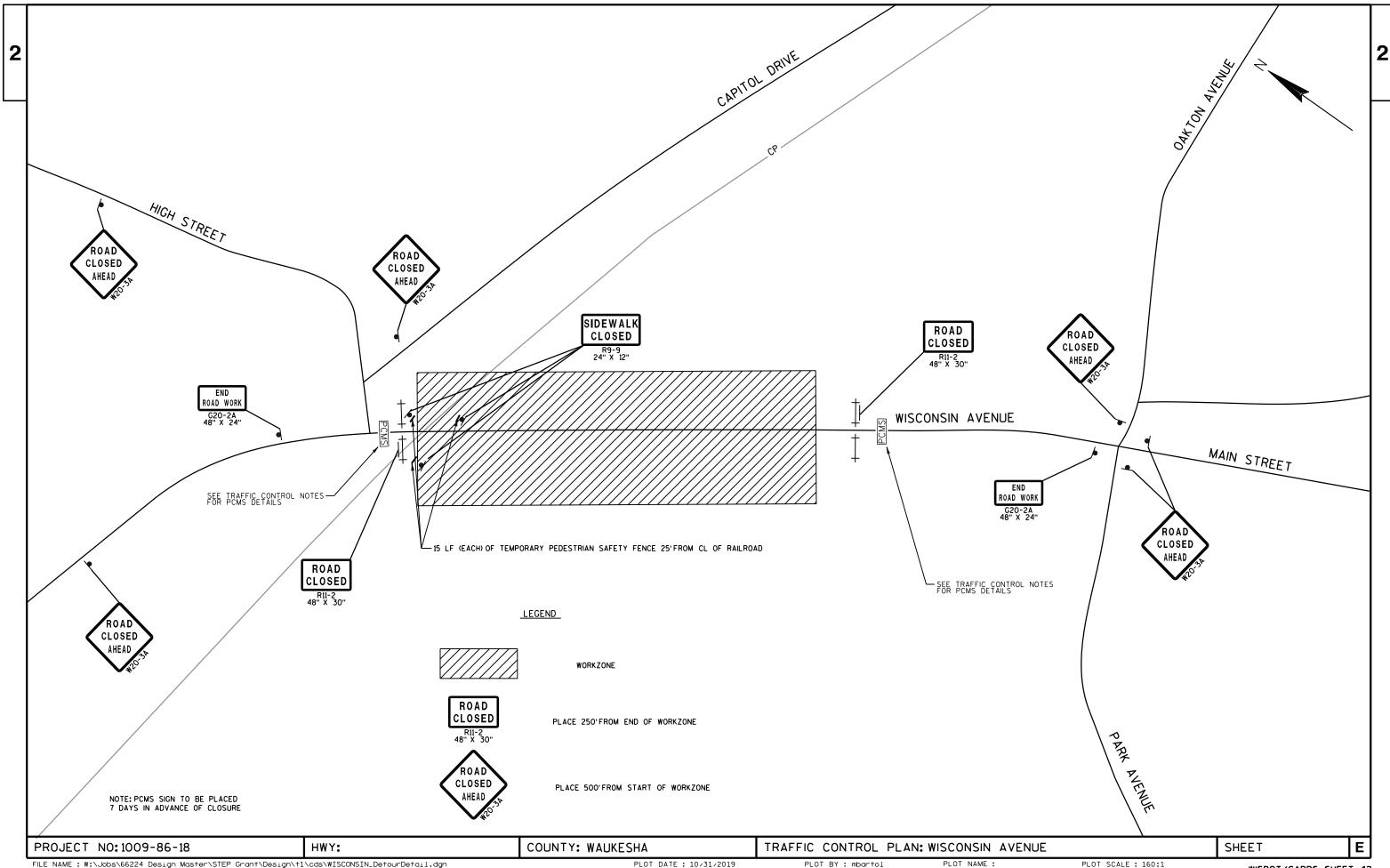
PLOT NAME : \$FILE\$

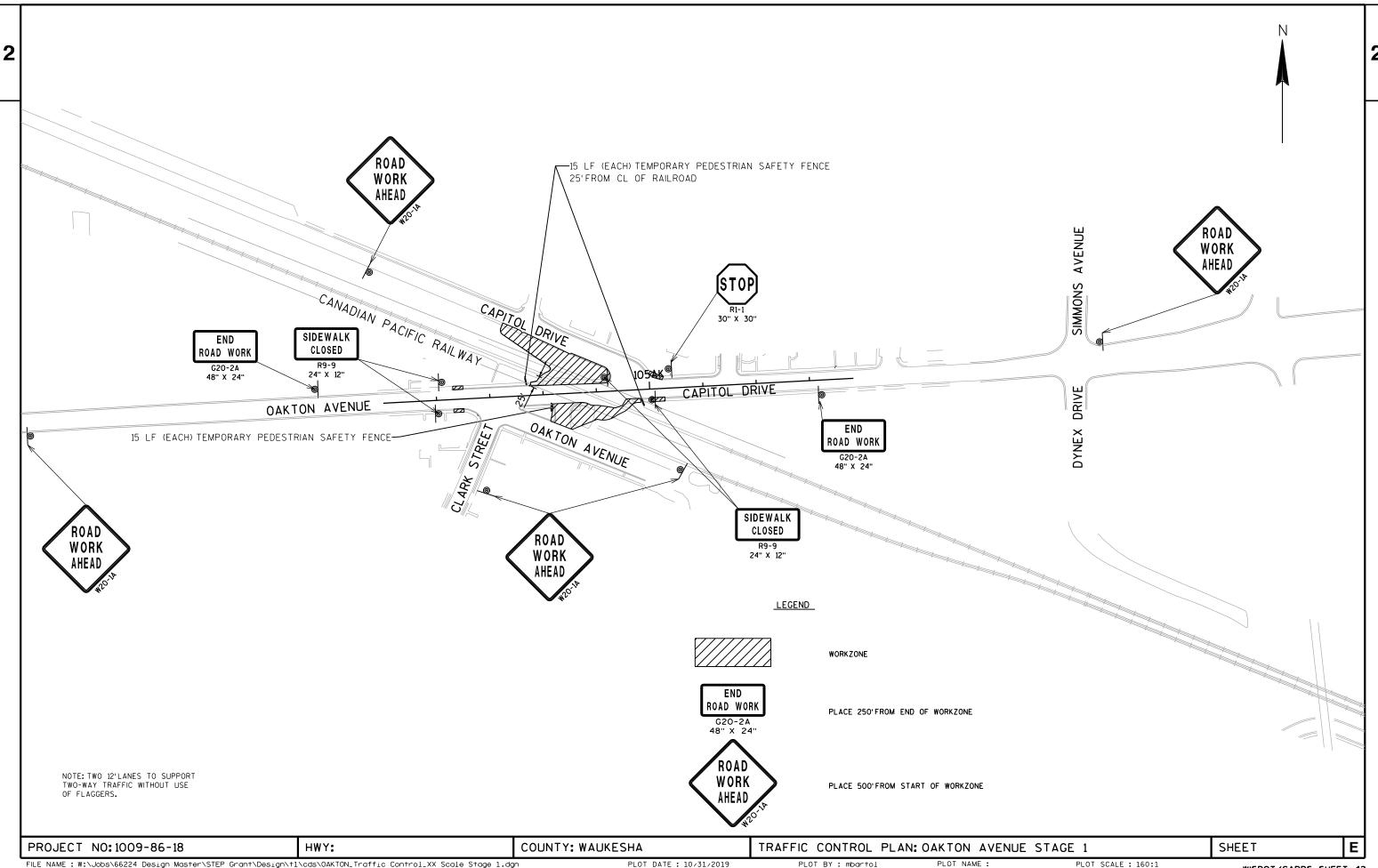


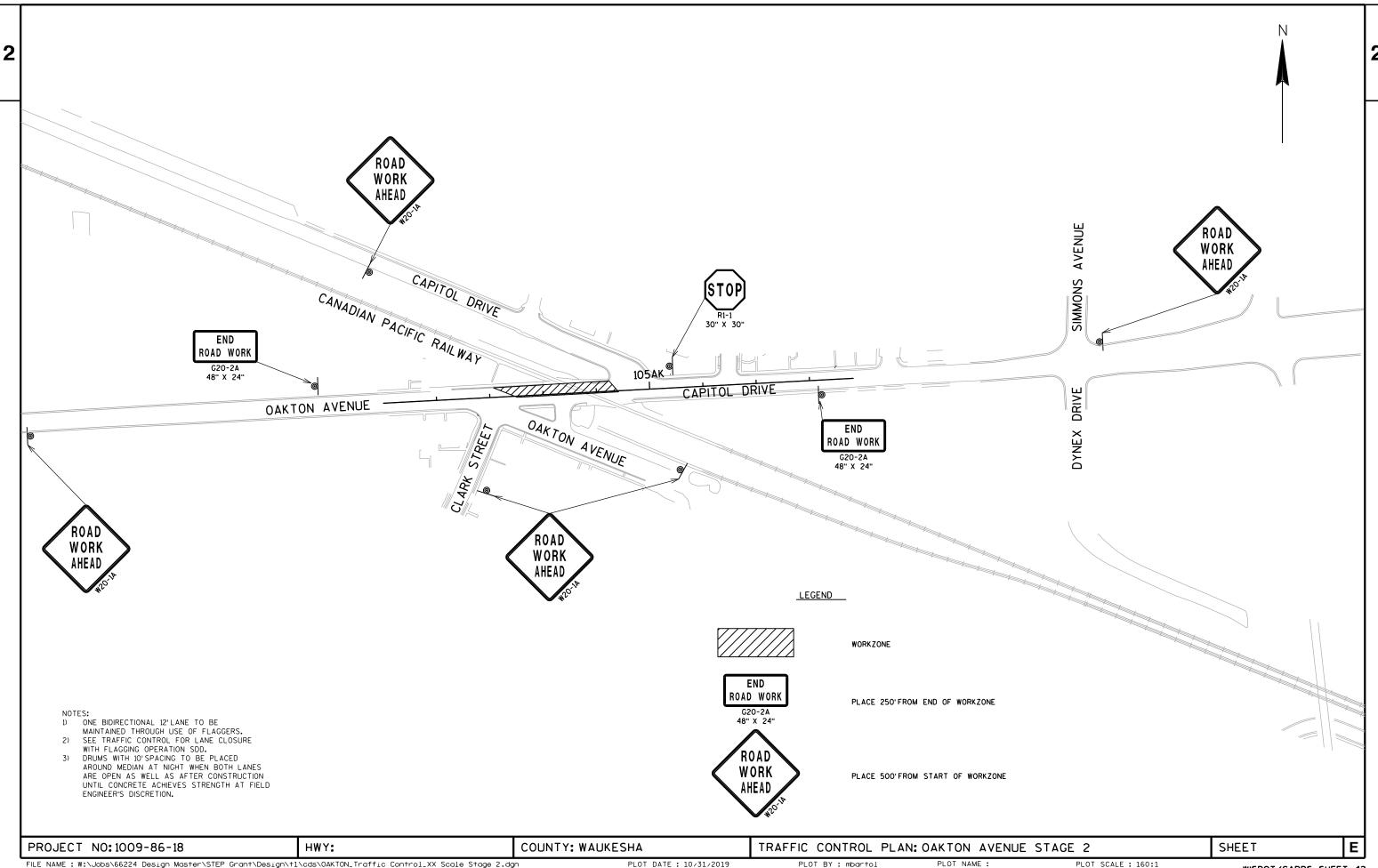
TRAFFIC FLOW ARROW

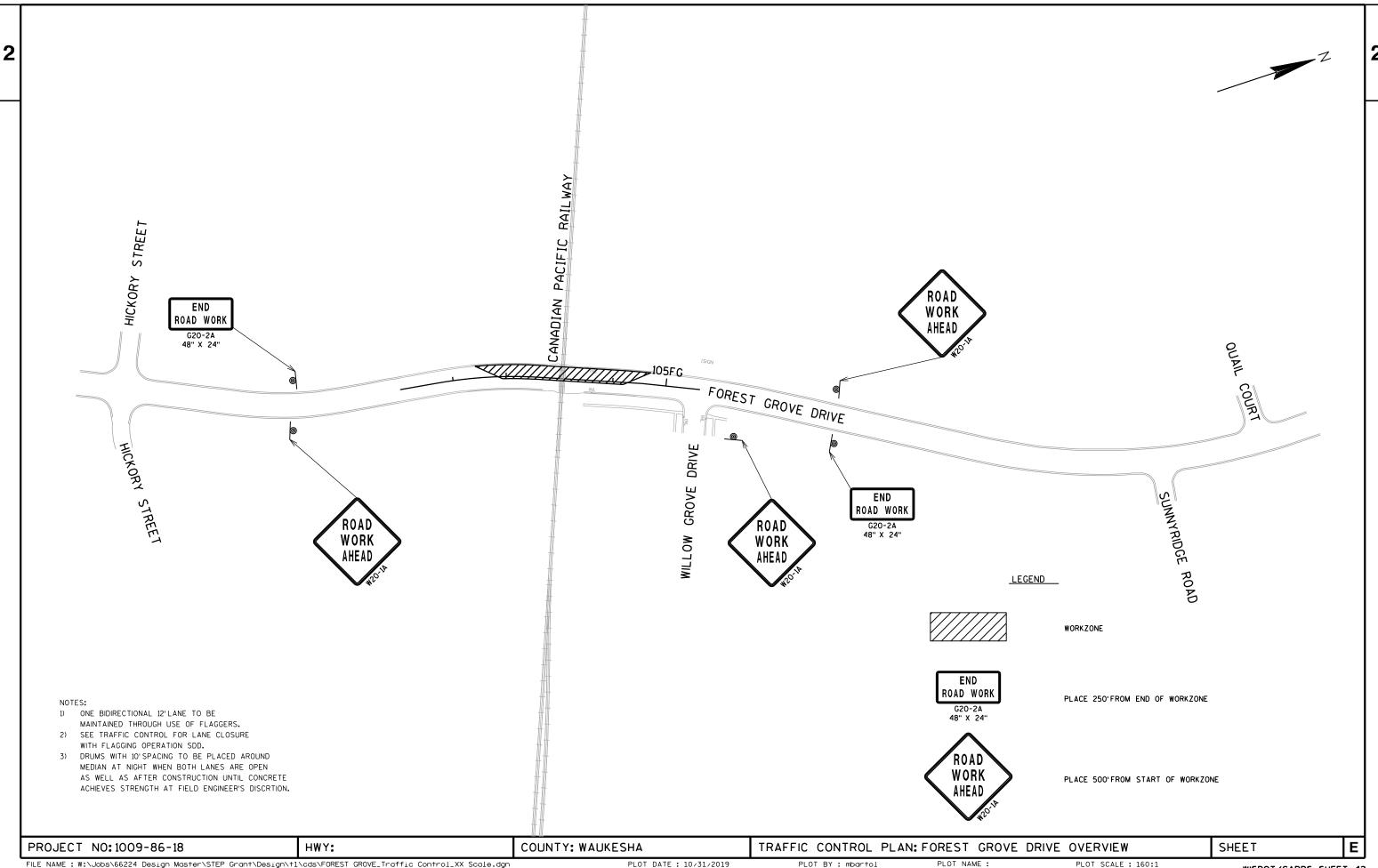


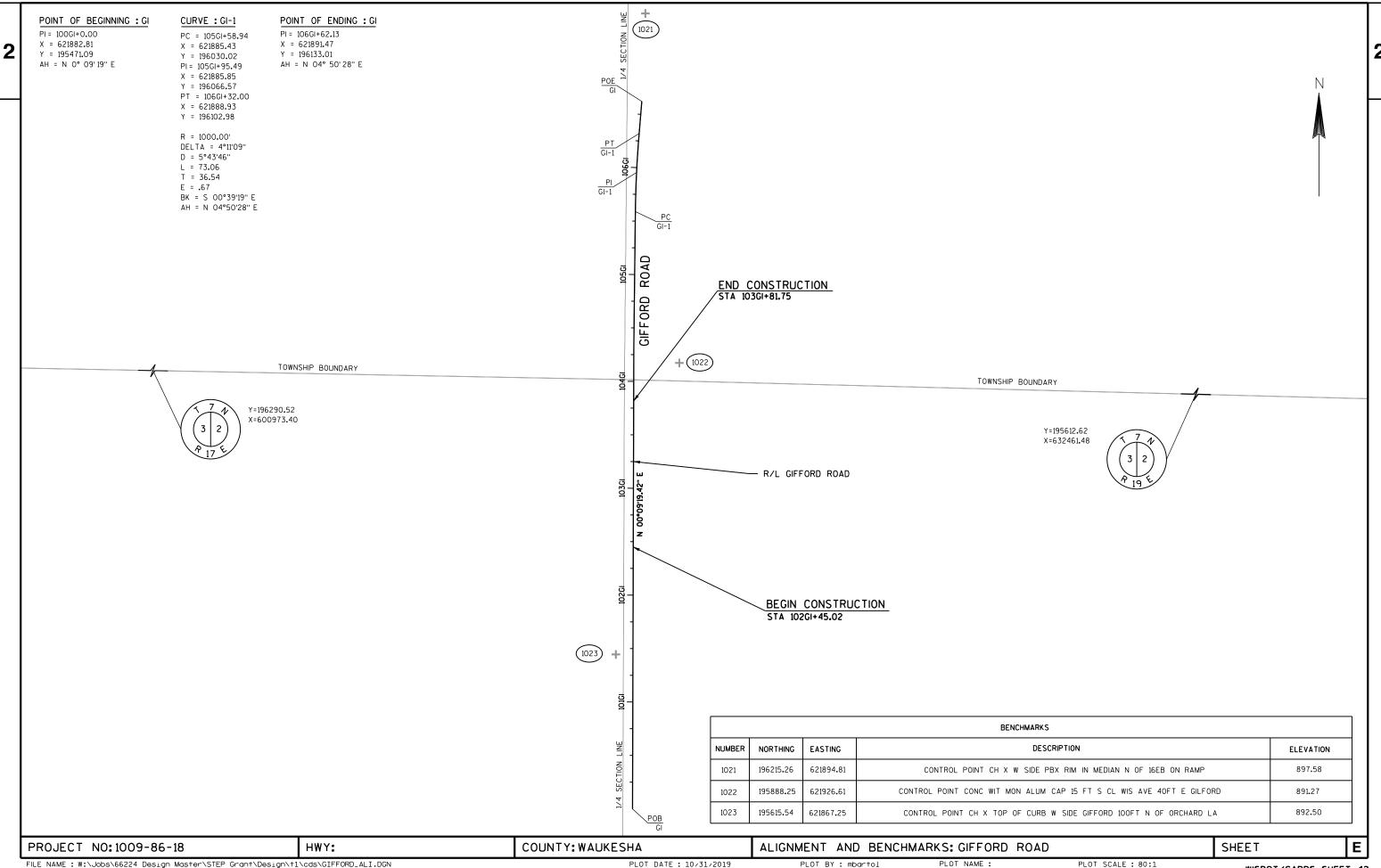












2

POINT OF BEGINNING : CO

PI =100C0+00.00 X = 193,198.19 Y = 652,074.30 AH = N 3°53'21" W

CURVE : CO-2 CURVE : CO-1 PC = 102C0+52.43 X = 193,449.83 Y = 652,054.62 PC = 101C0+45.66 X = 193,343.51 Y = 652.064.42 PI = 102C0+69.57 PI = 101C0+59.43 N = 193,357.25N = 193,466.89 E = 652,063.48 E = 652052.99 PT = 101C0+73.20 X = 193.370.96 PT = 102C0+86.63 X = 193,483.42 Y = 652,048.48 Y = 652,062.17 R = 1,000.00' R = 200.00' DELTA = 9°47'45" DELTA = 1°34'41" D = 5°43'47" D = 28°38'52" L = 34.19 L = 27.54T = 17.14 T = 13.77E = 0.73E = 0.09

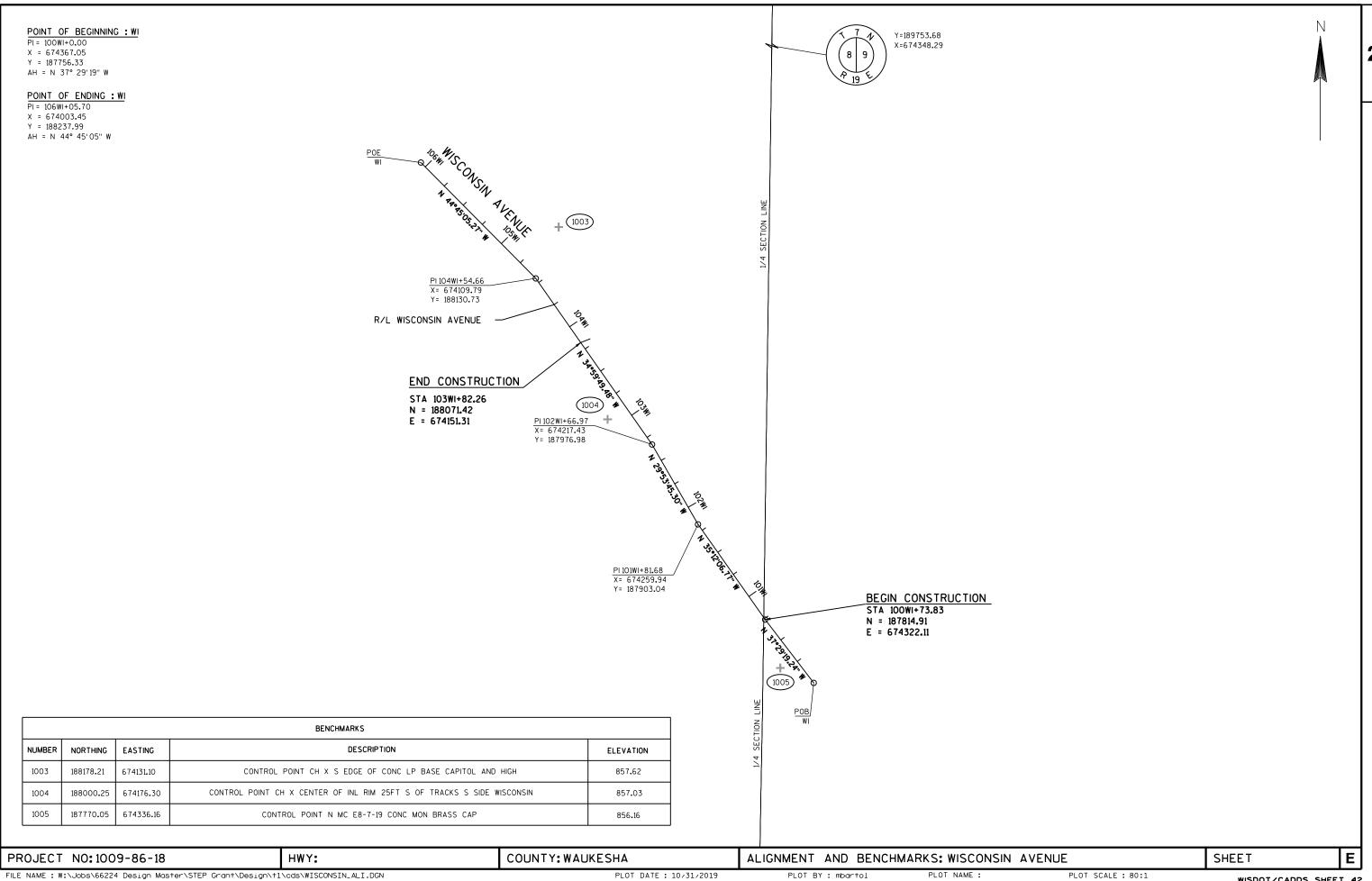
POINT OF ENDING : CO PI=103C0+82.26 X=193,575.69 Y=652,023.30 AH= N 15°15'47" W

END CONSTRUCTION STA 103C0+51.00 2003 BEGIN CONSTRUCTION STA 103C0+35.00 CO-2 PC CO-2 - R/L COTTONWOOD AVENUE PT CO-1 PC CO-1 CO 2001

	BENCHMARKS								
NUMBER	NORTHING	EASTING	DESCRIPTION	ELEVATION					
2001	193,169.13	652,047.67	CONTROL POINT - 'X' N SIDE SANITARY MH RIM W SIDE COTTONWOOD IN SIDEWALK	916.92					
2002	193,391.94	652,044.66	CONTROL POINT - 'X' TOP OF CURB W SIDE COTTONWOOD 50'S OF TRACKS	924.70					
2003	193,579.90	652,046.52	CONTROL POINT - 'X' N SIDE SANITARY MH RIM E SIDE COTTONWOOD IN WALK	921.64					

PROJECT NO:1009-86-18 HWY: COUNTY:WAUKESHA ALIGNMENT AND BENCHMARKS: COTTONWOOD AVENUE SHEET **E** 

PLOT BY: mbartol



POINT OF BEGINNING : AK

PI = 100AK+0.00 X = 676061.77 Y = 187211.99

AH = N 86° 58' 18" E

#### POINT OF BEGINNING : AKN

PI = 00AKN+0.00 X = 676483.30Y = 187256.17

AH = N 80° 57'20" W

#### POINT OF BEGINNING : AKS

PI = 00AKS+0.00 X = 676500.55Y = 187190.03 AH = S 54° 58'52" W

#### CURVE : AKN-1

X = 676285.48

Y = 187340.64

X = 676278.83

Y = 187345.21

X = 676281.89

Y = 187352.68

DELTA = 77°48'34"

BK = N 55°32'15" W

AH = N 22°16'18" E

D = 572°57'28"

R = 10.00'

L = 13.58

T = 8.07

E = 2.85

CURVE : AKS-1 PC = 02AKN+20.44 PC = 00AKS+4.36 X = 676496.98Y = 187187.53PI = 02AKN+28.51 PI = 00AKS+23.52 X = 676481.28Y = 187176.53PT = 02AKN+34.02 PT = 00AKS+40.10

R = 40.00'

L = 35.75

T = 19.17

E = 4.35

STA 102AK+51.68

DELTA = 51°12'09"

BK = S 54°58'52" W

AH = N 73°48'59" W

D = 143°14'22"

X = 676387.52Y = 187203.74PI = 01AKS+20.20 X = 676462.88 Y = 187181.87

X = 676385.95Y = 187204.20PT = 01AKS+21.81 X = 676384.32Y = 187204.13

R = 10.00'DELTA = 18°34'16" D = 572°57'28" L = 3.24T = 1.63E = 0.13BK = N 73°48'59" W

AH = S 87°36'45" W

1000

CURVE : AKS-2

PC = 01AKS+18.57

#### POINT OF ENDING : AK

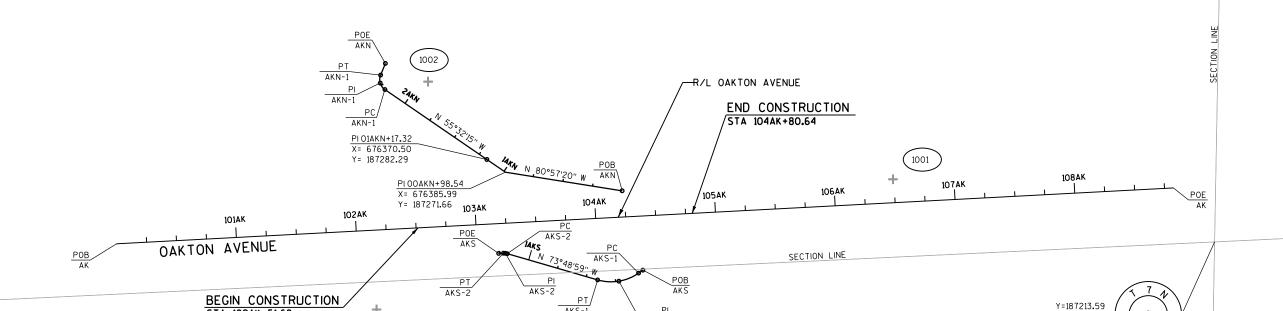
PI = 108AK+82.43 X = 676942.97Y = 187258.61 AH = N 86° 58' 18" E

#### POINT OF ENDING : AKN

PI = 02AKN+44.52 X = 676285.87Y = 187362.40AH = N 22° 16' 18" E

#### POINT OF ENDING : AKS

PI = 01AKS+25.85 X = 676380.28Y = 187203.96 AH = S 87° 36' 45" W



AKS-1

SECTION LINE

WISDOT/CADDS SHEET 42

X=676977.30

PLOT SCALE: 80:1

	BENCHMARKS									
NUMBER	NORTHING	EASTING	DESCRIPTION	ELEVATION						
1000	187157.16	676278.54	CONTROL POINT CH X N RIM OF PBX IN NE COR OF CLARK AND OAKTON IN WALK	852.64						
1001	187265.77	676709.16	CP CH X N RIM OF SEWER MH CL OF ORMBY ST	854.91						
1002	187347.13	676321.50	CP CH X W RIM OF WATER MH AT CAPITOL AND CALDWELL	853.27						

PROJECT NO: 1009-86-18 COUNTY: WAUKESHA ALIGNMENT AND BENCHMARKS: OAKTON AVENUE SHEET Ε HWY:

PLOT BY: mbartol

PLOT NAME :

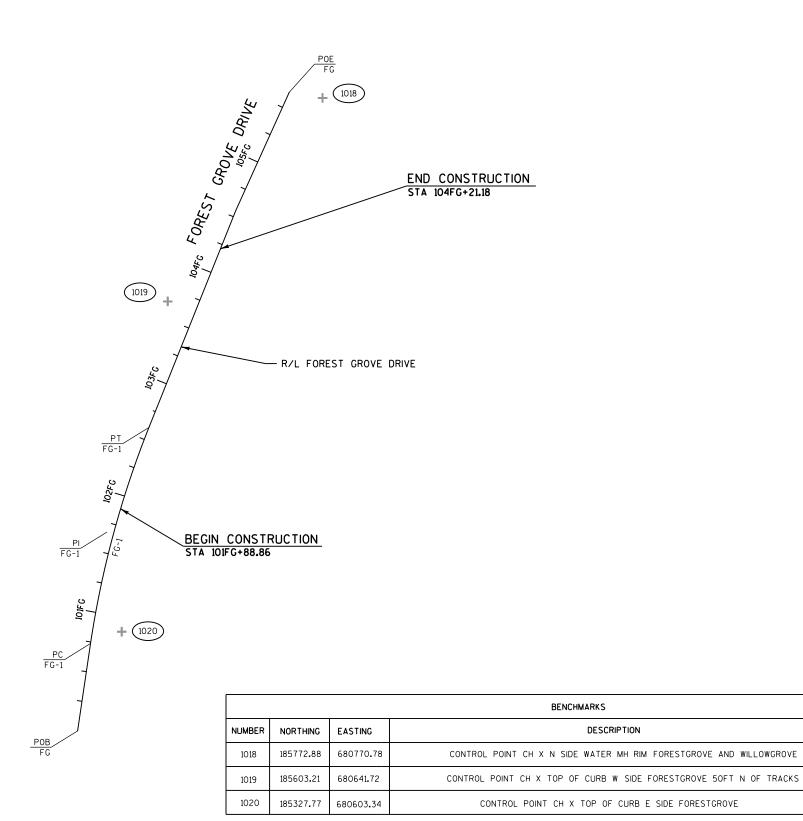
PLOT DATE: 10/31/2019

X = 680577.35 Y = 185318.05 PI = 101FG+67.67 X = 680591.11 Y = 185410.98 PT = 102FG+60.76 X = 680626.02 Y = 185498.19

R = 800.00' DELTA = 13°23'40" D = 7°09'43" L = 187.02T = 93.94

E = 5.50 BK = N 08°25'13" E AH = N 21°48'53" E

AH = N 24° 20'27" E



PROJECT NO: 1009-86-18 HWY: COUNTY: WAUKESHA ALIGNMENT AND BENCHMARKS: FOREST GROVE DRIVE

PLOT NAME :

PLOT BY: mbartol

Ε

ELEVATION

863.88

862.53

859.66

					1009-86-18
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0002	201.0205	Grubbing	STA	2.000	2.000
0004	204.0150	Removing Curb & Gutter	LF	1,949.000	1,949.000
8000	204.0155	Removing Concrete Sidewalk	SY	266.000	266.000
0010	204.0220	Removing Inlets	EACH	3.000	3.000
0010	204.0245	Removing Storm Sewer (size) 01. 12-inch	LF	117.000	117.000
0012	204.0243	Excavation Common	CY	194.000	194.000
0014	213.0100	Finishing Roadway (project) 01. 1009-86-18	EACH	1.000	1.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	564.000	564.000
	455.0605	Tack Coat		69.000	69.000
0020			GAL		
0022	460.2000	Incentive Density HMA Pavement	DOL	232.000	232.000
0024	460.6224	HMA Pavement 4 MT 58-28 S	TON	289.000	289.000
0026	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0028	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	1,074.000	1,074.000
0030	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	772.000	772.000
0032	601.0600	Concrete Curb Pedestrian	LF	139.000	139.000
0034	602.0410	Concrete Sidewalk 5-Inch	SF	4,395.000	4,395.000
0036	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	139.000	139.000
0038	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-	LF	118.000	118.000
0040	644.0004	Inch	FACIL	2.000	2 000
0040	611.0624	Inlet Covers Type H	EACH	3.000	3.000
0042	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0044	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0046	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0048	614.2300	MGS Guardrail 3	LF	50.000	50.000
0050	616.0206	Fence Chain Link 6-FT	LF	2,271.000	2,271.000
0052	619.1000	Mobilization	EACH	1.000	1.000
0054	620.0200	Concrete Median Blunt Nose	SF	87.000	87.000
0056	620.0300	Concrete Median Sloped Nose	SF	88.000	88.000
0058	624.0100	Water	MGAL	8.000	8.000
0060	625.0100	Topsoil	SY	3,605.000	3,605.000
0062	627.0200	Mulching	SY	361.000	361.000
0064	628.1504	Silt Fence	LF	110.000	110.000
0066	628.1520	Silt Fence Maintenance	LF	110.000	110.000
0068	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0070	628.2008	Erosion Mat Urban Class I Type B	SY	2,826.000	2,826.000
0072	628.7010	Inlet Protection Type B	EACH	4.000	4.000
		• • • • • • • • • • • • • • • • • • • •			
0076	628.7015	Inlet Protection Type C	EACH	2.000	2.000
0078	629.0210	Fertilizer Type B	CWT	5.000	5.000

#### Page 2 **Estimate Of Quantities**

					1009-86-18	
Line	Item	Item Description	Unit	Total	Qty	
0800	630.0140	Seeding Mixture No. 40	LB	64.000	64.000	
0082	630.0200	Seeding Temporary	LB	64.000	64.000	
0084	630.0500	Seed Water	MGAL	160.000	160.000	
0086	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	22.000	22.000	
8800	637.2210	Signs Type II Reflective H	SF	207.800	207.800	
0090	638.2102	Moving Signs Type II	EACH	1.000	1.000	
0092	638.2602	Removing Signs Type II	EACH	1.000	1.000	
0094	638.3000	Removing Small Sign Supports	EACH	2.000	2.000	
0096	643.0300	Traffic Control Drums	DAY	690.000	690.000	
0098	643.0420	Traffic Control Barricades Type III	DAY	124.000	124.000	
0100	643.0705	Traffic Control Warning Lights Type A	DAY	370.000	370.000	
0102	643.0715	Traffic Control Warning Lights Type C	DAY	400.000	400.000	
0104	643.0900	Traffic Control Signs	DAY	581.000	581.000	
0106	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000	
0108	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000	
0110	643.5000	Traffic Control	EACH	1.000	1.000	
0112	644.1810	Temporary Pedestrian Barricade	LF	90.000	90.000	
0114	646.1020	Marking Line Epoxy 4-Inch	LF	368.000	368.000	
0116	646.5320	Marking Railroad Crossings Epoxy	EACH	10.000	10.000	
0118	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	64.000	64.000	
0120	646.8220	Marking Island Nose Epoxy	EACH	14.000	14.000	
0122	690.0150	Sawing Asphalt	LF	1,993.000	1,993.000	
0124	801.0117	Railroad Flagging Reimbursement	DOL	29,500.000	29,500.000	
0126	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000	
0128	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	500.000	500.000	
0130	SPV.0060	Special 01. Adjusting Watermain Valves	EACH	3.000	3.000	
0132	SPV.0075	Special 01. Street Sweeping for Pedestrian Accommodations	HRS	40.000	40.000	
0134	SPV.0090	Special 01. Concrete Median Special	LF	14.000	14.000	
0136	SPV.0105	Special 01. Survey Project 1009-86-18	LS	1.000	1.000	

STORM SEWER 01. (12-IN)

204.0245

**REMOVING** 

117

117

117

#### **CLEARING AND GRUBBING**

201.0105

201.0205

STATION

					CLEARING	GRUBBING
	STAGE	BEGIN	END	OFFSET	STA	STA
	Wisconsin Ave					
	Wisconsin Ave	101WI+00	 103WI+00	RT	2	2
PR	OJECT 1009-86-18	TOTAL		2	2	

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

FILE NAME: \PW\t1\cds\030201\_mq.ppt

PROJECT NO: 1009-86-18 **HWY: STEP GRANT** COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET:

PLOT DATE : 12/13/2019 10:22:09 AM PLOT BY : HNTB Corp PLOT NAME: 030201\_mq1 PLOT SCALE: 1:1

**MISC. REMOVAL ITEMS** 

OFFSET

RT

28.6' RT

RT

RT

RT

12' RT

LT/RT

LT

LT

17' LT

RT

LT

LT

LT

RT

RT

RT

STATION

101WI+38

102WI+60

103WI+10

103WI+29 - 103WI+71

101AK+31 - 101AK+50

101AK+32 -

102AK+48

102AK+74 102AK+78

103AK+12

103AK+48 103AK+57

103AK+93

103AK+93 104AK+66

104AK+70

104AK+98

105AK+04 -

101WI+81

102WI+59

101WI+97

102WI+40

103WI+02

103WI+80

103WI+61

103WI+30

101AK+32

102AK+57

103AK+04

103AK+01

103AK+22

103AK+81

103AK+81

104AK+07

104AK+24

104AK+82

104AK+81

105AK+20

105AK+23

101WI+10 -

101WI+40

101WI+76

101WI+80

102WI+20

102WI+74

103WI+01

103WI+05

ROADWAY

WISCONSIN

Subtotals

OAKTON

Subtotals

PROJECT 1009-86-18 TOTAL

204.0150

**REMOVING** 

CURB & GUTTER

1,400

31

305

26

1,761

30

44 47

14

11

24

19

188

1,949

204.0155

**REMOVING** 

CONCRETE

SIDEWALK

37

73

23

155

14

20

11

112

266

3

204.0220

**REMOVING** 

**INLETS** 

EΑ

3

#### **EXCAVATION COMMON**

205.0100 **EXCAVATION** 

					LACAVATION
					COMMON
ROADWAY	S	TATIO	OFFSET	CY	
					_
GIFFORD					
	102Gl+45	-	103Gl+49	LT/RT	6
SUBTOTAL					6
WISCONSIN					
	100WI+74	-	102WI+74	LT/RT	57
	101WI+24	-	101WI+76	RT	11
	102WI+80	-	103WI+54	LT/RT	25
SUBTOTAL					93
OAKTON					
	102AK+05	-	102AK+16	LT	1
	102AK+52	-	103AK+56	LT	6
	103AK+01	-	103AK+27	LT	2
	103AK+12	-	103AK+64	RT	20
	103AK+26	-	103AK+93	LT	6
	103AK+81	-	104AK+36	RT	5
	104AK+32	-	104AK+73	RT	4
SUBTOTAL					43
FOREST GROVE					
	101FG+89	-	102FG+97	LT/RT	13
	103FG+19	-	104FG+21	LT/RT	13
SUBTOTAL					26
COTTONWOOD					
	103CO+35	-	103CO+51	LT/RT	1
SUBTOTAL					1
Undistributed					25
PROJECT 1009-86-18 TO	DTAL				194

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

HWY: STEP GRANT SHEET: MISCELLANEOUS QUANTITIES PROJECT NO: 1009-86-18 COUNTY: WAUKESHA

FINISHING ROADWAY

213.0100 FINISHING

ROADWAY 01. 1009-86-18

ROADWAY EACH

PROJECT 1009-86-18 TOTAL

SUBSTRUCTURE

305.0120 624.0100 BASE AGGREGATE

DENSE

					DENSE	
					1 1/4-INCH	WATER
ROADWAY	S	TATIC	N	OFFSET	TON	MGAL
GIFFORD	102Gl+47	-	103Gl+47	RT/LT	4	
	102Gl+47	-	103Gl+47	RT/LT	2	
Subtotals					6	
WISCONSIN A VENUE	101WI+73	-	102WI+00	LT	12	
	101WI+73	-	101WI+90	RT/LT	100	2
	101WI+73	-	103WI+75	RT/LT	3	
	101WI+90	-	103WI+54	RT	75	2
	101WI+90	-	103WI+23	LT	53	1
	101WI+92	-	102WI+80	RT/LT	24	
	101WI+92	-	102WI+80	RT/LT	5	
	103WI+11	-	103WI+71	LT	12	
Subtotals					317	5
OAKTON AVENUE	101AK+39	_	101AK+44	LT	5	
	101AK+39	-	101AK+44	RT	5	
	102AK+32	-	104AK+24	LT	58	1
	102AK+50	-	102AK+57	LT	7	
	102AK+54	-	103AK+54	RT/LT	4	
	102AK+54	-	104AK+82	RT/LT	8	
	102AK+78	-	102AK+91	LT	2	
	103AK+18	-	104AK+37	RT	27	1
	104AK+67	-	104AK+82	RT	3	
	105AK+07	-	105AK+14	LT	6	
	105AK+11	-	105AK+16	RT	7	
Subtotals					132	2
FOREST GROVE DRIVE	101FG+93	-	102FG+93	RT/LT	13	
	101FG+93	-	104FG+17	RT/LT	10	
	103FG+17	-	104FG+17	RT/LT	13	
Subtotals					36	
Undistributed					73	1
PROJECT 1009-86-18 TOTAL					564	8

PLOT DATE : 12/13/2019 10:22:09 AM PLOT BY : HNTB Corp PLOT NAME: 030201\_mq2 FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT SCALE : 1:1

### ASPHALT ITEMS

455.0605 460.6224

						TACK	HMA PAVEMENT
		_				COAT	4 MT 58-28 S
CATEGORY	ROADWAY	S	TATK	ON	OFFSET	GAL	TON
	14/10/00/10/14						
	WISCONSIN						
0010		100WI+73	-	101WI+90	LT/RT	21	89
0010		101WI+90	-	103WI+23	RT	11	47
0020		101WI+90	-	103WI+54	LT	16	66
0020		102WI+96	-	103WI+13	LT	1	5
	SUBTOTAL					49	207
	OAKTON						
0010		102AK+89	-	103AK+24	LT	2	8
0010		103AK+05	-	104AK+94	LT	5	20
0010		103AK+13	-	103AK+27	LT	1	2
0010		103AK+70	-	104AK+52	RT	5	19
0010		104AK+32	-	104AK+82	RT	2	9
	SUBTOTAL					13	58
	COTTONWOOD						
0010		103CO+35	-	103CO+51	LT/RT		3
	SUBTOTAL						3
0010	Undistributed					5	21
PROJECT 1009-	86-18 CAT 0010 TO	TALS				52	218
PROJECT 1009-	86-18 CAT 0020 TO	TALS				17	71

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: **E** 

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq3 PLOT SCALE: 1:1

# **CURB & GUTTER ITEMS**

601.0407

601.0411

601.0600

620.0300

620.0200

SPV.0090.01

			CONCRETE CURB AND GUTTER	CONCRETE CURB AND GUTTER	CONCRETE CURB	CONCRETE MEDIAN SLOPED	CONCRETE MEDIAN BLUNT	CONCRETE MEDIA SPECIA L
DO4 D14414	074701	055055	18-INCH TYPE D	30-INCH TYPE D	PEDESTRIAN	NOSE (TYPE 1)	NOSE	CONCRETE MEDIAN SPECIAL  LF
ROADWAY	STATION	OFFSET	LF	LF	LF	SF	SF	LF
GIFFORD								
	102Gl+47 - 103Gl+47	LT	100		<del></del>			
	102Gl+47 - 103Gl+47	RT	100					
	102Gl+46	0.0' LT/RT				6		
	103Gl+48	0.0' LT/RT					6	
SUBTOTAL			200			6	6	
WISCONSIN								
VVISCONSIN	101WI+09 - 102WI+96	RT	197	<del></del>				
	101WI+92 - 103WI+11	LT	119					
	101WI+92 - 103WI+11	RT	119					
	101WI+92	0.0' LT/RT				6		
	103WI+06 - 103WI+30	LT		26				
	103WI+11	0.0' LT/RT					6	
	103WI+37 - 103WI+57	RT		20				
	103WI+47	0.0' LT/RT					6	
	103WI+48 - 103WI+83	RT	35					
	103WI+48 - 103WI+83	LT	35					
	103WI+84	0.0' LT/RT				6		
SUBTOTAL			505	46		12	12	
OAKTON								
O/ II TO II	101AK+31 - 101AK+50	RT			19			
	101AK+32 - 101AK+51	LT			19			
	102AK+35 - 102AK+62	LT			27			
	104AK+17 - 104AK+24	LT			14			
	105AK+02 - 105AK+28	RT			26			
	105AK+02 - 105AK+25	LT			24	<del></del>		
	102AK+53	0.0' LT/RT				6		
	102AK+54 - 103AK+54	LT	100					
	102AK+54 - 103AK+54	RT	100					
	102AK+74 - 103AK+03	LT		29				
	103AK+12 - 103AK+68	RT		43				
	103AK+16 - 104AK+17	RT		104				
	103AK+45 - 104AK+07	LT		65				
	103AK+55	0.0' LT/RT					6	
	104AK+09	0.0' LT/RT					6	
	104AK+10 - 104AK+56	LT	45					
	104AK+10 - 104AK+56	RT	45					
	104AK+56	0.0' LT/RT				6		
	104AK+55 - 104AK+81	LT		26				
SUBTOTAL			290	268	129	12	12	

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

HWY: STEP GRANT SHEET: COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES PROJECT NO: 1009-86-18

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT DATE : 12/13/2019 10:22:10 AM PLOT BY : HNTB Corp PLOT NAME: 030201\_mq4 PLOT SCALE : 1:1

# **CURB & GUTTER ITEMS (CONTINED)**

				601.0407	601.0411	601.0600	620.0300	620.0200	SPV.0090.01
				CONCRETE CURB AND GUTTER 18-INCH TY PE D	CONCRETE CURB AND GUTTER 30-INCH TYPE D	CONCRETE CURB PEDESTRIAN	CONCRETE MEDIAN SLOPED NOSE (TYPE 1)	CONCRETE MEDIAN BLUNT NOSE	CONCRETE MEDIAN SPECIAL
ROADWAY	STATIO	N	OFFSET	LF	LF	LF	SF	SF	LF
FOREST GROVE									
	101FG+9	91	0.0' LT/RT					25	
	101FG+93 -	102FG+93	LT		101				
	101FG+93 -	102FG+93	RT		100				
	102FG+9	95	0.0' LT				25		
	103FG+1	15	0.0' LT/RT				25		
	103FG+17 -	104FG+17	LT		100				
	103FG+17 -	104FG+17	RT		100				
	104FG+1	19	0.0' LT/RT					25	
SUBTOTAL					401		50	50	
COTTONWOOD									
	103CO+36 - 10	03CO+50	LT/RT						14
SUBTOTAL									14
Undistributed				80	57	10	6	6	
PROJECT 1009-86-18 TOT	AL			1,074	772	139	88	87	14

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 1009-86-18	HWY: STEP GRANT	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET:	Е
------------------------	-----------------	------------------	--------------------------	--------	---

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq5 PLOT SCALE: 1:1

STATION				ONCRETE SI	DEWALK	602.0410 CONCRETE SIDEWALK 5-INCH	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW
102Gi+47 - 103Gi+47	ROADWAY	ST	ATIC	DN	OFFSET	SF	SF
102Gi-47 - 103Gi-47   LT/RT   100	GIFFORD						
SUBTOTAL   100		102GI+47	-	103Gl+47	LT/RT	100	
101WH92	SUBTOTAL				<u> </u>	100	
101WH92							
102WH72	WISCONSIN						
102WH-80			-	102WI+72	LT/RT		
102W +81			-				<del></del>
103Wi+11   - 103Wi+15   RT   10   10   10   10   10   10   10			-			31	
103Wi+11			-				
SUBTOTAL  OAKTON  101AK+39 - 101AK+44 LT 129 10 101AK+39 - 101AK+44 RT 127 10 102AK+37 - 102AK+32 LT 1,79 102AK+37 - 102AK+56 LT 102AK+51 - 102AK+56 LT 102AK+54 - 103AK+54 LT 100 102AK+57 - 102AK+56 LT 102AK+57 - 102AK+56 LT 102AK+58 - 102AK+58 LT 102AK+58 - 102AK+59 LT 62 102AK+67 - 104AK+37 RT 617 104AK+10 - 104AK+37 RT 617 104AK+21 - 104AK+37 RT 104AK+31 - 104AK+32 RT 104AK+31 - 104AK+32 RT 104AK+32 RT 104AK+67 - 104AK+32 RT 105AK+07 - 105AK+14 LT 155 105AK+11 - 105AK+16 RT 196 10  SUBTOTAL  Undistributed  Undistributed  Undistributed			-				10
SUBTOTAL       502       28         OAKTON         101AK+39       -       101AK+44       LT       129       10         101AK+39       -       101AK+44       RT       127       10         102AK+32       -       104AK+24       LT       1,179          102AK+50       -       102AK+57       LT       185          102AK+50       -       102AK+56       LT        10         102AK+51       -       102AK+56       LT        10         102AK+54       -       103AK+54       LT/RT       100          102AK+78       -       102AK+91       LT        10         102AK+87       -       102AK+91       LT        10         103AK+18       -       102AK+937       RT       617          104AK+10       -       104AK+55       LT/RT       45          104AK+21       -       104AK+24       LT        10         104AK+33       -       104AK+37       RT        10         104AK+667       -       104AK+24			-				
OAKTON    101AK+39		103WI+48	-	103WI+83	LT/RT		
101AK+39 - 101AK+44	SUBTOTAL					502	28
101AK+39 - 101AK+44	OAKTON						
101AK+39	OAKTON	101 A K+30		101 A K ± 1/1	ıT	120	10
102AK+32							
102AK+37   102AK+43   LT     10     102AK+50   102AK+57   LT   185       102AK+51   102AK+56   LT     10     102AK+54   103AK+54   LT/RT   100       102AK+78   102AK+91   LT   62       102AK+87   102AK+91   LT     10     103AK+18   104AK+37   RT   617       104AK+10   104AK+37   RT   617       104AK+21   104AK+24   LT     10     104AK+33   104AK+37   RT     10     104AK+67   104AK+37   RT     10     104AK+67   104AK+37   RT     10     104AK+67   104AK+82   RT   71       105AK+07   105AK+12   LT     10     105AK+07   105AK+14   LT   155       105AK+07   105AK+14   LT   155       105AK+11   105AK+16   RT   196   10    SUBTOTAL   2,866   100    FOREST GROVE   104FG+17   LT/RT   300       SUBTOTAL   500   100    SUBTOTAL   104FG+17   LT/RT   300      SUBTOTAL   104FG+17   LT/RT   300      SUBTOTAL   104FG+17   LT/RT   300      SUBTOTAL   104FG+17   LT/RT   300							
102AK+50							
102AK+51   - 102AK+56							
102AK+54   - 103AK+54							
102AK+78   102AK+91							
102AK+87							<del></del>
103AK+18 - 104AK+37 RT 617 104AK+10 - 104AK+55 LT/RT 45 104AK+21 - 104AK+24 LT 104AK+33 - 104AK+37 RT 104AK+67 - 104AK+72 RT 105AK+07 - 105AK+12 LT 105AK+07 - 105AK+14 LT 155 105AK+11 - 105AK+16 RT 196 10  SUBTOTAL  101FG+93 - 102FG+93 LT/RT 301 SUBTOTAL  101FG+17 - 104FG+17 LT/RT 300  SUBTOTAL  Undistributed  102 AK+37 RT 104 AK+25 LT 104 AK+37 RT 105 AK+37 RT 104 AK+37 RT 105 AK			_				10
104AK+10			_			617	
104AK+21			_				<del></del>
104AK+33   104AK+37   RT     10   104AK+67   104AK+67   104AK+72   RT     10   104AK+67   104AK+67   104AK+82   RT   71     105AK+07   105AK+12   LT     10   105AK+07   105AK+14   LT   155     105AK+11   - 105AK+16   RT   196   10   10			_				10
104AK+67   - 104AK+72   RT     10   10   104AK+67   - 104AK+82   RT   71     105AK+07   - 105AK+07   - 105AK+12   LT     10   105AK+07   - 105AK+14   LT   155     105AK+11   - 105AK+16   RT   196   10   10   10   10   10   10   10   1			-				
104AK+67 - 104AK+82 RT 71 105AK+07 - 105AK+07 - 105AK+12 LT 10 10 105AK+07 - 105AK+14 LT 155 105AK+11 - 105AK+16 RT 196 10			-				
105AK+07   105AK+12			-			71	
105AK+07 - 105AK+14			-				10
105AK+11 - 105AK+16 RT 196 10		105AK+07	-	105AK+14		155	
SUBTOTAL 2,866 100  FOREST GROVE  101FG+93 - 102FG+93 LT/RT 301 103FG+17 - 104FG+17 LT/RT 300 SUBTOTAL  Undistributed 326 10							10
101FG+93 - 102FG+93 LT/RT 301 103FG+17 - 104FG+17 LT/RT 300 SUBTOTAL 601 Undistributed 326 10	SUBTOTAL					2,866	100
101FG+93 - 102FG+93 LT/RT 301 103FG+17 - 104FG+17 LT/RT 300 SUBTOTAL 601 Undistributed 326 10							
103FG+17         -         104FG+17         LT/RT         300            SUBTOTAL         601            Undistributed         326         10	FOREST GROVE						
SUBTOTAL         601            Undistributed         326         10			-				
Undistributed 326 10		103FG+17	-	104FG+17	LT/RT		
	SUBTOTAL					601	
DJECT 1009-86-18 TOTAL 4.395 139							
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	DJECT 1009-86-18 TOTAL					4,395	139

STORM	<b>SEWER</b>	PIPES
O I O I NIVI	CLVV	0

608.0412

FROM	TO	INVERT ELEV	DISCH ELEV		CONCRETE CLASS IV 12-INCH
STR	STR	FT	FT	SLOPE	LF
WISCONSIN					
101	102	853.9000	853.5000	0.34%	111
102	103	853.5000	853.5014	0.02%	7

SUBTOTAL

PROJECT 1009-86-18 TOTAL

118

### Storm Sewer Structures

				520.8000	611.0624	611.3004	611.3230	611.323
				CONCRETE COLLARS				ADJUSTING
	STRUCTURE			FOR PIPE	INLET COVERS TYPE H	INLETS 4-FT DIAMETER	INLETS 2X3-FT	INLET COVERS
ROADWAY	NUMBER	STATION	OFFSET	EACH	EACH	EACH	EACH	EACH
WISCONSIN								
	101	101WI+42	12.6' RT		1		1	
	102	102WI+55	14.5' RT		1	1		
	103	102WI+60	9.3' LT		1			
	104	103WI+11	19.3' LT					1
		UNDISTRIBUTED	)	1				
	SUBTOTAL			1	3	1	1	1
-	PROJECT 1009-8	6-18 TOTAL		1	3	1	1	1

# **BEAMGUARD**

614.2300

MGS GUARDRAIL	3
	_

ROADWAY	LF	
PROJECT 1009-86-18		
	50	
PROJECT 1009-86-18 TOTAL	50	

PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: **E** 

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq6 PLOT SCALE: 1:1

#### **RESTORATION ITEMS** 625.0100 630.0200 627.0200 629.0210 630.0140 **FERTILIZER** SEEDING SEEDING TOPSOIL MULCHING TYPE B MIXTURE NO. 40 TEMPORARY STAGE STATION OFFSET SY SY CWT LB LB WISCONSIN AVE **FENCING** 101WI+12 102WI+81 RT 172 0.25 3 3 616.0206 LT 102WI+90 103WI+60 73 0.25 **FENCE** 103WI+13 103WI+71 RT 64 0.25 CHAIN LINK RT 103WI+26 103WI+71 17 0.25 SUBTOTAL 326 5 1.00 STATION ROADWAY OFFSET LF OAKTON AVE 102AK+05 -102AK+16 LT 10 0.25 PROJECT 1009-86-18 103WI+15 - 103AK+11 RT 2271 102AK+27 -102AK+94 LT 196 0.25 LT 103WI+11 -103AK+12 1,707 1.25 31 31 LT PROJECT 1009-86-18 TOTAL 103AK+15 -103AK+49 100 0.25 2 2 2271 LT 20 103AK+17 -103AK+53 0.25 103AK+31 -LT 463 0.50 8 8 104AK+39 103AK+38 -104AK+40 RT 137 0.25 2 2 LT 103AK+53 -104AK+23 45 0.25 SUBTOTAL 2,678 3 48 48 UNDISTRIBUTED 601 11 11 PROJECT 1009-86-18 TOTAL 3,605 361 5 64 64 **EROSION CONTROL**

# MOBILIZATION

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

					628.2006 EROSION MAT URBAN CLASS I TYPE B
ROADWAY	S1	ATIC	DN	OFFSET	SY
WISCONSIN					
	101WI+12	-	102WI+81	RT	168
	102WI+90	-	103WI+60	LT	73
	103WI+13	-	103WI+71	RT	37
	103WI+26	-	103WI+71	RT	17
SUBTOTAL					296
OAKTON					
	102AK+05	-	102AK+16	LT	10
	102AK+27	-	102AK+94	LT	48
	103WI+11	-	103AK+12	LT	1,707
	103AK+15	-	103AK+49	RT	100
	103AK+17	-	103AK+53	LT	20
	103AK+31	-	104AK+39	RT	463
	103AK+38	-	104AK+40	RT	137
	103AK+53	-	104AK+23	LT	45
SUBTOTAL					2,530
ROJECT 1009-86-18 TOTAL					2,826

PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: **E** 

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq7 PLOT SCALE: 1:1

#### SILT FENCE

					628.1504	628.1520
						SILT FENCE
					SILT FENCE	MA INTENANCE
ROADWAY	S <sup>-</sup>	TATIC	ON	OFFSET	LF	LF
WISCONSIN						
	103WI+29	-	103WI+71	RT	47	47
SUBTOTAL					47	47
OAKTON						
	102AK+23	-	102AK+52	LT	63	63
SUBTOTAL					63	63
PROJECT 1009-86-18 TOTAL					110	110

### SEED WATER

630.0500

		Seed Water			
	DURATION	MGAL			
	160				
PROJECT 1009-86-18 TO	160				

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA

MISCELLANEOUS QUANTITIES

SHEET:

**INLET PROTECTION** 

			628.7010 INLET PROTECTION TYPE B	628.7015 INLET PROTECTION TYPE C
ROADWAY	STATION	OFFSET	EACH	EACH
WISCONSIN				
	101WI+41	15.3' RT	1	
	102WI+55	18.0' RT	1	
	103WI+10	17.8' LT	1	
SUBTOTAL			3	
OAKTON				
	104AK+98	17.2' RT	1	
SUBTOTAL			1	
FOREST GROVE				
	103FG+63	23.0' RT		1
	103FG+63	23.4' LT		1
SUBTOTAL				2
PROJECT 1009-86-18 TOTAL			4	2

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq8 PLOT SCALE: 1:1

#### PERMANENT SIGNING

637.2210 634.0618

637.2210	634.06
	SIGN

				SIGN SIZE	SIGNS TYPE II REFLECTIVE H			MOUNTED ON SAME POST AS	POSTS WOOD 4X6-INCH X 18-FT	
	SIGN NUMBER	SIGN CODE	SIGN MESSAGE	INCH X INCH	SF	STATION	LOCATION		EACH	REMARKS
Wisconsin Ave	P001	OM3-L	Type 3 Object Marker	12 X 36	3	102WI+60	15.9' RT			Secured to Existing Light Po
Wisconsin Ave	P002	R4-7	Median Hazard	24 X 30	5	101WI+91	0.00'		1	Cooding to Educate English
Wisconsin Ave	P003	R4-7	Median Hazard	24 X 30	5	103WI+84	0.00'		1	
Forest Grove Drive	P003	R4-7	Median Hazard	24 X 30	5	101FG+91	0.00'		1	
Forest Grove Drive	P004	R4-7	Median Hazard	24 X 30	5	104FG+19	0.00'		1	
Gifford Road	P005	R4-7	Median Hazard	24 X 30	5	102Gl+46	0.00'		1	
Oakton Ave	P006	R4-7	Median Hazard	24 X 30	5	102AK+52	0.00'		1	
Oakton Ave	P007	W10-5	Low Ground Clearance	36 X 36	9				1	
Oakton Ave	P008	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P007	· 	
Oakton Ave	P009	W10-5	Low Ground Clearance	36 X 36	9				1	
Oakton Ave	P010	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P009	' 	
Oakton Ave	P011	W10-5	Low Ground Clearance	36 X 36	9				1	
Oakton Ave	P012	W10-5P	Low Ground Clearance Plaque	30 X 30	3.13			P011	' 	
KOPMEIER	P013	W10-1	Railroad Crossing	18 X 18	2.25				1	
KOPMEIER	P014	W10-5	Low Ground Clearance	36 X 36	9				1	
KOPMEIER	P015	W10-5P		30 X 30					' 	
KOPMEIER	P016	W10-5	Low Ground Clearance Plaque  Low Ground Clearance	36 X 36	3.13 9			P014 	1	
KOPMEIER	P017	W10-5P	Low Ground Clearance Plaque	30 X 30		 				
KOPMEIER	P018	W10-5P	•	36 X 36	3.13		 	P016	1	
KOPMEIER	P019	W10-5P	Low Ground Clearance	30 X 30	9			 D040	1	
			Low Ground Clearance Plaque		3.13			P018		
VETTELSON	P020	W10-5	Low Ground Clearance	36 X 36	9			 D000	ı	
VETTELSON	P021	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P020		
VETTELSON	P022	W10-5	Low Ground Clearance	36 X 36	9			 Door	1	
VETTELSON	P023	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P022		
COTTONWOOD	P024	W10-5	Low Ground Clearance	36 X 36	9			 Doo4	1	
COTTONWOOD	P025	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P024		
COTTONWOOD	P026	W10-5	Low Ground Clearance	36 X 36	9				1	
COTTONWOOD	P027	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P026	<del></del>	
PARKSIDE	P028	W10-5	Low Ground Clearance	36 X 36	9				1	
PARKSIDE	P029	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P028		
PARKSIDE	P030	W10-5	Low Ground Clearance	36 X 36	9				1	
PARKSIDE	P031	W10-5P	Low Ground Clearance Plaque	30 X 15	3.13			P030	<del></del>	
PARKSIDE	P032	R5-2	No Trucks	24 X 24	4				1	
PARKSIDE	P033	R5-11	Authorized Vehicles Only	30 X 24	5			P032		
ELM	P034	OM4-3	Type 4 Object Marker	36 X 36	9				1	
ELM	P035	OM4-3	Type 4 Object Marker	36 X 36	9				1	

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: **E** 

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq9 PLOT SCALE: 1:1

#### **DETOUR ITEMS**

643.0900\*

TRAFFIC CONTROL

310

		SIGNS*			
	DURATION	EACH	DAYS		
Wisconsin Ave	31	10	310		

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT 1009-86-18 TOTAL

)	

ROADWAY

WISCONSIN

SUBTOTAL

OAKTON

SUBTOTAL

PROJECT 1009-86-18 TOTAL

# TEMPORARY PEDESTRIAN BARRICADE

STATION OFFSET

18.6' RT

30.0' RT

103WI+56

103AK+58

SIGN RELOCATION

638.2102

MOVING

SIGNS

TYPE II

EACH

638.2602

**REMOVING** 

SIGNS

TYPE II

EACH

638.3000

**REMOVING** 

SMALL SIGN

SUPPORT

EACH

1

1

2

**REMARKS** 

PUBLIC PARKING

STOP

	C	T 4 TION I		055055	644.1810 Temp. Ped Barricade
ROADWAY	8	TATION		OFFSET	LF
GIFFORD		-		-	
		-		-	
SUBTOTAL					
WISCONSIN					
	102WI+96	-	-	RT	15
	103WI+39	-	-	LT	15
	103WI+48	-	-	RT	15
SUBTOTAL					45
OAKTON					
	104AK+47	-	-	LT	15
	104AK+53	-	-	RT	15
	104AK+90	-	-	RT	15
SUBTOTAL					45
ROJECT 1009-86-18 T	OTAL				90

0010 UNLESS OTHERWISE NOTED.
OUTO ONLESS OTTLINWISE NOTED.

FILE NAME: \PW\t1\cds\030201\_mq.ppt

TRAFFIC CONTROL ITEMS														
		643	.0300	643	.0420	643	.0705	643.	0715	643	.0900*	643.0920	643	1050
						TRA	AFFIC	TRA	FFIC			TRAFFIC		
				TRA	AFFIC	CON	ITROL	CON	TROL			CONTROL	TRA	FFIC
		TRA	AFFIC	CON	ITROL	WAF	RNING	WAR	NING	TRA	AFFIC	COVERING	CON	TROL
	STAGE	CON	ITROL	BARR	ICA DES	LIG	HTS	LIG	HTS	CON	NTROL	SIGNS	SIC	SNS
	DURATION	DR	UMS	TY	PE III	TY	PE A		PEC	SIC	GNS*	TYPE II		CMS
ROADWAY	DAYS	EACH <sup>^</sup>			DAYS		DAYS	EACH <sup>^</sup>	DAYS		DAYS	EACH	EACH <sup>^</sup>	DAYS
FOREST GROVE DRIVE	5													
FOREST GROVE	· ·	40	200			20	100	20	100	5	25			
SUBTOTAL			200				100		100		25			
GIFFORD ROAD	5													
GIFFORD ROAD GIFFORD ROAD	5	20	100			10	50	10	50	7	35			
SUBTOTAL		20	100			10	50	10	50		35			
OAKTON AVENUE	10													
OAKTON AVENUE		29	290			14	140	15	150	12	120			
SUBTOTAL			290				140		150		120			
WISCONSIN AVENUE	31													
WISCONSIN A VENUE				4	124	8	80	10	100	3	31		2	14
SUBTOTAL					124		80		100		31			14
	40													
COTTONWOOD AVENUE COTTONWOOD AVENUE	10	10	100							6	60			
SUBTOTAL		10								0				<del></del>
JODIOTAL			100								60			
<u>UNDISTRIBUTED</u>												5		
PROJECT 1009-86-18 TOTAL			690		124		370		400		271	5		14

<sup>\*</sup> ADDITIONAL QUANTITIES SHOWN ELSEWHERE

COUNTY: WAUKESHA PROJECT NO: 1009-86-18 HWY: STEP GRANT

MISCELLANEOUS QUANTITIES

SHEET:

PLOT SCALE: 1:1

PLOT DATE: 12/13/2019 10:22:10 AM

PLOT BY : HNTB Corp

PLOT NAME : 030201\_mq10

<sup>^</sup> SHOWN FOR INFORMATIONAL PURPOSES ONLY

ı	_
ı	_
ı	
ı	
ı	_

BACADDWAY			PAVEMEN	IT MARKIN		040 5000	040 7400	0.40.04.00	
ROADWAY				MARK	ING LINE	RAILROAD	EPOXY TRANSVERSE	ISLAND NOSE	
GFFORD 101GH-23 7.4 RT	ROADWAY	STATION	OFFSET						
1026H46									
103GH-39   RT	GIFFORD					1			
103GH-48									
103GH81							 		
SUBTOTAL								•	
WISCONSIN						1			
101WH90 0.0 1 102WH81 102WH72 RT	SUBTOTAL					2		2	
101WH90 0.0	WISCONSIN	101WI+76	9.4' RT			1			
102WH67 RT								1	
103WH-11		102WI+67							
103WH47			LT/RT				44		
103Wh83								1	
103WH92								1	
105Wi+11   12.2' LT								1	
SUBTOTAL  OAKTON  102AK+30  9.2'RT   102AK+54  0.0'    103AK+45  RT   103AK+46  RT   103AK+55  0.0'   104AK+10  0.0'   104AK+40  LT   104AK+40  LT   104AK+55  0.0'   104AK+55  0.0'   104AK+55  0.0'   105AK+56  0.0'    101FG+89  0.0'   101FG+89  0.0'   101FG+89  0.0'   101FG+89  0.0'   101FG+93  102FG+93  RT  1012FG+93  0.0'   102FG+93  0.0'   102FG+93  0.0'   102FG+93  0.0'   102FG+93  0.0'   103FG+17  104FG+17  0.0'   103FG+17  104FG+17  LT  100   103FG+17  104FG+17  LT  100   104FG+17  104FG+17  LT  100   104FG+17  104FG+17  LT  100   104FG+17  104FG+17  104FG+17  LT  100   104FG+17  104FG+						<del></del>			
OAKTON 102AK+30 9.2'RT 1 1 1 1 1 1 1 1 1 1 1 1 1	OLIDTOTAL	105WH11	12.2' LT			•			
102AK+54 0.0' 1 103AK+66 RT 1 103AK+65 0.0' 1 104AK+10 0.0' 1 104AK+10 0.0' 1 104AK+55 0.0' 1 104AK+55 0.0' 1 105AK+56 55.8' LT 1 1 1 105AK+56 55.8' LT 1 1	SUBTOTAL					2	44	4	
103AK+46 RT	OAKTON	102AK+30	9.2' RT			1			
103AK+55		102AK+54	0.0'					1	
104AK+10									
104AK+40 LT								1	
104AK+55								1	
105AK+56   55.8' LT       1           SUBTOTAL       2     4     FOREST GROVE									
SUBTOTAL  FOREST GROVE  101FG+67  10.1'RT  101FG+89  0.0'   101FG+93  101FG+93  LT  69   101FG+93  102FG+93  RT  67   102FG+93  0.0'   103FG+17  104FG+17  RT  100   103FG+17  104FG+17  LT  100   103FG+17  104FG+21  0.0'   104FG+21  0.0'   104FG+21  0.0'   SUBTOTAL  COTTONWOOD AVE  103CO+36  RT   103CO+35  103CO+51  LT/RT   SUBTOTAL									
FOREST GROVE 101FG+67 10.1'RT 1 1 1 1 1 1 1 1 1 1 1 1 1	SUBTOTAL	103AK+30	55.8 LI			•			
101FG+89 0.0° 1 101FG+93 - 102FG+93									
101FG+93 - 102FG+93	FOREST GROVE		10.1' RT			1			
101FG+93 - 102FG+93								1	
102FG+85   RT									
102FG+93   0.0'           1   1   103FG+17   0.0'               1   1				67					
103FG+17									
103FG+17 - 104FG+17   RT   100               -								1	
103FG+17 - 104FG+17								1	
103FG+25   RT               104FG+21   0.0'         1   104FG+41   9.4' LT       1   1       4						<del></del>	<del></del>		
104FG+21   0.0'           1   1   104FG+41   9.4' LT       1   1         4									
SUBTOTAL 9.4' LT 1 1 4  SUBTOTAL 336 2 4  COTTONWOOD AVE 103CO+30 - 103CO+35 LT/RT 32 102CO+36 RT 32 102CO+74 LT 2 2 102CO+74 LT 32 2 2 SUBTOTAL SUBTOTAL 32 2 2 20								1	
SUBTOTAL  COTTONWOOD AVE 103CO+30 - 103CO+35 LT/RT 20 103CO+35 - 103CO+51 LT/RT 32 102CO+36 RT						1			
103CO+35 - 103CO+51 LT/RT 32 102CO+36 RT 102CO+74 LT	SUBTOTAL					2		4	
103CO+35 - 103CO+51 LT/RT 32 102CO+36 RT 102CO+74 LT	COTTONWOOD AVF	103CO+30 - 103CO+35	LT/RT			<del></del>	20		
102CO+36 RT 102CO+74 LT									
102CO+74 LT									
SUBTOTAL 32 2 20		102CO+74							
		VARIES	LT/RT						
PROJECT 1009-86-18 TOTAL 368 10 64 14	SUBTOTAL				32	2	20		
	PROJECT 1009-86-18 TOTAL			3	68	10	64	14	

PAVEMENT MARKINGS

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

SHEET: HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES PROJECT NO: 1009-86-18 FILE NAME: \PW\t1\cds\030201\_mq.ppt

PLOT DATE : 12/13/2019 10:22:10 AM PLOT BY : HNTB Corp PLOT NAME: 030201\_mq11 PLOT SCALE: 1:1

٦
<b>  3</b>

### **SAWING PAVEMENT (CONT).**

69	$0.0^{\circ}$	150

SAWING

451

			ASPHALT
ROADWAY	STATION	OFFSET	LF

FOREST GROVE 226 101FG+89 - 102FG+97 LT/RT 225 103FG+19 - 104FG+21 LT/RT

COTTONWOOD

SUBTOTAL

40 103CO+35 - 103CO+51 LT/RT SUBTOTAL

148 Undistributed PROJECT 1009-86-18 TOTAL 1,993

# SAWING PAVEMENT

SAWING PAVEMENT					
					690.0150 SAWING ASPHALT
ROADWAY	S <sup>-</sup>	TATIO	ON	OFFSET	LF
GIFFORD					
	102GH45	-	103Gl+49	LT/RT	213
SUBTOTAL					213
WISCONSIN					
	100WI+74	-	103WI+05	LT/RT	256
	102WI+95	-	103WI+54	LT/RT	111
	10	3WI+	-01	LT	13
	10	103WI+71		RT	5
SUBTOTAL					385
OAKTON					
	101AK+31	-	101AK+50	RT	32
	101AK+32	-	101AK+51	LT	33
	102AK+48	-	102AK+52	LT	16
	102AK+52	-	103AK+56	LT/RT	213
	102AK+56	-	102AK+57	LT	6
	10	2AK-	<b>⊦</b> 74	LT	33
	102AK+78		LT	5	
	103AK+04	-	103AK+27	LT	39
	103AK+12	-	103AK+51	RT	45
					400

103AK+16 - 104AK+26

103AK+26 - 104AK+07

104AK+32 - 104AK+60

104AK+81 104AK+82

104AK+98 - 105AK+20

105AK+23

105AK+04 -

RT

LT

RT

LT

RT

126

40

757

#### **ADJUSTING WATERMAIN VALVES**

SPV.0060.01

ADJUSTING WATERMAIN

		VALVES	
	LOCATION	EACH	
Wisconsin Ave	WM01	1	
Wisconsin Ave	WM02	1	
Wisconsin Ave	WM03	1	

PROJECT 1009-86-18 TOTAL

#### **SURVEY PROJECT 1009-86-18**

SPV.0105.01

SURVEY PROJECT 1009-86-18 LS Projectw ide 1

PROJECT 1009-86-18 TOTAL

NOTE: ALL ITEMS CATEGORY 0010 UNLESS OTHERWISE NOTED.

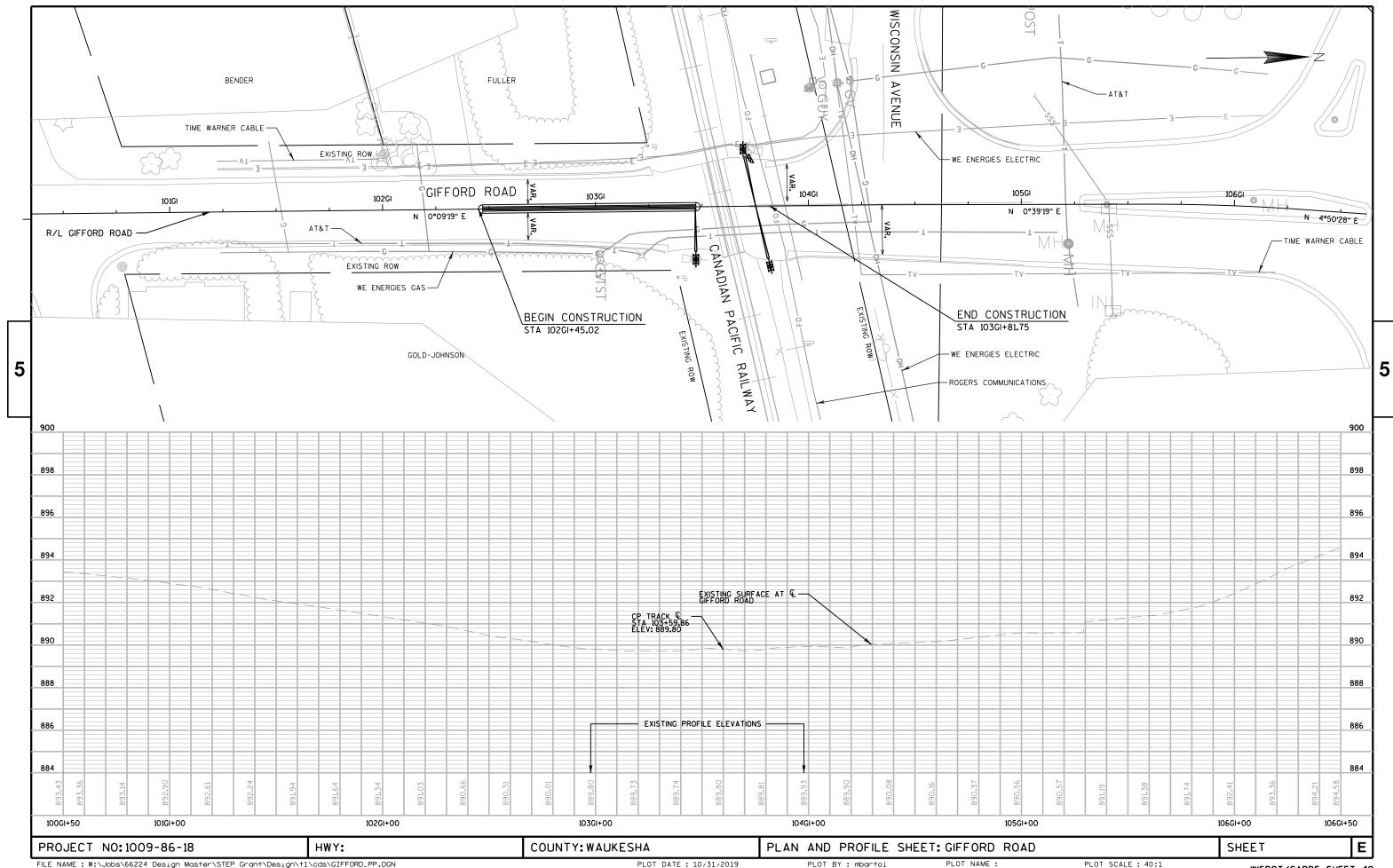
SUBTOTAL

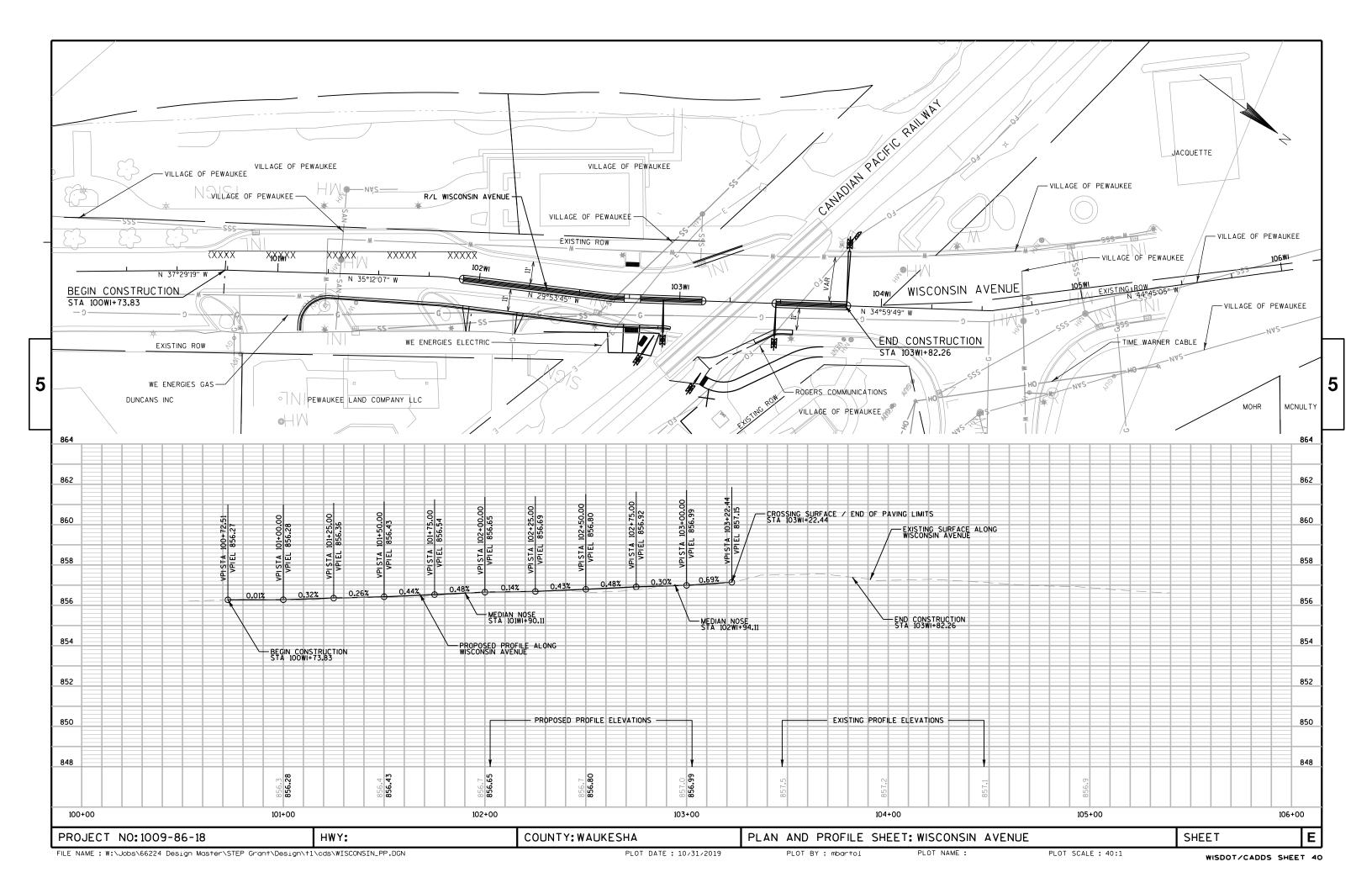
HWY: STEP GRANT PROJECT NO: 1009-86-18 COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT SCALE: 1:1

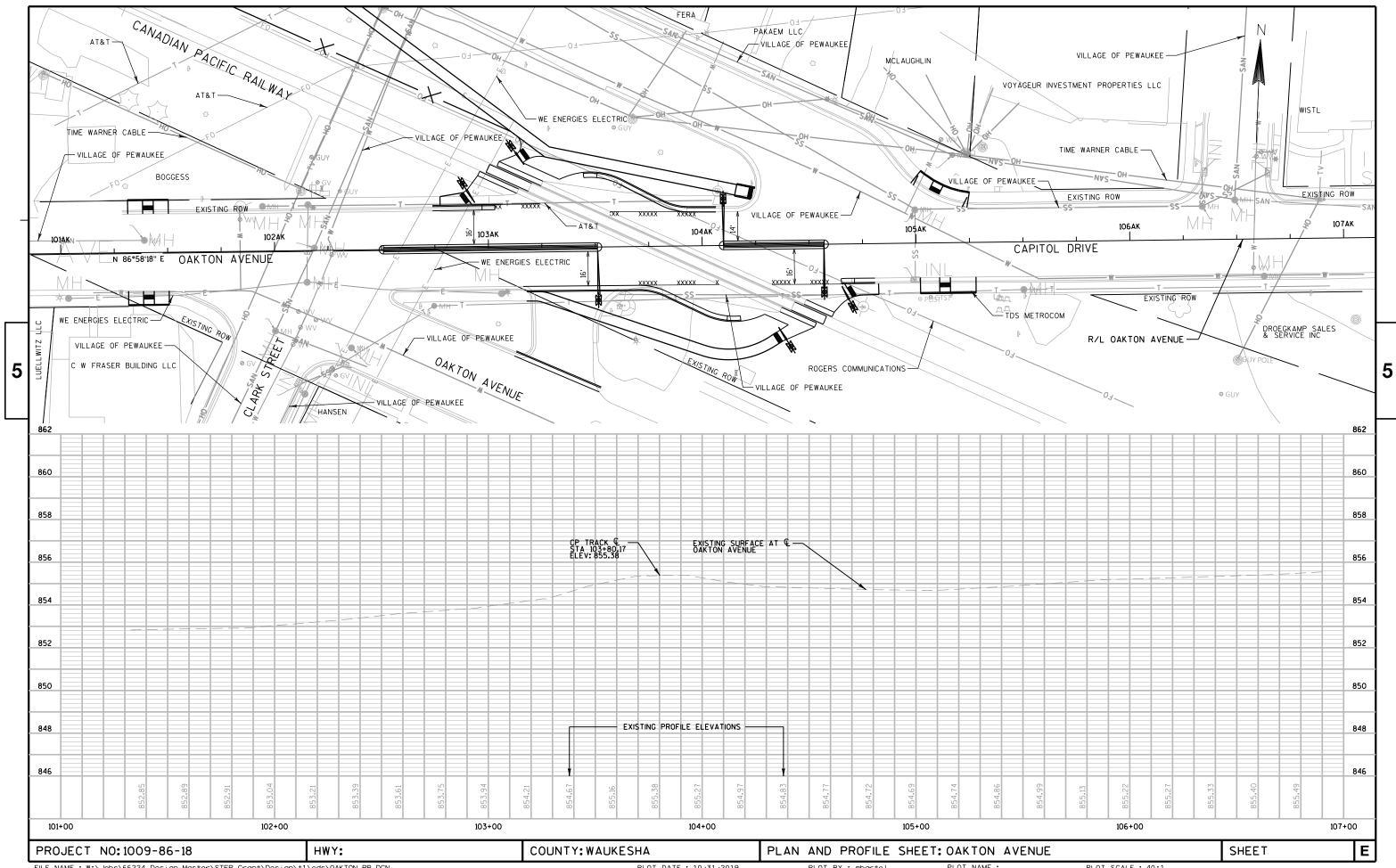
PLOT DATE : 12/13/2019 10:22:10 AM PLOT BY : HNTB Corp PLOT NAME: 030201\_mq12 **Street Sweeping for Pedestrian Accommodations** SPV.0105.01 Street Sw eeping For Pedestrian Accommodations HOUR Wisconsin Avenue 20 Oakton Avenue 20 PROJECT 1009-86-18 TOTAL 40

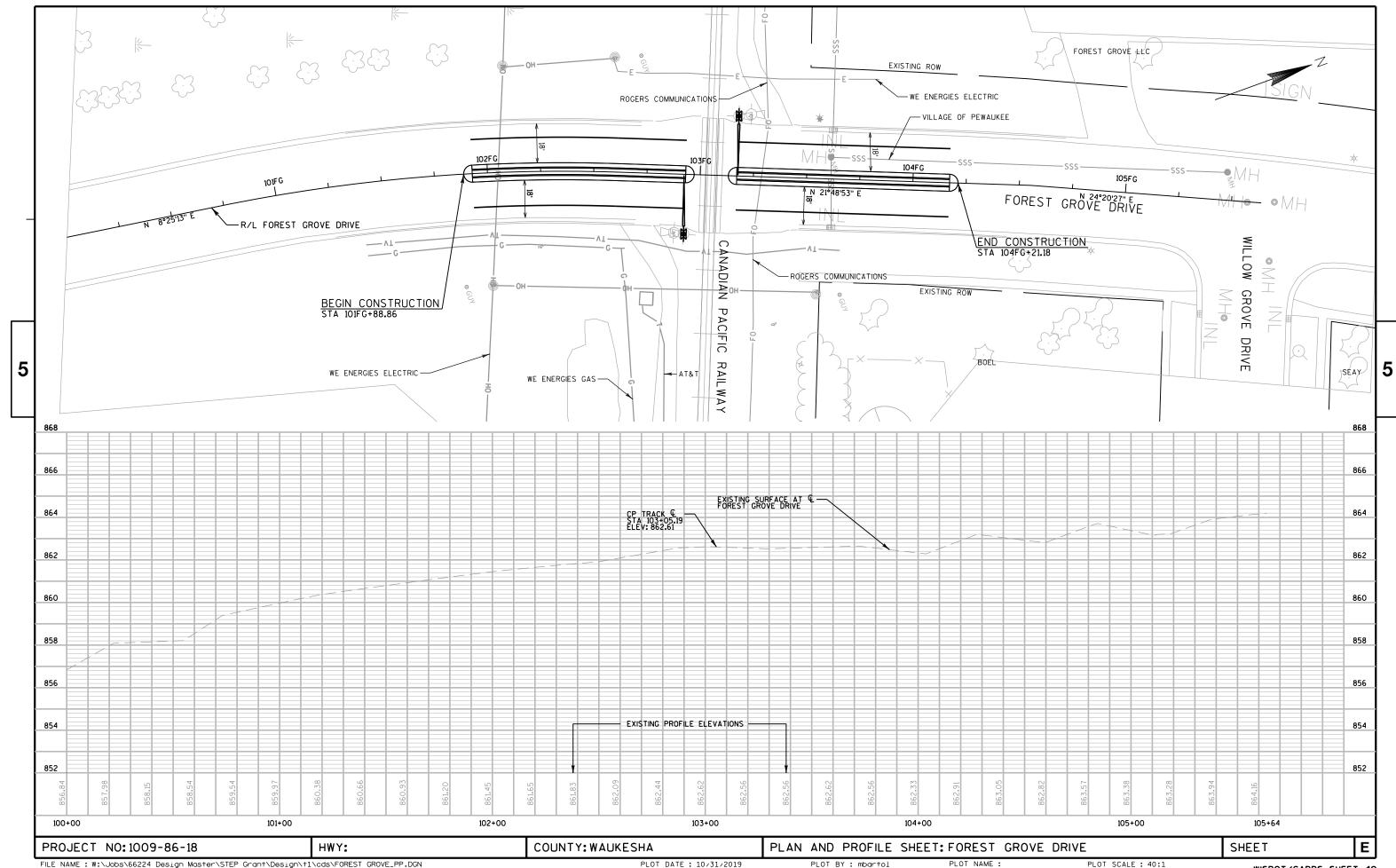
PROJECT NO: 1009-86-18 HWY: STEP GRANT COUNTY: WAUKESHA MISCELLANEOUS QUANTITIES SHEET: **E** 

FILE NAME: \PW\t1\cds\030201\_mq.ppt PLOT BY: HNTB Corp PLOT NAME: 030201\_mq13 PLOT SCALE: 1:1



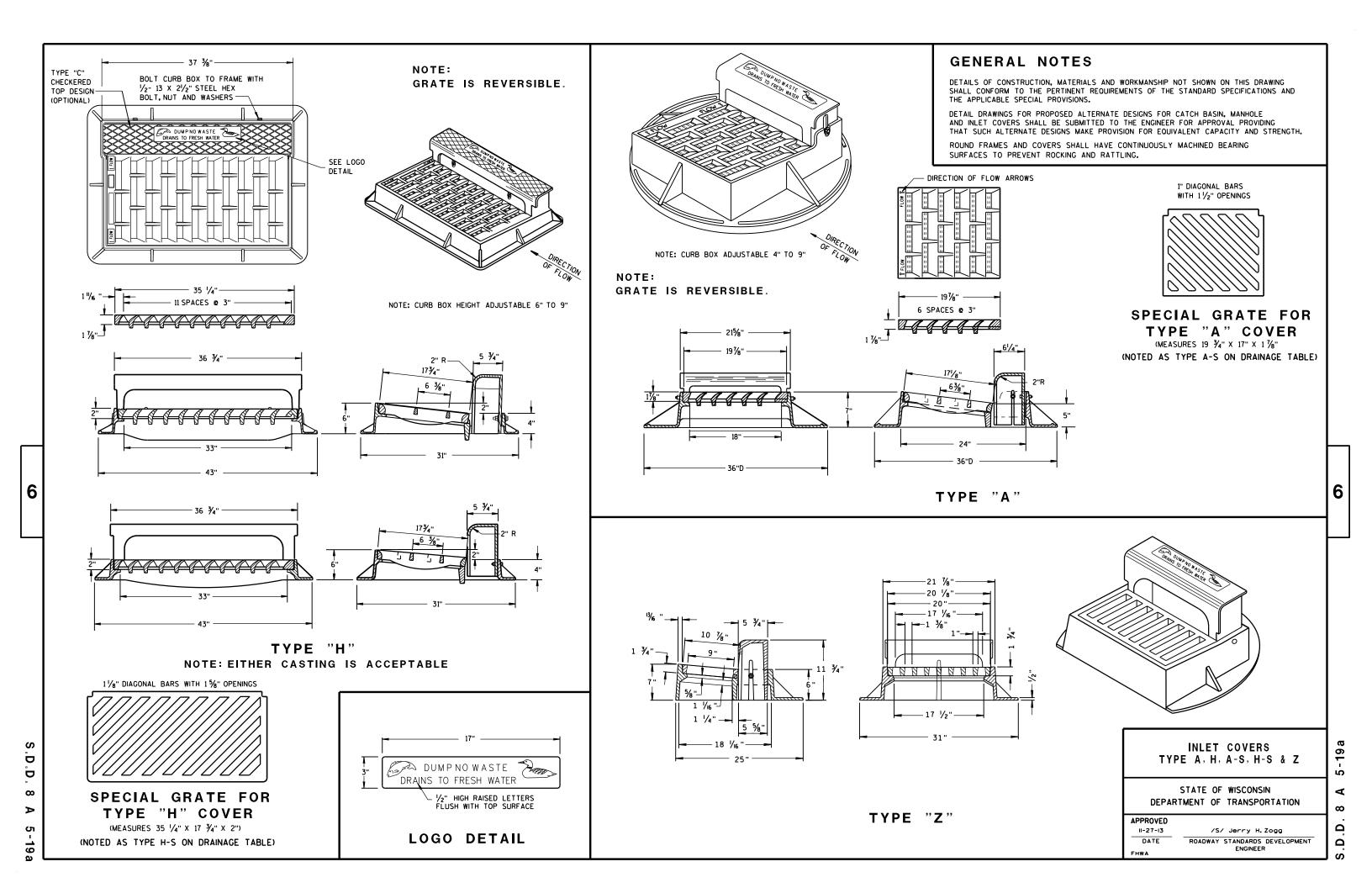






## Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08C06-02	inlets 3-ft and 4-ft diameter
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D18-02	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
11B02-02	CONCRETE MEDIAN NOSE
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15С11-07В	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15С27-ОЗВ	PAVEMENT MARKING (ISLANDS)
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D32-05	TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



CIRCULAR INLETS W/ FLAT TOP

D

Ū

 $\infty$ 

C

0

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

RISER WITH TONGUE AND GROOVE JOINT

**DETAIL** "B" DETAIL "A"

## INLETS 3-FT AND 4-FT DIAMETER

#### **GENERAL NOTES**

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

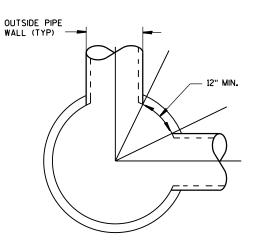
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- (1) MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- 2 FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

#### INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	С	F	ALL H'S	S	Т	٧	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				×							х
	2X2	х	х					Х		Х		
4-FT	2 DIA.				х							х
	2X2	х	х					х		Х		
	2X2.5			Х				х	х	х	х	
	2X3						х					
	2.5X3					х						



DETAIL "C"

#### PIPE MATRIX

	INLET	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES							
١	SIZE	180° SEPARATION (IN)	90° SEPARATION (IN)						
	3-FT	15	12						
	4-FT	24	18						

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

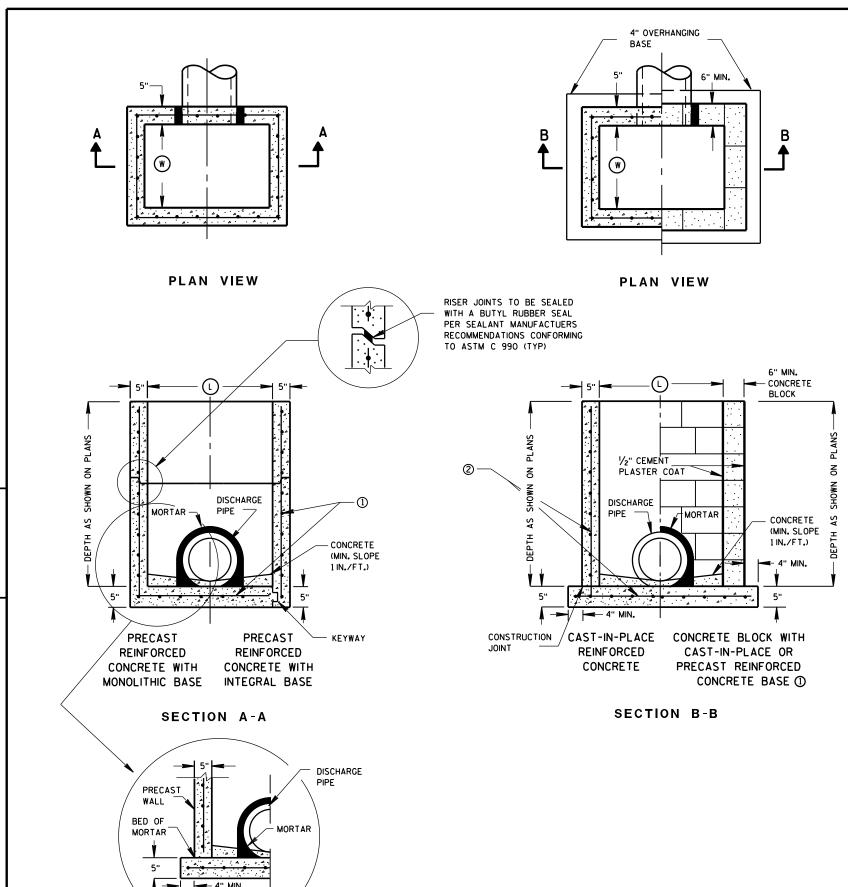
APPROVED

Sept., 2016 /S/ Rodney Taylor DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

9

 $\infty$ Δ

Ω



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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.

OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

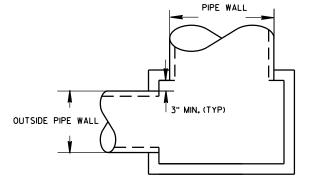
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

#### INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	Т	٧	WM
	WIDTH (V) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	Х	Х				Х		х	
2X2.5-FT	2	2.5			Х			Х	Х	Х	Х
2X3-FT	2	3					Х				
2.5X3-FT	2.5	3				Х					

#### PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER				
INLET SIZE	WIDTH (IN)	LENGTH (IN)			
2X2-FT	12	12			
2X2.5-FT	12	18			
2X3-FT	12	24			
2.5X3-FT	18	24			



DETAIL "A"

OUTSIDE

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

 $\infty$ 

Δ

APPROVED

Sept., 2016

DATE

ROADWAY STANDARDS DEVELOPMENT

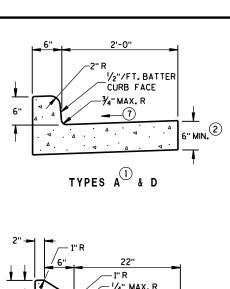
UNIT SUPERVISOR

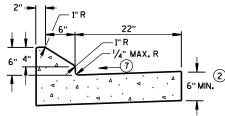
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

S.D.D. 8 C

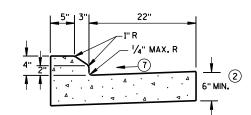
SEPARATE PRECAST REINFORCED

**CONCRETE BASE OPTION** 

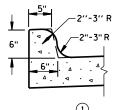




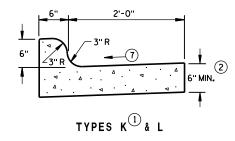
6" SLOPED CURB TYPES G 4 J



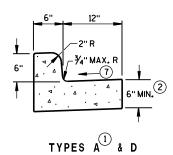
4" SLOPED CURB TYPES G 4 J



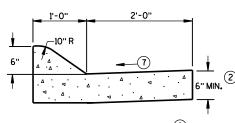
TYPES K (1) & L (OPTIONAL CURB SHAPE)



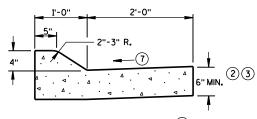
**CONCRETE CURB & GUTTER 30"** 



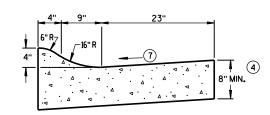
**CONCRETE CURB & GUTTER 18"** 



6" SLOPED CURB TYPES A & D

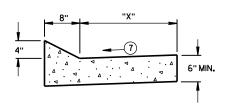


4" SLOPED CURB TYPES A D



4" SLOPED CURB TYPES R T & T

**CONCRETE CURB & GUTTER 36"** 



TYPES TBT & TBTT

## CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

#### **GENERAL NOTES**

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-O" BEHIND THE BACK OF CURBS.

- (1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- 2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- (3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED
- (4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- (5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- (6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- (7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- (8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

#### **PAVEMENT THICKNESS** AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

6

20a

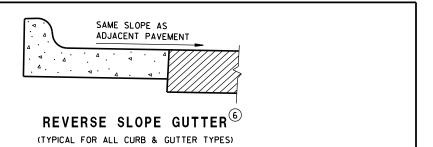
Ω

 $\infty$ 

Ω

#### CONCRETE PANEL WIDTH SAME PAY LIMITS TRAFFIC TRAFFIC LANE -AS CURB & GUTTER LANE PAVEMENT SLOPE PAVEMENT THICKNESS

PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



**CONCRETE CURB & GUTTER** 

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

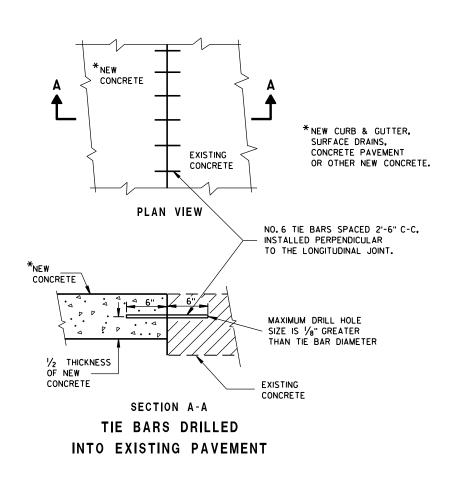
Ö D  $\infty$ D 20a

<sup>\*</sup> BIKE LANE IS NOT SHOWN.

#### DETAIL OF CURB AND GUTTER AT INLETS (TYPE H INLET COVER SHOWN)

CONTRACTION PAVEMENT

**END SECTION CURB & GUTTER** 



#### **GENERAL NOTES**

\_ 1/2"/FT.BATTER,FACE OF CURB (ABOVE ADJACENT PAVEMENT)

ADJACENT

PAVEMENT

NO. 4 X 2'-0" DEF. TIE

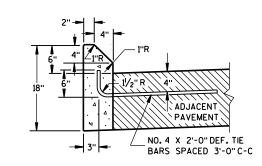
BARS SPACED 3'-0" C-C

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-O" BEHIND THE BACK OF CURBS.

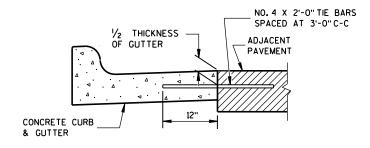
- 1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A.G.K.R AND TBTT.
- 2 THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- (9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



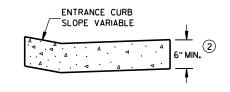
TYPES A D

TYPES G 4 J

#### **CONCRETE CURB**



TYPICAL TIE BAR LOCATION 1



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

## CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

/S/ Rodney Taylor June, 2017 DATE

ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

6

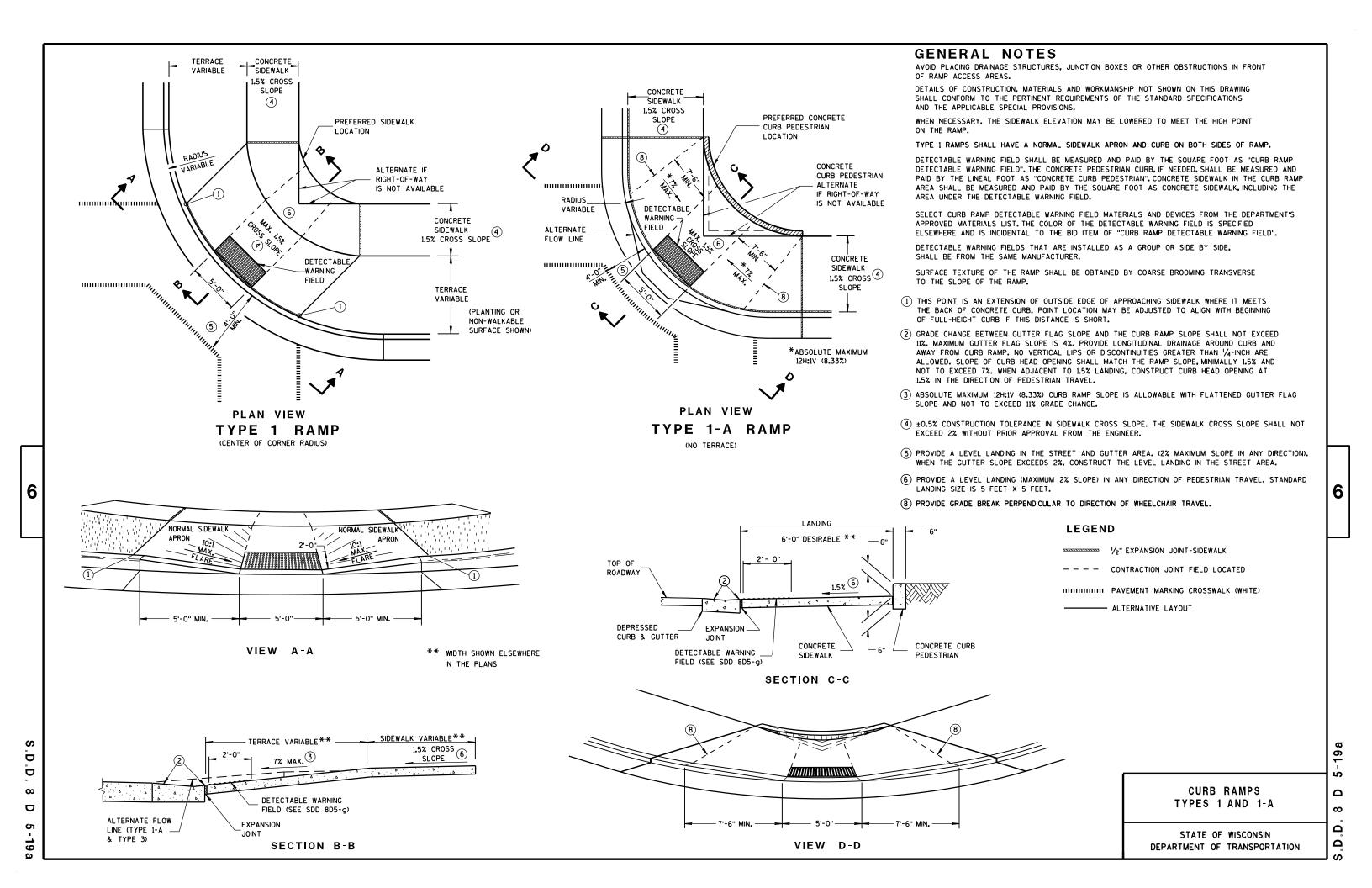
6

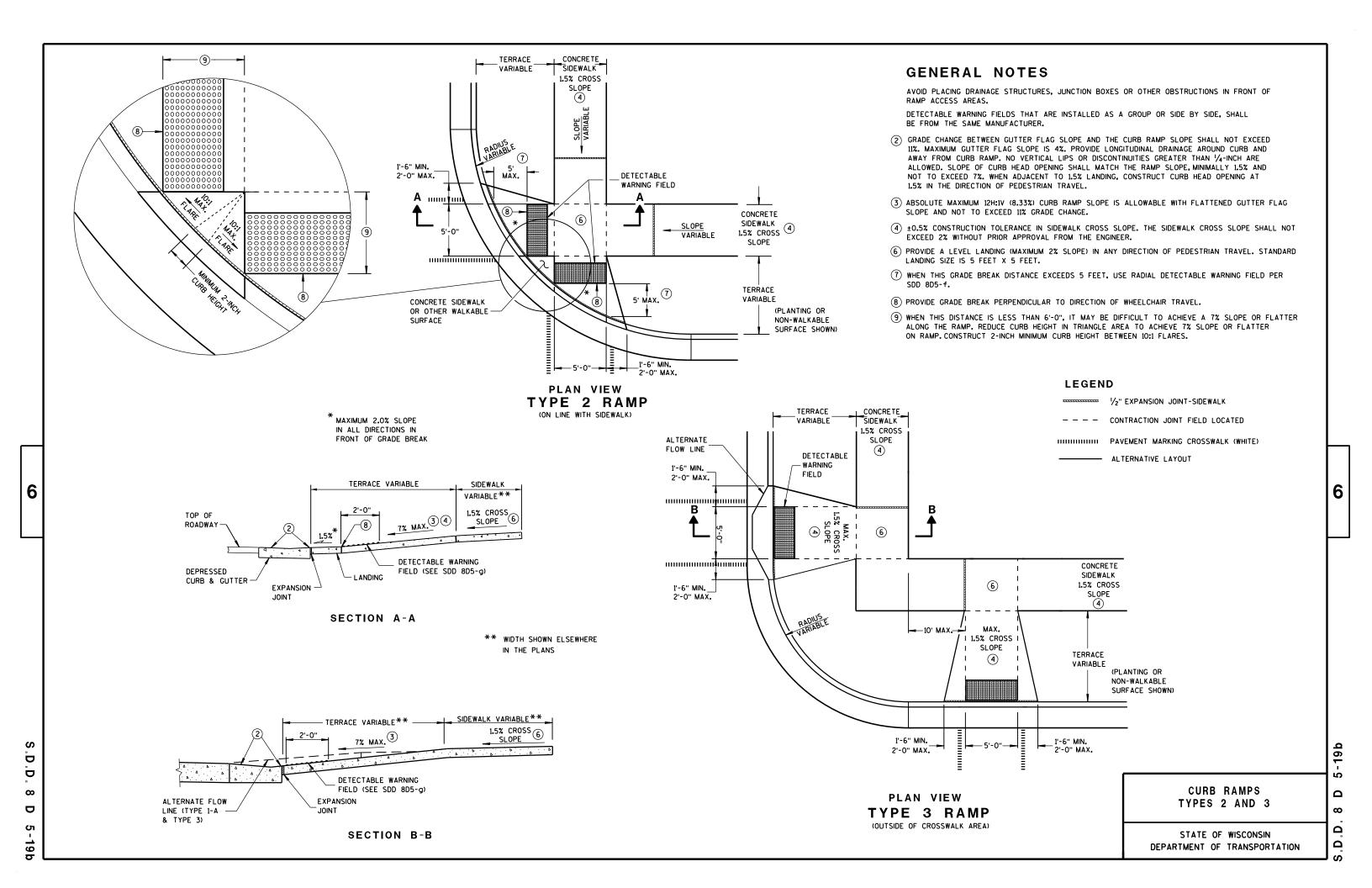
D Ď  $\infty$ 

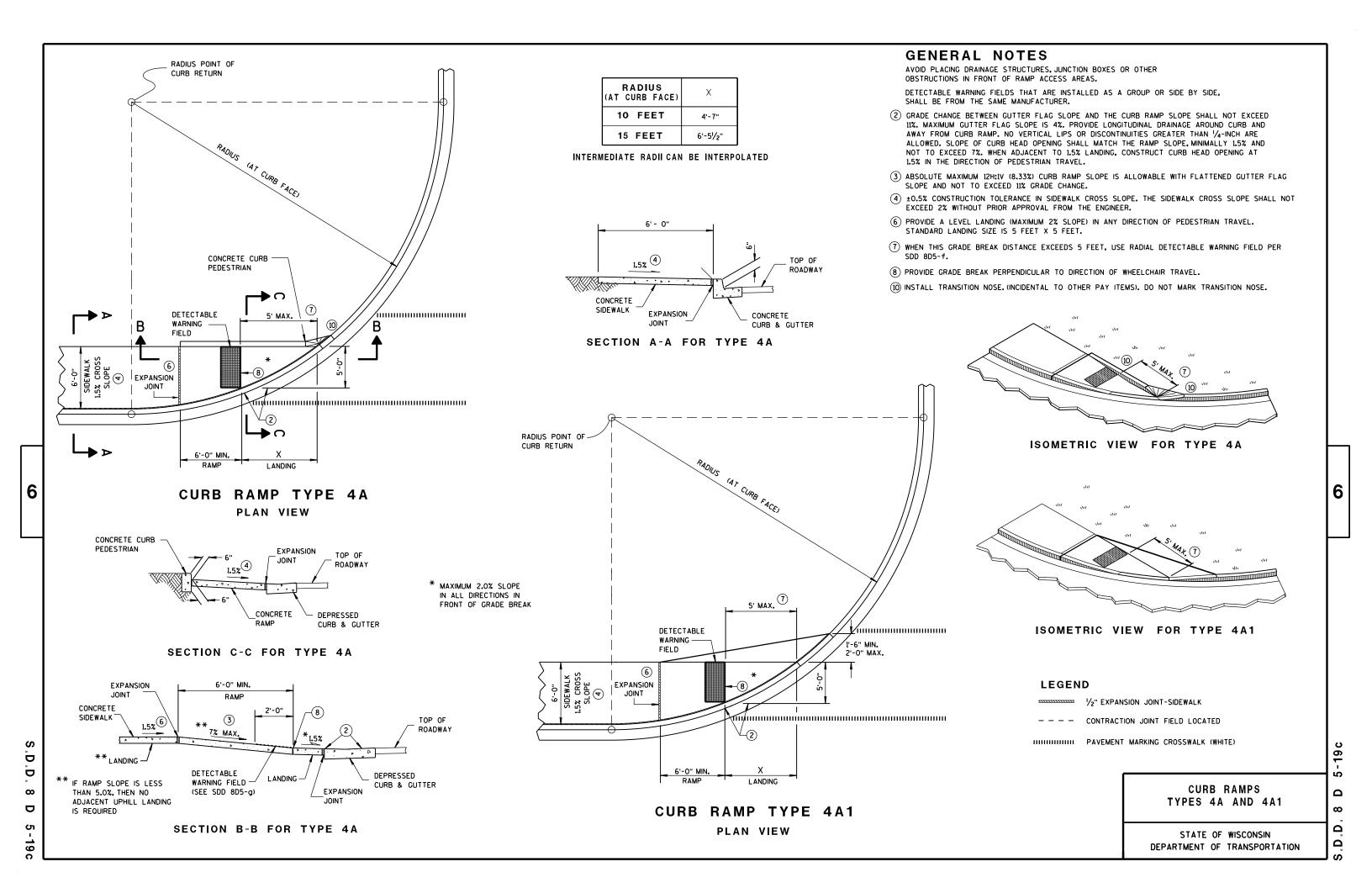
D

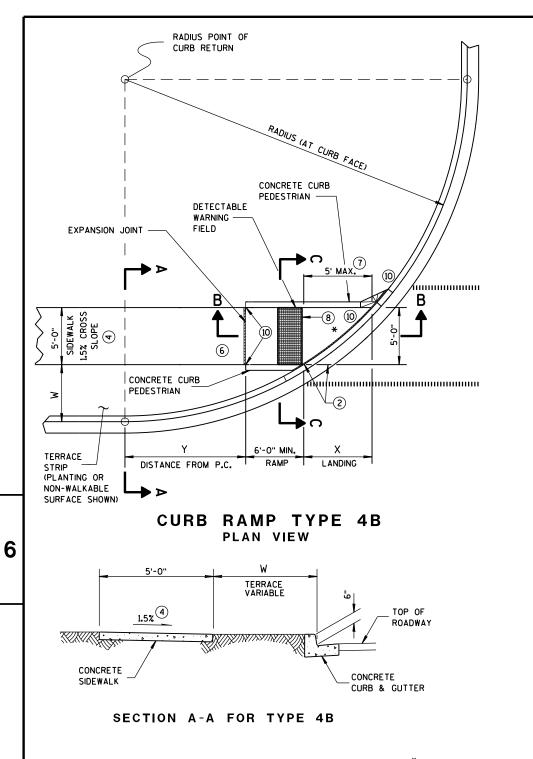
20b

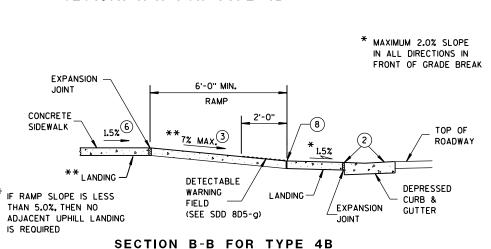
 $\infty$ Ω Ω











D

 $\infty$ 

D

19 d

RADIUS	W =	3' - 0"	W =	4' - Ø"	W =	5' - Ø"	W =	6' - Ø"	W =	7' - Ø"	W =	8' - Ø"	W =	9' - Ø"	W =	10' - 0"
(AT CURB FACE)	Х	Y	Х	Y	Х	Y	X	Y	Х	Y	Х	Y	Х	Y	Х	Y
10 FEET	2'-101/4"	0'-5"	2'-1"	1'-41/2"	1'-5"	2'-1"	0'-10"	2'-71/2"	0'-31/4"	3'-01/4"						
15 FEET	4'-6¾"	2'-13/4"	3'-9"	3'-51/4"	3'-1'/4"	4'-6"	2'-6¾"	5'-41/2"	2'-1"	6'-1"	1'-8"	6'-81/2"	1'-31/4"	7'-21/2"	0'-10¾"	7'-71/4"
20 FEET	5'-9¾"	3'-61/2"	4'-11'/2"	5'-13/4"	4'-3'/4"	6'-51/2"	3'-8¾"	7'-7"	3'-3"	8'-61/2"	2'-10"	9'-41/2"	2'-51/2"	10'-1'/4"	2'-11/4"	10'-9"
30 FEET			6'-9'/4"	7'-11'/4"	6'-0'/4"	9'-8"	5'-5"	11'-1¾''	4'-10¾"	12'-5¾"	4'-51/2"	13'-7¾"	4'-0¾"	14'-81/2"	3'-81/2"	15'-8'/4"
40 FEET									6'-1¾"	15'-81/2"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8'/4"
50 FEET															5'-10'/4"	23'-2"

## **GENERAL NOTES**

5'-0" RAMP

VARIES

0 TO 6"

<u>1.5%</u>

SECTION C-C FOR TYPE 4B

CONCRETE CURB

PEDESTRIAN

TERRACE STRIP

VARIES O TO W

CONCRETE

CURB & GUTTER

ROADWAY

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

6

-19

2

Ω

ω

Ω

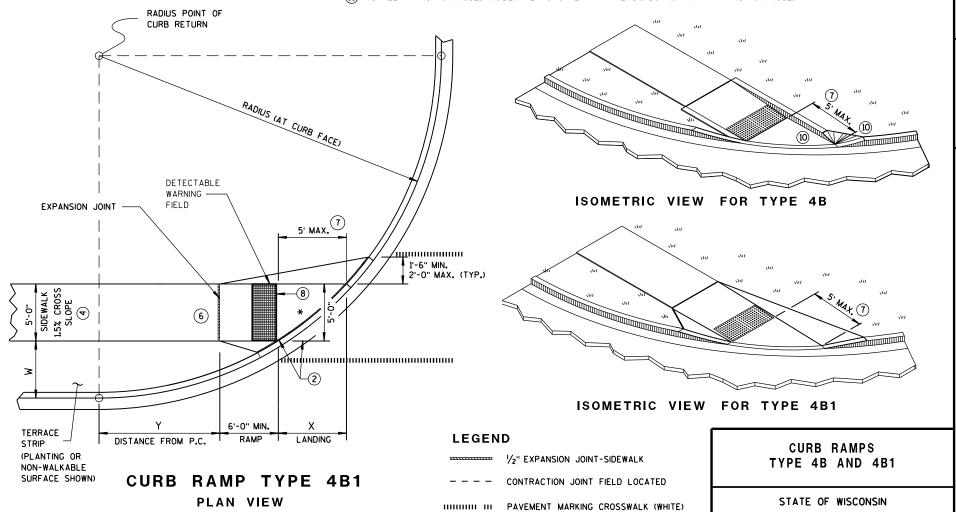
Ω

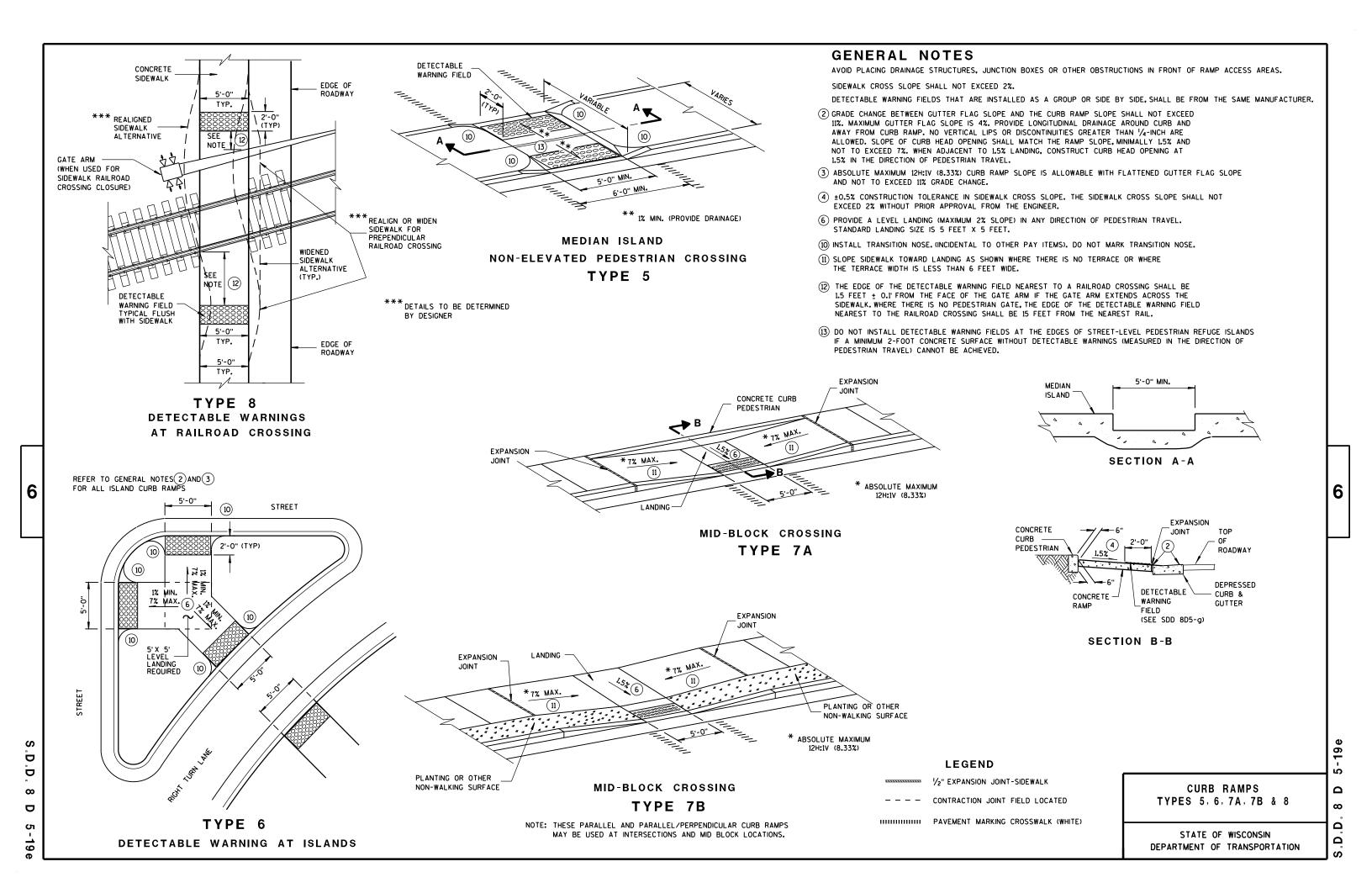
DEPARTMENT OF TRANSPORTATION

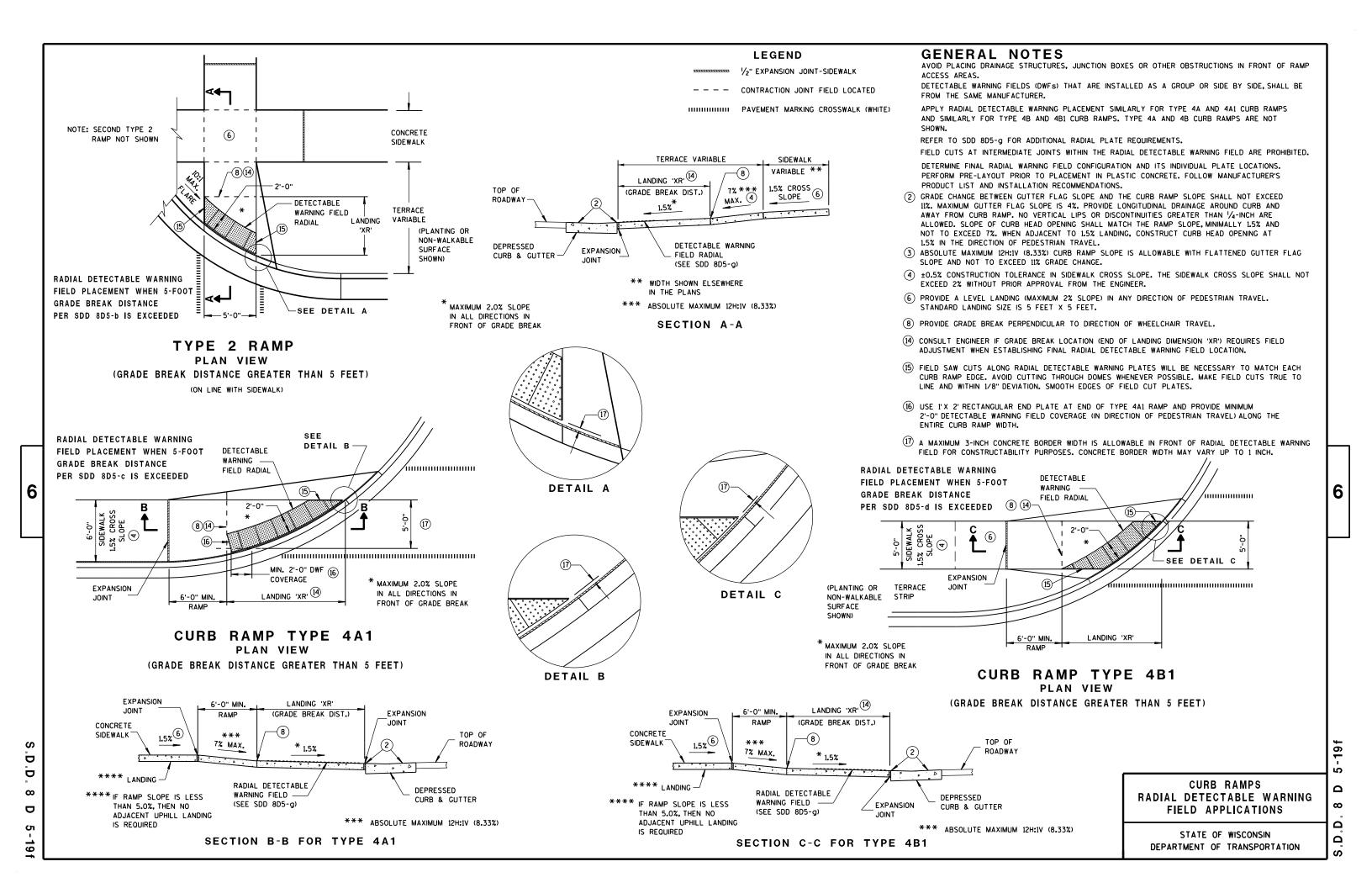
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3 ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- (10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.







6

A B	RAN	(a)
A		( B

**PLAN VIEW** 

00 C	
ELEVATION	VIEW

THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

MIN.

1.6"

0.65"

В

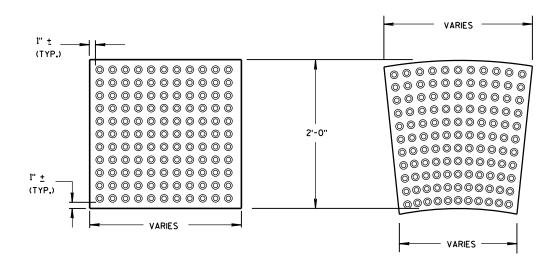
MAX

2.4"

1.5"

1.4"

## TRUNCATED DOMES DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR **PLATES** 

RADIAL **PLATES** 

DETECTABLE WARNING FIELDS (TYPICAL)

**PLAN VIEW** 

#### **GENERAL NOTES**

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

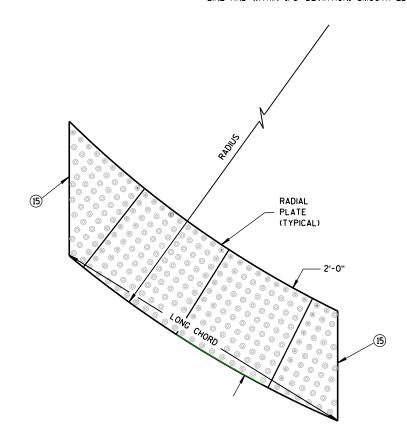
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



RADIAL DETECTABLE **WARNING FIELD ATTRIBUTES** 

#### CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES

6

Ω

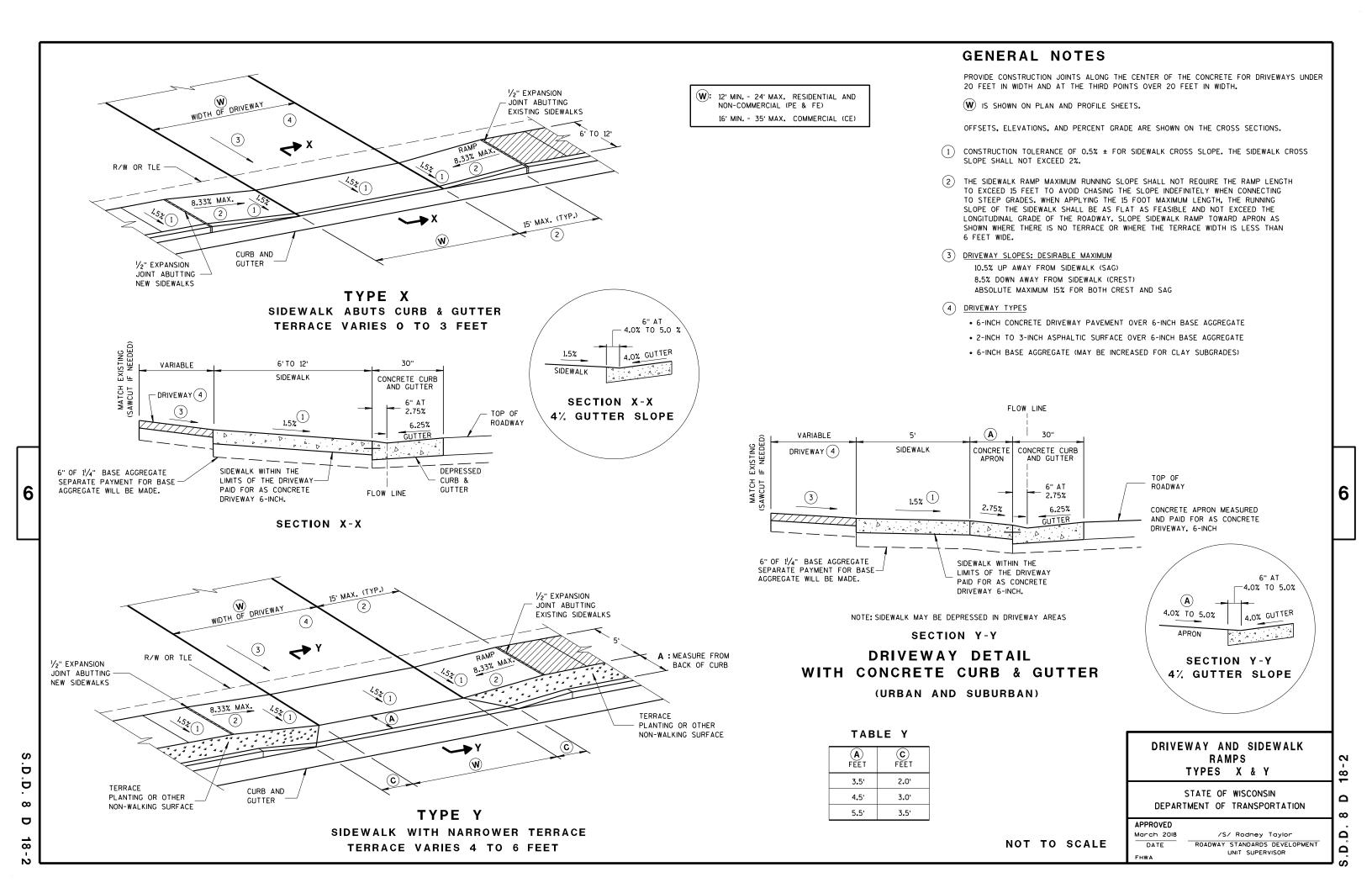
ω

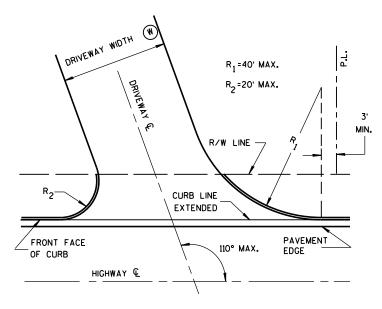
Ω

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED	

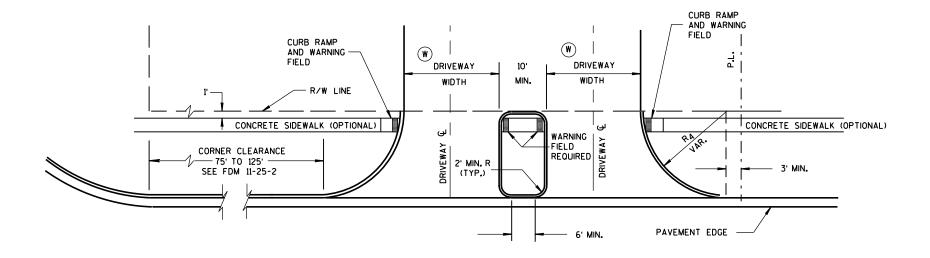
/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR





## SKEWED DRIVEWAY DETAILS (COMMERCIAL AND NON-COMMERCIAL)

SIDEWALK NOT SHOWN



# DRIVEWAY LOCATION AND SPACING DETAILS SIDEWALK SHOWN

### NOTES

A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

THE MINIMUM ANGLE OF INTERSECTION BETWEEN THE DRIVEWAY AND HIGHWAY CENTERLINES SHALL BE 70°.

ALL CURVILINEAR PRIVATE ENTRANCE OUTLINES SHALL BE CONTAINED WITHIN THE HIGHWAY R/W.

NO DRIVEWAY SHALL BE BUILT WITHIN 3 FEET OF THE PROPERTY LINE EXCEPT FOR EXISTING JOINT DRIVEWAY SHARED BY TWO OWNERS.

W DRIVEWAY WIDTHS:

COMMERCIAL - 35' MAX., 16' MIN.

RESIDENTIAL AND - 24' MAX., 12' MIN.

DRIVEWAYS WITH CURB & GUTTER RETURNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PPROVED

DATE ROADWAY STANDARDS DEVELOPMENT
HWA UNIT SUPERVISOR

S.D.D. 8 D 20-1

6

D.D. 8 D 20-1

## TYPICAL APPLICATION OF SILT FENCE

6

b

Ō

Ш





## 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.

- $\bigcirc$  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 11/8" X 11/8" 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



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Cannestra

29-05 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER

6

٥

D.D. 8 E 9





INLET PROTECTION, TYPE A

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- (2) FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- (3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



### INLET PROTECTION, TYPE C (WITH CURB BOX)

#### **INSTALLATION NOTES**

#### TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

#### TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE, THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

#### INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

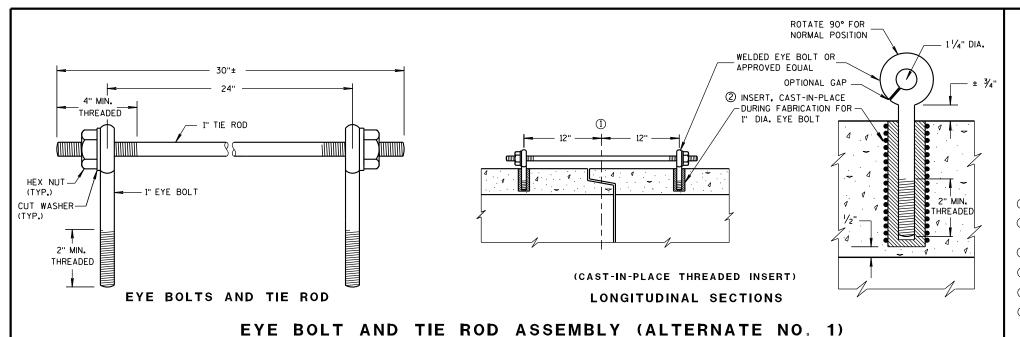
10/16/02

/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER 6

0

ш

 $\infty$ 



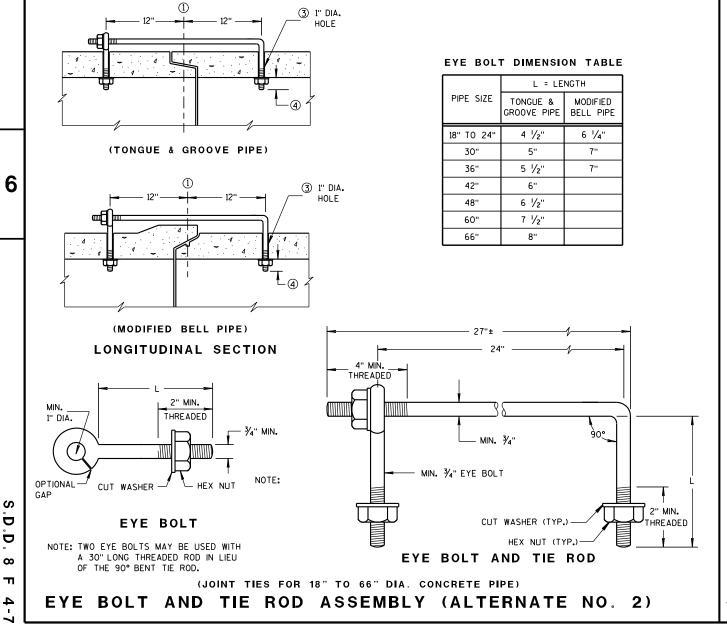
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES, ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

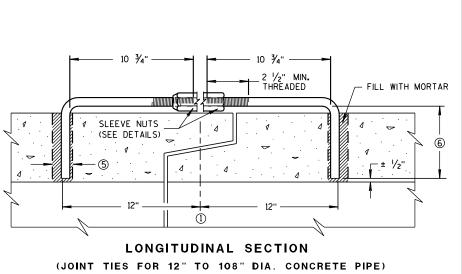
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

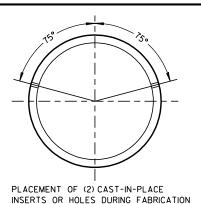
- (1) & OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE
- ${\mathfrak S}$  HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM  ${\mathfrak L}$  OF TONGUE AND GROOVE.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- (5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN  $rac{1}{2}$  INCH OF THE INNER SURFACE OF THE PIPE.



## ADJUSTABLE TIE ROD TABLE 5/8 5 12-60 3/4 5 1/2 3/4 90-108 DIMENSIONS SHOWN ARE IN INCHES **TAPERED** PLAIN RIGHT AND LEFT THREADS **SLEEVE NUTS** 2 1/2" MIN. THREADED

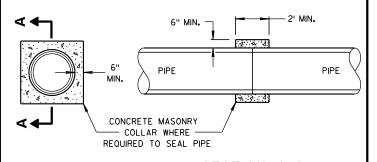


ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



FOR PIPE SECTIONS REQUIRING TIE RODS

#### TRANSVERSE SECTION



SECTION A-A

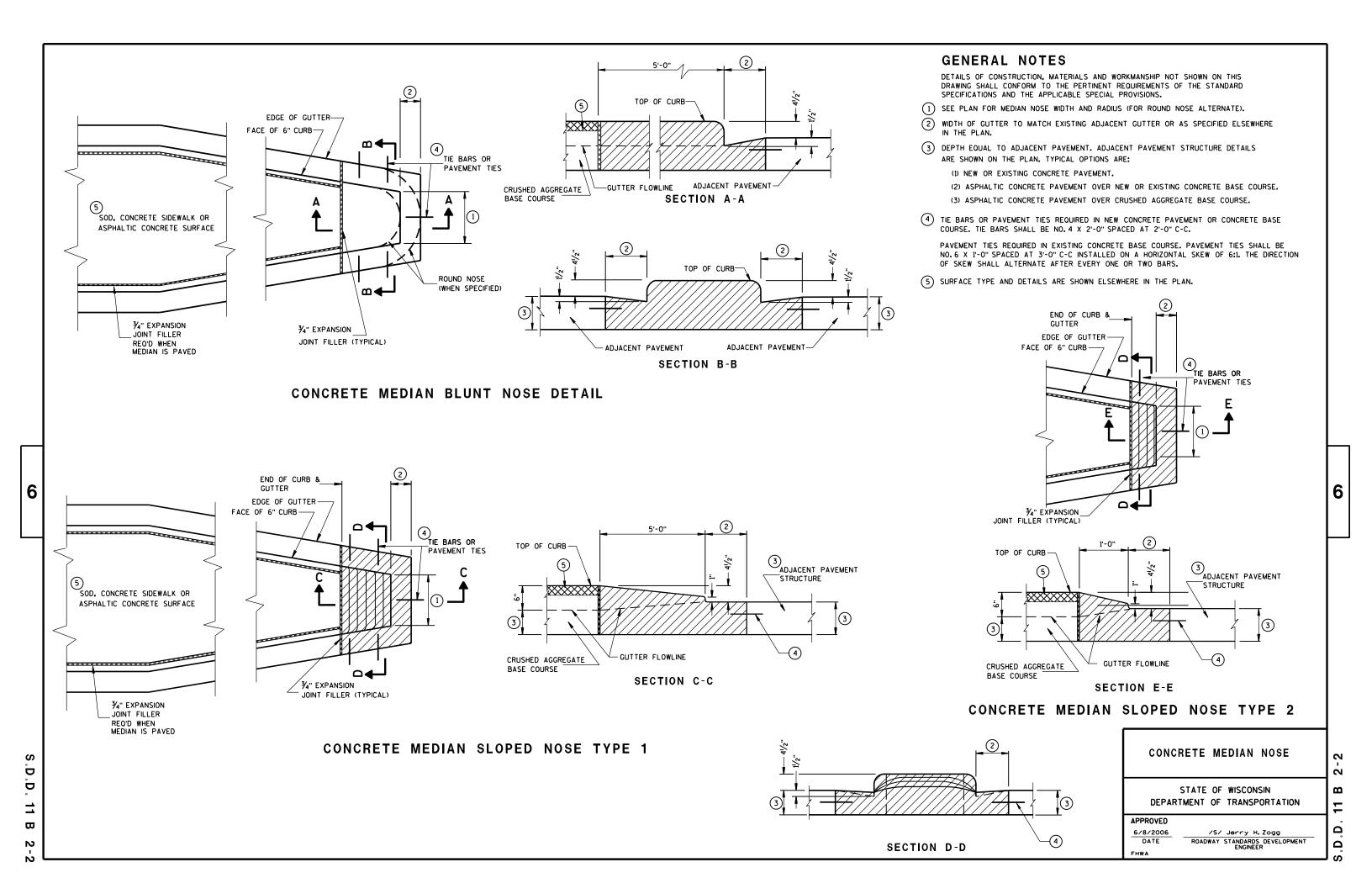
#### CONCRETE COLLAR DETAIL

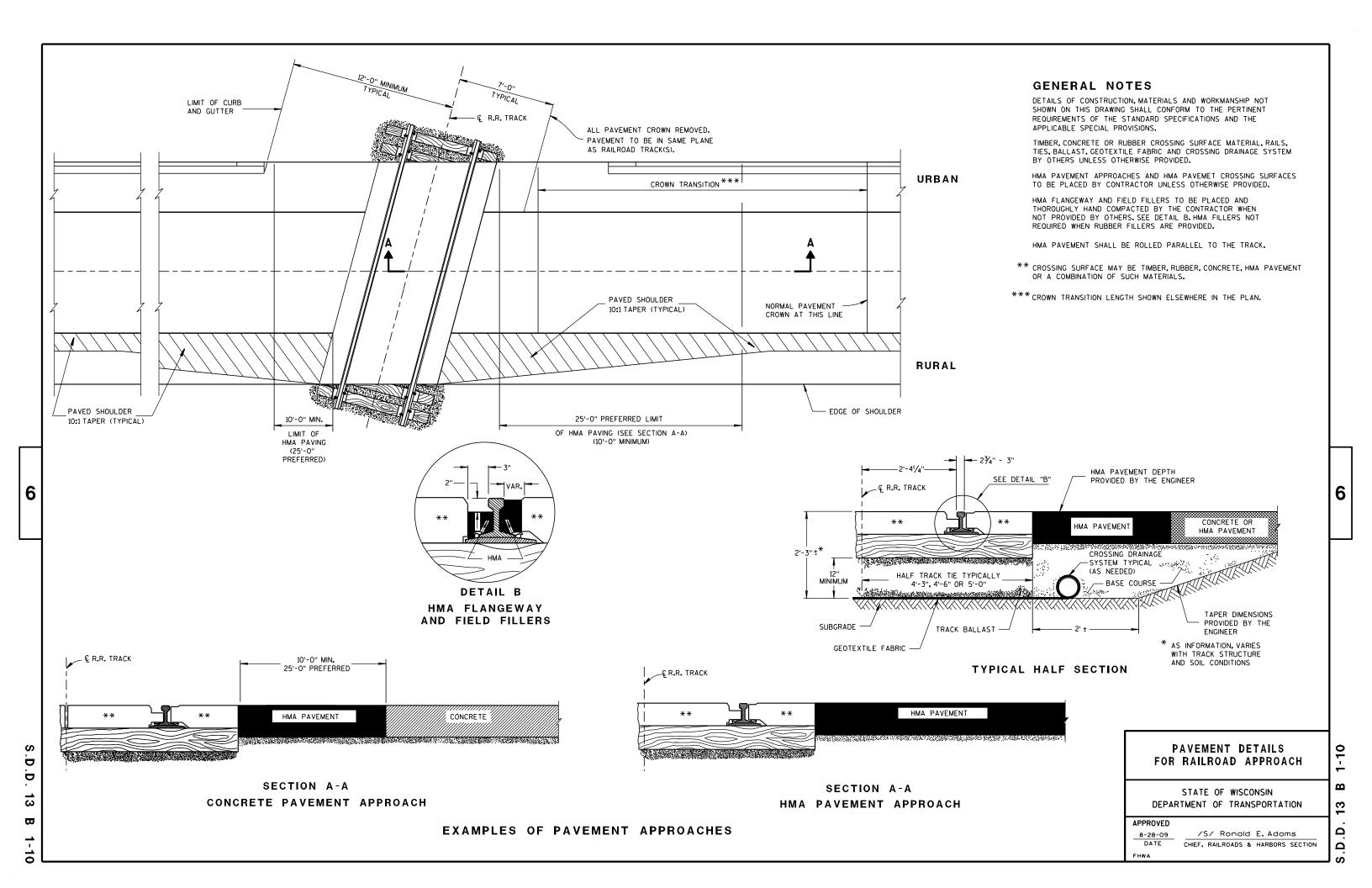
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

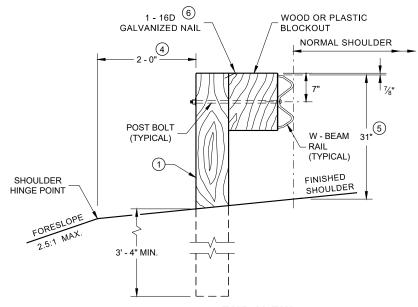
6/5/2012 /S/ Jerry H. Zogg DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

 $\infty$ Ω

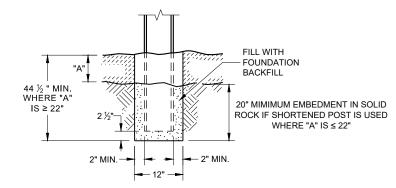




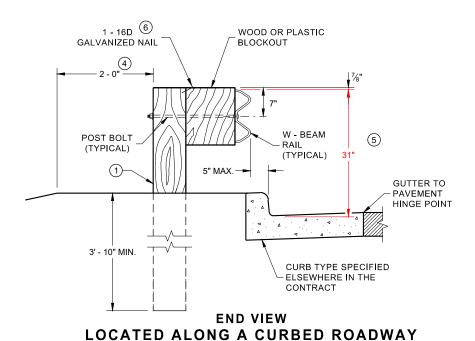
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- $\ \, \ \,$  IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE
- 4 WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- $\fill \begin{tabular}{ll} \end{tabular}$  FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS \$\pm1"\$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 % " TO 32".
- (6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- TOTAL POST LENGTH FOR TYPE K IS 7' 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



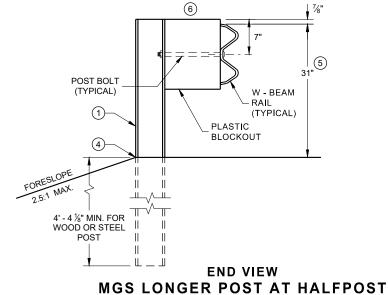
**END VIEW** LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION

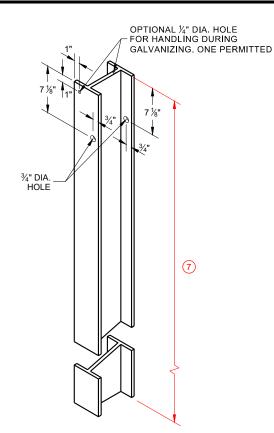


**END VIEW** SETTING STEEL OR WOOD POST IN ROCK

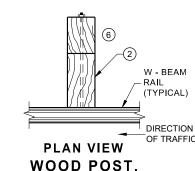


**SPACING W BEAM (K)** 

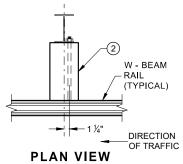




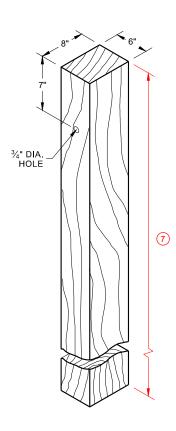
STEEL POST & HOLE **PUNCHING DETAIL** (W 6 X 9) <sup>(1)</sup>



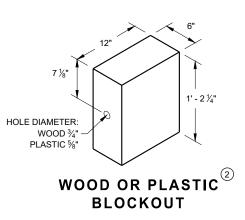
**WOOD POST BLOCKOUT & BEAM** 



STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD POST (6" X 8") NOMINAL



## **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## **FRONT VIEW** HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

6' 3" C - C

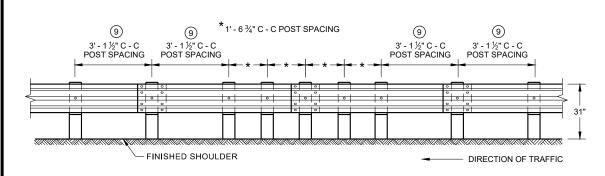
POST SPACING

DIRECTION OF TRAFFIC

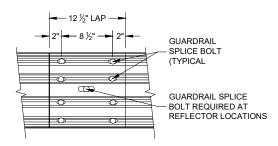
6' - 3" C -C

POST SPACING

FINISHED SHOULDER



FRONT VIEW **QUARTER POST SPACING (QS)** 



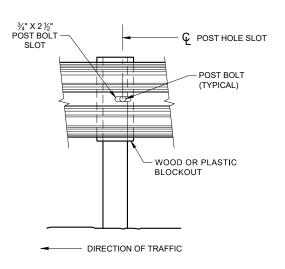
**FRONT VIEW MID-SPAN BEAM SPLICE** 

#### **GENERAL NOTES**

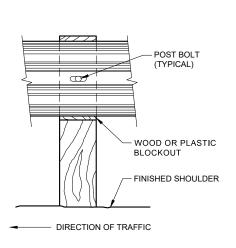
- DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A %" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND %" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BÈ LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

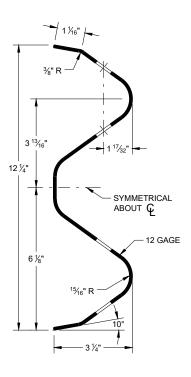
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



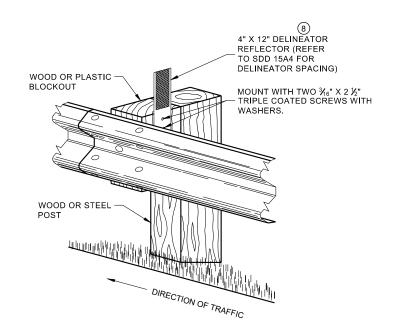
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST







ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

**MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

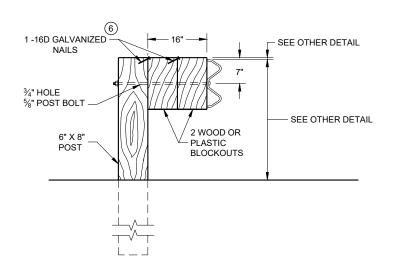
> STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

<u>90</u>

4

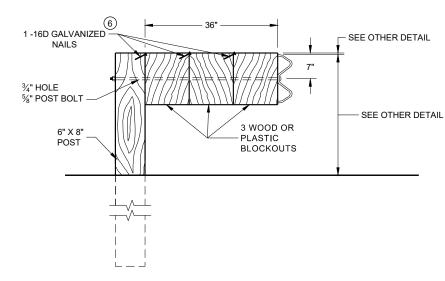
SD

6



#### **DETAIL FOR 16" BLOCKOUT DEPTH**

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



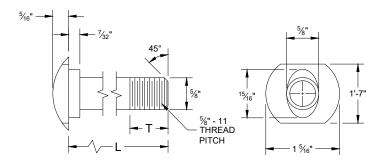
#### **DETAIL FOR 36" BLOCKOUT DEPTH**

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

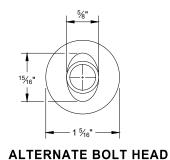
#### NOTE:

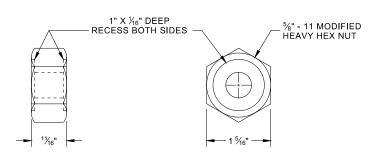
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
- 2. IF THE BOLT EXTENDS MORE THAN  $\mbox{\ensuremath{\mbox{\sc M}}}\mbox{\sc "}\mbox{\sc FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.}$



### **POST BOLT TABLE**

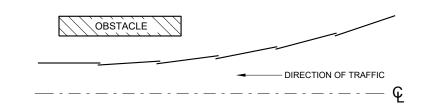
L	T (MIN.)
1 1⁄4"	1 1/4"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



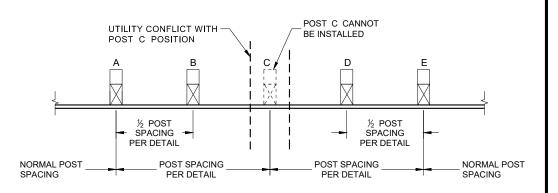


## POST BOLT, SPLICE BOLT **AND RECESS NUT**

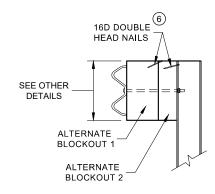
WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D (6) GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

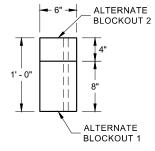


#### **PLAN VIEW BEAM LAPPING DETAIL**



## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION





SIDE VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL** 

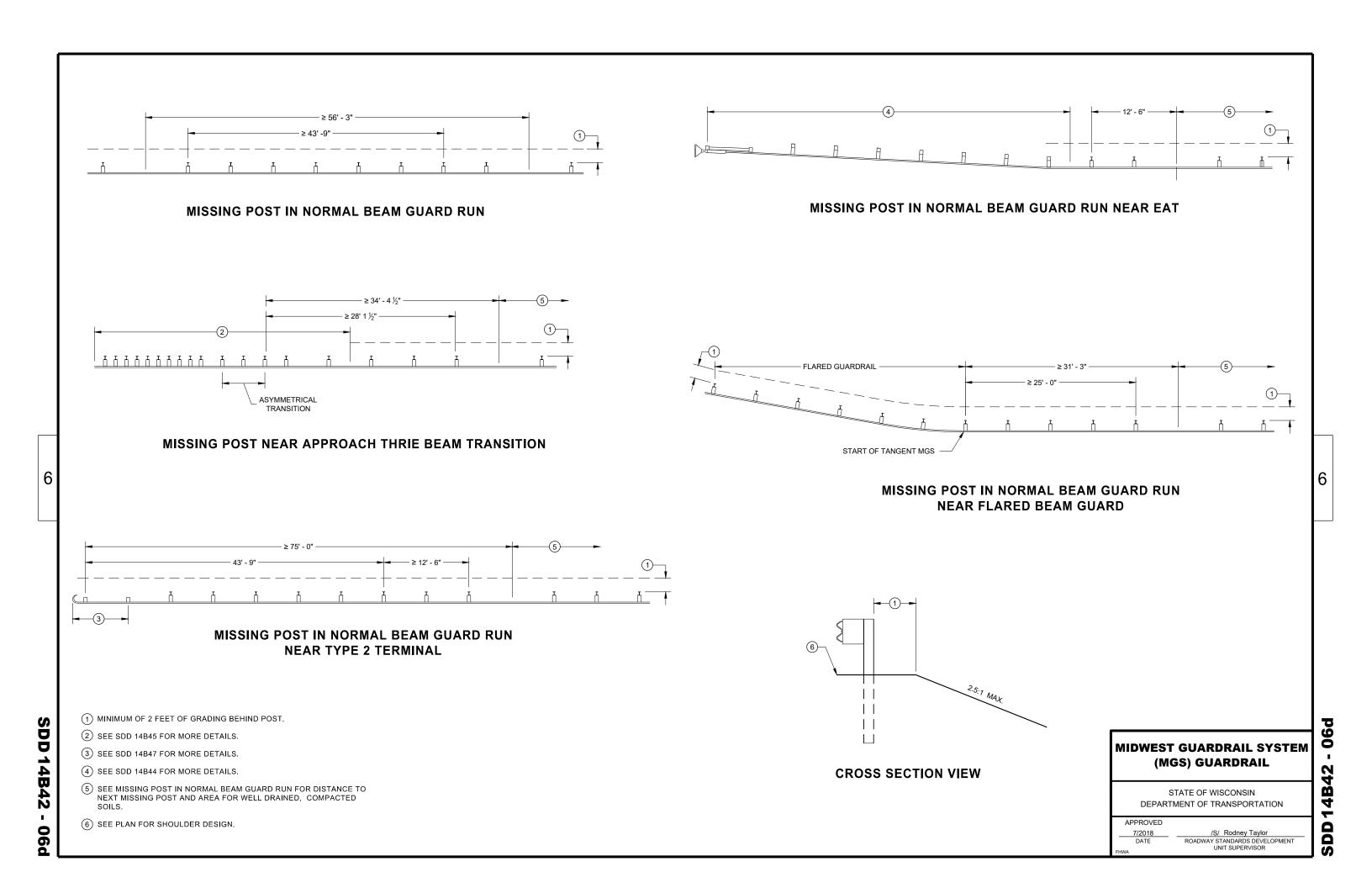
## **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

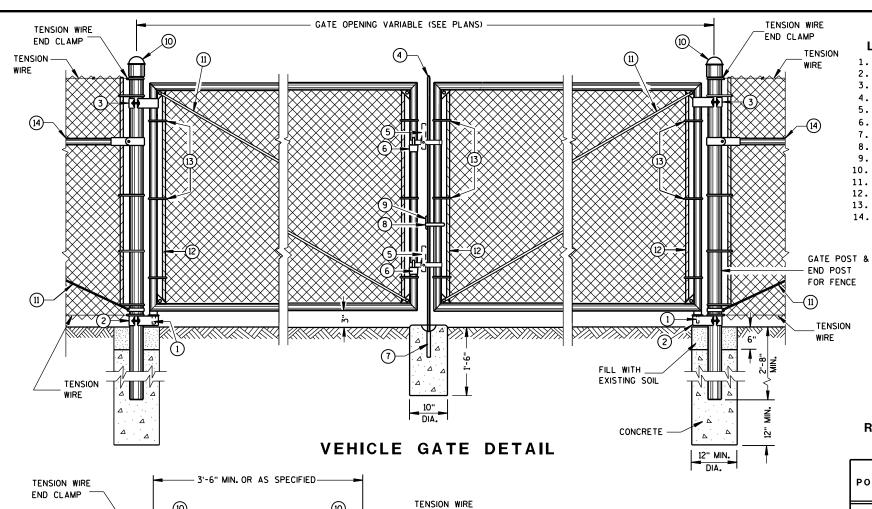
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

90

SD

**PLAN VIEW** 





END CLAMP

EXISTING SOIL

PEDESTRIAN GATE DETAIL

CONCRETE

12" MIN.

CONCRETE

12" MIN.

**TENSION** 

GATE POST &

END POST

FOR FENCE

TENSION -

GATE POST &

TENSION

END POST

FOR FENCE

6

D

Ö

₩

## REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EOUAL TO 8 FT.	FS3

#### **BRACE RAIL TYPES**

USE	TYPE
BRACE RAIL	SP1 OR FS1

\*\* INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

- LEGEND 1. STRAIGHT PLUG
- 2. BOTTOM HINGE
- TOP HINGE
- 4. PLUNGER ROD
- 5. FULCRUM LATCH
- 6. FORK CATCH \*
- 7. PLUNGER ROD CATCH 8. LOCK KEEPER GUIDE
- 9. LOCK KEEPER
- 10. DOME TOPS
- 11. TRUSS RODS
- 12. TENSION BAR
- 13. TENSION BANDS 14. BRACE RAIL

\*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

#### **GENERAL NOTES**

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

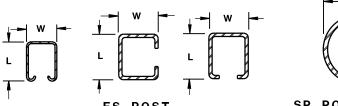
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

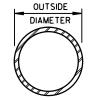
FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.





SP POST & RAIL

## CROSS SECTIONS OF POSTS AND RAILS

## **ROLLED-FORMED STEEL FENCE POST** (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W)	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

## **ROUND STEEL FENCE POST** (1.8 OZ./SQ. FT. COATING)

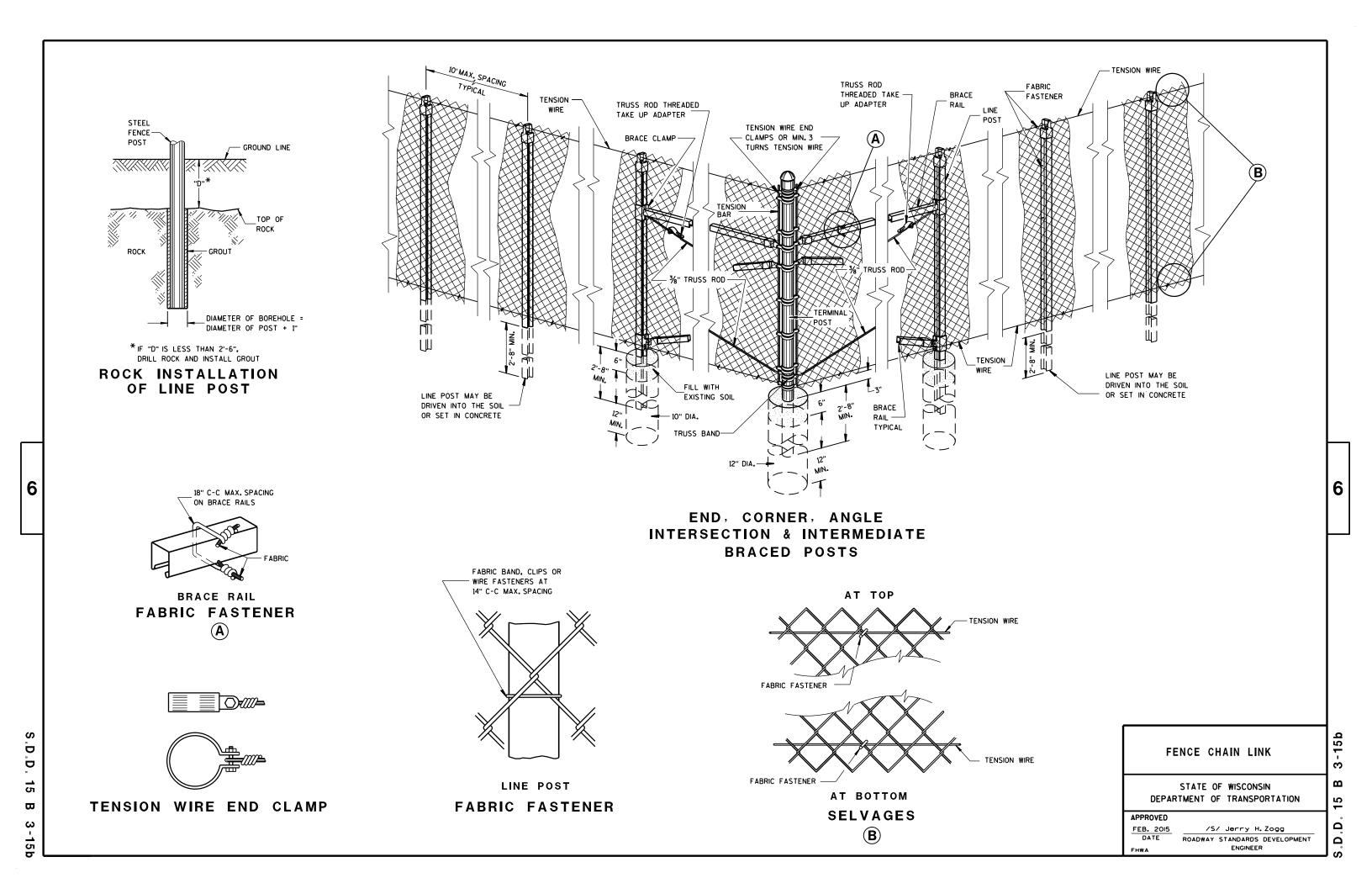
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

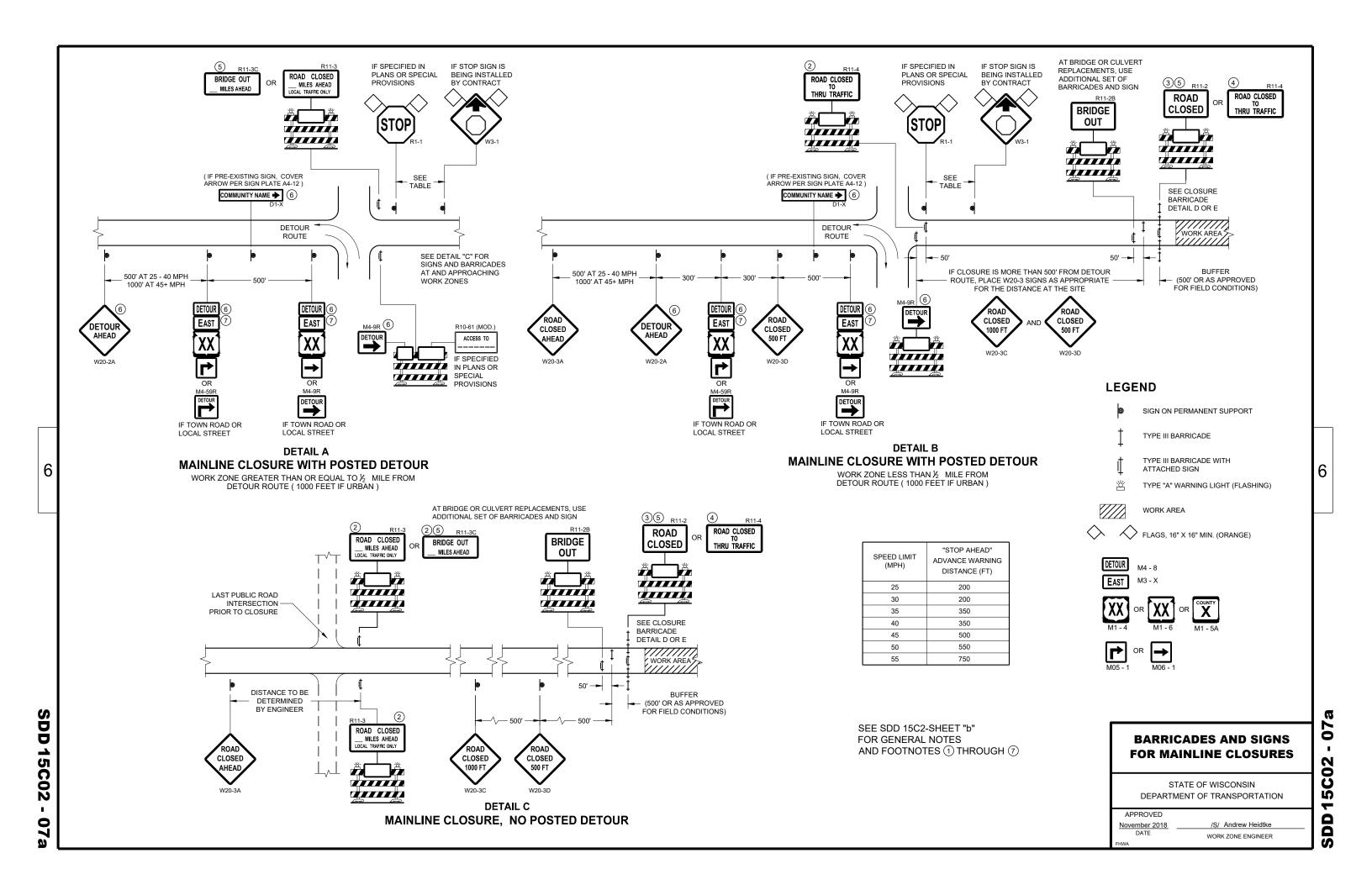
#### REQUIRED POST SIZE FOR GATES

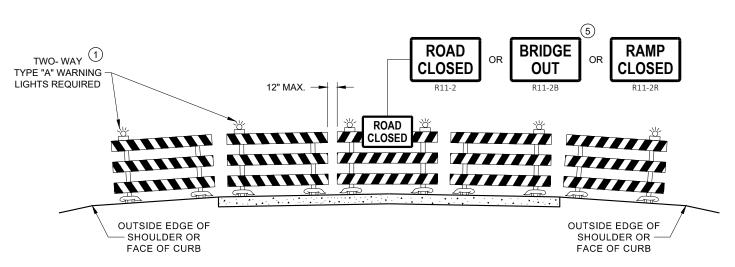
USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EOUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

FENCE CHAIN LINK

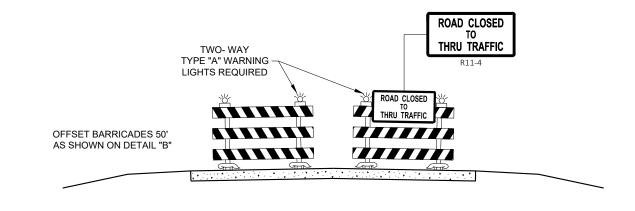
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION က







## **DETAIL D** ROAD CLOSURE BARRICADE DETAIL **APPROACH VIEW**



**DETAIL E** LANE CLOSURE BARRICADE DETAIL APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

#### **GENERAL NOTES**

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

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.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2. R11 - 3. M4 - 9. R11 - 4. AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11 - 2 SHALL BE 48" X 30"

R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"

M4 - 9 SHALL BE 30" X 24"

M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)

MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

R1 - 1 SHALL BE 36" X 36"

- TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT **SPACING**
- THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- (3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- (4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- (5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- (6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS. PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE
- "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

## **BARRICADES AND SIGNS** FOR **VARIOUS CLOSURES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

**APPROVED** 

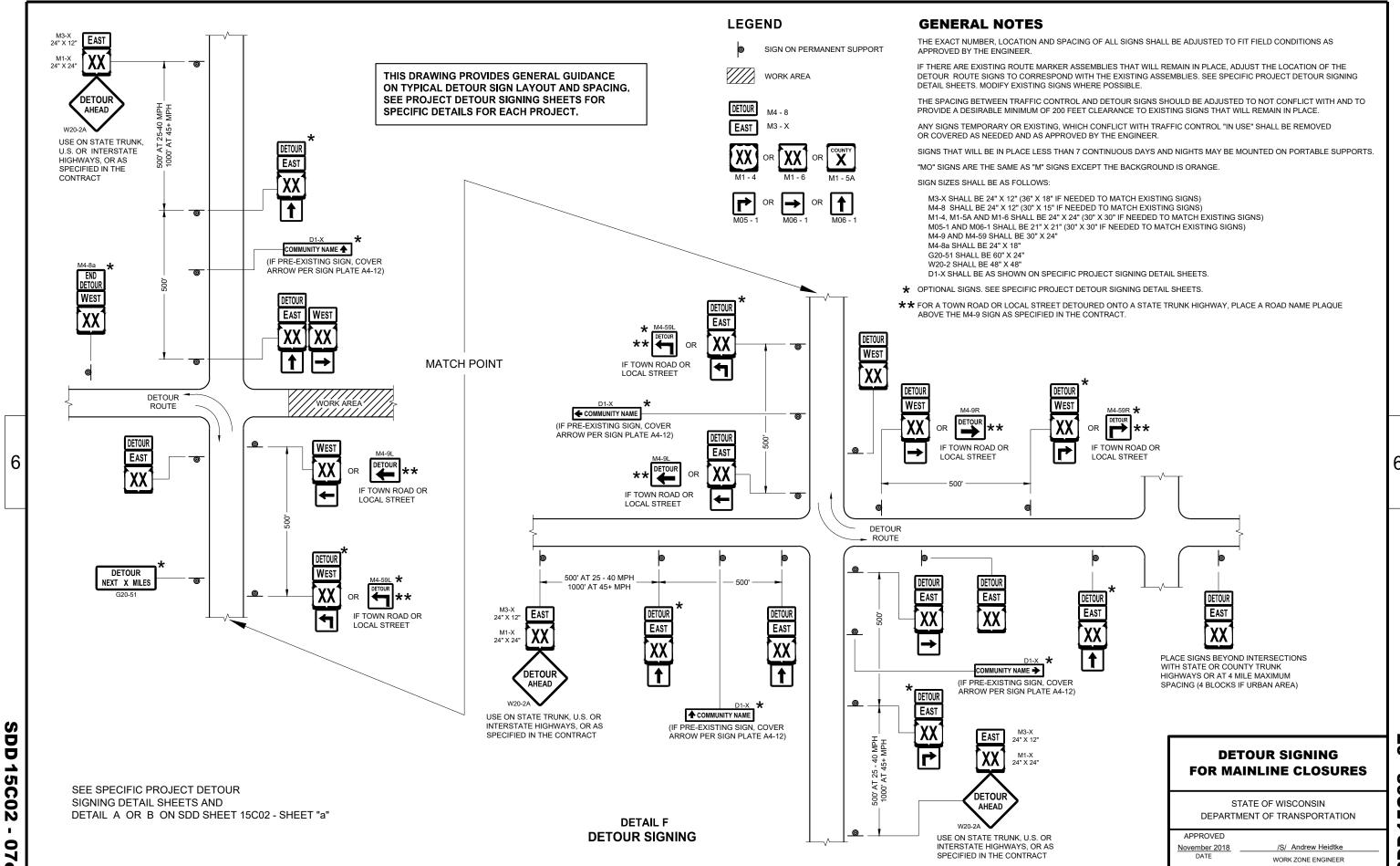
November 2018 DATE

WORK ZONE ENGINEER

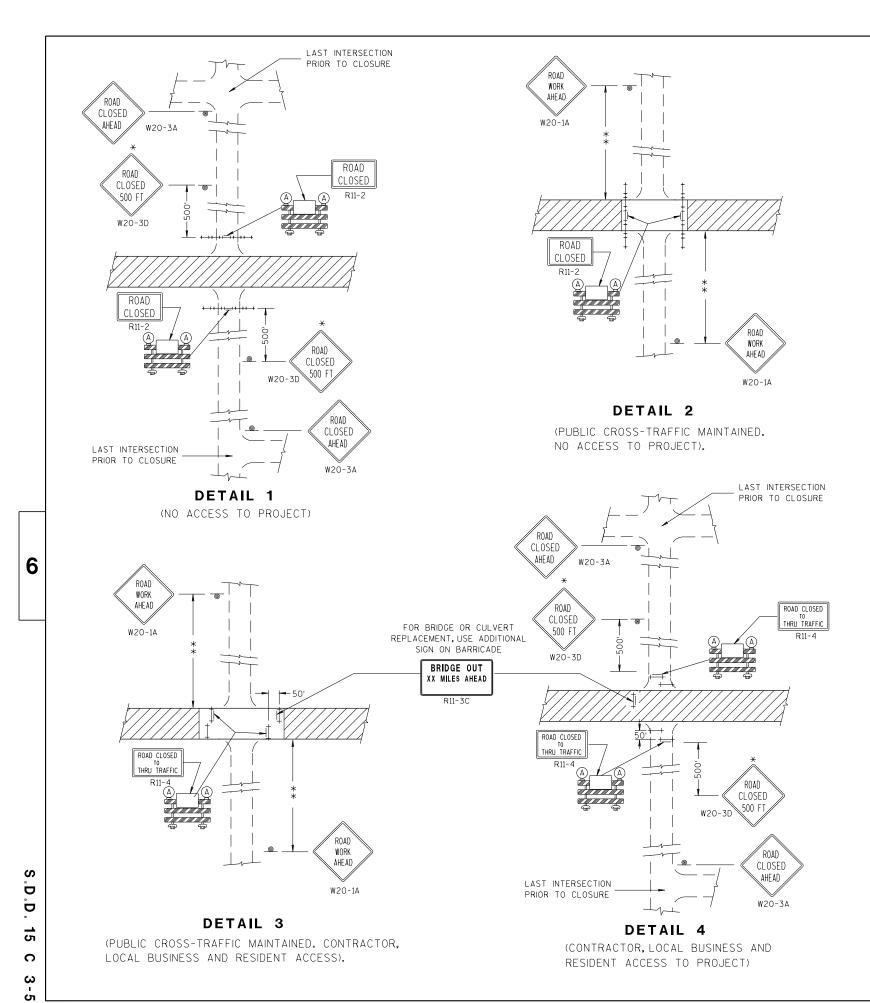
0

0

Ŋ



Ŋ 



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

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.

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

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.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- \*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.
- \*\*500'MAX.OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

#### LEGEND

- SIGN ON PERMANENT SUPPORT
- . TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)



#### BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 /S/ Andrew Heid+ke
DATE WORK ZONE ENGINEER

S.D.D. 15 C 3

MAINLINE ROADWAY UNDER CONSTRUCTION

ROAD

WORK

AHEAD

## CENTER OF ROADWAY

#### **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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48"

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.

imes The Third W20-1Sign is required only if there is an intersection BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED 6

15

Ω

Ω

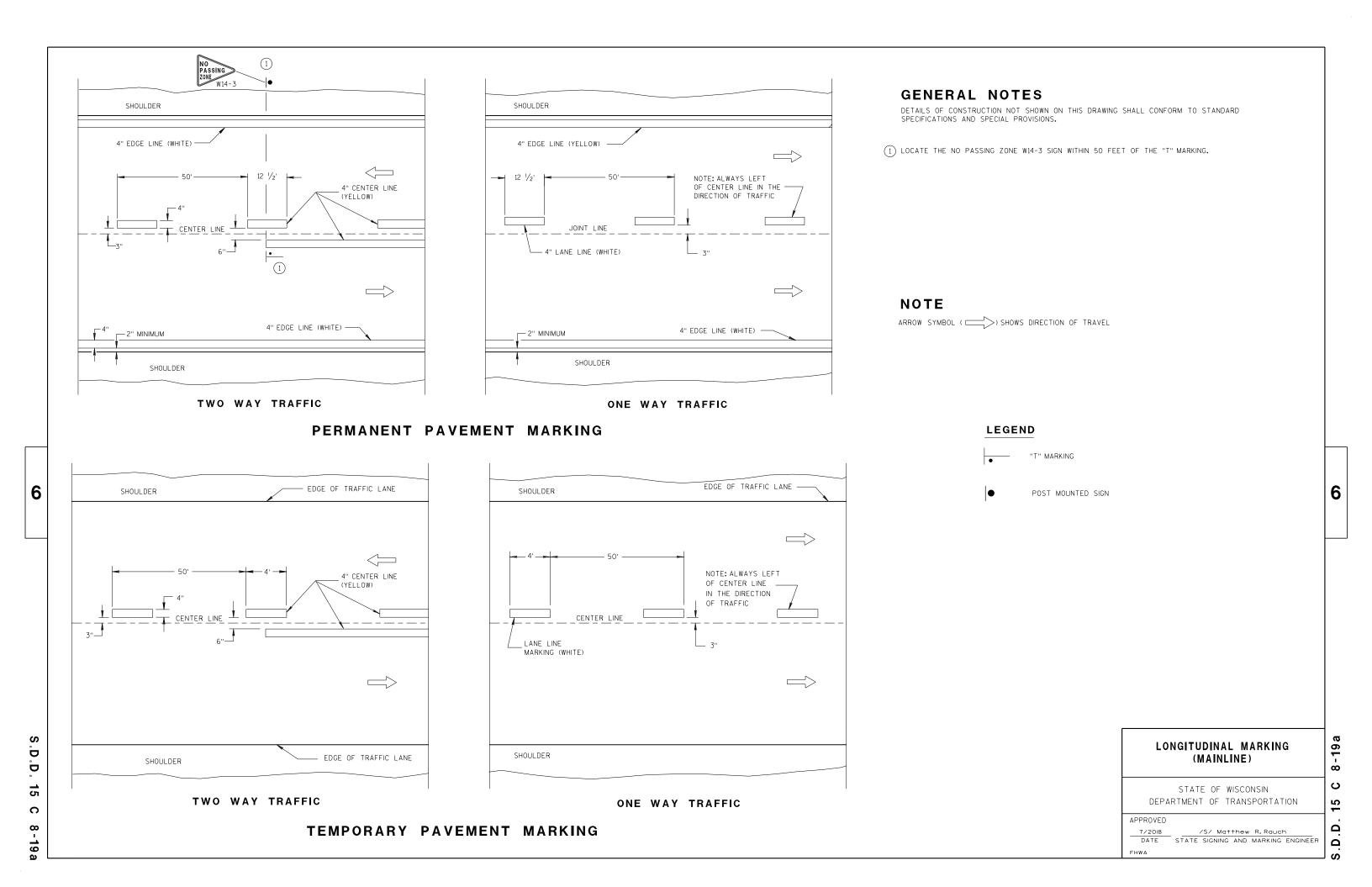
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

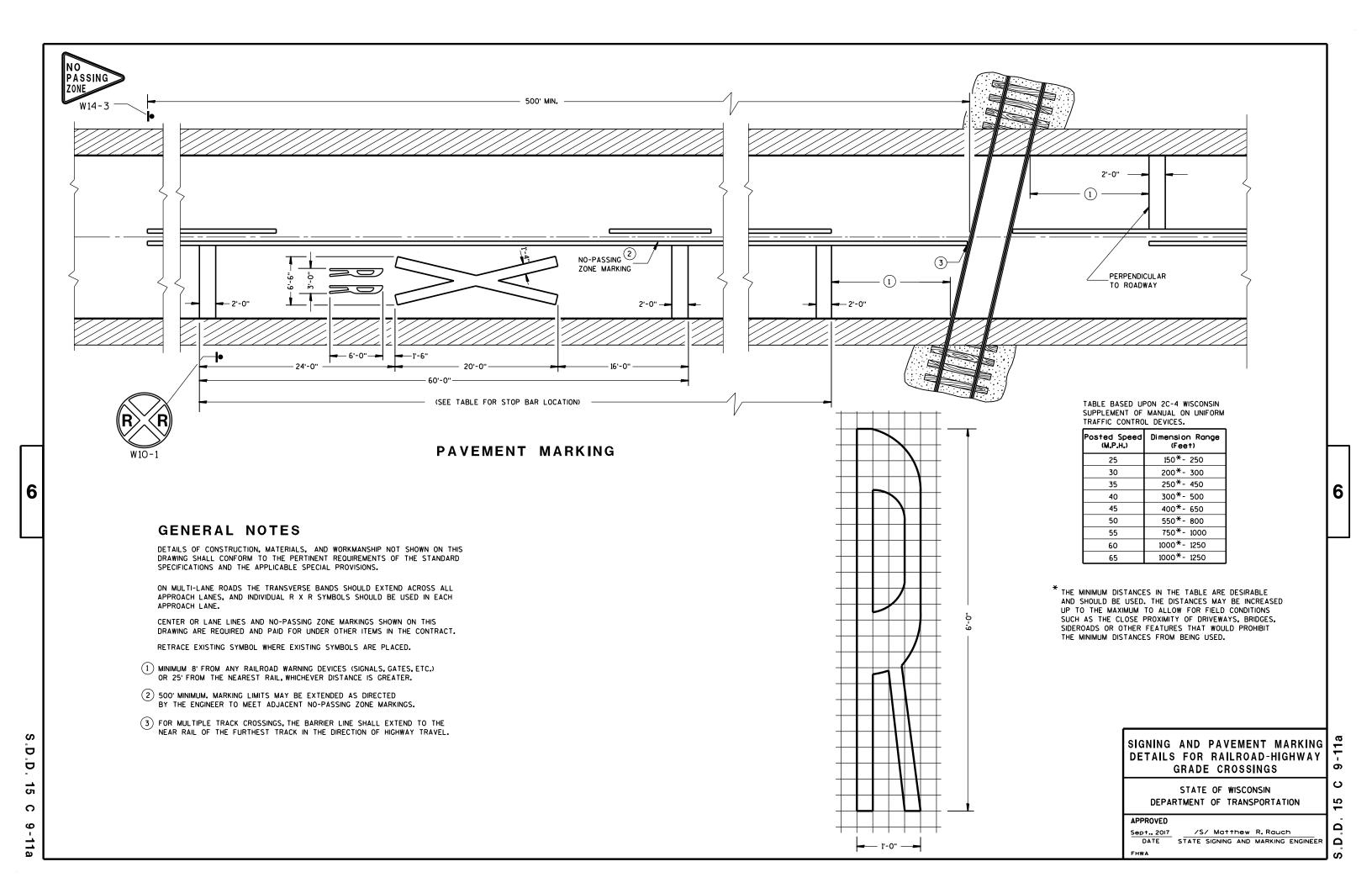
ROAD OPEN TO TRAFFIC

APPROVED

7/2018 /S/ Andrew Heidtke DATE WORK ZONE ENGINEER

D D 15 C S

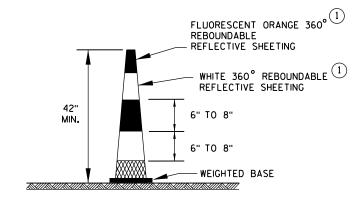




**DRUM** 

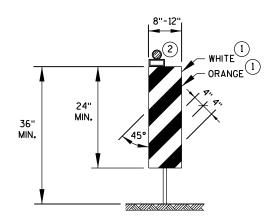
## TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



#### **42**" CONE

DO NOT USE IN TAPERS 1/2 SPACING OF DRUMS

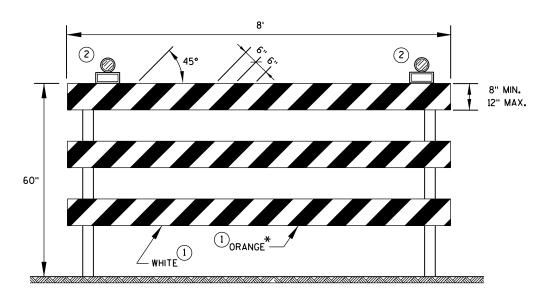


#### **VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

## GENERAL NOTES

- REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- (2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



#### TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

# CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

ပ

15

Ω

۵

S

APPROVED

June 2017
DATE

WORK ZONE ENGINEER
FHWA

S.D.D. 15 C 1

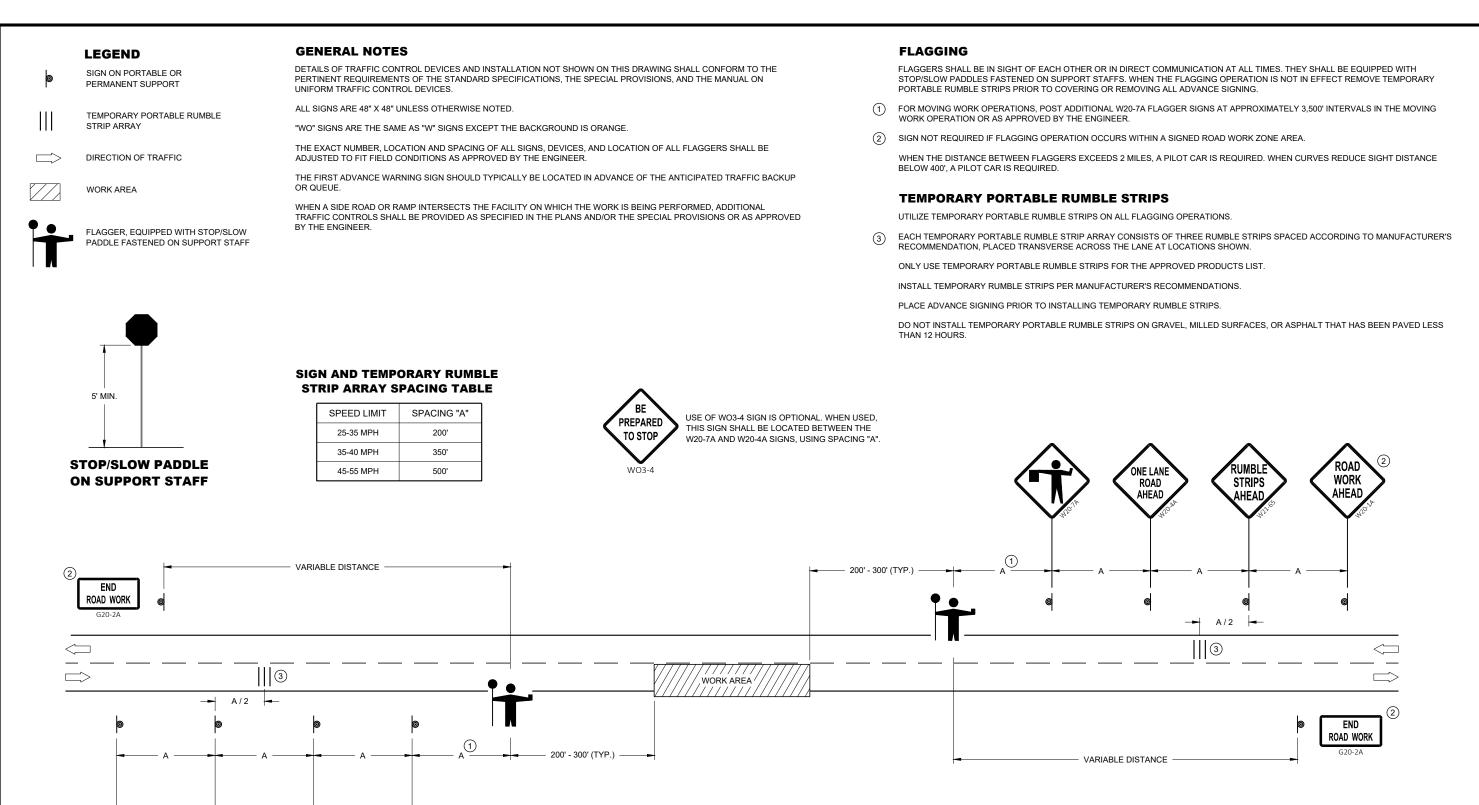
6

RUMBLE

STRIPS

ROAD

WORK



## TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

**FLAGGING OPERATION** STATE OF WISCONSIN

TRAFFIC CONTROL FOR

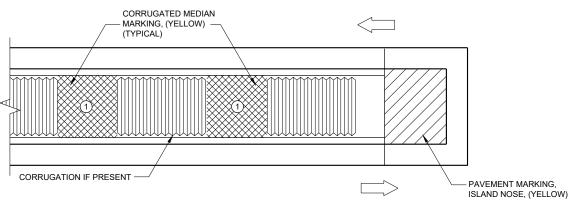
LANE CLOSURE WITH

2

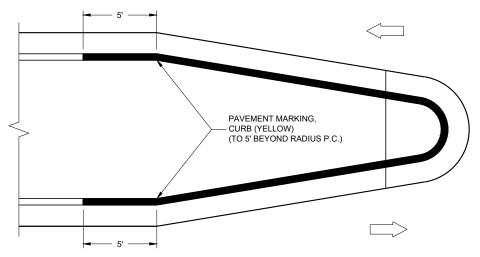
S

DEPARTMENT OF TRANSPORTATION

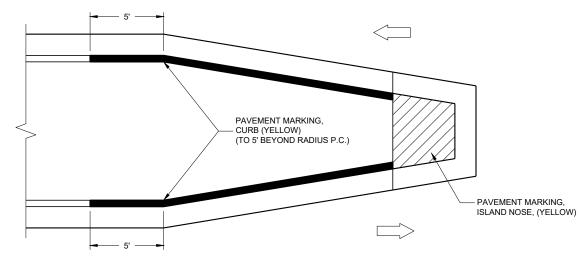
APPROVED May 2019 DATE WORK ZONE ENGINEER



#### MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

## TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

#### **GENERAL NOTES**

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

CURB MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

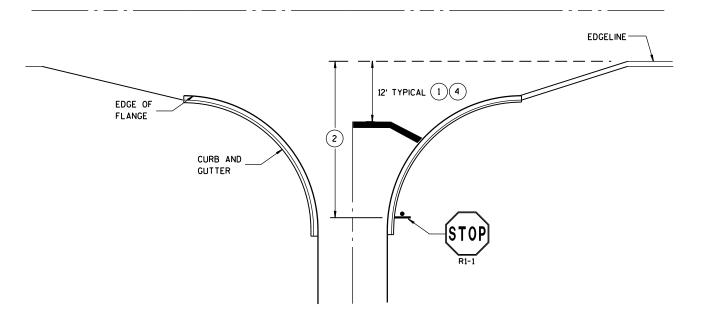
## PAVEMENT MARKINGS (ISLANDS)

0

**SDD 15C27** 

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

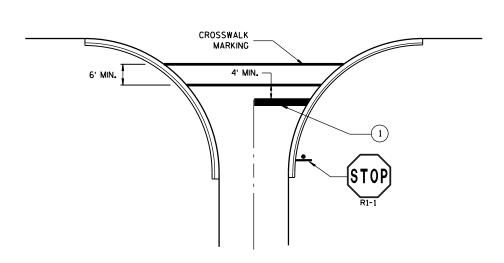
APPROVED	
7/2018	/S/ Matthew R. Rauch
DATE	STATE SIGNING AND MARKING ENGINEER
FHWA	ENGINEER



8" CHANNELIZATION WHITE FLANGELINE (EXTENSION) WHITE EDGELINE 4' TYPICAL (4)

TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



- EDGELINE 12' TYPICAL (1)

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

#### **GENERAL NOTES**

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
- (3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- (4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

#### STOP LINE AND CROSSWALK **PAVEMENT MARKING**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED						
Sept., 2017		/S/ I	Matth	ew R.	Ro	uch
DATE	STATE	SIGNIN	G AND	MARKI	NG	ENGINEER
FHWA						

6

6

D D

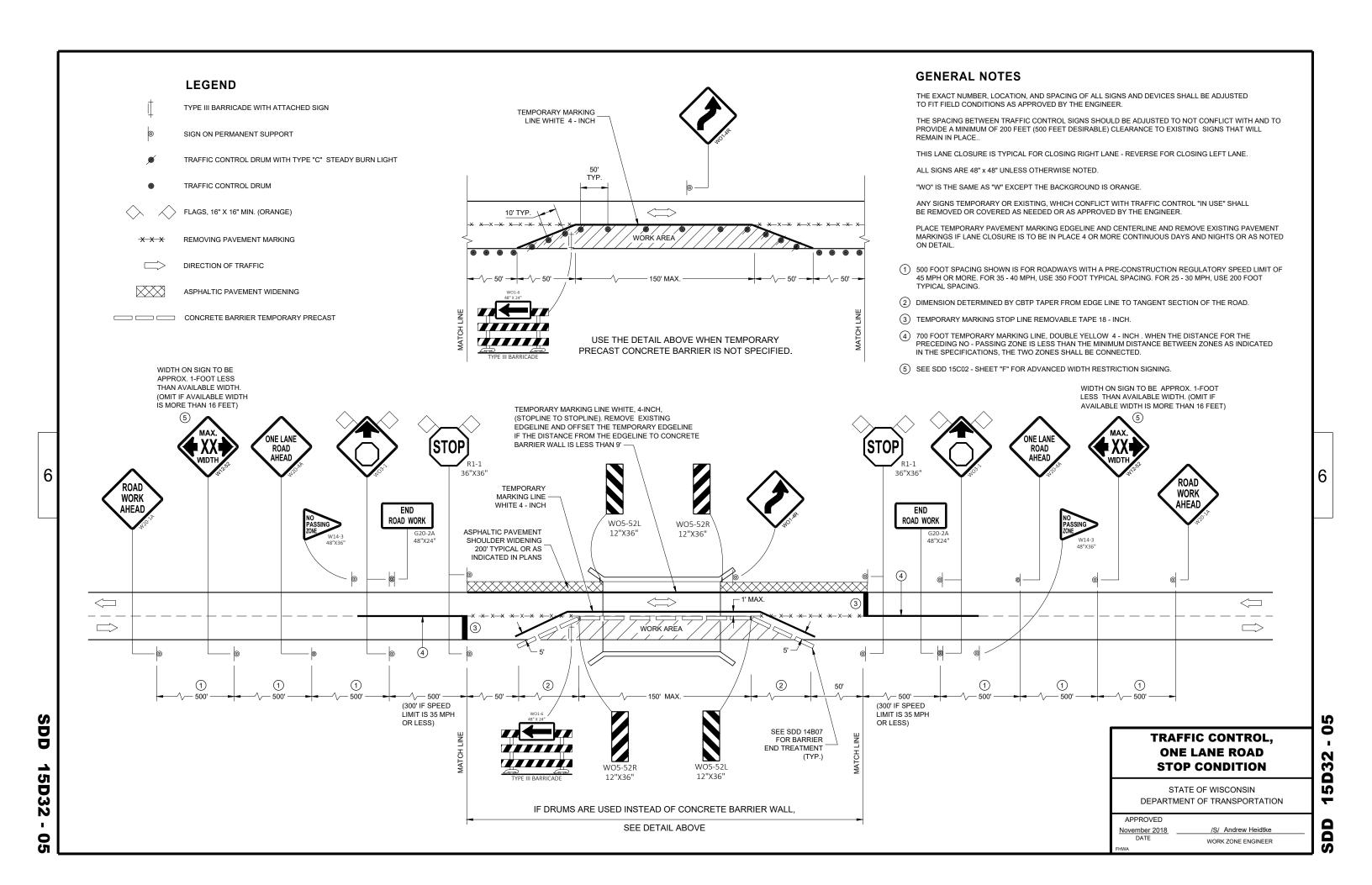
15

C

15 Ω

ပ

Ω





TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SO. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SO.FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE). SIGNS LARGER THAN 27 SO.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

#### URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST **EMBEDMENT DEPTH** 

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREM	MENTS	NUMBER OF	
L	E	WOOD POSTS REQUIRED	
48" OR LESS AND LESS THAN 20 SO.FT.	-	1	
LESS THAN 60"	12"	2	٤
60" TO 120"	L/5	2	
GREATER THAN 120" LESS THAN 168"	12"	3	
168" AND GREATER	12"	4	

SEE NOTE (3)

RURAL AREA

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

-11

D D 15 D  $\infty$ 

6

Δ

 $\infty$ 

6

- 11/2" DIAMETER HOLES

Ω

Ω

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 - 1/6" 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 - 1/32 " (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

\* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

> ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017 /S/ Andrew Heidtke DATE WORK ZONE ENGINEER FHWA

Ω Ω

6

2 b

18

က

38-2b

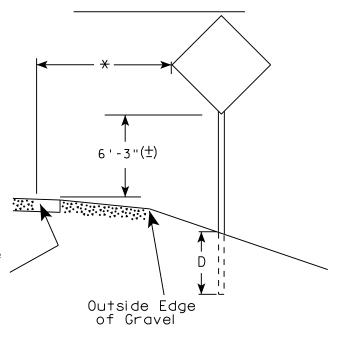
## urban area

2' Min - 4' Max (See Note 6)

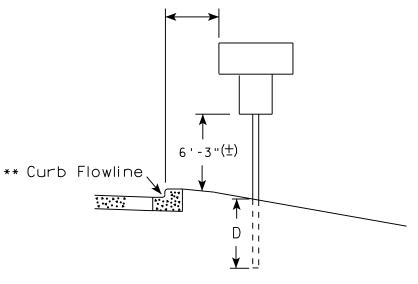
\*\* Curb Flowline

D | White Edgeline Location

RURAL AREA (See Note 2)



2' Min - 4' Max (See Note 6)



White Edgeline
Location

Outside Edge
of Gravel

\*\* 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.

#### 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"  $(\pm)$  or 6'-3"  $(\pm)$  depending upon existence of a sub-sign.
- 4. J-Assemblies are considered to be one sign for mounting height.
- 5. Minimum mounting height for signs mounted on traffic signal poles is  $5'-3''(\pm)$ .
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. The  $(\pm)$  tolerance for mounting height is 3 inches.
- 8. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) 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	D
( Sq.Ft.)	(Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R Rauch

For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

SHEET NO:

PROJECT NO: HWY: COUNTY:



NOTES: 1. ALL MATERIAL TO BE APPROVED

BY ENGINEER PRIOR TO INSTALLATION

- 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
- 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



## **ELEVATION VIEW**

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

## GENERAL NOTES

- 1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- 2. See tables below for required number of posts.
- 3. For expressways and freeways, mounting height is 7'-3'' (±) or 6'-3'' (±) depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. J-Assemblies are considered to be one sign for mounting height.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directed by the engineer.
- 8. 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), 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'' (±).
- \* 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.
- \*\* 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.
- \*\* \* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

## POST EMBEDMENT DEPTH

D
(Min)
4'
5'

WISCONSIN DEPT OF TRANSPORTATION APPROVED For State Traffic Engineer DATE 8/21/17 PLATE NO. <u>A4-4.15</u>





	SIGN SHAPE OTHER THAN (TWO POSTS REQUIRE)		
	L	E	
***	Greater than 48" Less than 60"	12"	
	60" to 108"	L/5	

HWY:

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 108" to 144"	12''

COUNTY:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A44.DGN

PROJECT NO:

PLOT DATE: 21-AUG-2017 15:54

PLOT SCALE: 108.188297:1.000000

WISDOT/CADDS SHEET 42

OF TYPE II SIGNS ON MULTIPLE POSTS

TYPICAL INSTALLATION

SHEET NO:

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:



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

Nather R Raw
For State Traffic Engineer

DATE <u>8/11/16</u>

PLATE NO. <u>44-8.8</u>

PROJECT NO:

FILE NAME : C:\CAFfiles\Projects\tr stdplote\A48 DCN

PLOT DATE . 11-416-2016 11:35

PINT RY \* \$\$ nintuser \$\$

SHEET NO:

| | |



PROJECT NO: HWY: COUNTY: SHEET NO: FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN PLOT DATE: 05-FEB-2015 17:09 PLOT BY: mscsja PLOT NAME : PLOT SCALE: 13.659812:1.000000

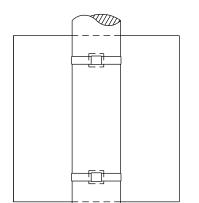
DATE 2/05/15

PLATE NO. <u>A4-9.9</u>

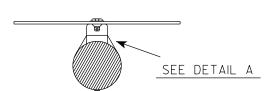
For State Traffic Engineer

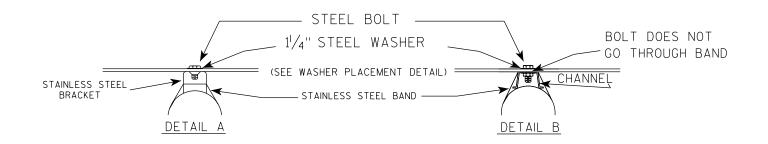


## BANDING

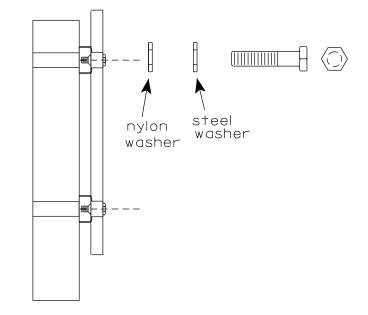


SINGLE SIGN





## WASHER PLACEMENT



HWY:

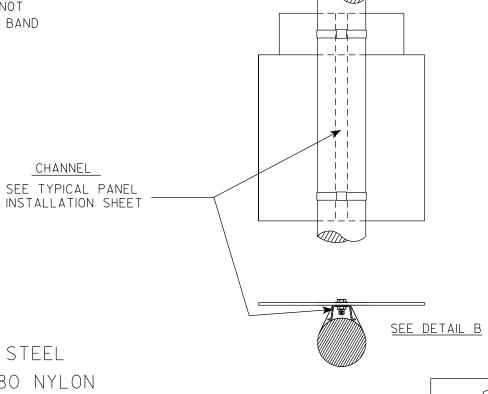
WASHERS (ALL POSTS) -

1-1/4" O.D. X<sup>3</sup>/<sub>8</sub>" I.D. X<sup>1</sup>/<sub>16</sub>" STEEL 1-1/4" O.D.  $\times \frac{3}{8}$ " I.D.  $\times$  .080 NYLON FOR ALL TYPE H SIGNS

#### GENERAL NOTES

- 1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
- 2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
- 3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
- 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

### "J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

State Traffic Engineer

Ε

APPROVED

DATE 6/10/19 PLATE NO. A5-9.4

COUNTY:

PLOT DATE: 10-JUN 2019 4:10

PLOT NAME :

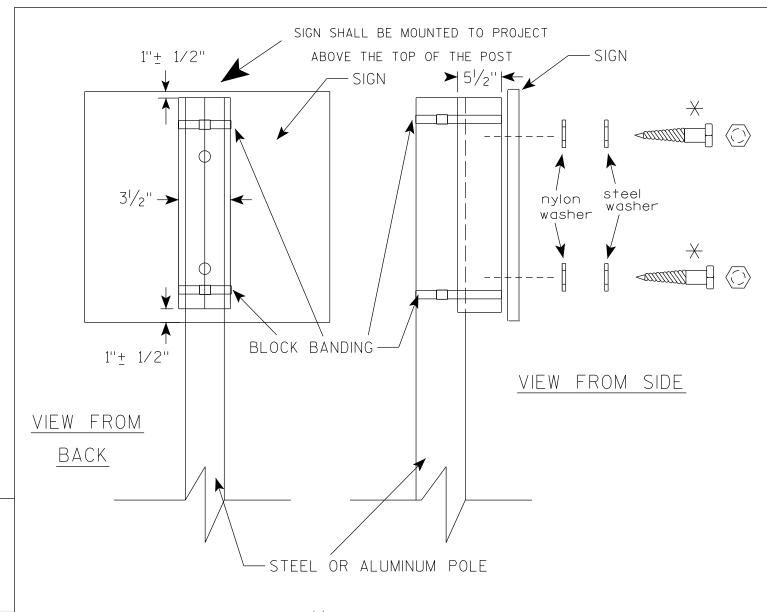
PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

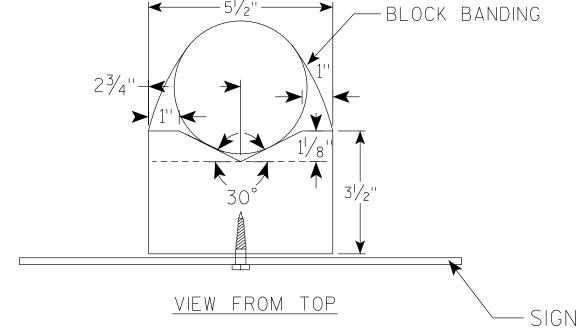
FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A59.dgn

PROJECT NO:

PLOT BY: mscj9h

CHANNEL





## GENERAL NOTES

- 1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
- 2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
- 3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS.

  SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
- 4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
- 5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3
- 6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
- 7. STEEL WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
- 8. NYLON WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

 $\rightarrow$  LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

| APPROVED

For State Traffic Engineer

SHEET NO:

Matthew R

DATE 6/10/19

PLATE NO. \_A5-10.2

PROJECT NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\A510.dgn

PLOT DATE: 10-JUN 2019 4:15

PLOT BY: mscj9h

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.

2. Color:

Background - Orange Message - Black

- 3. Message Series C
- 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.



Metric equivalent for this sign is:

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 %	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 1/8	6 3/4	16 ¾	2 1/2	1 3/4	18 ½													8.0	0.72

COUNTY:

STANDARD SIGN G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 400 110 00 00 110

For State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

SHEET NO:

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\G202A.DGN

HWY:

PROJECT NO:

PLOT DATE: 30-SEP-2009 09:31

PLOT BY : ditjph

PLOT NAME :

PLOT SCALE : 5.561773:1.000000

5.561773:1.000000 WISDOT/CADDS SHEET 42



- 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

<b>*</b>								— А — ;								<b></b>			<b>A</b>	
									H			- G -							F	A
		E						               	-1			_//								*
D	E	F	G	н	I	J	К	L	М	N	0	Р	0	R	S	Т	U	V	W	Х

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	Х	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

COUNTY:

STANDARD SIGN R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

DATE <u>11/12/15</u>

PLATE NO. \_\_\_\_R1-1.13

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\R11.DGN

HWY:

PROJECT NO:

PLOT DATE: 22-AUG-2017 07:19

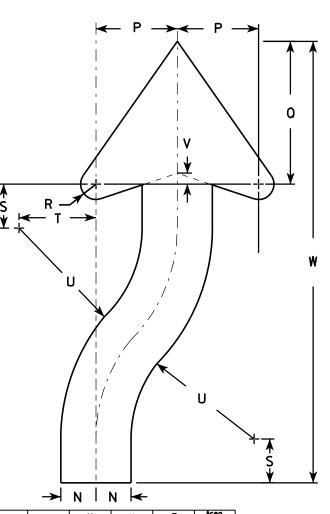
PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:

PLOT SCALE: 4.427909:1.000000

- 1. Sign is Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
- 2. Color:

Background - White Message - Black

- 3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
- 4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

																							<b>→</b>	N I	N <del>K</del>				
SIZ	Ε Α	В	С	D	E	F	G	Н	I	J	K	L	M	N	0	Р	0	R	S	Т	U	٧	W	X	Y	Z	Arec sq. f		
1	18	24	1 1/8	3∕8	1/2	3 %	4 3/4	5 ½	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5%	1 %	3 1/4	6 3/4	1/2	20 3/8				3.0		
25	24	30	1 1/8	3∕8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 %	8 1/8	<b>7/8</b>	2 1/2	4 3/8	9	5/8	25 1/8				5.0		
21	1 24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 %	8 1/8	<b>7</b> ⁄8	2 1/2	4 3/8	9	5/8	25 1/8				5.0		
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 %	12 1/4	1 1/4	3 3/4	6 %	13 1/2	1	40 3/4				12.0		
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 %	12 1/4	1 1/4	3 3/4	6 %	13 1/2	1	40 3/4				12.		
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 ¾	6	16	8	25	4	60	9 1/4	16 1/4	1 %	5	8 ¾	18	1 1/4	50 1/4				20.		

COUNTY:

R4-7

STANDARD SIGN R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer
3/25/2011 PLATE NO. R4-

DATE 3/25/2011 PLATE NO. R4-7.8

SHEET NO:

PROJECT NO:

D→

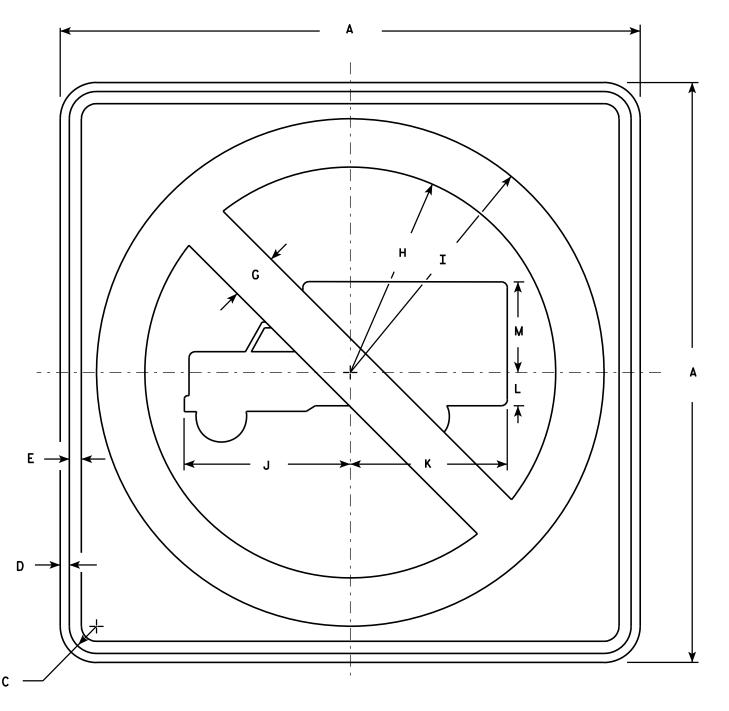
HWY:

PLOT BY: mscsja

- 1. Sign is Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - White Message - See Note 4

- 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. Circle & Diagonal Reflective red.
  Truck Symbol & Border Non-reflective black.



R5-2

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	M	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1																											
25	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 1/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 %	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 %	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 %	5/8	3/4		3	12 3/4	15 ¾	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 %	13	2 %	7 5/8														16.0

COUNTY:

STANDARD SIGN R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R Rawh

DATE 3/29/2011 PLATE NO. R5-2.6

SHEET NO:

31

FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R52.DGN

PROJECT NO:

HWY:

PLOT DATE: 29-MAR-2011 11:02

PLOT BY: mscsja

PLOT NAME :

PLOT SCALE: 5.959043:1.000000



## <u>NOTES</u>

- 1. Sign is Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - White 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.
- 5. Modify the message as required.





R	1	1	-	2	L

PLOT NAME :

SIZ	Έ	A	В	С	D	E	F	G	Н	I	C	K	L	M	N	0	Р	0	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																												
2	S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
21	<b>I</b>	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3		48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4		48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5		48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

COUNTY:

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

DATE 4/1/11 PLATE NO. R11-2.10

SHEET NO:

HWY:

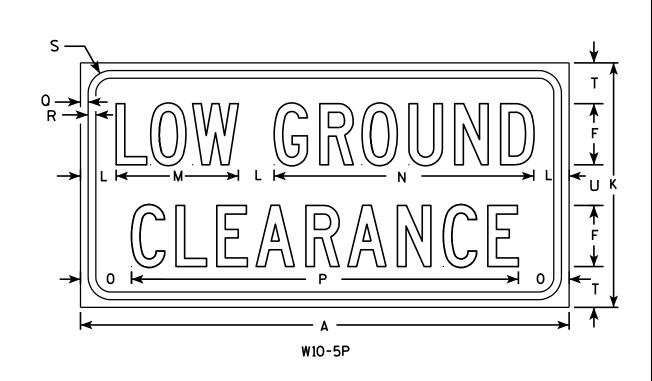
PROJECT NO:



- 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 C
- 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.



																											W10-5	W10-5P
SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	٧	W	Х	Y	Z	Areo sq. ft.	Areo sq. ft.
1	30		1 3/8	1/2	5%	4	17 1/4	13 1/8	5 1/2	₹4	15	2	8	16	2 1/4	25 1/2	3∕8	1/2	1 1/8	2 1/2	2	27					6.25	3.12
2S	36		1 5/8	5/8	₹4	5	20 %	15 ¾	6 3/4	1	18	2	10	20	2 1/4	31 1/2	3/8	1/2	1 1/8	2 3/4	2 1/2	32 1/4					9.00	4.50
2M	36		1 5/8	5/8	3/4	5	20 %	15 3/4	6 3/4	1	18	2	10	20	2 1/4	31 1/2	3∕8	1/2	1 1/8	2 3/4	2 1/2	32 1/4					9.00	4.50
3	36		1 1/8	5/8	3/4	5	20 %	15 ¾	6 3/4	1	18	2	10	20	2 1/4	31 1/2	3∕8	1/2	1 1/8	2 3/4	2 1/2	32 1/4					9.00	4.50
4																												
5																												

COUNTY:

W10-5

HWY:

STANDARD SIGN W10-5

WISCONSIN DEPT OF TRANSPORTATION

Matther Rauh

For State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-5.6

SHEET NO:

PROJECT NO:

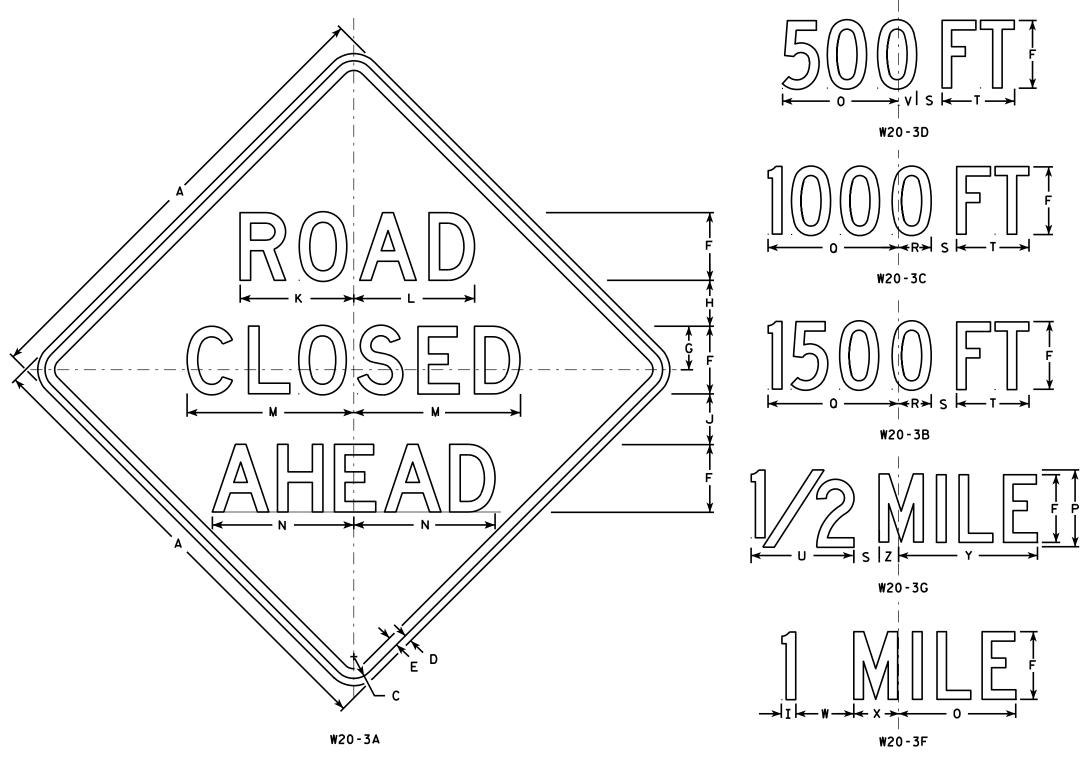
PLOT NAME :



FILE NAME . C.\CAFfiles\Projects\tr stdolote\W201 DCN

PLOT DATE . 01-DEC-2015 18.24

PIOT RY \* \$\$ plotuser \$\$



- 1. Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange 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. Lines 1 and 2 are Series D. Line 3 is Series D for AHEAD and Series C for all other distances.

1 % 5/8 ¾ 8 3/8 8 7/8 12 1/2 5 % 1 3/8 4 1/2 36 3 1/2 10 3/4 1 3/4 8 4 \( \frac{5}{8} \) 14 \( \frac{3}{8} \) 2 \( \frac{3}{8} \) 16.0 3/4 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 7 1/2 10 5/8 1 7/8 2M 3/4 4 \\ 14 \\ 38 \ 2 \\ 38 \ 16.0 48 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 7 1/2 10 % 1 % 4 1/2 4 3/4 1 1/2 5 1/4 11 3/4 12 1/2 17 1/4 14 5/8 3/4 13 1/2 3 3/8 2 5/8 7 1/2 10 5/8 1 3/8 4 % | 14 % | 2 % | 16.0 48 3/4 4 1/2 4 3/4 1 1/2 5 1/4 11 3/4 12 1/2 17 1/4 14 5/8 13 1/2 3 3/8 2 5/8 4 \\ 14 \\ 38 \ 2 \\ 38 \ 16.0 7 1/2 10 5/8 1 7/8 48 5 4 5/8 14 3/8 2 3/8 16.0 3/4 2 1/4 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 13 1/2 3 3/8 2 5/8 7 1/2 10 5/8 1 3/8 48

COUNTY:

STANDARD SIGN W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer DATE 3/18/11

PLATE NO. W20-3.7

SHEET NO:

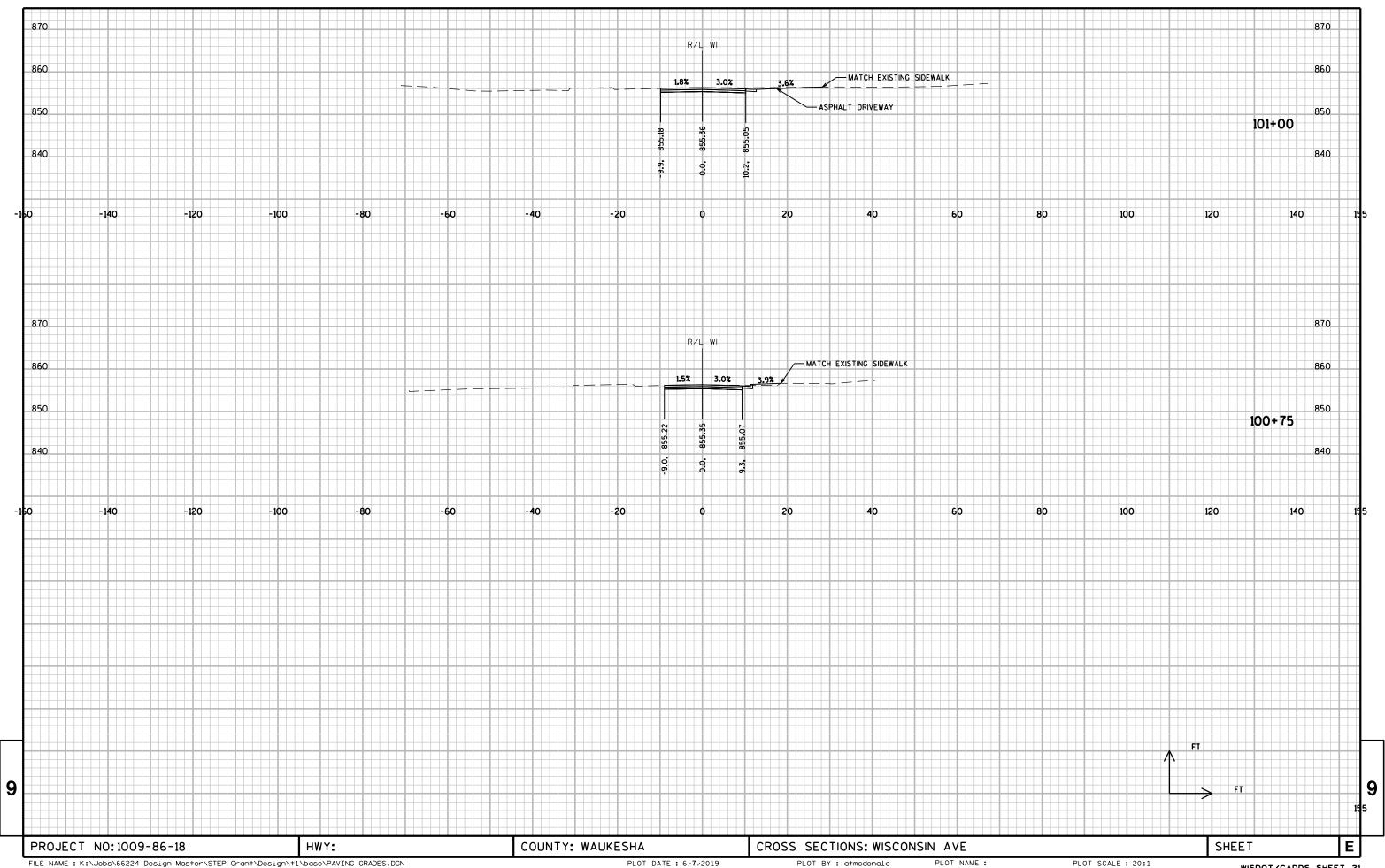
PROJECT NO: FILE NAME : C:\Users\PROJECTS\tr\_stdplate\W203.DGN HWY:

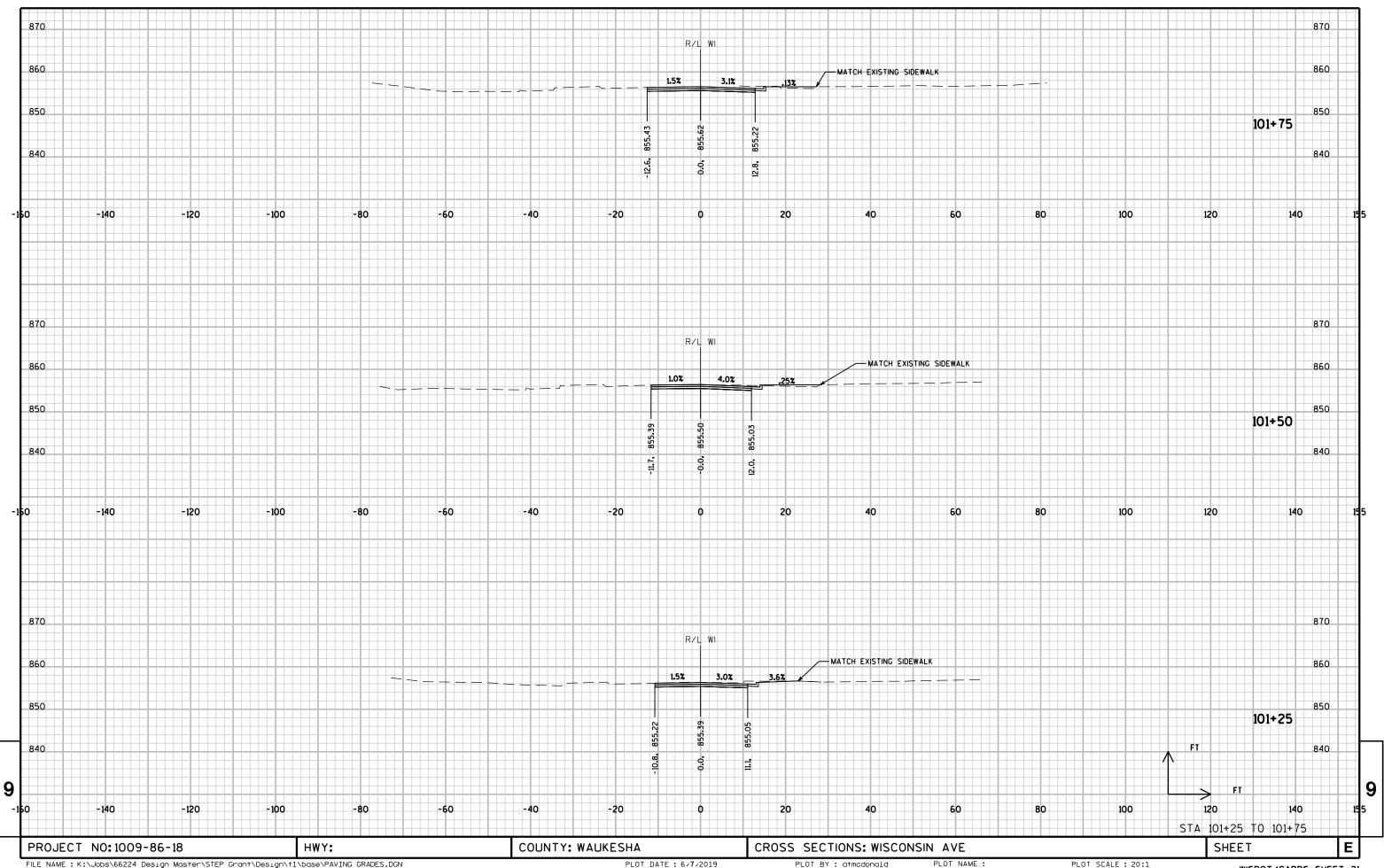
PLOT DATE: 18-MAR-2011 12:08

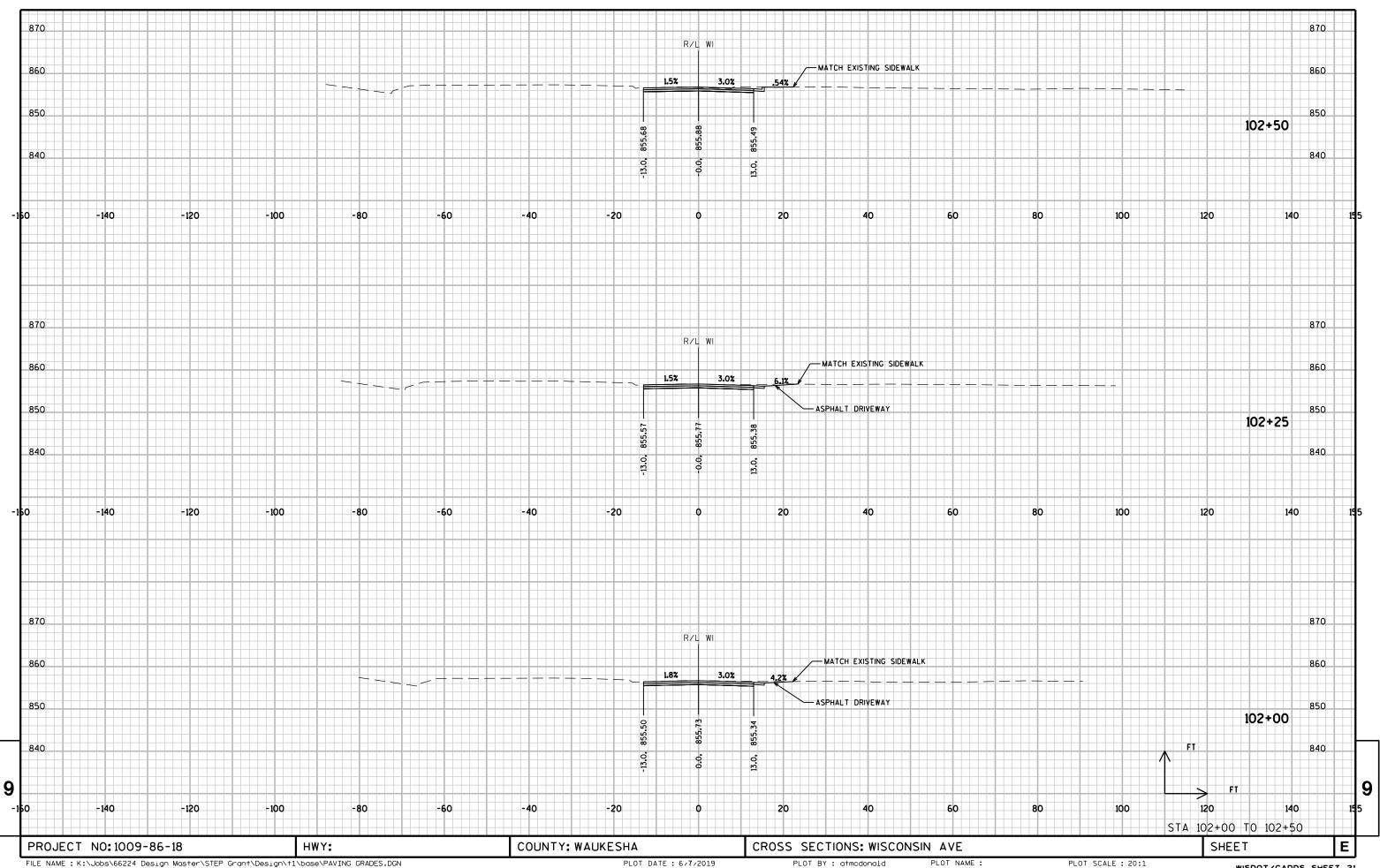
PLOT BY: mscj9h

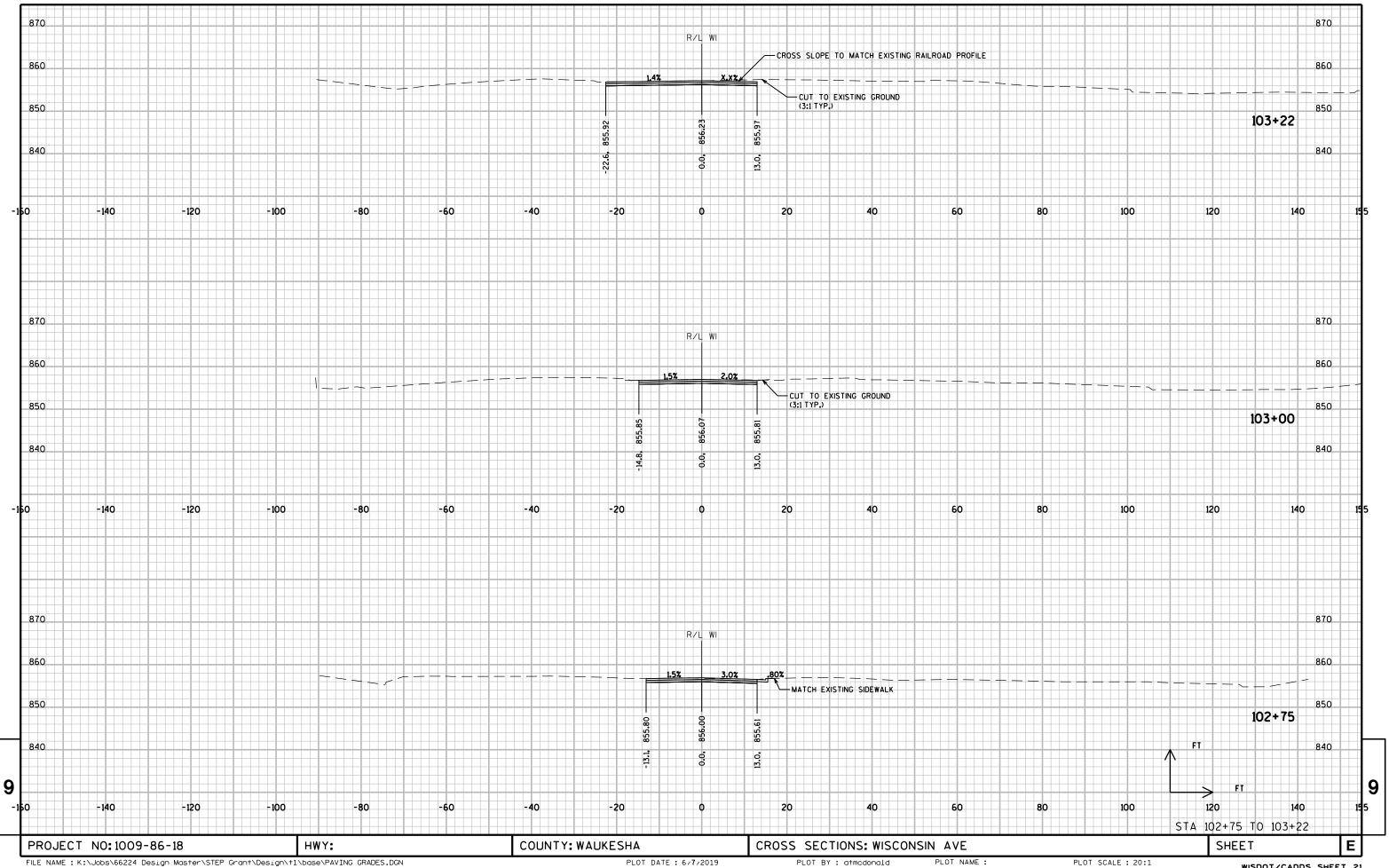
PLOT NAME :

PLOT SCALE: 9.931739:1.000000











# Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

http://www.dot.wisconsin.gov