

SELECTED  
PROJECT ID: 2670-00-71  
WITH: N/A

COUNTY: MILWAUKEE

JULY 2014		
ORDER OF SHEETS		
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections
TOTAL SHEETS =		42

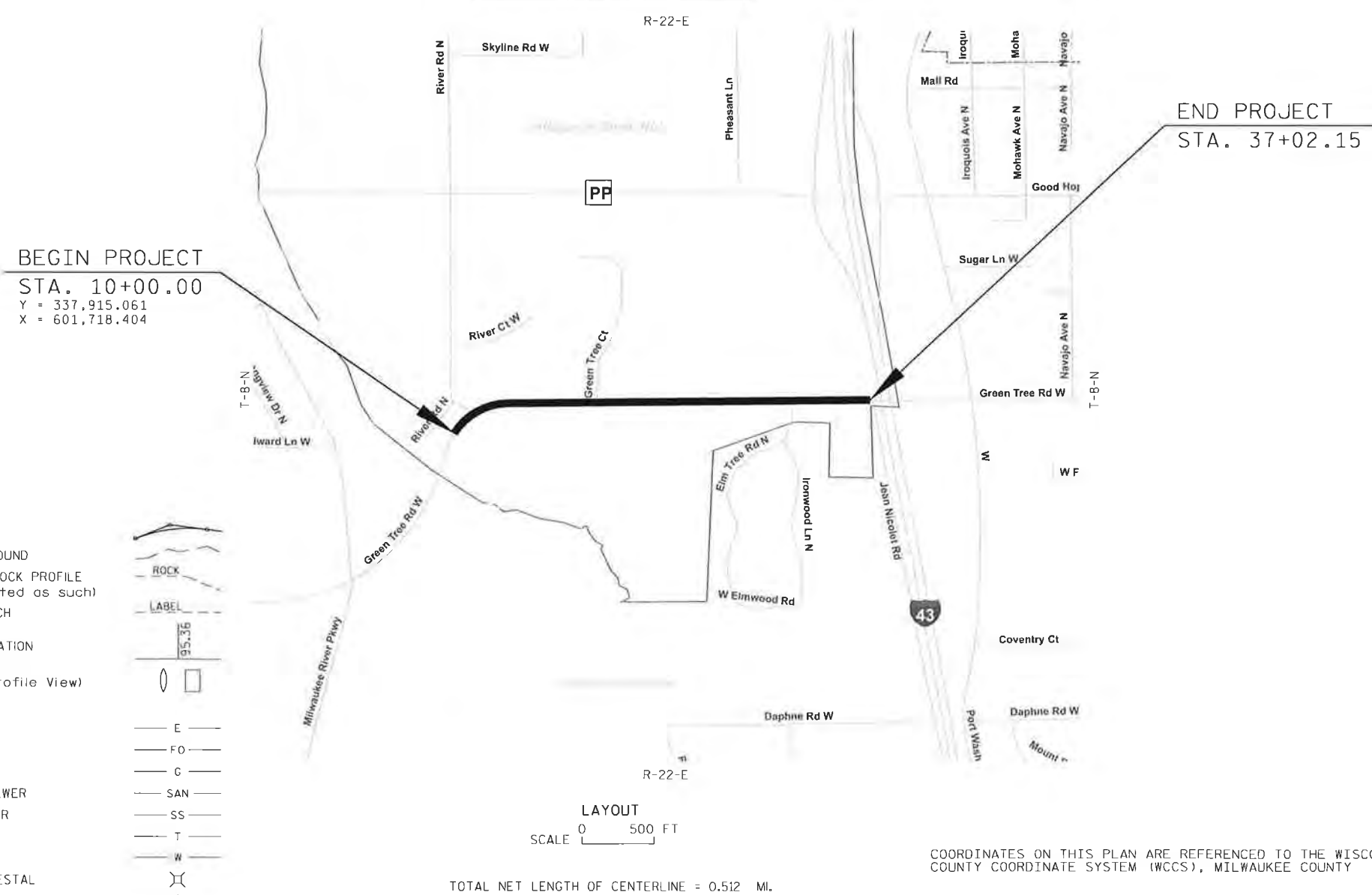
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
GREEN TREE ROAD  
RIVER ROAD TO JEAN NICOLET ROAD  
LOCAL STREET  
MILWAUKEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2670-00-71	WISC 2014267	1



16

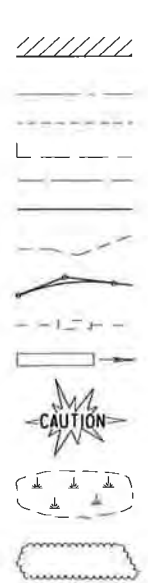
STATE PROJECT NUMBER  
2670-00-71



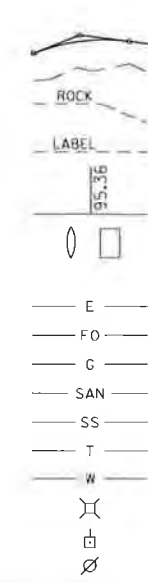
DESIGN DESIGNATION		
A.A.D.T. 2014	3,700	
A.A.D.T. 2034	4,200	
D.H.V. 3.5%	145	
D.D.	59/41	
T.	3.5%	
DESIGN SPEED	30 MPH	
ESALS	226,300	

CONVENTIONAL SYMBOLS

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



- PROFILE
- GRADE LINE
  - ORIGINAL GROUND
  - 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



ACCEPTED FOR  
VILLAGE of RIVER HILLS  
*1/27/14 Christopher B. Jean*  
Village Manager  
(Date) (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY  
**GRAEF**

*1/27/2014 Jacquelyn M. Messer*  
(Date) (Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PREPARED BY  
Surveyor GRAEF  
Designer GRAEF  
Management Consultant DAAR ENGINEERING, INC.  
C.O. Examiner

APPROVED FOR THE DEPARTMENT  
*1/28/2014 [Signature]*  
DATE (Management Consultant Signature)

E

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

THE EXACT LOCATION OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM THE ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES OR FROM GRUBBING OF TREES OR STUMPS SHALL BE BACKFILLED WITH BACKFILL GRANULAR. BACKFILL GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

ALL RADIUS DIMENSIONS FOR CURB & GUTTER ARE GIVEN TO THE FLANGE. ALL ELEVATIONS ALONG CURB & GUTTER ARE GIVEN TO THE FLANGE. OFFSETS NOTED ARE TO THE FLANGE OR EDGE OF LANE IF NO CURB, UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL CONTACT SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC) BEFORE DISTURBING ANY PUBLIC SURVEY MONUMENTS. CONTACT LEE KREBLIN AT (262) 547-6721 FOR MONUMENT RELOCATION PROCEDURES. CONTRACTOR SHALL ALSO CONTACT THOMAS LIPSKY AT WISDOT SOUTHEAST REGION AT (262) 548-6737.

THE LOCATION OF KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITIES IN THE AREA THAT ARE NOT SHOWN.

ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.

SILT FENCE SHALL BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE LOCATIONS OF LONGITUDINAL JOINTS IN HMA PAVEMENT SHALL BE APPROVED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 - NAVD88(2007)

HMA NOTES

HMA PAVEMENT, TYPE E-1, WHERE INDICATED ON THE PLANS, SHALL CONSIST OF LAYERS AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER.

2" DEPTH      2" OF 12.5mm HMA PAVEMENT, TYPE E-1  
PERFORMANCE GRADE 64-28, AS THE UPPER LAYER

TACK COAT SHALL BE APPLIED BETWEEN NEWLY MILLED ASPHALT AND UPPER LAYER.

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPCM	CULVERT PIPE CORRUGATED METAL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSCP	CORRUGATED STEEL CULVERT PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
MIS	METROPOLITAN INTERCEPTOR SEWER
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
NTS	NOT TO SCALE
PAVT	PAVEMENT
PB	PULL BOX
PC	POINT-OF-CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RAD	RADIUS
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
RCHES	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL STORM SEWER
RCPSS	REINFORCED CONCRETE PIPE - STORM SEWER
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RT	RIGHT
SALV	SALVAGED
SB	SIGNAL BASE
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TC	TOP OF CURB
TLE	TEMPORARY LIMITED EASEMENT

INDEX OF TYPICAL SECTION AND DETAIL SHEETS

WRITTEN MATERIAL	2. - 2.
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CONSTRUCTION DETAILS	2. - 2.
PLAN DETAILS	2. - 2.
STORM SEWER & EROSION CONTROL	2. - 2.
TRAFFIC CONTROL	2. - 2.
ALIGNMENT	2. - 2.

MANAGEMENT CONSULTANT

MR. TODD BECKER  
DAAR CORPORATION  
325 E. CHICAGO STREET, SUITE 500.  
MILWAUKEE, WI 53202  
(414) 225-9817

DESIGN CONSULTANT

MS. JACQUELYN MESSER  
GRAEF  
HONEY CREEK CORPORATE CENTER  
125 S. 84TH STREET, SUITE 401  
MILWAUKEE, WI 53212  
(414) 266-9162

MR. MATTHEW BEDNARSKI  
GRAEF  
HONEY CREEK CORPORATE CENTER  
125 S. 84TH STREET, SUITE 401  
MILWAUKEE, WI 53212  
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ENVIRONMENTAL COORDINATOR

MS. KRISTINA BETZOLD  
WISCONSIN DEPT. OF NATURAL RESOURCES  
2300 N. MARTIN LUTHER KING JR. DRIVE  
MILWAUKEE, WI 53212  
(414) 263-8517

VILLAGE OF RIVER HILLS

MR. MUSTAFA EMIR  
CLARK DIETZ, INC  
VILLAGE OF RIVER HILLS ENGINEER  
759 N. MILWAUKEE STREET, SUITE 624  
MILWAUKEE, WI 53202  
(414) 315-1933

MR. KURT FREDRICKSON  
VILLAGE OF RIVER HILLS  
SUPERINTENDENT OF PUBLIC WORKS  
7650 N. PHEASANT LANE  
RIVER HILLS, WI 53217  
(414) 352-0080

MR. CHRISTOPHER LEAR  
VILLAGE OF RIVER HILLS  
MANAGER-CLERK-TREASURER  
7650 N. PHEASANT LANE  
RIVER HILLS, WI 53217  
(414) 352-8213

UTILITIES

MR. STEVE VAN ZUMMEREN  
AT&T WISCONSIN  
9016 W. CALUMET ROAD, ROOM 0105  
MILWAUKEE, WI 53224  
(414) 678-4513  
(414) 217-8939 (MOBILE)

MR. ROBERT REBITSKI  
MILWAUKEE METRO SEWERAGE DIST.  
260 W. SEEBOTH ST.  
MILWAUKEE, WI 53204-1446  
(414) 225-2214

MR. LUKAS LACROSSE  
FIELD ENGINEER  
TIME WARNER CABLE SE WISCONSIN  
1320 N. DR. MARTIN LUTHER KING JR. DRIVE  
MILWAUKEE, WI 53212  
(414) 908-4766  
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LUKAS.LACROSSE@TWCABLE.COM

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MR. LEONARD WILSON  
WE ENERGIES (ELECTRIC)  
500 S. 116TH STREET  
WEST ALLIS, WI 53214-1000  
(414) 944-5690  
(414) 588-6674 (MOBILE)  
LEONARD.WILSON@WE-ENERGIES.COM

MR. PAUL OSMANSKI  
WISC. GAS CO. D/B/A WE ENERGIES  
500 S. 116TH STREET  
WEST ALLIS, WI 53214-1000  
(414) 944-5796  
(414) 315-1278 (MOBILE)



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

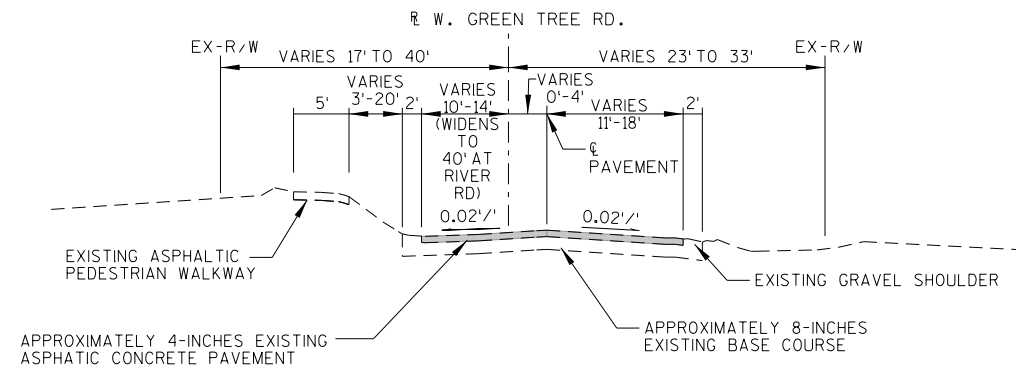


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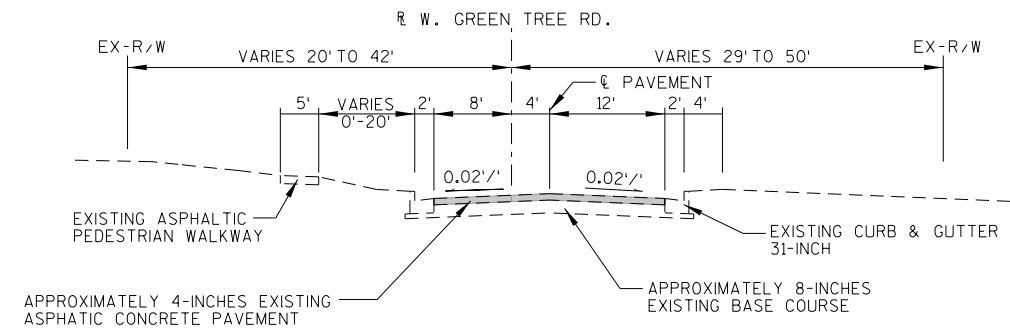
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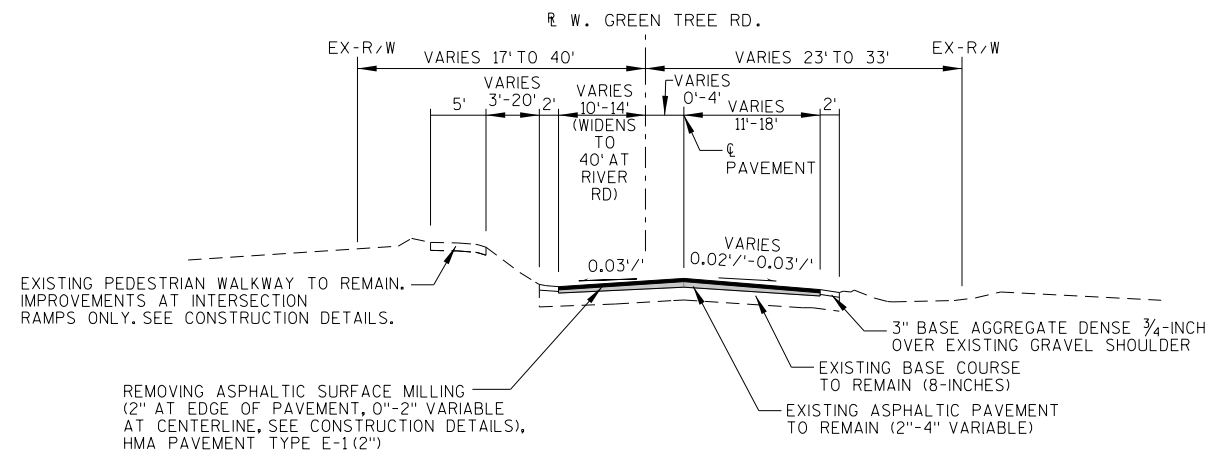
PROJECT NO: 2670-00-71	HWY: LOCAL ROAD	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET	E
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TYPICAL EXISTING SECTION - W. GREEN TREE ROAD

STA. 10+00.00 TO STA. 12+58.18  
RURAL SECTION

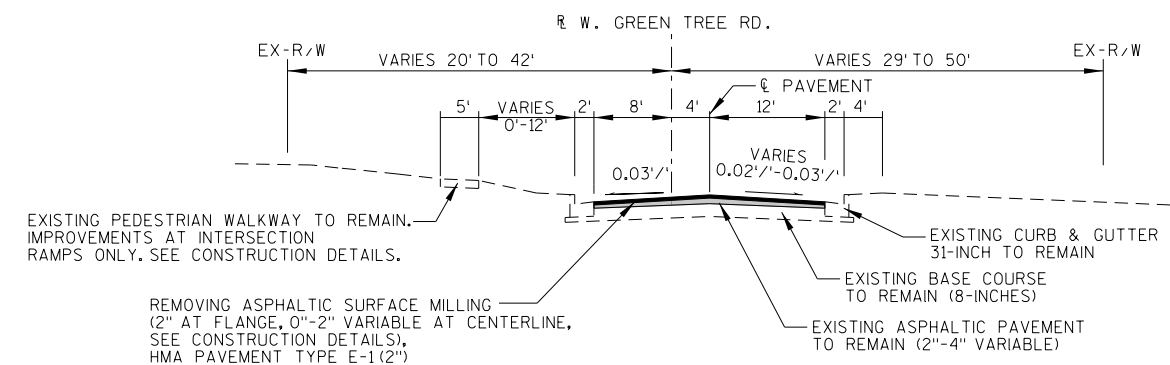
TYPICAL EXISTING SECTION - W. GREEN TREE ROAD

STA. 12+58.18 TO STA. 37+02.15  
URBAN SECTION

TYPICAL FINISHED SECTION - W. GREEN TREE ROAD

STA. 10+00.00 TO STA. 12+58.18  
RURAL SECTION

LATERAL CLEARANCE: 6' FROM EDGE OF TRAVEL LANE

CLEAR ZONE: MINIMUM 18' FROM EDGE OF TRAVEL LANE BUT NOT EXCEEDING  
RIGHT-OF-WAY LIMITS. RIGHT-OF-WAY LOCATED 7'-50' FROM EXISTING EDGE OF  
TRAVEL LANE.

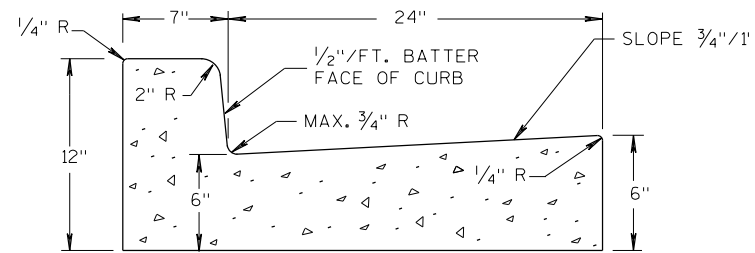
TYPICAL FINISHED SECTION - W. GREEN TREE ROAD

STA. 12+58.18 TO STA. 37+02.15  
URBAN SECTION

LATERAL CLEARANCE: 2' FROM FACE OF CURB

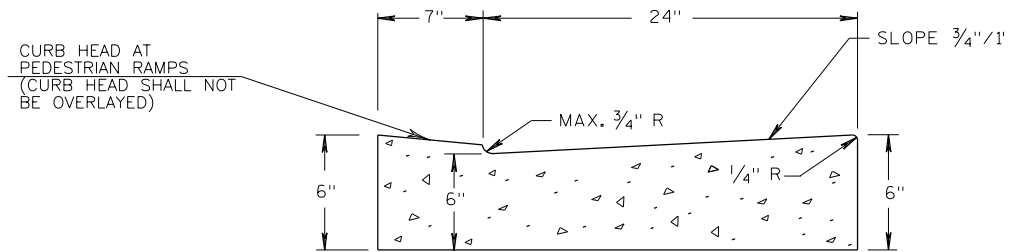
CLEAR ZONE: 2' FROM FACE OF CURB (LATERAL CLEARANCE)





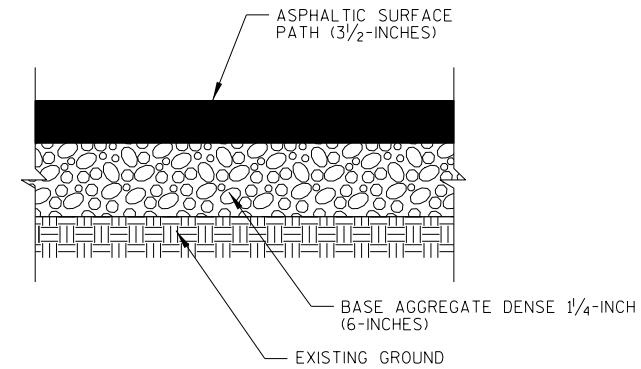
CONCRETE CURB AND GUTTER 31-INCH TYPE D (HIGH EARLY STRENGTH)

STA. 18+57 LT. - STA. 18+76 LT.  
STA. 18+85 LT. - STA. 18+87 LT.  
STA. 19+18 LT. - STA. 19+20 LT.  
STA. 19+28 LT. - STA. 19+33 LT.  
(N.T.S.)



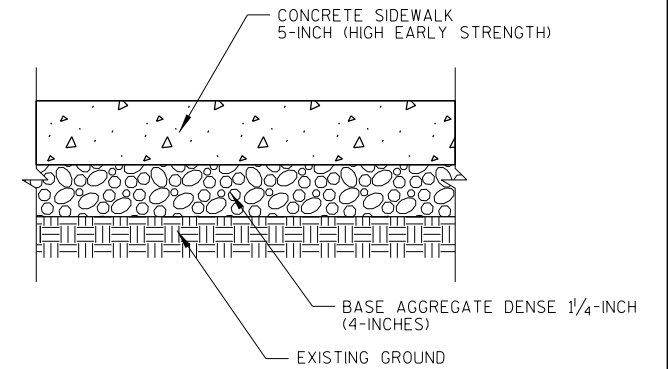
CONCRETE CURB AND GUTTER  
31-INCH TYPE D (HIGH EARLY STRENGTH) AT PEDESTRIAN RAMPS

STA. 18+76 LT. - STA. 18+85 LT.  
STA. 19+20 LT. - STA. 19+28 LT.  
(N.T.S.)



TYPICAL ASPHALTIC SURFACE PATH SECTION  
FOR MODIFICATIONS TO EXISTING  
PEDESTRIAN WALKWAY

STA. 10+50 LT. - STA. 10+59 LT.  
STA. 11+28 LT. - STA. 11+33 LT.  
STA. 18+27 LT. - STA. 18+71 LT.  
STA. 19+34 LT. - STA. 20+31 LT.  
(N.T.S.)



TYPICAL CONCRETE SIDEWALK SECTION  
AT RECONSTRUCTED PEDESTRIAN RAMPS  
ALONG EXISTING PEDESTRIAN WALKWAY

STA. 10+59 LT. - STA. 10+71 LT.  
STA. 11+20 LT. - STA. 11+28 LT.  
STA. 18+71 LT. - STA. 18+83 LT.  
STA. 19+22 LT. - STA. 19+34 LT.  
(N.T.S.)

## STEP 2

AFTER MILLING OPERATIONS COMPLETE:

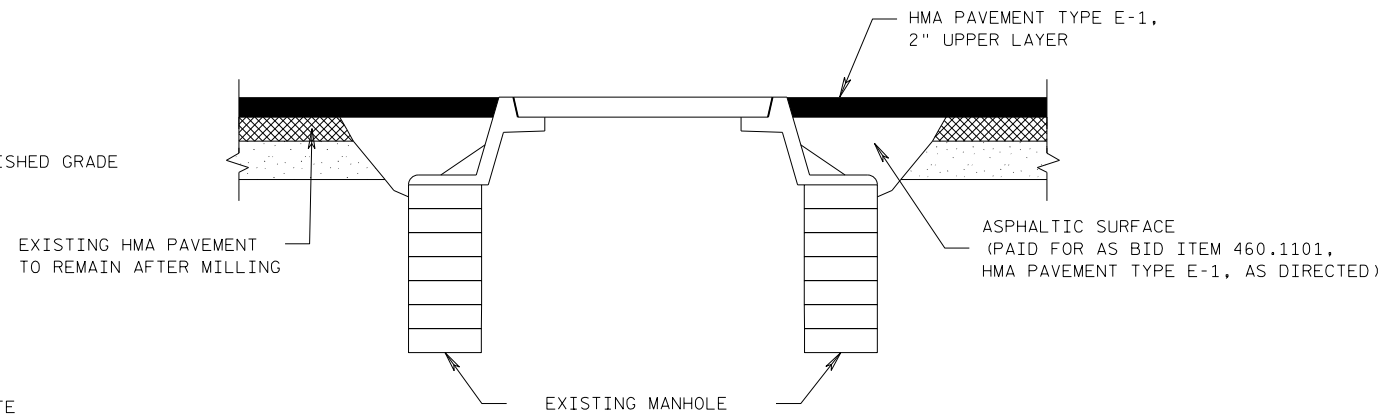
- REMOVE AND STORE MANHOLE COVER
- ADJUST MANHOLE AND REINSTALL MANHOLE FRAME AND COVER TO FINISHED GRADE

(BACKFILL AND OTHER WORK TO BE DONE IN  
ACCORDANCE WITH ITEM - ADJUSTING MANHOLE COVERS OR  
ADJUST SANITARY MANHOLE COVER)

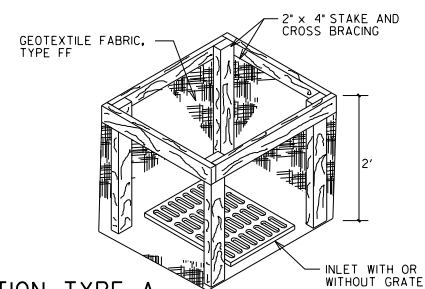
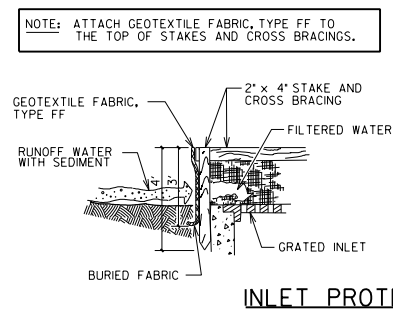
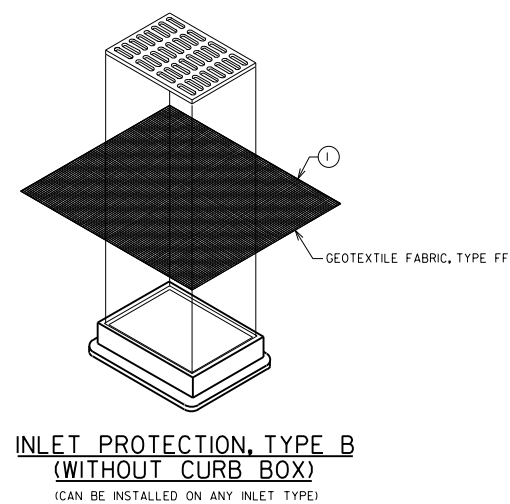
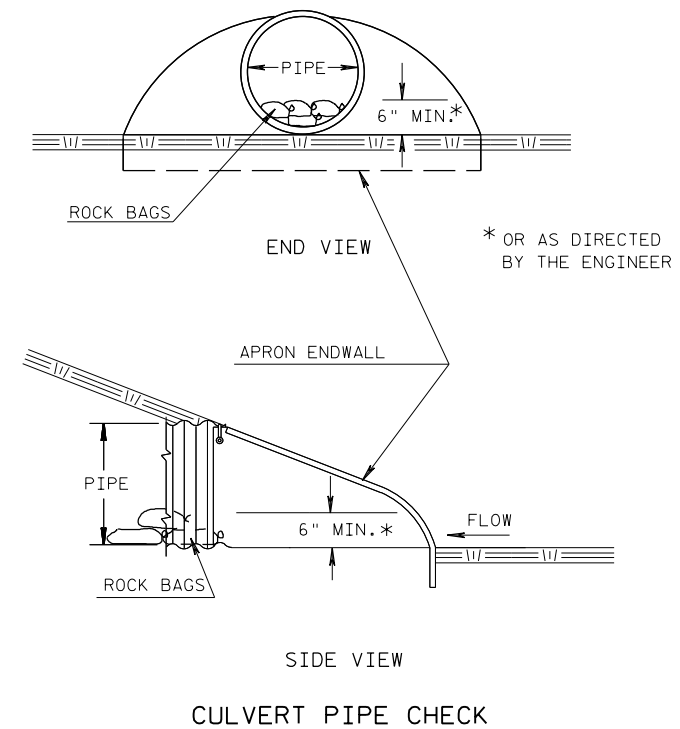
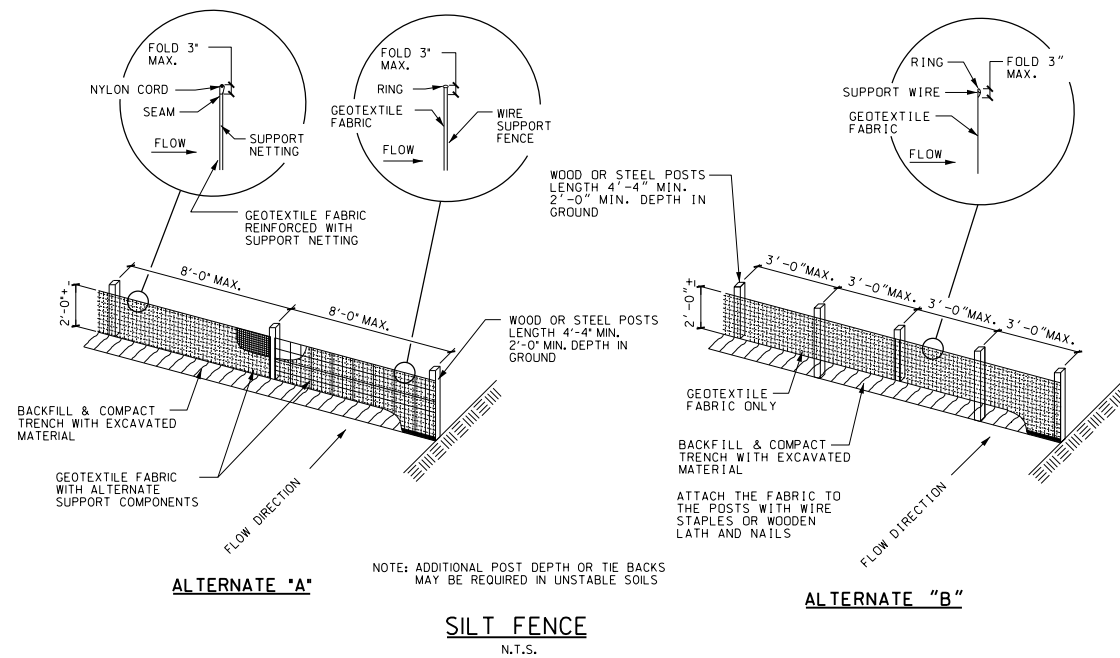
ALL WORK DONE SHALL BE BE DONE BY CONTRACTOR.

## NOTES

- ADJUSTING MANHOLE COVERS WILL NOT BE PAID FOR AS A SEPARATE ITEM OF WORK WHEN ADJUSTMENTS ARE MADE BY OTHERS (UTILITY CO. OR MUNICIPALITY).
- ADJUSTMENTS TO MMSD OWNED MIS MANHOLES ARE NOT ANTICIPATED AND SHALL NOT BE PERFORMED BY THE CONTRACTOR.



ADJUSTING MANHOLE COVERS AND ADJUST SANITARY MANHOLE COVERS



#### GENERAL NOTES

FABRIC SHALL BE REPLACED AT THE ENGINEERS DISCRETION.  
THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX.  
MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE  
DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY  
BE SUBSTITUTED.

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 FABRIC SIZE SHALL BE 8" (MIN) GREATER ON ALL SIDES OF THE INLET  
COVER TO PROVIDE A HAND HOLD WHEN MAINTENANCE OR REMOVAL  
IS REQUIRED.

1/2" EXPANSION JOINTS-SIDEWALK

CONTRACTION JOINTS

LOCATION OF JOINTS MAY BE VARIED  
FROM THOSE SHOWN TO BETTER FIT  
SITE CONDITIONS AND/OR LOCAL  
GOVERNMENT PREFERENCE.

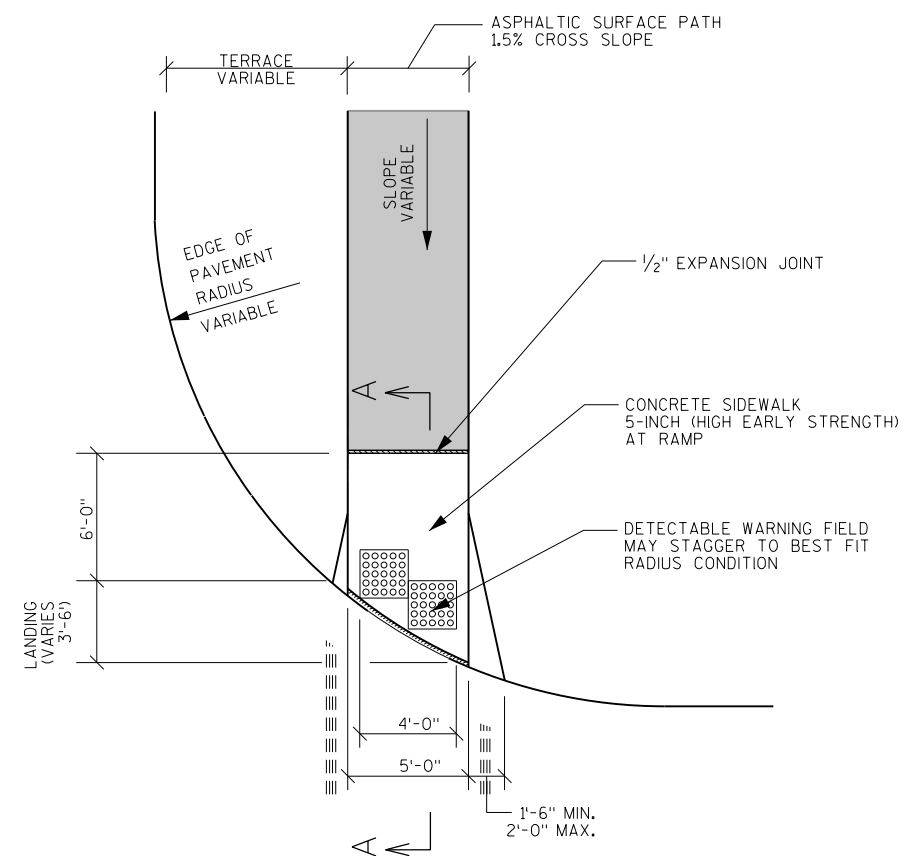
#### GENERAL NOTES

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

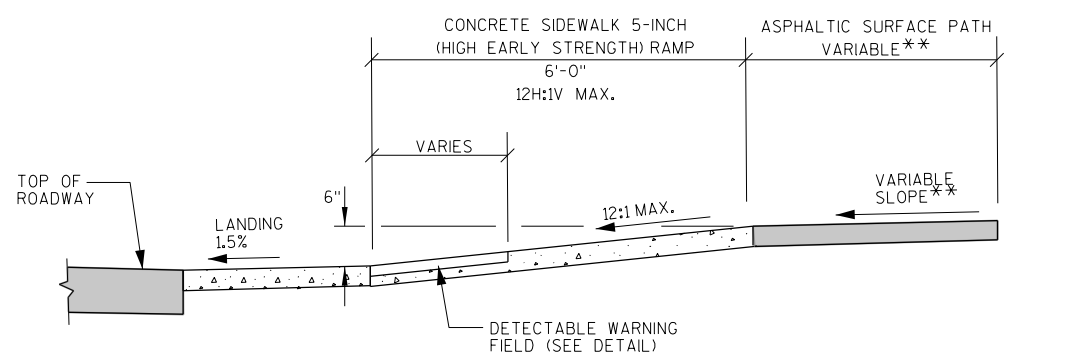
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

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

+/- 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE  
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR  
APPROVAL FROM THE ENGINEER.



PLAN VIEW  
TYPE 4B1 RAMP (MODIFIED)  
(ON LINE WITH SIDEWALK)



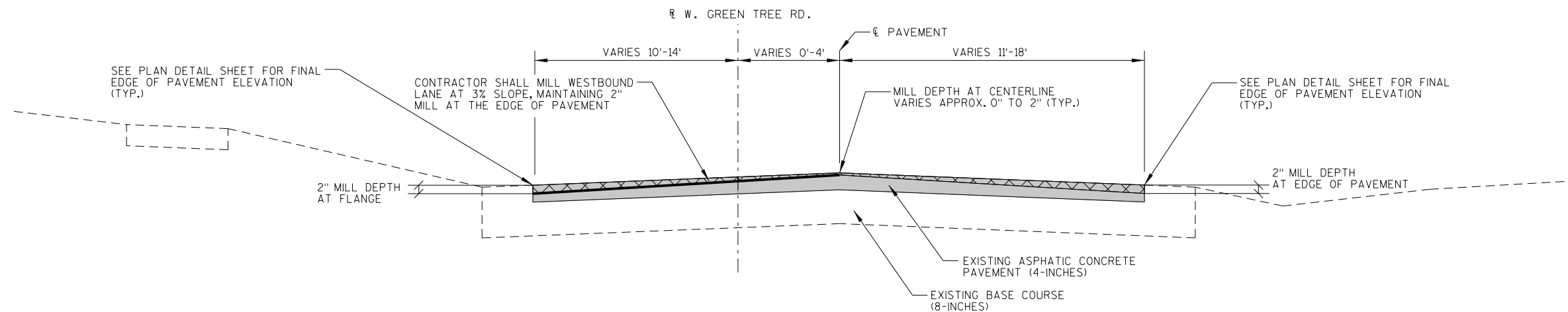
SECTION A-A

CURB AND SIDEWALK RAMPS - TYPE 4B1 MODIFIED

N.T.S.

\*\* WIDTH OR SLOPE SHOWN ELSEWHERE  
IN THE PLANS

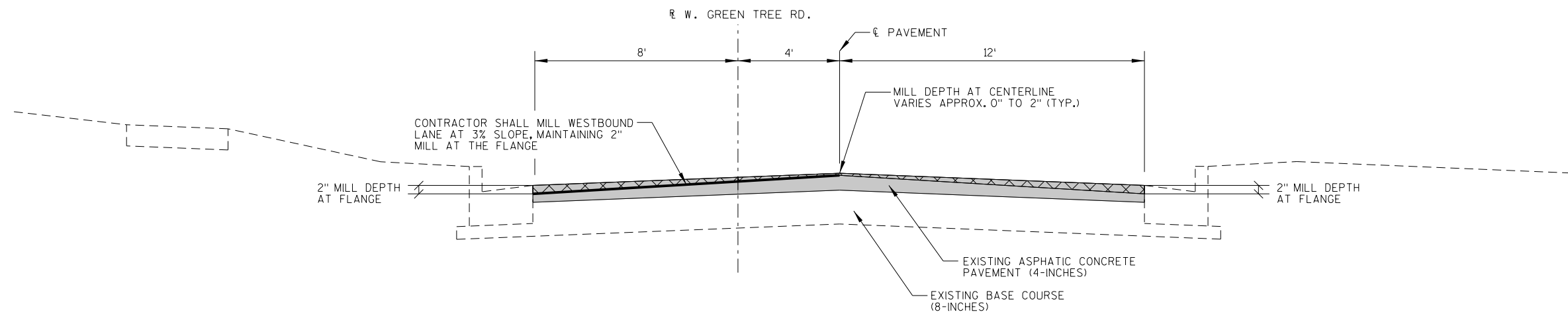




### VARIABLE MILL DETAIL - RURAL SECTION

STA. 10+00.00 TO STA. 12+58.18

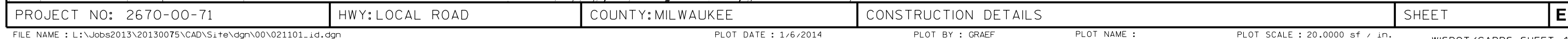
WESTBOUND LANE SHALL BE MILLED FIRST.  
SLOPE OF EASTBOUND LANE WILL VARY.



### VARIABLE MILL DETAIL

STA. 10+00.00 TO STA. 37+02.15

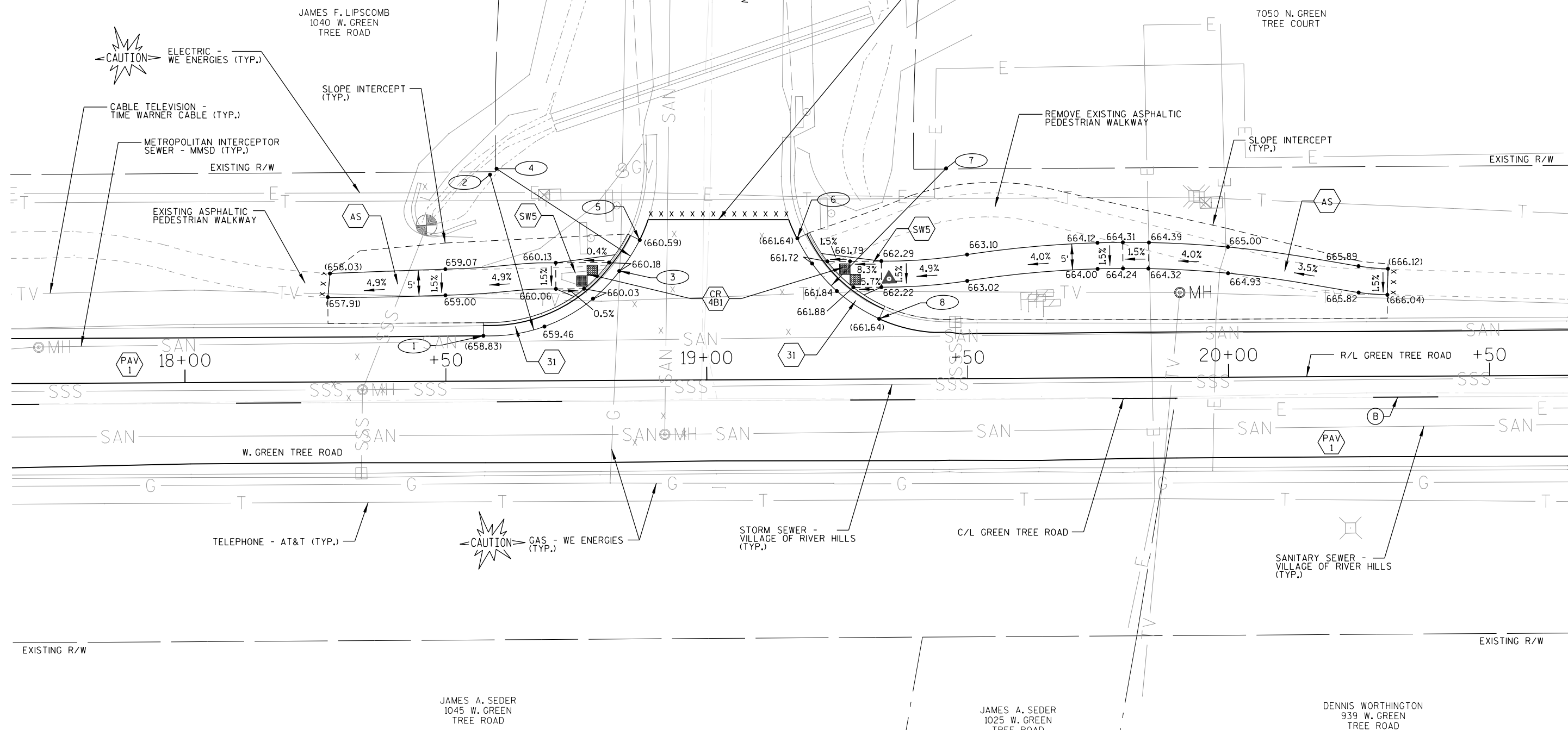
WESTBOUND LANE SHALL BE MILLED FIRST.  
SLOPE OF EASTBOUND LANE WILL VARY.



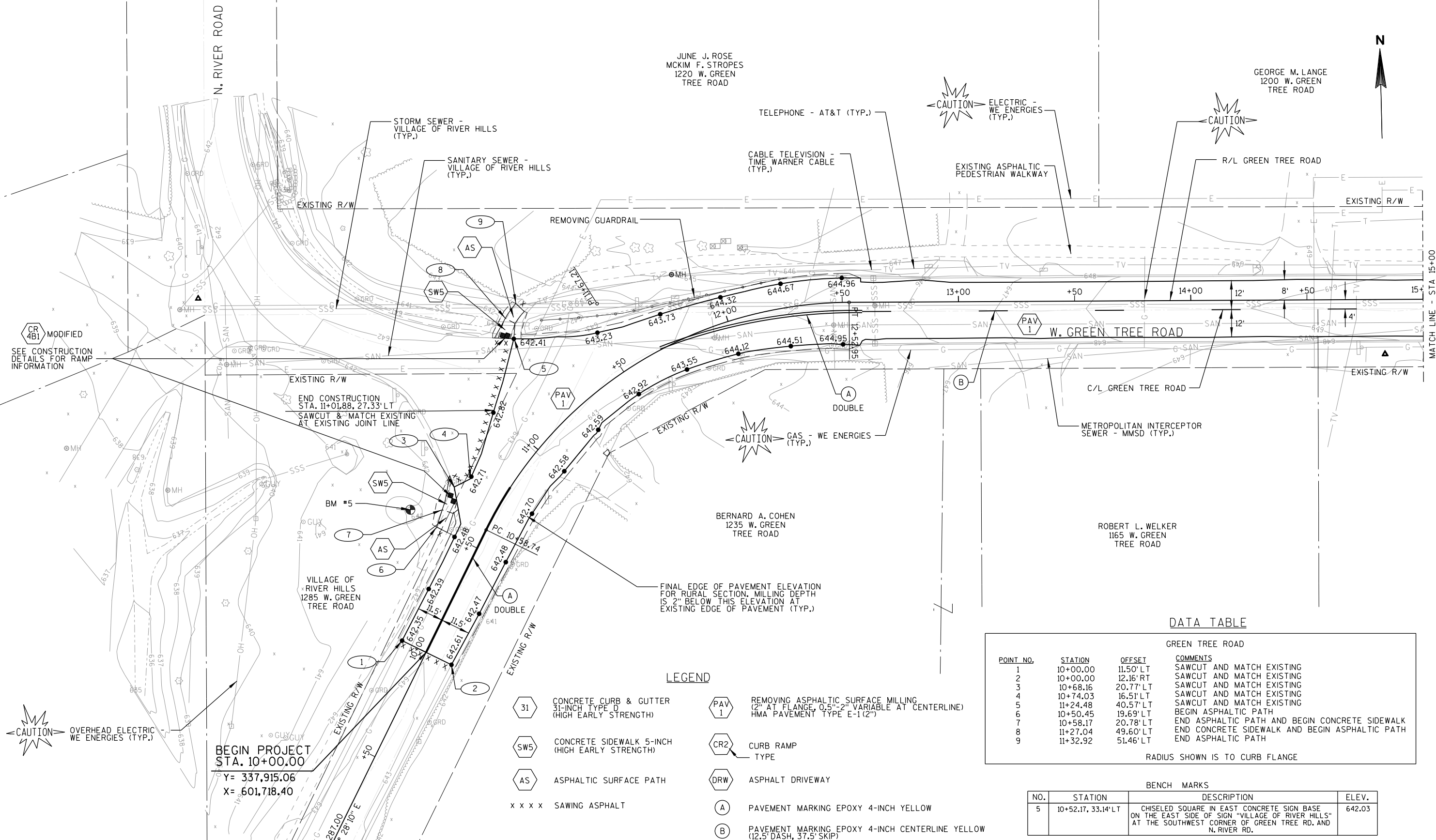
### DATA TABLE

GREEN TREE ROAD			
<u>POINT NO.</u>	<u>STATION</u>	<u>OFFSET</u>	<u>COMMENTS</u>
1	18+57.22	8.67' LT	BEGIN CURB & GUTTER, BEGIN 30.94' RADIUS
2	18+58.66	39.58' LT	30.94' RADIUS
3	18+83.38	20.97' LT	END 30.94' RADIUS, BEGIN 30.65' RADIUS
4	18+59.92	40.70' LT	30.65' RADIUS
5	18+87.28	26.89' LT	END 30.65' RADIUS, END CURB & GUTTER
6	19+17.50	27.05' LT	BEGIN CURB & GUTTER, BEGIN 31.50' RADIUS
7	19+46.07	40.32' LT	31.50' RADIUS
8	19+33.12	11.60' LT	END 31.50' RADIUS, END CURB & GUTTER

RADIUS SHOWN IS TO CURB FLANGE







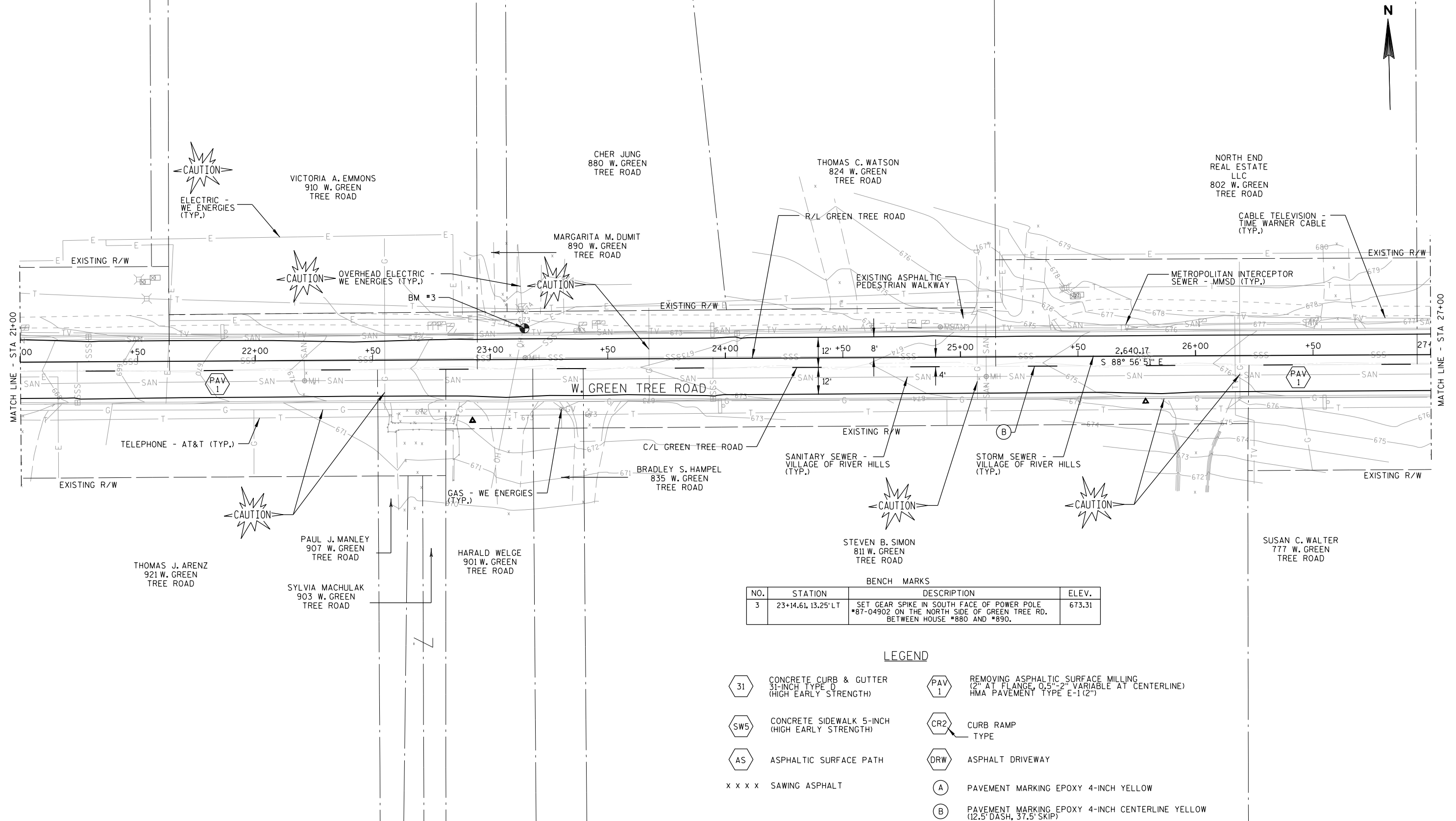
SEE CONSTRUCTION  
DETAILS FOR CURE  
RAMP INFORMATION



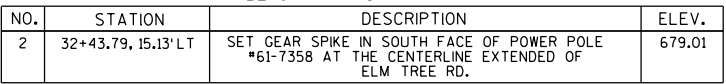
DATA TABLE

GREEN TREE ROAD			
<u>POINT NO.</u>	<u>STATION</u>	<u>OFFSET</u>	<u>COMMENTS</u>
1	18+27.90	20.78' LT	BEGIN PROPOSED ASPHALTIC PATH
2	18+52.68	21.56' LT	BEGIN 95.00' RAD.
3	18+50.10	116.53' LT	95.00' RAD.
4	18+58.38	21.89' LT	END 95.00' RAD.
5	18+64.10	22.39' LT	BEGIN 55.00' RAD.
6	18+68.89	32.40' RT	55.00' RAD.
7	18+68.89	22.60' LT	END 55.00' RAD.
8	19+35.11	22.60' LT	BEGIN 95.00' RAD.
9	19+35.11	117.60' LT	95.00' RAD.
10	19+49.27	23.66' LT	END 95.00' RAD. AND BEGIN 205.00' RAD.
11	19+79.81	179.05' RT	205.00' RAD.
12	20+5.40	22.83' LT	END 205.00' RAD.
13	20+24.18	21.29' LT	BEGIN 45.00' RAD.
14	20+31.99	65.60' LT	45.00' RAD.
15	20+30.66	20.62' LT	END 45.00' RAD. AND END PROPOSED ASPHALTIC PATH AND MATCH

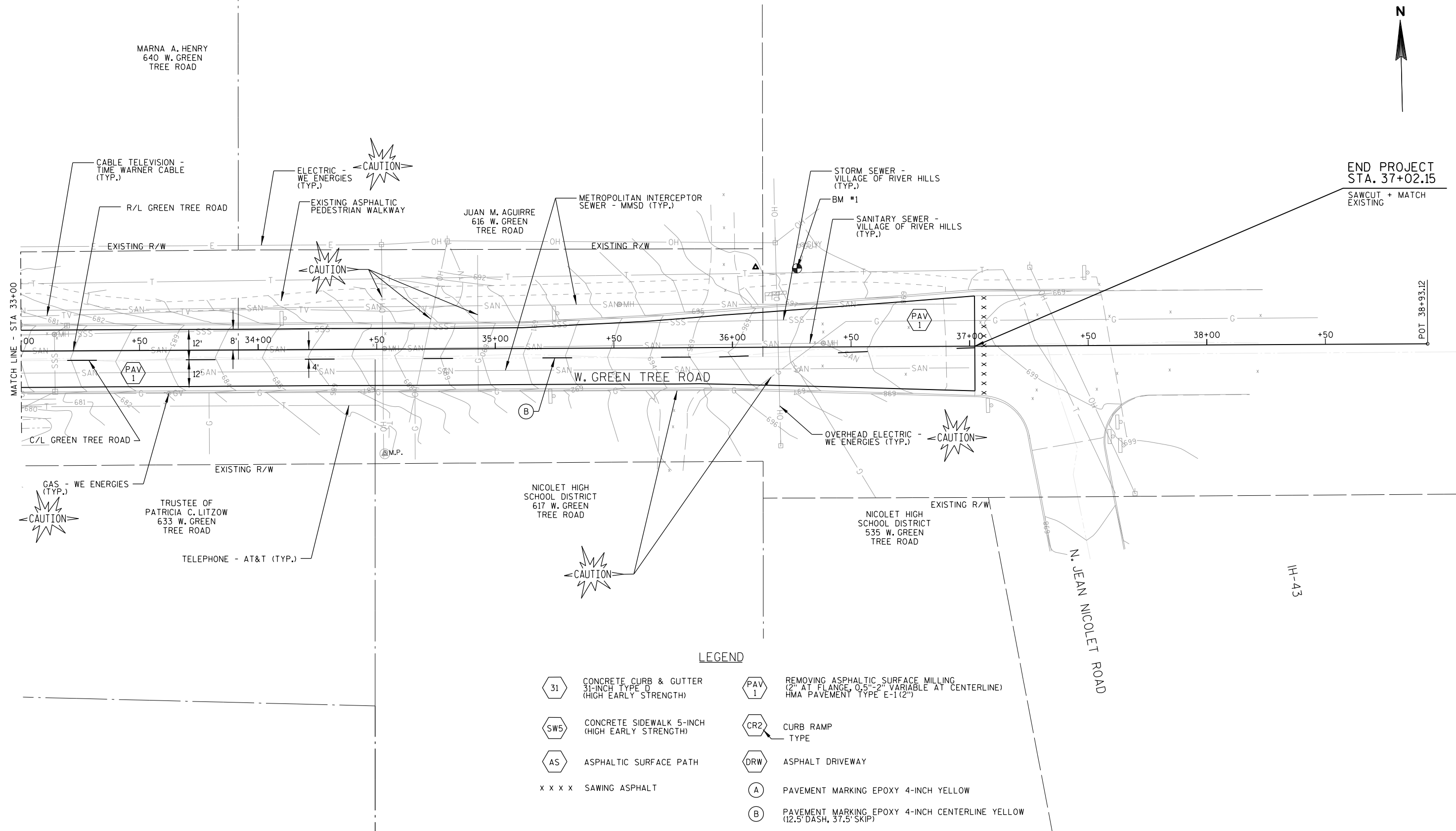
RADIUS SHOWN IS TO CURB FLANGE





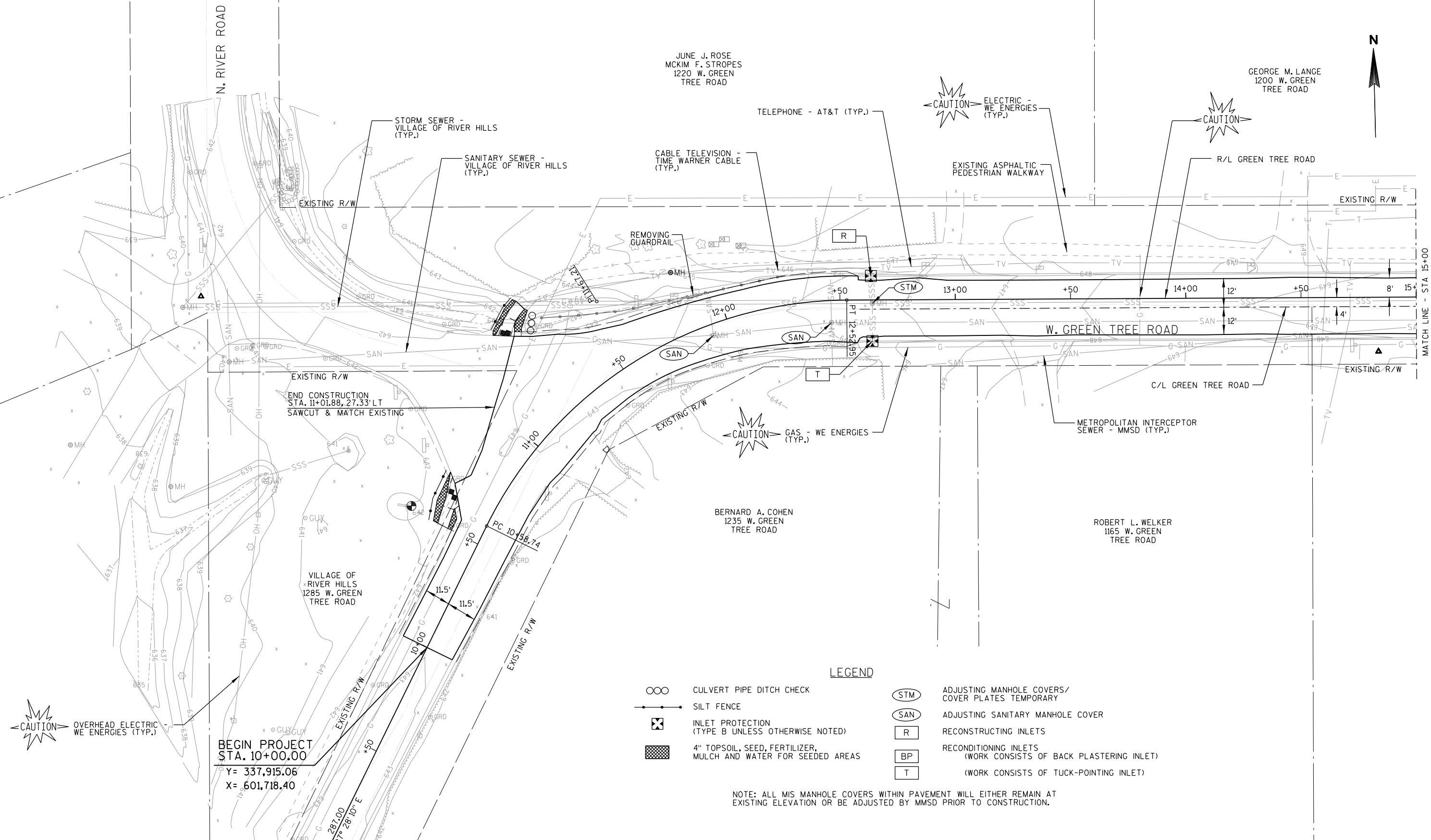


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	36+27.40, 33.22' LT	CHISELED SQUARE IN SOUTH CONCRETE BASE OF SIGN "VILLAGE OF RIVER HILLS" AT THE NORTHWEST CORNER GREEN TREE RD. AND JEAN NICOLET DR.	697.65



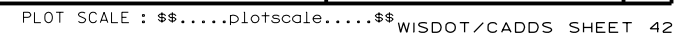
## LEGEND

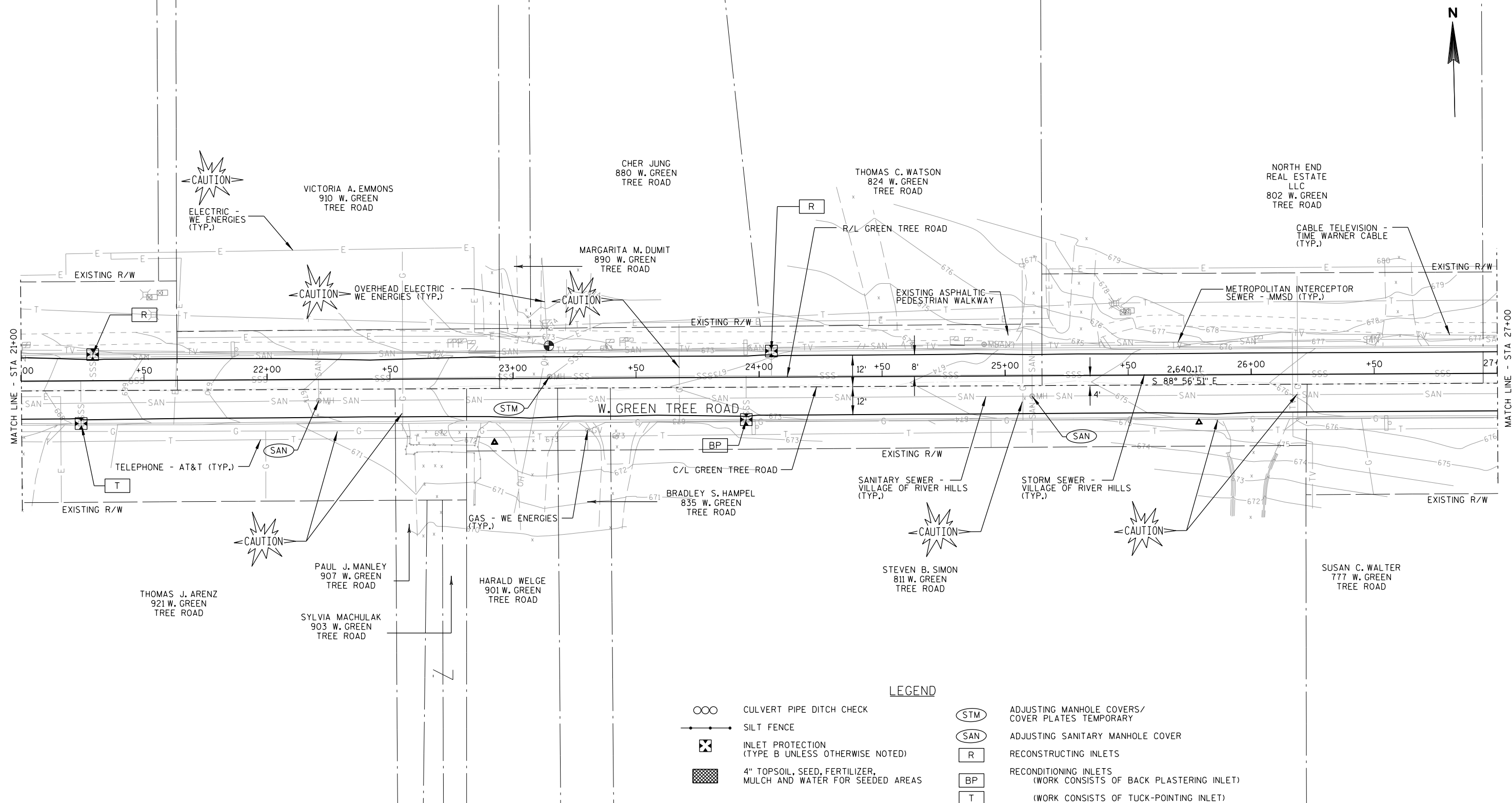
- |         |   |       |  |
|---------|---|-------|--|
| 31      | CONCRETE CURB & GUTTER<br>31-INCH TYPE D<br>(HIGH EARLY STRENGTH) | PAV 1 | REMOVING ASPHALTIC SURFACE MILLING<br>(2" AT FLANGE, 0.5"-2" VARIABLE AT CENTERLINE)<br>HMA PAVEMENT TYPE E-1 (2") |
| SW5     | CONCRETE SIDEWALK 5-INCH<br>(HIGH EARLY STRENGTH)                 | CR2   | CURB RAMP<br>TYPE  |
| AS      | ASPHALTIC SURFACE PATH  | DRW   | ASPHALT DRIVEWAY   |
| x x x x | SAWING ASPHALT  | (A)   | PAVEMENT MARKING EPOXY 4-INCH YELLOW   |
|         |   | (B)   | PAVEMENT MARKING EPOXY 4-INCH CENTERLINE YELLOW<br>(12.5' DASH, 37.5' SKIP)  |

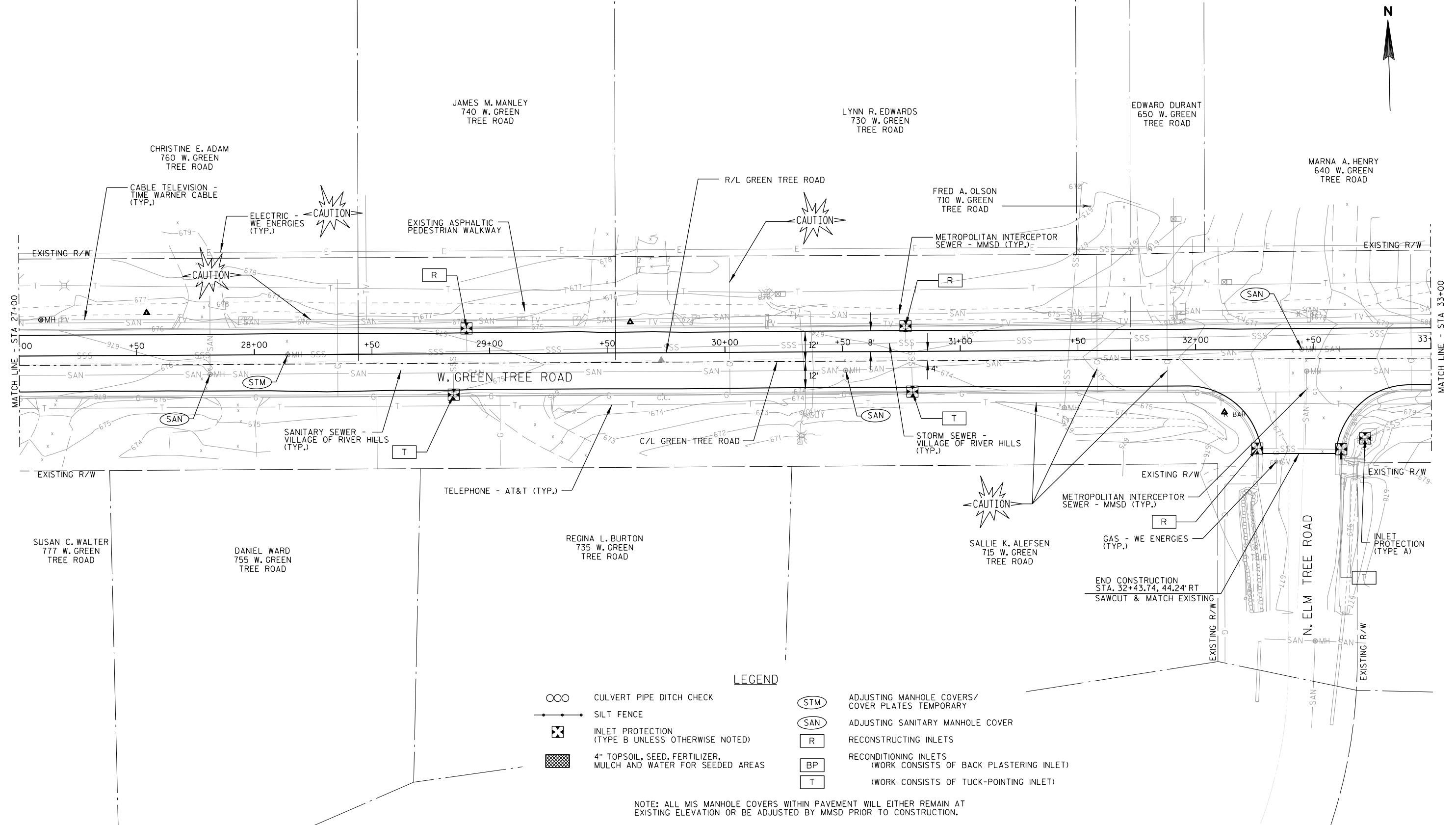




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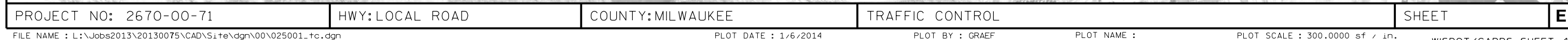






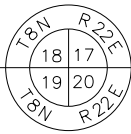






W. GOOD HOPE ROAD

SECTION LINE

Y = 339,338.797  
X = 601,652.489

SECTION LINE

N. RIVER ROAD

N. GREEN TREE COURT

CURVE = GREEN-1  
P.I. = 11+67.21  
Y = 338,063.42  
X = 601,795.53  
DELTA = 63° 34' 59" (RT)  
T = 108.47'  
L = 194.20'  
R = 175.00'  
P.C. = 10+58.74  
P.T. = 12+52.95Y = 338,061.43  
X = 601,903.98

BM #4

BM #3

BM #2

BM #1

W. GREEN TREE ROAD

1/8 SECTION LINE

BEGIN PROJECT  
STA. 10+00.00Y = 337,915.06  
X = 601,718.40

CURVE GREEN-1

Y = 337,967.18  
X = 601,745.50Y = 337,712.54  
X = 601,613.11

## BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	36+27.40, 33.22' LT	CHISELED SQUARE IN SOUTH CONCRETE BASE OF SIGN "VILLAGE OF RIVER HILLS" AT THE NORTHWEST CORNER GREEN TREE RD. AND JEAN NICOLET DR.	697.65
2	32+43.79, 15.13' LT	SET GEAR SPIKE IN SOUTH FACE OF POWER POLE #61-7358 AT THE CENTERLINE EXTENDED OF ELM TREE RD.	679.01
3	23+14.61, 13.25' LT	SET GEAR SPIKE IN SOUTH FACE OF POWER POLE #87-04902 ON THE NORTH SIDE OF GREEN TREE RD. BETWEEN HOUSE #880 AND #890.	673.31
4	18+46.45, 29.95' LT	CHISELED SQUARE IN TOP OF 24" CONCRETE PIPE ON THE NORTH END AT THE NORTHWEST CORNER OF GREEN TREE RD. AND GREEN TREE CT.	656.85
5	10+52.17, 33.14' LT	CHISELED SQUARE IN EAST CONCRETE SIGN BASE ON THE EAST SIDE OF SIGN "VILLAGE OF RIVER HILLS" AT THE SOUTHWEST CORNER OF GREEN TREE RD. AND N. RIVER RD.	642.03

## CONTROL POINTS

CONTROL POINT	NORTHING	EASTING	ELEVATION
CP-1	338,051.92	604,261.14	697.27
CP-2	337,998.92	603,862.34	676.29
CP-3	338,043.21	603,610.82	674.66
CP-4	338,051.96	603,405.41	676.58
CP-5	338,016.44	602,942.73	672.26
CP-6	338,068.07	602,586.31	662.30
CP-7	338,033.72	602,134.07	649.82
CP-8	338,069.54	601,623.98	640.40
CP-41	338,017.82	603,229.18	675.52
CP-51	338,060.60	602,749.21	668.39

END PROJECT  
STA. 37+02.15

BM #1

STA. 38+00.00  
Y = 338,014.64  
X = 604,450.61

IH-43 SB

IH-43 NB

N. JEAN  
NICOLET ROAD

N. ELM TREE ROAD

SCALE, FEET 0 100 200



DATE 12MAY14		E S T I M A T E O F Q U A N T I T I E S			
LINE		2670-00-71			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204. 0120	REMOVING ASPHALTIC SURFACE MILLING	SY	7,853.000	7,853.000
0020	204. 0150	REMOVING CURB & GUTTER	LF	71.000	71.000
0030	204. 0165	REMOVING GUARDRAIL	LF	109.000	109.000
0040	205. 0100	EXCAVATION COMMON	CY	50.000	50.000
0050	213. 0100	FINISHING ROADWAY (PROJECT) 01. 2670-00-71	EACH	1.000	1.000
0060	305. 0110	BASE AGGREGATE DENSE 3/4-INCH	TON	16.000	16.000
0070	305. 0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	48.000	48.000
0080	305. 0500	SHAPING SHOULDERS	STA	6.000	6.000
0090	440. 4410. S	INCENTIVE IRI RIDE	DOL	2,000.000	2,000.000
0100	455. 0120	ASPHALTIC MATERIAL PG64-28	TON	50.000	50.000
0110	455. 0605	TACK COAT	GAL	196.000	196.000
0120	460. 1101	HMA PAVEMENT TYPE E-1	TON	903.000	903.000
0130	460. 2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	580.000	580.000
0140	465. 0105	ASPHALTIC SURFACE	TON	18.000	18.000
0150	602. 0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	32.000	32.000
0160	611. 0430	RECONSTRUCTING INLETS	EACH	10.000	10.000
0170	611. 8110	ADJUSTING MANHOLE COVERS	EACH	5.000	5.000
0180	619. 1000	MOBILIZATION	EACH	1.000	1.000
0190	625. 0100	TOPSOIL	SY	294.000	294.000
0200	627. 0200	MULCHING	SY	294.000	294.000
0210	628. 1504	SILT FENCE	LF	316.000	316.000
0220	628. 1520	SILT FENCE MAINTENANCE	LF	316.000	316.000
0230	628. 1905	MOBILIZATIONS EROSION CONTROL	EACH	1.000	1.000
0240	628. 1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0250	628. 7005	INLET PROTECTION TYPE A	EACH	1.000	1.000
0260	628. 7010	INLET PROTECTION TYPE B	EACH	18.000	18.000
0270	628. 7555	CULVERT PIPE CHECKS	EACH	3.000	3.000
0280	629. 0210	FERTILIZER TYPE B	CWT	1.300	1.300
0290	630. 0140	SEEDING MIXTURE NO. 40	LB	5.000	5.000
0300	643. 0100	TRAFFIC CONTROL (PROJECT) 01. 2670-00-71	EACH	1.000	1.000
0310	643. 0900	TRAFFIC CONTROL SIGNS	DAY	221.000	221.000
0320	646. 0106	PAVEMENT MARKING EPOXY 4-INCH	LF	924.000	924.000
0330	650. 5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	71.000	71.000
0340	650. 8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	2,702.000	2,702.000
0350	650. 9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2670-00-71	LS	1.000	1.000
0360	690. 0150	SAWING ASPHALT	LF	215.000	215.000
0370	SPV. 0060	SPECIAL .01 RECONDITIONING INLETS	EACH	8.000	8.000
0380	SPV. 0060	SPECIAL .02 ADJUST SANITARY MANHOLE COVER	EACH	11.000	11.000
0390	SPV. 0090	SPECIAL .01 CONCRETE CURB & GUTTER 31-INCH TYPE D (HIGH EARLY STRENGTH)	LF	71.000	71.000
0400	SPV. 0120	SPECIAL .01 WATER FOR SEEDED AREAS	MGAL	7.000	7.000
0410	SPV. 0165	SPECIAL .01 CONCRETE SIDEWALK 5-INCH (HIGH EARLY STRENGTH)	SF	205.000	205.000

3

REMOVING ASPHALTIC SURFACE MILLING			
STREET	FROM	TO	204.0120 SY
GREEN TREE ROAD	10+00	- 37+02	7,853
PROJECT TOTAL			7,853

REMOVING GUARDRAIL			
STREET	FROM	TO	204.0165 LF
GREEN TREE ROAD	11+36	- 12+29	109
PROJECT TOTAL			109

3

REMOVING CURB & GUTTER			
STREET	FROM	TO	204.0150 LF
GREEN TREE ROAD UNDISTRIBUTED	15+00	- 21+00	56 15
PROJECT TOTAL			71

BASE AGGREGATE DENSE 3/4 INCH			
STREET	FROM	TO	305.0110 TON
GREEN TREE ROAD	10+00	- 12+58	16
PROJECT TOTAL			16

EARTHWORK SUMMARY - CATEGORY 0010

Stage	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/ Unusable Pavement Material (3)	Available Material (4)	Unexpanded Fill	Expanded Fill (13)  Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (15)	Comment:
			Cut (2)	EBS Excavation								
Stage 1	10+00 to 37+02	GREEN TREE ROAD	50	0	0	50	0	0	50	50	-	
CATEGORY 0010 SUBTOTAL			50	0								
			Total Common Exc	50	0	50	0	0	50	50	-	

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 3) Salvaged/Unusable Pavement Material
- 4) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 13) Expanded Fill. Factor = 1.25
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
- 15) Borrow Excavation

ALL BID ITEMS ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED.

3

BASE AGGREGATE DENSE 1 1/4-INCH					305.0120
STREET	STATION	TO	STATION	LOCATION	TON
GREEN TREE	10+00	-	3702	MAINLINE	48
PROJECT TOTAL					48

CURB RAMP DETECTABLE WARNING FIELD YELLOW					602.0505
STREET	FROM		TO		SF
GREEN TREE ROAD	10+62	-	10+66		8
GREEN TREE ROAD	11+21	-	11+25		8
GREEN TREE ROAD	18+75	-	18+79		8
GREEN TREE ROAD	19+26	-	19+30		8
PROJECT TOTAL					32

3

SHAPING SHOULDERS				305.0500
LOCATION	FROM		TO	STA
GREEN TREE ROAD	10+00	-	12+58	6
PROJECT TOTAL				6

RECONSTRUCTING INLETS				611.0430
LOCATION	STATION	OFFSET		EACH
GREEN TREE ROAD	12+63	10.4' LT		1
GREEN TREE ROAD	15+40	10.4' LT		1
GREEN TREE ROAD	15+54	17.6' RT		1
GREEN TREE ROAD	18+34	17.6' RT		1
GREEN TREE ROAD	19+48	10.9' LT		1
GREEN TREE ROAD	21+29	10.6' LT		1
GREEN TREE ROAD	24+05	10.6' LT		1
GREEN TREE ROAD	28+90	10.8' LT		1
GREEN TREE ROAD	30+77	10.8' LT		1
GREEN TREE ROAD	32+26	42.0' RT		1
PROJECT TOTAL				10

ASPHALTIC PAVEMENT						
ROADWAY	FROM	TO	LOCATION	455.0120 ASPHALTIC MATERIAL PG64-28 (TON)	455.0605 TACK COAT (GAL)	460.1101 HMA PAVEMENT TYPE E-1 (TON)
GREEN TREE ROAD	10+00	-	37+02	50	196	903
PROJECT TOTALS				50	196	903

ADJUSTING MANHOLE COVERS				611.8110
STREET	STATION	OFFSET		ADJUSTING MANHOLE COVERS EACH
GREEN TREE ROAD	12+64	2' RT		1
GREEN TREE ROAD	18+34	2' RT		1
GREEN TREE ROAD	23+15	1' LT		1
GREEN TREE ROAD	28+14	0' LT		1
GREEN TREE ROAD	33+14	7' LT		1
PROJECT TOTAL				5

ASPHALTIC SURFACE					465.0105
ROADWAY	FROM	TO	LOCATION		(TON)
GREEN TREE ROAD	10+00	-	37+02	ASPHALTIC PATH	18
PROJECT TOTALS					18

MOBILIZATION		619.1000
LOCATION		EACH
GREEN TREE ROAD		1
PROJECT TOTAL		1

ALL BID ITEMS ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED.

3

TOPSOIL			
STREET	FROM	TO	625.0100 SY
GREEN TREE ROAD	10+50	11+33	14
GREEN TREE ROAD	18+27	20+31	225
UNDISTRIBUTED			56
PROJECT TOTAL			294

CULVERT PIPE CHECKS			
STREET	FROM	TO	628.7555 EACH
GREEN TREE ROAD	10+00	15+00	1
GREEN TREE ROAD	15+00	21+00	2
PROJECT TOTALS			3

3

MULCHING			
STREET	FROM	TO	627.0200 SY
GREEN TREE ROAD	10+50	11+33	14
GREEN TREE ROAD	18+27	20+31	225
UNDISTRIBUTED			56
PROJECT TOTAL			294

SEEDING QUANTITIES				
STREET	FROM	TO	630.0140 SEEDING MIXTURE NO. 40 LB	629.0210 FERTILIZER TYPE B CWT
GREEN TREE ROAD	10+50	11+33	0.2	0.1
GREEN TREE ROAD	18+27	20+31	4	1.0
UNDISTRIBUTED			1	0.2
PROJECT TOTALS			5	1.3

SILT FENCE				
STREET	FROM	TO	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
GREEN TREE ROAD	10+00	15+00	40	40
GREEN TREE ROAD	15+00	21+00	176	176
UNDISTRIBUTED			100	100
PROJECT TOTALS			316	316

EROSION CONTROL MOBILIZATIONS		
LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
GREEN TREE ROAD	1	1
PROJECT TOTAL	1	1

TRAFFIC CONTROL (2670-00-71)	
LOCATION	643.0100 EACH
GREEN TREE ROAD	1
PROJECT TOTAL	1

INLET PROTECTION				
STREET	FROM	TO	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH
GREEN TREE ROAD	10+00	15+00	0	2
GREEN TREE ROAD	15+00	21+00	0	4
GREEN TREE ROAD	21+00	27+00	0	4
GREEN TREE ROAD	27+00	33+00	1	6
GREEN TREE ROAD	33+00	37+02	0	2
PROJECT TOTALS			1	18

TRAFFIC CONTROL			
LOCATION	DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	DAYS
GREEN TREE ROAD			
PRE-STAGE	1	13	13
STAGE 1	11	13	143
STAGE 2	5	13	65
PROJECT TOTAL	17	39	221

ALL BID ITEMS ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED.

PROJECT NO: 2670-00-71

HWY: LOCAL ROAD

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

SHEET

E

3

PAVEMENT MARKING							
646.0106							
		EPOXY 4-INCH 12.5' DASH - 37.5' SKIP			EPOXY 4-INCH YELLOW		
STREET	LOCATION		LF			LF	
GREEN TREE ROAD	10+00	-	37+02	586			338
SUBTOTAL				586			338
PROJECT TOTAL				924			

CONCRETE CURB & GUTTER 31-INCH TYPE D (HIGH EARLY STRENGTH)				
		SPV.0090.01		
STREET	FROM	TO	LF	
GREEN TREE ROAD	18+57	- 19+33	56	
UNDISTRIBUTED			15	
PROJECT TOTAL			71	

3

CONSTRUCTION STAKING				
ITEM	QUANTITY	UNIT	DESCRIPTION	CATEGORY
650.5500	71	LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	0010
650.8000	2,702	LF	CONSTRUCTION STAKING RESURFACING REFERENCE	0010
650.9910	1	LS	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (2670-00-71)	0010

WATER FOR SEEDED AREAS			
		SPV.0120.01	
STREET	FROM	TO	MGAL
GREEN TREE ROAD	10+50	11+33	0.3
GREEN TREE ROAD	18+27	20+31	5
UNDISTRIBUTED			1
PROJECT TOTAL			7

SAWING ASPHALT				
				690.0150
STREET	STATION	TO STATION		LF
GREEN TREE ROAD	10+00	-	15+00	107
GREEN TREE ROAD	15+00	-	21+00	35
GREEN TREE ROAD	21+00	-	27+00	-
GREEN TREE ROAD	27+00	-	33+00	31
GREEN TREE ROAD	33+00	-	37+02	42
PROJECT TOTAL				215

CONCRETE SIDEWALK 5-INCH (HIGH EARLY STRENGTH)				
		SPV.0165.01		
STREET	FROM	TO	SF	
GREEN TREE ROAD	10+58	- 10+70	58	
GREEN TREE ROAD	11+21	- 11+26	43	
GREEN TREE ROAD	18+71	- 18+81	52	
GREEN TREE ROAD	19+23	- 19+34	52	
PROJECT TOTAL			205	

RECONDITIONING INLETS					
					SPV.0060.01
LOCATION	STATION	OFFSET	WORK TYPE		EACH
GREEN TREE ROAD	12+64	17.8 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	21+24	17.4 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	23+95	17.2 ' RT	BACK PLATERING		1
GREEN TREE ROAD	28+85	17.3 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	30+80	17.1 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	32+62	42.5 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	33+14	17.2 ' RT	TUCK-POINTING		1
GREEN TREE ROAD	33+19	10.7 ' LT	TUCK-POINTING		1
PROJECT TOTAL					8

ADJUST SANITARY MANHOLE COVERS				
		CAT 0020 SPV.0060.02		
LOCATION	STATION	OFFSET	EACH	
GREEN TREE ROAD	11+92	4.8' RT	1	
GREEN TREE ROAD	12+46	9.6' RT	1	
GREEN TREE ROAD	15+74	10.1' RT	1	
GREEN TREE ROAD	18+92	10.4' RT	1	
GREEN TREE ROAD	22+21	8.6' RT	1	
GREEN TREE ROAD	25+11	8.3' RT	1	
GREEN TREE ROAD	27+81	8.2' RT	1	
GREEN TREE ROAD	30+51	7.9' RT	1	
GREEN TREE ROAD	32+45	0.1' LT	1	
GREEN TREE ROAD	34+53	0.3' LT	1	
GREEN TREE ROAD	36+38	1.6' LT	1	
PROJECT TOTAL			11	

ALL BID ITEMS ARE CATEGORY 0010  
UNLESS OTHERWISE NOTED.

PROJECT NO: 2670-00-71

HWY: LOCAL ROAD

COUNTY: MILWAUKEE

MISCELLANEOUS QUANTITIES

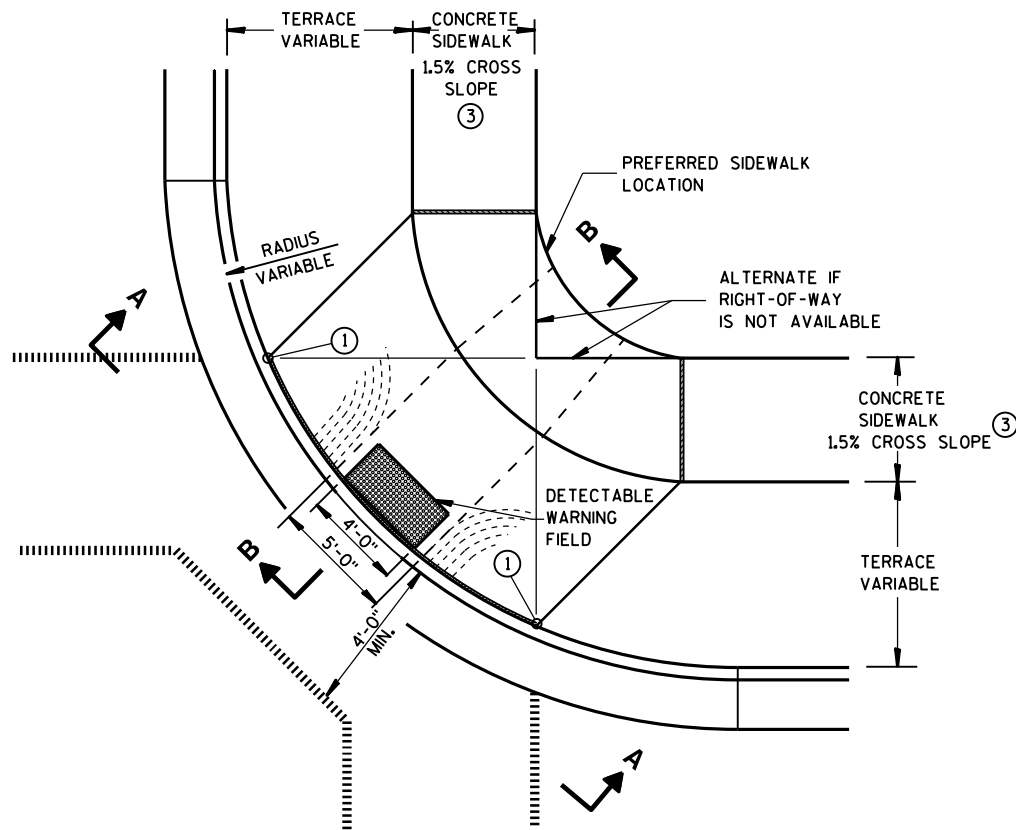
SHEET

E

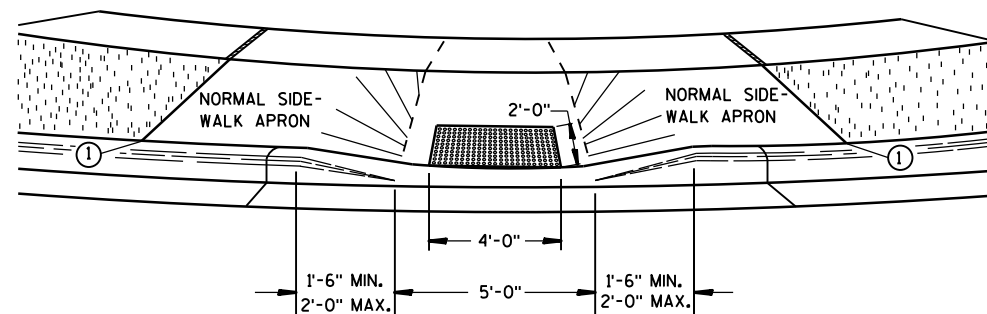
Standard Detail Drawing List

08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

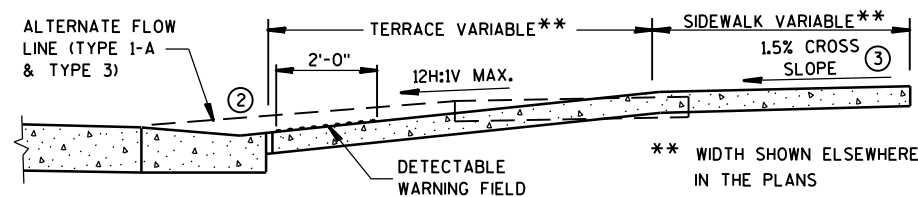




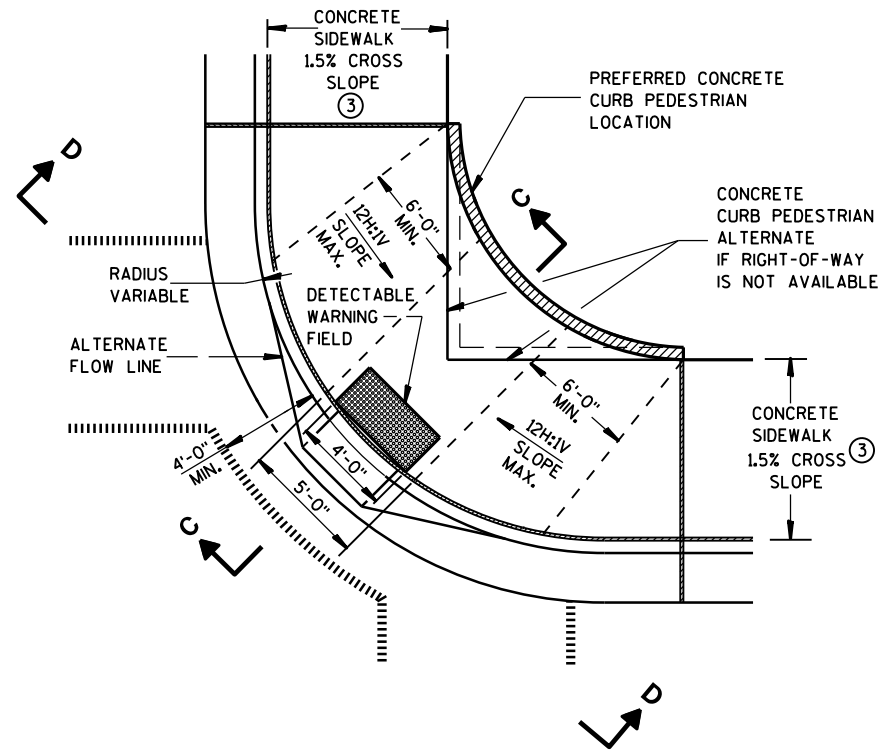
**PLAN VIEW  
TYPE 1 RAMP**  
(CENTER OF CORNER RADIUS)



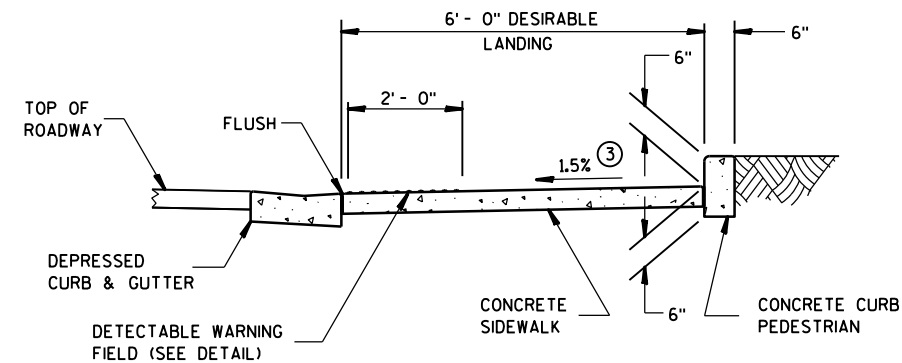
**VIEW A-A**



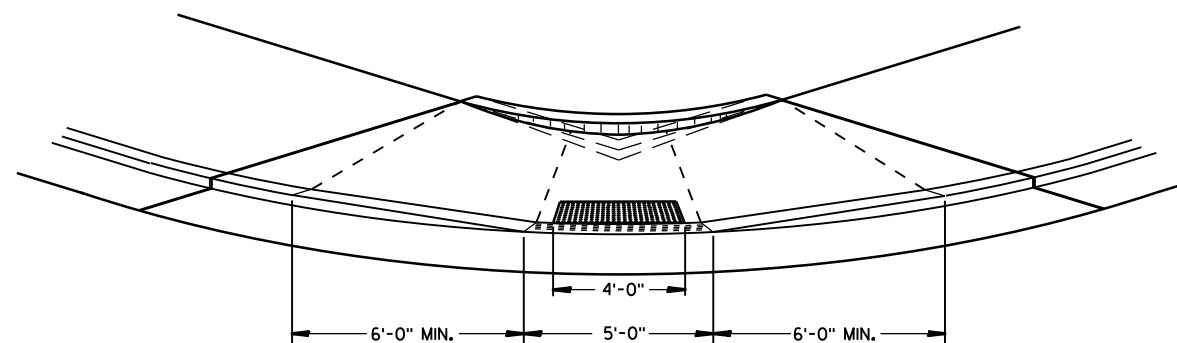
**SECTION B-B**



**PLAN VIEW  
TYPE 1-A RAMP**  
(NO TERRACE)



**SECTION C-C**



**VIEW D-D**

## 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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

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

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

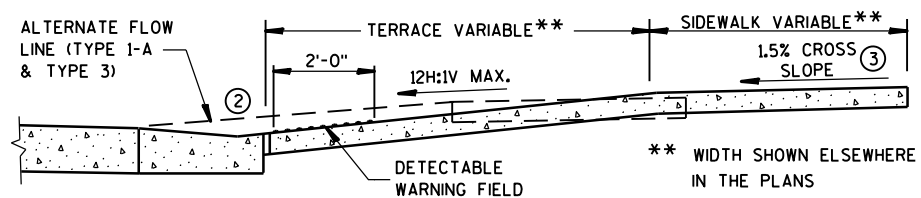
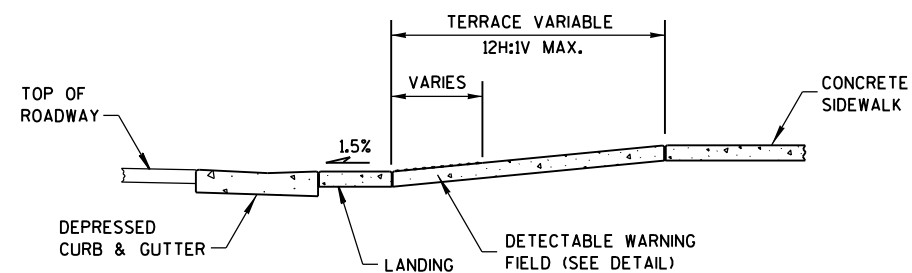
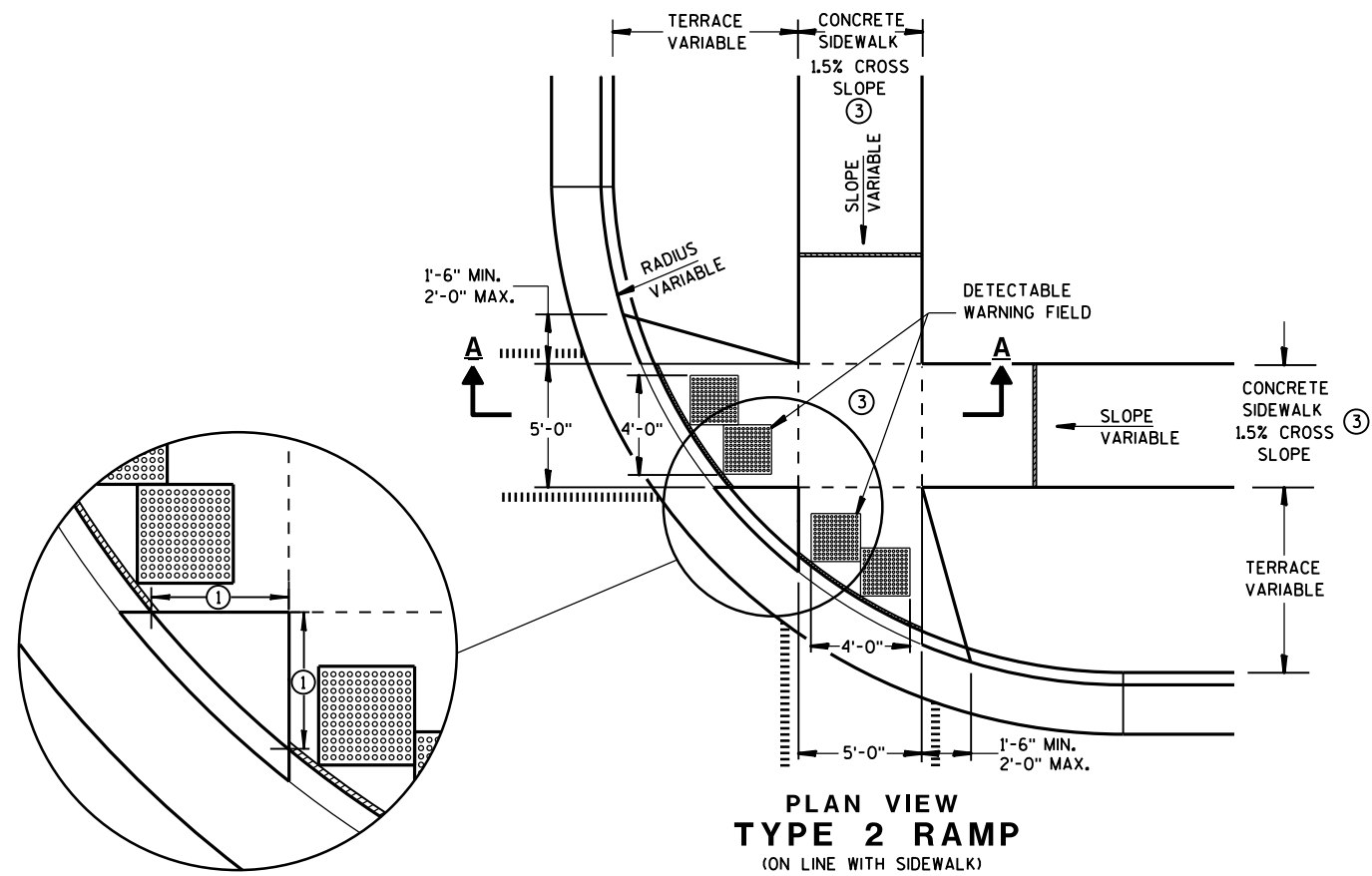
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

## LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS  
TYPES 1 AND 1-A**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



## GENERAL NOTES

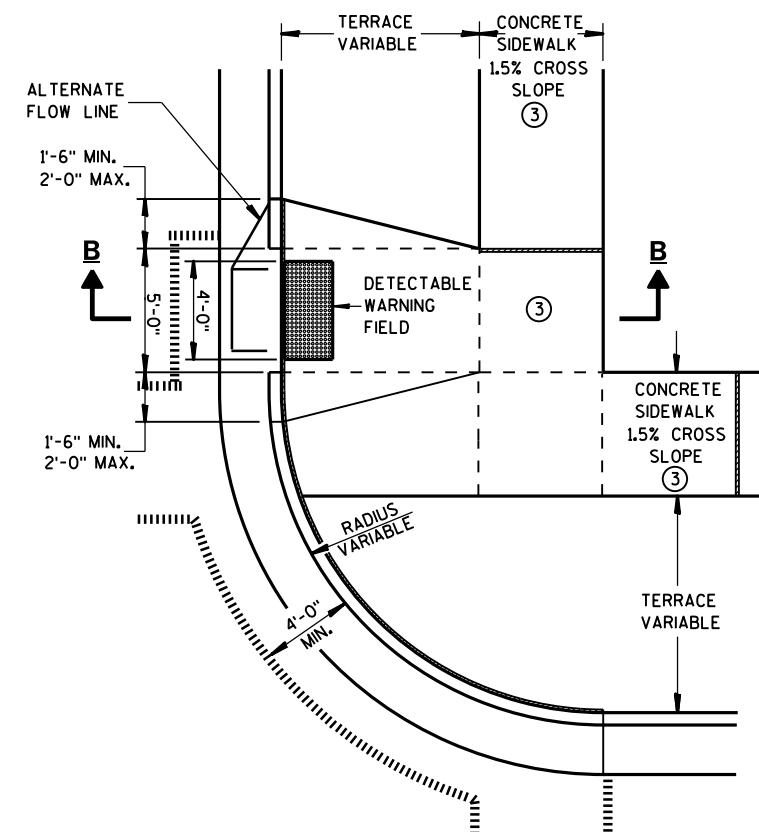
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

## LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



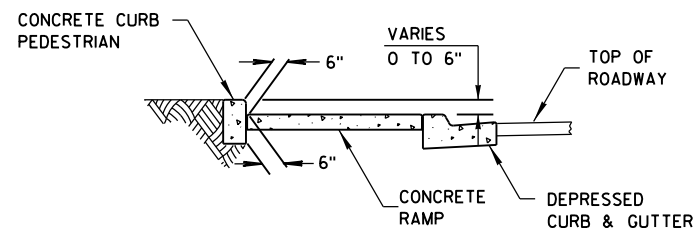
**PLAN VIEW  
TYPE 3 RAMP  
(OUTSIDE OF CROSSWALK AREA)**

**CURB RAMPS  
TYPES 2 AND 3**

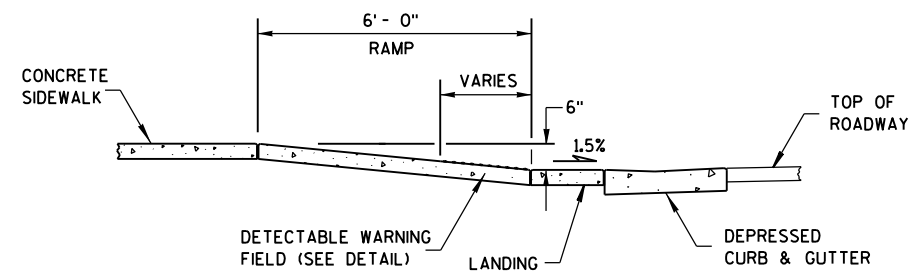
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4A**  
**PLAN VIEW**



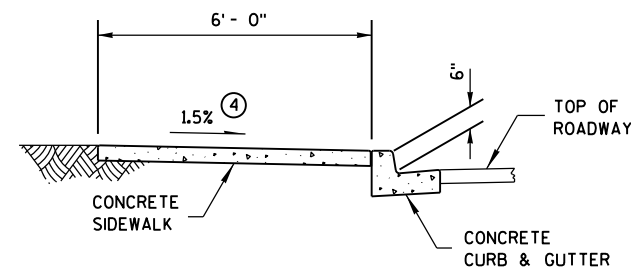
**SECTION C-C FOR TYPE 4A**



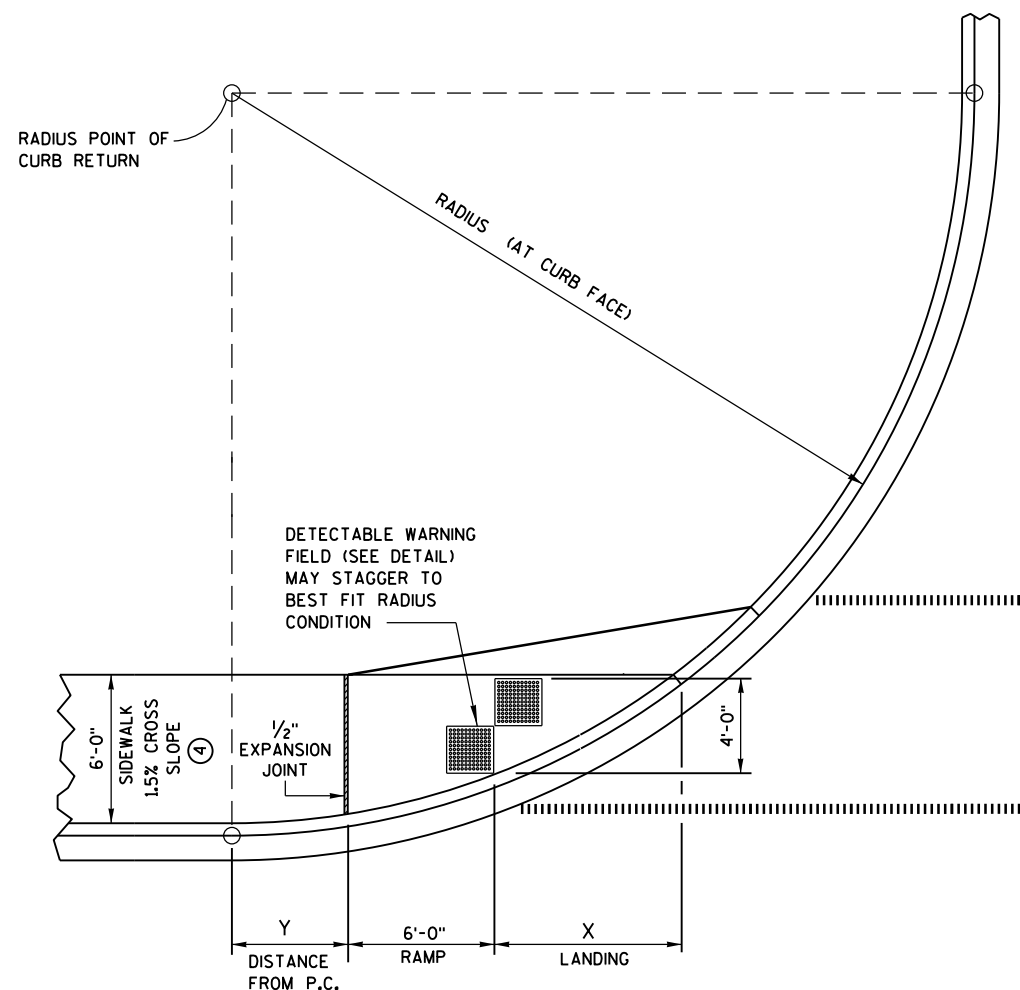
**SECTION B-B FOR TYPE 4A**

<b>RADIUS (AT CURB FACE)</b>	<b>X</b>	<b>Y</b>
<b>20 FEET</b>	6'-1 $\frac{3}{4}$ "	2'-7 $\frac{1}{4}$ "
<b>30 FEET</b>	7'-11 $\frac{3}{4}$ "	4'-8 $\frac{1}{4}$ "
<b>40 FEET</b>	9'-5 $\frac{1}{4}$ "	6'-5"
<b>50 FEET</b>	10'-8 $\frac{3}{4}$ "	7'-11 $\frac{1}{4}$ "
<b>60 FEET</b>	11'-10 $\frac{1}{4}$ "	9'-3 $\frac{1}{2}$ "

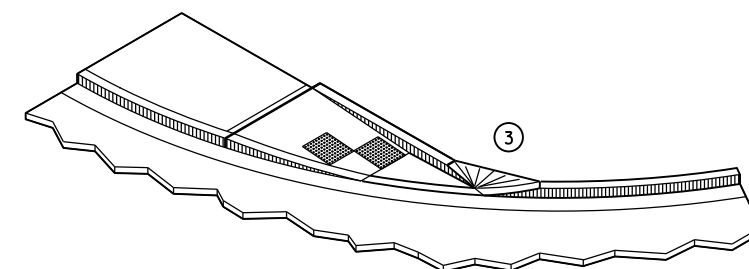
## INTERMEDIATE RADII CAN BE INTERPOLATED



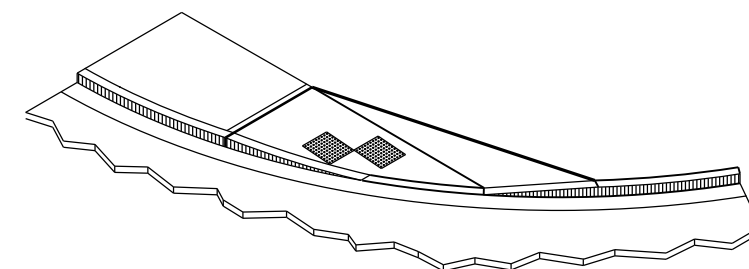
**SECTION A-A FOR TYPE 4A**



**CURB RAMP TYPE 4A1**  
**PLAN VIEW**





**ISOMETRIC VIEW FOR TYPE 4A**



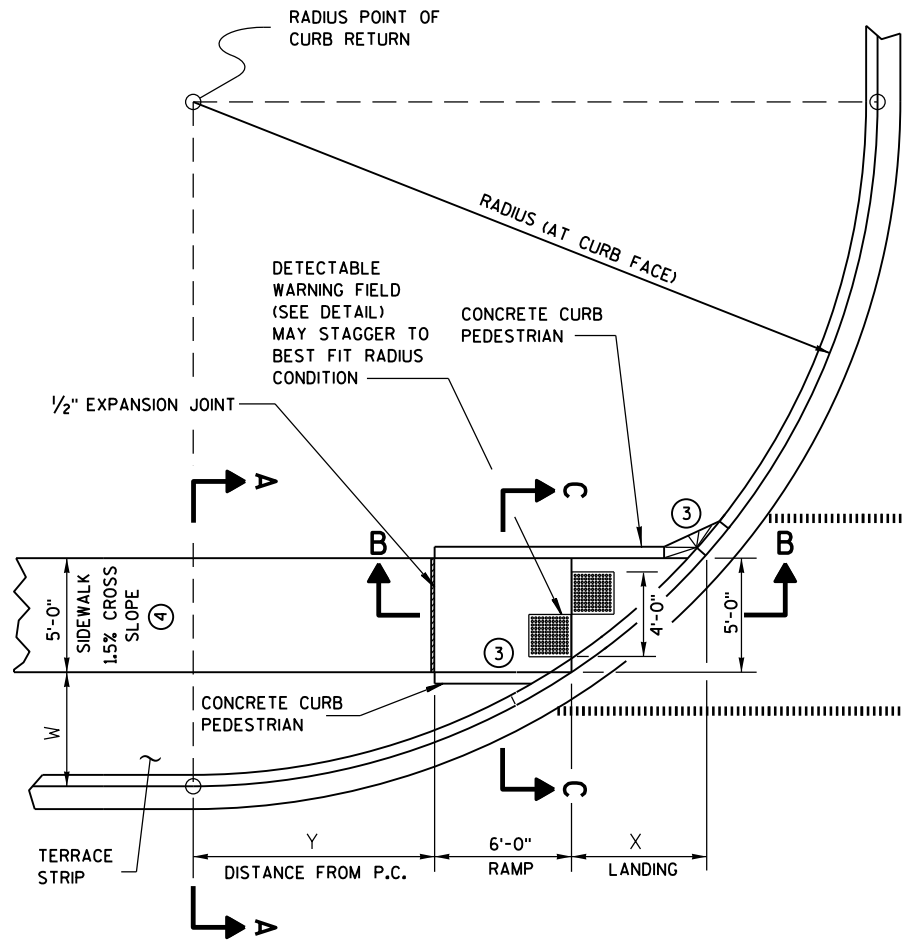
**ISOMETRIC VIEW FOR TYPE 4A1**

## LEGEND

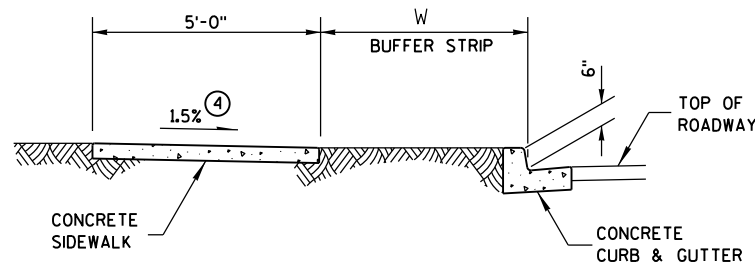
-  1/2" EXPANSION JOINT-SIDEWALK  
 CONTRACTION JOINT FIELD LOCATED  
 PAVEMENT MARKING CROSSWALK (WHITE)

## CURB RAMPS TYPES 4A AND 4A1

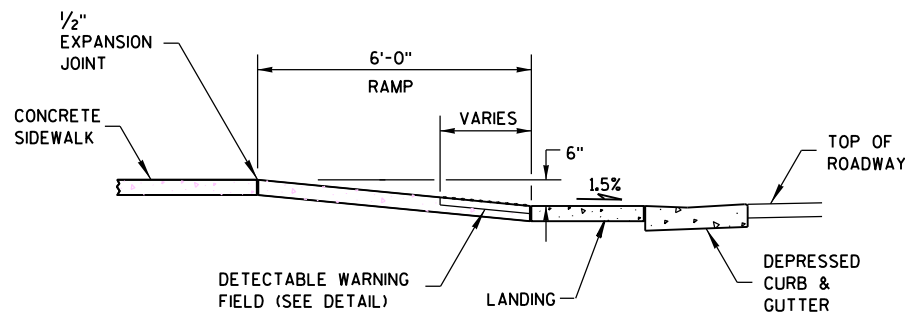
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B  
PLAN VIEW**



**SECTION A-A FOR TYPE 4B**

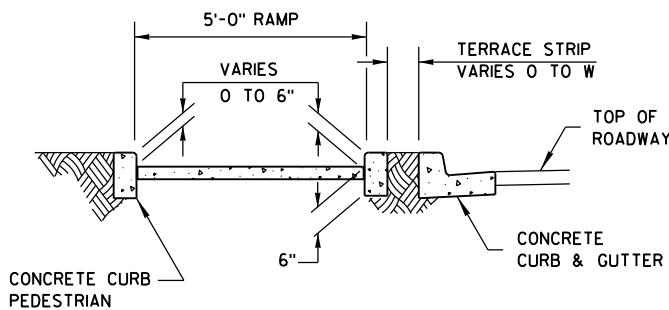


**SECTION B-B FOR TYPE 4B**

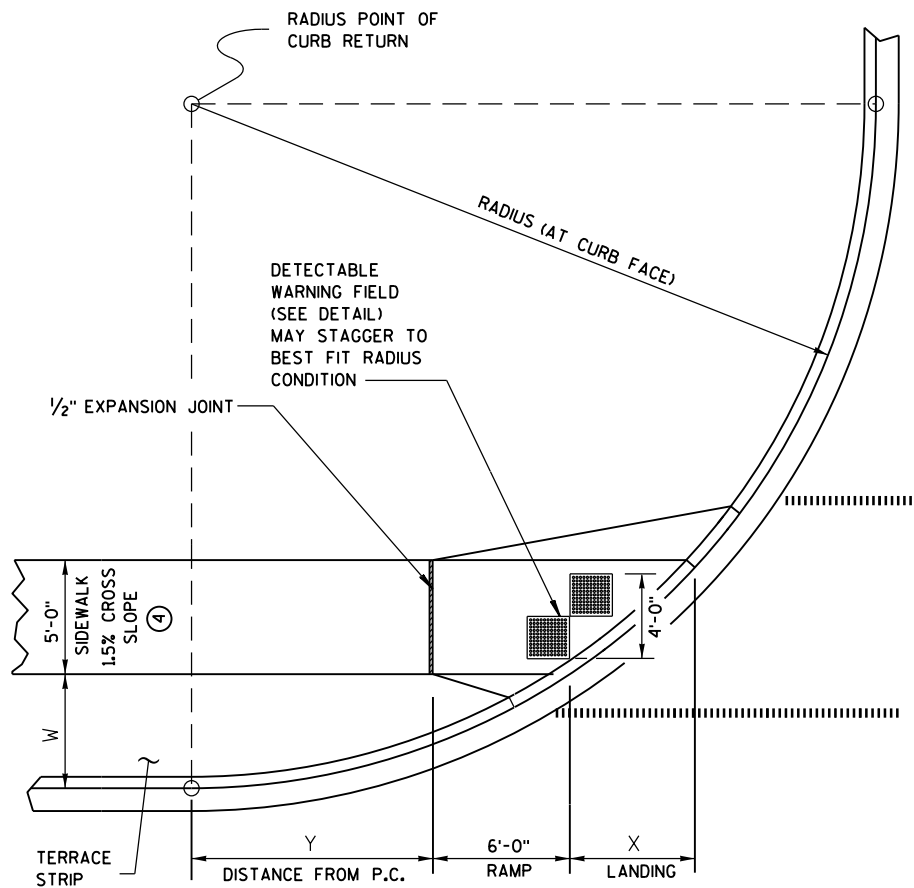
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
  - - - CONTRACTION JOINT FIELD LOCATED
  - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



**SECTION C-C FOR TYPE 4B**



**CURB RAMP TYPE 4B1  
PLAN VIEW**

**GENERAL NOTES**

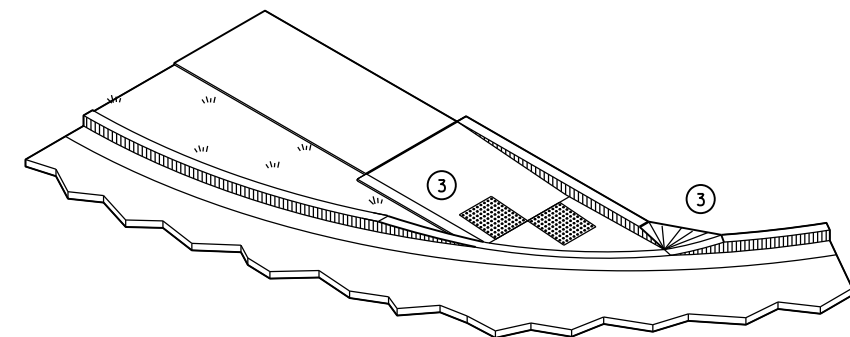
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

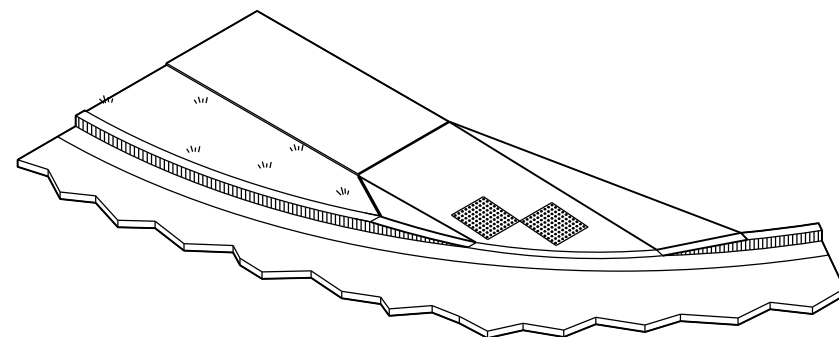
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



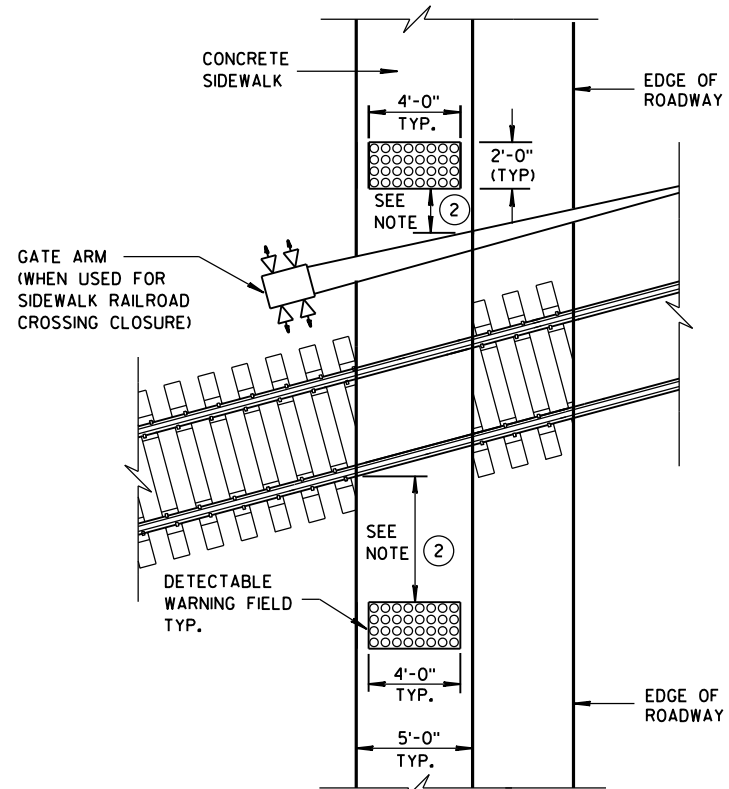
**ISOMETRIC VIEW FOR TYPE 4B**



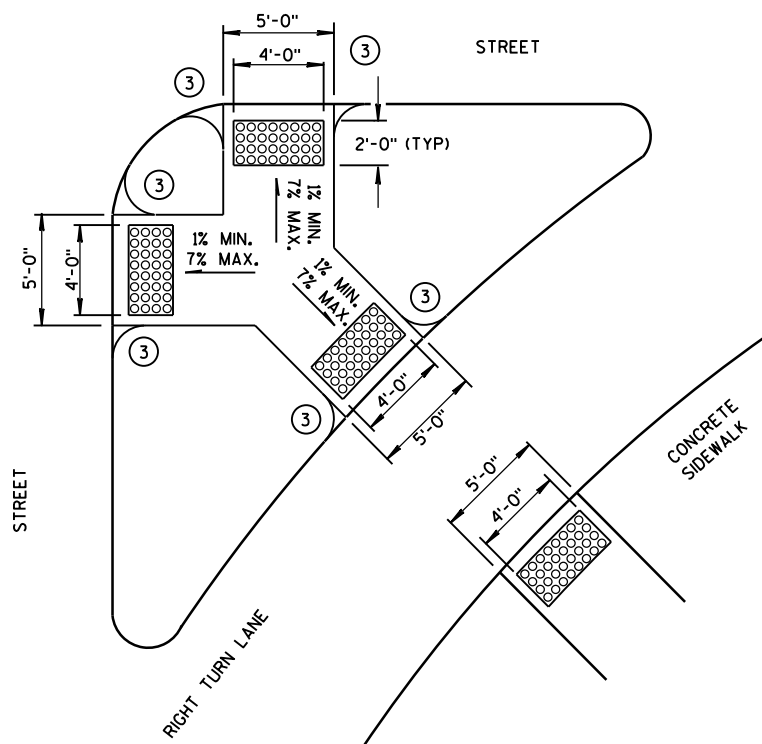
**ISOMETRIC VIEW FOR TYPE 4B1**

**CURB RAMPS  
TYPE 4B AND 4B1**

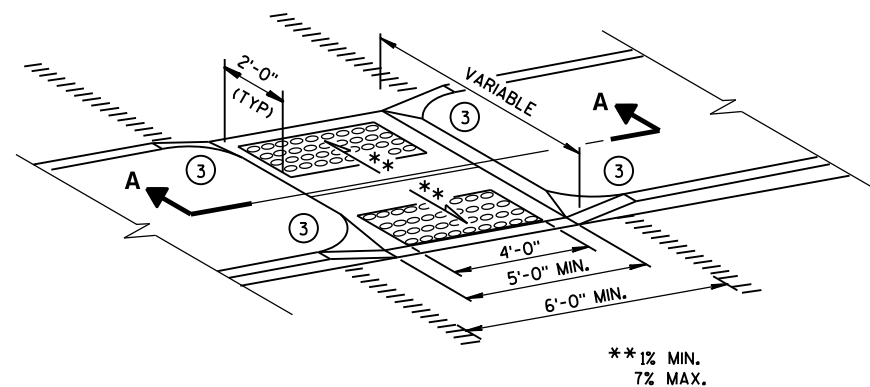
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



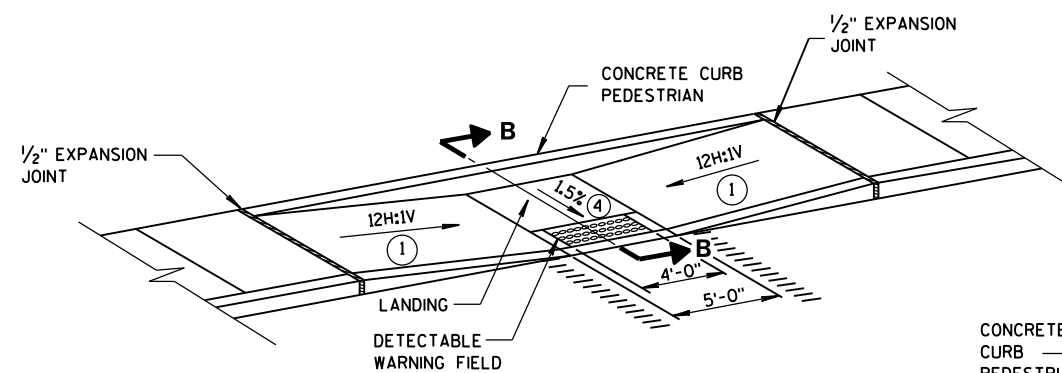
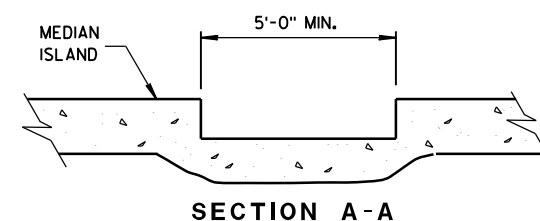
**TYPE 8**  
**DETECTABLE WARNINGS**  
**AT RAILROAD CROSSING**



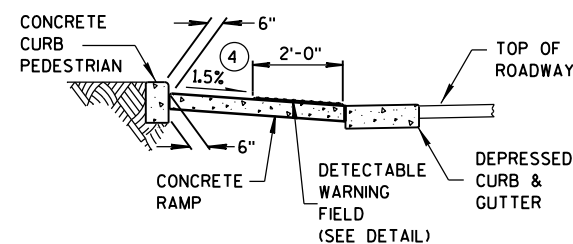
**TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**



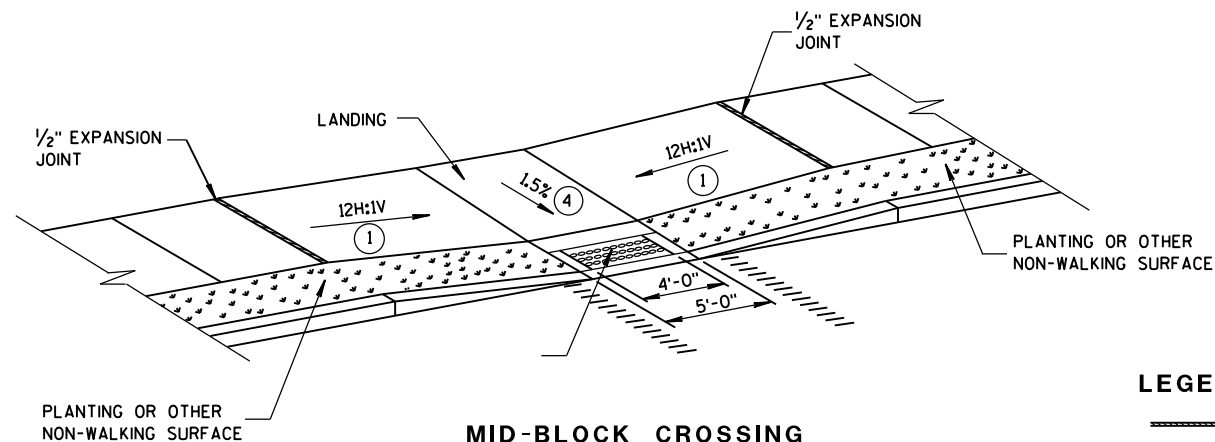
**MEDIAN ISLAND**  
**NON-ELEVATED CROSSING**  
**TYPE 5**



**MID-BLOCK CROSSING**  
**TYPE 7A**



**SECTION B-B**



**MID-BLOCK CROSSING**  
**TYPE 7B**

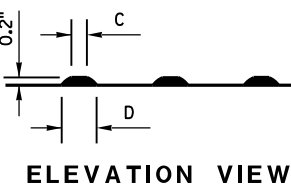
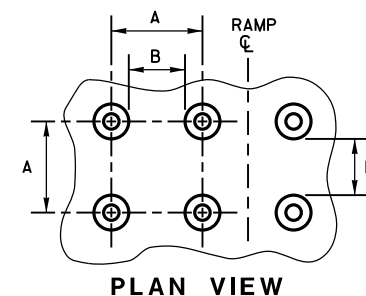
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

## GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

- ① SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- ② THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET  $\pm$  0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ④  $\pm$ 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

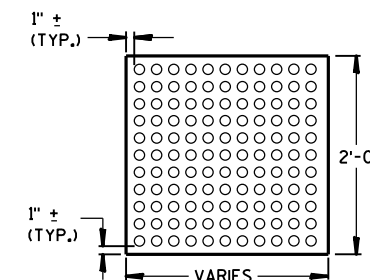


	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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

## TRUNCATED DOMES

### DETECTABLE WARNING PATTERN DETAIL



**PLAN VIEW**  
**DETECTABLE WARNING**  
**FIELD (TYPICAL)**

## LEGEND

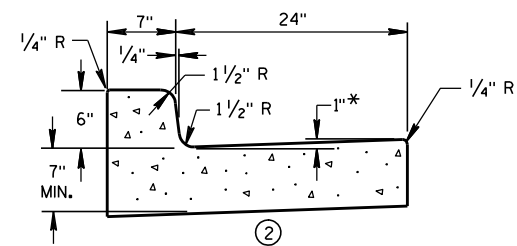
- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

**CURB RAMPS**  
**TYPES 5, 6, 7A, 7B & 8**

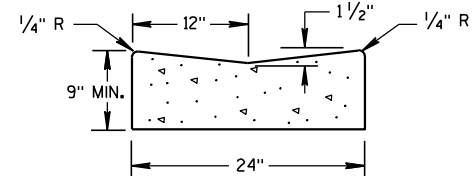
**STATE OF WISCONSIN**  
**DEPARTMENT OF TRANSPORTATION**

**APPROVED**  
2-6-2013  
DATE  
FHWA

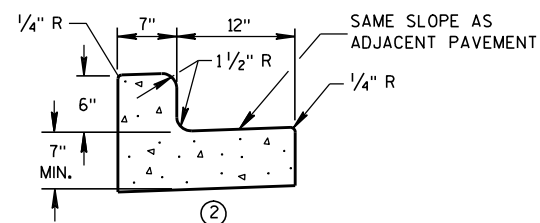
/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



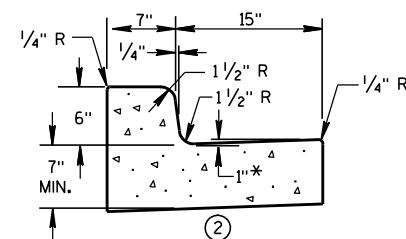
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

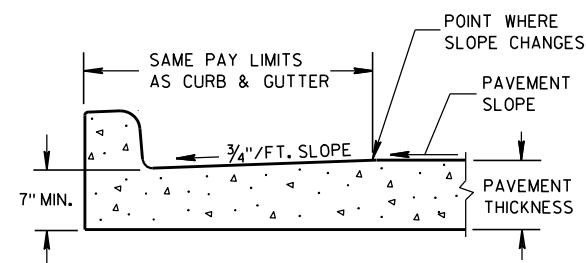


① CONCRETE CURB & GUTTER 19"

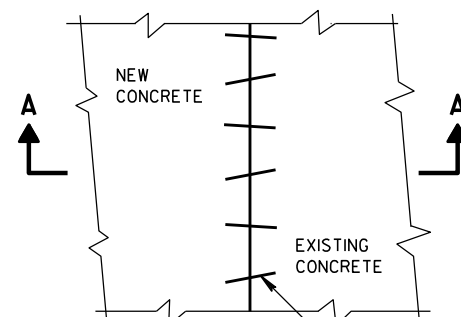


① CONCRETE CURB & GUTTER 22"

\* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



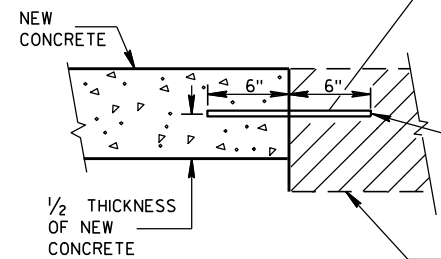
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

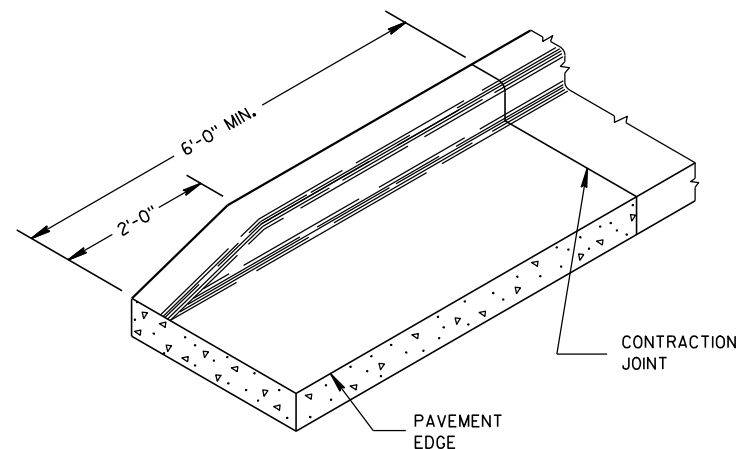
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



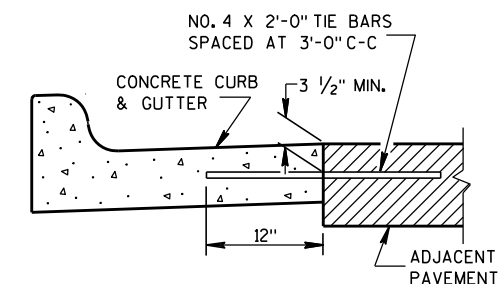
SECTION A-A  
PAVEMENT TIES

THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

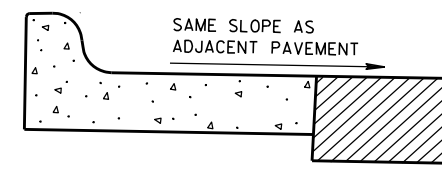
EXISTING CONCRETE



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION  
(TYPICAL FOR ALL CURB & GUTTER)

## 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. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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 COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

- ① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.

CONCRETE GUTTER, CURB AND  
GUTTER AND PAVEMENT TIES  
(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

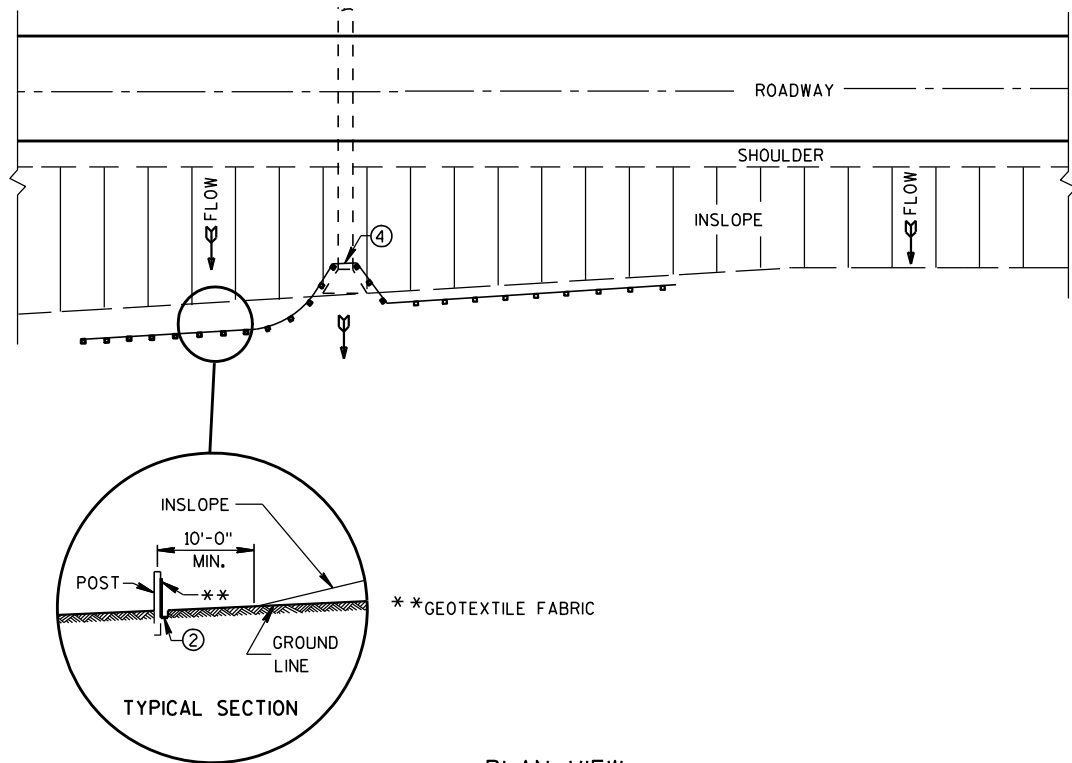
11/22/2010

DATE

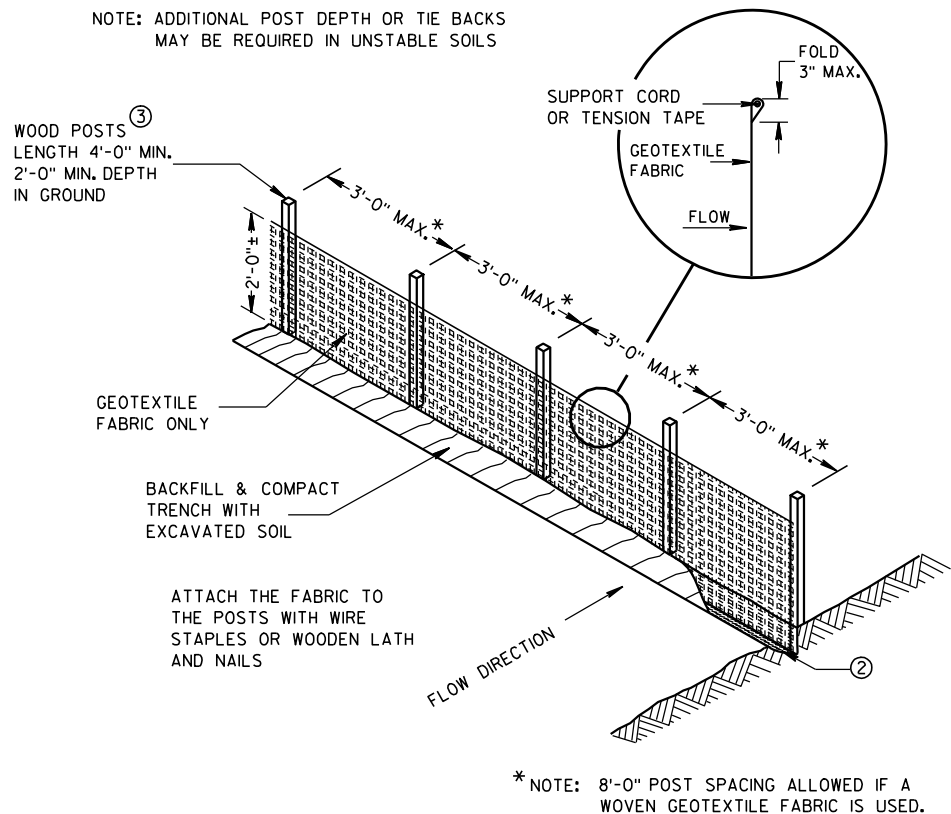
FHWA

/S/ Jerry Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

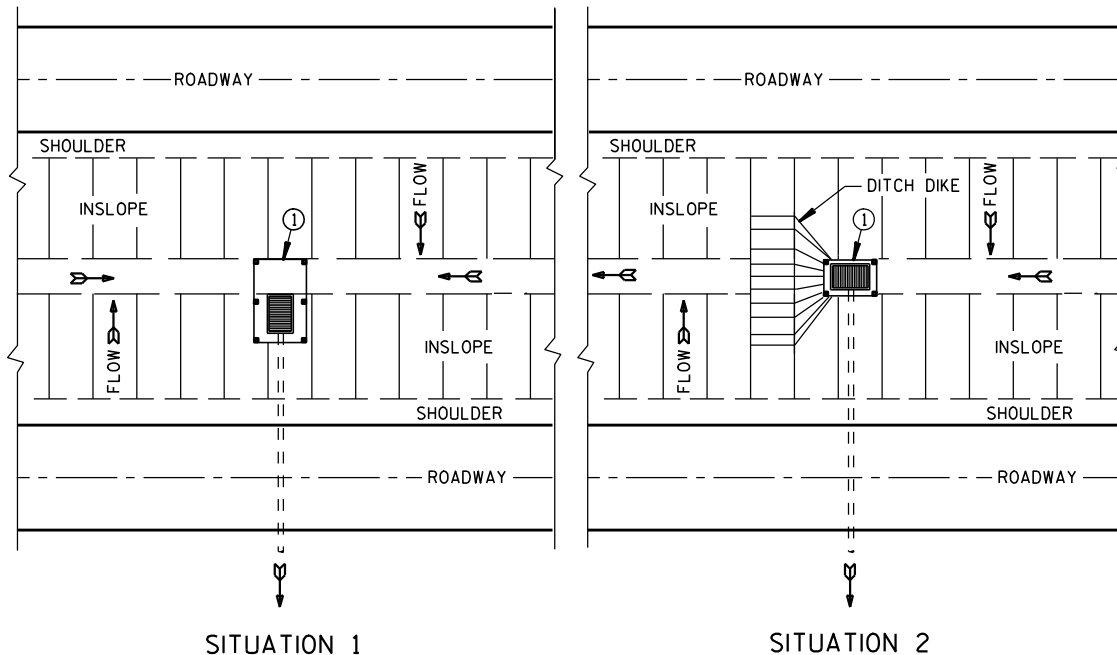




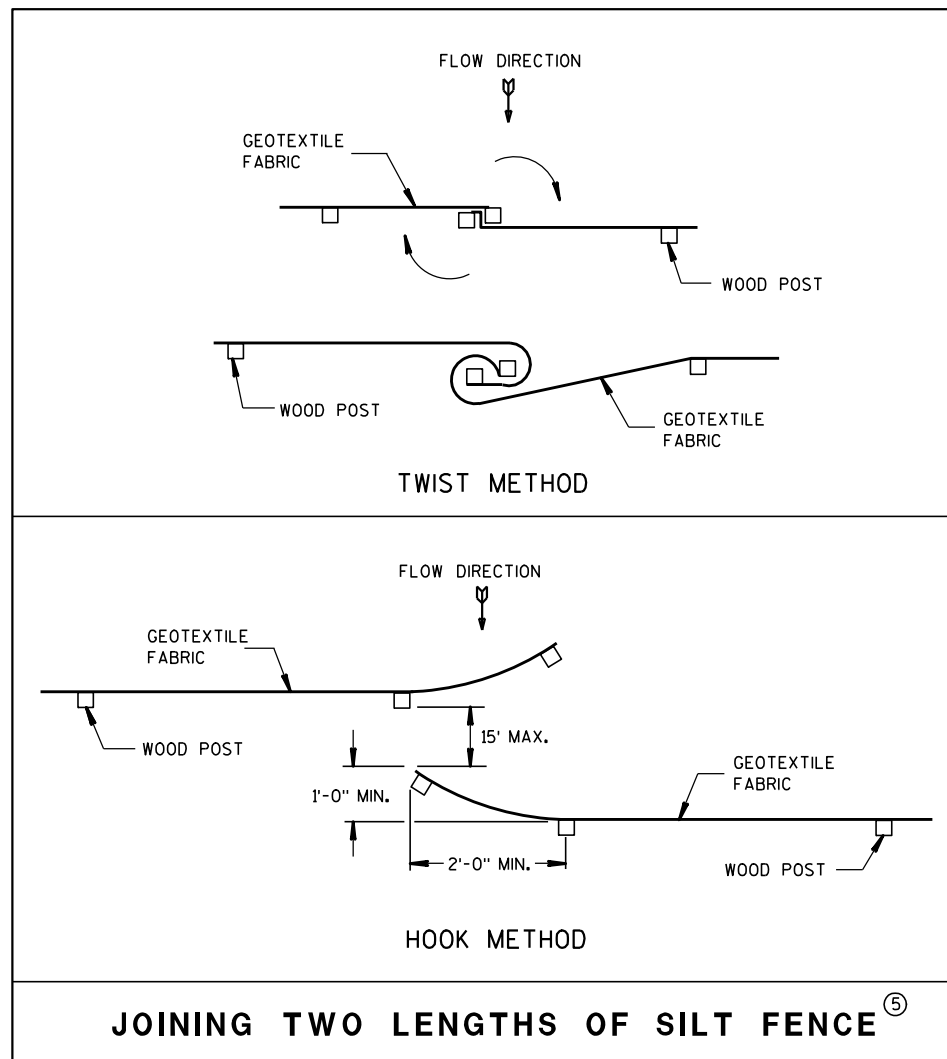
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

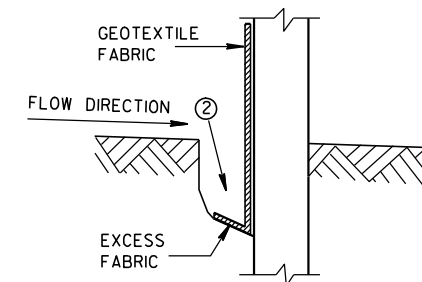


JOINING TWO LENGTHS OF SILT FENCE ⑤

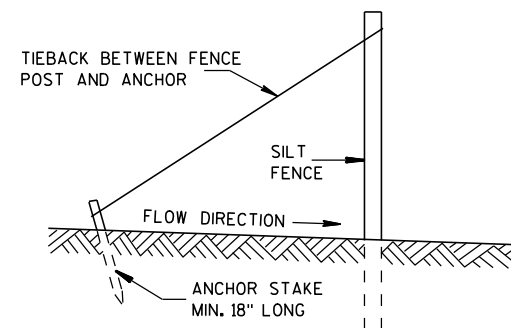
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" 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.

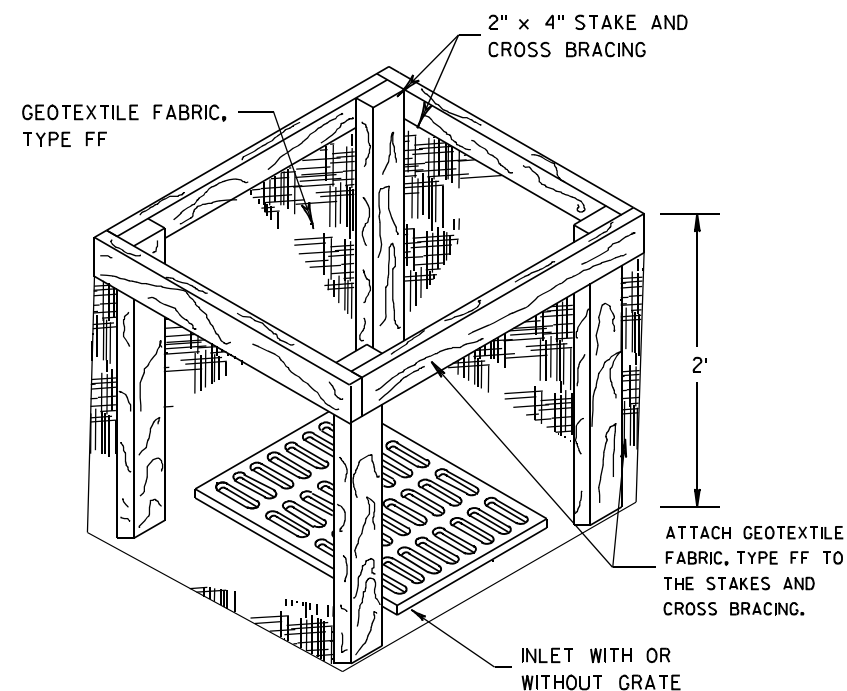
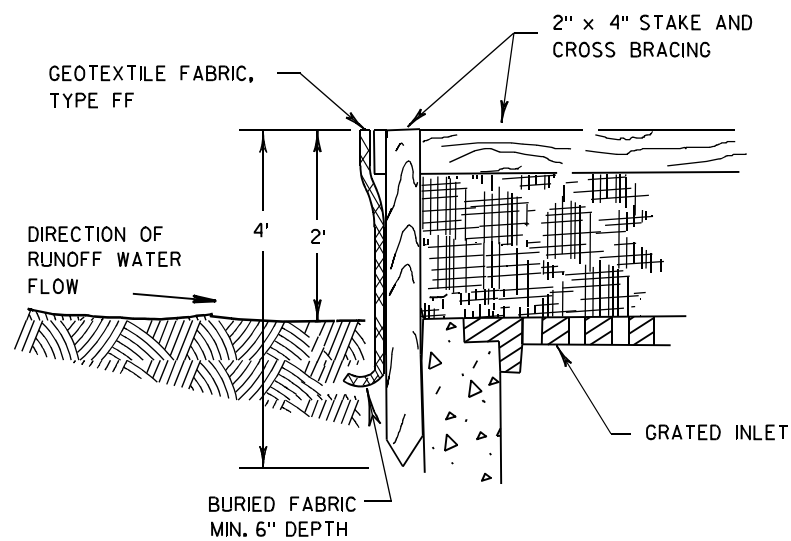


TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

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



**INLET PROTECTION, TYPE A**

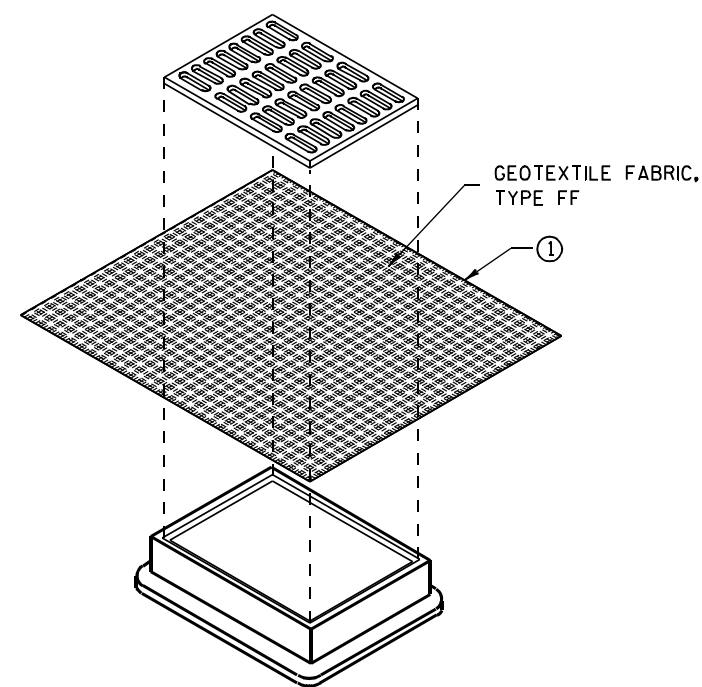
**GENERAL NOTES**

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 SUBSTITUTED.

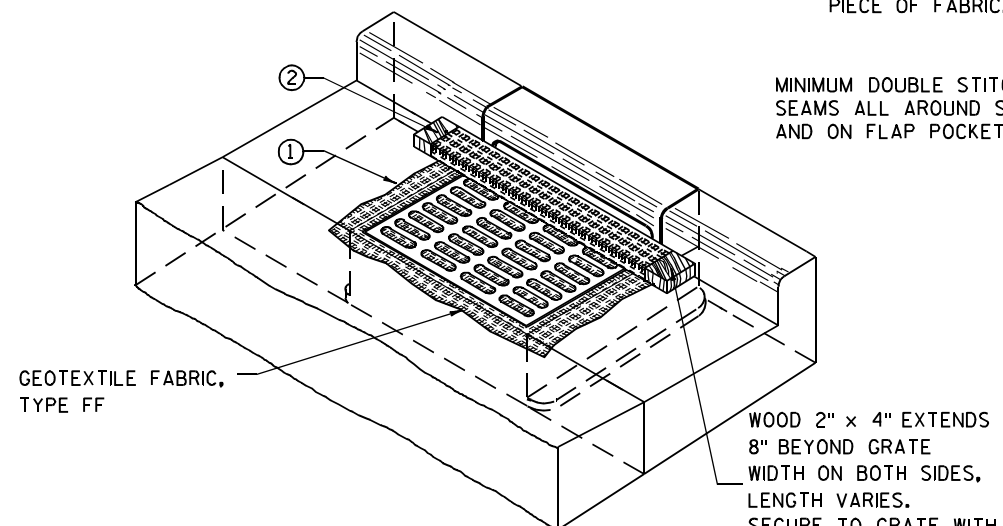
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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 B  
(WITHOUT CURB BOX)**

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



**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.

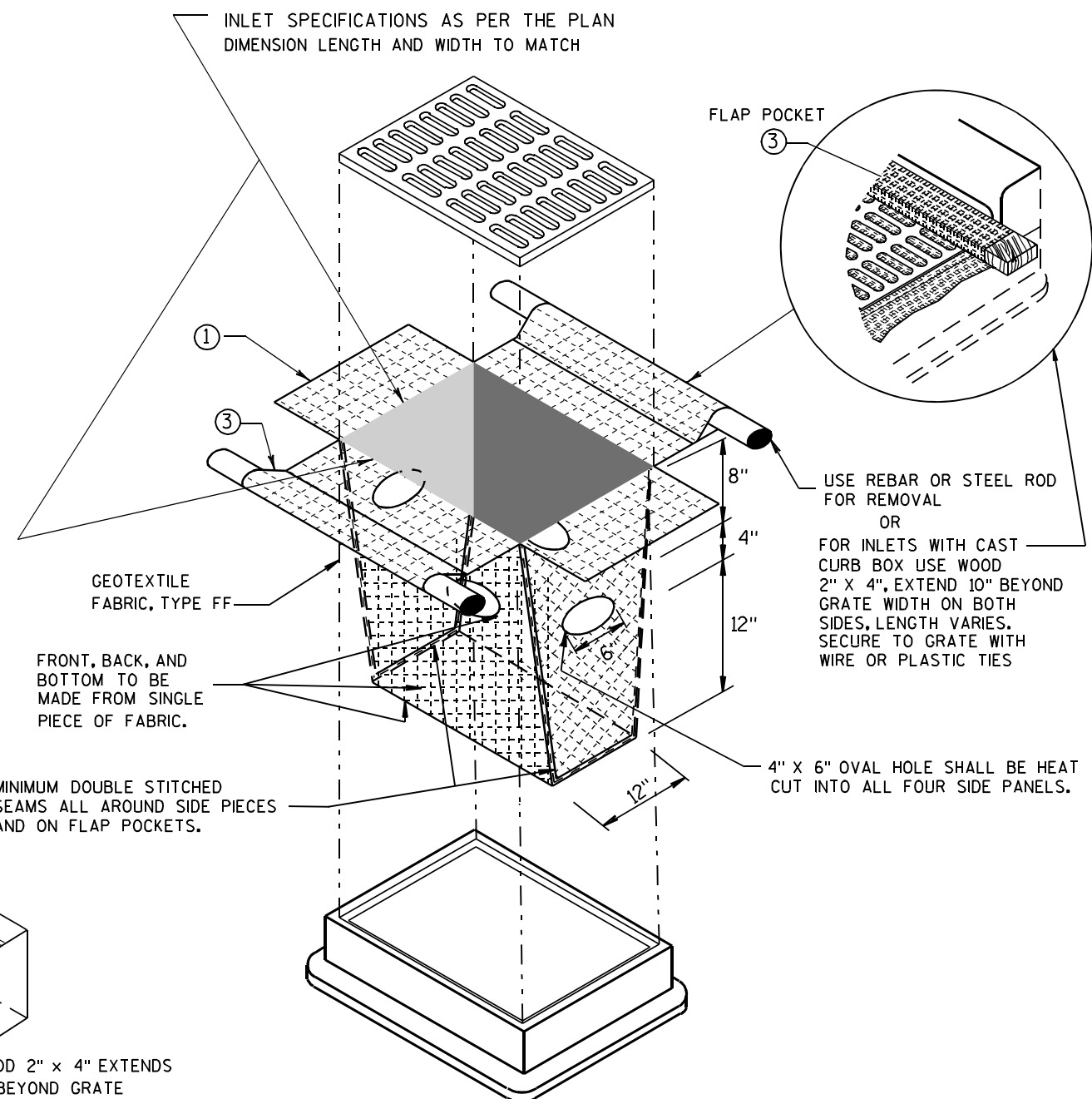
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.



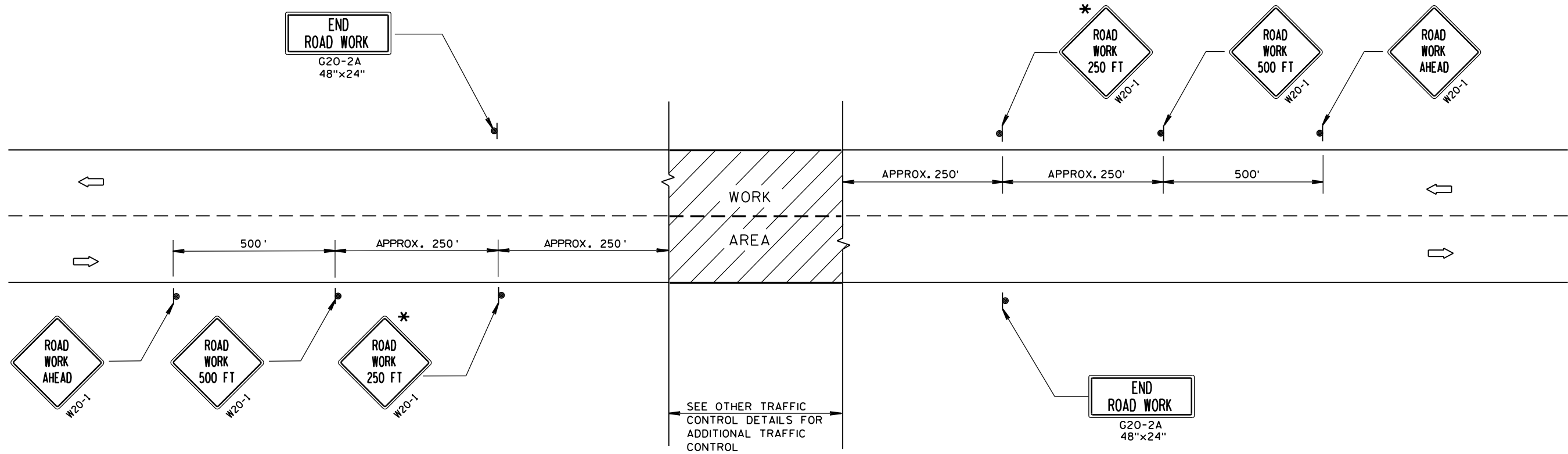
**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/16/02 /S/ Beth Cannestra  
DATE  
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## GENERAL NOTES

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

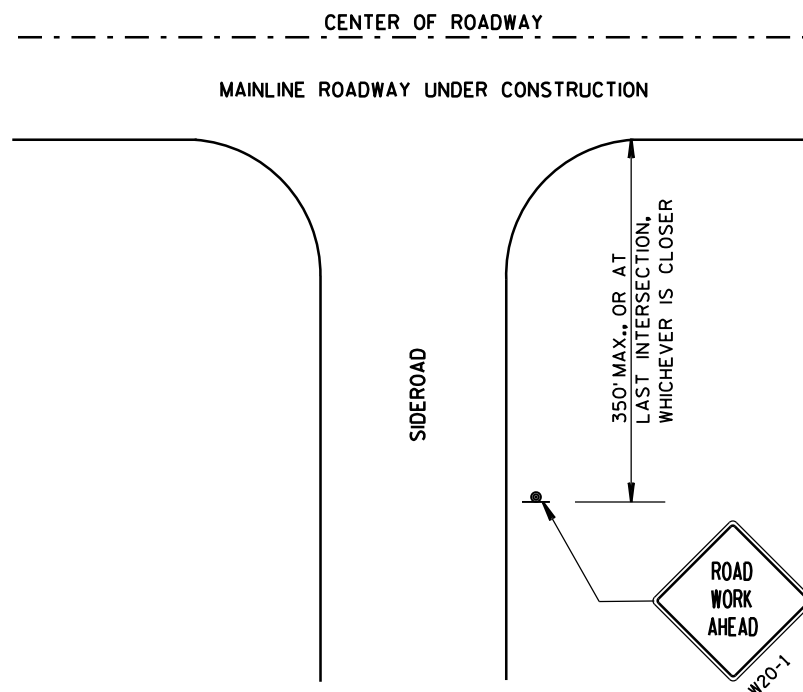
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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.

\* THE THIRD W20-1 SIGN 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.



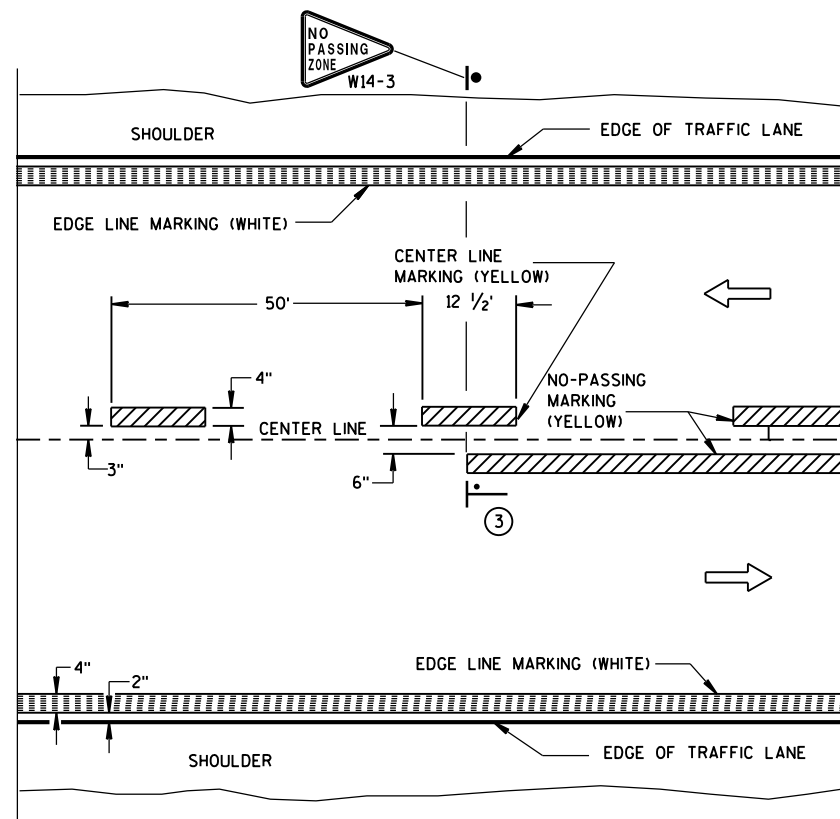
## LEGEND

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

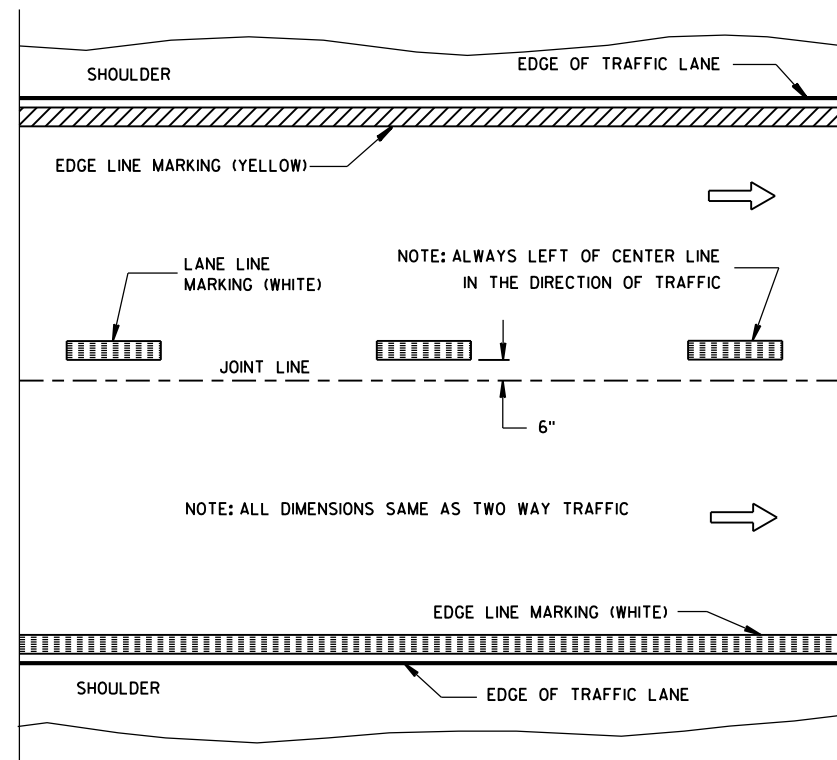
TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 40 M.P.H.  
OR LESS TWO-WAY UNDIVIDED  
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

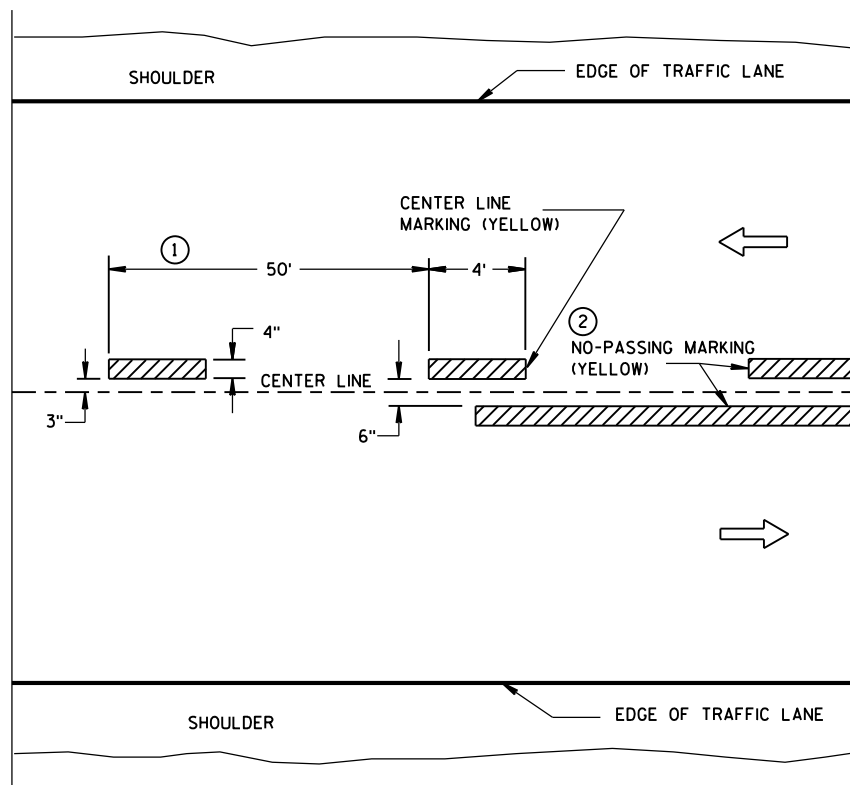


TWO WAY TRAFFIC

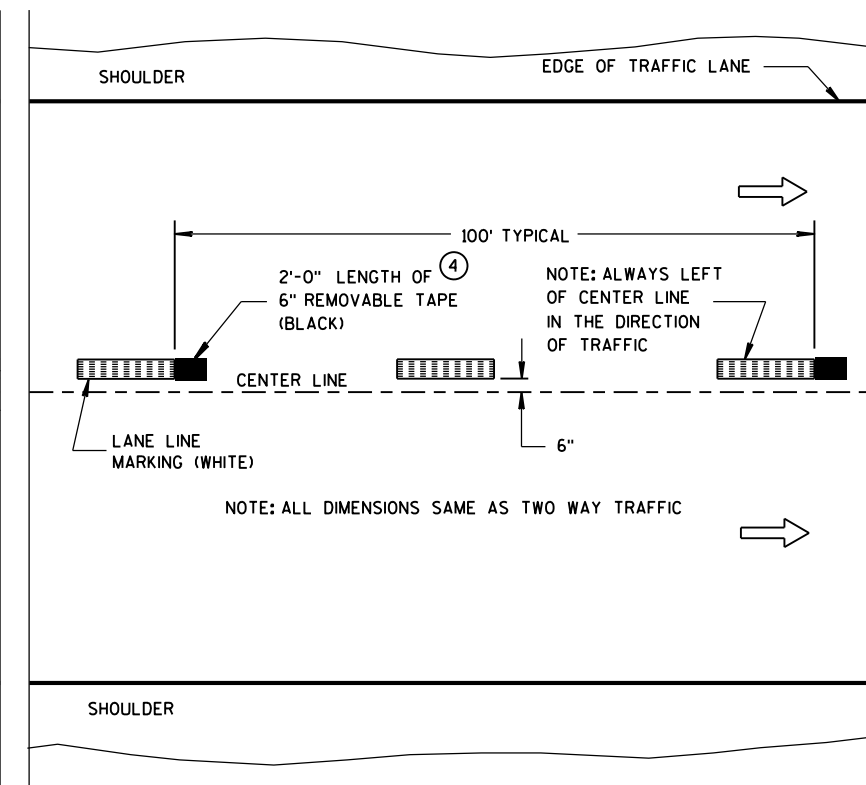


ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

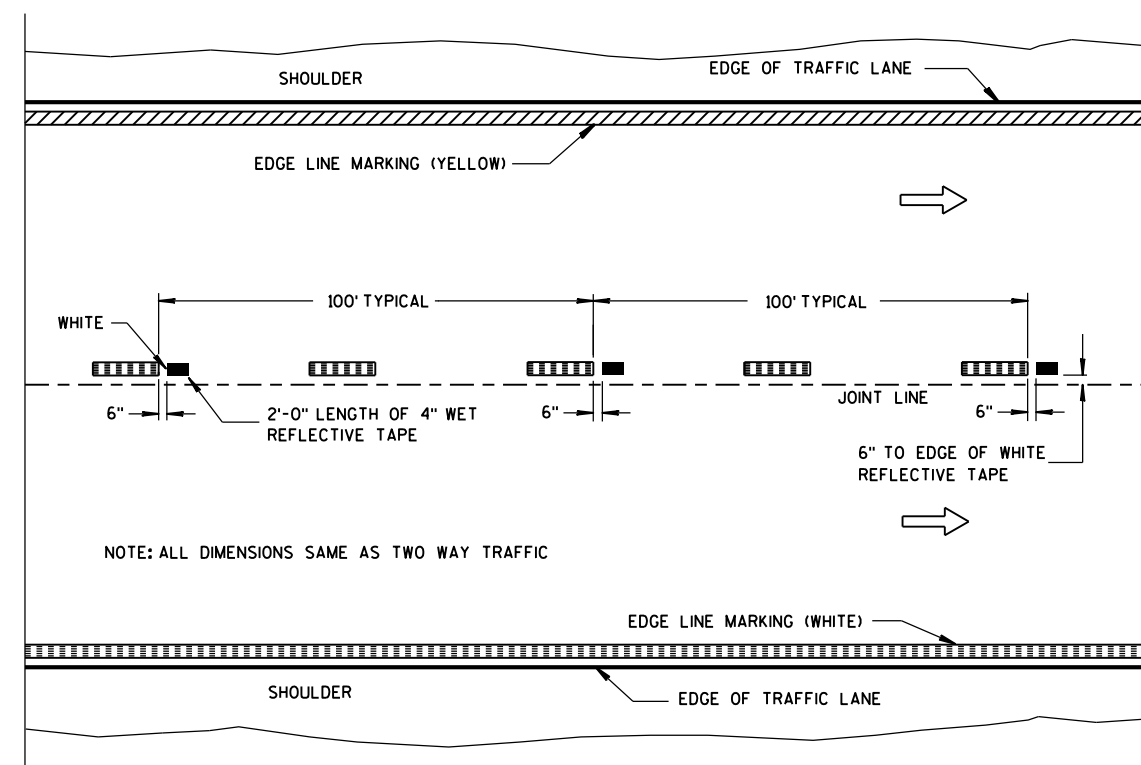
## GENERAL NOTES

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

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

## NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

## LEGEND

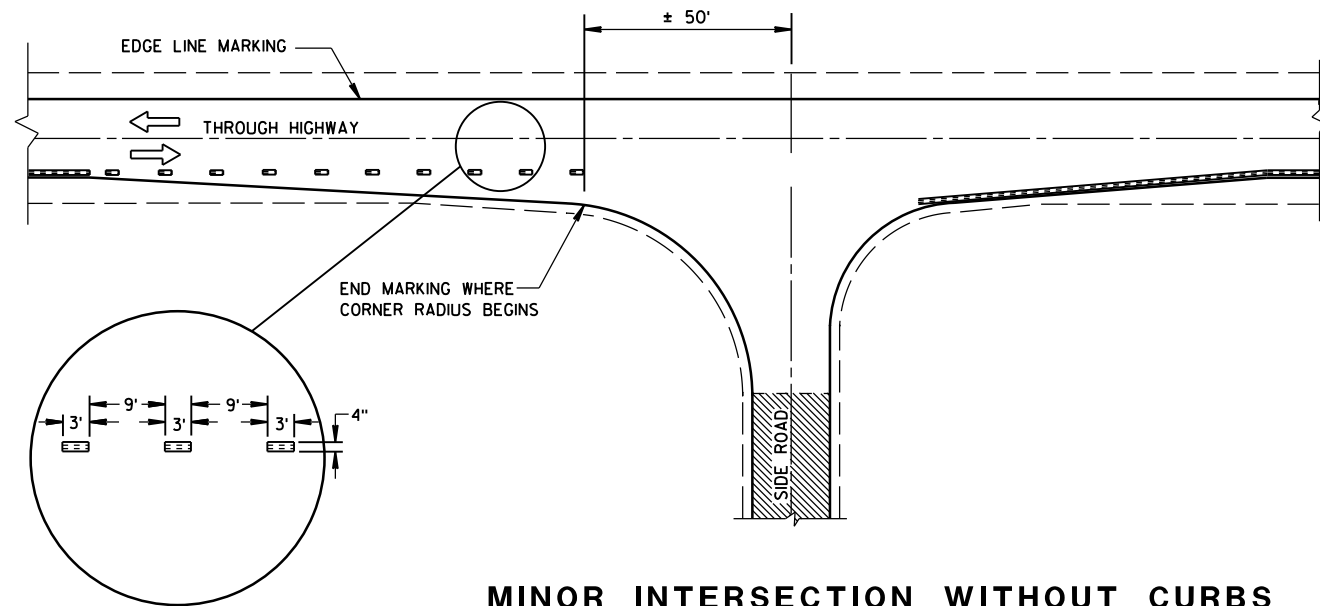
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5-13-2013  
DATE  
FHWA

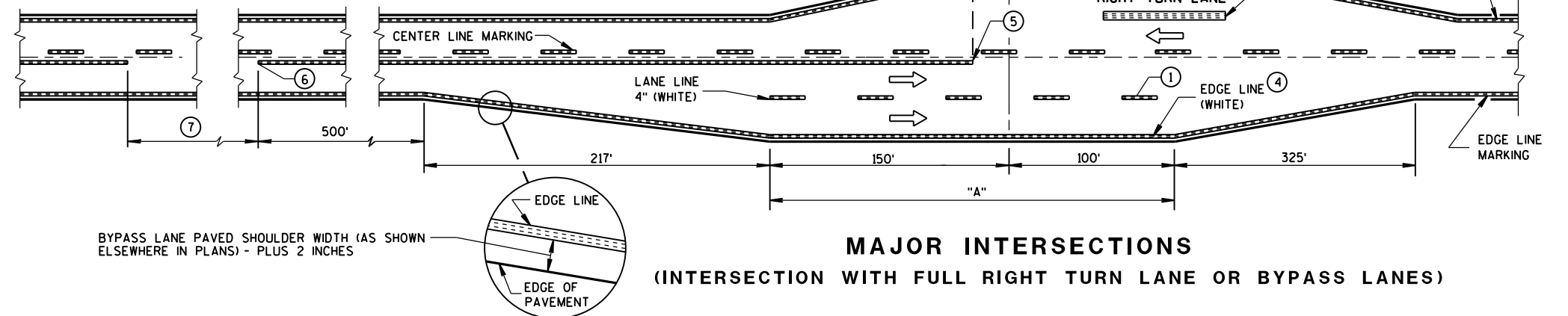
/S/ Travis Feltes  
STATE TRAFFIC ENGINEER



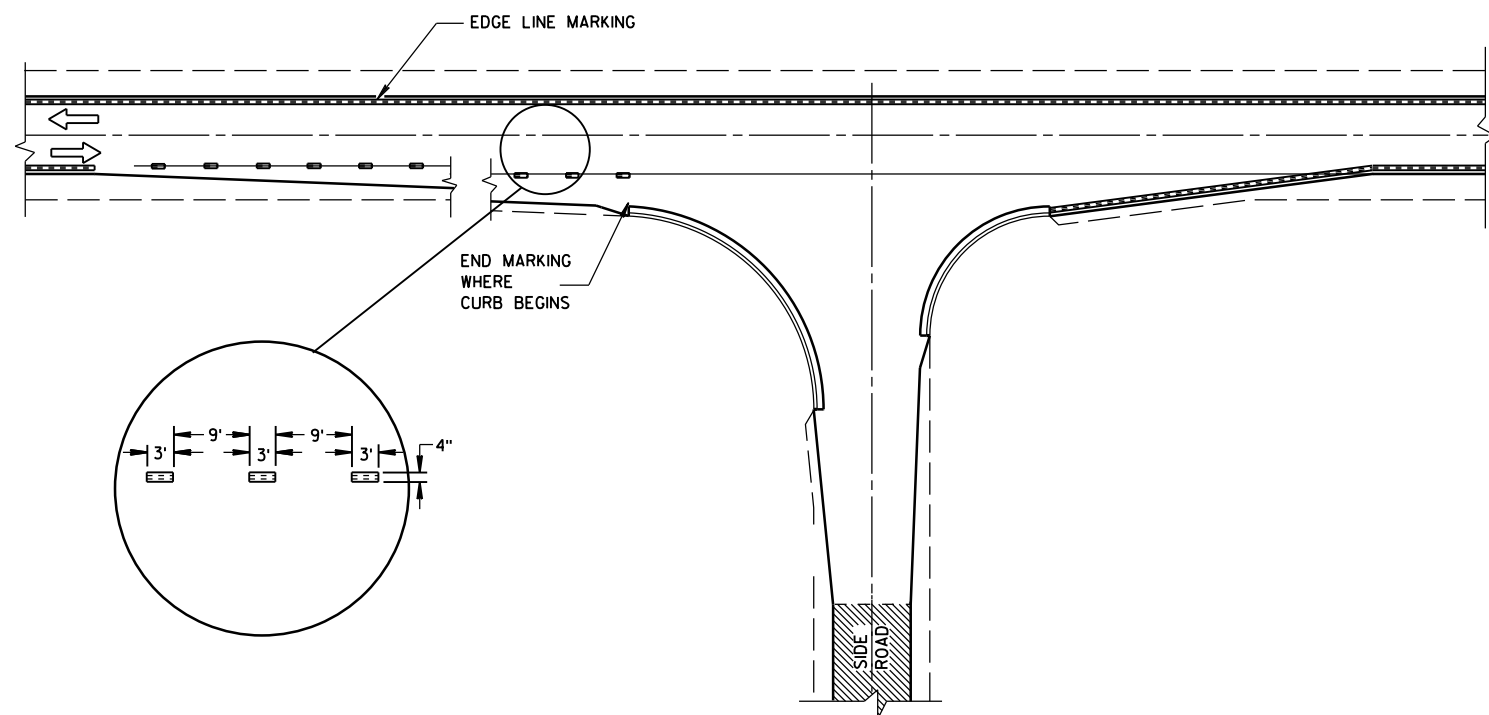
**MINOR INTERSECTION WITHOUT CURBS**

⑦

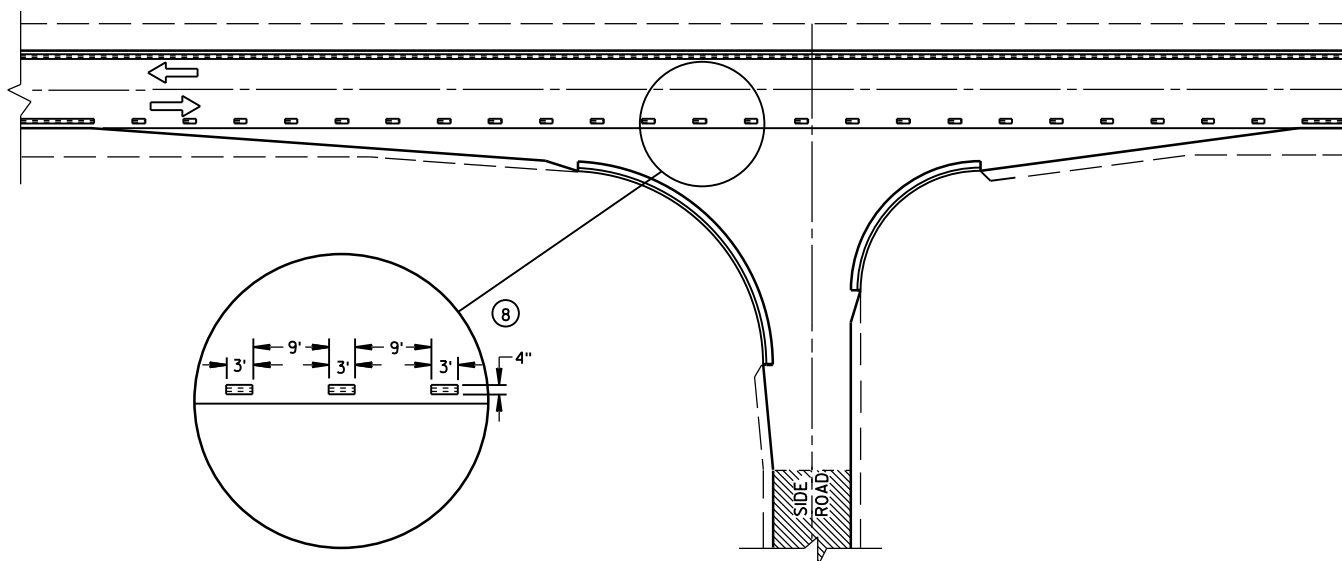
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



**MAJOR INTERSECTIONS**  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



**MINOR INTERSECTION WITH CURBS**  
(TYPICAL MARKING)



**MINOR INTERSECTION WITH CURBS**  
⑧ (FOR SPECIAL CONDITIONS AS SPECIFIED)





**GENERAL NOTES**

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
  - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
  - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
  - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
  - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL ( ➡ ) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING  
(INTERSECTIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

LEGEND

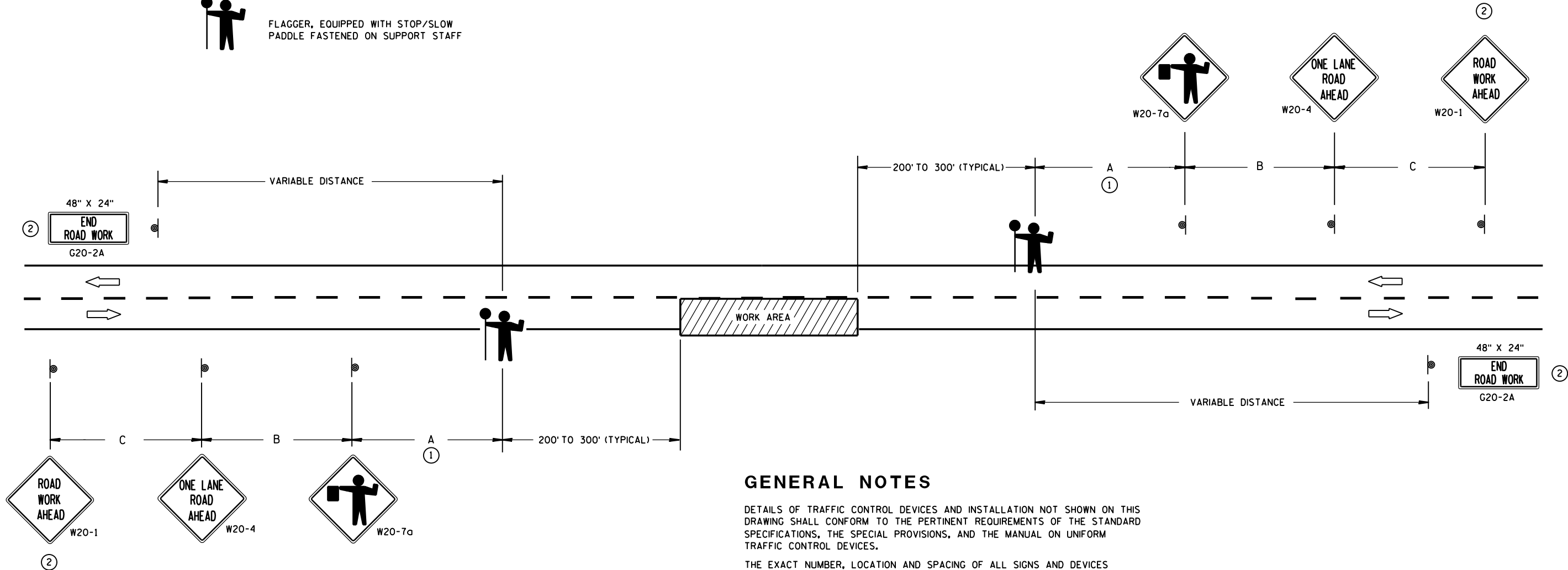
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

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



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



GENERAL NOTES

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

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

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

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

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

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

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



## Notes



## ***Wisconsin Department of Transportation***

Dedicated people creating transportation solutions  
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>